Escalating threats, broadening regional conflicts, increased terrorism and the exponential growth of cyber attacks are only a few of the challenges forcing nations to increase their investments in defense and homeland security.

Israel has faced these challenges for decades. Through high-intensity wars and continuous low-intensity conflicts, Israel’s Defense Forces (IDF) has achieved its security by maintaining a superior military force prepared to take on any and all adversaries.

As a technological powerhouse, Israel equips its soldiers and security officials with the most advanced and innovative systems and tools its defense industries have to offer. These groundbreaking capabilities are developed with an intimate understanding of the needs of security forces and apply to the military, homeland, and cyber security domains.

Providing innovative solutions to evolving defense challenges, hundreds of Israeli defense companies, from mega-corporations to startups, ranging in size and expertise, develop, expand and sustain Israel's national defense industry. Israel’s combat-proven defense systems, whether in platform modernization, combat vehicles, aerial defense, unmanned systems, electronic warfare and cyber, excel in agility and reliability and are continuously adapted and modernized to meet customer requirements. The quality and ingenuity of Israeli systems and services drive the defense industries’ continuous growth in a competitive global market.

As the directorate within Israel’s Ministry of Defense (IMOD) responsible for defense exports and international cooperation, SIBAT facilitates global relationships by promoting agreements, industrial cooperation, and technology sharing. As the key interlocutor between Israel’s defense establishment, foreign security agencies, military forces, and global industries, SIBAT locates and addresses a wide array of business opportunities, including local production, joint ventures and research and development.

This biannual directory offers a comprehensive review of the capabilities of Israel’s defense industries. It presents the best technologies, know-how, and expertise that Israel has to offer. We hope you find it useful, informative, and convenient to use.

Brig. General (Ret) Mishel Ben Baruch

Director, SIBAT

This directory does not attempt to be an absolute list of all Israeli defense industries or their available products. The companies listed have voluntarily elected to include a selection of their products.
ISRAEL'S GLOBALLY RECOGNIZED DEFENSE INDUSTRY

Israel is recognized the world over for its pioneering, operationally-proven defense systems-delivering advanced capabilities to meet today’s increasingly sophisticated threats. Developed by the country’s defense industries - and utilized by defense and security forces around the globe - these groundbreaking systems are backed by a combination of cutting edge technologies, a skilled and militarily experienced multi-disciplinary workforce, and a well-developed infrastructure. Together, they support its worldwide customer base.

Those industries - which play a leading role in the development of the country’s industrial and technological capabilities - are open to cooperation, technology transfer, and the sharing of know-how through international initiatives.

As the directorate responsible for international defense cooperation within Israel’s Ministry of Defense (IMOD), SIBAT is your link to the technological knowledge and expertise of Israel’s defense industries.

Israel Ministry of Defense - Organization Chart
Uniquely positioned within Israel’s defense ecosystem, SIBAT enjoys a close relationship with both the Israeli defense industry and the IDF.

As such, SIBAT:

- Receives ongoing updates regarding the wide variety of technologies and solutions being developed by Israeli defense companies.
- Handles a steady stream of critical input concerning the IDF’s evolving operational requirements.
- Continuously enhances and expands its understanding of defense concepts - and the relationship between the IDF’s field experience and the development of industry solutions.

SIBAT - Organization Chart
FACILITATING INTERNATIONAL COOPERATION

SIBAT’s main responsibilities:
- Initiating and assisting in the expansion of international defense cooperation.
- Planning and executing the defense export strategy.
- Acting as the primary source of detailed information about Israel’s versatile, dynamic defense industry.
- Participating in the formulation of Israel’s defense export policy, coordinating all export-related activities, and promoting Israel’s defense technologies abroad.

Designed to facilitate international cooperative initiatives, SIBAT:
- Generates and supports Government-to-Government agreements.
- Initiates and coordinates visits to Israel by foreign delegations and representatives from around the world.
- Organizes the visits of Israeli defense delegations abroad.
- Establishes collaborative ventures and long-term partnerships.
- Assists in the creation of joint ventures between Israeli defense industry manufacturers and foreign partners.
- Identifies the needs of potential customers, matches these requirements with appropriate technological solutions, and establishes connections between customers and relevant Israeli defense companies.

International Cooperation
International cooperation is divided into three regional divisions:
1. Europe & North America
2. Asia, Africa & the Pacific
3. Latin America

MARKETING AND SALES OF DEFENSE INVENTORY

SIBAT manages the marketing and sales of Israel’s entire defense inventory, which is released by the IDF and the IMOD. Inventory sales, handled by SIBAT, includes main platforms (aircraft, tanks, ships and armored vehicles), weapon systems (guns, missiles, light weapon systems), spare parts (air, ground, sea), and vehicles. All sales are carried out either through tenders or by negotiation. A selection of currently available inventory can be found on SIBAT’s website.
Creating Cooperation with Israel's High-End SME's

SIBAT attaches great importance, and allocates significant management resources, to the support of small and medium-sized defense enterprises. These industries rapidly provide flexible solutions to meet urgent needs, constitute a wellspring of technological innovation, contribute to the enhancement of competitiveness, and possess specialized knowledge and expertise.

SIBAT has become an exceptional source of information for Israel’s flourishing SME community – appreciated for its nurturing of innovative startups, as well as its matching of mid-sized and large firms with global partners.

Supporting Global Customers and Defense Exporters

Tasked with expanding global cooperation with Israel’s defense industry, SIBAT disseminates information regarding the country’s cutting-edge, combat-proven technologies, and supports global customers as well as defense exporters.

ACTIVITIES INCLUDE:

- Comprehensive quality assurance and technical support services as required by
- Advanced training seminars in Israel and abroad, and training for foreign forces around the world in the effective use of Israel’s technologies and know-how.
- Organizing the Israel National Pavilion at defense-related exhibitions around the world, where Israel’s technologies and capabilities are showcased under one roof; producing local conferences; attending global fairs and exhibitions.

EXPANDING GLOBAL DEFENSE COOPERATION
## OUR CONTACTS

### UNITS

<table>
<thead>
<tr>
<th>Role</th>
<th>Tel.</th>
<th>E-Mail</th>
</tr>
</thead>
<tbody>
<tr>
<td>Principal Deputy Director</td>
<td>972-3-6977906</td>
<td><a href="mailto:Paul_friedberg@mod.gov.il">Paul_friedberg@mod.gov.il</a></td>
</tr>
</tbody>
</table>

### STRATEGY AND PLANNING

<table>
<thead>
<tr>
<th>Role</th>
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</tr>
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<tbody>
<tr>
<td>Director of Strategy and Planning</td>
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</tr>
<tr>
<td>Business Development, Cyber &amp; SME’s</td>
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<td></td>
</tr>
<tr>
<td>Planning and Export Policy Coordination</td>
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<td><a href="mailto:sibat_expolicy@mod.gov.il">sibat_expolicy@mod.gov.il</a></td>
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### EUROPE & NORTH AMERICA DIVISION

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<tr>
<th>Role</th>
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<tbody>
<tr>
<td>Director of Europe &amp; North America</td>
<td>972-3-6977936</td>
<td><a href="mailto:sibat_euam@mod.gov.il">sibat_euam@mod.gov.il</a></td>
</tr>
<tr>
<td>Western Europe</td>
<td>972-3-6977930</td>
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<tr>
<td>Central Europe</td>
<td>972-3-6937937</td>
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<tr>
<td>Eastern Europe</td>
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<tr>
<td>North America</td>
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### ASIA, AFRICA & THE PACIFIC DIVISION

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<th>Role</th>
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<tbody>
<tr>
<td>Director of Asia, Africa &amp; the Pacific</td>
<td>972-3-6977921</td>
<td><a href="mailto:sibat_aap@mod.gov.il">sibat_aap@mod.gov.il</a></td>
</tr>
<tr>
<td>East Asia</td>
<td>972-3-6977928</td>
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<tr>
<td>South Asia</td>
<td>972-3-6977920</td>
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<tr>
<td>North-East Asia</td>
<td>972-3-6977966</td>
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<tr>
<td>Africa &amp; the Pacific</td>
<td>972-3-6977912</td>
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### LATIN AMERICA DIVISION

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<th>Role</th>
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<tr>
<td>Director of Latin America</td>
<td>972-3-6977925</td>
<td><a href="mailto:sibat_latinam@mod.gov.il">sibat_latinam@mod.gov.il</a></td>
</tr>
<tr>
<td>South America</td>
<td>972-3-6977698</td>
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<tr>
<td>Central America</td>
<td>972-3-6977021</td>
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### SUPPORTING GLOBAL CUSTOMERS

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<tbody>
<tr>
<td>Marketing Communications</td>
<td>972-3-6975515</td>
<td><a href="mailto:sibat_marcom@mod.gov.gov.il">sibat_marcom@mod.gov.gov.il</a></td>
</tr>
<tr>
<td>Quality Assurance</td>
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<td><a href="mailto:margalit@mailto.mod.gov.il">margalit@mailto.mod.gov.il</a></td>
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### IDF INVENTORY SALES

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<tr>
<td>Director of Inventory Sales</td>
<td>972-3-6975754</td>
<td></td>
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<tr>
<td>Air &amp; Naval Systems</td>
<td>972-3-6977991</td>
<td></td>
</tr>
<tr>
<td>Land &amp; Industrial Services</td>
<td>972-3-6977333</td>
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## ISRAEL’S DEFENSE AND MILITARY ATTACHES ABROAD

<table>
<thead>
<tr>
<th>Country</th>
<th>Embassy of Israel</th>
<th>Military Attache</th>
<th>Address</th>
<th>Phone Numbers</th>
<th>Email Addresses</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>AUSTRALIA</strong></td>
<td>Embassy of Israel</td>
<td>Defense Attache</td>
<td>6 Turrana Street, Yamalulka Act 2600</td>
<td>[+61-2-62733497, +61-2-62732874]</td>
<td><a href="mailto:defenceattache@canberra.mfa.gov.il">defenceattache@canberra.mfa.gov.il</a></td>
</tr>
<tr>
<td><strong>BELGIUM</strong></td>
<td>Embassy of Israel</td>
<td>Military Attache</td>
<td>Avenue de l’Observatoire 40, 1180 Uccle</td>
<td>[+32-23-753520]</td>
<td></td>
</tr>
<tr>
<td><strong>BRAZIL</strong></td>
<td>Embassy of Israel</td>
<td>Military Attache</td>
<td>Ses, Avenida Das Naocoes, Q809 Lote 38 Brazil DI</td>
<td>[+55-21-30445200/19]</td>
<td><a href="mailto:mod@brasilia.mfa.gov.il">mod@brasilia.mfa.gov.il</a></td>
</tr>
<tr>
<td><strong>CANADA</strong></td>
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<td>Military Attache</td>
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<td><a href="mailto:defence-att@ottawa.mfa.gov.il">defence-att@ottawa.mfa.gov.il</a></td>
</tr>
<tr>
<td><strong>CHILE</strong></td>
<td>Embassy of Israel</td>
<td>Military Attache</td>
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<td>[+56-27500516]</td>
<td><a href="mailto:militaryatt@santiago.mfa.gov.il">militaryatt@santiago.mfa.gov.il</a></td>
</tr>
<tr>
<td><strong>COLOMBIA</strong></td>
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<td>Military Attache</td>
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</tr>
<tr>
<td><strong>FRANCE</strong></td>
<td>Embassy of Israel</td>
<td>Military Attache</td>
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<td>[ +33-1-40765407, +33-1-40765347]</td>
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<tr>
<td><strong>GERMANY</strong></td>
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<tr>
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<td><a href="mailto:military-attache@athens.mfa.gov.il">military-attache@athens.mfa.gov.il</a></td>
</tr>
<tr>
<td><strong>India</strong></td>
<td>Embassy of Israel</td>
<td>Military Attache</td>
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<td>[ +91-11-30414500/19, +91-11-23015166]</td>
<td><a href="mailto:military-attache@newdelhi.mfa.gov.il">military-attache@newdelhi.mfa.gov.il</a></td>
</tr>
<tr>
<td><strong>Italy</strong></td>
<td>Embassy of Israel</td>
<td>Military Attache</td>
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<td>[ +39-06-3619853, +39-06-36198596]</td>
<td><a href="mailto:mod@roma.mfa.gov.il">mod@roma.mfa.gov.il</a></td>
</tr>
<tr>
<td><strong>KOREA</strong></td>
<td>Embassy of Israel</td>
<td>Military Attache</td>
<td>18th Fl., CheonggyeBldg., 149 SeoIn-Dong, JongRo-Ku Seoul, 110-726 Korea</td>
<td>[+82-2-7392575]</td>
<td><a href="mailto:defense@seoul.mfa.gov.il">defense@seoul.mfa.gov.il</a></td>
</tr>
<tr>
<td><strong>United Kingdom</strong></td>
<td>Embassy of Israel</td>
<td>Military Attache</td>
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<td>[ +44-207-9579654, +44-207-4168196]</td>
<td><a href="mailto:defence-attach@london.mfa.gov.il">defence-attach@london.mfa.gov.il</a></td>
</tr>
<tr>
<td><strong>USA</strong></td>
<td>Embassy of Israel</td>
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<td><a href="mailto:mod@israelemb.org">mod@israelemb.org</a></td>
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**People’s Republic of China**

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<tr>
<th>Country</th>
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<tr>
<td><strong>Poland</strong></td>
<td>Embassy of Israel</td>
<td>Military Attache</td>
<td>Auguste-Viktoria-Str. 74 D-14193 Berlin, Germany</td>
<td>[+49-30-98045630]</td>
<td><a href="mailto:military@berlin.mof.de">military@berlin.mof.de</a></td>
</tr>
<tr>
<td><strong>Russia</strong></td>
<td>Embassy of Israel</td>
<td>Military Attache</td>
<td>Avenue de l’Observatoire 40, 1180 Uccle, Belgium</td>
<td>[+61-23-739520]</td>
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<tr>
<td><strong>Singapore</strong></td>
<td>Embassy of Israel</td>
<td>Military Attache</td>
<td>Ocean Tower II, 2nd Floor 75 Sukhumvit Soi 19 Road Soi Wattana, Klongtoey Bangkok 10110, Thailand</td>
<td>[+61-2-2049251/12, +61-2-2049225]</td>
<td><a href="mailto:defence-attache@singapore.mfa.gov.il">defence-attache@singapore.mfa.gov.il</a></td>
</tr>
<tr>
<td><strong>Thailand</strong></td>
<td>Embassy of Israel</td>
<td>Military Attache</td>
<td>58 Dalvey Road, (S) 259463, Singapore</td>
<td>[ +65-6-8349234/5, +65-6-7393559]</td>
<td></td>
</tr>
<tr>
<td><strong>Vietnam</strong></td>
<td>Embassy of Israel</td>
<td>Military Attache</td>
<td>Hanoi Towers (10th floor) 49 Hai Ba Trung Hoan Kiem, Hanoi Vietnam</td>
<td>[ +84-24-37187523]</td>
<td><a href="mailto:defence@hanoi.mfa.gov.il">defence@hanoi.mfa.gov.il</a></td>
</tr>
</tbody>
</table>
HOW TO USE THIS DIRECTORY

Israel's Defense Directory 2018-19, brought to you by SIBAT, enables you to establish contact with the Israeli defense manufacturers engaged in the specialization that would be of interest to you. For your convenience, the Directory is divided into twelve sections, each comprising of several sub-sections, as listed in the Table of Contents. Within each section you will find your relevant manufacturers, listed alphabetically. Except in cases where double spread insertions made this impossible.

In order to facilitate tracing of a company or a specific product, two indices have been prepared: The first lists the various defense manufacturers and consultants, as well as basic and relevant information concerning the organization and its areas of activities. The second index lists the products by their brand name, acronym or abbreviated form. Both indices are alphabetically arranged.

We would also like to draw your attention to the fact that this directory will be presented on website: www.sibat.mod.gov.il/catalog, in which all the companies advertising in the directory will be included and briefly described.

At the time of the publication (January 2018), the companies included in the directory held M.O.D approval to offer their products and services. However, this authorization is subject to renewal. According to Israeli law, special permits and authorizations govern all defense-related sales, and the fact that a company appears in this Directory does not necessarily mean that the company is entitled by law to export its products at any given time other than the date of publication. Moreover, each transaction requires an export license.

As the Israeli defense industry is extensive, and as manufacturers are not compelled to advertise in the directory, we do not claim that the directory includes all the companies, all items of defense equipment that are being manufactured, or all of the services offered by Israeli companies.

Although we have done our utmost to insure that the information herein is correct, it is the companies that are responsible for the accuracy of the information they submit.

We, therefore, cannot be held responsible for any inconsistency or inconvenience caused by discrepancies in the information.

The directory will be current for 24 months, with the next one due to be published in the spring of 2020.

In the event that you find it difficult to contact a company due to change of address, telephone or fax number, please call us. We will be happy to assist.

Please refer to this directory as your source of information when contacting a company or SIBAT. Please turn to page 376 to order additional copies of the directory.
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AEROSPACE
Air Supremacy Gained by Excellence and Innovation

Relying on unique knowhow and superb technical skills, technological resources, and innovation, Israel’s know-how aerospace and defense companies provide the latest capabilities for upgrading, modernization and enhancement of all types of aerial weapons and support systems.

These innovative systems include advanced aerostructures, weapon systems, and a wide range of sensors and avionics including EO, radar, and electronic surveillance, used for targeting, reconnaissance, and self-defense. All are integrated into the world’s most advanced fighter aircraft, including Lockheed Martin F-35 and F-16, Boeing F-15 and F/A-18, Sukhoi Su-30, Dassault Mirage 2000, Eurofighter Typhoon, Saab Gripen and more.

The IAF, as many foreign air forces, rely on Israel’s aerospace industries to supply a wide range of systems and services, ranging from satellites and satellite-based services to the modification and upgrading of existing aircraft and helicopters, numerous types of unmanned aircraft systems and air defense systems. Complementing these platform-centric systems, are diversified weaponry and advanced, network-centric arrays of command, control, and communications, computing (C^3) and intelligence, surveillance, and reconnaissance (C^3ISR) systems (ISR).

In addition to supplying new equipment, Israeli companies have successfully completed numerous projects upgrading and modernizing existing platforms and systems. Supporting airforces throughout the world, Israeli companies are successfully extending the useful lifespan and operational capabilities of existing platforms, enabling users to capitalize on past defense investments over longer periods. Encompassing combat, intelligence, transport and special-mission aircraft and helicopters, Israeli modernization plans are implemented with western and eastern aircrafts in Europe, Asia, Latin America, North America, Africa and the Middle East.
Aero Sentinel is an Israeli UAV manufacturer. The company established in 2012 in order to provide solutions for multi-rotor UAVs for the Israeli defense, security and civil authorities. Our facility is 1000 Sqm, equipped with state of the art technology. We have in house engineering and manufacturing capabilities in order to tailor the right solution for every Customer.

The G2 is an advanced UAV System that provides real-time day and night video stream via Ground Control Station. Complete autonomous operation with long endurance and low weight make the G2 the best cost-efficient solution. The special frame configuration is ideal for quick deployment & turnaround time as well as for covert surveillance and high payload stability.

**G2 Specifications**

- **Endurance**: 80 min
- **Range**: 4 km
- **Take off weight**: 4 kg
- **wind**: 15 knots (gust 20knots)
- **Covert Altitude**: 150 m
- **MIL-STD-810G certified**
INTEGRATION AND UPGRADES

Aircraft & Helicopters

Elbit Systems is a world leader in aircraft and helicopter upgrade programs enhancing operational capabilities.

Using our expertise as an integrator and developer of advanced electronic defense systems, we perform multidisciplinary integration and lifecycle support. Fighter aircraft of the past become fighters of the future though advanced full scale programs encompassing integration of structural modification, leading edge avionics systems, display and sight helmets, advanced weapons and pods, mission computers and cockpit management systems.

In the helicopter upgrade field, our primary modernization activities include conversions of assault helicopters to multirole fighters, upgrading existing utility and attack platforms or supplying cutting-edge systems for latest generation aircraft. Assuming various roles, we may serve as prime contractor, second-tier weapons and avionics integrator or as a component supplier.
**AIRCRAFT AND HELICOPTER UPGRADE SUITE**

**Advanced Self Protection Systems**
**ELL-8212/22 (Pod), ELL-8247/8 RWJS (Internal)**

The ELTA Self Protection System (SPS) increase fighter aircraft survivability during operations in hostile electromagnetic weapon system environments. The ELL-8212/22 and ELL-8247/8 perform electronic countermeasures against radars classified as threats and suppress the effectivity of hostile weapon systems. The systems are flight line reprogrammable for diverse threats, ECM techniques, and mission data. The SPS can be integrated with active reaction systems such as Chaff and Flares dispensers.

**Missile Warning and Location system**
**ELM-2160 & ELL-8265**

The ELTA ELM-2160 airborne radar-based Missile Approach Warning System is based on a Pulse Doppler Radar, designed to detect all types of approaching missiles providing timely, accurate and reliable warning to the crew, and automatically activating Chaff/Flare dispensing for reliable and efficient missile deception. The system provides all weather capability and very low false alarm rates. The ELL-8265 RWL radar Warning and Locator is a revolution in the field of RF warning systems, providing the crew with alerts and accurate geolocation of ground RF emitting threats. The systems can be installed separately or integrated as a single self-protection suite on any type of aircraft.

**RTP - Radar Targeting Pod**
**ELM-20600**

The ELTA ELM-20600 RTP is a unique Radar Targeting Pod featuring high performance Synthetic Aperture Radar (SAR) Imaging, Ground Moving Target Indication (GMTI) and Precision Target Tracking. The RTP is a complete All-Weather, Autonomous Real Time System. Data from the RTP is instantaneously displayed to the air-crew, significantly shortening Sensor-to-Shooter loops. The RTP provides high quality radar images of ground targets and terrain from Stand-Off ranges, even through clouds, rain, fog, battlefield smoke and man-made camouflage.

**AESA Airborne Fire Control Radar**
**ELM-2052**

The ELTA ELM-2052 is an advanced Airborne Fire Control Radar (FCR) designed for air-to-air superiority and advanced strike missions. The FCR is based on fully solid-state active phase array technology. This new technology enables the radar to achieve a longer detection range, higher mission reliability and a multi-target tracking capability. The ELM-2052 radar introduces new dimensions to the Air-to-Air, Air-to-Ground and Air-to-Sea operation modes of the aircraft by incorporating ELTA’s decades of field-proven experience and operational feedback from Israeli Air Force combat pilots.
MILITARY AIRCRAFT AND HELICOPTERS UPGRADE AND MAINTENANCE

Lahav provides a single address for military aircraft and helicopter maintenance, overhaul, refurbishment, retrofit, modernization and upgrade. Lahav has the in-house infrastructure to transform all types of military aircraft and helicopters to meet today’s and tomorrow’s mission requirements. Lahav has successfully implemented numerous programs on a wide range of Western and Eastern platforms. Programs offered by Lahav include comprehensive integrated logistic support packages, to ensure the efficient long-term operation of the new systems.

Lahav’s typical upgrade programs include integrating advanced systems for improved performance and mission success. Key features of Lahav upgrades include:

- Reduced pilot workload with “Glass Cockpit” and optimized system displays and controls
- Integration of advanced sensors and weapons
- Adaptations for day/night missions
- EW packages for enhanced survivability
- Weapon integration

To meet specific Customer requirements, Lahav tailors the upgrade packages offered with systems such as:

- Advanced Net Centric Computer
- Data Link
- Fire Control Radar
- Electro Optic Payload
- Navigation and Communication systems
- Digital Moving Map
- Mission Planning and Debriefing systems

In addition to Lahav’s upgrade capabilities, Lahav also has the infrastructure to support military aircraft and helicopter maintenance, overhaul, and return to service. These capabilities include:

- Maintenance, repair, overhaul & structural life extension
- Solutions for obsolete systems & aging aircraft
- Safety improvements
- Airframe and structural modifications
- Engineering support and services
AEROSPACE & MILITARY SUPPLIES

AEROSPACE SYSTEMS AND COMPONENTS (COMMERCIAL AND MILITARY)

I.S.P. - INDUSTRY SALES PROMOTION LTD. IS ACTING IN THE FOLLOWING FIELDS:

- Over 35 years in the market
- Supply of military and aerospace equipment including
  Hydraulic, pneumatic, fuel, structural, electronic and electrical systems, components and hardware
- Weapon systems and components
- Overhaul and repair of aviation and military systems and components
- Hardware, Spare parts for aerospace and military equipment
- Participation in upgrading programs
- Border defense projects
- HLS-Airports Security
- Small arms, artillery and various types of ammunition
- Composite materials

I.S.P. - INDUSTRY SALES PROMOTION LTD. IS AN EXCLUSIVE REPRESENTATIVE AND CONSULTANT OF THE FOLLOWING COMPANIES:

- KLX AEROSPACE SOLUTIONS (former B/E Aerospace) - Hardware, bearings, spare parts for the aerospace industry including aircraft, helicopters and military equipment.
- ITT AEROSPACE CONTROL - actuators, regulators, solenoid and motor operated valves, airborne switches.
- PNEUDRAULICS - hydraulic and pneumatic components and systems for the aerospace industry. Utility and solenoid valves, reservoirs, actuators.
- NHBB - ball bearings, rod end bearings, spherical and thin section bearings, ceramic and special bearings.
- CRISSAIR - special miniature self-retained check and relief valves, restrictors, inline and cartridge valves for aerospace and military.
- CROUZET - Pilot’s control wheels, electrical limit switches, proximity switches and circuit breakers for military and aerospace industries.
- BTL - CNC Machining in large scale.
- SENIOR AEROSPACE - Metal Bellows: Maintenance free Accumulators, Bellows Reservoirs, Bellows Compensators, Heat Exchangers, and more.
- CUTTING DYNAMICS - Specializes hydroformed & hot-formed components and assemblies for the aircraft industry.
Specializing in the combination and integration of composite and metal production for aerospace structures under one roof, Kanfit is a built to spec / print aerospace engineering development and production company. We offer turnkey solutions from customer product specifications to serial production. Kanfit manufactures primary detailed parts, sub-assemblies and ready to mount assemblies from composite materials and metals. Among our core competencies are advanced RTM manufacturing technology and hybrid structures manufacturing.

Kanfit quality system is AS9100C certified, we have Nadcap certifications for Composites, Heat treatment of aluminum alloys and chemical conversion. We are also certified by Boeing, and UTAS.

Our projects include parts and assemblies for: Gulfstream G150 & G280, 787, A380, A400M, F15, F16, F18, F35, Eurofighter Typhoon, Heron, Eilatan, Hermes 450 & 900 UAVs, UH60, V22, RTM chaff and flare magazines, Missiles and munitions parts, Airborne RTM antennas, Space Antennas, tools, fixtures, jigs, etc. Among our customers are Israel Aerospace Industries, Elbit Systems, Senior Aerospace, Rafael, Extant Industries, BAE systems and more.

Kanfit is now also active in the 3D printing market, and has the capabilities to print Titanium parts.

**Description of offered products and services:**

**Composite parts and integrated assemblies:**
- Resin Transfer Molding
- Liquid Resin Infusion
- Prepreg - oven & vacuum
- Wet lay up
- Autoclave

**Plastic:**
- Hot forming
- Vacuum forming
- Transparencies

**Sheet Metal & Blocks, Primary parts & assemblies:**
- Machining
- Forming
- Welding
- Processes (heat treatment, chemical conversion, etc)
- Painting
- 3D printing of Ti64 parts

**Space:**
- Manufacturing and assembly of jigs and deployable antennas
AEROMAOZ Ltd. established in 1980, is a world renowned designer and manufacturer of Illuminated Display and Control Systems. AEROMAOZ products can be found in the air, on the ground and at sea, in both military and commercial applications. Utilizing its expertise in Human-Machine Interface applications and Night Vision Imaging Systems (NVIS) lighting compatibility, AEROMAOZ had participated in prestigious projects throughout the world.

AEROMAOZ products include:

- Illuminated Panels
- Advisory Panels
- Electronic Control Boxes
- Dimming Controllers
- Integrated Control Panels
- Multi-Function Display Panels
- Multi-Function Keyboard Panels
- Bezels and Bezel Displays
- External / Internal Lighting
- Joysticks
- NVIS Conversions and Full Cockpit Conversions.
- Technologies include LED, EL and Conventional Lighting.

AEROMAOZ is the holder of the following certifications:
USG QPL-AS7788, ISO 9001:2008, AS9100

AEROMAOZ will work with you from initial design and development, prototype production and evaluation through serial production, testing and qualification.

Lighting the Way...
BA Microwaves is privately owned Israeli company located in Haifa and specializes in developing and supplying cutting edge telemetry link solutions

- Leading developer and manufacturer of telemetry links
- Leading supplier for the Defense Industry in Israel
- Agile links, adaptable to a variety of platforms, requirements and formats
- Proven track record with Thousands of BA aerial and ground platforms already installed

Our PCM/FM and SOQPSK systems are designed as a building block for multiple platforms, thanks to the field configuration of the transmitter/receiver parameters that allows users to configure specific, modulation, bandwidth, bitrate and many other parameters.

**TELEMETRY TRANSMITTERS**

- Designed to withstand harsh conditions
- Proven reliability following thousands of flights and experiments

**Factory Configuration:**
- Maximum output power
- Telemetry interface (Serial/Ethernet)
- Frequency band (P/UHF.L.S.C)

**Field Configuration:**
- Frequency within the band
- Output power
- Pre-modulation filter
- Deviation
- Internal/External clock
- Clock/Data Polarity
- Randomized/non Randomized
- Data Type (NRZ-L, NRZ-M, ...)

**Monitoring and Control:**
- Forward Power
- Return Power
- Internal unit temperature
- Alternating between Active/Standby modes
- Alternating between Low/High Power modes

**Configuration:** Units can be configured via simple serial interface (RS485) or Ethernet port

**TELEMETRY RECEIVERS**

- Installed in ground stations
- SOQPSK (Tier 1) or PCM / FM (Tier 0) configurable device
- 19” 2 U standard rack mount devices
- Configured via RS485 or Ethernet link
- Data distribution via RS422 or Ethernet link
- Units include 2 IF bandwidth modes for narrow and wide IF signals
- Parameters controlled by either RS232 input or push button keys on the front panel
- Clock can be extracted to create data and to manipulate format
- Data, clock and 70MHz amplitude limited output can be supplied to meet required format and modulation rate, and to be used with external demodulator

**BIT SYNCHRONIZER**

BA Telemetry Receiver can include a versatile BIT synchronizer designed to extract the clock from the data. This synchronized data can then be configured to different format, phase (of both clock and data), randomization, and loop filter.
AERBORNE PLATFORMS UPGRADES

Full glass cockpit configuration

C-130 Modernization

Astronautics’ solution is flexible, affordable and features FAA certified avionics to comply with modern civil and military aviation regulations and the most demanding mission requirements

- Terrain / Traffic Surveillance
- Weather Radar
- EFB w/ Digital Map
- Dual Autopilot / Fit Dir.
- Dual INS
- Dual Transponder
- Digital FDR & CVR
- 6”x8” EFIS / EICAS
- Dual FMS with embedded GPS
- Standby Attitude Indicator
- Dual CADC
- Dual HF
- Dual VHF / UHF
- Dual VOR
- Dual ADF
- Dual DME
- Dual DME
- Countemeasures Dispenser System
- Missile Warning System

Tactical Fighter
Trainers
Transporters
Helicopters
AIRBORNE SYSTEMS

Advanced Avionics Products

- Mission and Display Computers
- Airborne Displays & MFCDs
- Digital 2D/3D moving Map
- Smart-I Electronic Instruments
- Air Data Computers
- Cockpit Instruments
- EFIS
- EICAS

Born out of Israeli defense forces’ operational requirements, Astronautics’ products are battlefield proven. Astronautics’ Airborne products are suitable for use onboard fixed wing (fighters, trainers & transporters) and rotary wing aircraft. Astronautics’ provides a single source of products and complete avionics solutions for aviations.

Mission & Display Computers (MDP)
Open Architecture, modular, re-configurable, easily tailored to any avionics requirements. Embedded digital map, Helmet Mounted Display (HMD) electronics and advanced image processing/image compression.

Airborne Displays & MFCDs
Wide variety of sizes (from 3” to 10"x10" display size), video, Smart Displays, EFI (Electronics Flight Instrument) and Engine Displays (EICAS).

Digital Moving Map with unique 3D enhancements. Astronautics’ Digital Map system provides state of the art 2D/3D situation awareness as a stand-alone solution, or embedded into an MFCD or Mission Computer.

Smart-I Mini Electronic Instruments.
Based on advanced technology, Astronautics provides 3ATI Engine Displays, Electronic Flight Instrument (EFI), Electronic warfare (EW) displays and others. All share Astronautics’ SMART-I technology, including wireless communication.

Air data Computers for UAV and tactical fighters, trainers and transporters among them F-16, F-5, F-4, A-4, L-159, MIG-21, Mirage ii/y C-130 and others. Tailoring to specific aircraft is possible.

Cockpit Instruments A variety of over 100 types of instruments such as Attitude Indicators, Horizontal Situation indicators etc. All products designed and manufactured to the highest standards of the aviation industry, and certified by ISO-9001, as well as major industry manufacturers (Boeing, Lockheed, Bell helicopters and others). We are committed to long term to support for our customers, and have all the required infrastructure to implement such long-term commitment. Astronautics’ Airborne products are currently onboard a wide range of aircraft, including F-16, F-5, C-130, F-4, A-4, MB-339 C/D, L-159, Mig-21, A-7, UH-1, CH-53, TORNADO and many other airborne platforms.

EFIS (Electronics Flight Instruments System), FAA certified avionics based on Astronautics computers and smart displays.

EICAS (Engine Instruments & Crew Alert System). Advanced replacement for electro-mechanical engine instruments with Astronautics FAA Certified application, conversion unit and displays.
HEAD-UP DISPLAYS

With over 40 years of experience, Elbit Systems is one of the world’s leading suppliers of high-performance head-up displays (HUD’s) for both fixed and rotary-wing aircraft. The HUDs are suitable for both day and night operation, and can be supplied on a stand-alone basis or as part of an upgrade program. These systems provide customers with the benefit of prolonged operational life, improved lifecycle costs and a viable solution to obsolescence issues. With over 11000 units fielded worldwide, these HUD systems are operational on more than 35 platform types, including helicopters, fighters, trainers and military transport applications around the world.
ENERGY FOR AEROSPACE SYSTEMS

As a world leader in the development and production of rechargeable energy storage systems, Epsilor provides standard and customized rechargeable batteries and energy storage and power management solutions for military, aerospace and marine applications.

Epsilor’s wide range of advanced, rechargeable battery systems empowers dozens of aerospace users and system manufacturers in the air and in space. Our ultra-high density batteries replace traditional silver zinc and thermal batteries, offering a long shelf life and a reliable yet flexible, manageable and rechargeable solution.

Missiles, Rockets and Space Launchers
- Rechargeable battery systems that replace thermal batteries
- High power, high energy density
- Flexible design meeting complex form factors
- High readiness, zero maintenance, long shelf life

Unmanned Aerial Systems
- Flexible form factor
- Light weight & high energy density
- Cold weather operability
- Smart multi-channel field/vehicular chargers

Loitering Munitions
- Flexible energy management support different mission phases
- Extended mission endurance
- High readiness, zero maintenance, extremely long shelf life
PRONAT INDUSTRIES LTD.
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Emek Hefer Industrial Park,
3877701, Israel
Tel: 972-4-6286888
Fax: 972-4-6286890
E-mail: sales@pronatindustries.com
Web Site: www.pronatindustries.com

DIE-CUT & MACHINED PARTS
For the Aerospace, Defense and Medical Industries

PRONAT Electronics

Thermal Management
Heat conducting and absorbing materials, including thermal pads, gap fillers, phase change materials, conductive tapes, adhesives and pastes.

EMI/RFI Shielding
Materials to contain and block electro magnetic and radio frequency interference, including conductive silicone elastomers, fabric/foam gaskets, absorbers, shielding tapes and electrically conductive adhesives.

Electrical Insulation
Insulating parts for standard and high temperature applications, using - Kapton® polyimide film, Nomex® paper, Mylar® PET film, Formex™, mica and Cirlex®.

Gasketing & Sealing
Energy absorbing materials, including Poron® urethane foams, Bisco® silicone rubber & foam, EPDM and neoprene. These materials provide protection against impact, vibration, heat and environmental ingress.

PRONAT Aerospace

UAV & Aircraft Sections
Pronat is a specialist producer of light weight airframe parts using high density Rohacell® foams, Nomex® honeycomb sections, pre-pregs, and composite materials. Applications include light weight wing sections, ribs and mounting plates for UAVs, radar and radome mounts. With our engineering experience, CNC routing equipment and stock of airframe advanced materials, Pronat has the capability to produce parts to your specification.

PRONAT Medical

Our medical division designs and produces skin fixations and wearable patches for medical device companies.

Quality Certification:
• AS9100C - aerospace
• ISO 9001:2008
• ISO class 7 & 8 clean rooms
• ISO 13485 - medical

Our supply partners include:
RADA Electronic Industries Ltd. (Nasdaq: "RADA") is a Defense Electronics System House specializing in sophisticated, military-oriented electronic systems for airborne and land applications. RADA, a developer and manufacturer of core avionics systems for over 30 years offers a wide spectrum of military avionics systems and upgrades - including airborne Inertial Navigation Systems (INS) - designed primarily for the aerospace and defense market. RADA’s core avionics are installed onboard of a wide variety of manned and unmanned aircraft.

**RADA’s Aircraft Avionics Solutions:**
- Mission Video & Data Recorders
- Debriefing Solutions
- Mission and Display Computers
- Weapon Management Systems
- Data Interface and Processing Computers
- HUD Video Cameras

**RADA’s UAV Avionics Family:**
- All-in-one Modular Avionics and INS - including flight control (MAVINS)
- Interface Control Processors (ICP)
- Engine Control Computers (ECC)
- Payload Management Computers (PMC, PIU)

**RADA’s Airborne Inertial Navigation Systems - INS:**
- FOG-Based tactical-grade, Embedded GPS-INS (EGI)
- MEMS-Based INS for UAVs
AISR (Aerial Intelligence Surveillance & Reconnaissance)

Aeronautics AISR is the ultimate solution for expanding existing aerial platforms operations. Aeronautics provides robust interoperable solutions by using state of the art versatile components installed onboard fixed wing aircraft or helicopter.

By integrating the most advances sensors, data-link systems and mission management tools, Aeronautics’ AISR systems are operational worldwide, expanding capabilities for intelligence gathering, reconnaissance, search & rescue and target acquisition missions.
The SPIKE Family consists of missiles suited for land, air and sea platforms, multiple ranges and a variety of targets. The missiles in this family have sophisticated electro-optic CCD or IIR sensors for day/night all-weather operation, as well as a tandem warhead. Their lofted trajectories enable the warhead to strike the target at its most vulnerable location with pinpoint precision. All of the SPIKE Family members have a low life-cycle cost, due to high reliability and operational, logistic support and production commonality between members.

### SPIKE FAMILY - Family of Multi-Purpose, Electro-Optical, Tactical Missiles

<table>
<thead>
<tr>
<th>System</th>
<th>Application</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPIKE-LR2</td>
<td>Helicopter, Infantry, Combat Vehicles</td>
<td>Up to 5.5 km</td>
</tr>
<tr>
<td>SPIKE-LR2</td>
<td>Helicopter</td>
<td>Up to 10 km</td>
</tr>
<tr>
<td>SPIKE-ER</td>
<td>Helicopter, Infantry, Combat Vehicles</td>
<td>Up to 8 km</td>
</tr>
<tr>
<td>SPIKE-NLOS</td>
<td>Helicopter, Combat Vehicles, Naval Vessels</td>
<td>Up to 30 km</td>
</tr>
</tbody>
</table>
In operations that demand high mobility and connectivity, yet no infrastructure, Rafael's BNET is the optimal solution. BNet is a mobile Ad-Hoc Radio communications network for the transmission of reliable digital information at high data rates among a large number of users. BNet is an integrated C3 system providing position and jam-resistant high-speed Data and Voice (Analogy and VoIP) used for combat communications in a modern battlefield.

**Connectivity and Mobility:** By integrating BNet-Waveform, BNet SDR equipment offers transverse communications, high data rate transmission on the move and mobility management that greatly improve the connection between the users from HQ to small action units.

**Versatility:** With a scalable capacity of multi-simultaneous channels and embedded routing capability, BNet acts as a communication node. Each channel can be configured and programmed independently according to a majority of missions dedicated to mobile battlefield platforms.

**Flexibility:** Based on an open architecture, compliant with Software Communication Architecture (SCA 2.2), international standard and a powerful programmable hardware platform, BNet ensures enhanced functionality, expandability and waveform portability accommodating future technology or requirements upgrades with ease. This flexibility is improved due to the modular hardware architecture of BNet.

BNet as a Dual Mode Radio for Ground and Air applications. BNet can operate simultaneously in Dual Bands e.g., the UHF for Ground applications using the OFDM type of modulation and the L band using the QPSK modulation for Air applications.

**Connectivity with other networks/BNet as an IP radio:** BNet is designed to support full interoperability with standard IP equipment. The interoperability enables simple integration of multiple networks, allows benefiting from technological advances in general IP market and does not introduce excess complications at the network maintenance level.
Toplite Multi-High Definition (MHD) Electro-Optical System (EOS) is the most advanced version of the Toplite family of ISR and targeting systems for airborne, maritime, ground, homeland security, and defense applications. It allows unique operational capabilities supplemented by additional state-of-the-art advanced image processing algorithms and applications. Toplite MHD joins the many hundreds of daily operating Toplite systems.

System Description: Toplite MHD EOS is a smart synergy of existing Rafael technologies. The combined capabilities of the Toplite system and its advanced image processing capabilities meet today's most advanced Intelligence, Surveillance, Targeting & Reconnaissance (ISTAR) operational requirements.

The Toplite MHD EO Pod (EOP) is a sealed and single multi-sensor, multispectral (VIS, NIR, MWIR, SWIR, Laser units), multipurpose, highly stabilized turret which incorporates day/night/laser, up to seven sensors for detection, recognition, identification, classification, and targeting of targets/objects on land, at sea, and in the air.

The Toplite family of products is derived from the Litening targeting and navigation pod. It therefore benefits from all the developments implemented in the world-leading, state-of-the-art Litening system. The Toplite MHD EOS offers flexible and smart design to cope with the quickly-evolving market of computerized systems and algorithms, while maintaining the "free maintenance concept design" on the operational level, hence reducing the operational overload of the system.

The Toplite EOS design maintains the EOP sensors and LOS (Line-of-Sight) capabilities while implementing the image processing and algorithms by COTS-based units via the main computing board and Toplite controller sub systems. This approach enables the EOS to easily cope with the developments in the market, with minimum effort of upgrade process in the future.

Hundreds of TOPLITE systems are currently operational on land, air and sea in Israel, the U.S., and Australia and worldwide, serving as surveillance, detection and identification systems, and directing weapons and other key systems.
YOUR SOURCE FOR HIGH-END FLIGHT ALGORITHMS AND ADVANCED FLIGHT SYSTEMS

- **120mm mortar guidance kit**
  GPS-based, the 120mm guidance kit withstands a launch impact of 10,000g. Initial flight tests demonstrated 5m CEP capability. This kit was originally designed and tested by Aerodan for a global defense industry.

- **High roll measurement module**
  This high roll-rate gyro-less measurement module, designed for an Israeli defense industry, is an autonomic unit to be incorporated into a smart munitions' system.

- **Fire-control computer for naval platforms**
  The fire-control computer is a general-purpose real-time firing control unit, suitable for any rocket/missile launch from a moving or anchored naval platform. The first computer was developed for an Israeli defense industry.

**System Engineering and Integration**
Using our vast experience accumulated over the years in the integration of systems, Aerodan provides its integration skills to support system engineering for smart munitions while making the best trade-offs between the mechanical, electronic, aerodynamics, GNC and budget considerations, to create the best-suited solution. Putting to use its extensive know-how, Aerodan has built several real-time based hybrid labs for various projects.

**Simulations**
Aerodan has designed a series of system simulations, 3, 3.5 & 6 DOF among them, which have been verified over the years by both flight tests and hybrid labs. These simulations are being used in the various smart munitions, be it rockets, missiles, satellite launchers or any other.

**peruse-munitions at hand.**
Aerodan has also developed and is maintaining the generic digital simulation of ballistic missile trajectories for the Israel MOD. Aerodan can provide a tailor-made system-simulation for any ballistic projectile.

**GNC systems**
Well experienced in the design and development of various GNC systems. Aerodan has lately designed a unique GNC platform, which combines high-end algorithms with COTS components, creating a sophisticated cost-affective platform that can be utilized in the design and engineering of smart munitions.

**Safety, Footprints and Trajectories**
Using its in-house designed simulation tools, Aerodan provides a full solution, including test trajectories, flight envelopes, safety maps, fragment dispersion analysis, foot-prints, lethality and more for any purpose specified by the customers.
Elbit Systems develops and delivers increasingly advanced guided munitions systems and seekers that improve accuracy, enhance firepower, extend operational capabilities and significantly boost safety. The systems are incorporated into solutions for both air and ground applications.

All products comply with new demands for high-accuracy and low collateral damage, while reducing manpower and increasing firepower within the sensor-to-shooter concept.
HAROP
Loitering System Weapon

Combining capabilities of a UAV and a lethal missile, HAROP searches, finds, identifies, attacks and destroys targets, and performs battle damage assessment. Independent of real-time intelligence, HAROP is uniquely capable against time-critical, high-value, relocatable targets.

Highlights
- Extended loitering at long ranges
- Autonomous platform operation
- Man-in-the-loop attack, avoiding collateral damage
- EO seeker: FLIR / color CCD, hemispherical coverage
- Full hemispherical attack angle
- Attack abort capability
- Continuous, suppression of air defense systems
Combining capabilities of an UAV and a missile, HARPY NG searches, identifies, acquires, attacks and destroys enemy radar targets. Not dependent on real-time intelligence, HARPY NG is highly effective against a wide spectrum of modern air defense systems.

**Highlights**
- Suppression / Destruction Enemy Air Defense Missions
- Autonomous operation
- State of the art Anti-Radiation seeker with wide RF coverage
- Vertical attack capability maximizing weapon lethality
- Abort attack in case of target shut down
- Longer range and extended loitering capability
- Continuous, persistent, lethal threat to enemy air defense systems
LAHAT - LAser Homing ATtack Missile

Advanced light weight laser homing missile

- Pinpoint accuracy for day and night operations
- Effective against both static and moving targets
- Low collateral damage
- LOS (Line of Sight) and Non LOS firing capability
- Simple to operate, easily integrated
- Same missile can be launched from various platforms:
  - Canister launch: vehicles, helicopters, ships, remote installations for borders or bases protection
  - Tanks gun launch (105 mm and 120 mm)
  - Lofted and flat trajectories for effective penetration
- Cost effective
AEROSPACE

Fire Power Systems

**MPR FAMILY**
IMI System’s Multipurpose Rigid bombs is the next-generation 250, 500, 1000, 2000 lb. GP family of bombs. The MPR 500 has MK-84 effectiveness in MK-82 dimensions with over 95% combat proven reliability. Optimized for operation against challenging targets, MPR 500 penetrates over 1 m thick concrete or four double reinforced concrete walls / floors of 200 mm thickness each.

The bomb guarantees controlled fragmentation focused on target lethality and minimal collateral damage, is certified with JDAM and is fully compatible with relevant guidance kits and standard 3” fuses.

**DELILAH**
A combat-proven advanced, high-subsonic, long range, loitering E/O stand-off missile providing precision hit capabilities against high value mobile, fixed and relocatable targets.
DELILAH can be launched from a variety of different platforms including fixed-wing aircraft, helicopters, ground or naval platforms.

**MARS**
MARS, Multi-Purpose Air-Launched Rocket System, is a 1000 lbs. supersonic precision weapon for long range air-to-ground strike missions. MARS features high survivability and operational flexibility and enables salvo strikes against high value targets.

The weapon comprises a launch booster, warhead and GPS/INS guidance system. It can be fitted to a variety of fighter jets.

**FASTLIGHT**
An innovative family of small-dimension gliding bombs for Close Air Support (CAS), Fast Light provides precision-strike capability against stationary and slow moving targets in day / night scenarios and in challenging weather conditions.

Fast Light offers highly-effective warheads, multi-aspect capability, and long distance gliding range. Droppable from a wide variety of aircraft, FASTLIGHT reduces collateral damage due to its 10 m CEP accuracy and compact size.
MTC
INDUSTRIES & RESEARCH

Field Tested, Mission Proven, Electro Mechanical Systems

MTC designs, develops and customizes a wide range of products for the Aerospace, Defense and Medical industries worldwide. Visit MTC’s website for a full range of products and services including: Engineering Solutions and Thermal Spray Coatings. MTC is AS9100C certified and conforms to MIL-STD.
FUZE SYSTEMS
FOR AERIAL MUNITIONS

Orion Advanced Systems Ltd., formerly the Government Electronics Department (GED) at Motorola Israel Ltd., is a world leader with over 35 years experience in the design and manufacture of fuzes for aerial munitions. Orion’s fuzes have been qualified by the Israeli Air Force for use with their aircraft and weapons systems and meet their rigorous standard safety requirements. The fuzes are renowned for their outstanding operational reliability.

Orion’s product range covers the full spectrum of fuzes for aerial munitions:

- ID260MF Impact/Delay Fuze – Orion’s flagship fuze specially designed for integration with Precision Guided Munitions.
- Low-Altitude Proximity Fuzes and Sensors.
- Custom fuzes and Safe & Arm units tailored for specific bombs and rockets.
Rafael's new I-Derby is an active radar air-to-air missile that provides fighter aircraft with outstanding and effective performance in both short ranges and Beyond Visual Range (BVR) interceptions. The I-Derby ER incorporates the innovative I-Derby RF seeker combined with a dramatic increase of kinematic performance (up to 100 km). The missile enables operational flexibility and multi-shot capability. It can be launched at an enemy aircraft day or night and in all-weather conditions. The I-Derby missile incorporates Rafael’s state-of-the-art software-defined seeker that enables excellent performance. I-Derby has look-down/shoot-down capability, sophisticated fire-and-forget mode, and an advanced ECCM tailored to the customer’s operational requirements. I-Derby’s light weight enables its adaptation to various modern fighter aircraft, including light aircraft, such as F-5, Mirage and F-16.

I-Derby, complemented with the Python-5 full sphere missile, is used as an interceptor in the SPYDER Short and Medium Range Air Defense Systems. Both SPYDER systems are designed to engage and destroy a wide spectrum of threats, such as fighter aircraft, helicopters, cruise missiles, UAVs and stand-off weapons.

Together, the I-Derby active radar and Python-5 Imaging Infra Red air-to-air missiles offer superior war-fighting capability that ensures outstanding air superiority for the 21st century.
Python-5 Full sphere air-to-air 5th generation missile

Rafael has a long history in the development of air-to-air missiles the Python-5 - a fifth generation air-to-air missile that provides the pilot engaging an enemy aircraft with a full sphere launch capability. The missile can be launched from very short to beyond-visual ranges with greater kill probability, excellent resistance to countermeasures, irrespective of evasive target manoeuvres or deployment of countermeasures. Python-5 combines advanced new technologies with operationally-proven Python-4 components. The missile incorporates a new dual waveband imaging seeker, advanced computer architecture, Inertial Navigation System (INS), sophisticated Infra-red counter-counter-measures (IRCCM) and sophisticated flight control algorithms. Python-5 maintains Python-4’s unique aerodynamic airframe, INS, powerful rocket motor, warhead and proximity fuze.

Python-5 provides revolutionary full sphere competence, achieved by a combination of Lock-On-After-Launch (LOAL) and excellent acquisition and tracking capabilities. Its dual waveband Focal Plane Array (FPA) seeker and sophisticated algorithms enable acquisition of even small, low signature targets in Look-Down, adverse background and cloudy environments.

Python-5 (along with I-Derby) is used in Rafael’s SPYDER (Surface-To-Air Python & DERBY) - a quick reaction, low level surface-to-air missile system designed to counter attacks by aircraft, helicopters UAVs and precision guided munitions. The system provides effective protection of valuable assets, as well as first-class defense for forces located in the combat area.

SPICE Family - Smart, Precise Impact and Cost-Effective Guidance Kit

SPICE is a family of stand-off, autonomous, air-to-ground weapon systems, capable of hitting and destroying targets with pinpoint accuracy and at high attack volumes. SPICE is combat-proven and in service with the Israeli Air Force and several international customers.

SPICE uses state-of-the-art navigation, guidance and homing techniques to achieve the accurate and effective destruction of targets with a CEP of better than 3 meters.

SPICE is released outside the threatened area, and performs midcourse navigation autonomously using its INS/GPS. SPICE homes in accurately and autonomously to the exact target location in the
predefined impact angle and azimuth. While approaching the target, the SPICE unique scene-matching algorithm compares the electro-optical image received in real-time via the weapon seeker with mission reference intelligence data stored in the weapon computer memory. In the homing phase, the system locates the target using scene-matching technology, and uses the tracker to hit it. As a result of this capability, SPICE can overcome Target Location Error and GPS jamming, and can dramatically reduce collateral damage. SPICE has day, night and adverse weather capabilities, based on its advanced seeker and scene-matching algorithms.

The SPICE family includes:

**SPICE-1000** kit for 1000 lb. general purpose or penetration warheads, such as MK-83 and RAP1000, with a stand-off range of 100 kilometers.

**SPICE-2000** kit for 2000 lb. general purpose or penetration warheads, such as MK-84, RAP2000 and BLU-109, with a stand-off range of 60 kilometers.

**SPICE-250** the latest addition to the SPICE family.

It is a new generation stand-off Precision Guided Munition (PGM). SPICE-250 has a standoff range of 100 kilometers. The SPICE-250 is an autonomous weapon with real-time target position update capability. SPICE-250 is a unitary munition and can be equipped with either general purpose or penetration warheads. The aircraft’s increased load-out and wide target set provide the optimal solution for high volume precise strike for the dynamic battlefield. SPICE is easily integrated onto a wide range of single and dual-seated fighter aircraft, and requires no aircraft modifications. SPICE-250 uses a common aircraft interface and its sophisticated Smart Quad Rack (SQR) simplifies the effort needed for aircraft integration. Four SPICE-250 weapons are carried on each SQR. SPICE-250 can be directly mounted on light attack aircraft store stations, this due to its small size and light weight. SPICE is fully operational and has recently demonstrated outstanding combat performance in all parameters to become one the Israeli Air Force’s leading air-to-surface weapon systems.
AMPS - AIRBORNE MISSILE PROTECTION SYSTEM

AMPS, BIRD Aerosystems’ Airborne Missile Protection System, is provided in cooperation with Hensoldt (formerly AIRBUS DS) and is designed to automatically detect, identify and foil missile attacks.

The system provides all around coverage along with an unprecedented practical zero False Alarm Rate (FAR) enabling optimal deployment of countermeasures decoys as well as DIRCM jamming the missile’s IR seeker to ensure the highest aircraft survivability.

AMPS is fully operational on military and VIP aircraft and is certified by leading aircraft manufactures including AIRBUS Helicopters and MIL Design Bureau that has issued several Service Bulletins for the installation on Mi-8/17.

AMPS Main Capabilities

• Fully autonomous system from detection to protection
• Full turn-key solution that includes installation, integration and support
• Practically zero false alarm rate
• Small number of compact, light-weight units
• Stand-alone configuration
• Additional integration with RWR, LWR, MACS, DIRCM
• Combat proven

AMPS is currently protecting hundreds of aircraft operated by NATO, UN and the US Government in extreme places such as Afghanistan, Libya, Iraq and Somalia. In addition, the AeroShield Pod provides an advanced and comprehensive anti-missile protection system for narrow and wide body aircraft.
AEROSHIELD - ALL-IN-ONE AIRBORNE AMPS POD

AeroShield is BIRD Aerosystems' anti-missile defense Pod for wide & narrow body aircraft including the A320, B737, B777 and A380 and is already fully operational and in use on VIP aircraft.

Integrating the full AMPS system into an all-in-one Pod solution which includes BIRD's SPREOS Directional Infra-Red Counter Measure (DIRCM) as well as Missile Launch Detection Sensors (MILDS) and additional Flare Dispensers, the AeroShield Pod was designed to provide the most comprehensive anti-missile aircraft protection for narrow and wide body aircraft and VIP jets.

Smaller and lighter than any other Pod solution, BIRD's AeroShield Pod is easily installed on a range of platforms and can be easily transferred between different aircrafts, providing optimum platform protection with minimal interference to the aircraft, while fully complying with EASA/FAA civil aviation regulation procedures.

_AeroShield is the only Pod solution that supports protection by both DIRCM and flares, while fully complying with EASA/FAA civil aviation regulation procedures._

_AeroShield is already field-proven and in operational use on VIP aircraft._
SPREOS is an advanced Directional Infra-Red Counter Measure (DIRCM) solution that provides enhanced protection against the immediate threat of MANPADS for a wide-range of airborne platforms, from small helicopters to large transport aircraft.

Uniquely multifunctional, SPREOS integrates threat detection and confirmation, tracking and jamming of advanced IR guided missiles into a single Line Replaceable Unit (LRU). SPREOS utilizes a semi-active dual band radar to deliver virtually zero False Alarm Rate by effectively filtering all natural and manmade sources of false alarms and ensuring that only actual threats are declared and subsequently acted upon.

Additionally SPREOS collects specific threat information like velocity and distance and calculates the time-to-impact, enabling the most effective jamming response by its dual-band counter-measure laser.

Finally, through constant threat tracking SPREOS assesses whether the missile has been successfully deflected and how effective the protection remains. SPREOS is uniquely able to integrate with any legacy MWS system leveraging patented concept for acquiring incoming threats via its dual band radar technology.

*Simple and easy to install on all types of platforms, SPREOS is the most advanced DIRCM solution on the market.*
AIRBORNE ELECTRONIC WARFARE & INTELLIGENCE SOLUTIONS

Self-Protection Force Multiplier.

Complete self-protection against all threat-types or a full range of airborne platforms deployed onboard numerous airborne platforms worldwide, Elbit Systems’ battle-proven multi-spectral EW systems integrate RWRs, LWS, IR based MWS and countermeasures (RF jamming, chaff/flare and DIRCM), facilitate mission performance and platform survivability. We are your one source for electromagnetic spectrum dominance.

The logo, brand, product, service, and process names appearing herein are the trademarks or service marks of Elbit Systems Ltd., its affiliated companies or, where applicable, of other respective holders.
MMR - Multi Mission Radar
ELM-2084
The ELTA ELM-2084 Multi Mission Radar is an advanced AESA phased-array radar able to detect a wide range of low RCS airborne objects - including missiles, artillery shells and rockets. The objects can be detected even in the presence of ground clutter and electromagnetic interference. When encountering ballistic motion type targets, the radar rapidly detects and pinpoints the location of the adversary weapon launching point and calculates the anticipated impact points.

AD-STAR - Air Defense and Air Traffic Control Radar
ELM-2288
The ELTA AD-STAR ELM-2288 is an advanced 3D solid-state long-range S-Band family of transportable radars designed to support Air Defenses, Early Warning and Traffic Control activities. Featuring fully digital beam forming in elevation (receiving and transmitting) the AD-STAR provides high accuracy 3D data on detected targets, while initiating automatic target tracking based on preprogrammed target parameters. Including multiple transmitters and digital receivers, the AD-STAR ensures high redundancy and reliability, and high availability. The radar system can be integrated with a compatible IFF (SSR) system features mounted on the primary antenna.

GREEN PINE
ELM-2080
The ELM-2080 is a search, acquisition and fire control radar that can simultaneously detect and track dozens of ballistic missiles in a wide array of ranges and altitudes. The modern signal processor embedded in the system enables flexibility in waveform generation and data processing. The large power aperture, combining state-of-the-art solid state modules, provides a long detection range, even in adverse weather conditions, land and sea clutter, or chaff.

APR - Aerostat Programmable Radar
ELM-2083
ELTA and TCOM L.P. have combined their capabilities to provide an efficient and affordable Aerostat-Mounted Airborne Early Warning Radar. The radar provides continuous long range and low altitude coverage on a 24 hour basis. The Phase Array Radar operates in a 360° coverage search mode, and can be switched to sector scan mode for extended range and improved tracking capability. The system provides 3D coverage for air defense operations and simultaneous surface target detection.
AEROSPACE
Survivability & Protection

ITALD (Improved Tactical Air Launched Decoy)
An advanced standoff air-launched turbojet powered decoy with a distinctive modular concept aimed to stimulate suppress and deceive enemy SAM missiles. Launched by fighter aircraft towards integrated enemy air defense targets defined in its updated mission plan, the ITALD performs autonomously thanks to its GPS and navigation sensors while its radar altimeter enables terrain following.

AIRMOR
This fully autonomous, modular self-protection suite is designed for helicopters and transport aircraft. Its core components include a Management Control Unit (MCU) which processes information from EW sensors and aircraft avionics and generates the optimal response to a particular threat, and a Control & Display Unit (CDU) which provides situational awareness and controls the system’s operation. AIRMOR also employs a passive UV Missile Warning Sensor (MWS) and a Counter Measure Dispensing System (CMDS) with various expendables.

SAMP & MINI-SAMP
MINI-SAMP overcomes weight constraints enabling the system to offer protection to previously undefended light helicopters, and by using larger amounts of flares/chaff with IMI’s unique Multi-Blu split flares it improves protection to medium-size helicopters. MINI-SAMP is available as a complete system installed on aircraft or as an upgrade kit to existing countermeasures.

SPECTRAL IR FLARES
IMI Systems advanced combat-proven spectral IR flares provide rotary & fixed wing combat aircraft with increased survivability against most advanced MANPADS deployed on today’s battlefield. The state-of-the-art flares can be dispensed from AN/ALE-39/40/47, ADDS SAMP 60/120/240A or equivalent dispensers. In operational use by the Israel Air Force (IAF) and other aerial forces around the world, IMI is also the sole provider of MTV flares and Chaff of several configurations to the IAF.
ECM solutions
The core technology is based on RF-Photonic capabilities. This new approach is based on the entirely analog RF-Photonic design that provides possibility for simulating sophisticated multi-target scenarios for any kind of radar signals. The MORE solutions main features include wholly analog design, ultra wide immediate BW, coherent and multiple overlapping targets generating, wide band amplitude and phase manipulation, simultaneous engagement of multiple emitters and others.

Ultra Wide BW spectrum sensing
MORE patented technology provides an immense advantage in discovering, investigating and deriving the principal features of complex RF signals in wide immediate BW (100 MHz- 40 GHz). The main application areas are RWR, WSM and ELINT equipment.

RADAR & ECM simulators
MORE RF-Photonic capabilities may be successfully implemented in RADAR Target Simulators intended for testing and calibrating of coherent RADAR systems and test equipment used for acceptance tests and the systems maintenance, as well as in ECM technique emulators for ECM technology validation.

Combined RF & Data Connectivity over Optical Fiber
MORE products line includes different types of RF over Fiber transceivers (RADOF). The RADOF’s (TX & RX) are a complete solution for remote interconnection of RF digitally controlled systems. RADOF’s provide RF BW up to 18 GHz, high dynamic range, built-in monitoring and control features and an option for multi-channel connectivity over single fiber (Point to Multi-Point).
As a worldwide leader in the EW market, Rafael is continuously investing in new technologies and updating its products according to lessons learned from conflicts around the world. One of these lessons learned from recent wars was the necessity of support, stand-off and escort jammers, in order to enhance aircrew survivability and mission accomplishment.

RAFAEL, as a leading provider of support jammers to the Israeli Air force, presents a third generation of this type of EW system - the Sky Shield jamming system. This high power, 360° coverage, wide frequency range, compact configuration single pod or integrally mounted system is designed and manufactured utilizing the latest technology. The digital receiver contains wide, instantaneous controllable, bandwidth with high sensitivity, tracking resources for modern and complex emitter signals and high direction finding accuracy. The Multi Beam Array Transmitters (MBAT) are based on solid state amplifiers. Altogether, the Sky Shield system is an excellent solution for a modern air force, providing both effective SEAD (Suppress Enemy Air Defense) capability and comprehensive ECM coverage.
Warfare in the 21st century has moved from conventional warfare to the global war on terror typified by asymmetric combat. Combat scenarios have shifted from large-scale operations to localized operations and from planned scheduled operations to real-time network centric warfare (NCW). Hostile targets are mobile, exposed to retaliatory countermeasures for only a very short time period and are often defended by advanced surface-to-air missiles. During engagement, there is neither time for a well-defined setup of electronic attack components nor time to specify the required sector for the attackers to fly in. The thorough protection of these time-sensitive critical targets (TCT/ TST) dictates the need for full operational flexibility.

Rafael’s Lite Shield implements “close protection” to ensure an immediate, flexible, and constantly available electronic attack capability and response. Lite Shield is a relatively small pod, based on Rafael’s successful targeting pod Litening, equipped with the most advanced EW components. Lite Shield’s leading edge technology shields the strike formation from being detected and engaged prior to completing the mission so that the crews can apply their undivided attention and be provided with the necessary amount of time to find and engage the target. Lite Shield is the ultimate solution for the sensor-to-shooter mobile target scenario.

**COST-EFFECTIVE SOLUTION FOR EA NEEDS**

Based on full digital technology, Lite Shield is equipped with the most advanced EW components. Because it is mounted on an aircraft’s targeting pod station, the jamming aircraft can carry out the primary mission and the electronic attack simultaneously, conserving coordination and resources. Lite Shield enhances air force attack capability without impinging on space for the weapons payload. Implementing the close protection concept, it eliminates the need for a designated escort jamming A/C.
IRON DOME
DAVID’S SLING

STUNNER \ DAVID’S SLING - Air and Missile Defense Interceptor

Jointly developed by Rafael Advanced Defense Systems Ltd. and Raytheon Missile Systems, Stunner is an advanced multi-mission interceptor designed for “plug and play” insertion into fielded air and missile defense systems. Stunner is part of the jointly-developed David’s Sling system (delivered to the Israeli Air Force), and is effective against a variety of asymmetric short-range tactical ballistic missiles, inexpensive large caliber rockets, cruise missiles and unmanned aerial systems. Integrating easily into a variety of engagement scenarios that employ established ground-based, sea-based and air-based sensors, Stunner’s compatibility with established canister and rail launchers offers maximum operational and deployment flexibility.

Stunner has already undergone a number of successful tests and has completed development. Rafael and Raytheon are conducting integration activities to field a U.S. compliant Stunner interceptor, completely integrated with the Patriot family of systems and other U.S. battle management and command/control solutions. A mixed inventory of the U.S. Stunner variant with other fielded missile solutions offers the war fighter an affordable inventory mix to more effectively deter and defeat an enemy raid attack. The U.S. Stunner is also compatible with allied launchers and battle management systems to support combined forces requirements.
Over 1500 interceptions with 90% success Rafael Advanced Defense Systems has developed Iron Dome, the world’s only dual mission counter rocket, artillery and mortar (C-RAM) and Very Short Range Air Defense (VSHORAD) system. Iron Dome is an affordable, effective and innovative defense solution (CRAM class), designed for quick detection, discrimination and interception of asymmetric threats such as short-range rockets, (up to 70 km), mortars, and artillery shells, and also serves as a VSHORAD Missile System against traditional Air Defense targets (aircraft, helicopters, UAVs and PGMs).

The system is effective in all weather conditions, including low clouds, rain, dust storms or fog. The Iron Dome provides robust, yet selective defense. Its ability to discriminate between threats headed towards a populated area and those that will fall into the sea or open fields reduces costs and limits unnecessary interceptor launches. A single battery can protect a medium-size city.

Iron Dome uses a unique interceptor with a special warhead that detonates the targets in the air. The system can engage multiple threats simultaneously and efficiently. Since becoming operational by the Israeli Air Force in April 2011, Iron Dome has successfully intercepted over 1500 rockets, with 90% rate of success. In doing so, the system has saved lives and prevented serious damage to property.
EARLY WARNING RADARS

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TERRA
ELM-2090
The ELM-2090 TERRA is a strategic Early Warning dual band radar system. The ELM-2090 Consists of the ELM-2090U ULTRA for search & detect mission at very long range and the ELM-2090S SPECTRA for highly accurate tracking mission at long range, operating jointly as a unified system. The TERRA system is designed to provide the advantage of the combined UHF and the S band radars, ensuring optimized detection and tracking performance for very long range targets, such as ballistic missiles and satellites.

ULTRA
ELM-2090U
The ELM-2090U UHF ULTRA Early Warning and long range search and track radars are a family of transportable land-based radar systems designed to autonomously detect and simultaneously track dozens of Ballistic Missiles (BMs), satellites and airborne targets at very long ranges. The radar operates under all weather conditions and in the presence of dense electromagnetic environments. The modular digital Active Electronic Steering Array (AESA) includes thousands of transmit/receive modules and digital units which provide high redundancy, graceful degradation, high reliability and high availability. The modular design enables the construction of scalable radar configurations using multiple antenna building blocks (clusters) according to customer requirements.

SPECTRA
ELM-2090S
IAI-ELTA's ELM-2090S SPECTRA is a field proven highly accurate S-Band search and track radar designed to autonomously detect and simultaneously track Ballistic Missiles (BMs), Air Breathing Targets (ABT) and satellites at very long ranges. The radar is suited for either land-based or ship-based operation. The radar is transportable and designed to operate under extreme weather conditions as well as in the presence of intense electromagnetic environment. SPECTRA offers high reliability, high availability, and graceful degradation utilizing an Active Electronically Scanned Array (AESA) based on state-of-the-art high efficiency Gallium Nitride (GaN) technology.
Elbit Systems offers a full spectrum of training and simulation systems for air, ground and naval platforms, based on a single simulation core technology, capable of serving multiple domains, while employing advanced modeling, visualization and networking capabilities. Our solutions utilize actual operational and C2 systems, as well as simulators and gaming technologies.

Our team of former pilots, tank commanders, HLS experts and naval officers, develop high-fidelity, joint tactical force-on-force training environment and supply maintenance, and ILS solutions for all training systems, equipment and infrastructure.
HarTech Technologies is an innovative and dynamic private company specialized in development, integration and setting to work of advanced command and control systems and simulation infrastructure solutions.

Our main projects and product lines include:

**Command and Control** systems for Air, Land, Naval and Special Forces as well as for intelligence and Homeland security applications. Our command and control systems make use of advanced state of the art data fusion algorithms as well as utilize modern multi-channel datalink systems.

**Simulation infrastructure solutions** for large scale wargaming systems and tactical simulation systems. Our **SSG (Smart Scenario Generator)** is an advance scenario generation framework which enables the development and execution of large scale high fidelity simulation scenarios covering single platforms to a complete wargame.

**Situational Awareness** 3-D system for use in urban areas, municipalities, complex plants, hazardous materials industries, environmental organizations and more. The **GEM (Geospatial Management)** our site management and protection solution provides a complete solution for all safety, environmental and security needs.

HarTech Technologies performs Turn-Key-Projects and provides services throughout the entire lifespan of a project starting from the operational specification definitions and solution design, system development, project management, management of procurement and installation process, setting the system to work and providing ongoing support to the project in the system assimilation and maintenance life cycle.

**HarTech’s main projects include:**

- Coastal surveillance solutions (Command and control system and overall integration)
- Air surveillance systems (Command and control and mission planning)
- Naval Command and Control systems
- The Smart Scenario Generator (SSG) development framework
- Tactical simulation solutions
LVC
Simulation and Training
Embedded Training

MLM offers a portfolio of advanced training solutions for fighter-aircraft (AACMI), helicopters (HTS), naval forces (NCMI) and air-defense forces (ADTS). MLM solutions are fully inter-operable and thus are enablers of Joint-Force-Training. MLM is expanding its portfolio of advanced training solutions to support LVC (Live, Virtual, Constructive), thus allowing for support of a mixture of live, simulated and computer-generated forces.

AACMI - Autonomous Air-Combat Maneuvering Instrumentation
MLM EHUD system is a real-time air-combat training, debriefing and safety system for fighter-aircraft pilots. EHUD enhances live training with the capability to fire simulated armaments and receive real-time hit/miss assessments. It also provides high-level post-exercise debriefing.

HTS - Helicopter Training and Safety System
HTS enhances helicopter pilot training by offering high-fidelity simulation for helicopter weapons and tactical flight training in hostile environments, including live and virtual EW threats.

NCMI - Naval Combat Maneuvering Instrumentation
NCMI is a networked ship-borne training system that offers training at sea using the combat-ship integral systems. NCMI allows the naval task-force to exercise and rehearse its mission on the way to the target location or at the location itself and provides for single and multi-ship training.

ADTS - Air-Defense Training System
ADTS offers a turnkey solution for air-defense training by engaging live and virtual threats.
To ensure territorial integrity and security in today’s complex environment, a truly comprehensive, end-to-end, yet cost effective, airborne surveillance, intelligence and observation solution is crucial. This is exactly what BIRD Aerosystems delivers with their ASIO (Airborne Surveillance, Intelligence and Observation) solution, a combat proven and reliable ISR system that provides air, maritime and ground surveillance in a single solution.

Extremely powerful and highly customizable, the ASIO solution is platform independent and can integrate a wide range of state-of-the-art, all-weather surveillance and monitoring sensors as well as subsystems, such as Radar, EOP, AIS, SPS, COMINT, to provide a unified, real-time situational awareness overview.

Designed to achieve maximum mission effectiveness, the ASIO solution includes BIRD’s advanced Multi Sensor Integration System (MSIS) to manage the complete mission profile and deliver a common operational overview and actionable intelligence to both airborne and ground users.

ASIO is based on BIRD extensive operational experience and the understanding of mission-critical requirements. ASIO has been delivered to customers worldwide in diverse configurations and on both fixed wing aircraft and helicopters.
SENSORS FOR MARITIME PATROL AIRBORNE PLATFORMS

Maritime Surveillance Radar Family
ELM-2022

The ELTA ELM-2022 Maritime Surveillance Radar (MSR) family includes radars for all types of Mission Aircraft, Helicopters and UAVs. Key features include detection of small targets, long range Surveillance, target Rang-Profiling, SAR and ISAR Classification Modes, Search & rescue location and support, moving target indication (MTI), and navigation and weather modes. The MSR provides a cost-effective force multiplier solution for Maritime Surveillance and EEZ Patrol, Surface and Littoral Warfare, Search and Rescue, Drug interdiction and prevention of illegal immigration and terrorist activities, Coast Guard and Fisheries Patrol, and Image Intelligence Operations.

The ELM-2022ES AESA implements the proven operating modes of the ELM-2022 family, together with additional modes derived from the unique capabilities of Active Electronically Scanned Array (AESA) technology, providing improved detection, particularly at high sea states, and enabling efficient use of the radar in air/air and air/surface modes. The ELM-2022ML uses a unique front-end design in which most of the radar components are installed directly on the mechanical antenna array. Weighing only 50kg, this radar is suitable for the growing market of small to medium UAVs as well as light reconnaissance aircraft.

Airborne SIGINT Systems:
ESM/ELINT, CSM/COMINT
ELL-8385, ELK-7071

The ELTA ELL-8385 & ELK-7071 are state-of-the-art ESM/ELINT and CSM/COMINT SIGINT systems designed for tactical and strategic Maritime Patrol Aircraft missions. The system performs Anti-Surface Warfare (ASuW), Anti-Submarine warfare (ASW), and Search and Rescue missions. These missions are enabled through surveillance, geo-location and tracking of all radar and communication emitters in the arena. In addition, continuous SIGINT data collection and analysis are performed throughout the mission. The system automatically generates a reliable and accurate Electronic-Order-of-Battle for all radar types, including Low Probability of Intercept radars. Additionally, an Innovative patented compact 3-Dimensional HF Direction Finder for airborne Instantaneous 3D geo-location of HF enabling small airborne platforms to perform HF COMINT missions.
SPECIAL MISSION AIRCRAFT

MARS2
ELI-3150
MARS2 is a Multi-Mission Airborne Reconnaissance & Surveillance System, designed to provide persistent stand-off ISR in all weather and visibility conditions.
MARS2 provides actionable intelligence to commanders in real-time at strategic, operative and tactical levels.
MARS2 employs a leading edge robust Active Electronically Scanned Array (AESA) SAR/GMTI radar and a proven high accuracy SIGINT system. Advanced algorithms automatically generate mission-relevant target detection and classification. The system integrates multi-sensor detections and data into a real-time picture of moving and stationary ground targets.

CAEW
ELW-2085
The CAEW AEW&C aircraft system has a unique conformal design for high-altitude long-range continuous 360° surveillance of airborne targets and threats, as well as long-range maritime surveillance.
The CAEW employs a fourth generation AESA dual band (L-band, S-band) radar for continuous 360° long-range detection automatic highly accurate 3-D tracks, low false alarm rate, advanced ECCM features.
The CAEW integrated Mission Suite includes 360° continuous surveillance of Electronic Support Measures (ESM/ELINT), accurate IFF tracking, and robust Self Protection Suite.

MPA - Maritime Patrol Aircraft
ELI-3360
The MPA creates real-time intelligence and situational awareness for long-range maritime security, Anti-Surface Warfare, Anti-Submarine Warfare, Search & Rescue, and Environmental Control.

AISIS
ELI-3001
AISIS performs long-range persistent Signal Intelligence (SIGINT) missions providing vital tactical and strategic intelligence for on-board and ground-based real-time targeting and signal analysis. AISIS creates an Electronic Order of Battle (EOB) by analyzing and classifying emitters, recording and intelligence extraction of communications, signal Direction-of-Arrival (DOA) measurements and accurate Geo-location (FIX). AISIS is based upon high performance COMINT and ELINT sensors with very High Sensitivity and High Probability of Interception (HPOI), coupled with automatic processes for high speed scan and search, signal parameters measurement, filtration and classification, intelligence extraction, EOB continuous update, and report dissemination.
In operations that demand high mobility and connectivity, yet no infrastructure, Rafael’s BNET is the optimal solution. BNet is a mobile Ad-Hoc Radio communications network for the transmission of reliable digital information at high data rates among a large number of users. BNet is an integrated C3 system providing position and jam-resistant high-speed Data and Voice (Analogy and VoIP) used for combat communications in a modern battlefield. Connectivity and Mobility: By integrating BNet-Waveform, BNet SDR equipment offers transverse communications, high data rate transmission on the move and mobility management that greatly improve the connection between the users from HQ to small action units. Versatility: With a scalable capacity of multi-simultaneous channels and embedded routing capability, BNet acts as a communication node. Each channel can be configured and programmed independently according to a majority of missions dedicated to mobile battlefield platforms. Flexibility: Based on an open architecture, compliant with Software Communication Architecture (SCA 2.2) international standard and a powerful programmable hardware platform, BNet ensures enhanced functionality, expandability and waveform portability accommodating future technology or requirements upgrades with ease. This flexibility is improved due to the modular hardware architecture of BNet. BNet as a Dual Mode Radio for Ground and Air applications: BNet can operate simultaneously in Dual Bands e.g., the UHF for Ground applications using the OFDM type of modulation and the L band using the QPSK modulation for Air applications. Connectivity with other networks/BNet as an IP radio BNet is designed to support full interoperability with standard IP equipment. The interoperability enables simple integration of multiple networks, allows benefiting from technological advances in general IP market and does not introduce excess complications at the network maintenance level.
BL Advanced Ground Support Systems Ltd. has been in the business for more than 30 years developing multi-discipline advanced products for the defense industry.

BL offers development, production, sales and after sales service in two main areas:

• Advanced ground support systems
• Advanced military products for ground forces

BL’s strength is comprised of its ability to develop new and smart solutions rapidly and cost effectively.

Line of Products:

• Bomb Loaders
• Aircraft Towbarless Tug
• HPU - computerized hydraulic power supply
MAGAM SAFETY
IS OFFERING RUBBER FUEL TANKS FOR LAND, AIR AND NAVAL APPLICATION

With more than 40 years experience with Land vehicles (Merkava Tank 1-4) we offer tailor made solution to any new or existing platform.

Why rubber fuel tanks:
- Lighter
- Shock resistant
- Easy to install and maintain
- Safe (reduce the residual effect, no blowup, Fire retardant)
- Self Sealing solution (both as Protection and Green)
- Life span very long
- Price is cheaper

Self sealing Fuel tanks and Self sealing coating solution:
- Self-sealing prevents the fuel to leak from the tank even after any damage or shot
- 15 years warranty
- Self-sealing up to 20mm - LARGEST SEALING IN THE WORLD!

Our Proprietary Self-Sealing Coating Technology
Can Turn Vulnerable Vessel Into A Self-Seal Protected Fuel Tank.

Any type of existing fuel tank can be coated (Metal or Plastic).

Magam is also offering textile solutions like Parachutes (design and manufacturing), life vests, life rafts, G-suites and other safety equipment.
SPACE SYSTEMS
SURPASSING BOUNDARIES IN SPACE

IAI's OFEQ, EROS, OPTSAT optical observation satellite series and TECSAR SAR imaging satellite series provide top-notch performance and large quantities of images. The scientific/research satellites (such as Venus, Shalom, BGUSAT) complement IAI's satellites series with amazing capabilities and useful contribution for their users. The AMOS family of GEO communication satellites provides very high tailored performance in small to medium-size satellites. IAI provides comprehensive turnkey solutions, including ground stations, mission centers and related services. IAI welcomes governmental and industrial participation and partnerships.
IMI Systems is Israel’s primary developer and producer of Solid Rocket Motors, specializing in solid rocket motors in a spectrum of sizes for a wide range of applications from small 5-gram micro pulsars up to 13-ton rocket motors for satellite launching.

As a major participant in both Israel’s Space and Missile Defense programs, IMI Systems developed and produces the solid boosters for the SHAVIT satellite launcher (first and second stages) and the ARROW program (targets and interceptors).

Being Israel’s National Center of Excellence for Solid Rocket Propulsion, IMI Systems has delivered over half a million reliable solid rocket motors to its satisfied global customers, including:

- Rocket Motors for Interceptor Missiles
- Boosters for Satellite Launchers
- Rocket Motors for Tactical Missiles
- UAV Boosters
- Guidance Thrusters for Trajectory Correction

A team of experienced professionals working in a world-class technical research environment ensures trustworthy products with the highest standard of quality, in each and every aspect of our operations. Our main fields of activity and resources include:

**Advanced Analytical Tools:**
- Internal ballistics
- Strength (structures, propellants)
- Computational Fluid Dynamic (CFD)
- Heat transfer & Ablation

**Leading Technologies:**
- Composite materials
- Filament winding & Compression molding
- Flexible nozzles
- Propellants
- Pyrotechnics
- Advanced laboratories

**Reliability & Quality:**
- Non Destructive Tests (NDT)
- Reliability
- Motor parts & Motor testing
- Statistical control
- Aging & Qualification
- Advanced laboratories
Rafael continues to expand its space activities to include micro-satellite technologies and systems, complete propulsion systems for satellites and satellite launchers and airborne satellite launchers. It offers affordable and highly-effective advanced solutions for both military and commercial Low Earth Orbit (LEO) missions. The propulsion systems include attitude control and orbital transfer propulsion modules for the Ofek, Eros and TecSAR satellite series, attitude control systems for satellite launchers, electric propulsion systems and cold-gas reaction control systems for micro-satellites. In addition, Rafael supplies propellant tanks, thrusters and valves for hydrazine propulsion systems, as well as third-stage solid propellant rocket motors. Rafael’s components are present in orbit, on numerous Israeli and European satellites. Rafael is a partner in the Israeli Joint Venture (together with IAI) which is building the Joint French-Israeli Venus scientific micro-satellite.

LiteSat is a high performance low-cost microsatellite system, for Electro-Optic Earth-Observation missions, suitable for dual use: military and civilian. The space system consists of a constellation of microsatellites. The ground segment consists of a Ground Communication System and of the Mission Control Center (MCC). The latter includes the Mission Planning and Control functions, and an Intelligence Surveillance and Reconnaissance Exploitation Center (ISR-EC). The MCC handles the entire constellation, and plans the mission by optimally assigning the tasks among all the satellites – based on Rafael’s operational experience in operating multi-vehicle systems. The ISR Exploitation Center is based on Rafael’s operationally proven IMILITE®.

Constellation is affordable due to the satellite’s low cost. Its small size (36X36X153cm-solar panels folded) and mass (100kg) enable multiple-launch, usually one launch to each orbit, thus the low cost refers to satellite in orbit.

The constellation enables high revisit frequency, for enhanced surveillance and for better intelligence collecting and understanding, including change detection and historical intelligence investigation. It also enables useful photogrammetric products, such as Digital Terrain Mapping (DTM) and self-generated Ground Control Points (GCP), which require the frequent revisit.
NAVAL FORCES
Naval Dominance – from the Littorals and EEZ

Naval operations in the littorals, the protection of the national Economic Exclusion Zone (EEZ), and securing offshore and coastal facilities are becoming significant new requirements for planning, operational readiness and deterrence capability of modern navies.

Maintaining a modern fleet of surface vessels, optimized for littoral warfare, modern naval forces are also tasked with countering terror threats from the sea and securing the national maritime interests. Relying on indigenous weapons and equipment developed by Israel’s defense industries, this surface fleet, along with Israel’s strong submarine force, has constantly sought to gain superiority over opponents by introducing technological innovation based on indigenous capabilities.

Since the 1970s Israel pioneered the concept of layered defense and sea-skimming anti-ship missiles - a strategy that led to a perfect score during the 1973 war. After four decades, Israel’s homegrown technologies are also positioned to lead in the naval air and missile defense, with equally capable defensive systems. Along with the local defense industries, Israel is also leading the 21st century technology of ‘networked operations’, introducing fully-integrated combat systems, comprising a wide range of domestic and foreign weapons, sensors and processing systems.

The Israeli industry is also building and equipping the manned and unmanned platforms used by navies around the world, to maintain offensive and defensive naval capability, providing situational awareness, command and control for the combat systems and naval special-operations. Specific Israeli systems are also integrated into combat suites designed by other navies and prime contractors, as part of international teaming and cooperation.

For coastal and EEZ security missions, Israel’s defense industry offers a wide range of solutions, from manned and unmanned aerial and surface vehicles to underwater sensors and defense, and integrated naval, land-based and aerial platforms, protecting and securing national interests along the coastlines and offshore.
C-MAN
Computerized Maritime Navigation system
For surface and sub-surface vessels
Features Monolithic Ring Laser Gyro INS/GPS navigation sensors or MEMS based INS sensors for Coastguard and littoral Patrol Boat

- Turn key system solution for Integrated Navigation and inertial Data Distribution.
- Data computation and data distribution to all shipboard sub-systems of all directions motion sensing, attitude and position.
- Interface to Command & Control, Weapons, Electro Optical Directors, Radar Antennas and all ship’s inertial data users.
- High accuracy, high reliability inertial sensor with embedded GPS, accurate positioning at minimal drift rates.
- System redundancy: Designed for full MEMS or RLG INS/GPS sensors redundancy architecture. Multiple outputs of Synchro and/or digital signals to support multiple-outputs redundancy.
- Flexibility and Modularity
  - Modular architecture allowing the use of any combination of sensors (INS/GPS, EM/Doppler Log, Echo sounder, Metrological center, etc.).
  - From basic low cost small vessels single sensor system to high-end large surface vessels and advanced EP-Extended Performance Lowest Drift submarines applications.
  - Multiple outputs – supporting modern digital format sub-systems as well as analog/Synchro shipboard systems.
- Advanced Processing-utilizing Kalman Filters optimized for naval navigation data, incorporates accurate compensation and data filtering, taking into account latency and utilizing unique prediction algorithm considering the characteristics of naval vessels.

C-MAN System Characteristics

Navigation Data Generation & Distribution
- Heading
- Attitude (Roll, Pitch)
- Heading, Roll, Pitch rates
- Velocity and speed (Relative to Water Mass)
- Accelerations
- Water depth
- Wind speed and direction (Absolute and Relative)
- Barometric Pressure
- Relative Humidity
- Air temperature

Reliability
The C-MAN actual MTBF, per typical naval mission profile is over 10,000 hours

Operating and Control Consoles (OCC)
- Displays multiple video inputs
- High-speed synthetic graphics
- Networked display system
- Built-in self-tests
- Excellent ergonomic configuration
Designed to withstand harsh Naval environment conditions
ENERGY FOR MARINE AND UNDERWATER SYSTEMS

As a world leader in the development and production of rechargeable energy storage systems Epsilor provides standard or customized rechargeable batteries and energy storage and power management solutions for military, aerospace and marine applications.

Only a few battery manufacturers around the world can present a successful operational record in space. Only a few can present an operational record in the bottom of the ocean. We can do both.

Epsilor’s marine and underwater batteries and energy management systems are trusted and certified by leading global customers to power their manned and unmanned surface and underwater marine platforms.

Marine Battery Systems
Packed into small, medium or large form factors, and operating in low or high voltage environments, Epsilor’s marine battery systems are optimized for use in submarines, unmanned surface vessels (USV), swimmer delivery vehicles (SDV), underwater unmanned vehicles (UUV), sonobuoys, etc. offering extended mission endurance, reliable and safe operation and operational redundancy.

BMS Architecture
Epsilor’s smart modular multi-layer Battery Management System (BMS) ensures optimal discharge rates, healthy battery usage and integrative operation of battery and collateral support systems.

Flexible Design
Based on open architecture, Epsilor’s versatile marine battery systems and power management solutions are optimized to meet specific design requirements of the vehicle’s energy compartment meeting specific volume, shape and center of gravity restrictions. Incorporating a cluster of independent modules, batteries can be designed in a single pack or a distributed structure. The use of advanced commercial or military cells and components enables future growth in energy density.
"SHALDAG MK V"
FAST PATROL CRAFT

The new solution for interdiction of seaborne terrorism and illegal activities, Coastal Law Enforcement and EEZ protection. The new state-of-the-art SHALDAG MK V is available.

General Description

The SHALDAG MK V Fast Patrol Craft is a multi mission vessel, the latest member of the combat proven SHALDAG family. The SHALDAG MK V is an all aluminum light and fast vessel for security tasks where good seakeeping and high intercept speeds are required. Operational experience gained from several Navies was implemented in the new SHALDAG MK V design. Highest ratio of fire power to displacement.

The craft's special characteristics are:
• High speed in rough seas
• Excellent seakeeping
• Outstanding maneuverability
• Exceptionally low slamming in all sea states
• Dry decks at all speeds
• Minimal draft, allowing operation in shallow waters
• Very spacious and accessible internal arrangement
• Low vibration and accelerations

Various Weapon Configurations are available:
• Remotely controlled gun systems - up to 30mm
• Surface-to-Surface missiles are optional
• Stand alone guns - 20×23 mm, twin or single barrel
• Heavy machine guns - 0.5” / 7.62mm
• Most advanced day and night vision system

SHALDAG MK V Particulars

<table>
<thead>
<tr>
<th>Specification</th>
<th>Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length Overall</td>
<td>32.65 m</td>
</tr>
<tr>
<td>Beam Molded</td>
<td>6.20 m</td>
</tr>
<tr>
<td>Draft Max.</td>
<td>1.40 m</td>
</tr>
<tr>
<td>Displacement</td>
<td>Abt. 95 tons</td>
</tr>
<tr>
<td>Engines</td>
<td>MTU / CATERPILLAR</td>
</tr>
<tr>
<td>Waterjets Propulsors</td>
<td>MJP / KAMEWA / RR</td>
</tr>
<tr>
<td>Max. Speed</td>
<td>40 Knots</td>
</tr>
<tr>
<td>Sustained Speed</td>
<td>35 Knots</td>
</tr>
<tr>
<td>Range at 32 Knots</td>
<td>650 Nm</td>
</tr>
<tr>
<td>Range at 12 Knots</td>
<td>1000 NM</td>
</tr>
<tr>
<td>Endurance</td>
<td>6 Days</td>
</tr>
<tr>
<td>Crew</td>
<td>10-12</td>
</tr>
</tbody>
</table>
"SAAR S-72" CORVETTE

A New Generation of SAAR Class Vessels

The new design of the modern SAAR S-72 is available now. This new generation of the famous SAAR class Fast Attack Mini Corvettes, is a larger vessel. It is a multipurpose vessel at the length of 72 meter and full displacement of about 800 tons.

As the existing Naval vessels of Israel Shipyards, the new corvette will also reach the speed of above 30kn with an extended endurance. The S-72 can operate a medium size marine helicopter. It also supports unique possibilities of deploying Special Forces units.

The main improvements of the S-72 include:

• Significant upgrade of the SAAR 4.5 combat capabilities
• Major improvement of signatures
• State-of-the-art weapon and electronic systems
  (can be Tailor-Made to customer specific requirements)

The S-72 missions include:

• Open Sea Patrolling and Surveillance operations
• Maritime Sovereignty protection
• Off - Shore facilities protection
• EEZ protection
• Anti terror / smuggling / illegal activities interdiction
• Minimize illegal immigration transits
• Search and Rescue operations in coordination with SAR Helicopters
• Participation in Naval combat operations
• Fishing protection and control
• Support of boarding / landing and intervention forces
• Sea Pollution containment activities

The S-72 can accommodate advanced weapon configurations, including:

• Launchers for anti-missiles defense missiles
• Surface-to-surface missiles launchers
• Up to 76 mm Naval gun
• Remotely controlled stabilized Naval gun system up to 30mm
• Command and Control system
• ESM
• Advanced Multifunction Search Radar
• Heavy machine guns – 0.5” / 7.62 mm
• Most advanced day and night vision system

The S-72 complies with international regulations regarding stability, full construction, navigation systems, etc.

SAAR S-72 Particulars

<table>
<thead>
<tr>
<th>Feature</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length Overall</td>
<td>72.00 m</td>
</tr>
<tr>
<td>Beam, Molded</td>
<td>10.25 m</td>
</tr>
<tr>
<td>Draught</td>
<td>2.92 m</td>
</tr>
<tr>
<td>Flight Deck</td>
<td>10 × 15.3 m</td>
</tr>
<tr>
<td>Displacement</td>
<td>Abt. 800 tons</td>
</tr>
<tr>
<td>Engines</td>
<td>2×MTU 16V1163M94</td>
</tr>
<tr>
<td>Max. Speed</td>
<td>Above 30 Knots</td>
</tr>
<tr>
<td>Sustained Speed</td>
<td>28 Knots</td>
</tr>
<tr>
<td>Cruising Speed</td>
<td>18 Knots</td>
</tr>
<tr>
<td>Range at 18 Knots</td>
<td>Above 3000 NM</td>
</tr>
<tr>
<td>Endurance</td>
<td>21 Days</td>
</tr>
<tr>
<td>Crew</td>
<td>50 + 20 special troops</td>
</tr>
</tbody>
</table>
OFFSHORE PATROL VESSEL (OPV)

The most cost effective OPV available today

General Description
Based on the combat proven SAAR 4 and SAAR 4.5 missile corvettes, Israel Shipyard’s 400- 500 tons OPV is the most cost effective OPV concept available today. The 400 tons OPV has been selected by the Hellenic Coast Guard as a significant part of the Naval security forces for the Athens 2004 Olympic Games. The 500 tons model can support a light marine helicopter.

The OPV missions
- Open sea patrolling and Surveillance operations
- Seaborne terrorism / smuggling / illegal activities interdiction
- Launch and recovery of light marine helicopter (up to 5 tons)
- Off-Shore facilities protection
- Support of special operations forces
- Search and Rescue operations
- Fishing control
- Anti pollution missions

The OPV can accommodate advanced weapon configurations
- Up to 76 mm remotely controlled gun
- 2 x 0.5" / 7.62 mm stabilized gun mounts
- Command and Control system
- ESM
- Search Radar
- Most advanced day and night vision system
- ARPA Navigation Radar
- ECDIS
- Optional - Short range missiles.

The OPV is certified by Lloyd's and complies with international regulations regarding stability, Hull construction, navigation systems etc.

The OPV main specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>400 tons</th>
<th>500 tons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length Overall</td>
<td>58 m</td>
<td>62 m</td>
</tr>
<tr>
<td>Beam, Moulded</td>
<td>7.6 m</td>
<td>7.6 m</td>
</tr>
<tr>
<td>Draught</td>
<td>2.65 m</td>
<td>2.70 m</td>
</tr>
<tr>
<td>Flight Deck</td>
<td>N/A</td>
<td>7 x 7.7m</td>
</tr>
<tr>
<td>Displacement</td>
<td>400 tons</td>
<td>470 tons</td>
</tr>
<tr>
<td>Maximum Speed</td>
<td>33 knots</td>
<td>32 knots</td>
</tr>
<tr>
<td>Sustained Speed</td>
<td>30 knots</td>
<td>30 knots</td>
</tr>
<tr>
<td>Cruising Speed</td>
<td>18 – 20 knots</td>
<td>18 – 20 knots</td>
</tr>
<tr>
<td>Range at 18 Knots</td>
<td>2200 NM</td>
<td>3200 NM</td>
</tr>
<tr>
<td>Endurance</td>
<td>10 – 12 days</td>
<td>14 – 20 days</td>
</tr>
<tr>
<td>Crew</td>
<td>20 – 30</td>
<td>20 – 30</td>
</tr>
</tbody>
</table>
"NIRIT"

UPGRADED SA'AR 4.5 CLASS

In active service in the Israeli Navy

The "Nirit" type Fast Attack Missile Boat is a direct descendant of the Sa'ar 4.5 combat-proven vessels developed by Israel Shipyards in close cooperation with the Israeli Navy.

The upgrading of the Sa'ar 4 and Sa'ar 4.5 series is a cost-effective modernization program that extended the boat's life and enhanced significantly their operational capabilities.

The addition of 32 vertical launched "Barak" antimissile missiles and new electronic and electro-optic equipment imposed a complete replacement of the mast and C.I.C. room as well as changes in the internal arrangements, electric and auxiliary systems.

The hull and the propulsion systems remain the same well proven components as in the previous Sa'ar 4.5 class boats that are serving in the Israeli Navy.

The "Nirit" is a modern missile boat with an unmatched ratio of fire power to displacement and an outstanding survivability due to major improvements of the E.C.M. and the "hard kill" capability.

Similar upgrading concepts can be implemented on many other types of Naval vessels, Israel Shipyards has the know-how and technical skills to design and carry out such cost effective modernization programs on existing Naval platforms.

Technical Data

- Displacement: 488.0 Tons
- L.O.A.: 61.7 M.
- Beam: 7.6 M.
- Draft: 2.7 M.
- Fuel capacity: 116.0 Tons
- Speed (max.): 32 Knt
- Endurance: 3000 N.M.

Armament

- 8 x "Harpoon" Long range SSM.
- 6 x "Gabriel" Middle range SSM.
- 32 x "Barak" Anti-Missile missiles.
- 1 x "Vulcan Phalanx" CIWS.
- 1 x 76/62 Oto-Melara gun.
- 6 x 20 mm or 0.5" machine guns.
"SHALDAG"

FAST PATROL BOAT

The best solution for interdiction of seaborne terrorism / smuggling and illegal activities

The new SHALDAG MK III is operational in the Israeli Navy

General Description

The SHALDAG Fast Patrol Boat series are multi mission combat proven all aluminium vessels for security tasks where high intercept speeds are required.

Operational experience gained from several Navies was implemented in the new SHALDAG MK III Model.

The boat’s special characteristics are:

- High speed in rough seas
- Good seakeeping
- Outstanding maneuverability
- Exceptionally low slamming in all sea states
- Dry decks at all speeds
- Minimal draft, allowing operation in shallow waters
- Very spacious and accessible internal arrangements
- Low vibrations and accelerations

Various Weapon Configurations are available:

- Remotely controlled gun systems - up to 30 mm (SS missiles are optional)
- Stand alone guns - 20 - 23 mm Twin or single barrel
- Heavy machine guns - 0.5" / 7.62 mm
- Most advanced day and night vision system

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>SHALDAG MK II</th>
<th>SHALDAG MK III</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length Overall</td>
<td>24.80 m</td>
<td>26.30 m</td>
</tr>
<tr>
<td>Beam Max.</td>
<td>6.00 m</td>
<td>6.00 m</td>
</tr>
<tr>
<td>Draft Max.</td>
<td>1.20 m</td>
<td>1.20 m</td>
</tr>
<tr>
<td>Displacement</td>
<td>abt. 58 tons</td>
<td>abt. 66 tons</td>
</tr>
<tr>
<td>Engines</td>
<td>MTU</td>
<td>MTU</td>
</tr>
<tr>
<td>Waterjets Propulsors</td>
<td>LIPS / KAMEWA / MJP</td>
<td>LIPS / KAMEWA / MJP</td>
</tr>
<tr>
<td>Max Speed</td>
<td>48 Knots.</td>
<td>45 Knots</td>
</tr>
<tr>
<td>Sustained Speed</td>
<td>Over 40 Knots.</td>
<td>40 Knots</td>
</tr>
<tr>
<td>Range at 32 Knots</td>
<td>650 Nm</td>
<td>700 Nm</td>
</tr>
</tbody>
</table>

The best solution for interdiction of seaborne terrorism / smuggling and illegal activities

The new SHALDAG MK III is operational in the Israeli Navy
NAVAL RADARS

Multi-Function Surveillance, Track and Guidance Radar
ELM-2248 MF-STAR
The MF-STAR (ELM-2248) is a multi-function solid-state active conformal phased array radar system for the new generation of military ships. The radar system delivers a high quality arena situation picture and weapons support, under the toughest target and environmental conditions, in the current and future naval arena. The MF-STAR antenna includes 4 faces of active arrays in S-band frequency. The antenna can be tailored to fit even relatively small ship sizes (such as corvettes).

Surveillance & Threat Alert Radar
ELM-2238 STAR
The STAR is a fully coherent S-band Pulse Doppler 3D multi-beam and multimode search radar. The radar performs simultaneous Long Range Air Surveillance combined with surface surveillance providing fast detection and automatic threat alert of air targets with an extremely low false alarm rate. STAR supports surface gunnery engagements through a unique splash-spotting capability and anti-air warfare through target designation to the fire control system. The STAR’s azimuth and elevation tracking accuracy and its high update rate makes it an excellent choice for Anti-Air & Anti-Missile weapon systems.

ALPHA - Advanced Lightweight Phased Array Naval Radar
ELM-2258
The ELM-2258 ALPHA is a multi-function solid-state active phased array radar system for the new generation of medium sized combat ships. The ALPHA Radar antenna consists of a rotating/scanning, two-dimensional active array in the S-band that is suited for installation on-board a variety of ship classes such as corvettes, frigates and larger vessels. The radar system delivers high quality naval theater situation awareness pictures and supports the ship’s weapon systems, under the toughest target and environmental conditions in the current and future naval arena.

Search, Track & Guidance Radar
ELM-2221 STGR
The STGR is an advanced light weight shipboard coherent Pulse Doppler dual-band (X/Ka) monopulse tracking radar, optimized for operation in adverse sea, clutter and electromagnetic environmental conditions. The multimode STGR performs Surface-to-Air Missile (SAM) guidance, Surface-to-Surface Missile (SSM) guidance, and automatic gun fire control against surface and air targets and has several search modes as a backup to the vessels main search radar. The STGR comes in both X and X/Ka configurations.
LORA
Precision Strike Tactical Missile

A SURFACE - TO - SURFACE PRECISION STRIKE MISSILE SYSTEM FOR LAND & MARITIME FORCES.

LORA is an effective solution for destroying targets deep in enemy territory. LORA provides outstanding response time and precision at all weather conditions. LORA has great in flight survivability due to supersonic velocity and shaped trajectory.

<table>
<thead>
<tr>
<th>Operational Requirements</th>
<th>LORA Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Range</td>
<td>Up to 400 km</td>
</tr>
<tr>
<td>Fast Reaction</td>
<td>Minutes from command-to-target hit</td>
</tr>
<tr>
<td>Guidance</td>
<td>GPS/INS</td>
</tr>
<tr>
<td>Penetration</td>
<td>Penetrates fortified targets</td>
</tr>
<tr>
<td>Weight</td>
<td>1600 kg</td>
</tr>
<tr>
<td>Length</td>
<td>5.2 m</td>
</tr>
<tr>
<td>Diameter</td>
<td>0.624 m</td>
</tr>
<tr>
<td>Angle of impact</td>
<td>60 - 90</td>
</tr>
<tr>
<td>Angle of attack</td>
<td>0 + 2</td>
</tr>
<tr>
<td>Compact</td>
<td>4 sealed missiles on a regular 16 ton flat-bed truck</td>
</tr>
<tr>
<td>Targets</td>
<td>Slow movers and stationary</td>
</tr>
<tr>
<td>Maintenance</td>
<td>No missile preventive maintenance (one check each 5 years)</td>
</tr>
<tr>
<td>Reliability</td>
<td>Single stage, solid rocket motor All solid satet electronics All electric drives (no hydraulics) The missile is sealed in its canister</td>
</tr>
</tbody>
</table>
BARAK
NAVAL AND LAND BASED

BARAK Air & Missile Defense System
Naval & Land-based, Short to long Range, Point & Area

BARAK POINT AND AREA, AIR & MISSILE DEFENSE SYSTEM
• Advanced Air & Missile Defense System
• From short to long ranges 30/70/150 Km – low to high altitude targets
• Multiple simultaneous engagements in severe saturation scenarios
• Active seeker enables all-weather operation
• Missile vertical launch and high maneuverability supports 360° coverage
• Advanced data link supports missiles and task forces coordination
The Modern Naval arena brings new threats to evolving vessels, including a large variety of missiles, torpedoes and swarm attacks. Modern missiles are supersonic and are equipped with advanced signal processing, advanced ECCM, and include evasive maneuvering and re-attack capability. Most of them have low RCS, which makes them difficult to detect by radar. This, combined with late opening of the missile’s own radar makes the threats hard to be detected by active or passive systems. Furthermore, saturation attack (beyond hard-kill capabilities), way-points, maneuvering capabilities and multi-direction coordinated assault, makes these threats even more difficult to defend against.

Beyond the surface-to-surface missile threat is the fast growing amount of submarine users, which brings back the danger of being attacked without any warning, by a deadly and silent torpedo.

In order to protect your multi-vessel taskforce or a single ship in this modern environment, you need a combined and integrated system that will give you the full coverage and survivability in this a battlefield, riddled with a growing variety of threats.

A key parameter in a successful naval defense process is the early detection of threats, which gives the defense system sufficient time to perform an effective and successful defense.

Rafael offers a system of systems for detection and termination of these threats. The initial step is detection of incoming long range enemy missiles by the “Sea Spotter” - a Staring...
Naval IRST (Infra Red Search & Track) & Situational Awareness system. Sea Spotter is designed to detect threats and targets. Sea Spotter provides the ultimate passive threat detection and situational awareness capabilities to the ship crew, without increasing the probability of the ship being detected even at Emission Control (EMCON) scenarios.

In addition to Sea Spotter passive detection, threats are detected by the C-PEARL-DV ESM System, based on modern digital receiver technology. Detection is followed by on-board ECM and off board Active and Passive decoys. These systems are based on SEWS-DV, CGEM and IDS (Integrated Decoys System) systems. To improve ship survivability, “PROTECTOR-EW” - USV with active EW payload is used for tactical deception of enemy radars.

To give your ship full protection against modern threats, Rafael’s offers new generation Active On-board & Off-board systems, that are based on unique solid-state array technology, and on-board EW, which uses advanced single or dual axis scanning arrays that enable fast steering, high ERP, wide-band and multi-threat handling capability. Added to that is an independent ESM/ECM Transceiver for self-protection and tactical deception, and active decoys, all-in-one system solution with compact high technology and modular design, to meet customer’s ERP and frequency range with integrated ESM & Direction Finding. For full protection and comprehensive coverage, Rafael’s has developed the C-DOME naval missile defense system, a short range all-weather day and night interceptor based on the knowledge and experience gained from the combat proven “Iron Dome”. C-Dome uses components from Iron Dome system to provide the vessel with unrestricted full-circular protection, even against simultaneous attacks from multiple directions.
RAFAEL's Advanced Torpedo Defence System (ATDS) is a complete and integrated torpedo defence suite for surface ships, utilizing a “Layered Defence” concept. This concept provides efficient and cost-effective defence against modern acoustic homing torpedoes.

Long ATDS “Layered Defence” Operational Concept is based on three layers of defence:

(a) Torpedo Attraction and Localization
(b) Torpedo, Range Torpedo Detection
(c) Diversion using Expendable Decoys

The ATDS modular system is based on a wide variety of sea-proven components, where each customer can select a tailored configuration, best suitable for his operational requirements, platform, combat system, and budget constraints. ATDS modular design allows for a wide selection of sensors (including on-board existing sonar systems), expendable decoys, operating stations and combat system interfaces.

ATDS is designed as a fully automatic system, allowing full automatic operation (no operator), semi-automatic (operator required only during torpedo engagement) or as a fully manned system.

When confronting a swarm attack, the detection is done by a radar or by the Sea Spotter electro-optical sensor with high resolution investigation by our “Toplite” EO tracking system, followed by Typhoon RCWS or Spike missile engagement from the Typhoon MLS launcher.

Typhoon MLS-ER features day and night operation and includes Fire-and-Forget, as well as Fire-and-Observe and Update modes of operation. This enables the gunner to switch between targets after launch, avoid friendly fire, conduct surveillance/damage assessment and attack hidden targets. Typhoon MLS-ER additionally features a Fire and Steer mode, in which the gunner can launch the missile without pre-locking onto the target and manually steer it to the target.
IMI Systems has developed a broad range of maritime solutions to help its customers better address their challenges and maximize their potential across land and sea.

**CIDS**
An advanced Coast & Islands Defense System for the protection of critical infrastructures and key assets in sea and coastal areas, this missile-based solution offers a comprehensive and synergistic system of elements, making it the most cost-effective solution for neutralizing maritime vessels.

**TRIGON**
A naval launcher designed to provide an accurate and effective sea-to-land strike capability, the TRIGON is mounted with PODs of EXTRA missiles, providing precise long-range capability day and night in all weather conditions. With a maximum range of 150 km and an accuracy of less than 10 meters CEP, the TRIGON enhances naval value in joint force operations while increasing naval independence.

**DEILAH SL**
An advanced Ship Launched version of the combat proven DELILAH missile, this long-range, high-subsonic stand-off missile is designed to defeat high value mobile, fixed and relocatable targets at extended ranges with pinpoint accuracy. The missile includes an E/O seeker for target discrimination at day, night and during adverse weather, as well as real time video imagery for man-in-the-loop, autonomous navigation, preprogrammed mission with post launch update and target selection.

**Ballistic Protection For Maritime Vessels**
IMI offers advanced ballistic protection for maritime vessels. Based on a hybrid composite of metals and ballistic ceramics, this highly effective add-on armor protects vital areas such as the bridge, fuel tanks and ammunition stores and others, providing protection against up to 14.5mm ammunition. This lightweight armor significantly minimizes the weight penalty and is easy to install.

**ASA35A1 Floating Personal Body Armor**
This lightweight, floating personal body armor is designed for marines, sailors and coast guard personnel, and provides Level IIIA bullet-resistant protection in accordance with NIJ Standard 0101.04. Available in a variety of sizes, the ASA35A1 can be tailored with front and rear pockets for add-on Level III/IV body armor.
NAVAL EW & INTELLIGENCE DOMINANCE

Ranging from fully integrated EW suites (modular ESM/ELINT and ECM), to advanced tactical COMINT/DF and COMJAM, our cutting-edge naval SIGINT and EW systems serve modern navies worldwide. These solutions are deployable in the latest generation of corvettes, fast attack boats, submarines, helicopters and marine patrol aircraft - serving as a one source force multiplier in naval scenarios.
MORE

Shed new light on the EW arena

ECM solutions
The core technology is based on RF-photonic capabilities. This new approach is based on the entirely analog RF-photonic design that provides possibility for simulating sophisticated multi-target scenarios for any kind of radar signals. The MORE solutions main features include wholly analog design, ultra wide immediate BW, coherent and multiple overlapping targets generating, wide band amplitude and phase manipulation, simultaneous engagement of multiple emitters and others.

Ultra Wide BW spectrum sensing
MORE patented technology provides an immense advantage in discovering, investigating and deriving the principal features of complex RF signals in wide immediate BW (100 MHz- 40 GHz). The main application areas are RWR, WSM and ELINT equipment.

RADAR & ECM simulators
MORE RF-photonic capabilities may be successfully implemented in RADAR Target Simulators intended for testing and calibrating of coherent RADAR systems and test equipment used for acceptance tests and the systems maintenance, as well as in ECM technique emulators for ECM technology validation.

Combined RF & Data Connectivity over Optical Fiber
MORE products line includes different types of RF over Fiber transceivers (RADOF). The RADOF’s (TX & RX) are a complete solution for remote interconnection of RF digitally controlled systems. RADOF’s provide RF BW up to 18 GHz, high dynamic range, built-in monitoring and control features and an option for multi-channel connectivity over single fiber (Point to Multi-Point).
C-GEM is capable of jamming and deceiving threats in different directions, independent of ship maneuvers by using a unique array technique with a sophisticated technique generator.

Employing simultaneous coincidence jamming and effective transmitting power, C-GEM sets new standards in naval ECM.

The C-GEM system consists of solid-state multi-beam array transmitters (MBAT), capable of coincidence jamming in the direction of the received threat, covering 360° in azimuth, enabling an immediate, powerful response, making C-GEM the system of choice for ship protection.
Integrates and Supports Ship’s Battle Systems - SEA-COM system provides a state-of-the-art, IP based Naval Ships and Submarines communication suite. Sea-Com fully integrates internal communication (voice, data, video) and external communication systems (HF, V/UHF and Satcom). A redundant IP network and automatic reconfiguration management system ensures continuity of operations. Sea-Com is able to sustain battle damage and withstand harsh environments.

Designed for Modularity, Flexibility, and Upgrading, Sea-Com is a proven turn-key system that accommodates switching, distribution, and management. The modular design is scalable for any naval platform-surface ships, submarines, and patrol boats. Sea-Com provides the Naval forces with a flexible, customized and secure system to facilitate real-time strategic decisions. Sea-Com optimizes use of cutting edge IP and VoIP communication standards for a cost-effective solution that assures future proof and easy upgrading capability.

OPERATIONAL BENEFITS

• Improves communication efficiency by removing the need for multiple single-purpose systems.
• The use of industry standards increases the system flexibility and reduces cycle time for future operational modifications and system growth.
• Ensures secure and protected network compatible with military requirements.
• Digital voice recording and debriefing application for voice, data and video.
• Mission planning including resources allocation.
Advanced Sonar and Acoustic Applications

AquaShield™ Diver Detection Sonar (DDS)
DSIT Solutions Ltd. provides highly accurate and effective underwater security systems for the protection of critical waterside and offshore assets. Our fully automatic Shield™ family of diver detection sonar (DDS) systems includes the long range AquaShield™ DDS and the light, portable PointShield™ PDDS.

Blackfish™ Hull Mounted Sonar (HMS)
The Blackfish HMS is an advanced Anti-Submarine Warfare (ASW) system used for detecting, tracking and hunting of submarines. It is a compact sonar with superior performance and minimal footprint on the vessel.

Portable Acoustic Range (PAR)
Accurately measures the radiated noise of submarines and ships at significantly reduced costs to enable shipyards and navies to reduce vessel noise.

Underwater Acoustic Signature Analysis (UASA)
A system that analyzes all types of acoustic signals from submarine sonars, towed arrays, fixed bottom moored sonar systems, etc. to derive the platforms’ acoustic signatures.

Submarine Simulators and Trainers
DSIT offers a wide range of sonar simulation solutions for all levels of sonar operations: Operator, Team, and Tactical. The company’s flagship trainer is a full mission Submarine Tactical Trainer, a trainer that accurately simulates all sonar and weapon systems present on board a submarine.

COMPANY DESCRIPTION
DSIT develops and produces advanced sonar systems for the defense, commercial, energy and homeland security markets. Our systems provide customers with state of the art underwater technologies for site security as well as acoustic measurement & analysis and sonar training & simulation.
UTC SPECIALIZES IN MARINE ACOUSTICS PRODUCTS AND UNDERWATER SECURITY SYSTEMS

UTC rapidly transforms ideas and requirements into prototypes and products, utilizing an extensive understanding of the underwater channel, together with state of the art equipment.

At UTC, mechanical, electronics, software and acoustics engineers, physicists and technicians, team together to build trustworthy products to spec. Adopting innovative technologies, we create new ideas, concepts and designs, ultimately developing and commercializing these products.

We provide an incomparable combination of leadership, an experienced multi-disciplinary team, leading-edge engineering and excellent client working relationships.

Our proven underwater operational and security systems are testimony to our abilities.

Contact UTC for additional information and your next project.

UTC's complete system effectively supports coastal areas, harbors and critical sites with a comprehensive system that includes sonars, underwater communications and more.

The UDI™ 28 is a computation hardware device combined with software applications. It implements wireless underwater digital acoustic communication capabilities, digital compass, navigation or tracking of acoustical signals, with a high accuracy for targeting, navigation and location of a lost diver. The U-28 is operational and serves daily in thousands of locations around the globe.
LAND FORCES
Advanced Technology for Modern Land Systems

Modern land warfare has shifted from the massive deployment of large military formations, using heavy firepower, to the use of agile and effective "hybrid" forces. They are relying on smaller, better-protected forces equipped to deliver more effective firepower to achieve decisive and measured effects.

The Israel Defense Force (IDF) land forces have adapted this concept for many years, employing advanced, battle-proven systems developed in Israel and designed to perform effectively in both low and high-intensity battlespace. From the Merkava (MK4) Israel's Main Battle Tank and Namer Armored Infantry Fighting Vehicles to precision missiles and guided projectiles, loitering weapons and air defense systems, Israeli-made systems are providing the IDF with the battle-winning technological advantages which its soldiers rely upon.

Based on the know-how that accumulated with such sophisticated platforms, Israel’s defense industries are also offering equipment-upgrading solutions meeting evolving military requirements.

Such modernization programs support numerous domestic and foreign weapon systems, extending the lifespan of tanks, armored personnel carriers, mortar and artillery systems and wheeled armored vehicles of western and eastern origins. Programs often comprise armor improvements, integration of remotely controlled weapon stations, optronic and battle management systems, threat detection and countermeasures systems including active protection systems. Most upgrades also address logistical improvements, implementing integrated testing-and-fault isolation, embedded training, and support.

The modern infantry equipment offered by Israel's defense industries includes a wide range of life-saving kits, appliances, and systems, including personal protection gear, robotic systems, advanced electronic systems, sophisticated weapons and ammunition and more. Integrated into the Future Infantry Ensemble, such gear enables the dismounted leader to perform as an integrated element of the army-wide network-centric domain.
The Merkava Mk 4 Tank is the fourth generation of the Merkava family of tanks. Like its older generations, it represents the same basic design concept. It has many new systems and innovations in Protection, Mobility and Fire Power.

Basic description:

**Protection:** The Merkava family of tanks represents an aggregated approach regarding the protection concept. Top priority is assigned to protection and survivability. This is why the engine is located at the front end of the tank, utilizing its considerable weight to enhance the crew ballistic protection. The same idea applies to many other systems. The Mk 4 provides all-around protection, including "Trophy" – active protection system. The enhanced survivability is achieved also by the state of the art Laser Warning System.

**Mobility:** the Mk 4 is equipped with a 1500 HP modern power-pack and a durable mechanical suspension. The automotive system enables the tank to negotiate rough terrain while maintaining crew comfort and suspension durability.

**Fire-Power:** The upgraded 120 mm main gun is capable of firing high power ammunition, to achieve better penetration capability from longer distances. The advanced Fire Control System is capable of tracking, locking and hitting moving targets like tanks and helicopters.

Many other modern systems were incorporated into the Merkava Mk 4, including:
- Advanced thermal imaging and TV systems.
- A new technology was utilized for the electrical turret control which enhances the first round hit probability.
- Modern Commander's stabilized Sight, Thermal and TV channels.
- An integrated command system, easily operated by the crew to control the tank systems.
- Rearward looking camera.
- An upgraded internal mortar, increased firing range.
- An auxiliary Battle Management System, including navigation capability.

The Merkava project has generated a considerable expansion of Israel's industrial and technological potential. Improved technologies related to tank manufacturing include welding and machining of large armor bodies, casting of ballistic steels, manufacturing guns, as well as electro-optical industries that utilize laser technology. The Merkava project has enabled the export of many systems based on Merkava technology which have also been used to upgrade other tanks.
MERKAVA Mk-4

Main Contractors

Agam Maalot
Amcoram Ltd.
Ardonan Elec. Packing Industries Ltd.
Ashot Ashkelon system Industries Ltd.
Bental Ind. Ltd.
Beth-EI Zikhorn Yaaqov Ind.
Blumstein Metal Works Ltd.
Dynamica Design Ltd.
Elbit Systems Ltd.
Elmo Motion Control Ltd.
Eltam Ein Hashofet
Fernet
I.A.I.- Elta
I.A.I.- Ramta
I.A.I.- Tamam
IDC
Imco Industries Ltd.
IMI Systems Ltd.
Isralaser
Karmiel Ltd.
Magam
MER
MTLM Mechanics
Nir-Or Ltd.
Opalg
Oran-Heating Equipments Ltd.
Orlile
OSG
Palbam
Pladot
Rada Elec. Ind.
Rafael Ltd.
Reshef Technologies
Shalon Chemical Ind.
Simat Ltd.
Spectronix Ltd.
Tamor
S.M.R. LTD.
T.A.T. Tec. Ltd.
Tefen Casting Ltd.
Tool Metal Ltd.
Uni-Scope Optical Sys. Ltd.
Urdan Industries Ltd.
Yail Noa
Yerushalmy Industries Ltd.

- Battery compartments
- General metal products
- Periscope ballastic drive
- Peritelescope mount
- Metal Works
- Automotive suspension
- Track Tension Mechanism
- Final drive
- Automatic transmission
- Electrical Motors, Blowers for Air Filters
- Air Filtration Systems
- Metal Works
- Noise and Vibration Control
- Fire Control System
- Commander Panoramic Sight
- All Electric gun & Turret drive & stabilization System
- Battle Management System
- Laser Warning System
- Turret Vetroonics
- Drivers Control Panel & Display
- Communication system
- V.R.C-120
- Inter system Vic
- Air Conditioning System
- NBC Protection System
- Transmission & Braking System Components
- Hydraulic Track Tensioning Mechanism
- Auxiliary Power Unit- APU
- Fuel System
- Engine Sensors
- 60 mm internal mortar & ammunition
- Electrical Commander's Hatch
- Road Wheels
- Ultra High Current Turret Servo Control
- Gun Station Motion Control
- IDLS - Intelligent Dome Light System
- Armor Castings
- Radar
- Ballistic Armor
- Turret floor
- Inertial Measurement Unit (IMU)
- Revolving Magazine
- Distribution, relay and control boxes
- Delay relays
- Headlights
- Electric cables & harnesses
- 120 mm gun & ammunition
- Ballistic Armor
- Wire Race Turret bearing
- Metal cutting, General metal products
- Commander’s machine gun mount
- Gunner’s Seat
- Machine Gun Mounts
- General metal products
- Rubber fuel tanks
- Digital Communication
- Air duct deflecting and sealing system
- Controller Systems
- TCP/IP Communication Interface
- Optic Systems
- Water systems products
- Ammunition Containers
- Safety Glass
- Fuel containers
- Air inlet and exhaust system
- Emergency Brake
- General Mechanical Items
- Optic Systems
- Ballistic Armor Components
- Trophy
- Ammunition Fuzes
- NBC system
- Cooled NBC Garments
- Loader’s and driver’s hatches
- Crew seats
- General metal products
- Support wheels
- Road Wheel Hubs
- Fire extinguishing and suppression system
- Fuel tank system
- Drinking water system
- Support wheels
- Fuel tank vent valve
- Precision castings
- General metal products
- General Mechanic System
- Periscopes
- Hull, front and deck castings
- Turret main body castings
- Road- idler and sprocket wheels, hubs, track shoes
- Various castings for suspension
- Hydraulic bumpers
- Air inlet selector
- Peritelescope mount
- Braking, steering
- Gearshift and accelerator systems
- Ballistic Shield

Land Forces • Tanks & Armored Combat Vehicles
General
The Merkava APC is built to meet a variety of combat missions and is planned as a common chassis to a family of vehicles (recovery, command, medical and more).

The Merkava APC is capable of carrying up to 12 people. Three crewmembers (commander, machine-gunner and driver) 8 infantrymen and an option for an additional crewmember.

The vehicle is equipped with advanced systems and has a high level of human engineering, based on the IDF experience in a variety of combat situations.

The APC was fielded late 2008 and took part in actual battle and peace-keeping operations since January 2009.

Ballistic Protection & Survivability
Advanced armor technology based on modular special armor combined with active protection, roof and belly protection and emphasis armor coverage. The basic design concepts of the Merkava tank are applied: using the vehicle systems as extra protection to the crew, eliminating combustible materials from the crew compartment. NBC protection combined with air-conditioning system. The energy-absorbing crew seats are isolated from the chassis thus eliminating shock-wave hazard. The rear ramp system enables fast and safe boarding and dismounting of the infantrymen.

Fire Power
The APC is fitted with a remote controlled weapon system, using 0.5", 7.62mm or grenade launcher. The system is combined with day and night TV viewer. The APC is also equipped with additional 7.62mm machine gun, mechanically remote controlled and a 60mm mortar operated by the commander.

The commander's control system includes all-round day and night cameras, two of them are located in the crew compartment serving the crew. The commander also has a protected post for safe observation through his hatch.

An advanced control & communication system enabling efficient operation in the battlefield.

Mobility
The running gear is similar to the Merkava Mk. 3, namely: 1200 Hp AVDS engine, Automatic RK304 transmission, external mechanical suspension with independent road arms and rotary shock absorbers.
ASHOT ASHKELON
INDUSTRIES LTD.

Drive train, suspension and mobility solutions for Tanks & APC’s; tungsten based armor penetrators and fragments manufacturer

Ashot provides build to print & build to specification, design and manufacturing of Suspensions Systems, Main Automatic Transmissions, Final Drives, Transfer Boxes, Drop Boxes, PTO’s and wide range of Gear based assemblies and Shafts for Main Battle Tanks such as the Merkava and Abrams, Heavy & light Armored Personal Carriers (Tracked & Wheeled) such as the Namer, M113 and various of defense applications.

Your Natural Partner
Ashot is a potential partner for innovative design and large scale production for your Main Battle Tanks and APC’s global programs. Ashot combines sophisticated engineering and high quality production capabilities to meet its customer’s needs.

A one of its kind Combat Experience
Ashot engineers and program managers possess extensive and high ranked military background in the field of armored vehicle requirements and design. Ashot’s design teams use their unique specialties, based on their vast experience and know-how in mobility and armored vehicles design, to define performance and requirements needed in combat areas and at the battle field; these in-sights are translated into Ashot products designs and sustain a common language and a long term relationship with our end costumers, the fighting forces.

In-House Development and Manufacture Synergy
Ashot is a vertically integrated company which owns full facilities and state-of-the-art equipment needed for design, manufacture, assemble and test of the myriad of military components produced under a single roof.

References
Ashot solutions and products have been purchased by various international defense customers. All products had been tested and used by dozens of armed forces in the most demanding battlefields.

Why Ashot
With both build to-print and total design capabilities, Ashot offers gear-based systems assemblies and components for existing products, for new programs and for upgrade programs, including all stages of design, production and delivery. Ashot has full capabilities to upgrade or provide life extension programs to a variety of Tanks, Armored Personnel Carriers, various Tracked & Wheeled Vehicles of Western or Eastern Bloc design.

Well experienced engineering skills along with high capacity production capabilities, in addition to strong financial strength, is positioning Ashot as a leader in new design or upgrade programs for Tanks and tracked and wheeled APC’s.
Carmor, formerly known as Hatehof, was founded in Israel in 1947 and played a key role since then in equipping the state and other worldwide customers with specialized, dedicated and armor vehicles.

This highly respected international brand now manufactures vehicles for the IDF, NATO and United Nations forces, as well as civilian administrations, homeland security and military customers.

Carmor specializes in providing tailor-made armored vehicles by use of:

- Protective levels (STANAG 1-5) against bullets, mines and IEDs
- Passive add-on armoring
- High performance automotive systems and power lines
- Complete range of In-House services: concept, design, ballistic & antimine certification, inspection, manufacture, assembly, professional literature & maintenance

Our Armored Vehicles typical applications range from Personnel carrier through Law-enforcement, Logistics, Tactical command & patrol, Defense missions, Peacekeeping, Ambulance, General utility, Reconnaissance and more.

Through housing both R&D department as well as production facilities, Carmor can provide the client the most cost-effective Tailor-made solution.

Carmor is ISO 9001 and ISO 14001 certified manufacturer of armored and designated vehicles. As such, we maintain a rigid quality-oriented process designed for after sales services supplied by atehof, among which are: Pre-delivery QA inspection and CoC, Three degrees maintenance service, Spare parts contract, provided literature and warranty.

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
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<tbody>
<tr>
<td>Xstream</td>
<td>A 16 Ton all terrain 4X4 MRAP, up to 7 people, KE Stanag 2 and Mine protection Stanag 3a+2b</td>
</tr>
<tr>
<td>Wolf</td>
<td>A 9 Ton multi purpose 4X4 APC, up to 8 people, KE Stanag 2 and Mine protection up to Stanag 1</td>
</tr>
<tr>
<td>Hurricane</td>
<td>An 8 Ton all terrain 4X4 APC, up to 7 people, KE Stanag 2 and Mine protection Stanag 3a+2b</td>
</tr>
<tr>
<td>Navigator</td>
<td>An 18.5 Ton all terrain 4X4 MRAP, up to 13 people, KE Stanag 3 and Mine protection Stanag 4a+4b</td>
</tr>
</tbody>
</table>
By enabling combat under closed hatches, improved situational awareness, superior accuracy and unmanned vehicle support, Elbit Systems provides its customers with improved combat effectiveness, accuracy and survivability for all types of fighting vehicles.
CUSTOM ENGINEERED ARMORED VEHICLES AND BEYOND…

MRAP Model AMIR
The AMIR is a Mine-Resistant Ambush Protected Platform which provides extreme maneuverability and superior protection, in all environmental conditions, on/ off road. The AMIR platform features a generic design for versatile usage, and has been custom-developed for tough challenges in military service. It offers a maximum speed of 122 km/h with full payload and a maximum gradient of > 60%.

The AMIR’s structure is based on a Ladder Chassis, and features Permanent All Wheel Drive with a power distribution of 33% to the Front Axle and 67% to the Rear Axle. The AMIR has STANAG 4569 Level II protection and Mine Protection Level 1a and 2b. The AMIR can support higher protection levels, upon request, assuming extra weight.

APC Model THUNDER
The THUNDER is a Multi-Purpose 4×4 Armored Personnel Carrier that can carry up to 12 people. The THUNDER combines High protection level with excellent cross country mobility and superior payload of up to 1.8 ton. The vehicle has excellent maneuverability in urban areas and off road terrains. The THUNDER is offered in various applications and can be tailored specifically to the customers’ needs.

The 6X6 AMIR is the latest addition to the AMIR Family. The 6x6 combines the highest level of survivability and mine protection with elements of tactical capability and the advantages of modern combat vehicles.
INKAS® Israel is a member of a multi-national conglomerate and is comprised of former IDF senior officers, accomplished engineers and security experts. The firm specializes in the design and production of a wide range of armored vehicles, including executive SUVs, luxury sedans, special purpose military vehicles, personnel carriers, cash-in-transit vehicles, and others. The company provides armored vehicles for banks, law enforcement agencies, corporate clients, governments and individuals all over the world.

“We have invested a great deal of resources in the development and design of lightweight armoring process for the highest protection levels.”
**Iron-Fist & Iron-Fist Light Configuration (IF-LC)**

IMI’s Active Protection Systems (APS) portfolio defeats anti-tank threats from short-range RPGs through Recoilless Rifled ammunition, ATGMs and up to HEAT and KE tank rounds. These systems provide 360 degree protection coverage and feature unique Situational Awareness capabilities through their two sensing techniques, search and track radar and a staring IR sensor.

IMI’s APS systems enable robust and reliable detection, accurate trajectory prediction and short reaction time in every terrain and environment.

Iron Fist APS was designed for MBTs and heavy IFVs while the Iron Fist Light Configuration (IF-LC) was designed for lighter platforms and addresses all functional and performance requirements of the Iron Fist while keeping its revolutionary minimal integration constraints and cost.

Both systems utilize a blast interceptor for effective, safe interception.

The small blast warhead is initiated at a safe distance from the defending platform and defeats the threat by producing a shock-wave at a precisely calculated location and time. This results in threat destruction without initiation of its warhead, minimizing residual penetration to the applicable protection level of light fighting vehicles.

**MBT & IFV Modernization**

IMI offers conversion, upgrading and modernization of MBTs and IFVs, enabling customers to maximize the use of existing inventories and extend the lifespan of in-service systems by improving lethality, survivability and mobility.

Other solutions include affordable modernization programs for APCs, such as the **URBAN FIGHTER** up-armored M113, optimized for asymmetric warfare scenarios.

Modernization programs include replacing and upgrading guns and weapons, new fire control systems, armor and automotive enhancements, remote controlled weapon stations, active protection systems and more.

IMI Systems’ vast experience in MBT & IFV modernization includes, among many others, the upgrade of 170 M60A3 MBTs of the Turkish Land Forces Command - considered the world’s largest tank upgrade program of recent years.

**Platforms Protection & Survivability**

IMI Systems is Israel’s center for ballistic armor protection and has been the supplier of the IDF’s protection kits for its Merkava MBT and NAMER heavy IFV for decades.

IMI develops, manufactures and installs various passive, reactive and hybrid ballistic armor kits for MBTs, AFVs, heavy earth moving equipment and light tactical vehicles.

Among these are the **IRON WALL** passive protection kit against medium-sized IEDs (e.g. EFP & SFF), and the **BREAKWATER** reactive armor kit for protection against large EFPs with copper liners, including RPG-7. Both armor kits provide STANAG 4569 Level 4 small arms protection.
**Tank Ammunition**

IMI Systems develops and manufactures combat-proven tank rounds of various calibers (100, 105, 120 and 125mm) including the Multi-Purpose High-Explosive (MP-HE), APFSDS-T, HEAT, HESH, Training and Less Than-Lethal cartridges.

IMI Systems’ Tank Ammunition is used by the IDF, NATO and other leading armies worldwide and its Multi Purpose ammo provides tank crews with highly-effective solutions for engaging bunkers, vehicles and fortifications, as well as AT squads and infantry in open terrain.

**IFVs for Defense & Security Missions**

**COMBATGUARD**

A rigid, highly efficient 4x4 Monocoque capsule-based vehicle providing a high level of protection, Combat Guard allows for effective operation in a variety of combat missions and terrains, and can be equipped with various weapon systems and RCWS.

**WILDCAT**

A multi-purpose 4x4 all-terrain armored wheeled vehicle, Wildcat provides modular protection against RPGs, IEDs and up to 14.5mm AP cartridges.

**Assault Bridging**

Designed to enable armored forces multiple-gap-crossing capability with enhanced maneuverability on the battlefield

IMI’s AB solutions include:

- **TACS (Tandem Assault Crossing System)**
  Enables operation in mountain terrain, comprised of an Armored Vehicle Launched Bridge (AVLB) launcher and two identical MLC-70 bridges each 11.7 m long capable of spanning gaps up to 11 m wide. Guaranteeing high survivability and redundancy, these bridges can be launched and recovered from either side while the AVLB can carry and launch the TACS with no major changes.

- **JAB (Joint Assault Bridge System)**
  Provides warfighters a robust, reliable system with unparalleled commander’s vision, rapid assault launch/retrieve capability, and superior mobility by maintaining the center of gravity close to the M1A2 Main Battle Tank. JAB’s advanced bridging technology solves a long standing US Army capability gap in the existing military load class 85 “Scissor” bridge.
NIMDA CO.

More than 45 years of modernization and upgrading programs for tanks, APC(S) military trucks and naval propulsion. Proven technology.

NIMDA CO. MAIN PROJECTS:

**T-72M4 CZ**
Upgrading T-72 MBT & T-72 Recovery Tank with New westernized Power Pack.

**T-72 N-2000**
Manufacturing Allison transmission model XTG 411 6N 1000 HP Rating. For T-72 and M107/109 SPG.

**ACHZARIT-X3A-1-2**
IDF “Achzarit” Heavy APC With new Power Pack, DDC 8V92T(N) 710 HP engine, and Allison XTG411-5(N) transmission.

**M-113 A3 / N-2000**
M-113 N-2000 heavy armor protection with new Power Pack, up to 300 HP DDC engine, and Allison automatic transmission.

**T-55**
T-55 Upgrading with new Power Pack, upgraded, western gun and new fire control system.

**M-41**
M-41/M-42 Upgrading & Modernization program with new diesel Power unit, Allison CD-500 transmission, DDC 8V71T / 8V92T engine, and new 90mm Gun/Air defence turret electronic control.

**BMP-2**
BMP-II APC Upgrading program with Western new Power Pack, Allison X-200 Transmission, and 360 HP Engine. Wide range of engines are optional.

**M-109**
New Alternator kit with Upgraded Alternator system 28V/230 amp. Nimda also offers new Powerpack, comprised of: Allison XTG411 Transmission & 8V71T Engine 440HP.

**BTR-50 / PT-76**
Leading the industry with best protection, high mobility armored vehicle solutions. End to end in house capabilities: offers full design, development, engineering, testing and integration under a single roof.

Whether it’s for defense, homeland security, or commercial usage, Plasan is the leader in the design, development and integration of advanced armored protection systems for all types of wheeled and tracked vehicles, airborne & naval platforms and personal protection.

Our survivability and armor solutions meet and exceed customer requirements and are ideally suited to a variety of missions, enabling the right mix of protection, firepower, agility and maneuverability.

Plasan has designed more than 400 armored platforms and delivered more than 32,000 armored vehicles to armed forces and security organizations worldwide.

Plasan’s solutions span a variety of personnel survivability, vehicle protection and system integration solutions that, together, form a comprehensive offering to our customers.

- Blast and IED protection solutions, Ballistic protection, RPG protection solutions and a Kitted-Hull concept hat serves as a modular alternative to traditional welded hulls.
- Plasan mission specific vehicle solutions designed to address a wide range of defense and homeland security missions featuring exceptional maneuverability, superior armor protection and fully integrated ISR, command, control and communication technologies.
- VETRONICS solution.
- Plasan SANDCAT™ family of multi-purpose 4X4 armored vehicle, designed for optimized mobility, maneuverability and operational versatility in any terrain. Over 500 vehicles deployed in more than 10 countries.
- GUARDER™ - High protection, high performance 4X4 armored vehicle, carries up to 24 troops. Outstanding mobility and maneuverability on all-terrains. Equipped with the most advanced survivability systems.
RAFAEL'S ADD ON ARMOR PRODUCTS

Rafael is a major and unique armor company dealing with all protection technologies: passive, reactive, hybrid and Active Protection systems. Rafael conducts development, design, integration and production of the most advanced armor systems to enhance the protection level of armored vehicles.

Rafael uses its extensive past experience to provide high level of protection, lightweight and low cost enhancements integrated on all types of combat platforms. All armor products are modular and capable to protect combat vehicles from a broad range of threats such as small and medium kinetic energy (KE) armor piercing (AP) projectiles, high energy anti-tank Shaped Charges (SC), high speed fragments of artillery and Improvised Explosive Devices (IEDs) and Explosive Forming Projectiles (EFPs).

The performance and specifications of the systems meet the protection requirements and standards of the Israel Defense Forces (IDF), the US Army, USMC and NATO force standards. The systems have been tested, qualified and approved for application by the customers worldwide and are combat proven. Rafael had eight different add-on armor systems, served in the Iraqi / Afghan theater with the coalition forces.

REACTIVE ARMOR

Rafael is the world leading company in the application of the reactive armor technology. It was the first company to develop, design and integrates reactive armor systems on combat vehicles. The
reactive armor is the most effective add-on armor technology to protect Armored Fighting Vehicles (AFV's), Armored Personal Carriers (APC's) and Main Battle Tanks (MBT's) against shaped charge threats of Rockets and ATGMs.

For light armored vehicles, Rafael developed Hybrid armor which combines reactive and passive elements to provide complete, 360 degrees protection against anti-tank rockets, medium KE AP projectiles and high speed fragments. Upgraded multi-threat hybrid armor, Multi-Threat Armor Protection (MTAP) system has recently been developed to defeat also EFPs and IEDs.

Rafael’s reactive and hybrid system have been fitted to many combat vehicles worldwide. In the US, Rafael, together with its partner General Dynamics ATP, integrated produced and supplied reactive / hybrid armor systems for the Bradley AFV and the Stryker vehicles.

PASSIVE ARMOR

Rafael has developed and applied various passive armor technologies to protect combat vehicles, including ceramic, metallic, shaped, laminated and perforated technologies. The passive add-on armor is modular, lightweight and easily installed by the crew. It is maintenance-free and combat-proven.

The systems provide protection against 14.5 mm AP projectiles, high speed fragments of artillery shells and IED (STANAG 4569, Level 4 and beyond). Rafael has recently developed passive add-on lightweight, effective modular armor to defeat EFPs. Rafael’s armor systems are in use by the IDF, USMC, Italian Army, New Zealand Army, Czech Army and others. They are combat proven and received excellent reports about their performance in the Operation Iraqi Freedom and peace keeping missions worldwide. Rafael’s Enhanced Appliqué Armor Kit (EAAK) add-on armor system was selected by the USMC as a sole source, for the AAV7 amphibious APC.

RAFAEL’s Reactive Armor installed on the US Bradley AFV (left) and Passive Armor installed on the USMC AAV7 APC (right).
OUR TECHNOLOGY LIGHTENS THE MOBILITY OF HEAVY VEHICLES
DEFENSE - INDUSTRIAL - CIVIL

• WHEELS
• TRACK SHOES
• FUEL TANKS
• RUBBER ANTI-VIBRATION

TAMOR S.M.R. PRODUCTS
*built to customer specification

• Wheels Solid Rubber: Road, Single / Double Support, Tension, Idlers, Rollers, Sprockets, Forklifts
• Track Shoe Parts and Track Assemblies with:
  Pads, Bushings, Pins, Connectors, Parts
• Fuel Tanks and Water Tanks: Steel, Stainless Steel, Aluminum
• Anti-vibration Rubber Products:
  Vibration Dampering, Shock Absorbing Rubber
• Chassis and Suspension Components and Assemblies:
  Control Arms, Cross Members, Primary Suspension
• Body Frame Components and Assemblies
• Large Heavy Metalwork Products:
  Specialized Transport and Storage Containers
• Other Rubber / Metal Products:
  Portable Signposts, Asphalt Paving Machine Pads, Full tracks, Endless Rubber Bands, Exercise Ammunition, Ladders, Other custom-made items

IN-HOUSE TECHNOLOGIES
• Metalwork:
  CNC machining, deep drawing, forming, welding, cutting, stamping, shot peening, painting, preservation
• Rubber Vulcanization:
  rubber bonded to metal and rubber molding using compression, transfer and injection molding

DEFENSE APPLICATIONS

• Tanks
• Armored Fighting and Recovery Vehicles (AFVs, ARVs)
• Heavy Military Trucks
• Land Recovery Vehicles
• Armored Personnel Carriers (APCs)
• Amphibious Vehicles
  Reconditioning of track shoe assemblies in compliance with field-tested standards.

CIVIL & INDUSTRIAL APPLICATIONS
Tamor SMR manufactures diverse products for Rolling Stock, Mining, Construction, Agricultural, Forestry and Logging and Other Specialized Heavy Vehicles (asphalt pavers). Products include fuel tanks for dynamic (trains, trucks) and static (power generating units, central heat units) applications, antivibration and shock absorbing rubber products, potable water tanks.

QUALITY ASSURANCE
• ISO and IQ Net 9001:2008
• Welding: AWS D 17.1, AWS D1.1, European EN 15085-2 Class 1
• NATO AQAP-110
• U.S. Army TACOM: QSL-03, QSL-01, QSL-04
  Wheeled Vehicle Components (QSL-03) Tracked Combat Vehicle Suspension Components and Padded Cushions (QSL-01, QSL-04)
• Field-testing under actual operating conditions
Shladot operates in three main fields -

**Mobilized Defense Solutions** - mobile defense and security platforms including shelters, trailers, Heavy Duty tank transporters, special purpose vehicles etc.

**Armored Vehicles** -
- **“David” Family** - based on Toyota components, with a Gross Vehicle Weight (GVW) of 4-4.7 tons and seating for up to 8 passengers. The David is widely used by the Israel Defense Force.
- **“Tiger” Family** - based on Ford, Dodge or heavier platforms with a GVW of 9-12 ton. The Tiger is offered in a variety of armor levels and seats up to 14 passengers.

Shladot also up-armors other platforms, based on customer mission profile.

**Aircraft Armor** - ballistic protection for helicopters and cargo aircraft.
Fibrotex Technologies develops and manufactures innovative Signature Management Systems for Armies and Special Forces around the world for more than 50 years.

Our constant peruse for excellence leads us as we deliver constantly improved solutions for the modern battlefield. Fibrotex brings high quality, tailor made products that suit versatile environments and requirements for our customers, providing the reliability you can depend on.

Our most-compelling advantages are the depth of our camouflage technology and our extensive in-house development and production capabilities. Fibrotex adapts its products to the unique requirements of each customer, while maintaining high levels of reliability and performance. Fibrotex is known as the company that can “provide innovative solutions according to customer needs, not according to what already exists”.

Fibrotex focuses on knowledge, innovation and creativity, new materials, new production processes, new services, new markets and requirements. Knowledge and expertise are fundamental principles of the company.
MIFRAM’S MULTI-PURPOSE PROTECTION SOLUTIONS

MSC
Multipurpose Bulletproof security containers

Fortified Container
40 foot, Autonomy, Concealed as a regular container

Dry Storage
Humidity controlled dry storage facilities. Save maintenance costs and be ready for the moment of truth

Modular Antenna Tower
Prefabricated and portable Antenna tower

Ballistic Protection for Government Buildings

Mobile Sky Guard
Overhead rapid fortification protection from light rockets and mortars

Dune
Multi block sand barrier

AMI/TAMI
360° vision, bullet proof combat post/tower

Millennium
Multi-purpose, bullet proof & 360° vision combat post

MVB/Carmen
Modular Vehicle Barrier

Guard Post
Bulletproof mobile guard post

Body Guard
Lightweight, bulletproof, portable guard post

Scarlet
Portable and flexible VIP protection

Check Post
Screening module entrance post. Fully protected from suicide bomber.
Sky Guard
Overhead protection system against mortars and light rockets

ResCube
Indoor foldable protection system

Gabriel
Fully-protected (NBC & bullet-proof) autonomous, mobile Command and Control shelter

Mantis
Multitask, self-rising, mobile, B.P. high elevated autonomous combat post

HDF
Heavy Duty Fence

Ramgan
Bulletproof guard and observation tower

IMPS
Indoor Modular Protection system, B.P. and against direct impact from high trajectory weapons

Hammer
Multi functional hangar style protection

ESR
Expandable Safe Room

Round Shelter
Cylindrical blast & bullet proof emergency shelter

MFS
Mobile and Modular fence system

Defense Walls
Modular blast and fragmentation protected precast walls

Upon request, Mifram provides consulting and engineering for physical security solutions

Sentinel/Priest 4000
Lightweight, prefabricated observation tower

Sky Guard
Lightweight, prefabricated observation tower

Mantis
Multitask, self-rising, mobile, B.P. high elevated autonomous combat post

HDF
Heavy Duty Fence

Ramgan
Bulletproof guard and observation tower

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Modular blast and fragmentation protected precast walls

Upon request, Mifram provides consulting and engineering for physical security solutions
Mifram has accumulated vast professional experience in the development and production of protective structures and barriers. The company is the exclusive manufacturer of several unique bullet proof guard and watch towers, observation structures and defense posts all designed to protect against the various and emerging threats of our times. Mifram’s Tower and guard posts provide protection for a host of scenarios and domains and can be further tailored and modified in consultation with the client to meet any additional specific defense and security needs.

Ramgan Observation Tower
Bullet proof observation tower meets NIJ Types III and IV standards plus mortar protection, comes with machine gun stands, shooting slots and a protected observation porch.

The Mantis
Autonomous Self-Rising Mobile Watch Tower
World’s first truck borne fast response observation tower that is suitable for a range of security applications (c2 missions, border control, special opps) as well as civilian applications including mass events, major sports events and crowd control.

Features
- Autonomous self-rising bullet proof watch tower
- Bullet proof - 5.56SS109/M16, 7.62M80/AK47 AP
- World’s first truck-borne fast response observation tower ideal operational solution to quick response missions
- Operational within 30 minutes
- Large range of weather conditions
- Fits in standard size shipping container

The Shark
Rapid Response Sniper Post
Highly versatile rapid response observation and sniper tower offering 300 degree visibility and 270 degree firing angle. Designed for use in airports and other sensitive locations.

Features
- Rapid response observation and sniper tower
- Versatile functionality
- Robust construction
- 300 degree visibility
- 270 degree firing angle
- Canopy opens in 1.5 seconds
- Searchlight is activated automatically when unit in use
- Table/shelf runs round circumference of inside of cabin
- AC Unit
- 25W light installed at floor level
- Thermally insulated cabin (when closed)
- Windows reclosed slowly
MOBILE BALLISTIC SHELTERS

**Gabriel Mobile NBC Shelter**
Specially protected autonomous C2 Shelter. Designed for use by security and emergency response authorities. Offers protection for up to 20 people against conventional threats as well as chemical and biological warfare agents.

**MSC Multi-Purpose Security Container/Shelter**
Bullet and blast proof versatile 20” container according to standard NIJ Type III threats. Ideal as armory, cashier’s office, mobile control post, mobile first-aid post and mission sleeping/living accommodation unit.

**MBS Modular Ballistic Shelter**
Designed for use in open public spaces, adjoined to buildings and homes, or mounted on a truck, this mobile shelter provides ballistic protection of 5.56/7.62 and against direct impact from a light missile or rocket.

**Sky Guard**
Roof and housing/building protection system that meets ballistic threats from 120-160 mm mortars and light missiles. Ideal for reinforcing and to protect civilian housing, federal buildings, military bases, border installations and key infrastructure facilities.

**IMPS - Indoor Modular Protection System**
Unique patented indoor protection solution against the threat of direct impact from high trajectory weapons such as Kuassam II and Katyusha 122mm rockets. Suitable for apartments, houses, offices and other facilities.
TROPHY FAMILY

TROPHY - the world’s only operational, combat-proven armor Active Protection System (APS)

Trophy is a situational awareness and active protection hard kill system that operates in three major stages: Threat detection and threat tracking followed by hard kill countermeasure (Multiple Explosive Formed Penetrators - MEFP) activation and threat neutralization. The neutralization process takes place only if the threat is about to hit the platform.

The Trophy systems have a very high kill probability and testing has shown them to be successful against all known CE threats (RPG, ATGM, tank-fired CE, etc.) The systems’ average collateral damage is estimated at a <1% chance of a dismounted soldier being injured by Trophy or an incoming threat.

Trophy-HV
The Trophy was declared operational by the IDF in August 2009 and is currently in full production. Trophy is the only operational, combat-proven armor APS in the world. Merkava-4 tanks integrated with Trophy active protection systems are presently deployed in combat areas along Israel’s borders. Trophy has intercepted numerous anti-tank missiles in combat.

In January 2016, the Israeli MOD unveiled the first NAMER APC fitted with a Trophy HV system. In 2016 the Israeli Ministry of Defense announced the purchase of hundreds of Rafael’s Trophy systems, worth hundreds of millions of shekels.
The new order will ensure that every new Merkava 4 tank and Namer APC will be equipped with the Trophy system, providing significant additional protection for every tank and APC. The Trophy system is adaptable to any combat platform. Once a platform is chosen, a short trade study is completed to work out any integration issues that may arise. Numerous elements are taken into consideration for each vehicle variant or type. For vehicles with relatively basic or light armor, e.g. the Stryker, the Trophy provides full protection against all types of RPG (as well as other threats) due to the fact that the Trophy destroys these types of threats without detonation.

Trophy-LV

This active protection hard kill system for light armored vehicles utilizes the same superior operating principles as the Trophy-HV and Trophy-MV at a fraction of the weight. Trophy-LV’s high kill probability against advanced threats, including the most sophisticated shoulder-launched AT rocket propelled grenades, makes it a significant force-multiplier at shorter ranges on the modern battlefield.

The Trophy-LV's dimensions are specially designed for easy integration and installation onto smaller platforms without impairing system performance. This ensures 360° protection including the vehicle’s windows and doors with minimal risk of collateral damage. The Trophy-LV is an all-round efficient, affordable, and cost-effective solution that is currently undergoing field testing in a variety of operational scenarios.

Trophy is not merely an active protection system for tanks and other armoured vehicles. Trophy’s radars and other measures, have transformed a defensive approach into an offensive approach by detecting and engaging the attacker quickly, thereby preventing additional attacks against the force. It does so by being connected and communicating the location of the attacker to the crew itself, which can engage the attacker, or to other platforms and effectors in the formation, and those can take out the threat immediately as well. This was demonstrated on a large scale in the IDF’s Operation "Protective Edge".
Innovation, quality, excellent service and experience-based expertise: That's what you can expect from OSG. Whatever it is - OSG can do it. From automotive and architectural glass systems to glass for rail, heavy engineering machinery and transparent armor for the military and civilian sectors, OSG is a leading expert in these fields.

40 YEARS OF EXPERIENCE
Today OSG is a global company with large production facilities in Israel as well as the United States and offices worldwide. Size, experience and global presence give OSG great manufacturing flexibility and this means the company can easily handle all your needs. All OSG's production lines are ISO 9001-2008 and ISO 14001-2004 certified and are equipped with the latest technology. OSG’s highly skilled engineers are at your service and ready to consult with you, from the design phase to manufacturing. OSG’s in-house laboratories and testing facilities are designed to streamline manufacturing and deliver the best possible product.

TRANSPARENT ARMOR
OSG’s transparent armor complies with the highest industry standards. OSG’s products meet ATPD-2352 (current rev.) as well as STANAG 4569 standards (Levels 1 to 4) plus equivalent US National Institute of Justice (NIJ), European, German, Spanish, DoD UFC performance criteria and other standards for all threat levels. Blast, fragmentation and environmental tests, in accordance with STANAG, the US Army and USMC specifications are conducted at OSG’s in-house laboratories. OSG’s state-of-the-art research and development facilities include ballistic laboratories for the full range of small arms kinetic and FSP fire testing. OSG’s transparent armor is made for both military and civilian applications and it involves vehicles as well as buildings (such as Governmental Offices and Embassies) plus naval applications. OSG produces and installs transparent ballistic armor for almost any threat at a quick turnaround time and at competitive prices and can custom-build to all requirements.

Below is the list of some of OSG’s transparent armor applications:
• Ballistic protection solutions
• Advanced transparent armor add-on system
• Emergency egress window system
• Ceramic window and Crystallized Material technology
• Silk-light integrated light indicator system
• Rock-strike glass shield
• ADI no-spall technology

GLASS SOLUTIONS FOR THE TRANSPORTATION INDUSTRY
We handle transportation glass process from beginning to end and currently our glass products are available in more than 50 countries around the world. We focus on remaining at the forefront of technology, bringing new developments, compositions and technologies for all transportation vehicles: ground, naval and airplanes.
RADA’s cutting-edge Compact and Multi-Mission Hemispheric Radars are software-defined, AESA, configurable radar platforms which offer a wide range of operational missions at a very high performance-to-price ratio. Among the missions are Active Protection, Hostile Fire Detection, Counter-UAV, all-threat air surveillance, 3D perimeter surveillance, and more.

RADA offers a family of tactical multi-mission radar system platforms that primarily differs in antenna sizes, resulting in maximal detection ranges. By combining those radar platforms with a mission application, RADA provides “Tailor Made” operational solutions for a wide range of detection distances and targets.

A single radar platform provides 90° azimuth coverage using MHR and 120° using CHR. Hemispheric coverage is achieved when four/three identical and interchangeable radars are employed as a system.

### Nomenclature of the Radar System (per platform)

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<th>Mission</th>
<th>CHR</th>
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### Radar Platforms Key Characteristics

- Pulse Doppler, Software-Defined Radars
- AESA (Active Electronically Scanned Array) Antenna, GaN Technology
- Extremely High Elevation Coverage
- Non-Rotating, Solid State Radars
- Digital: Beam Forming, Receivers, Pulse Compression
- Compact and Mobile, for Tactical Applications
- High Reliability
- Superior Performance-to-Price Ratio
HAGOR INDUSTRIES LTD.

- HUMAN ENGINEERING
- ADVANCED DEVELOPMENT
- TOP QUALITY
- RELIABILITY

Hagor Industries Ltd. was established in 1956 and it is a Family-owned company. Hagor is a major authorized supplier of the Israel Defense Force, Police, Special Anti-Terror Units, Elite military units and worldwide law enforcement agencies. For more than 50 years Hagor is known for its innovative solutions and lifesaving personal gear, Bullet proof vests According to NIJ STD 0101.04 / 0101.06 offering protection levels IIA, II, IIIA, III, IV, and full range of high performance Body-Armor. Hagor is standing on the forefront of the Future Soldier Specialized gear, offering significant core to the company’s vision.

Our experience and Production facilities allows us to produce also all military gear, rucksacks, bags, tents, sleeping bags, etc. According to customer’s requirements and specifications as follows:

Protective Bulletproof Vests: Hagor produce numerous models of ballistic vests with protection levels according to customer requirements. Our products are manufactured with the latest high-tech solutions and raw materials.

Combat Harness: single-unit combat harness distributes the weight of combat fighting gear proportionally over the body, providing comfort and greater mobility with maximum load.

Personal Gear: Kitbag, rucksacks, field cots, sleeping bags, etc.

Military Tents: from personal tents up to camp tents, giant tents, Hospital and dining room tents etc.

Versatile Covering: to suit all different types of vehicles, weapon systems, cannons, tanks, SUV etc.

Hagor quality control system complies with the Quality Management Standard ISO-9001-2008, standard and IQnet.
ISRAGOR Ltd has become a leader in development, manufacturing and marketing Protective vests due to a synergy of advantages including practical Experience and the utilization of development and manufacturing technologies.

ISRAGOR utilizes the most advanced forms of ballistic materials.

ISRAGOR products are custom made, adding Value to the product, relative to its price.

ISRAGOR has developed expertise in the manufacturing of protective vests for V.I.P. anti terror, seals, s.w.a.t. teams paratroops from level I up to IV.

ISRAGOR manufactures its products in Israel in accordance with the standards stipulated by the I.D.F yet has the flexibility to meet customer specifications.

ISRAGOR manufactures military gear such as: battle vests, Bags, Tents, dry storages systems etc... and facilitates all stages Involved in supplying them.

ISRAGOR has the power to be your liaison to the Israeli military industries as well.

For any of your requirements contact us.

We keep a supply of tents for immediate shipment, in case of emergencies such as floods, earthquakes etc.
LIOR TEXTILE INDUSTRIES LTD.
Protecting People™ since 1976

Standards:
NIJ Standard, HOSDB
NFPA, CGSB, NSN, ASTM,
IDF Mil-spec, US Mil-std.

Quality Assurance:
• ISO 9001:2008
• "Level A" of the Israeli MOD

For the last 40 years, LIOR has been a licensed vendor of the I.D.F.,
Israel Police & special anti-terror units.

Areas of Activity
Development, Design, Manufacture & global marketing of personal protective gear:
• Body armor for the army, police & V.I.P use.
• Ballistic shields & Inserts.
• Ballistic helmets.
• E.O.D - Bomb Suits.
• Tactical Vests.
• Anti-Riot Systems.
• CBRN protective suits & Coveralls.
• Extended Cold Weather Clothing System (ECWCS).
• Backpacks & Carrying systems.
• Fire brigade suits, Nomex pilot & tanker coveralls, underwear.
• Work wear outdoor clothing: including reflective rain suits.
• Inflatable tent & stretcher.
• Dry storage solutions.

Carrying systems
Body Armors
Dry Storage Solutions
Anti-Riot Systems
CBRN Clothing

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Web Site: www.lior-protective.com
Marom Dolphin Ltd., founded in 1993, develops, manufactures and markets top quality personal military supplies for armed forces, police units, security services, and civilians around the world.

Each of the founders of Marom Dolphin Ltd. comes from an army combat background having served in different fighting units in the Israeli Defense Forces (IDF). Together, we are a dynamic and flexible team. Combining our knowledge and experience, we have dedicated ourselves to developing safe, ergonomic products essential for any and all security tasks. The wide range of military and security products are of the highest quality and meet the demands of all service standards.

Our products are manufactured and tested in accordance with the Quality Assurance standards of military forces worldwide, as well as in strict adherence to ISO 9002 Standards, awarding them worldwide recognition for their high quality and durability.

Among our customers are military, paramilitary, law enforcement, and security organizations across the globe. We are the main authorized supplier of tactical and bulletproof vests to the Israeli Military and to the Israeli Ministry of Defense, as well as many other customers, worldwide.

Marom Dolphin Ltd. maintains the highest manufacturing standards in strict adherence to ISO 9001:2015 international standards.
In a market as comprehensive as National Defense, MyForm provides a broader view across different subjects of interest. MyForm Group specializes in a comprehensive, multi-layered solutions, supporting a variety of areas and disciplines.

**Protective Gear | Riot Gear | Soldier Enhancement Gear | Physical Security | ISR**

MyForm Group specializes in providing a comprehensive solutions to the most challenging Security and emergency situations. MyForm works with its partners to support key customers in planning, managing and responding to such events.

**Emergency Medicine | NBC | Water | Dry Storage | Alternative Infrastructure**

MyForm provides end-to-end solutions for water and waste water treatment, to global customers. With domain expertise & proprietary technology we aim to provide tailor made, complete solutions in order to help our customers reduce, reuse or recycle water & waste water.

**Water Solutions | Sewage treatment solutions | Pipeline Monitoring & Inspections**

MyForm Training and ToT platform enable a fast integration of knowhow and skills. From Krav-Maga, Riot, Combat, SWAT, Emergency medics and Night Driving to the establishment of subject matter expertise or production.


[www.myformgroup.com](http://www.myformgroup.com)
A major supplier to the Israel Defense Forces, Noga-Einat offers a spectrum of professional footwear for military and para-military uses. Throughout seven decades of serving armies, police forces, Special Forces, anti-riots and anti-terror units worldwide, and while drawing on its close working relations with the R&D unit of the Israel Defense Forces, the company succeeded in developing a constantly improving product line of comfortable army boots and working shoes especially designed to endure extreme conditions. Thanks to using top-quality materials and careful engineering, Noga-Einat also provides customized products for specific special requirements.

Noga-Einat’s products are all composed of leather/canvas uppers have non-woven, anti-perspiration leather insoles and nitrile rubber/polyurethane soles. Most models offer optional fittings such as double-density soles, special removable insoles, built-in air cushioning, fur lining, etc.

All of the company’s footwear range meet or surpass the requirements of the IDF and of other armies and meets the European standards. The company collaborates with the best manufactures.
The New Generation in Eye Protection

Advanced combat goggles for ballistic, sun, wind, dust and laser eye protection

Shalon Chemical Industries, world leader in designing and manufacturing of personal protective equipment, has developed new combat goggles EPS-21™, which are approved by the Israel Defense Forces as its standard combat goggles.

EPS-21™ is based on a key design concept of a basic platform that provides ballistic, dust and wind protection, which can accommodate different types of secondary lenses as filters against solar and laser radiation.

The modular product design incorporates special features:

- Peripheral and frontal ballistic protection while keeping full field of vision.
- One size fits all.
- Good fit to user’s face prevents dust penetration while insuring maximum comfort.
- Improved interface with optical sighting equipment.
- Labyrinth design of ventilation ports insures ventilation without filtration elements.
- Donning and removing while wearing a helmet.
- Secondary snap-on lens protects against solar or laser radiation, only when required.
- Integral adaptor for prescription lenses frame.
- Very attractive appearance.

U.S patent pending
RIOT CONTROL VEHICLES

- B.A.T is a leading manufacturer of sophisticated Riot Control Vehicles.
- B.A.T's state of the art “Jet Pulse Water Cannon” is unique, accurate and effective.
- B.A.T manufactures a complete line of Riot Control Vehicles, with over 15 different models, on a wide variety of basic chassis’.
- B.A.T's Riot Control Vehicles have been “proven in combat” worldwide.

B.A.T's RIOT CONTROL VEHICLES FEATURE:
- Three different modes: Short Pulse, Long Pulse and Continuous Stream.
- Tear gas (CS) or Pepper Spray (OC) and Dye can be injected into the water pulse. Optional Skunk System.
- Under chassis and upper deck foam protection (against firebombs).
- Gas nozzles for all around protection of the vehicle.
- Water sprayers for windshield and side windows.
- Air filtration for driver’s cabin.
- Front bulldozer for obstacle removal.
- Close circuit T.V and video system.
- Rear camera & monitor for backward view.
- Ballistic armoring against any threat level.
- Run-Flat-Tires (R.F.T).
- Front Bumper’s water/foam Cannon.
- Extractable Troop Protection Shields.

THE B.A.T RIOT CONTROL VEHICLE:
YOUR BEST AND MOST EFFECTIVE TOOL FOR RIOT CONTROL
Founded in 1969, ISPRA is a global leader in developing, manufacturing and marketing of Less Lethal devices for riot control, crowd management, anti terror equipment and police gear.

ISPRA - LESS LETHAL

By combining our technical knowhow with practical field experience, ISPRA manages to deliver smart Less Lethal solutions to its clients, helping them deal with the growing challenges of crowd management. ISPRA's Innovative product line has kept us in the forefront of Less Lethal ammunition throughout the years. We are developing today smart solutions for the problems of tomorrow.
ISPRA - ADVANCED RIOT CONTROL SYSTEMS

CYCLONE™
Riot Control Drone System

Utilizing latest Drone technologies, ISPRA’s Anti-Riot Drone provides law enforcement units with an extremely large range mode of work, enabling them to react against rioters and demonstrators at an early stage of the event, at a distance while avoiding direct confrontation with rioters.

THUNDERSTORM
MBL12 Multi Barrel Launcher

Multi Barrel Launcher (MBL) delivers long range intensive force of non-lethal means in a short time. MBL systems can be mounted on a vehicle, providing mobility as well as the ability to carry a significant amount of ammunition.
GROUND BASED TACTICAL RADARS

Advanced Tactical Acquisition Radar
ELM-2106 ATAR

The ELTA ELM-2106 ATAR is a fourth generation Tactical Air Defense Radar. The System is a 3D target positioning, solid state L-band medium range tactical radar with Active Electronically Steering Array (AESA). The radar detects a wide variety of low Radar Cross Section (RCS) targets such as low flying fighter aircraft, hovering helicopters, low speed ultra-lights and UAVs. The ATAR can be deployed as a local Air Defense system providing warning and target designation to Surface-to-Air weapon systems such as MANPADS. The system can also be deployed as local air defense gap filler supporting en-route and Air Traffic Control (ATC) Centers.

Very Short Range Air Defense Radar (VSHORAD)
ELM-2026B

The ELM-2026B VSHORAD is a fifth generation 3D Tactical Air Defense Radar. It is a lightweight transportable, X-band, solid-state electronically scanned, Pulse-Doppler radar. This cost-effective radar delivers early warning and target data for support of surface-to-air missile weapon systems. The radar employs multi-beam elevation coverage by applying Digital Beam Forming (DBF) and 360° azimuth coverage by antenna rotation. It detects a wide variety of low RCS targets such as low flying fighter aircraft, low velocity ultra-lights and UAVs. The ELM-2026B VSHORAD can be deployed as a local Air Defense system providing early warning and target track for surface-to-air weapon systems.

Persistent Surveillance Radar Family
ELM-2112

The ELM-2112 is a new family of advanced high resolution radars with unique and outstanding capabilities. Featuring simultaneous multi-beam technology, the radar provides persistent surveillance and instantaneous target detection and tracking. The radars are designed for ground and sea surface surveillance. The radars feature up to 4 stationary planar antennas, covering a sector of 90°, and enabling a 360° instantaneous coverage. The radars cover detection ranges up to 22 Km for a person or rubber boat and up to 44 Km for a moving vehicle or sailboat.

Ground Surveillance Radar Family
ELM-2105

The ELTA ELM-2105 is a family of tactical Ground Surveillance Radars (GSR), designed to provide 360° coverage by mechanical rotating of the radar. It is a lightweight, all-weather, movement detection radar designed to detect, alert and monitor intruders’ movements in protected and selected areas of interest. Featuring high target update rate, the radar delivers high probability of target interception and supports military and para-military law enforcement missions. The radar can be either locally or remotely controlled as standalone unit or integrated in a larger ground surveillance network.
**BNET**

**BNet - Advanced Broadband MANET IP Software Defined Radio (SDR) for air and land applications**

In operations that demand high mobility and connectivity, yet no infrastructure, Rafael’s BNET is the optimal solution.

BNet is a mobile Ad-Hoc Radio communications network for the transmission of reliable digital information at high data rates among a large number of users.

BNet is an integrated C3 system providing position and jam-resistant high-speed Data and Voice (Analogy and VoIP) used for combat communications in a modern battlefield.

Connectivity and Mobility: By integrating BNet-Waveform, BNet SDR equipment offers transverse communications, high data rate transmission on the move and mobility management that greatly improve the connection between the users from HQ to small action units.

**Versatility:** With a scalable capacity of multi-simultaneous channels and embedded routing capability, BNet acts as a communication node. Each channel can be configured and programmed independently according to a majority of missions dedicated to mobile battlefield platforms.

**Flexibility:** Based on an open architecture, compliant with Software Communication Architecture (SCA 2.2) international standard and a powerful programmable hardware platform, BNet ensures enhanced functionality, expandability and waveform portability accommodating future technology or requirements upgrades with ease. This flexibility is improved due to the modular hardware architecture of BNet.

**BNet as a Dual Mode Radio for Ground and Air applications:**

BNet can operate simultaneously in Dual Bands e.g., the UHF for Ground applications using the OFDM type of modulation and the L band using the QPSK modulation for Air applications.

**Connectivity with other networks/BNet as an IP radio**

BNet is designed to support full interoperability with standard IP equipment. The interoperability enables simple integration of multiple networks, allows benefiting from technological advances in general IP market and does not introduce excess complications at the network maintenance level.
ASTRONAUTICS ATACS:

- Astronautics, together with Astronautics Corp. of America subsidiary Kearfott Guidance and Navigation Corporation (KGN), has developed the Automated Tactical Artillery Control System (ATACS) to provide an inexpensive and highly adaptive solution for the upgrade of Self-Propelled and Towed Artillery Guns and Mortars, to enhance their responsiveness and survivability in contemporary and future battlefield environments, comprising full navigation and control capabilities for the individual vehicle.

- The ATACS enables autonomous gun Navigation and Pointing and provides ballistic computation capabilities to enhance weapon operation.

- The System’s Ability to perform rapid changes of position, as well as its high responsiveness, enables the crew to Shoot and Scoot and thus gains the force-multiplier advantage, which is essential for better situational awareness and effective / rapid response, in the modern battlefield.

The ATACS consists of the following main elements:

- Vehicle Reference Unit (VRU) - Kearfott’s MILNAV®, KN-4053, three axis Monolithic Ring Laser Gyro (MRLG). The VRU is a fully integrated inertial navigation unit with an optional GPS receiver, which may either be embedded, or external (PLGR). The VRU is installed on the elevating mass of the Gun and provides a continuous high precision output of position and attitude of the weapon.

- Commander’s Modular Processing, Control & Display Unit (MPCDU). The MPCDU provides overall control, management and fire control computation within the system. It includes an advanced & powerful processor, communication ports, a high brightness/high resolution color Liquid Crystal Display and software programmable keys, to provide a state-of-the-art flexible multi-function computer & tactical display.

- Muzzle Velocity Radar (MVR). The MVR allows real time monitoring of the gun wear effect. Based on the MVR output the MPCDU improves the ballistic computation, in a predictive manner, utilizing proprietary Astronautics algorithm.

ASTRONAUTICS CONTROL & DISPLAY UNITS (CDU’S)

- Field Proven & Fully Ruggedized CDU’s
- Sunlight Readable Displays
- Powerful Processor
- Full Mil-Spec.
- Display: 8.4”, 10.4”, 12.1” and 15” AMLCD (VGA, SVGA, XGA)
- I/O Capabilities: - Serial RS232, RS422, RS485 & CAN BUS
  - Ethernet 10/100/1000Mbps
  - Wireless Port
- Options: - PAL/NTSC Video Input
  - Touch Screen
  - Detachable Ruggedized Large Capacity Storage Device
D. Yoland is a private company established in 1976 and has a vast experience in the production of military textile articles.

D. Yoland is a major parachutes producer in Israel and its parachutes are assembled in munitions that are in service by foreign armies, including the US Army.

YOLAND CORPORATION INC., a small business located in Brooklyn, NY is a subsidiary of D. Yoland. Yoland Corp has the capabilities to produce all type of military textile article. Since 2010 Yoland corp is qualified by the US Army as a parachute manufacturer, and delivered since then hundreds of thousands parachutes for all artillery and mortar illum ammo.

Illumination flares parachutes for:
Artillery, Mortars, Rockets, Grenades, Air delivered

Extraction parachutes
Aircraft deceleration parachutes

Bags for artillery, mortar and tank

Propelling charges (Horse-shoe) made from special fabric:
- 60 mm
- 81 mm
- 120 mm
- 160 mm

Special military and commercial products such as:
- FRBC: Flexible Rotating Band Covers for the M1122/M1123/M1124
- Lifting straps and banderoles
- Body Armor
- Carrier and backpack
- Seat covers for: aircraft, trains and buses
ARTILLERY SYSTEMS

As the premier supplier of artillery and mortar systems to the Israel Defense Forces, Elbit Systems offers towed, tracked and self-propelled guns, as well as a wide range of mortar systems.

The world-renowned 155mm, 52 caliber truck-mounted ATMOS howitzer and the 120mm autonomous soft recoil CARDOM mortar system highlight Elbit Systems’ advanced technology and multidisciplinary capabilities. The efficacy and accuracy of these systems are further enhanced with GPS and laser-guided precision munitions. Elbit Systems' artillery and mortar systems incorporate C4ISR, Fire Control Systems and platform upgrades, and have been successfully deployed around the world.
LAND FORCES

Artillery Fire Power

LYNX
An autonomous, multi-purpose launching system designed to launch various artillery rockets and tactical missiles from 15 km up to 300 km. These include IMI Systems’ ACCULAR guided rocket up to 40 km, EXTRA extended-range rocket up to 150 km and the Predator Hawk precise long-range missile up to 300 km.

Deployed in several armies around the world, LYNX includes an advanced fire control system, INS and C4I for integrated operations. A highly responsive system, LYNX can be ready to fire in less than a minute and be reloaded in less than 10 minutes.

C-LYNX
A lightweight launcher, capable of carrying 4-8 ACCULAR rockets, the C-LYNX can be transported on C-130 (Hercules) aircraft, making it suitable for supporting Special Forces with accurate and effective fire power during an entire operation.

Equipped with advanced navigation and Command & Control systems, the C-LYNX is an autonomous launcher that offers immediate response with significantly accurate fire on demand.

ACCULAR
Developed by IMI Systems based on a unique guidance technology, the ACCULAR assists forces in urban warfare by neutralizing targets in a range of up to 40 km with an accuracy of less than 10 m.

Equipped with an advanced penetrating or controlled fragmentation warhead, the ACCULAR is specially designed to meet today’s battlefield challenges.

EXTRA
The most cost-effective long-range missile in the industry, EXTRA provides precise long-range capability for day or night use in all weather conditions. Has a maximum range of 150 km and a Circular Error of Probability (CEP) of 10 meters.

PREDATOR HAWK
A 300 km range, high precision and maneuverability rocket with an accuracy level of less than 10 meters CEP. Designed to attack high pay-off targets on the entire battlefield.

155mm M454 S-HE
A 155mm Super-High Explosive (S-HE) artillery projectile for use against infantry and light armored vehicles. The Super HE introduces a unique technology and improved warhead which makes it five times more effective than standard HE projectiles.

155mm Accurate Projectile
An IMI Systems’ M401 long-range HE 155mm equipped with BAE’s Silver Bullet 2D fuse. The most cost effective accurate projectile available for 155mm cannon artillery.

UMACS / BMACS
Unique Uni and Bi Modular Artillery Charge Systems designed to replace all existing 155mm artillery bag charges for complete operational flexibility, both are compatible with all 155mm firing systems (39, 45, 52 cal.) and comply with NATO JBMOU. IMI Systems’ UniModular Charge System is the only solution that enables artillery to operate with only one type of modular charge regardless of the cannons they have in their arsenal.
GREEN DRAGON

Compact Tactical Loitering Munition

25 years of In-Service Experience of Loitering Weapon Systems Canister Launched, effective and versatile weapon. Silent, Powered by an electrical motor Electro-optical guidance "Non Line Of Sight" interdiction missions and "Over the Hill" Operations. Endurance, persistent presence over targets, Fast reaction to acquired threats. Man in the Loop (MITL), collateral damage avoidance and battle damage assessment (BDA)

Highlights

• Endurance - 1:30 Hr
• Range - 40 Km
• Weight - 15 Kg Warhead - 3 Kg
• CEP < 1 m
• Velocity - 60 - 110 Knots
LORA
Precision Strike Tactical Missile

A SURFACE - TO - SURFACE PRECISION STRIKE MISSILE SYSTEM FOR LAND & MARITIME FORCES.

LORA is an effective solution for destroying targets deep in enemy territory.
LORA provides outstanding response time and precision at all weather conditions.
LORA has great in flight survivability due to supersonic velocity and shaped trajectory.

<table>
<thead>
<tr>
<th>Operational Requirements</th>
<th>LORA Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Range</td>
<td>Up to 400 km</td>
</tr>
<tr>
<td>Fast Reaction</td>
<td>Minutes from command-to-target hit</td>
</tr>
<tr>
<td>Guidance</td>
<td>GPS/INS</td>
</tr>
<tr>
<td>Penetration</td>
<td>Penetrates fortified targets</td>
</tr>
<tr>
<td>Weight</td>
<td>1600 kg</td>
</tr>
<tr>
<td>Length</td>
<td>5.2 m</td>
</tr>
<tr>
<td>Diameter</td>
<td>0.624 m</td>
</tr>
<tr>
<td>Angle of impact</td>
<td>60 - 90</td>
</tr>
<tr>
<td>Angle of attack</td>
<td>0 + 2</td>
</tr>
<tr>
<td>Compact</td>
<td>4 sealed missiles on a regular 16 ton flat-bed truck</td>
</tr>
<tr>
<td>Targets</td>
<td>Slow movers and stationary</td>
</tr>
<tr>
<td>Maintenance</td>
<td>No missile preventive maintenance (one check each 5 years)</td>
</tr>
<tr>
<td>Reliability</td>
<td>Single stage, solid rocket motor All solid satet electronics All electric drives (no hydraulics) The missile is sealed in its canister</td>
</tr>
</tbody>
</table>
TopGun
The IDF choice for precision

Artillery is a key element to acquiring territory while providing close support to ground forces. Effective over great distances, traditional rounds are not accurate enough, causing significant collateral damage and civilian casualties.

In order to restore the relevancy and force multiplying power of 155 guns in the modern battlefield, Israel Aerospace Industries developed TopGun.

TopGun is a revolutionary, affordable, add-on fuse that screws on to standard 155 rounds. It transforms these standard shells into a precision guided weapon at a fraction of the cost of missiles or other guided systems.

Highly accurate at an affordable price.

Prior to firing, the TopGun fuze is screwed into a standard 155mm round as usual TTP. Then, using a compact hand held device, a precise target point is programmed into the TopGun fuze. Using small wings attached to the fuse, TopGun performs 2D correction of the shell’s ballistic trajectory in flight - significantly reducing the round’s natural dispersion with an accuracy better than 20m CEP at all ranges.

TopGun is easy to use and does not require changes to fire routines or logistic support. A typical soldier can be trained to use it in just a few minutes.

TopGun has already been selected by the IDF and has been proven in engagements around the world.

MAJOR BENEFITS

- Low cost, high performance device
- Turns standard artillery into smart artillery
- Enhances your existing 155 mm shell inventory
- Minimal collateral damage accurate to 10m CEP
- Doesn’t change firing routines or logistics – takes minutes to learn
- GPS guidance, not affected by weather or range limitations
- Reduces logistics requirements
- Returns the force multiplying power of artillery

The IDF choice for precision

Land Forces • Artillery
**MOST POPULAR ELECTRONIC FUZES**

**RELIABLE, SAFE AND ACCURATE - RESHEF'S ELECTRONIC FUZES DELIVER TOP PERFORMANCE**

*Reshef* offers experience and leading edge know-how in development and production of latest-generation electronic fuzes for all types of Mortar bombs, Artillery projectiles, Tank rounds and Artillery Rockets.

*Reshef’s* modern facilities and production techniques assure effective implementation of the company's comprehensive R&D experience to match customer demands. Broad and multidisciplinary capabilities enable Reshef to meet every special requirement.

All the fuzes are qualified for safety and environmental conditions, according to the Military Standards (MIL-STD and STANAG).

<table>
<thead>
<tr>
<th>THETA M788</th>
<th>LAMBDA M760</th>
<th>OMICRON M180</th>
<th>ZETA M138</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dual-option Electronic Proximity fuze for Mortar bombs, with a Point-Detonating (PD) mode by selection or as a backup. Dual safe without safety pull-wire.</td>
<td>Highly accurate Electronic Time (ET) fuze for Mortar bombs, dual safe without safety pull-wire.</td>
<td>Time gated Electronic Proximity fuze based on FMCW RF Sensor.</td>
<td>Highly accurate Electronic Time (ET) fuze for Artillery projectiles. Accuracy better than 0.1 sec over entire time-set range of 200 sec.</td>
</tr>
<tr>
<td>Compatible with 60mm, 81mm, 82mm &amp; 120mm Mortar bombs, HE &amp; WP smoke types, all charges and all muzzle &amp; terminal velocities.</td>
<td>Compatible with 60mm, 81mm, 82mm &amp; 120mm Mortar bombs, illumination, smoke &amp; cargo types.</td>
<td>Compatible with all types of HE &amp; WP Artillery projectiles of 105mm, 155mm &amp; 203mm (8”) Howitzer and 130mm &amp; 175mm Field Gun projectiles.</td>
<td>Compatible with 105mm, 155mm &amp; 203mm (8”) Howitzer ammunition and 130mm &amp; 175mm Field Gun projectiles. Produced in both expelling and detonating modes.</td>
</tr>
</tbody>
</table>
SPIKE FAMILY

The SPIKE Family consists of missiles suited for land, air and sea platforms, multiple ranges and a variety of targets. The missiles in this family have sophisticated electro-optic CCD or IIR sensors for day/night all-weather operation, as well as a tandem warhead. Their lofted trajectories enable the warhead to strike the target at its most vulnerable location with pinpoint precision. All of the SPIKE Family members have a low life-cycle cost, due to high reliability and operational, logistic support and production commonality between members.

The newest member of the SPIKE Family, SPIKE LR 2: A new 5th generation variant of the SPIKE Family that can be fired from vehicles, helicopters, ships, and ground launchers.

SPIKE LR 2 is an advanced multipurpose missile, weighing only 12.7 kg, designed for modern warfare with almost full commonality to the SPIKE Missile legacy and can be launched from any SPIKE Launcher.

For increased lethality, SPIKE LR 2 includes two unique state-of-the-art advanced and highly capable warhead configurations: a Tandem HEAT warhead configuration, enhancing armor penetration capability by more than 30%, and a new multipurpose blast warhead, which includes controlled fusing (by the gunner) for control of the desired effect.

SPIKE LR 2 has a range of 5.5 km when fired from ground launchers (an increase of more than 35% above the 4 km range of the original SPIKE LR) and up to 10 km when...
fired from a helicopter, using alternative option of RF Data link. The SPIKE LR 2 has a modern electro-optical seeker which includes a high quality un-cooled IR sensor and an advanced high definition color day sensor. The new seeker includes capabilities of a smart target tracker with AI features.

**Artificial Intelligence.** SPIKE LR 2 was designed against new modern targets with low signature, time-sensitive, as well as various types of advanced armor and protection systems. To counter this SPIKE LR 2 includes an embedded IMU (Inertial Measurement Unit) for missions of third party-target allocation, allowing the firing of the missile to grid target coordinates.

**SPIKE NLOS - Rafael's ultra-long range, High-Impact SPIKE Missile**

SPIKE NLOS is an electro-optically guided multipurpose missile for ranges of up to 30 km with pinpoint accuracy and midcourse navigation. The weapon system can be launched from land, air and naval platforms. Equipped with a variety of warheads, a wireless data link to the missile, unique advantages of hitting Non-Line Of Sight (NLOS) targets and the ability to switch between targets and abort missions, SPIKE NLOS can be operated in both offensive and defensive scenarios. In addition to attacking hidden targets, SPIKE NLOS can provide real-time tactical intelligence and damage assessment. SPIKE NLOS is designed to be integrated into the modern battle arena and can receive target location from an embedded TAS system, external sensors, C4I center or UAVs.

Featuring day/night all-weather target engagement capability, SPIKE NLOS is the ideal solution for urban, anti-armor and high-intensity combat, as well as asymmetric conflicts and stand-off missions (small group, remote/special operations). With high reliability and ease of use, SPIKE NLOS delivers maximum operational flexibility with minimal life-cycle cost.

**SPIKE-LR reliability and ease of use, delivers maximum operational flexibility**

SPIKE-LR is a lightweight, 4th generation, man-portable missile system. High hit probability against stationary and moving targets is provided by a state-of-the-art CCD / IIR seeker, advanced tracker and precision guidance system. SPIKE-LR delivers maximum performance for urban combat, traditional battlefields, ground support and special missions. SPIKE-LR has Fire and Forget and Fire capability and can engage targets at up to 4 km and can be fired from an enclosure.

SPIKE-LR features a fiber optic data communication link that provides the gunner with the unique ability to attack hidden targets, update or switch to a more valuable target after launch, achieve pinpoint precision, avoid friendly fire, conduct surveillance/damage assessment, and obtain real-time tactical intelligence. SPIKE-LR offers many benefits, including high survivability, pinpoint accuracy and low life-cycle costs.

**The SPIKE-ER is an extended-range, multi-purpose anti-armor missile system** designed for mounting on various platforms, including helicopters, fast boats and combat vehicles. It can also be dismounted to a ground position and fitted onto a tripod. Spike-ER is capable of defeating tanks at a range of up to 8 kilometers.

Spike-ER features a day or day/night seeker, tandem warhead, and retains the dual operation modes of Spike - Fire-and-Forget, as well as Fire-and-Observe and Update. This enables the gunner to switch between targets after launch, avoid friendly fire, conduct surveillance/
SPIKE FAMILY

damage assessment and attack hidden targets. Spike -ER additionally features a Fire and Steer mode, in which the gunner can launch the missile without pre-locking onto the target and manually steer it to the target (LOAL). Spike-ER can be equipped with a variety of warheads for a broad range of combat scenarios including urban settings, anti-terror missions and low-intensity conflicts. The compact system includes the Spike-ER missile in its canister, the Command Launch Unit (CLU), a thermal sight and the Spike-ER launcher.

SPIKE-SR (Short Range) - Man portable, Multi-purpose Electro-optical Guided Missile System

SPIKE-SR is especially designed for the infantry combatant. SPIKE-SR can be operated under all-weather conditions, on all terrain types, including populated urban areas and densely forested areas. It is adaptable to various levels of conflict in various environments.

SPIKE-SR engages the enemy by means of fire and maneuver. SPIKE-SR allows the infantry combatant to use their initiative and make quick decisions in order to take advantage of targets and of opportunity. SPIKE-SR’s rigid design and operation simplicity grants the infantry combatant a versatile tactical weapon, which is essential in today’s variety of missions. High hit probability against stationary and moving targets is achieved by means of a body-fixed, un-cooled electro-optical IIR seeker and advanced tracker.

SPIKE-SR operates in Fire & Forget mode; enabling autonomous engagement of targets up to 1500 meters.
MIFRAM DRY STORAGE SYSTEMS AND BUILDINGS

Save Time, Save Money and Stay Operation Ready!

Mifram Ltd's dry storage buildings were developed to protect military and commercial equipment and vehicles from humidity and corrosion damage in order to maintain their operational readiness. Mifram, as other professionals in the security and protection field, knows that even equipment that remains in working order needs to be evaluated on a regular basis to determine if its level of protection and overall capabilities stand up to the ever changing and increasing challenges of the next operation. If not, ideally that equipment is upgraded or replaced. However, in many other cases, Dry Storage is the solution for equipment, vehicles and machinery that do fit operational need but without protection from the elements may not be ready at the critical moments. Mifram's dry storage solutions can help answer this need.

Dry Storage Facilities Applicability
Dray Storage sheds and buildings can accommodate all types of equipment that may be needed on immediate notice. Examples include: Tanks • Mobile Canons • Radar Weapons • APVS • Missiles • Optical Electronics • Munitions

By using Mifram Dry Storage you can reduce your maintenance costs by approximately 60% as equipment can be stored for up to 2 years without the periodic maintenance required in standard non dry storage facilities. Added benefits in addition to improved readiness, include longer overall life span of the equipment.

Principles of Mifram Dry Storage
Customized dry storage sheds become fully enclosing barriers built to dramatically reduce the level of humidity and dirt from reaching the stored equipment. Temperatures are controlled by a sophisticated insulation system as well as the installation of dehumidifiers that can keep humidity levels under 35% RH. This means equipment and goods remain much closer to their original condition when they were first stored.

Additional Available Monitoring Devices
Fire Detection • Intrusion Detection • Hydrogen Level

Itemized Additional Benefits
Keeps Machinery Clean, Preserves Paint • Protects rubber parts and maintains vehicle disc brakes • Ozone fresh air and oxygen and moisture are reduced or eliminated from the environment

Dry Storage Sheds Needed When:
• Machinery is exposed to moisture during storage
• Machinery must remain clean and operation ready
• Corrosion needs to be reduced on vehicles and machinery

The Mifram Group:
for over 40 years Mifram has been developing simple to use and cost effective, efficient engineering solutions to meet the worlds ever changing security challenges. Solutions are developed to the clients individual needs in a cost effective manner.

Learn more how you can begin maintaining your equipment in working condition and stay ready for operations by calling Mifram ltd today.
IMCO

“A Sterling Reputation
is the Best Recommendation”

IMCO Industries Ltd. (TASE: IMCO), and its subsidiaries Advanced Defense Technologies Inc. (ADT) in Baltimore, USA, Atena Ltd. and Nir-Or (Israel) Ltd. in Israel provide a full line of military and commercial electrical harnesses, control boxes, assemblies and electromechanical devices to the global defense and aerospace markets. Imco Group is a market leader in military and commercial applications, ranging from airborne, missiles, naval, ground vehicles and UAV to custom and off-the-shelf commercial systems for automotive, medical and industrial markets.

Imco's top-level manufacturing teams continue to provide reliable industry-leading electrical harnesses and a variety of electromechanical devices for customers in the defense industry:

- **Airborne Products and Systems:** Aircraft and helicopters systems such as Nomex® coated cable harnesses, control boxes (including illuminated panels), power boxes, pilot sticks and throttles, PITOT tubes, fuse boxes, contactor boxes, thermocouples for jet engines and test equipment for airborne fuel systems and drop tank universal testing apparatus.

- **Missiles and Unmanned Aerial Vehicles (UAV):** Test equipment, control systems and cable harnesses for missile launchers, special harnesses, gimbals, control boxes, relay boxes and fuse boxes.

- **Land Systems (Battle Tanks, Combat and Armored Vehicles, Artillery Systems, Tracked and Wheeled Vehicles, Combat Engineering, Mine Clearance Equipment):** Automotive control and electrical systems, including: cable harnesses, driver and commander control panels, tank commander and gunner turret control handles, smoke grenade launching (SGL) systems, slip rings, front LED headlamps and rugged, military-grade cabin LED lighting systems for battle tanks and armored personnel carriers (APC), tactical LED lighting systems inside and outside of vehicle with blackout function and low-battery indication as well as control boxes for heating, ventilation - and air-conditioning (HVAC) systems.

- **Naval applications:** Electrical harnesses, electromechanical and electronic boxes, as well as LED Lights for submarines, OPVs, Corvettes and Frigates.

With manufacturing capability on two continents, the company is well positioned to respond quickly to customer requirements. Designed-in flexibility allows rapid product customization to meet specific customer requirements.

All Imco facilities are ISO 9001:2008 certified. Imco complies with IPC-WHMA-A-620, AS-9100 and US MIL-STD requirements. Our design, manufacturing and quality assurance functions are integrated under Imco’s global organization, ensuring our customers a fast time-to-market with our products.
VEHICLES ARMORING & PATENTED SPECIAL PERSONAL UNIVERSAL ARMORING KIT FOR PASSENGERS INSIDE SOFT VEHICLES

TOP CAR ARMORING Ltd. specializes in vehicle armoring and is a manufacturer of civilian type armored vehicles. Such armored vehicles as SUV, sedans, commercial vehicles, VIP cars, pick-ups, trucks, buses and vans.

TOP CAR ARMORING has certified QMS ISO 9001: 2008 the standards institutions of Israel. The company is an official supplier of the Israeli MOD (Number: 0011008980) and the company has the Israeli ministry of transportation approval for armoring cars. The founder of Top Car Ltd. is in this business for over 30 years and has armored hundreds of cars for governments, security companies, police forces, embassies and VIPs in countries all around the world.

TOP CAR ARMORING has developed the most advanced car armoring technologies.

TOP CAR ARMORING is a company with the most advanced know-how and experience in armoring of passengers cars with High-Tech and Light Weight composite armor materials, (more protection and survivability) and supplies all international markets.

TOP CAR ARMORING has unique knowledge and experience on international standards (USA, Europe and Israel) including extensive knowledge in producing materials to get the best ballistic solution.
HBA SYSTEMS INTEGRATORS

High-Tech solutions for Defense Industries

A professional team of veterans from the Israeli IDF Special Forces and Police Special units, experts in the field of homeland security and anti-terror, with 30 years’ experience and exceptional achievements. The company specializes in providing full security solutions for governmental and private sectors worldwide.

Robotics & E.O.D.
Management and supply of EOD robot fleets, bomb technicians’ units and EOD equipment with advanced and diverse deployment.

Disrupters and binary explosives - The Perfect solution for bomb disposal operations and explosions in safe environment and transportation.

Electronic initiation systems - Complete, safe and cost effective initiation systems for long/short range which can be used in a wide range of applications: civil, military, EOD, off/on shore.

Training & Simulation
Designated anti-terror training & unique counter measures:
- Tactical ammunition for training
- Equipment, non-lethal weapons and ammunition for riot control
- Advanced multi magazine shot gun for counter terrorism use

Maritime Division
HBA’s Maritime division provides a comprehensive solution for subsea and maritime environments including port security and cargo profiling, underwater vehicles, autonomous vehicles, tailor made vehicles, sensors and integrations. HBA provides turnkey solutions to customers undertaking a variety of tasks for ocean research, monitoring, fishing, Oil & Gas, government & security, search & recovery applications. The ROV, AUV can carry an array of sensors and custom payload modules that make it perfect for any research, monitoring or surveillance task where autonomy, cost and ease of deployment matters. Its modular design allows for rapid sensor reconfiguration and battery replacement.
Karil International is a member of the Mistral Group; a team of independent companies, each operating in different markets worldwide, while collectively sharing the mission of Bridging Strategic gaps in defense and law enforcement markets with practical and innovative technology. Our trusted relationships allow us to connect our customers’ operational needs to our world’s most advanced technologies.

Karil’s activities are in the fields of Tactical ground platforms, C4ISR, Dismounted Soldier, Combat Engineering EOD. Karil also offers products in the fields of Underwater Navigation Systems, Omni-Vision Systems, Wet Chemistry Detection Solutions and Blast Containment Vessels.
Quadro is a part of selected group of Israeli companies which are authorized by the Israeli "MOD" (Israeli Ministry of Defense) - "MOD" No. 83924941 & 39170621, “Sibat” No. 100-62814. To operate world wide (In Israel and around the Globe) in the field of:

**Humanitarian Mine Clearance & UXO Disposal Projects/Operations.**

**Humanitarian Mine Clearance & EOD/UXOD,IEOD UXO Projects/Operations.**

**EOD - Explosives Ordinance Disposal.**

**IEOD - Improvised Explosives Ordinance Disposal.**

**UXOD - Un Exploded Ordinance Disposal.**

**IEDD - Improvised Explosive Devices Disposal.**

WHO ARE WE?

Our Team consists group of former senior Officers and NCO’s from the Corps of Combat Engineers/I.D.F (Israel Defense Forces) with De-Mining and EOD background. These Experts are backed by many years of extensive field experience, and have retained strong links with the Mine Clearance and the EOD communities. In addition we are updated with the latest developments in those highly specialized fields.

We have a list of authorized and dedicated Personnel for International Mine Clearance and UXO disposal Projects.

WHAT DO WE DO?

- Consulting services for mine clearance and UXO disposal.
- Planning and Implementation of Technical survey in contaminated arenas.
- Global humanitarian de-mining projects.
- Disposal of unexploded ordnance.
- Disposal of dangerous war remnants in urban zones.
- Treatment/handling of dangerous materials (Chemical and others).
- Inspection of Vessels for “Non Explosive” load (Ammunition verification).
- Disposal of classified material (For governmental organizations/offices).
- Blasting services (including planning) for Implosion of Bridges and Buildings.
- Blasting services for Infrastructure & construction projects such as roads, airfields and tunnels.
- Designing & manufacture/production of instruction auxiliaries, Cross sections & models.
- Training - establishment of de-mining & UXO centers/school.
- Mine & explosives detection dogs services.
- Educating communities - awareness teams.
- Assistance to victims - medical centers & rehabilitation.
- Supervision/inspection & quality control for de-mining/EOD projects.
- Environmental consulting services.
- Breaching technologies/techniques.
**EOD (Explosive Ordinance Disposal) Capabilities**

- Transportation.
- Disassembly.
- Destruction techniques.
  (Explosion Burning, Plasma, Crushing, Grinding).
- Burning Disposal.
  ("Red Termite" special Powder... and more).
- Design and Manufacture of Instruction Auxiliaries and Cross Sections.
Quadro Projects & Technologies Ltd.

Disposal of Dangerous War Remnants Division

Mine Clearance Capabilities & Techniques

- Manual Technique.
- Mechanical Technique/Technology.
- Dogs Technique.
- Destruction Techniques.
  (Burning, Explosion, Crushing/Grinding).
Mine Clearance & EOD - R & D (Research & Development)

- EDS - Explosive Destruction Systems
- CCAS - Cleaning Contaminated Areas Solutions
- CMAT - Crossing Mined Areas Technologies
- DMTS - Dangerous Material Treatment Systems
- BTUZ - Breaching Techniques in Urban Zones

Breaching in Urban Zones - Technologies, Techniques and Training

I E O D  Capabilities
(Integration with/in Swat Teams)
- Hot Breaching Technologies.
- Cold Breaching Technologies.
- Training - Courses/Seminars (from 1 week to 6 weeks for all levels).
CARPET - Minefield Clearing and IED Neutralization/Detonation System

Carpet is a modern minefield clearing and IED neutralization system that can clear a path of 100 meters in a minefield with high mine clearance efficiency and can neutralize all types of IED’s. The system is operated by two members of the vehicle crew from inside the crew compartment in order to achieve maximum protection. The Carpet system consists of a launcher that contains 20 rockets equipped with FAE (Fuel-Air-Explosive) warheads. The launcher is an autonomous add-on kit that can be assembled easily and quickly in the field onto any main battle vehicle or suitable military vehicle. The system is self-contained, with no hydraulic power required from the host vehicle. The system needs only 24V-28V power. The Carpet is the most efficient system in the world for minefield clearing and IED neutralization/detonation in any terrain and in all weather conditions, while maintaining crew safety.

Operational Characteristics:
• Main Control Unit (MCU) controls firing and testing from within the cabin.
• Cleared path marked with rocket fins.
• No prior operation is required.
• Takes only one minute to complete the mission.
• Quick reloading in battlefield conditions.
• Crew practice enabled with training rockets.
SANSOLO
Life-saving tactical IEDD solutions for bomb technicians

SANSOLO develops and manufactures innovative tactical EOD / IEDD products, operationally used worldwide.

The company specializes in creating new types of tools and methods helping professionals, under stressful combat conditions. Sansolo field-proven products provides operational convenience and multipurpose use, in a miniaturized, reliable tool sets designed especially for combatants, bomb disposal professionals, police SWAT units and military special forces.

MAIN PRODUCTS:

- Bomb Disposal (EOD / IEDD)
- Offensive Demolition
- Combat Pyrotechnics
- Unique Tactical Marking Products

THE COMPANY ALSO SUPPLIES CONSULTING SERVICES.
Arie Sansolo, the company founder and CEO has 25 years of operational experience in Israeli Special Forces and anti-terrorist units.
ENERGY SYSTEMS FOR MILITARY POSTS, ARMORED VEHICLES, COMMUNICATIONS AND SENSORS

Epsilor develops and manufactures high-density rechargeable batteries, smart chargers, energy storage systems and power management solutions that keep combat forces empowered and combat ready.

Vehicular Energy Storage Systems:
- Ultra-high capacity batteries (Li-ion / LiFePO4)
- Li-ion NATO Standard 6T vehicle batteries (replacing Lead Acid batteries)
- High voltage large format main and starter batteries for hybrid armored vehicles
- Quadruple silent watch endurance, longer life cycle, maintenance free

Power Management for Dismounted Forces:
- Lighten load, extend mission endurance
- High density standard Li-ion batteries (BB-2590/U; MR-2791 etc.)
- Wearable power and data solutions: conformal, safe, high density batteries and interconnected
- Improved energy logistics: ruggedized, deployable, multi-channel chargers

Customized Energy Storage Solutions:
- Advanced energy solutions for C4ISR, tactical unmanned systems, guided missile etc.
- Customization for: form factor, extended shelf life, extreme environmental conditions (altitude, temperatures), safety standards etc.

As a world leader in the development and production of rechargeable energy storage systems Epsilor provides standard and customized rechargeable batteries and energy storage and power management solutions for military, aerospace and marine applications.
GROUND INTELLIGENCE AND EW SOLUTIONS

Situational Awareness, Targeting and Survivability on the Ground

Highly advanced, interoperable and operational COMINT, COMJAM, ELINT, ECM, Radars and Command and Control wide ranged systems, Elbit Systems EW and SIGINT - Elisra’s ground-based solutions thoroughly address the complex and evolving challenges of the modern electromagnetic battlespace. Enhanced by years of sophisticated responses to clients’ needs, the systems meet the full range of operational EW demands and required performance of multiple military and HLS missions. They successfully handle a variety of threats, using advanced capabilities such as highly advanced intelligence collection systems for tactical radios, cellular and satellite communications, cellular blocking, tracking and locating surveillance radars and more.

The logo, brand, product, service, and process names appearing herein are the trademarks or service marks of Elbit Systems Ltd., its affiliated companies or, where applicable, of other respective holders.
HIGHLY ADVANCED, FULLY INTEGRATED ESM/ELINT, COMINT, ECM, COMJAM AND COMMAND AND CONTROL SYSTEM FOR ALL OPERATIONAL EW DEMANDS, OUR IEWS SOLUTION ENABLES PASSIVE AND ACTIVE INTELLIGENCE, INCLUDING COLLECTION, PROCESSING AND EXPLOITATION, EW COUNTERMEASURES AND COMMAND AND CONTROL, ALL-IN-ONE COMPREHENSIVE, INTEGRATABLE AND CUSTOMIZABLE SYSTEM. PROVIDING DECISION-MAKERS WITH A COMPLETE, REAL-TIME SIGINT AND EW PICTURE OF THE ARENA, POWERFULLY RESPONDING TO EXISTING AND EMERGING THREATS FROM AIRBORNE, NAVAL AND GROUND PLATFORMS, ENABLING REAL-TIME SITUATIONAL AWARENESS AND SIMULTANEOUS OPERATION OF ELEMENTS FOR ELECTRONIC SUPPORT (ES) AND ELECTRONIC ATTACK (EA).
Target Acquisition and Cueing System
ELI-3312
The ELI-3312 family is a compact target acquisition sensor suite for target acquisition and cueing, designed to be installed on light to heavy Remote Weapon Systems (RWS) and Main Battle Tanks (MBT). ELTA's unique technology combines the capabilities of two main sensors into a single sensor suite: a Ground Surveillance Radar for immediately detecting and identifying and an embedded Electro-Optical sensor.

Othello
ELO-5220
The ELO-5220 OTHELLO is a passive Optical Fire Locator, which detects and precisely locates sources of hostile fire in the battlefield. OTHELLO detects the launch of Anti-Tank Guided Missiles (ATGMs), Rocket Propelled Grenades (RPGs), cannon fire and gunfire. OTHELLO detects the hostile fire source location, provides precise bearing (azimuth and elevation) to the fire source, and indicates the launch timing and threat classification.

Persistent Surveillance Radar Family
ELM-2112
The ELM-2112 is a new family of advanced high resolution radars with unique and outstanding capabilities. Featuring simultaneous multi-beam technology, the radar provides persistent surveillance and instantaneous target detection and tracking. The radars are designed for ground and sea surface surveillance. The radars feature up to 4 stationary planar antennas, covering a sector of 90°, and enabling a 360° instantaneous coverage. The radars cover detection ranges up to 22 Km for a person or rubber boat and up to 44 Km for a moving vehicle or sailboat.

Green Rock Tactical C-RAM system
ELM-2138M
The Green Rock is a mobile autonomous tactical Counter Rockets, Artillery & Mortars (C-RAM) radar system. The Green Rock is designed to support a variety of ground force protection missions, including fire source location, friendly forces warning, friendly fire correction and low RCS & slow flying airborne targets (such as UAVs, gliders and hovering platforms) detection. The system's mission is to locate fire squad positions, distribute selective warning alarms and enable an effective fire response. The Green Rock system can be installed on various mobile or stationary platforms such as APC, HMMWV, ATV, etc. It includes a phased array pulse Doppler radar which acquires and tracks trajectories of ballistic munitions, such as rockets, artillery and mortars, calculates the launching point and predicts the impact location.
Company Profile
Since 1996, Phantom Technologies Ltd. has specialized in developing and manufacturing special Jamming systems for both cellular and RF communication bands. Phantom Technologies Ltd. employs a highly skilled and qualified R&D team to engineer high-end jammers, using the most advanced components available.
We design custom jamming systems and supply to the I.D.F, special police forces, prison authorities, special protection groups, elite units, VIP protection, local authorities etc. Our customers highly value the reliability and quality of our products.
Phantom Technologies Ltd. provides excellent post-sale technical support and provides a full 12-month warranty on all products.

Our main solutions include:
- Cell Phone Jammers
- RF Communication Jammers
- RF Components (Power Amplifiers and antennas)
- Counter Surveillance Equipment
Drone Detection and Jamming system
Combined RF and Radar detection system enables the system to detect and jam drones even as far as 4km. The system disables drones and causes them to drop to the ground.

Convoy Jammers
Provide a unique jamming solution for militaries and VIP’s alike. The convoy jammers protect against IED’s and other types of harmful communications. Jamming suite can be adjusted to various form factors as well as different RF environments.

IED Jammers
Phantom develops multiple types of IED’s jammers which are ideally suited for military operations in tough environmental conditions. Phantom’s IED jammers comes in various form factors and enables military units to enjoy protection from remote controlled or cellular device triggered IED’s.
WORLD LEADING PROVIDER OF SENSE THROUGH THE WALL (STTW) SOLUTIONS

A MEMBER OF SK GROUP

Founded in 2004, Camero, an SK Group member, is a world leader in the development and manufacturing of “Sense through the wall” imaging systems. Camero’s solutions provide real-time information on multiple stationary and moving objects concealed behind walls and barriers - providing operators with unprecedented situational awareness and operational advantage, utilizing unique pulsed based UWB micro-power radar technology. Camero’s life-saving through the wall imaging systems have become the solution of choice for top military and law enforcement agencies and Search and Rescue teams throughout the world and have been successfully operationally deployed in more than 40 countries worldwide.

Xaver™ 100

The Xaver™ 100 is an ultra-portable, handheld and durable presence of life detector.

The Xaver™ 100 provides military, law enforcement and Search & Rescue personnel critical information in real-time about the presence of life and its distance behind a wall, enabling better tactical decision making in various operational scenarios.

Xaver™ 400

The Xaver™ 400 is a compact Radar based device, optimized for quick tactical decision making in urban operations. It provides real-time mission-critical information on live and static objects hidden behind walls and barriers, including:

- Presence of life in the room
- Number of people and their location inside a room
- Tracking of target movement patterns
- Room general layout, including dimensions and major infrastructure elements.

The Xaver™ 400 has been widely deployed by leading military and law enforcement users worldwide.

Xaver™ 800

The Xaver™ 800 is a full 3-Dimensional, Intelligence, Surveillance, and Reconnaissance (ISR) device, optimized for gathering mission-critical, accurate real-time information on live and static objects. The Xaver™ 800 creates an unprecedented situational awareness picture, providing a clear operational advantage and the ability to “step into the known”. The Xaver™ 800 has been deployed by users worldwide.

XAXER NET™

The XaverNet™ system is a remote wireless ToughPad that works in combination with Xaver™ 100 and Xaver™ 400 systems. It enables the user to receive real-time visual data and fully control remotely up to four Xaver systems simultaneously.

Camero-Tech Ltd is a member of SK Group, a leading global defense and security group of companies comprising - IWI (Israel weapon industries), Meprolight Ltd. (electro-optic systems, lasers and night vision systems), Israel Shipyards Ltd. (Ship manufacturing and repair), Uni-scope Ltd. (Optical periscopes) and more.
Meprolight (1990) LTD, an SK Group member, is a leading electro-optics company founded in 1990 and headquartered in Israel. Meprolight addresses the needs of the military, law enforcement and civilian communities for innovative and reliable day and night sights and devices, as well as thermal and self-illuminated tritium products.

Meprolight designs, manufactures and markets a wide array of combat-proven products and solutions:

- **Optical** - electro-optical and optical sights and devices.
- **Night vision** - night vision sights and observation systems.
- **Thermal** - uncooled thermal weapon sights.
- **Tritium** - a variety of self-illuminated night tritium sights and other tritium products.
- **LRF** - a wide range of innovative Laser Rangefinders, hand-held rangefinders and fire control systems.

Meprolight is regarded as one of very few manufacturers in the world that can provide such comprehensive solutions. Meprolight maintains contacts with many defense establishments, meeting the special needs of armed forces in different battle scenarios.

All of Meprolight’s products undergo meticulous quality assurance according to international standards. The company is certified ISO 9001:2008, ISO 18001 (2007) and ISO 14001 (2004) complying with NATO and US military specifications and International MIL standards. State-of-the-art technology combined with high reliability and simplicity of use has made Meprolight the vendor of choice among military forces, law enforcement agencies, defense agencies and weapon manufacturers.
LAND FORCES

Infantry Fire Power

GMM120
A 120mm GPS guided mortar bomb designed for engaging and defeating personnel inside buildings, in LAVs or out in the open. The mortar bomb has a CEP of 10 m, an increased range of 7 to 9 km and is suitable for firing from any 120mm smooth bore mortar.

MPRS
The Multi-Purpose Rifle System (MPRS), also known as TALON, is a powerful force-multiplier for the modern and future infantry warrior, enabling improved lethality, incapacitation and target suppression effectiveness through the use of advanced 40mm multi-purpose, airburst grenades.

In AB mode, the appropriate elevation is transferred to the grenade’s fuze while the grenade is still in the launcher. In Time Delay (TD) mode, the fuze can be set to explode at a preset delay after impact, enabling engagement of soft targets such as a window. MPRS can be integrated on a wide range of assault weapons and multiple grenade launchers.

BREACHING FRAME
Pyrotechnic Breaching Device
A remotely-activated pyrotechnic breaching device designed to create a passageway for military and law enforcement personnel. Available in various grain sizes, the Breaching Frame comprises an initiator, flexible transfer cord and detonator, and can integrate with IMI Systems’ MATCHBOX electronic time initiator. It is available in 3 attachment formats: telescoping pole, magnetic tape and double-sided tape.

MATCHBOX
Electronic Time Initiator
An innovative electronic time initiator designed to detonate explosives from a safe distance that incorporates an electronic S&A which meets MIL-STD 1316 and guarantees fail-safe logic. Its accurate detonation time is achieved using 2 independent digital timers, and all safety functions are checked by automatic BIT during power up.

WAVE Systems
Family of Remote Controlled Weapon Station
A family of state of the art, combat-proven, fully stabilized RCWSs developed by IMI Systems to answer modern battlefield challenges and provide a complete solution for targeting and weapon handling from within a protected position.

WAVE’s unique systems feature stabilization, target tracking and image processing which greatly enhance crew and gunner capability to acquire targets and improve hit probability night and day, static or on the move.

With its compact, lightweight, low profile design every member of IMI’s RCWS WAVE family - WAVE 23, WAVE 200, WAVE 300, WAVE 400 - can be easily installed on all types of combat vehicles, marine vessels and platforms, as well as on static posts.
HAND GRENADE IM SAFE & ARM MECHANISM

The world’s first and only Insensitive Munition (IM) safe & arm mechanism for hand grenades that prevents detonation if the grenade is hit by bullets or set alight. Designed for use in any existing hand grenade, the IM S&A mechanism provides enhanced safety and reliability. Ensuring size, capabilities and lethality equivalent to standard variants, the mechanism complies with the latest safety requirements for IM, in accordance with MIL-STD 2105: up to 0.5” bullet impact, fast cook-off / slow cook-off and sympathetic detonation.

Foot Bridging for Infantry troops

IMI Systems’ personnel bridging solutions enable fully equipped infantry to cross wet or dry obstacles up to 50 meters long, and includes the following:

- **SPB (Sectional Personnel Bridge)**
  A combat proven, lightweight aluminum alloy, tactical, man-portable Sectional Personnel Bridge, the SPB is operationally deployed and combat proven by the United States Marine Corps (USMC) in Afghanistan. The SPB foot bridge crosses dry gaps up to 35m with no intermediate support and wet gap employment over 50m with floats every 20m (anchoring as required). No equipment or personnel required on the far bank, no special equipment or tools are required.

  The SPB can rapidly emplaced (36m in less than 10 minutes) with launch & retrieval from either bank and each of its section is 4 m long, weighs 42 kg and can be carried by two soldiers.

- **FMAB -**
  This light, modular and rapidly deployed Foot Mobile Assault Bridge for infantry troops is a variant of the SPB and is deployed and combat proven by the U.S. Marines Corps (NSN 5420-01-580-5748 FMAB). The United States DoD Defense Contract Management Agency (DCMA) awarded IMI for the its outstanding industry partnership in producing the FMAB, a variant of the SPB, for the USMC.

**Urban POMINS**

**Portable Mine & IED Neutralization System**

Rocket launched grenade chain for destruction of wire fences, barriers and Improved Explosive Devices (IED) in open & urban scenarios.

- Produces shock wave and fragmentation
- Fully deployed grenade chain Length - 25m
- Highest point in flight - 4m
- Carried and operated by two soldiers
The SK Group is a privately held technology and innovation holding company specializing in global frontline defense, and para-military solutions, marine infrastructures and property development. With a history of research, development and manufacturing spanning over 80 years, SK Group provides small arm systems, electro-optic and laser solutions, imaging systems, naval solutions and more. Drawing on Israel’s innovation and field-proven solutions, SK’s companies offer a powerful track-record of technology, experience and excellence.

SK Group teams work synergistically to deploy future-ready R&D, manufacturing and project facilitation through cross-group system developments. Joint defense expertise and a commitment to lifetime partnerships with security forces worldwide have generated powerful products and infrastructures that equip customers with strategic and tactical mission success.

Today, the SK Group addresses battlefield, border and urban frontlines, forming a foundation for a roadmap that is steadily progressing across the 5D defense universe.

All SK Group systems are in compliance with the most stringent military (MIL-STD) and ISO 9000 standards applied by the IDF.

**SK Group Members:**

- **Israel Weapon Industries (IWI)** is a leading global manufacturer of innovative small arm systems for over 80 years. IWI designs and develops technologically advanced systems for military, homeland security and commercial agencies worldwide.

- **Meprolight** is a global force in electro-optics for infantry, military and law enforcement agencies and civilian sectors. Meprolight’s comprehensive solutions sport electro-optical and optical sights and devices, night vision devices, thermal sights, laser rangefinders, hand-held rangefinders, fire control systems and other tritium illuminated products.

- **Israel Shipyards Ltd. (ISL)** is a complete maritime facility serving Naval and commercial marine industries and one of the largest privately owned shipbuilding facilities in Eastern Mediterranean sea.

- **Israel Shipyards Port (ISP)** was established in 2008 as a standalone subsidiary of Israel Shipyard services, heralding the first private seaport in Israel.

- **Camero-Tech Ltd.**, founded in 2004, is a world leading pioneer in Sense-Through-The-Wall (STTW) solutions that deliver real time situational awareness of objects concealed behind walls.

- **Uni-Scope Optical Systems**, Ltd. (U.O.S.) produces glass and acrylic periscopes, light handheld periscopes, laminated armored glass, vision blocks, riflescopes, binoculars, long range observation systems, torch lights, tripods and optical components.
Contact International Ltd. is one of the leading companies in Israel, operational since 1979 and specializing in military surplus and new firearms, ammunition and military equipment with a worldwide clientele and an excellent reputation.

The company specializes in military surplus firearms which include: pistols and revolvers, assault and sniper rifles, sub-machine guns, heavy machine guns, shoulder fired rocket launchers and more. We are able to provide firearms of almost all models, from antique to the most modern, both Western and former Eastern bloc types.

Contact International Ltd. provides ammunition in all calibers, both NATO and non-NATO, surplus and new production. The company also provides military equipment, gear and accessories such as: tents, blankets, gas masks, combat vests, helmets, rifle scopes, magazines, riot control equipment, gun upgrade kits and much more.

Contact International Ltd. also provides military surplus aircraft and armored vehicle spare parts for mostly Israeli and American models.

Our main advantage is the fact that we sell mostly from our own inventory allowing for a reliable and rapid delivery. For items that are not in our stock we provide a very efficient procurement service in which we can locate almost any firearm or ammunition through our worldwide network of sources and suppliers.
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E-mail: info@emtan.co.il
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EMTAN - WEAPONS OF CHOICE
FOR MILITARY AND
LAW ENFORCEMENT

EMTAN KARMIEL LTD, is an Israeli Manufacturer of small arms, guns and weapons with over 40 years of experience and knowledge.
EMTAN employs over 120 skilled personals in a sophisticated computerize facilities that insures optimized manufacturing and quality assurance all this in order to deliver the end-user a reliable robust weapon within budget.

Our Products:
EMTAN manufacture the MZ Rifle range:
• MZ-4 Fully Automatic rifle in caliber 5.56 NATO
• MZ-47 Fully Automatic rifle in caliber 7.62X39 to suite AK47 Gun magazine and accessories
• MZ-10 Fully Automatic rifle in caliber 7.62 NATO
• MZ-300 Fully Automatic rifle in caliber 300 Blackout
• MZ-9 Fully Automatic sub machine gun in Caliber 9mm NATO
• MZ-15 Sami Automatic rifle in caliber 5.56 NATO or 223 for commercial, hunting and sport use

Based on the known M4-M16, EMTAN's small arms are designed and manufacture according to MIL-SPEC to suite the outmost requirements of any army or police force.
EMTAN Rifles are used by homeland security and military forces worldwide.
EMTAN's innovation and R&D in materials and processing technology and using the most updated machinery results in a rifle that is more reliable, more accurate and more ergonomic than the standard issue rifles used by armed forces.
EMTAN MZ4 Parts are fully compatible with other M4 and M16 rifles, EMTAN offers upgrading and converting kits for renewing of used M16/M4.
EMTAN holds valid of ISO 9001:2008 certification and AS 9100-C certification of the Aviation, Space and Defense industry.
EMTAN is approved by the Israeli MOD for manufacturing and exporting of small arms, guns and ammunition.
LAND FORCES

Small Caliber Ammunition

IMI System’s Small Caliber Ammunition Division is a recognized world leader specializing in the design and manufacture of a wide range of high quality small caliber ammunition including: 5.56mm, 7.62mm, 9mm, 338 Lapua Magnum and 12.7mm. The 9mm and the 5.56mm rounds have been approved and certified to NATO standard.

SCAD’s capacity to rapidly and qualitatively meet Special Forces’ operational requirements is based on its vast experience as the Sole Supplier to the Israel Defense Forces (IDF) and a long term supplier of other global customers including the US Army, NATO armies, law enforcement authorities, special units and many other security entities around the world.

APM Ammunition
Improved long range accuracy & penetration ammunition available in 5.56mm, 7.62mm, 338 Lapua Magnum and 12.7mm calibers.

Razor Core Ammunition
A range of improved long range accuracy, high stopping power & lethality ammunition available in 5.6mm, 7.62mm and 338 Lapua Magnum calibers.

Training Ammunition
A wide range of training ammunition including blanks, reduced range and non-toxic lead-free environmentally friendly rounds.
OVER 80 YEARS OF EXPERIENCE AND EXCELLENCE

A MEMBER OF SK GROUP

Israel Weapon Industries (IWI), an SK Group member, has been a world leader in the production, marketing, design and development of unrivalled weapons for over 80 years. IWI’s products are deployed by the Israel Defense Forces (IDF), Governmental, Military and Police Entities, as well as Law Enforcement Agencies around the world and have been battle proven around the world under adverse and extreme environmental conditions.

The company’s weapon systems include the innovative TAVOR Assault Rifles, the ultimate four caliber X95 (Assault Rifle & SMG), the reliable NEGEV Light Machine Guns, the well-known GALIL ACE Assault Rifles, the renowned GALIL SNIPER S.A. Rifle, the brand new DAN Bolt Action Sniper Rifle, the legendary UZI SMG in its latest evolution - UZI PRO and the acclaimed JERICHO pistols.

The company’s firearms are developed in close collaboration with the Israel Defense Forces (IDF). IWI and the IDF have established joint Research & Development teams to develop these weapons, whose ultimate configurations are the product of ongoing interaction, field tests and modifications resulting from combat requirements and experience.

SK GROUP

IWI is a member of SK Group, a leading global defense and security group of companies comprising Meprolight Ltd. (electro-optic systems, lasers and night vision systems), Camero-Tech Ltd. (through-the-wall sensing), Israel Shipyards Ltd. (ship manufacturing and repair), Uni-Scope Ltd. (optical periscopes) and more.
 DECISION SUPPORT, TRAINING, SIMULATION AND MANAGEMENT SOLUTIONS

for 24/7 Preparedness of Defense and Homeland Security

Homeland Security: Supporting decision-makers and first-line responders in their readiness to deal with multiple scenarios during real-time emergencies. Our DSS4HLS (Decision Support Solution for Homeland Security) processes data originating from four crucial, proven Eltel elements: a Competence & Readiness Performance Management (CRPM) engine; an on-demand Synthetic Arena Simulator (SAS); a geographic/weather/nature model engine for geopredictive analytics; and a crowd-behavior model simulator.

Military Applications: Live, virtual and constructive (LVC) platform supporting decision-makers in their readiness to deal with a range of battlefield scenarios. Offering live and virtual operating tools, constructive simulations and an operational and planning decision support system, it connects participants from multiple geographic locations, in order to share complex and challenging combat simulation experiences. By integrating simulative and constructive components, augmented and virtual reality, sophisticated gaming systems and live assets, it optimizes battlefield-training environments and delivers a complete training experience for all personnel involved.

SIMULATORS AND TRAINING SOLUTIONS

Training solutions for air, naval and ground military operations, including:

- Advanced VR and AR simulators based on military doctrines and physical and operation models.
- Conventional and ICT training solutions, including the establishment, operation and maintenance of training facilities and the provision of exercise and mentoring services.

MANAGEMENT SOLUTIONS

Development, integration, installation and maintenance of system management solutions based on the accumulated experience of more than 20 years, supporting the training and preparedness of defense and homeland security decision-makers and personnel.
SMS INDOOR SIMULATORS

Mission Statement - Professionalism!

SMS develops, manufactures and markets innovative tactical training simulators of the highest quality in order to facilitate the needs of the defense forces and law enforcement around the world.

Our value-added solutions result from a thorough understanding of our customers needs and aspirations and our relentless pursuit of innovation and customer satisfaction using their own weapons.

SMS team brings to the end users systems that will allow them to effectively deal with the evolution of new threats and to train on their relevant scenarios.

Our top seller systems:

• Recoil Simulator - pistols, SMG, rifles, machine guns, sharpshooter.
• Mortar simulator 60mm, 81mm, and 120mm. built and designed to mortar train fire team.
• Academy simulator - large projecting screen - for a dozen simultaneous users.
• Squad simulator - an advanced simulator system that allows simultaneous training of small arms (rifles, SMG, pistols), together with larger caliber machine guns and weapons (0.3", 0.5") RPG, RPD, 40mm.
• Snipers simulator - a unique indoor simulator solution to train snipers with their own weapons on targets up to 800 meters with full ballistics aspects.
• Naval simulator - simulate shooting from a boat, using your relevant offshore movie scenarios and synchronizing them to the sea level displayed.
• Anti riots simulator - an advanced simulator system that allows simultaneous training on riots scenarios with 40mm caliber.
BARAK
LAND-BASED AND NAVAL

BARAK Air & Missile Defense System
Land-based, Short to Long Range, Point & Area

AIR DEFENSE DIVISION
System Missile & Space Group
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E-mail: marketing@iai.co.il
Web Site: www.iai.co.il

BARAK POINT AND AREA, AIR & MISSILE DEFENSE SYSTEM
• Advanced Air & Missile Defense System
• From short to long ranges 30/70/150 Km – low to high altitude targets
• Multiple simultaneous engagements in severe saturation scenarios
• Active seeker enables all-weather operation
• Missile vertical launch and high maneuverability supports 360° coverage
• Advanced data link supports missiles and task forces coordination
LAND FORCES

Air Defence

RED SKY
This highly effective low-altitude Point & Air defense solution is a rapidly deployed, compact VSHORAD system designed to protect stationary sites, mobile dismounted and rapid-deployed forces using advanced features such as MANPADS missiles, IR Tracker, Radar System and a Command and Control Unit (C³).

By integrating advanced passive sensors with a remote controlled operation unit, RED SKY extends the capabilities and effective range of existing MANPAD missiles, which are usually limited due to human factors, to their maximum potential and range.

Mounted on man-portable pedestals, with sensors and C³ capabilities RED SKY can be deployed in locations previously inaccessible to heavier air defense systems, such as mountainous terrain and urban environments.

RED SKY 2 Drone Defender (Anti Drone and UAV System)
A unique system designed to detect, disrupt and neutralize unmanned aerial vehicles (UAVs) engaged in potentially malicious activity or hostile airborne surveillance missions, preventing them from infiltrating sensitive locations such as stadiums, airports, secured compounds, military bases, etc. or protecting VIPs from armed attack.

The RED SKY 2 Drone Defender Anti-Drone and UAV System combines unique Aerial Radar Detection, Electro-Optical Thermal Acquisition and High Powered Directional RF Neutralization abilities with a supreme range of 3-5 km of detection and neutralization.

The System can be supplied as either an active or reactive system that operates only after triggering an alarm when unidentified objects reach the aerial security zone.

Anti-Aircraft Artillery (AAA) Modernization & Upgrading
IMI offers a modernization package for towed or self-propelled AAA systems already in use such as the ZSU23-2, ZSU23-4 (SHILKA), M163A / M167A VADS (Vulcan Air Defense System) and BOFORS 40mm L60/70.

IMI’s AAA upgrade solutions provide significantly increased accuracy and lethality as well as enhanced survivability and mobility.

TSR (Target Simulation Rockets)
A family of low-cost, high-performance target simulators for realistic threat emulation of incoming missiles and rockets.

Designed for training, testing and development of air defense systems and their components, the TRS can be launched from various platforms such as fixed or mobile ground launchers, as well as naval vessels. These include the TSR-160 based on IMI Systems’ LAR 160 rocket and the TSR-306 based on IMI Systems’ EXTRA rocket equipped with FTS and telemetry unit.
AIRSTAR – Multi-Sensor System for Extended ISR.

Three-Part Aerostat-Borne System Aerostat platform the unmanned, aerodynamically shaped aerostat are buoyed aloft and tethered to the ground by a single cable. Cutting-edge, multi-sensor homeland security Rafael's aerostat-borne surveillance and targeting systems offer cutting edge, multi-sensor solutions for a wide range of defense and homeland security needs. These solutions are based on more than three decades of experience in design, integration, and operation of state-of-the-art, cost-effective systems. The aerostat is made of a large fabric envelope filled with nonflammable helium. The tether also serves to supply the electrical power to the aerostat systems, and for data relay between the aerostat and the ground station. Various Sensors - A variety of electronic systems (e.g. surveillance, radar, ELINT, COMINT, electro-optics, and Communication) are mounted on the aerostat, depending on the specific operational needs.

Operations Center with Command and Control Capabilities supports total situational awareness by controlling aerostat platform and electronic sensors, data processing and integration, for high quality pictures, initiation and control of operations. Rafael's custom-made solutions - Rafael's team of hands-on experts produces tailor-made solutions, by capitalizing on extensive in-house know-how and quality infrastructure, including advanced simulators and modern laboratories.
RT LTA Systems LTD is a world class designer, developer and manufacturer of the Skystar™ Aerostat Family proven for use in intelligence, surveillance, reconnaissance and communications applications. Users active in prevent - prepare - respond - recover settings requiring continuous and compact aerial support are a natural fit for Skystar™ products. The Skystar systems have more than 1,000,000 proven flight operation hours in battle zones all around the world.

RT LTA Systems LTD delivers self-contained, versatile, easily transportable, cost effective tactical systems comprised of a mobile control station, ground system module, a tether, lighter-than-air platform, stabilized payload platform and sophisticated sensor suite including camera, communication relays, cellular, radars.

Skystar™ systems are easy to operate, rapidly deployed and customized for a range of operating conditions in high performance worldwide in various military and civilian missions.

**Skystar Applications**

- Unmanned Aerial ISR and target acquisition
- Border and coastal security
- Crisis and emergency management
- Law enforcement and public safety
- Search and Rescue
- Communication relay
- Offshore/onshore business continuity recovery
- Event management/crowd control
- VIP protection
- Environmental measurement
- Situational awareness
- Perimeter security
- Intruder detection
From Autonomous Aircraft to Land and Naval Robotic Systems

As a world leader in the field of unmanned systems and robotics, Israeli-developed UAS are operated worldwide, along with avionics, mission payloads, training and support systems. Expanding robotics technologies to support land and maritime applications, Israel’s now offers unmanned systems for military, homeland security, and civil use.

Israeli unmanned systems have been operationally proven for decades, enduring hot, cold and high-altitude conditions, tropical and desert climates, as well as the maritime environment. These vehicles, sensors, and mission systems have operated routinely in all recent conflicts in the Middle East and in Africa and provide essential intelligence support, reconnaissance and counter-explosive device (C-IED) capabilities that are saving the lives of soldiers and civilians alike.

The Israel Air Force operates several UAS squadrons equipped with Israeli made Medium Altitude Long Endurance (MALE) platforms. The ground forces also utilize tactical and mini-UAVs. The Israel Defense Forces (IDF) also became the first army to deploy robotic, unmanned patrol vehicles as part of its border protection operations.

The Israel Navy is employing Unmanned Surface Vessels (USV). These agile and persistent platforms are assuming a growing responsibility for the country’s port, coastal and offshore security. New capabilities, including counter-mine and anti-submarine warfare, are also added to USVs.

Aerostats and hovering tethered platforms also offer essential support for the ground forces, providing persistent, wide area surveillance and high-fidelity imaging from standoff range. Typical missions include electronic surveillance, ground and air surveillance, communications support services and more.

Israeli unmanned systems are operating throughout the world, in Latin and North America, the Indian Ocean, Europe, Asia, Africa and the South Pacific. Patrolling vast areas of desert, rural countryside, jungles or the open sea, Israeli made unmanned systems are securing borders, oil and gas infrastructures, monitoring maritime traffic in littorals, deterring piracy and assist in emergency response.
AEROSTAR TACTICAL UAS
Aerostar Tactical UAS

The Aerostar Tactical Unmanned Air System (TUAS) provides reliable, high quality real time intelligence gathering capability.

The system has accumulated thousands of operational hours, giving the system its maturity, reliability and credibility.

The Aerostar system is cost-effective, user friendly, and can be deployed in a very short time due to its small logistics footprint.

Among the system’s customers are the IDF, U.S. Navy, and other customers around the globe.

Performance
Service Ceiling .................................................. 18,000 ft
Endurance .......................................................... 12 hours
LOS Datalink Range ........................................Over 200 km

Technical Data
Wingspan ....................................................... 8.7 m (28.5 ft)
Length ............................................................ 4.5 m (14.7 ft)
Height ............................................................... 1.3 m (4.2 ft)
MTOW ............................................................... 230 kg (507 lb)
Max Payload Weight ........................................ 50 kg (110 lb)
DOMINATOR® MALE UAS
**Dominator® MALE UAS**

The Dominator MALE UAS is a strategic asset providing comprehensive situational awareness at ranges beyond line of sight. Carrying multiple sensors and payloads, the Dominator is capable of performing a wide range of operational missions.

The Dominator MALE UAS is based on the DA42 platform. The system combines the remarkable performance of the DA42, a fully certified aircraft, with over 640 units produced since 2005 and over 360,000 hours of accumulated operating experience, and the proven unmanned technology by Aeronautics, which has logged over 80,000 operational flight hours onboard UAVs worldwide.

<table>
<thead>
<tr>
<th>Technical data</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wingspan</td>
<td>13.5 m (44 ft)</td>
</tr>
<tr>
<td>Length</td>
<td>8.6 m (28 ft)</td>
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<tr>
<td>Height</td>
<td>2.5 m (8.2 ft)</td>
</tr>
<tr>
<td>Max T/O Weight</td>
<td>1,900 kg (4,188 lb)</td>
</tr>
<tr>
<td>Max payload weight</td>
<td>370 kg (815 lb)</td>
</tr>
<tr>
<td>Service Ceiling</td>
<td>27,000 ft.</td>
</tr>
<tr>
<td>Endurance</td>
<td>over 20 hours</td>
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<tr>
<td>LOS Datalink Range</td>
<td>250 km (155 miles)</td>
</tr>
<tr>
<td>Service Ceiling</td>
<td>30,000 ft.</td>
</tr>
</tbody>
</table>
ORBITER® 1K LOITERING MUNITION UAS
The new addition to the Aeronautics Orbiter UAS line is the Orbiter 1K Loitering Munition class UAS. The Orbiter 1K is designed for loitering attacking missions. The Orbiter 1K loitering munition system is based on Aeronautics mature, combat-proven Orbiter 2B Mini UAS and therefore present outstanding performances of mission range and endurance. Moreover, once launched, whenever the situation in-theater requires, the Orbiter 1K can abort the mission and safely recover, in order to preserve the UAV and avoid expending it unnecessarily.

**Specifications**

- Wingspan: 2.2 m
- Service Ceiling: 18,000 ft.
- Loitering Speed: 40-60 knots
- Endurance: Up to 2.5 hours
- Mission range: Up to 100 km
- MTOW: 11 kg
The Orbiter 2 Mini UAS System is a compact and lightweight system designed for use in Military and Homeland security missions. The system presents the ultimate solution for Over The Hill reconnaissance missions, Low Intensity Conflicts and Urban warfare operations as well as any close range mission.

### Performance
- **Operational Altitude**: 500-5,000 ft
- **Endurance**: 4 hours
- **LOS Datalink Range**: 40/100 km
- **Operational Speed**: 35-75 kt
- **Service Ceiling**: 18,000 ft

### Technical Data
- **Wingspan**: 3 m (9.8 ft)
- **Length**: 1 m (3.2 ft)
- **Max Payload Weight**: 1.5 kg (3.3 lb)
ORBITER® 3 SMALL TACTICAL UAS
**Orbiter® 3  Small Tactical UAS**

The Orbiter 3 Small Tactical Unmanned Aerial System (STUAS) combines the advantages of an impressive performance envelope and radically reduced logistical and operational requirements, making it a remarkably capable yet efficient solution for Intelligence, Surveillance, Target-Acquisition and Reconnaissance (ISTAR) purposes.

**Performance**

- Operational Altitude ...................... 1500-5,000 ft
- Endurance ........................................ 7 hours
- LOS Datalink Range .............................. 100+ km
- Operational Speed ............................. 30-70 kt
- Service Ceiling .................................. 18,000 ft

**Technical data**

- Wingspan ........................................ 4.4 m (14.4 ft)
- Length ............................................. 1.5 m (5 ft)
- Max T/O Weight ................................. 30 kg (66 lb)
Continuing the evolution of the Orbiter line and the Small Tactical UAS, Aeronautics introduces the Orbiter 4 STUAS, an advanced multi-mission platform with extraordinary and versatile carrier, mission and endurance capabilities.

Orbiter 4 STUAS delivers top mission performance with its lightest, most versatile and most advanced covert platform available today, for both land and maritime operations.

The UAV can simultaneously carry multiple payloads, extending its ISTAR capabilities. With its ease-of-use, low logistical footprint and small crew of 3 personnel, Orbiter 4, the runway-free aircraft suits all operational needs.

Specifications

- **Wingspan:** 5.4 m
- **MTOW:** 50 kg
- **Payload weight:** 12 kg
- **Max speed:** 70 kts
- **Datalink:** LOS, up to 150 km
- **Service ceiling:** 18,000 ft
- **Endurance:** up to 24 hrs
PEGASUS® 120 - TACTICAL VTOL UAS

A versatile multi-mission, multirotor UAS, military standard Pegasus 120 is designed to operate as an organic aerial platform with the combat echelon. Pegasus is a platform for tactical, ISTAR and C4I applications, including an 'aerial mast', carrying a wide array of payloads, including EO/IR, ELINT and COMINT sensors. A fully autonomous platform, Pegasus is available in the light configuration or heavy lift configuration optimized for heavy payloads and provides forward troops with logistical supplies. In non-military uses, Pegasus 120 can support police missions, search and rescue, firefighting, security and commercial applications.

Specifications

- **Payload Weight:** Max. 75 kg
- **Size (Diameter):** 1.9 m
- **Engine Power:** Electric (LIPO)
- **MTOW:** 120 kg
- **Endurance:** Up to 120 min
- **Max. Speed:** Up to 45 kts
- **Data link:** Secure link for C4I and ISTAR applications
Aero Sentinel is an Israeli UAV manufacturer. The company established in 2012 in order to provide solutions for multi-rotor UAVs for the Israeli defense, security and civil authorities. Our facility is 1000 Sqm, equipped with state of the art technology. We have in house engineering and manufacturing capabilities in order to tailor the right solution for every Customer.

The G2 is an advanced UAV System that provides real-time day and night video stream via Ground Control Station. Complete autonomous operation with long endurance and low weight make the G2 the best cost-efficient solution. The special frame configuration is ideal for quick deployment & turnaround time as well as for covert surveillance and high payload stability.

### G2 Specifications

- **Endurance**: 80 min
- **Range**: 4 km
- **Take off weight**: 4 kg
- **Wind**: 15 knots (gust 20 knots)
- **Covert Altitude**: 150 m
- **MIL-STD-810G certified**
AeroTactiX Ltd.

Develops and manufactures Mini UAS which includes sub-systems like autopilots, communication and ground control stations. All Systems are customized and enabling Integration of various payloads and components. Our Mini UAS Solutions are cost-effective, low weight and extended performance.

The Skyzer450

Mini UAS - Max. Performance

The Skyzer450 Mini UAS is based on advanced technology and human design, all serving the same purpose of creating a Mini UAS with enhanced and innovative capabilities.

The Skyzer450 is designed for Military, Homeland Security and Civilian Missions. Our system excels in every ISTAR mission.

### Performance

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Endurance</td>
<td>Up to 5 Hr. (electrical engine)</td>
</tr>
<tr>
<td></td>
<td>Up to 12 Hr. (fuel engine)</td>
</tr>
<tr>
<td>Takeoff method</td>
<td>Runway / Launcher</td>
</tr>
<tr>
<td>Flight Ceiling</td>
<td>16,000ft</td>
</tr>
<tr>
<td>Operational speed</td>
<td>35-70 knots</td>
</tr>
</tbody>
</table>

### Technical Data

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>MTOW</td>
<td>21.5 kg</td>
</tr>
<tr>
<td>Max. Payload Weight</td>
<td>5 kg</td>
</tr>
<tr>
<td>Wing Span</td>
<td>3.3 m</td>
</tr>
<tr>
<td>Length</td>
<td>2.27 m</td>
</tr>
<tr>
<td>Datalink Range</td>
<td>10/50/100</td>
</tr>
</tbody>
</table>
Bluebird Aero Systems Ltd. is a dominant player in the Tactical Unmanned Aerial Systems (UAS) industry, specializes in design, development and production of Micro, Mini, small tactical UAS, and peripheral equipment. BlueBird delivers combat proven solutions to meet the challenges of the Military, HLS and civilian UAS markets.

Micro B

On-demand precision situational awareness for Special Forces and first responders
- Operational
- Hand-held, light weight launcher
- Covert operation - low acoustic & visual signature
- Secondary emergency backup control link and redundant emergency control unit
- Gimbaled and stabilized payloads for real time day or night video
- Easy and fast operational readiness

SpyLite

Combat proven, Unmatched Performance Mini UAV
- Unmatched performance envelope - world records for range, endurance, flight ceiling in the Mini UAV category
- Secondary emergency backup control link and redundant emergency control unit
- Accumulated over 15,000 operational sorties
- Covert operation - low acoustic & visual signature
- Optional Proprietary RGB, multi-spectral, IR and/or Radiometric Dual/Triple photogrammetric mapping payloads

ThunderB

Long Endurance, Rapidly Deployed Tactical UAS
- Unprecedented performance: up to 24 hours mission time, Up to 150 km control range
- Small form factor: small and easily deployed system
- Secondary emergency backup control link and redundant emergency control unit
- Optional Proprietary RGB, multi-spectral, IR and/or Radiometric Dual/Triple photogrammetric mapping payloads
- Covert operation: Low acoustic & visual signature
- Mission Continuity in GPS and/or COMJAM environment
**Data Link Solutions**

*Commtact* is a leading provider of advanced wireless communication systems and tactical data link solutions for various applications and platforms. *Commtact’s* products are being operated successfully onboard fixed wing aircrafts, helicopters, UAVs and in a variety of naval and ground platforms. *Commtact’s* systems are operationally proven in a broad range of short/medium/long range of portable and mobile application.

*Commtact* product families include:

**IDLS-MKII:**
- Up to 300Km Range
- Designed for Medium and large UAVS, Mission aircraft and Helicopters

**MDLS:**
- Up to 50Km Range
- Weights less than 100g
- Designed especially for VTOLs, quad copters and mid/short range guided missile applications

**AMLS:**
- Up to 150Km Range
- Designed for medium range applications, mini-UAVs
- Weights approx. 300g

**UVR:**
- Up to 100Km Range
- Open architecture UHF/VHF radio
- Variable application:
  - ATC for UAVs
  - Ground to Ground Networking
  - Radio Communication Relay
Based on decades of operational experience, Elbit Systems’ comprehensive range of cutting-edge, cost-effective turnkey unmanned airborne systems (UAS) are in service with numerous military and para-military forces worldwide.

From the man-portable Skylark™ I-LEX mini UAS, through the versatile tactical UAS and up to the next-generation Hermes™ 900 medium altitude long endurance (MALE) UAS, Elbit Systems’ solutions leverage advanced in-house capabilities in air vehicle and mission system design and production, communications, advanced sensors development and production, simulation systems, integration and program management.
UAV PAYLOADS

UAV Maritime Patrol Radar System
ELM-2022U
The ELM-2022U Maritime Patrol Radar (MPR) System consists of a UAV Maritime Surveillance Radar Payload, and a Ground Radar Operator Station that controls the radar’s operation and processes the data sent by the Radar Payload via the UAV’s dedicated data link. The MPR System provides a cost-effective force multiplier solution for Maritime Surveillance and EEZ Patrol, Surface and Littoral Warfare, Search and Rescue, Drug Interdiction and prevention of Illegal Immigration and Terrorist activities, Coast Guard and Fisheries Patrol, and Image Intelligence Operations.

SAR/GMTI UAV Reconnaissance System
ELM-2054/2055
The ELM-2054/55 is a family of a high performance Synthetic Aperture Radar (SAR) and Ground Moving Target Indication (GMTI) all weather Reconnaissance System, for Unmanned Air Vehicles (UAVs). The system consists of the UAV payload, a radar sensor and the Ground Exploitation Segment (GES). The ELM-2055 produces radar images which approach photographic quality, and operates as a true all-weather, day and night sensor capable of penetrating clouds, rain, smoke, smog, fog and man-made camouflage. The SAR Imagery and GMTI plots generated on board are transmitted via the UAV’s dedicated data link to the Ground Exploitation Segment (GES) for interpretation and extraction of intelligence data.

Integrated UAV ESM/ELINT System (IUELIS)
ELL-8385
The ELTA ELL-8385 is a UAV Integrated Electronic Support Measures (ESM) and Electronic Intelligence (ELINT) System. The system disseminates intelligence reports, including real-time Electronic Order of Battle (EOB). The system’s tasks include search, interception, measurement, location, analysis, classification and monitoring of ground, airborne and naval radar transmissions - which are characterized by high mobility, short duration, modern signals forms and frequent changes in signal parameters.

Integrated UAV COMINT/DF System (IUCOMS)
ELK-7071
The ELTA ELK-7071 is a UAV Integrated Communication Intelligence (COMINT) System. The system disseminates intelligence reports including, real-time Electronic Order of Battle (EOB) of communication transmissions. The system’s tasks include search, interception, measurement, location, analysis, classification and monitoring of ground, airborne and naval radar transmissions - which are characterized by high mobility, short duration, and frequent changes in signal parameters.
IAI - MALAT DIVISION

MALAT DIVISION
MILITARY AIRCRAFT GROUP
Ben-Gurion Int’l Airport
7010000, Israel
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Fax: 972-3-9355781
E-mail: malat@iai.co.il
Web Site: www.iai.co.il

1,600,000 Operational UAS Flight Hours
at Your Service

Whatever your needs, IAI brings you total battlefield UAS solutions
With over 40 years’ experience and 1,600,000 operational flight hours, performing intelligence gathering and targeting missions in support of key military operations around the world, IAI is a global leader in the design, development, and manufacture of unmanned systems. IAI supports a wide range of advanced unmanned aerial vehicles (UAV), unmanned ground vehicles (UGV) and unmanned surface vessels (USV).

E-mail: malat@iai.co.il | www.iai.co.il
Missions
Deep-penetration, strategic multiple operational missions: surveillance, reconnaissance, target acquisition and specific electronic tasks for theater commanders.

Payloads
Simultaneous multi-payload capability
• Electro Optical (TV&IR combi or TV/IR/LD triple sensor)
• Synthetic Aperture Radar (SAR)
• Maritime Patrol Radar (MPR)
• COMINT & ESM
• Customer furnished sensor suites
• Communication relay package
• Integrated ATC radio

Launch & Recovery
• Automatic Take-off & Landing (ATOL)

Technical Data
Weights
Max take-off weight 5,400 kg
Max payload weight 2,700 kg
Dimensions
Overall length 14 m
Wingspan 26 m

Performance
Endurance >30 hr
Range (with SATCOM) Beyond LOS
Altitude 45,000 ft

Heron TP

Missions
Deep-penetration, strategic multiple operational missions: surveillance, reconnaissance, target acquisition and specific electronic tasks for theater commanders.

Payloads
Simultaneous multi-payload capability
• Electro Optical (TV&IR combi or TV/IR/LD triple sensor)
• Synthetic Aperture Radar (SAR)
• Maritime Patrol Radar (MPR)
• COMINT & ESM
• Customer furnished sensor suites
• Communication relay package
• Integrated ATC radio

Launch & Recovery
• Automatic Take-off & Landing (ATOL)

Technical Data
Weights
Max take-off weight 1,270 kg
Max payload weight 450 kg
Dimensions
Overall length 8.5 m
Wingspan 16.60 m

Performance
Endurance 20-45 h
Range 350 km
Range (with SATCOM) BLOS
Altitude 35,000 ft

Datalinks
• Direct Line-of-Sight (LOS) data link
• UAV airborne data relay for beyond LOS missions
• Ground-based data relay for beyond LOS missions
• Satellite data-link capability (SATCOM)

Technical Data
Weights
Max take-off weight 5,400 kg
Max payload weight 2,700 kg
Dimensions
Overall length 14 m
Wingspan 26 m

Performance
Endurance >30 hr
Range (with SATCOM) Beyond LOS
Altitude 45,000 ft

Datalinks
• Direct line of sight (LOS) data-link
• UAV airborne data relay for beyond LOS missions
• Ground-based data relay for beyond LOS missions
• Satellite data-link capability (SATCOM)
Missions

- Deep penetration, wide area, land and maritime surveillance & reconnaissance
- Target acquisition and fire adjustments missions
- Airborne relay for various means of communication

Payloads - up to six payloads operating simultaneously
- EO/IR/LRF/Laser designator
- SAR/MPR
- Hyper spectral
- ELINT, COMINT
- COM Relay, COMJAM, COMINT GSM
- Scanner, Mapping
- Customer furnished sensor suits
- Communication Relay Package

**Super Heron**

*Launch & Recovery*
- Automatic Take-off & Landing (ATOL)

*Data links*
- Direct line of sight (LOS) data-link
- Airborne and ground-based data relay for Beyond Line of Sight (BLOS) missions
- Satellite communication (SATCOM) capability for BLOS missions

**Performance**

<table>
<thead>
<tr>
<th>Endurance</th>
<th>up to 45 hr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Range without with SATCOM</td>
<td>350 km/BLOS</td>
</tr>
<tr>
<td>Altitude (AGL)</td>
<td>&gt;30,000 ft</td>
</tr>
<tr>
<td>Loiter speed</td>
<td>60-80 knots</td>
</tr>
<tr>
<td>Max. speed</td>
<td>&gt;150 knots</td>
</tr>
</tbody>
</table>

**Technical Data**

- **Weights**
  - Max take-off weight: 1,450 kg
  - Max payload weight: 450 kg

- **Dimensions**
  - Overall length: 17 m
  - Powerplant: Heavy fuel, 200HP

**Searcher MK III**

*Missions*

- Surveillance, reconnaissance, target acquisition, artillery adjustment and damage assessment

*Payloads*

- Electro Optical (TV & IR Combi or Triple Sensor TV/IR/LD)
- Synthetic Aperture Radar (SAR)
- COMINT & ESM Integration Capability
- Customer furnished payloads

*Data links*

- Direct Line-of-Sight (LOS) data link
- UAV airborne data relay for beyond LOS missions
- Ground-based data relay for beyond LOS missions

*Launch & Recovery*

- Automatic take-off & landing

**Performance**

<table>
<thead>
<tr>
<th>Endurance</th>
<th>20hr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Range</td>
<td>350 km</td>
</tr>
<tr>
<td>Altitude</td>
<td>21,000 ft</td>
</tr>
<tr>
<td>Four Strokes, silent engine</td>
<td></td>
</tr>
</tbody>
</table>

**Technical Data**

- **Weights**
  - Max take-off weight: 450 kg
  - Max payload weight: 120 kg

- **Dimensions**
  - Overall length: 5.85 m
  - Wingspan: 8.55 m
IAI - MALAT DIVISION

MALAT DIVISION
MILITARY AIRCRAFT GROUP
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Fax: 972-3-9355781
E-mail: malat@iai.co.il
Web Site: www.iai.co.il

LONG-ENDURANCE SMALL TACTICAL UAS (STUAS)

Bird-Eye 650D

Missions
• Reconnaissance (ISTAR)
• Urban operation
• Counter-terrorism
• Patrol and convoy escort
• Radio relay

Payloads
• Stabilized day/night electro-optical payloads:
  • TAMAM: Minipop
  • TAMAM: Micropop
  • Controp: T-Stamp
• Undisclosed electronic payloads

Launch & Recovery
• Automatic Take-off & Landing (ATOL)
• Mini-launcher for take-off and flip-over with airbag and parachute for landing

Data Links
• Direct Line-of-Sight (LOS) data link

Technical Data

| Performance | Endurance | >15 hr |
|            | Range     | >150 km |
|            | Altitude (AGL) | 15,000 ft |
|            | Loiter speed | 40 knots |
|            | Max. speed | 80 knots |

MINI UAS

Bird-Eye 650

Missions
• Real-time day/night imagery intelligence gathering for low echelon forces
• “Over the hill” Intelligence, reconnaissance and surveillance (ISR)
• Urban Operation
• Counter Terrorism
• Silent Observation and Stakeout
• Law enforcement
• Patrol and Convoy Escort

Payloads
• Gimbaled, plug-in, lightweight day/night stabilized observation system (TAMAM’s Micro-Pop)

Launch & Recovery
• Mini launcher take-off, unique patented turn-over landing

Data Links
• Direct Line-of-Sight (LOS) data link

Technical Data

| Performance | Endurance | >4 hr |
|            | Range     | Up to 50 km |
|            | Altitude (AGL) | 1,500 ft |
|            | Loiter speed | 40 knots |

<table>
<thead>
<tr>
<th>Technical Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weights</td>
</tr>
<tr>
<td>Max take-off weight</td>
</tr>
<tr>
<td>Max payload weight</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall length</td>
</tr>
<tr>
<td>Wingspan</td>
</tr>
<tr>
<td>Powerplant</td>
</tr>
</tbody>
</table>
**MINI UAS**

**Bird-Eye 400**

**Missions**
Real time day / night imagery data for law-enforcement and “Over-the-Hill” reconnaissance and surveillance.

**Payloads**
- Gimbaled video camera - day/night

**Launch & Recovery**
- Hand or bungee launch
- Fully automated flight including takeoff and landing

**Data Links**
- Direct Line-of-Sight (LOS) data link

**Technical Data**

<table>
<thead>
<tr>
<th>Weights</th>
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<tbody>
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<td>Take-off weight</td>
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<tr>
<td>Overall length</td>
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<tr>
<td>Wingspan</td>
<td>2.2 m</td>
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<thead>
<tr>
<th>Powerplant</th>
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</thead>
<tbody>
<tr>
<td>Electrical</td>
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**TACTICAL VTOL UAS**

**Panther FE**

**Missions**
- Covert special operation missions
- Intelligence, Surveillance, Target Acquisition and Reconnaissance Missions (ISTAR)
- Silent Observation and Stakeout Missions
- Convoy escort and protection
- Border and Coastal Surveillance Missions
- Law enforcement Missions
- Emergency Response and Support Missions

**Payloads**
- Mini POP EO/IR/LP Payload (day/night)

**Launch & Recovery**
- Automatic Vertical Take Off & Landing Capability

**Data Links**
- Direct Line-of-Sight (LOS) data link

**Technical Data**

<table>
<thead>
<tr>
<th>Weights</th>
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<tbody>
<tr>
<td>Take-off weight</td>
<td>71 kg</td>
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<tr>
<td>Payload weight</td>
<td>8.5 kg</td>
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<td>Overall length</td>
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<tr>
<td>Wingspan</td>
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<table>
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<th>Powerplant</th>
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<tbody>
<tr>
<td>Hybrid</td>
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**Performance**

<p>| | |</p>
<table>
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<tr>
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<tbody>
<tr>
<td>Endurance</td>
<td>90 min</td>
</tr>
<tr>
<td>Range</td>
<td>20 km</td>
</tr>
<tr>
<td>Altitude (AGL)</td>
<td>500-1,500 ft</td>
</tr>
</tbody>
</table>
**IAI - MALAT DIVISION**

**AERIAL PERSISTENCE**

**Main Features**
- Multi-sensor capability for air, land and sea
- Accurately tracking hundreds of diverse targets simultaneously
- Operational in all weather conditions day and night
- Combined automated real time multi-Int. processing
- Long endurance (24-48 hours)
- High altitude - cover wide area
- Multi sensors capability (Radar, SIGINT, E/O-IR)
- Ability to fly close to threatened area
- Long range communications
- Ability to transfer intelligence to remote users
- On-board processing
- Concept of operation
- Cost-Manpower-Effectiveness

**Heron UAS - the most advanced multi-mission, multi-sensor ISTAR solution for Aerial Persistence**

**EARLY WARNING UNMANNED AIR SOLUTION**

**System Objectives**
- Support Operational Missions deep in the enemy area or within uncovered regions, providing:
  - Regional Air Surveillance
  - Aircraft Command & Control
  - Air Surveillance near, over and beyond Line Of Control (LOC) with no danger for crew
  - Gap Filler for generation of Air Situation Picture
  - Enhanced Detection Capability against Low Altitude Enemy Penetration
  - Air Command & Control over Combat Missions

**Extended Surveillance and Aircraft Command and Control System (ESACCS)**
MALAT DIVISION
MILITARY AIRCRAFT GROUP
Ben-Gurion Int’l Airport
7010000, Israel
Tel: 972-3-9357136, 9358169
Fax: 972-3-9355781
E-mail: malat@iai.co.il
Web Site: www.iai.co.il

IAI - MALAT DIVISION

DISASTER MANAGEMENT SOLUTION

Main Features
• Fire Fighting & Emergency Response
• Pollution Monitoring
• Environmental Protection
• Infrastructure Security (Oil, Gas, Electricity)
• Search & Rescue

Support restoring security and safety in crisis by:
• Persistent Situational Awareness
• Restoring Communications
• Search and Rescue operations
• Directing first responders to victims / survivors
  • Enhancing the “Golden Hour”
  • Supporting crisis management with “an eye in the sky”

MARITIME PATROL UAS

General
IAI/Malat’s maritime UAS is used in homeland security, paramilitary and wartime missions to increase scanning area, range, time over target and mission flexibility, as well as to assess real time battle damage. Building on four decades of experience providing maritime UAS solutions, IAI today offers comprehensive, next-generation solutions.

Main Features
• Mature operational system
• Multi payload / Multi mission capability
• Fully Automatic Operation
• Persistence
• Long range, Low altitude (SATCOM)

A typical payload consists of a maritime patrol radar (MPR) with multi-mode functions, an electro-optical sensor with day/night capabilities and an optional electronic intelligence (ELINT) package.
MOIC - Mission Operation & Intelligence Center

General
MOIC is a state-of-the-art Mission Operation and Intelligence Center that enables centralized command and control of advanced UAV missions. The MOIC improves real-time operation of a fleet of UAVs by providing a common operational picture and integrated management of multiple UAV platforms and payloads.

Main Features
- Monitors execution of data gathering missions, payload status & diagnostic reports
- Exports selected data to the customers via Commander Cell Intelligence Officer
- Receives and displays ESM and COMINT processed findings
- Maintains central archive for GEOINT of current & former missions, geographical infrastructures (DEM, Orthophoto), & intelligence production
- Receives and operates Target Imaging Requests (TIR) and Target On Demand requests (TOD)
- Maximizes fleet throughout by allocating assets according to operational priorities
- Accepts and processes Priority Intelligence Requests (PIRs)
- Interprets SAR, GMTI & EO/IR, COMINT, ESM imagery/data for intelligence production
ROTEM L

Multi-Rotor Loitering Munition for Ground Forces

General Information
• 25 years of experience with loitering munitions systems operational worldwide.
• Tactical Loitering Munition. Sensor to shooter. Based on Light Multi-rotor platform.
• Autonomous Flight. Acquiring & Engaging Targets with Man In The Loop. Simple operation by single operator.
• Lethal precision strike on stationary & Maneuvering targets. Based on EO/IR Real Time HD Video.
• Excellent capabilities dealing with Low Signature Enemy in Urban & Complex Environment.
• Lightweight & Compact Weapon. Tactical Echelon Operation Designated.

Specifications
• Range: typical - 1500 m, Maximal - 10,000 m.
• Warhead: 1 Kg.
The Black Eagle ROTARY UNMANNED AERIAL VEHICLES (RUAV) is a robotic observation system for Civil, Military and Homeland security missions. The objective of the Black Eagle is to provide Maritime and Land solutions for intelligence, surveillance, target acquisition and reconnaissance (ISTAR). This is made possible by using an unmanned helicopter with these important advantages:

### VERTICAL TAKE-OFF AND LANDING (VTOL)

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>DATA</th>
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</thead>
<tbody>
<tr>
<td>Total length</td>
<td>2540 mm</td>
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<tr>
<td>Main rotor diameter</td>
<td>2160 mm</td>
</tr>
<tr>
<td>Maximum T/O weight</td>
<td>35 kg</td>
</tr>
<tr>
<td>Payload capacity</td>
<td>3 kg</td>
</tr>
<tr>
<td>Endurance (Hover)</td>
<td>4 Hr (3 Hr)</td>
</tr>
<tr>
<td>Data link range</td>
<td>15 Km, 50 Km, 100 Km</td>
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</table>

### STEADY HOVERING

### OPTICAL DAY & NIGHT SENSOR

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>DATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max air speed</td>
<td>70 knots (126 Km/h)</td>
</tr>
<tr>
<td>Cruising speed</td>
<td>47 knots (85 Km/h)</td>
</tr>
<tr>
<td>Operating temperature</td>
<td>-40 to +55 c</td>
</tr>
<tr>
<td>Wind (takeoff and landing)</td>
<td>25 knots (45 Km/h)</td>
</tr>
<tr>
<td>Service ceiling</td>
<td>9,000 ft</td>
</tr>
</tbody>
</table>

The Black Eagle is a world leader in providing innovative solutions of Unmanned Robotic Helicopters for a wide range of Civil, Military and Homeland security applications.
UVision Lethal Loitering Systems

UVision designs, develops and manufactures smart, innovative, cost-effective, lethal aerial loitering systems for customers worldwide. With cutting-edge technology and 30 years of extensive field experience by a professional management and engineering team from leading Israeli defense companies, UVision delivers highly innovative loitering systems based on unique aerodynamic platform configurations that meet the requirements of today’s new battlefield doctrines for combat operations in complex, dynamic environments.

These solutions are tailored with outstanding flight qualities, enhanced surveillance options, advanced airborne guidance and navigation systems, precision strike capabilities and command and control stations fully integrated with communication links.

UVision’s Hero Family of systems ranges from miniature tactical to larger operational loitering munitions for air, land and naval platforms. A unique cruciform configuration enables high maneuverability that maintains ‘eyes-on target’ and accurate hitting capabilities in constrained battle scenarios – ideal for the battlefield of the future.

Operational Advantages

- High precision strike capability
- Highly efficient in urban terrain
- Ability to independently close the sensor-to-shooter loop
- Reduction of collateral damage
- Multi-operational platform: air, land and sea
- Suitable for all military echelons
Automotive Robotic Industry Ltd. (ARI) specializes in developing, manufacturing, and marketing of autonomous robotic systems.

Our Goal is to provide solutions for various types of missions, keeping human operators safe in dangerous and hazardous missions, and save on resources (time and budgets) during ordinary routine.

AMSTAF UGV, the company’s prime product, is a multi-mission, amphibious, integrated Unmanned Ground Vehicle (UGV) system for security, intelligence gathering, rescue missions, firefighting and crowd control, or serves as a multipurpose logistics vehicle (MLV).

This system easily integrates with existing security sub-systems, such as smart fences, radars, vision systems and with C4ISR systems.

ARI offers flexibility in configuring the AMSTAF to your needs and requirements.

Our Team specializes in HLS & Military fields, and brings years of operational experience.

AMSTAF UGVs are built on a maneuverable and robust differential drive platform with electric motor propulsion, optionally in a serial hybrid configuration. Designed to work up to 48 hours of continuous duty cycle as per customer’s operational requirements.

AMSTAF can engage threats in a tele-operation mode or autonomously, as a single unit or as a team (swarm) of UGVs.

AMSTAF’s key economic attribute is the cost effectiveness with a fast Return On Investment (ROI).

The system is based on COTS components and our unique software built using automotive, marine, and industrial standards resulting in low capital cost, yet providing a robust solution with low operational costs.

ARI is a member of a larger group of companies including Automotive Industries Ltd, a leading Israeli automotive company.

AMSTAF UGV operational capabilities

- Multi mission support: patrol, surveillance, detection, threat neutralization and rescue
- Autonomous path planning, obstacle detection, avoidance, and rapid reaction
- Integrated Geographical Information System (GIS) providing asset / threat location and real-time mission parameters via Autonomous Operation Control Unit (AOCU) computer
- For Airports, Border-control, Sensitive / Infrastructure sites, Military and any HLS needs
- Tele-operation in direct connect mode using ruggedized notebook or over wireless / cellular networks via Tele-Operation Control Unit (TOCU) computer
- AOCU Mission Manager providing means of rapidly building missions, managing, and monitoring their execution
IMC Microwave Industries (founded in 1987) is a worldwide leading provider that specializes in developing & manufacturing state-of-the-art RF modules, microwave components and data link communication systems for defense, homeland security and civil applications.

IMC's products are integrated as part of various platforms such as UAV/UGV/UGS, ground to ground mobile systems, electronic warfare systems, radar systems and test simulators.

The company’s products are based on the latest technology available in the market integrated with its own internal innovations. These are based on an invaluable combination of client variety and years of experience.

**IMC’S product line includes**

**DATA LINK SYSTEMS**

Complete data link solution for a range of up to 250 km Line Of Sight (LOS) with automatic antenna tracking and a bi-directional digital video & telemetry link. Capabilities: UHF, L, S and C band, MPEG4 / H.264 video compression with low latency, HD or SD video quality, monopulse or GPS tracking, encryption, spread spectrum or frequency hopping and relay mode for extending transmission range beyond LOS.

**RECEIVERS / TRANSMITTERS / TRANSCEIVERS**


**POWER AMPLIFIER**

State-of-the-art SSPA (Solid State Power Amplifier) using latest transistors GaN and GaAs technology. Small size & low weight, supports pulses and continues wave (EW) signals, output power up to 500W, frequency range up to 18 GHz.

**ANTENNAS**

Extensive antenna product line ranging from 20MHz to 42GHz. Various types are available: Horns, Back cavity spirals, Wide band Omni directional, Flat antennas, Arrays & Rotman lens. IMC antennas meet airborne environmental conditions.

**PASSIVE RF COMPONENTS**

A vast range of products that operate in a frequency range from 100 MHz up to 40 GHz. High/low power filters & couplers, waveguide components (magic tees, waveguide to coax adaptors, rectangular & double ridged waveguide) and RF cables.
MTGR (Micro Tactical Ground Robot)
The MTGR platform is a unique and robust lightweight, tactical vehicle with high maneuverability in all types of terrains, both indoors and outside. The MTGR system, which includes the MTGR platform, ROCU control unit and relevant payload, is a high-performance system featuring a simple and intuitive control interface. The MTGR was specially designed to aid military, law enforcement and public safety units in various combat situations around the world. Whether it is for an EOD unit or Special Ops, tactical missions or monitoring public safety.

PROBOT Professional Robot
The PROBOT is the only tactical logistic platform for indoor and outdoor operations. Its unique abilities include carrying heavy payloads while maintaining high speeds, sound maneuverability over various obstacles and performing semi-autonomous missions. It is extremely versatile and can carry up to 550lbs., climb stairs and maneuver directly to a point of interest, even in confined areas, enhancing the capabilities and effectiveness of small ground forces.

IRIS (Individual Robotic Intelligence System)
The IRIS is an ultra-light weight, fast deployable, extremely ruggedized hand-carried unmanned system. It is designed to support several units such as SWAT Teams, public safety, military and law enforcement. The IRIS can enter small and confined spaces, above or underground, to explore dangerous areas relaying intelligence and reconnaissance information in real time. Using cameras and the microphone, suited for day and night operations, the IRIS operators are able to quickly assess the hazards of dangerous situations from a safe distance, allowing the IRIS to be our first line of defense ahead of human or canine forces.

ROCU-7 (Ruggedized Operator Control Unit)
The ROCU-7 (Ruggedized Operator Control Unit - 7" Screen) is generic, hand-held, operating units that enable a single operator to control several unmanned systems (land, air or maritime) with one device. The ROCU-7 is Windows 7 based operation system which provides complete operational and tactical control, overall mission management and enhanced force coordination.
Networking the Power of Intelligence

Israel’s communications and networking solutions span a wide range of sensors, processors and displays supporting Command, Control, Communications and Computing (C4) and Intelligence, Surveillance and Reconnaissance (ISR) solutions (C4ISR). Innovative communications security and encryption techniques, along with comprehensive cyber defense capabilities complement Israel’s C4ISR offerings.

Modern systems are required to distribute information - rich video and data analytics, images and dynamic maps to empower effective command and control of combatants, combat support and service support elements across the military network.

Israel’s state-of-the-art network-centric applications are supporting such advanced solutions, with open and adaptable services, thus enabling users to implement systems everywhere they are needed at the command post, inside combat vehicles or on foot.

Advanced visualization of information in rich, geographically oriented 3D presentation enables commanders to assess complex situations better, and gain battlespace awareness for effective decision making, focusing on critical situations.

An important foundation of these systems is advanced communications equipment offering more capabilities, higher reliability, and better spectrum utilization, at a lower weight and smaller form factor. Israeli companies are fielding the military networks of the 21st century, employing the latest locally developed Software Defined Radios (SDR) and ad-hoc networking. Harnessing the latest commercial technologies such systems also meet the most stringent military standards with networking tools that utilize terrestrial, satellite and datalink systems to carry voice, data, and video over Internet protocol (IP) networks.

Israeli companies also offer comprehensive sensor-based systems integrating radar, electronic signal intelligence (ESM, ELINT, COMINT), electro-optical, magnetic, acoustic, seismic and more. These information and sensor networks provide instant access to all-source intelligence, fusing multiple information sources into an integrated, multi-layered situational picture. These entire systems, from the sensor to the center, rely on unique Israeli know-how and expertise.
AccuBeat is a leading provider of Accurate Frequency and Timing solutions used in Defense, HLS, aerospace, communications and other industries. Based on Rubidium Atomic Clock or OCXO technology with optional GPS disciplining, AccuBeat's products achieve the highest levels of accuracy and reliability and are deployed by IDF, the USAF, Project Galileo, Tier 1 Telecommunication companies and many other sensitive Military, HLS, Infrastructure and Government programs worldwide.

AccuBeat provides COTS and customized, ruggedized products and solutions and we work closely with the customer to provide the exact requirements for each project. AccuBeat's Time and Frequency centers are battle-proven in numerous tactical applications, including combat planes, UAVs, transport aircraft, helicopters, ships, missile platforms and ground mobile vehicles.

With more and more devices, systems and platforms relying on data from GNSS, these environments are prone to jamming, spoofing, interference and other time related cyber-attacks. AccuBeat has developed solutions and systems that can detect and identify threats to the GNSS system and ensure continuous and uninterrupted accurate timekeeping and synchronization even in a GPS denied or threatened environment. AccuBeat solutions protect critical infrastructure, telecoms, HLS and Defense equipment and ensure continued operations where other systems fail.

AccuBeat's highly professional and experienced team of managers, PhDs, engineers and technicians provide on-time solutions to all our customers' needs, applying years of know-how and experience to the development and manufacture of the most demanding and most accurate Rubidium based clocks.

“A world-leading designer and manufacturer of customized, ruggedized Frequency and Timing solutions.”

“Fast is fine, but accuracy is everything”
(Xenophon, 430-354 BC)
Beeper Communications Israel is a leading provider of emergency communication and critical messaging services for security, military, and homeland defense. Its wireless infrastructure combines satellite and ground RF transmission systems, providing full reliable coverage. Established by Motorola and local partners in 1988, and now held by a private equity firm, Beeper offers today’s leading emergency communications solutions.

**Public Alert Warning - Critical Messaging Mass Alert Notification**

This robust, customizable system for Disaster & Crisis Management collects real-time data and alerts mass populations via a range of user devices. It drastically improves emergency authorities’ response time, key to public safety. Using Beeper’s wireless messaging networks and applications, this proprietary system by-passes congested public networks, delivering messages tailored per customer need in a service that is critically secure, encrypted and reliable.

Leading Beeper systems also include:

- **M2M Metering Control** - wireless monitoring/control for automatic meter reading
- **Energy Management SCADA System** - for energy consumption optimization
- **Operational Call Centers** - Handling over 1.5 million monthly calls for global clients;
  ISO 9001-2000 certification, MOD-ranked “Excellent Supplier”.

**IE-5000 Multi-WAN Xtreme – High speed, mission critical communications**

A 3G/4G LTE multi-WAN channel bonder, IE-5000 acts as an SD-WAN bonding router delivering mobile bandwidth-on-demand with high speed connectivity. It is a leading cost-effective solution for communication needs from Disaster Emergency Response to Healthcare; Automation/Production to Education & Training; as well as Security, Banking, Transportation, and Dynamic Digital Signage. It improves agility of network services, while reducing cost and complexity. Successfully deployed for Civilian and Military applications, IE-5000 is a leading solution for bandwidth speed, when time is critical.

**Earthquake Early Warning**

Beeper’s SeismoGuard is the world’s fastest, most advanced Earthquake Warning Technology, providing earthquake detection, analysis and regional/national alert capabilities. Seamlessly integrating with existing Emergency Communication and Alert Systems, it is fully automated and operates 24/7, with zero downtime.
Elbit Systems’ battle-proven solutions support a reliable flow of information throughout all echelons and in all combat scenarios.

The complete range of products, including the E-LynX™ family of advanced software-defined radios, meets the requirements of the individual soldier, through all types of vehicles and up to large systems required by HQ.
ENERGY SYSTEMS FOR MILITARY SHELTERS, RADIOS AND C4I SYSTEMS

As a world leader in the development and production of rechargeable energy storage systems, Epsilor provides standard and customized rechargeable batteries and energy storage and power management solutions for military, aerospace and marine applications.

Epsilor develops and manufactures high-density rechargeable batteries, smart chargers, energy storage systems and power management solutions that support combat forces operational and ready on extended field deployments.

Energy Solutions For Dismounted Operations:

- Energy replenishment and autonomy for deployed forces
- Conformal, high capacity batteries, chargers and power management for wearable electronics
- Standard high density rechargeable Li-ion batteries (BB-2590/u, MR-2791 etc.)
- Wearable energy storage & data communication for C4I specialist operators
- Batteries and chargers for a large variety of US, Europe, Asia and Israel made tactical radios, electro optic equipment and weapon systems

Implementing Efficient Energy Economy:

- Rapid energy replenishment: smart multi-channel, mass chargers
- Energy autonomy: renewable energy sources
- Energy banks: trailers and shelters
- Rechargeable energy packs

Deployable Energy Storage Solutions:

- Supporting observation units, command posts, tactical unmanned systems, guided missile units, field medical facilities, etc.
COMMUNICATION SYSTEMS

Airborne Wideband SATCOM Data Link
ELK-1894
The ELTA's ELK-1894 "On-The-Move" SATCOM system is designed to enable bi-directional wideband communications data link for airborne, maritime and ground vehicle platforms typically deployed for government, military or commercial uses.

The mobile terminal is particularly suited for special mission platforms such as Reconnaissance Aircraft, Maritime Patrol Aircraft, Airborne Warning & Control Systems (AWACS), airborne SAR platforms and UAVs.

TAC4G - Tactical 4G Broadband Cellular Network
ELK-1888
The TAC4G military and para-military broadband cellular network is a secure, encrypted and threat-immune, on-the-move multimedia military network. It enables the battle group to present all sensors and human intelligence in the battlefield on a single, accessible and easy to use hand held or other display unit. The system provides an On-The-Move Local 4G LTE Cloud with Backhaul Capability using a compact "Network-in-a-box" unit which can be carried by the individual soldier or in any combat vehicle. The TAC4G provides the combat unit, company or battalion on-the-move advanced broadband multimedia network capabilities.

Micro Tactical SATCOM
ELK-1882T
The ELK-1882T is a very small and lightweight On-the-Move (OTM) micro satellite communication system for independent special mission units, operation Beyond Line Of Sight (BLOS). The system is equipped with a Software Defined Radio (SDR) modem and Ku-band phased array antenna that can be easily mounted on a soldier's backpack. The system can also be mounted on board combat vehicles and airborne platforms, keeping the antenna conformal to the platforms outer countours. Typical application include VOIP, telemetry, SMS, narrowband and relay capabilities such as V/UHF tactical communication SATCOM backhaul.

Helicopter SATCOM System
ELK-1891
The ELK-1891 Helicopter SATCOM terminal provides bi-directional through-the-rotor high throughput communication in the X or Ku Band ideally suited for uninterrupted wideband Over-The-Horizon (OTH) communications. Each subscriber port of the SATCOM network can be either static or mobile (Ground-based Mobile, Airborne or Shipborne) and must be within the satellite's footprint area with its antenna tracking the satellite. The digital data rate on the carrier link can be as high as 512Kbps inbound and up to 5.12 Mbps outbound and can include voice, data and compressed video.
CREATING A SMARTER FUTURE

Creative Defense Solutions

TACTICAL DEFENSE COMMUNICATION

COMMAND & CONTROL

MOBILE PLATFORMS

CRITICAL SITES

COMMUNICATION INFRASTRUCTURE

BORDER PROTECTION

MER GROUP
5 Hatzoref St., Holon 5885633, Israel
Tel: 972-3-5572529
Fax: 972-3-5580282
E-mail: info@mer-group.com
Web Site: www.mer-group.com
Orbit Communication Systems Ltd. is a leading global provider of mission-critical communication solutions for Land, Sea and Air Platforms.

Orbit has been fulfilling the communication needs of commercial, defense and government customers for more than 60 years. Its advanced solutions support applications in the areas of Mobile Satellite Communications, Communication Management Systems, Aeronautical Telemetry, UAV Command & Control LOS and B-LOS, Satellite Tracking (GEO and non-GEO) and Earth Observation (LEO and MEO). Orbit’s international network of sales/customer support and technical service centers covers the United States, Europe, Brazil and the Far East.

**Orbit’s portfolio includes:**

### Mobile SatCom Systems and Services
Orbit’s Mobile Satellite Communication solutions consist of stabilized broadband antennas (VSAT) for continuous communications with moving platforms. These proven systems are deployed on thousands of marine vessels and platforms, trains and aircrafts. Orbit’s Mobile SatCom systems empower the broadband infrastructure required for critical services and applications, including global Internet connectivity for voice, video and data.

### Audio Management Systems
Orbit provides innovative digital Communication Management Systems for airborne, maritime and ground platforms. These solutions include audio, video and network based systems and applications that enable seamless internal and external communication. Orbit’s AMS solutions meet the most demanding requirements for flexible and secure audio and video management systems, and are customized to comply with each customer’s needs.

### Tracking & Telemetry
Orbit’s Tracking & Telemetry systems enable uninterrupted communication from static and moving platforms to a moving target. These systems are used for flight telemetry in aircraft, missile testing, UAV C&C, LEO/MEO satellite ground stations and data download.

Orbit’s highly dynamic digital tracking systems deliver pinpoint accuracy under extreme weather and environmental conditions. Supporting antennas from 1-11 meters (3-36 ft) and featuring breakthrough multi-band feed technology, Orbit’s solutions reduce CAPEX and the need to maintain multiple tracking systems.
ONE SHOT ONE HIT

ABOUT THE COMPANY

Smart Shooter is an emerging company with the technology and drive to revolutionize the world of military and paramilitary small arms. Established in response to the demand for both increased assault rifles lethality and operator survivability, the company designs, develops and manufactures advanced systems that provide higher hit accuracy for small arms used by ground troops and law enforcement officers around the world. The company’s key, patent-pending technologies combine electro-optics, image processing, real-time embedded software, ergonomics, and system engineering to provide real and affordable solutions for modern, symmetric and asymmetric conflicts.

SMASH FAMILY

Day and Night add-on Fire Control System for assault rifles enabling any shooter, regardless of skill or operational stress, to hit precisely any stationary or moving target. SMASH is MIL-STD compatible. SMASH family products address different segment needs within the Military and HLS markets.
MILITARY GRADE SWITCHES, ROUTERS & REDUCED SWaP ETHERNET COMMUNICATION DEVICES

Tri-Service Communications Devices - Off-the-Shelf or Tailor-Made
TECHAYA is a leading designer, developer and manufacturer of rugged MIL-STD communications solutions for ground, air and naval applications with the lowest SWaP in the industry. Designed specifically for harsh environments TECHAYA’s products have been widely adopted and are operational in many programs throughout the world including dismounted soldiers, unmanned systems both large and small, fixed and rotary aircraft, AFVs, missiles and naval vessels. TECHAYA’s rugged communications systems are perfect for any application involving extreme conditions and ultra-small mechanical constraints.

TECHAYA provides high-performing COTS Ethernet switches (managed and unmanaged), USB systems, media converters, routers and more. In addition to their off-the-shelf offering, TECHAYA is also capable of adapting and customizing its products to meet to customer’s specifications. AS9100C certified.

The smallest products of its kind
In the defense market, where reduction of size and weight of platforms and systems is top priority, TECHAYA’s solutions are the most compact solutions of its kind, allowing for the integration of cutting-edge communications capabilities in the smallest of platforms and systems.

Ethernet Switch and a Computer - All-in-One
Applicable for every C4ISR system and devices on the battlefield, TECHAYA’s unique MILTECH 9012X rugged military 1G router combines full-featured L2/L3 network switching and routing with a fully programmable Linux-based computer – all in a single, super-compact device. Providing unprecedented communications and computing capabilities, the device can transmit voice, video and sensor data, as well as integrate networking and vehicle management software, unique encryption and security measures and robotic limb control using JAUS.

The 9012X is a member of the MILTECH 9012 family that offers flexible alternatives for LAN, LAN/WAN, and customizable networking. All family members are MIL-STD, fully managed, and military grade, with 12 triple-speed (10/100/1000Mbps) ports.
C4I

NET-CENTRIC SYSTEMS FOR ALL ECHELONS

Elbit Systems is a world leader in integrated command & control solutions for land, air, naval, border protection and HLS.

Enhancing operational effectiveness throughout the force, Elbit Systems open architecture standard-based agile systems provide interoperability across the force and coalition members. Globally deployed and field proven with NATO members and many other leading defense forces, Elbit Systems is one source for operational C4I.
mPrest is a global provider of mission-critical monitoring, control and big data analytics software. Leveraging vast field-proven Industrial IoT experience, our integrative system of systems is deployed in diverse applications including Defense, HLS, Power and Water Utilities, Smart Cities and more.

mPrest excels at connecting the dots across multiple disciplines - delivering a unified situational awareness, sophisticated analytics, and end to end IT/OT integration and process management. Featuring advanced big data analytics and real-time data optimization, mPrest seamlessly integrates to any existing system. This improves overall system performance while lowering project deployment time, Total Cost of Ownership (TCO) and risk.

We remain committed to our customers, strategic partners, systems integrators (SIs) and enterprises worldwide, providing innovative solutions to meet their every need.

We cater to the following market segments:

- **Defense**: Strategic and tactical Command and Control for air defense, sea and coastal defense and ground defense
- **Homeland Security**: Critical facilities, borders, coast guard, airports, seaports, gas and oil, safe cities and more
- **Industrial IoT**: Internet of Energy for power utilities as well as smart cities, smart buildings, connected cars, smart agriculture and more

Our flagship projects span across Asia, Africa and Latin America:

- World-renowned "Iron Dome" active defense system
- Critical facility protection for power utilities at IEC (390 sites)
- Air defense, seaport and tactical army Command and Control
- IoT asset management and critical facility security and safety management
- Mobile Command and Control for the federal police
- Oil and gas facility protection
TRI-LOGICAL’S TACTICAL COMMAND AND CONTROL SOLUTION (TCCS)

Tri-logical’s Technologies is a leading developer and provider of Tactical Command and Control Solutions (TCCS). It allows security forces to monitor all mobile assets, provide situation awareness, real time geo-fencing alerts and debriefing capabilities.

The solutions are based on MIL-STD GPS tracking devices for mobile forces including personnel (soldiers, security officers and covert operators) and vehicles (personal Vehicles, armored vehicles, tanks, boats, drone, etc.). The TCCS is an advanced real-time C2 system with worldwide coverage and mobile capability.

Tri-logical have been supplying ruggedized high-end devices for its defense and security customers for the last 20 years. These solutions are deployed and operational today in a wide verity of Defense and Special Forces.

All tracking devices are designed and manufactured by Tri-logical in cooperation with specialists in the defense and security industry allowing high level of customization to provide best of bread solution for its customers. Tri-logical specializes in small, light ruggedized devices with extended working hours that communicates by cellular and satellite communication. All devices can be provided with AES 256 encryption. The devices can be integrated into Tri-logical own TCCS or 3rd party command and control systems.

**TCCS deployments:**

- **C2 - Tactical force management**
  Full tactical command and control suit. Real-time location of all assets worldwide (Cellular and Satellite). Geo-fencing alerts, SOS Complete with ruggedized tracker devices and mobile workstations.

- **Navigation training**
  Track and debrief navigating forces. Increase safety of forces with ability to compare planned route vs. actual, history route debriefing and 3D route training

- **Perimeter control**
  Full view of all mobile assets at your site. Compare planned patrol plans to actual. Rule based alerts based on location and time table. Full event management module with built in SOP templates to enable dispatchers quick and efficient management of unexpected events in real-time.

**Tracking Devices:**

- GSM/GPRS/3G/4G cellular
- Iridium network (Satellite)
- Personal trackers with over 120 of working hours (30 sec trans rate)
- Smart power management
- Lightweight
- Ruggedized
- Over The Air Programming (OTAP)
- Emergency/Distress push button
- Vocal notification on geo-fencing hazards even without cellular/iridium coverage
- Sensors: movement sensor, vibrator indication
- LED indicators: cellular, battery, GPS
- AES-based encrypted communication
TSG is a global system integrator and provider of C4ISTAR, HLS and Cyber Security solutions with a track record of over 40 years in successful development and delivery of mission-critical, turnkey solutions to various defense forces, governmental agencies, municipalities and Tier 1 corporations worldwide.

TSG provides the Israeli Defense Forces and other international customers a variety of field proven network centric command and control solutions for various echelons and military branches and a range of operational scenarios and challenges including classical warfare, low intensity conflicts, Military Operations Other Than War and homeland security missions.

**ICCS**

A next generation Integrated Command and Control System for strategic echelons fusing operational data from various military branches, security services and other agencies

**NCCCS**

A command and control system for coastal surveillance, EEZ protection and blue-water naval operations, enabling maritime situation awareness, mission planning and decision support

**ADCCS**

A State of the Art Air Defense interoperable and scalable C2 System providing a unified air situation picture, coordination, interception control and comprehensive air force operational management

**NESS Control**

An innovative C4I suit for mobile tactical forces providing overall video, voice and data connectivity between all tactical forces. Full mission lifecycle support in all combat conditions
**Xi Information Processing Systems Ltd.**

Offers real-time Command and Control Systems (C4I) and Internet of Things (IoT) for remote monitoring, remote sensing, tracking, guidance, control and management of field operations, vehicles, drones and UVS for defense and homeland security applications. With decades of experience in developing and producing Mil. Spec. products, Xi is offering self-contained solutions incorporating Time-Critical GIS Command and Control system, intelligent multi-band wireless communications and intelligent sensors for local and wide area operations, including cellular communications for urban areas, drones management and Home Land Security applications.
ELTA’s SAR/GMTI Radar Capabilities

ELTA offers a broad range of airborne radar sensors for Air-to-Ground surveillance utilizing Synthetic Aperture Radar (SAR) and Ground Moving Target Indication (GMTI) baseline modes of operation. These radars can be installed and operate from all types of aerial platforms, spanning from Tactical or MALE UAVs, Fighter Jets, Manned Reconnaissance Aircraft, Helicopters, Aerostats and more.

The SAR/GMTI radars enable aerial surveillance in all weather and visibility conditions from long, standoff ranges of operations. The SAR Strip mode provides for wide area coverage with sufficient resolution for stationary target detection, while the SAR SPOT mode is used to “zoom” into regions of interest, with higher resolution necessary for detailed investigation and target classification. The GMTI mode is used for persistent surveillance over large areas, providing for detection and tracking of all moving targets in the scanned region.

Additional capabilities available for selected SAR/GMTI radars include Maritime Patrol modes, enabling detection and track of surface vessels and target classification by ISAR or Range Signature (RS) modes; or Targeting of stationary and moving targets.

To complete the Intelligence, Reconnaissance and Surveillance (ISR) cycle, the exploitation of the information collected by the airborne radar sensor can be carried-out by ELTA’s ELS-8994 Geospatial Exploitation Station (GES), and/or forwarded to User’s own GES system(s) via standard or mutually agreed interfaces.

ELTA Main SAR/GMTI Systems

- **ELM-2060 High Capacity SAR System**, with GMTI over SAR capability. This X-Band radar reaches ranges of operation in excess of 150 Km and SAR Strip coverage of up to 40,000 Km²/Hr. The system is available in two configurations: (a) the ELM-2060P: a self-contained SAR pod for combat aircraft, including its own data link, and (b) the ELM-2060T radar system for manned reconnaissance aircraft.

- **ELM-20600 Radar Targeting Pod (RTP)**. Configured as a lightweight pod (181 Kg) for jet fighters, the RTP X-Band radar enables precise targets geo-location as well as SAR/GMTI reconnaissance at ranges up to 60-70 NM.

- **ELM-2055 SAR/GMTI Payload**. Featuring a weight of 50 Kg and 800 W power consumption, this Ku-Band radar fits MALE and Tactical UAVs, lightweight reconnaissance aircraft, tethered aerostats and similar platforms, where is reaches ranges up to 80 Km (mode dependent).

- **ELM-2054 Lightweight SAR/GMTI Payload**. Specially designed as an all-weather payload for Small Tactical UAVs (STUAV) and similar platforms, this Ka-Band radar weights less than 10 Kg and can operate at ranges up to 20 Km (mode dependent).

- **ELM-2070 TECSAR** is a SAR Imaging System for Low Earth Orbiting (LEO) satellites, manufactured by IAI/MBT Group. ELTA has the responsibility for design and production of the lightweight radar payload that weights 100 Kg.
RICENT - REAL-TIME IMAGERY INTELLIGENCE CENTER

RICent - Real Time Imagery Intelligence Center
ELS-8994RT

The ELTA RICent ELS-8994RT is a modular, end-to-end, comprehensive solution for Intelligence, Surveillance and Reconnaissance (ISR) requirements, from Imagery Acquisition to Image Intelligence (IMINT) dissemination. The system is designed to produce all-weather IMINT, 24 hours a day, by real-time processing and integration of the images delivered through a variety of space, airborne and ground based IMINT sensors, such as Electro-Optical sensors (E/O), Infra-Red sensors (IR), Video, Synthetic Aperture Radar (SAR) and Ground Moving Target Indication (GMTI). The exploitation and dissemination processes employs a variety of automatic and semi-automatic tools necessary for quick detection, identification and acquisition of time critical targets. RICent’s modularity and open architecture design allows for a wide range of implementation solutions, ranging from a single stand alone tactical station to a whole network based hub serving as either a regional or national strategic IMINT center. The RICent employs ELTA’s field-proven technologies and experience in signal and image processing and analysis and features Multi-Sensor Support, Automatic Imagery Geo-referencing, IMINT Data Fusion and Interpretation, On-the-fly Mosaic, Dynamic 3D and Stereo Display, and Intelligence Production Management.

RICent/VEX Video Exploitation System
ELS-8994 VEX

The RICent VEX Video Exploitation System transforms Airborne platforms’ sensor video, especially UAV’s, into a significant source for geospatial intelligence used in a network-centric environment. The RICent Vex is designed to be easily incorporated and integrated into existing Ground Stations enabling advanced video archiving and advanced geospatial exploitation, for immediate correlation and cross sensor cueing with other sources and sensors. In addition, geo-referenced annotation on dynamic video and video mosaics allow for advanced reporting and updated production of relevant imagery data. The system features multi-channel recording, real time VOD services, multi-dimensional indexing – both temporal and spatial, and near real-time video mosaic.
SIGINT SYSTEMS

AISIS - Airborne Integrated SIGINT System
ELI-3001

The ELTA AISIS ELI-3001 is a multi-platform, multi-role Airborne Integrated Signal Intelligence System. The main purpose of the system is to build-up a real-time Electronic Order of Battle (EOB) picture, and to provide valuable tactical and strategical intelligence which can be seamlessly integrated into the nation’s intelligence database. As a secondary mission, part of the airborne segment of the system can be converted into an Airborne Command and Control Center (ACC). The system is designed to cope with the challenges of modern dense non-communication (mostly radars), and communication network environments. The AISIS performs long-range, high endurance SIGINT missions. The system’s tasks are to search, intercept, measure, locate, analyze, classify and monitor ground, airborne and naval transmissions, characterized by short duration, a variety of signal types and frequent changes in signal parameters.

ELINT Ground System
ELL-8382/5

ELTA’s ELINT Ground Station receives and analyses all radar type signals within the 0.5-18GHz frequency range. It is designed to operate in a dense electromagnetic environment by combining high sensitivity and high probability of interception. The instantaneous Direction of Arrival measurement is based on DTOA DF Technology. The Ground Station can be remote-operated by a Central Control Station.

COMINT Ground System
ELK-7036

ELTA’s COMINT System meets the operational challenges of dense communication environments. It searches, acquires and monitors emissions - even those characterized by short transmissions and frequent changes in network parameters over the 20 to 3000 MHz frequency range. The Ground Station can be remote-operated by a Central Control Station.
INTELLIGENCE AS A SERVICE

ISI (ImageSat International) is a global leader in end-to-end geospatial solutions, providing intelligence solutions services based on observation satellites, open source and AI.

ISI owns and operates its very high resolution EROS satellites, and possess advanced capabilities in developing space and ground segments.

OUR EXPERTISE

- VHR satellite services
- Satellite mission ground segment
- Small satellites solutions
- Intelligence analysis
- Maritime monitoring
- Economic Intelligence
HAVE AN EAR IN THE RIGHT PLACE

CTIS - COMPUTERIZED TELEPHONE INTERCEPTION SYSTEM

MIPHA offers a variety of solutions that can meet needs of government agencies, military intelligence, police forces and security services to supervise and intercept all telecom & IP solutions, lawful interception, intelligence gathering, cellphone location tracking and data mining.

We also offer an advanced intelligence inference system for link analysis and inferring intelligence from information coming from different data bases.

These technologies have become crucial nowadays in homeland security in the struggle against terrorism and crime.

SURVEILLANCE AND COUNTERSURVEILLANCE SYSTEMS

- DATA CRYPTOGRAPHY, PKI and DIGITAL SIGNATURE TECHNOLOGY for information and data security
- VOICE/FAX, CELLPHONE & SMART-PHONES CRYPTOGRAPHY to secure telecommunication lines
- DATA RECOVERY, passwords recovery, forensic services to discover improper computer use
- VOICE ANALYSIS SYSTEM as an investigation tool, access control and reliability tool
- COMMUNICATIONS Jammer to avoid misuse of cellphones and use of any radio transmissions as a monitoring and transmitting device to protect cars or VIP public appearance from detonating a remote controlled bomb
- COUNTER SURVEILLANCE checks at customer's premises in order to detect eavesdropping, bugging, commercial & industrial espionage, etc.

MIPHA INTERNATIONAL LTD. is licensed by the Israeli Ministry of Defense to handle international sales of intelligence equipment, consulting in the field of security, including surveillance and counter-surveillance, courses, training and equipment.
SURVEILLANCE & COUNTER-SURVEILLANCE

Secure Your Assets & Protect Your Privacy

Whether to counter state threats like terror and crime, or to counter commercial and industrial espionage, you need experts to provide you with consultancy, solutions, threat assessment, risk analysis and of course state-of-the-art technologies.

Mipha International Ltd. specializes in the field of surveillance & counter-surveillance; providing consultancy services, planning & performing to governments as well as the private sector (industry, banking and other businesses).

Mipha's qualified management & personnel have vast experience in the fields of intelligence, counter terrorism and security.

We offer:

- Professional survey and consultancy in risk analysis and threat assessment
- Counter surveillance checks at customer's premises in order to detect eavesdropping, bugging, commercial & industrial espionage, etc.
- High-end technologies for information & data security (cryptography, PKI, Digital Signature)
- Biometric identification solutions (vein, face, voice, etc.)
- Encryption of telecommunication lines (point-to-point up to multipoint & PBX's). Encryption of cellular communication, smart-phones, etc.
- Electronic jamming of communication including cellular phone for protection against remote activated explosive charges for use in military, Special Forces and VIP protection, as well as unauthorized use of cellphones
- High-end surveillance methods and systems
- Data Recovery as an investigation tool and forensic applications
- Voice analysis as an investigation tool and Access Control System

MIPHA INTERNATIONAL LTD. is licensed by the Israeli Ministry of Defense to handle international sales of intelligence equipment, consulting in the field of security, including surveillance and counter-surveillance, courses, training and equipment.
CUTTING EDGE ELECTRONIC COUNTER MEASURES SOLUTIONS FOR MILITARY

Netline Communications Technologies (NCT) Ltd. develops and manufactures cutting edge electronic warfare and spectrum dominance solutions for the global defense market. Netline provides turnkey solutions, tailored to customer requirements with almost two decades of operational experience.

COUNTER IED JAMMING SOLUTIONS
Netline’s C-Guard Active/ Reactive/ Hybrid C-IED jamming systems protect troops, bases and convoys against remote controlled IEDs. Robust jamming models include rack, rapid deployed, trolley/briefcase, ManPack and UAV payload systems for fixed installations and portable land, sea and air applications. Netline’s software enables interoperability with other communication devices, supports definition of communication windows, generating jamming mission profiles and waveform strategies to match mission requirements.

COMMUNICATION JAMMING (COMJAM) SOLUTIONS
Netline’s communication jamming solutions block RF communications and isolate arenas, targeting U/VHF, Cellular, GPS, satellite, Wi-Fi/Bluetooth, walkie-talkie and all other wireless communication frequencies ranging from 20-6000MHz. Form-factors are designed for land, sea & air platforms. Netline jamming techniques are unique, focussing jamming power exclusively on the targets.

Netline’s DroneNet provides a complete counter drone solution to detect, identify, locate and mitigate the threat of hostile drones to protect sensitive compounds, special forces, convoys, and borders. Fully controlled through DroneNet’s C4I, the system comes in a variety of equipment models from fixed installation to rapid deployment and manpack designs. Netline jammers can modify jamming frequencies in real-time, according to the specific drone type and specific communication channels. Netline integrates third party systems as needed.

TACTICAL INTERCEPTION, COMINT AND SIGINT SOLUTIONS
Netline’s Communications Intelligence solutions integrate a variety of tactical SIGINT capabilities including spectral analysis, signal classification & demodulation, cell phone monitoring and location vectoring. Netline’s fast wideband consist of UHF/VHF radio receiver and a high performance EW digital processor engine for RF spectrum detection, monitoring, and digital processing of the incoming RF spectrum. Netline also offers active ruggedized, tactical and versatile Interception systems enabling to manage cellular, voice and data communications and supports 2G, 3G & 4G. This system also supports using direction finding and location vectoring capabilities. The unique compact form factor of Netline’s solutions meets harsh military environmental requirements facilitates deployment in scenarios and arenas that are often not covered by traditional SIGINT solutions.
PICSIX
The Perfect Interception

PICSIX is a designer and manufacturer of interception and counter interception products and solutions. We produce compact passive interception systems that offer the greatest capacity and performance in the market, state of the art active interception systems and unique and sophisticated “Synchronous Transmission” solutions geared to manipulate cellular networks key parameters. In addition we pioneer a line of counter interception equipment designed to detect, locate and sabotage active interception systems in the near vicinity.

PICSIX LIBERTY is an Intelligence data fusion system based on Picsix’s unique suit of SIGINT and COMINT interception capabilities that facilitates the integration of tactical and semi-strategic intelligence gathering capabilities. Raw data, once captured, are fed into the Big data/Link Analysis engine which cross correlates with government databases, open source intelligence, Geo-location and voice recognition in order to give a comprehensive solution for any need.
Recent military, anti-terror and peacekeeping operations demonstrate that having the right information at the right time is not simply a matter of better sensors. It also depends on immediate access to essential data, and integration of diverse data sources to a unified situation picture including threats, responses and opportunities.

Today, most digital imagery collection systems integrate with a specific sensor. Raw data from a single source is processed by the exploitation station. As digital collection assets generally serve as standalone systems, valuable raw data is available locally, but not to interested clients outside the immediate operating cycle.

To overcome this limitation, Rafael presents IMILITE - a cost-effective intelligence system that receives processes and exploits multiple standalone imagery video and other intelligence data in a centralized and a unified manner, and disseminates this ISTAR data to networked end-users and clients.

IMILITE capabilities include collection and exploitation of E/O, IR, SAR, GMTI and video data in various formats for both real-time and in-depth analysis. The system further combines non-imager GIS data layers, such as targets, threats, COMINT detection and mission status.

IMILITE multi-source integration and automation significantly improves the efficiency of available data collection/exploitation assets.

Utilizing state-of-the-art image processing algorithms, IMILITE enables efficient collation of all incoming data to a unified intelligence situational awareness picture, significantly shortening the ISR collection and exploitation cycle.

IMILITE generates a variety of standard and tailored ISR reports and products, including annotated video clips, alphanumeric reports and GIS data layers. Reports and products can be disseminated to external systems over standard and tailored protocols.

IMILITE also distributes operational data, tactical mission reports, targets and threats to other forces to facilitate close support, targeting and platform/sensor management.

Featuring off-the-shelf hardware and software, IMILITE integrates seamlessly with Rafael’s ISR sensors, as well as with other customer legacy systems. IMILITE’s advanced architecture allows scalable ISR exploitation solutions and adaption to specific operational needs in stationary, mobile and airborne configurations, at strategic, regional and tactical levels.

Based on Rafael’s battle-proven C4ISR Image Processing and Command and-Control systems, IMILITE provides defense forces worldwide with a leading edge in dealing with today’s intelligence collection, processing and dissemination demands.
Verint® Cyber Intelligence assists law enforcement, national security and other government agencies in neutralizing terror and crime and in detecting and preventing cyber-attacks. Based on over twenty years of experience and more than 1000 successful deployments, Verint Cyber Intelligence solutions help Make the World a Safer Place.

**Network Intelligence**
Rapidly uncover mass and target communications intelligence, even when data is going dark

**Tactical Intelligence**
Deploy portable & covert solutions, independent of service providers, across virtually any off-air network and technology

**Web Intelligence**
Access vast amounts of data in the open, deep and dark web to identify and investigate existing and developing threats

**Satellite Intelligence**
Perform end to end collection and analysis of IP and telephony traffic over fixed and mobile satellite communications

**Lawful Interception Compliance**
Comply with ETSI, CALEA, and other lawful interception regulations and standards

**Advanced Content Extraction**
Extract valuable content despite encrypted communication - using a suite of advanced IP capabilities

**Cyber Security**
Achieve comprehensive protection against advanced cyber-attacks with unified investigation, forensics and analysis

**Situational Awareness**
Enable comprehensive situational awareness while driving rapid incident response and enhanced field communications

**Fusion Intelligence Center**
Take control of Big Data and gain value-based insights with cross-organizational data sources and a centralized analytics platform

Verint® Cyber Intelligence assists law enforcement, national security and other government agencies in neutralizing terror and crime and in detecting and preventing cyber-attacks. Based on over twenty years of experience and more than 1000 successful deployments, Verint Cyber Intelligence solutions help Make the World a Safer Place.
Superior Electro-Optics for Precision Attack, Force Protection, and C4ISR

Israel’s military-oriented Electro-Optical (EO) systems are based on advanced technologies that have evolved at Israel’s scientific and defense research establishments for many years. Today, they position Israel’s defense industries among the world leaders in EO applications.

Israel’s well-established EO industry provides everything ranging from basic components to complete multi-sensor systems. Positioned among the few countries producing advanced thermal imaging sensors, Israeli cooled and uncooled sensors employ all usable bands of the Infrared (IR) spectrum. Ultimately, these sensors are combined into systems comprising thermal imagers, lasers, and video cameras integrated with remotely controlled weapons, gimbaled and stabilized payloads to support observation, reconnaissance, targeting and force protection applications.

Israel’s optronic industries and academic research centers are at the forefront in the field of laser technology. Typical systems include the latest eye-safe, diode-pumped and fiber-laser. Other lasers are employed with target designation systems and high energy lasers applications including counter rocket, artillery and mortar (C-RAM) and counter IED weapon systems. Smaller lasers are miniaturized and integrated into sensor payloads to form compact reconnaissance, observation and targeting systems. More applications include navigation, autonomous navigation, and sensing.

In the field of Image Intensification (I2) and Thermal Imaging (TI) Israeli systems are employed with military forces worldwide. These systems are known for their superior visibility, night vision, dust and smoke penetration and high reliability. Such systems provide the core building blocks for a wide range of sighting systems, from weapon sights of all types, and miniature stabilized payloads to large, high-resolution camera payloads for reconnaissance satellites.
CONTROP Precision Technologies Ltd. specializes in the development and production of innovative EO/IR solutions for Surveillance, Defense and Homeland Security applications.

CONTROP’s main product lines include:
- Airborne EO/IR Gyro-stabilized Payloads for installation on SUAVs, Drones, UAVs, Helicopters, Fixed-wing Aircraft, Aerostats/Balloons and more.
- Maritime EO/IR Gyro-stabilized Payloads for installation on Boats, Ships, Vessels and more.

CONTROP’s EO/IR systems have been in worldwide daily operation since the 1990s, on a wide variety of airborne, maritime and land platforms.

CONTROP’s iSea Maritime EO/IR Camera Systems
The iSea Maritime EO/IR Gyro-stabilized Payloads were designed to meet harsh maritime environment on Boats, Ships, Vessels and other Maritime platforms.

iSea Applications:

CONTROP’s Land EO/IR Camera Systems
The Land EO/IR Systems were designed to provide automatic detection, recognition and identification capabilities and were especially developed for diverse land environmental conditions.

Land Systems’ Applications:

CONTROP’s mission proven iSea and Land EO/IR camera systems provide superior images due to maximum sensor range performance using highly sensitive sensors, gyro-stabilization and unique video enhancement algorithms.
CONTROP’s STAMP Airborne EO/IR Camera Systems
The STAMP airborne EO/IR Gyro-stabilized Miniature Payloads were designed to meet demanding Intelligence, Surveillance, Reconnaissance and Targeting (ISRT) missions on Small UAVs (SUAVs), drones and other aircraft.

STAMP Applications:

CONTROP’s iSky Airborne EO/IR Camera Systems
The iSky airborne EO/IR Gyro-stabilized Payloads were designed to meet challenging Military and Law Enforcement airborne operational requirements on UAVs, Helicopters, Fixed-wing A/C and other aircraft.

iSky Applications:
Search & Rescue, Border Surveillance, Law Enforcement, Maritime Patrol.

CONTROP’s mission proven STAMP and iSky EO/IR camera systems provide superior images due to maximum sensor range performance using highly sensitive sensors, gyro-stabilization and unique video enhancement algorithms.
TAMAM HD EO/IR/LASER SYSTEMS

SEE THE RIGHT WAY
DETECT, IDENTIFY, DESIGNATE

TAMAM Division of Israel Aerospace Industries Systems Missiles and Space Group is a leading electro optics (EO) and navigation system house.

TAMAM designs and manufactures gyro-stabilized EO payloads and systems for a wide variety of UAVs, helicopters, fixed wing aircraft, aerostats, marine vessels and ground applications. TAMAM’s systems are field and combat proven. Thousands of systems are in service with leading armed and security forces worldwide.

TAMAM provides a wide spectrum of observation and targeting solutions for the modern battlefield - covering short, medium and long ranges - for different airborne, naval and ground platforms. These are equipped with state-of-the-art HD sensors and diode pumped laser designators, compatible with US and NATO laser guided weapons.

Typical applications include:
- Surveillance, reconnaissance, targeting
- Border control
- Coastguard and customs
- Traffic monitoring and control
- Drug interdiction
- HLS- homeland security

M-19 HD - (22", 80Kg) is a state of the art, very long range observation and targeting system based on one LRU ,fully digital stabilized payload. The sensors package includes HD EO , HD IR, SWIR and laser sensors optimized for customer missions. M-19 HD includes unique sensors in-flight bore-sight alignment mechanism and video image enhancement capabilities that significantly improve observation and targeting performance. The payload’s line of sight can be controlled manually, by auto-track or by slaving and scanning modes.

MOSP3000 - (Multi-mission Optronic Stabilized Payload) - 14" OR 15" ball (32 Kg) - MOSP3000 has several sensor configurations of HD CCD and HD IR cameras together with a laser pointer and a laser designator rangefinder.
It is installed on fixed or rotary wing aircraft, unmanned airborne platforms, land vehicles or naval vessels, providing very long ranges of observation and laser targeting capabilities.
Excellent long range performance is achieved by MOSP3000’s very high degree of stabilization. Accurate laser targeting is assured due to MOSP3000’s built-in automatic bore-sight mechanism.
POP300 - (Plug-in Optronic Payload) - A 10", 16-20 Kg, compact, stabilized electro optical payload that includes HD thermal imager, HD TV camera, a laser pointer and laser designator rangefinder. POP300 is used on tactical UAVs, fixed wing aircraft, helicopters, on ground platforms and on marine vessels.

MINIPOP - An 8", 6-9 Kg dual axis, gyro-stabilized payload. The system is built on a one line replaceable unit (LRU) open architecture and carries a variety of sensors. The payload includes a continuous zoom IR and color day camera and a laser range finder or designator. An automatic video tracker can also be installed.

MICROPOP - A very small and light (4", 1Kg) dual axis, gyro-stabilized payload, built on a one line replaceable unit (LRU) open architecture carrying a single sensor that can be switched within minutes. Sensors contain either a "day" continuous zoom color camera or a "night" uncooled thermal imaging camera.

GTAS (Ground Target acquisition System) - An innovative, portable, tripod mounted, gyrostabilized, observation and laser targeting system for ground missions.
Based on TAMAM’s MINIPOP, the system also includes: a tactical computer, eyepiece, joystick, north finder, GPS receiver, and power pack. Remotely operable GTAS can be controlled from a protected location thus ensuring operator survivability.
YOUR BEST PARTNER FOR EYE SAFE LASER TRANSMITTERS

About OPTITASK
Optitask Ltd develops and manufactures an extensive range of Eye Safe Laser Transmitters for use in different kinds of Laser Rangefinders. Our wide range of lasers covers a broad spectrum of output energy and repetition rate using passive and active Q-switches.

In all of our facilities and activities, we maintain the highest manufacturing and quality assurance standards in strict adherence to international standard ISO 9001:2008.

Our Laser Transmitters manufacturing facilities include three levels Clean Rooms: ISO 7 (Class 10,000), ISO 6 (Class 1,000) and ISO 5 (Class 100), Laminar Boxes, numerous standard and special Electro-Optical instruments and jigs.

Worldwide Connections
Great Britain: mattew.ashton@pacer.co.uk
USA: shawn@rpmclaser.com
India: photonex13@gmail.com
Japan: kikuchi@beams-inc.jp
Israel: iv@optitask.net

OT-29: 1.54µm/1-2mJ/1pps
OT-39: 1.54µm/3-4mJ/1pps
OT-33: 1.54µm/1-2mJ/1pps
OT-34: 1.54µm/2-3mJ/1pps

OT-17: 1.54µm/2-3mJ/1pps/-35°C to +71°C
OT-27: 1.54µm/2-3mJ/5pps/-32°C to +71°C
OT-37: 1.54µm/2-3mJ/10pps/-32°C to +65°C

OT-03: 1.54µm/12mJ/10pps/-40°C to +65°C
OT-20: 1.54µm/10mJ/20pps/-40°C to +65°C
Iron Beam Benefits:
• Intercepts short range rockets, mortars and UAV’s
• Rapid and direct response against maneuvering targets
• Highly effective against multiple threats
• Pinpoint accuracy
• Unlimited ammunition
• Low cost-per-shot
• Invisible / inaudible engagement
• Transportable

Features:
• Pin-Point Accuracy - minimal collateral damage, minimal environmental impact and no risk to friendly Air traffic near the target
• Seamless Integration with a wide range of platforms
• Long-Range Engagement - long “reach” to engage potential targets located along line-of-sight (LOS)
• Multi-Target Engagement - enabled by Iron Beam’s fast response
TROYA specializes in Night Vision and Thermal Imagery devices and solutions for the Defense, HLS and Tactical markets. The company’s personnel has an immense understanding in this field, and we constantly aim to shape the future uses, platforms and applications for this advanced battlefield capability. With proper assimilation, Night Vision, by itself can provide a great advantage in multiple combat scenarios.

As a part of TROYA’s capabilities, the company develops various Electro-Optical solutions. This is often initiated as a specific customer requirement or inquiry, due to TROYA’s strong connection with its customers and End Users.

A unique capability TROYA holds, is its Testing Stations line, which allow for continuous maintenance of Night Vision Devices (also those manufactured by other companies). In addition, TROYA offers engineering design services and products User Interface consultancy.

TROYA’s Feature Products:

**STRIX**
Aviator Night Vision Imaging System (or ANVIS). These Night Vision Goggles are especially designed for rotary/ fixed wing aerial platforms, and are used by pilots and aerial technicians/gunners.

**NINOX**
Night Vision Binoculars for ground forces and Spec-Ops drivers. Allows for stereoscopic vision and heightened situational and combat awareness.

**TYTO**
A Night Vision Monocular for various applications. Can be head/helmet/weapon mounted, and could be joined to another NVM in order to become a binocular when used together.

TROYA’s reach of business partners, associates and relations is spread around the globe. This is thanks to our seasoned management team, with its vast knowledge and with over 30 years of combined experience in the Defense & Security Industry.
A CLEAR VIEW OF THE WORLD

A MEMBER OF SK GROUP

COMPANY PROFILE

Uni-Scope Optical Systems Ltd., an SK Group member, has built up a worldwide experience in development, production, sales and marketing of glass and acrylic periscopes, light handheld periscopes, laminated armored glass, vision blocks, riflescopes, binoculars, long range observation systems, torch lights, tripods and optical components.

Uni-Scope's products are specially designed and manufactured for military & law-enforcement international markets and maintains Quality Control System to meet and exceed ISO 9001-2000, US military, NATO and the Israeli Defense Forces (IDF) standards.

Uni-Scope designs and adapts its technologies, integration skills, market knowledge and battle-proven products to each customer’s individual requirements and provides customers with cost-effective viewing solutions for Main Battle Tanks, APC’s and AFV’s. Our customers are able to improve their technological and operational capabilities within limited budgets and customized periscopes, adapted to specific equipment and combat environment can be provided upon request.

Innovation, dedication and customer satisfaction have put Uni-Scope Optical Systems, Ltd. at the forefront of the industry.

SK GROUP

Uni-Scope is a member of SK Group, a leading global defense and security group of companies comprising: Israel Weapon Industries - IWI Ltd. (firearms manufacturer), Meprolight Ltd. (electro-optic systems, lasers and night vision systems), Camerotech Ltd. (through-the-wall sensing), Israel Shipyards Ltd. (ship manufacturing and repair) and more.
ReceLite XR is a multi-spectral, multi-role, real time stand-off reconnaissance system consisting of an airborne pod, a wide digital D/L, and a ground exploitation station. The ReceLite XR is based on the ReceLite which is in operational use worldwide.

**Operational Flexibility:**
- Simultaneously collects high resolution images at: NIR, SWIR, MWIR and Color sensors in high rate
- Enables Long Range Photography as well as Vertical and Stand in capability
- Gimbaled payload enables stabilized photography, irrespective of aircraft maneuvers or deviation from flight route

- Unlimited field-of-regard and a variety of scanning modes for optimal photography of all types of terrain such as:
  - Persistent wide area scanning
  - Gate keeping
  - Line search
  - Mapping
  - 3D modeling
- Mission plan carried out via automatic operation or can be manually controlled for targets of opportunity

**Real-Time Intelligence**
- Wide-band digital data link for real-time transmission and interpretation
- Real-time mission plan update via D/L
Litening is a combat-proven multi-spectral airborne targeting pod. It is designed for targeting and designation of targets by day and night. Litening presents pilots with real-time, Forward Looking Infra-Red (FLIR) and TV HD color camera imagery. The high resolution sensors and the electro optical effective design enables pilots to operate the pod at standoff ranges reliably identify the targets and consequently avoid collateral damage. It is fully operational 24 hours a day and in adverse weather conditions.

The Litening Pod is in operational use worldwide. Over 1500 Pods have already been sold to customers around the world. It is integrated on more than 20 platforms: Western, Eastern, European and more. All sensors are incorporated in a single pod and provide the fighter aircrew with the flexibility to perform multiple missions/tasks including:

- Detection/Recognition/Identification/Laser designation of targets at standoff
- EO tracking of multi stationary targets in A/G missions
- Auto detection of multi dynamic targets in A/G missions and aerial targets in A/A missions
- EO tracking of the selected aerial target in A/A mission
- Accurate target location extraction and pointing
- Co-operative missions with target hand-over by Laser spot detection & Laser marking means utilizing Night Vision Goggles (NVG)
- Interoperability with advanced munitions (JDAM, Image and location oriented)

GES
- Real-time automated computer vision routines upgrade interpreter capabilities and speed up exploitation
- Advanced change detection
- Smart archiving
- Accurate registration
- Automatic detections
- Advance image processing tools

Payload Configuration
- RecceLite can be integrated onto variety of aircraft and UAV
- For light platforms split configuration can be used
Opgal's combat proven thermal-imaging solutions are ITAR/EAR free and are utilized by armed forces worldwide. Our systems provide optimum vision for today's battlefield environment.

Defense OEM Upgrade Solutions for MBTs
From highly sensitive uncooled thermal channel upgrades for gunner and commander sights, to dual channel periscope housing retrofits, Opgal has solutions for every fleet.

EOSs for Remote Control Weapon Stations
Opgal's electro-optical systems and RCWSs for medium and long-range observation utilize sophisticated telescopic systems and are designed to increase hit probability and enhance overall situational awareness.

DVEs and LSAs for Armored Vehicle Retrofits
Designed to enhance the operability and extend the lifespan of armored vehicles, Opgal provides integrators with a wide range of off-the-shelf and customizable driving vision enhancement (DVE) and Local Situational Awareness (LSA) systems that can be incorporated into a variety of both newer and older model armored vehicles.

Border Surveillance Systems for HLS
Opgal's dual channel cameras offer round-the-clock long-range surveillance, wide area scene awareness, or close-up threat assessment for HLS with both cooled and uncooled thermal core options and CCD and HD day color options.

With more than 30 years of field-proven experience, Opgal partners with leading OEMs, integrators, and end users to develop cost-effective customized thermal imaging solutions that address your specific defense and border security requirements. Contact us today for more information.
INNOVATIVE COOLER TECHNOLOGY

Ricor Systems is a world-leader in innovative cooling technology for, military defense, homeland security, space and semiconductors, commercial and scientific equipment industries. Ricor develops, manufactures and markets a wide range of advanced products and solutions. Based on Stirling Cryogenic Cooling technologies, Ricor offer tremendous flexibility, servicing cooling power needs ranging from a fraction of a Watt up to 15W and temperatures from 35K to 200K and input power consumption under 2W.

Meeting the Needs of an Evolving World

BATTLE-PROVEN PRODUCTS FOR MILITARY & DEFENSE APPLICATIONS
Ricor’s comprehensive range of Miniature Cryocoolers solutions meets the operational needs and challenges of a wide variety of forces and scenarios. From weapon sights and night vision, through coastal security, to aircraft protecting systems and thermal imagers. Ricor's Miniature Cryocoolers are designed for varies devices and application. We provide SWAP cryocoolers for HOT infra-red detectors, long life cryocoolers and robust high-cooling power cryocoolers for high-end systems and detectors.

All Ricor products are manufactured according to SWAP – ensuring compact size, weight and low power consumption.

DE LONG LIFE 24/7 RELIABILITY FOR CONTINUOUS OPERATION HOMELESS SECURITY PRODUCTS
The rising risk of international terrorism and repeated terrorist attacks have prompted calls for greater global security from societies throughout the world. Against this backdrop, new technologies have a key role to play, from systems to ensure security in urban areas with high population density, to the protection of sensitive sites such as museums, military installations and research establishments. Ricor's have developed a set of Miniature Cryocoolers that suite the most advance, reliable and update homeland security solutions.
SCD SemiConductor Devices is a worldwide leader in design, development and manufacture of infrared detectors and laser diodes.

SCD leverages its successful 40-year leadership to meet and exceed today's and tomorrow's challenging demands in the EOIR Defense, Home Land Security (HLS), and Commercial markets. SCD adheres to the highest standards and strives to offer aggressive specifications for Airborne, Maritime, Land, and Space applications.

SCD PRODUCTS AND SERVICES

- **IR Detectors**
  SCD’s unique capabilities and technologies are deployed in its extensive range of Cooled and Uncooled detectors based on a variety of sensing materials such as InSb, MCT, InGaAs, T2SL and VOx, and are available in almost any video format: QVGA, VGA, XGA, HD and more.
  SCD offers both off-the-shelf detectors and tailor-made solutions available in small quantities as well as volumes of hundreds and thousands of units all across the infrared spectrum: NIR, SWIR, MWIR, and LWIR.

- **Laser Diodes**
  Over many years of development, SCD has established proven wafer designs for different families of laser products in a broad wavelength range from 800 nm to 1100 nm, including high-power laser bars and stacks as well as single emitters delivering 14 W output with record brightness levels. These diodes can be integrated in products with complex optical architectures, including 50 W fiber-coupled modules featuring multiple emitter chips.
  SCD also offers a broad range of CW / QCW (quasi-continuous wave) products for solid-state laser pumping

- **SCD Position**
  As a world leader in infrared technology, SCD continues to invest heavily in innovation. All recent generations of detectors at SCD are digital. Our customers enjoy end-to-end support and service at the highest levels and standards.
  SCD supplies its detectors to leading Israeli defense industry such as Rafael, Elbit, Elop, Israel Aerospace Industries (IAI), Israel Munition Industries (IMI). As well as worldwide leading defense, HLS and commercial industries - In North America, Europe, Asia and more.

- **SCD Detector and Laser Diode Applications**
  SCD detectors, video cores, and laser diodes are designed, built and manufactured for deployment in demanding applications for commercial and defense customers alike, especially in the Air, Land, Sea and Space domains where environmental qualifications is mandatory:
  - Missile Seekers
  - Fire Control Systems (Gunner primary sight)
  - Commander Thermal Sight
  - Hand Held Applications
  - Long Range Surveillance, Border Security and Costal security
  - Airborne Payloads
  - Thermal Weapon Sights (TWS)
  - Night Vision Driving Systems (NVDS)
  - Missile Warning Systems (MWS)
  - Security
Cl Systems develops, manufactures, markets and services sophisticated electro-optical test and measurement systems primarily for the design, testing and maintenance of military electro-optical systems. Cl's experience over the years has gained it a reputation as a reliable partner in the Worldwide defense programs.

Cl's products provide:
- Field and depot level maintenance staff with test equipment to ensure maximum operational readiness.
- Developers of night vision equipment, FLIRS, Lasers, day sight, multi spectral systems and other sophisticated electro-optical systems.
- Defense contractors with comprehensive test systems to ensure high quality, repetitive, reliable and fast testing.

Cl's METS (Modular Electro-optical Test System) is a fully integrated system mainly used for depot level. Its main features are:
- Wide spectral range and apertures
- Superior optical quality, temperature resolution and accuracy.
- Modular design to meet the specific needs of customers.
- Easy to operate advanced software package (AFT) to automatically perform MTF, NETD, MRTD, SiTF, etc. tests.
- User friendly optical alignment to Unit Under Test.
- Built to test visible (CCDs) to Far IR FLIR systems.

<table>
<thead>
<tr>
<th>ILET (Intermediate Level Electro-optical Tester)</th>
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<tbody>
<tr>
<td>- Compact and ruggedized athermal design.</td>
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<tr>
<td>- Accurate at a wide ambient temperature range.</td>
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<tr>
<td>- Easy to use.</td>
</tr>
<tr>
<td>- Capable of automatic operation (with added PC and AFT software).</td>
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</tbody>
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<table>
<thead>
<tr>
<th>FTC - Field Test Colimator</th>
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<tbody>
<tr>
<td>- Objective “0” level Go/No Go FLIR testing.</td>
</tr>
<tr>
<td>- Light weight and portable self contained miniature collimator.</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>OLT - O Level Laser Tester</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Objective O level laser tests.</td>
</tr>
<tr>
<td>- Lightweight and portable.</td>
</tr>
</tbody>
</table>
Elbit Systems’ EO solutions are designed for space, airborne, ground and maritime applications, providing customers an advantage in facing the evolving challenges on the battlefield and on the home front.

Advanced, end-to-end EO solutions for land applications include combat vehicles, sensors and laser rangefinders, and solutions for land warrior systems include thermal imagers, weapon sights and laser designators. Airborne applications range from advanced stabilized systems, long-range oblique imaging systems, hyperspectral systems, EO payloads, head-up displays and space imaging systems. The Company’s renowned direct infrared countermeasure (DIRCM) systems deliver proven protection for military and commercial fixed and rotary-wing aircraft.
EO SENSING SOLUTIONS: INSTRUMENTATION, MEASUREMENTS AND MODELING

IARD Sensing Solutions develops manufactures and markets radiometers, proprietary electro-optical instrumentation and custom built electro-optical systems. IARD also provides Research, Development and Measurement services in the fields of EO Signatures, Radiometry and Remote Sensing. The services include development of physical and mathematical models in the fields of heat engineering, gas dynamics of hot multi-phase flows and electro-optics.

**Products:**

**Radiometers:**
A family of fast multi-channel radiometers which are capable to perform simultaneous radiometric measurements in up to 4 channels to choose from the UV, VIS, NIR, SWIR, MWIR, LWIR with high sensitivity and speed (up to 250K samples per second). It satisfies the requirements of scientists and engineers who need to measure the signatures of fast transients phenomena from close (meters) and large (>100 km) distances. The radiometers are all fully computer controlled via USB interface with 16 bit data acquisition integrated in the radiometer. The family of radiometers includes the following products:

- **ColoRad:** the perfect tool for performing field measurements with high sensitivity in up to 4 user-defined spectral bands.
- **Orion:** Dual band, compact, fast radiometer. Used as a stand alone radiometer or as an add-on to slow imaging devices or spectro-radiometers for measurements of fast transients.
- **MicroRad:** Compact Single channel radiometer. Supports a wide range of spectral bands. The radiometer can be used for EO systems calibration and other various applications.

**OFRI:**
Real Time Observation Range Enhancer. Ideal for surveillance systems and all outdoor imaging applications. Compact, simple to use, Stand-alone unit enhances the observation range by up to 3 times in bad weather conditions. Accepts any standard analog video input in the Visible, NIR, SWIR and Thermal IR spectral bands. Based on a sophisticated physical model, OFRI reverses the image degradation caused by atmospheric absorption and path radiance (airlight), thus achieving outstanding results.

**DBS:**
Dual band CCD camera for detection applications. The DBS enhances spectral differences between the target and its background. Applications include detection of camouflage nets, missile plumes, water stress in vegetation; authenticity verification and many more.
The Core of Israel's High-Technology Industry

Defense electronics have evolved into a highly sophisticated field of activity in Israel, with defense companies rated among the country’s leading high-tech industries. The field is attracting highly experienced engineering and scientific talents from academic, military, intelligence, research, and development branches. Some of Israel’s defense electronics firms have grown into world-leading enterprises, offering a broad range of high-tech products for defense and security as well as for commercial applications.

Israel also offers comprehensive cyber defense capabilities, developed and matured by a vibrant community of small and large expert companies. Innovative capabilities in threat detection, service continuity, and system resilience and recovery position Israel among the world’s leaders in the field of cybersecurity.

Others have specialized in specific fields, including communications security (COMSEC) and encryption, high-speed data links over terrestrial, aerial and satellite communications, electronic intelligence, navigation, positioning and timing, sensors signal processing and display technology.

Israeli technologies are often integrated into larger systems offered by local defense industries or with foreign system integrators, where Israeli systems are available free of ITAR restrictions.

Israel-based specialist industries are also providing state-of-the-art subsystems ranging from components for thermal sensors from detectors and coolers to complete ‘engines’, and subsystems for imaging systems. Others are specializing in gyro stabilization and servo systems, miniature motion systems and micro-electro-mechanical systems (MEMS). Other product lines include acoustic and seismic sensors, along with rugged electronics, special-purpose displays for ruggedized military systems and more.

Different components employing high-density batteries miniature, safe-and-arm systems and fuses, hardened electronic assemblies, sensors and power supplies are also available for weapon type applications. Specialized product ranges include space-qualified systems designed to meet the harsh operating conditions in outer space.

All these are only few examples of Israel’s wide range of electronic components and subsystems.
Inertial Navigation Solutions

Al Cielo Inertial Solutions (ACIS) is a leading manufacturer of closed loop FOG based inertial systems.

For over 12 years, ACIS has been supplying Israeli and International clients with high-performance, reliable, and ITAR free inertial solutions, while maintaining a competitive and fair price.

Our field proven IMUs and systems are integrated into world class fully operational systems, such as rocket systems, accurate munitions, payloads, UAVs, civilian aircraft protection systems, and many others in Israel as well as in the international defense market.

ACIS is the only manufacturer in Israel for Closed Loop FOGs, and has delivered products to the top-tier defense industries in Israel: Israel Military Industries, as well as many other system manufacturers in Israel and abroad.

Over the past 12 years, from tight-scheduled flight tests to high volume deliveries of hundreds of IMUs per year - ACIS has demonstrated its capability to align its commitments to its customers’ challenging requirements and deadlines, and to be an active partner in the efforts and successes of the high-end systems incorporating our products.

A subsidiary of RAFAEL of Israel, and Kearfott of USA, ACIS aims to continue developing its line of products, while maintaining its unique customer approach.
**PHYSICAL LOGIC LTD.**

*Design, development and manufacture of high precision open loop and closed loop MEMS accelerometers*

Physical Logic Ltd. is a privately held Israeli high-tech company with a state-of-the-art R&D; manufacturing and testing facility in Petach Tikva, Israel.

Our meters have a wide range of high-end applications: inertial navigation, vibration sensing, tilt sensing, and seismic sensing.

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**Closed Loop Accelerometer**

With miniature footprint, lower weight and a fraction of the cost, our closed loop MEMS accelerometer offers performance you would expect from a traditional electro mechanical accelerometer.

<table>
<thead>
<tr>
<th>Key Parameter- MAXL-CL-3030</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input Range</td>
<td>±30 g</td>
</tr>
<tr>
<td>Bandwidth</td>
<td>300 Hz</td>
</tr>
<tr>
<td>In run bias stability @25°C (min. Allan variance)</td>
<td>&lt;15 µg</td>
</tr>
<tr>
<td>SF short term stability (15 h)</td>
<td>&lt;150 ppm</td>
</tr>
<tr>
<td>SF temperature sensitivity</td>
<td>150 ppm°C</td>
</tr>
<tr>
<td>SF residual error</td>
<td>&lt;200 ppm</td>
</tr>
<tr>
<td>SF linearity</td>
<td>&lt;0.05% of full range</td>
</tr>
<tr>
<td>Bias short term stability (15 h)</td>
<td>&lt;150 µg</td>
</tr>
<tr>
<td>Bias temperature sensitivity (1σ)</td>
<td>150 µg/°C</td>
</tr>
<tr>
<td>Bias residual error (1σ)</td>
<td>150 µg</td>
</tr>
<tr>
<td>VRE (20 – 2000 Hz)</td>
<td>&lt; 30µg/√Hz</td>
</tr>
</tbody>
</table>

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**Open Loop Accelerometer**

Our open loop MEMS accelerometers’ performance fills the gap between comparable MEMS accelerometers and electro mechanical accelerometers.

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</thead>
<tbody>
<tr>
<td>Input Range (g)</td>
<td>±2</td>
<td>±5</td>
<td>±10</td>
<td>±20</td>
<td>±40</td>
<td>±70</td>
</tr>
<tr>
<td>Bandwidth (Hz)</td>
<td>300</td>
<td>300</td>
<td>300</td>
<td>300</td>
<td>300</td>
<td>300</td>
</tr>
<tr>
<td>Resolution (µg) max</td>
<td>5</td>
<td>15</td>
<td>30</td>
<td>50</td>
<td>100</td>
<td>150</td>
</tr>
<tr>
<td>Bias repeatability (mg) 1σ</td>
<td>0.5</td>
<td>0.6</td>
<td>1.5</td>
<td>2</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>SF repeatability (ppm) 1σ</td>
<td>600</td>
<td>600</td>
<td>600</td>
<td>600</td>
<td>600</td>
<td>600</td>
</tr>
<tr>
<td>Equivalent Noise density (µg/√Hz) max</td>
<td>1.2</td>
<td>1.6</td>
<td>2.2</td>
<td>4</td>
<td>5</td>
<td>7</td>
</tr>
</tbody>
</table>
There is a clear need for a robust GNSS Anti-Jamming solution that would enable continuous operation of systems in a jammed environment.

Israel Aerospace Industries (IAI) has developed domain expertise in the NAVWAR, including its ADA portfolio of digital GNSS Anti-Jamming (AJ) solutions that enable assured PNT services.

ADA Top-Notch AJ Performance
The ADA approach to assured PNT involves the use of advanced digital processing techniques that provide a high-level of immunity in severe and dynamic multi-jammer scenarios. ADA’s 3rd generation of products provides high accuracy and simultaneous multi-band jamming immunity. The ADA system performance was rigorously tested and validated in the laboratory and in field tests and is integrated in a variety of operational systems.

Versatility - Airborne, Surface, Munitions
The ADA product-line includes units in different sizes and performance levels that are based on in-house know-how and that were designed for a variety of application - airborne (fixed-wing, rotary-wing, UAS), surface and munitions applications.

Multi-GNSS and GPS m-Code
ADA modular architecture supports Multi-GNSS as well as GPS M-Code.

Flexible Configuration - Integrated GNSS Receiver or “RF Add-On”
The ADA system can be provisioned as either an integrated immune GNSS receiver or as a completely independent add-on by RF connection to any 3rd-party GNSS receiver. The “RF add-on” configuration allows for plug-and-play installation on top of existing GNSS receivers.

Superior SWaP & Reliability
ADA units employ rugged design which offers high reliability (high MTBF) and low Life-Cycle-Cost (LCC)
LAND AND AIRBORNE NAVIGATION SYSTEMS

TAMAM PORTFOLIO INCLUDES:

- Land-navigation and reference systems.
- Strap-down inertial reference and navigation systems.
- Airborne inertial navigation systems.
- Gyros and accelerometers (inertial; semi-inertial) free gyros; rate gyros.

LAND NAVIGATION SYSTEMS

TMAPS - Tamam Modular Azimuth Position System
TMAPS is a third generation, small-size, integrated, survey and target acquisition system for autonomous ground indirect fire units, survey, air defense and any other type of military unit that requires continuous and highly accurate azimuth and position data.
TMAPS provide continuous and accurate azimuth, elevation and location data, enabling simultaneous positioning and pointing for Self Propelled Guns (SPG), towed guns, mortars, tanks, armored personnel carriers (APCs), missiles, rocket launches etc. TMAPS is compatible with MIL-D-70789A.

VGLPS - Vehicle Gun Laying & Positioning System
VGLPS is a hybrid autonomous high precision land navigation, gun laying and target acquisition system. Based on the TMAPS system, VGLPS is suitable for artillery deployment and forward observation applications.
VGLPS uses the navigation data from the TMAPS so all inertial data is constantly available. VGLPS provides the vehicle's own position coordinates, the observation line of sight azimuth and the gun or targets coordinates.

ADNAV - Advanced Navigation System
Affordable, Fiber Optic Gyro (FOG) - based land navigation system for tanks, APC and other land vehicles.

AIRBORNE NAVIGATION SYSTEMS

TNL-16G - RLG based Airborne Inertial Navigation system.
TNL-16G is a Ring Laser Gyro (LRG) based small, lightweight, GPS aided, inertial navigation system. The TNL-16G utilizes three 16 cm. path length RLG and three high accuracy Accelerometers. The TNL-16G contains and embedded GPS receiver (external GPS is optional).

TRF-90 - FOG based miniature Inertial Measurement Unit (IMU)
TRF-90 is a small, lightweight, strap down IMU, that is based on open-loop Fiber Optic Gyro (FOG) technology. The unit's modular design allows for easy adaptation for various configurations.

TNF - Tamam Navigation FOG
TNF is a miniature, FOG based attitude, heading and reference system (AHRS) for aircraft, helicopters and UAVs.

Applications for Airborne Navigation Systems

- Guided missiles and smart munitions
- Guided artillery projectiles
- Unmanned aerial vehicles
- Optronic and targeting systems
- Instrumentation pods
- Antenna stabilization
- Radar stabilization
- Vertical Gyro Unit (VGU)
Elmo offers a generic, completely ready-to-use motion control solution for inertial platform stabilization, whether on ground, in air, or by sea. The solution consists of Elmo’s Standard “Off the Shelf” motion control products. Starting from controller level gyro signal input, to high precision, high dynamics, high bandwidth servo, and the ability to control any number of motion axis, the Elmo solution is a light and robust motion solution that’s ready to stabilize any platform whatever the environment may be.

Elmo’s advanced multi-axis control capabilities, in conjunction with intelligent servo drive technology, guarantees ultimate stabilization performance, saving platform manufacturers the need to develop any dedicated hardware or software. With advanced control features such as SIL (Software In the Loop) customers can use their own control algorithms and thus streamline through the design process or protect any of their sensitive IP.

A compact, light-weight solution with high bandwidth and efficient networking making it ideal for extreme airborne inertial platform stabilization.

*** Elmo’s Gold Eagle high-current, super-compact servo drives has been installed in the Merkava Tanks

An example of a 4 camera pod system on a UAV, mastered by 1 P-Lion motion controller
CYBER DEFENSE
Defense and Intelligence in Cyberspace

In today’s world, Cyber warfare is one of the most challenging threats within the defense arena. Countries and organizations around the globe invest in ongoing measurements to protect their valuable assets and information.

Positioned at the forefront of cyber security and intelligence, Israel has established a thriving ecosystem of research, development and operational capabilities to identify, understand and contain vulnerabilities and threats to information, communications and operational systems in the cyber domain.

Israel’s cyber technology pioneers are positioned at the forefront of this new universe, providing the knowhow and capabilities to nations, organizations, system developers and users. The tools and techniques they developed are designed to defend new and legacy systems from hostile cyberattacks, harden electronic systems and connected platforms to become more resilient and secure.

Cyber technology and services are available from numerous Israeli providers. They include the country’s largest corporations and defense companies that offer full solutions. Such services often range from early warning, threat assessment, countermeasures and recovery to training and simulation for national authorities, protection of critical infrastructures and large corporations. Cyber protection providers also include medium corporations that are dedicated to operate in the Cyber protection providers domain and small startup ventures, specialized in specific, innovative solutions.

Israel’s cyber companies also provide government agencies and tactical users the abilities to understand the new domain and harness its unique capabilities to gain intelligence and early warning of potential future threats.
### CYBER SOLUTIONS

#### ELTA SYSTEMS LTD.
P.O.Box 330  
Ashdod 7710202, Israel  
Tel: 972-8-8572410  
Fax: 972-8-8561872  
E-mail: market@elta.co.il  
Web Site: www.iai.co.il

<table>
<thead>
<tr>
<th><strong>Cyber Academy</strong></th>
<th><strong>Education &amp; Training - Building a professional &amp; skilled cyber workforce:</strong></th>
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<tbody>
<tr>
<td></td>
<td>• National Educating and certifying all levels of Cyber personal for the use of industry and military</td>
</tr>
<tr>
<td></td>
<td>• Operational support during OJT (On the Job Training) in order to bring the Cyber team to expert level</td>
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<tr>
<td></td>
<td>• Establishing Independent National Cyber Knowledge base</td>
</tr>
<tr>
<td></td>
<td>• &quot;Hands on&quot; Training and certification</td>
</tr>
<tr>
<td></td>
<td>• B.Sc. in Cyber Science</td>
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<thead>
<tr>
<th><strong>TAME RANGE - &quot;War Game&quot; trainer</strong></th>
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<tbody>
<tr>
<td>• Cyber-attack trainings on configurable real environment</td>
</tr>
<tr>
<td>• organization IT &amp; ICT networks</td>
</tr>
<tr>
<td>• Performance assessment</td>
</tr>
<tr>
<td>• Multi-team role playing scenarios</td>
</tr>
<tr>
<td>• Test range for new equipment, policies, network topology etc.</td>
</tr>
<tr>
<td>• Field tested Cyber defense methodology, certification levels and threat response</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th><strong>SHERLOK</strong></th>
<th><strong>Advanced Multi-Layer Digital Evidence Forensic Lab (Crime):</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Acquisition - a leading acquisition solution for mobile devices and PC media devices</td>
</tr>
<tr>
<td></td>
<td>• Ingest/Extract - procedures for extracting and recovering image files</td>
</tr>
<tr>
<td></td>
<td>• Analysis - comprehensive, and expandable, suite of analytic and processing tools</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th><strong>SPIRITUS</strong></th>
<th><strong>Airborne / Maritime Cyber SOC</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Autonomous SOC for commercial Maritime, aviation and aerospace platforms</td>
</tr>
<tr>
<td></td>
<td>• Continuous real-time monitoring of onboard networks</td>
</tr>
<tr>
<td></td>
<td>• IAI ACROM based - Aviation Cyber Reasoning Model</td>
</tr>
<tr>
<td></td>
<td>• On-board and remote forensics</td>
</tr>
<tr>
<td></td>
<td>• Customized versions for Naval and Space platforms</td>
</tr>
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<thead>
<tr>
<th><strong>CyberSpace</strong></th>
<th><strong>A family of Aerospace Cyber Solutions</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Ground-to-SAT cyber protection</td>
</tr>
<tr>
<td></td>
<td>• Space systems cyber resilience</td>
</tr>
<tr>
<td></td>
<td>• Secure ground stations and end-to-end space operations against cyber threats</td>
</tr>
</tbody>
</table>
Rayzone Group

Terrorism and crime poses a direct threat to the security of the citizens worldwide, and to international stability and prosperity. It is a persistent global threat that knows no border, nationality or religion. Rayzone Group designs and manufactures Cyber & Intelligence solutions for governmental and federal agencies, based on broad expertise and operational experience accumulated within the framework of the Israeli Cyber & Intelligence agencies.

Rayzone Group MATRIX concept and solutions focuses on improving awareness of the threat, developing capabilities to prepare and respond, and enhancing law enforcement agencies capabilities. The MATRIX concept is a comprehensive methodology, which provides cutting edge intelligence gathering and analysis capabilities.

Rayzone portfolio:

- **TA9 IntSight** - Intelligence and Investigation Hub. IntSight is a powerful and versatile data analysis platform, enabling specialist intelligence and law enforcement agencies to produce valuable insights from their masses of data.

- **GeoMatrix** - GeoLocation Intelligence system. GeoMatrix is a unique SS7 based cellular location system that provides the ability to locate, track, and manipulate any cellular subscribers.

- **Echo** - Global Virtual Sigint System. Echo is a strategic SIGINT system, which provides intelligence and law enforcement agencies a remote and stealth wide and varied information on internet users.

- **Vegas** - Virtual-ISP Interception system. Vegas is a strategic inline interception system, which enables remote, stealth and ISP-independent inline interception capabilities from targeted IP networks, in different locations.

- **Piranha** - 2G, 3G and 4G IMSI catcher. Piranha capture mobile phone identifiers, manipulate them and create the basis for smart intelligence and analysis.

- **Optimus** - Comprehensive OSINT Solution. OPTIMUS provides immense collection and harvesting of websites, news sites, social media, blogs, and dark web. OPTIMUS also provides Virtual HUMINT avatar management which enables to reach into closed networks and forums.

- **Sprinter** - Active 2G, 3G AND 4G Interception System. Sprinter is an off-the-air tactical active interception system for 2G/3G/4G cellular networks. Sprinter allows to intercept and record voice calls, text messages and to retrieve target's location.

- **ArrowCell** - Detector, Preventer and Locator of Active GSM Interception. ArrowCell product family, offers a real-time comprehensive solution of full protection against active GSM interception systems.
Cyberbit, a wholly owned subsidiary of Elbit Systems, helps organizations prevent breaches, increase cyber resilience and improve their efficiency with the first analytics-driven product suite for managing the entire incident lifecycle across IT and critical infrastructure networks.

**SOC Automation and Orchestration**
Respond rapidly to incidents and increase the efficiency of your security operation by automating workflows and centralizing SOC data feeds and products into a single system. Reveal insights across all SOC data with powerful investigation tools, to resolve incidents faster.

**Critical Infrastructure Security and Visibility**
Detect attacks on industrial control, ICS/SCADA networks and protect your critical assets with deep-packet monitoring. Discover all network components to obtain visibility across the entire ICS/SCADA network.

**Endpoint Detection and Response**
Detect advanced threats that evade traditional security systems including zero-day, signature-less, file-less attacks and ransomware, leveraging the power of behavioral analysis and machine learning. Empower your security analysts with forensic tools that uncover the entire attack story within seconds.

**Cyber Range - Training and Simulation**
Train your cybersecurity team and test new tools and procedures with the most widely deployed Cyber Range training and simulation platform. Prepare your team for incidents with using hyper-realistic simulated training in real-life settings.
Affordable Defense - New Life for the Older Weapons

Israel's Defense Forces (IDF) are prepared for action and to meet the challenges presented by any threat. Maintaining such readiness levels requires all weapon systems to undergo constant modernization and upgrading, to prolong their lifespan. It also requires stocking large quantities of ammunition and spare parts, to ensure adequate logistic supplies required to support the combat forces in times of war.

When existing hardware is phased out and replaced by newer systems, those original weapons may still be valuable for others. Such systems are offered as military inventory. Recently, the IDF is phasing out earlier generations of weapon systems, releasing relatively advanced aircraft, helicopters, Main Battle Tanks and naval vessels. Those platforms are offered to friendly nations seeking to obtain such reliable, well-maintained military systems that can meet customer requirements.

These weapon systems and platforms can be exportable as Total Package Approach including spare parts, maintenance, training and repair shops. All systems offered are combat proven and operated by the IDF. Most of the equipment has already been upgraded to the use of modern combat environment. Within the full package provided, equipment can be purchased at its current status or upgraded to meet the customer's requirements.

Another field of activity offered by the Ministry of Defense and the Israel Air Force are training services. Among these services are simulators and training systems related to all generations of F-16 - from A/B, C/D to the latest block 50/52 versions, and F-15 aircraft, UH-60 and CH-53 type helicopters. Training services are not limited to simulation - foreign air forces visiting Israel are offered combat training, using instrumented ranges that also serve developmental testing of various weapon systems.
The Military Equipment Sales Division of SIBAT is in charge of marketing and sales of military systems and equipment that are either excess inventory or surplus.

We offer a total package approach:
- Equipment: Air Force, Navy and Land Forces
- Upgrading of systems
- Spare parts
- Logistic support (ILS)

The division specializes mainly in military equipment and Dual Use equipment as detailed below:

**Land** - Tanks, armored vehicles, trucks, infantry weapons, ammunition and medical equipment.

**Air** - Aircraft, airborne systems, missiles, radars, armament and ammunition.

**Communication & Optronic** - Armored combat vehicle optics, pPersonal optics, pPersonal optics, night vision magnifiers, radars, p.r.c. and v.r.c. flight simulators, airborne systems.

**Scrap** - Metallic (ferrous and non - ferrous), non - metallic.

**Dual Use equipment** - Including engines, generators, hardware, tools, petroil products, construction equipment, office equipment.

**Vehicles** - Variety of vehicles.

The division engages in a variety of sales forms including single item sale, negotiation of packages and of main platforms, long term revolving contracts and tenders.

For detailed information, please refer to the Procedures and Regulations page 282.
The Israel Air Force is releasing from its active inventory combat-proven equipment and offers:

**Total Package Approach:**
- Equipment
- Logistic Support

**Equipment includes:**
- Aircrafts
- Airborne Systems
- Armament / Ammunition
- Missiles
- Radar Systems
- AA Defence Systems
- Spare Parts

For additional information please contact:

**SIBAT, Israel MOD, Sales Division**
The A-4-N/T SKYHAWK is a multi-role fighter aircraft. Its unique features have been proven in air-to-surface strikes and in air-to-air combats.

One of the best trainer aircraft, Skyhawk is a reliable, low-cost, high performance training platform that operated successfully in many air forces worldwide.

The A-4 was originally designed for air-to-ground strikes. One of its most important features is weight carriage ability, and its ordnance capability.

Its air refueling and tank carrying abilities extend its operational radius and its small dimensions make the airplane very easy to fly and highly maneuverable.

Thousands of young pilots have trained on A-4 during their first years as pilots in the IAF and worldwide. The A-4 was designed for carrier landings as the US Navy aircraft and can withstand very tough landings. The aircraft also uses a drug chute system, which enable to land on short runways.

The A-4 can also be used as a small tanker and refueling, with the addition of a special fuel tank.

**General Characteristics**

**Primary function:** Attack bomber, trainer  
**Builder:** McDonnell Douglas  
**Crew:** One pilot/Two pilots

<table>
<thead>
<tr>
<th>Dimensions</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Length</td>
<td>41.72 ft (12.72 m)</td>
</tr>
<tr>
<td>Wingspan</td>
<td>27.50 ft (8.38 m)</td>
</tr>
<tr>
<td>Height</td>
<td>14.98 ft (4.57 m)</td>
</tr>
<tr>
<td>Wing area</td>
<td>260 ft² (24.2 m²)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Weights</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Empty</td>
<td>10,684 lb (4,808 kg)</td>
</tr>
<tr>
<td>Max take off</td>
<td>27,400 lb (12,330 kg)</td>
</tr>
<tr>
<td>Fuel capacity</td>
<td>Internal: 807 gallons (5,400 lb)</td>
</tr>
<tr>
<td></td>
<td>External: 1,000 gallons</td>
</tr>
<tr>
<td>Max payload</td>
<td>1000 lb (4,500 kg)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Propulsion</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Power plant</td>
<td>One Pratt &amp; Whitney j-52</td>
</tr>
<tr>
<td>A4N</td>
<td>P408 turbo jet engine</td>
</tr>
<tr>
<td>A4T</td>
<td>P8 turbo jet engine</td>
</tr>
<tr>
<td>Thrust</td>
<td>11,200 lb</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Performance</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Max level speed</td>
<td>At altitude: 595 mph (955 km/h) at 34,000 ft</td>
</tr>
<tr>
<td></td>
<td>At sea level: 700 mph (1,130 km/h)</td>
</tr>
<tr>
<td>Max altitude</td>
<td>45,000 ft</td>
</tr>
<tr>
<td>Range</td>
<td>Typical: 800 nm (1,480 km)</td>
</tr>
<tr>
<td></td>
<td>Ferry: 1,790 nm (3,310 km)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Armament</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Gun</td>
<td>Two DEFA 552/553 30-mm cannons (150 rounds each)</td>
</tr>
<tr>
<td>Stations</td>
<td>5 external hard points</td>
</tr>
<tr>
<td>Air- to-Air Missile</td>
<td>AIM-9 Sidewinder, Shafrir</td>
</tr>
<tr>
<td>Air to Surface Ordnance</td>
<td>MK-82 / MK-83</td>
</tr>
</tbody>
</table>

**IAF Improvements**

IAF improvements implemented in the A-4 include:

- j-52P408 engines, which are the most powerful engines installed in any A-4 model
- 30mm DEFA cannons
- Unique installation of tail pipe extension against IR missiles. The tail extension reduces the aircraft IR signature making it less vulnerable
Avionics Systems Upgrade
The upgrade avionics package is tailored to the customer’s need and can include:
- A glass cockpit, which provides the pilot with the relevant information for the specific mission, displayed on the Head-Up Display (HUD)
- Ring Laser Gyro Inertial System with an embedded GPS
  This allows precise navigation and bombing capability
- Easy operation implementing the Hand-On Throttle and Stick (HOTAS) and Head Up concept

Support and Potential Improvement
- Aircrew training
- Technical qualifications training
- Technical documentation
- Operating guidance
- Spare parts package
- Aircraft systems upgrades - Mission planning briefing and debriefing system
- Munitions
- Advanced modification and improvements implemented
- High quality standards in use and maintenance of the platform
- Offering a “package” including training and qualification for aircrews and technical crews, flight simulators, spare parts and potential upgrades

<table>
<thead>
<tr>
<th>A-4 Skyhawk (Ayit)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Platforms for Sale: 16</td>
</tr>
<tr>
<td>Engine Type: J-52</td>
</tr>
<tr>
<td>Engines for Sale (in addition to those installed on platform)</td>
</tr>
</tbody>
</table>
**AH - 1 COBRA**

The Bell AH-1 Cobra is a two-bladed, single engine attack helicopter manufactured by Bell Helicopter. Capable of special day and night flight and highly effective in joint operations with land forces. This helicopter was the backbone of the IAF’s combat helicopter forces. For countries interested in integrating the AH-1 into their forces, it is possible to receive technological upgrades with a local Israeli industry as well as the purchase of engines, spare parts and ILS.

<table>
<thead>
<tr>
<th>AH-1 Cobra</th>
<th>Platforms for Sale</th>
<th>13</th>
</tr>
</thead>
</table>
C-130 HERCULES

The Lockheed C-130 Hercules is a four-engine turboprop military transport aircraft designed and built by Lockheed Martin. Capable of using unprepared runways for takeoffs and landings, the C-130 is one of the world’s primary troop, medical evacuation, and cargo transport aircraft. One aircraft is for sale and still in use by the IAF. The IMOD offers engines and spare parts for sale as well.

<table>
<thead>
<tr>
<th>C-130 Hercules (Karnaf)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Platforms for Sale</td>
</tr>
<tr>
<td>Engine Type</td>
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</tbody>
</table>

F-16 FIGHTING C/D

With 30 years of service in the IAF, this aircraft has been used for a wide range of tasks. The F-16C is a single-engine, single-seat, multirole tactical fighter with full air-to-air and air-to-surface combat capabilities. The F-16D is a two-seat (tandem) version and performs the secondary role of a trainer. The fuselage is characterized by a large bubble canopy.

<table>
<thead>
<tr>
<th>F-16 FIGHTING FALCON C/D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Platforms for Sale</td>
</tr>
<tr>
<td>Engine Type</td>
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</tbody>
</table>
The Israel Air Force (IAF) offers international air forces a full range of courses and training services on a broad spectrum of simulators. IAF training packages and services are customized to meet individual air force demands, and provide an extremely cost-effective method for preparing pilots and aircrews with optimum pre-mission preparedness. The following is a brief description of the proven performance simulators that are available:

**F-16A Simulator “NETZ”**
Trainer, simulating the fighter’s systems, flight profiles, failures and malfunctions.

**Functions and Features**
- Configuration and aerodynamic database: F-16A/Block 15, after falcon-up and special Israeli-made improvements
- 150° x 60° FoV (Field of View) finite display system on a partial dome
- Display system based on 3-channel TILTAN PCIG
- Aircraft Common: full avionics, flight instruments, cockpit panels, stick, throttle, pedals
- Full systems training for advanced, complex Air-to-Air and Air-to-Ground mission scenarios - all aircraft malfunctions are simulated
- Advanced after action review station

**F-16C Simulator “BARAK”**
Quality trainer, simulating the fighter’s flight profiles, failures, malfunctions, and equipment. Veteran trainer, upgraded to conform to high quality performance.

**F-16I Simulator “SUFA”**
Quality trainer, simulating the fighter’s flight profiles, failures, malfunctions, and equipment.

**F-15 Simulator “BAZ/RAAM”**
The most advanced trainer for F-15AUP and F-15I fighters, simulating flight profiles, emergency situations, failures and malfunctions, instrumentation flights.
Blackhawk/ CH-53 "YASSUR" Simulator
Cutting edge trainer, among the most advanced of its kind, for Blackhawk 3 (UH60) and Sikorsky 2000 (CH53) helicopters, simulating flight profiles, malfunctions, equipment, and providing unique pre-mission preparedness training - including training for mid-air refueling, landings in dust and collaboration with naval vessels, payload hoists, low altitude flights.

Searcher 2 UAV Simulator
Exceptional capabilities for comprehensive training: flight, deciphering, payload and communications systems operations. The simulator comprises the instructor's portable PC which runs the UAV simulation and includes the user interface, control module (the application that activates the simulator's scenario components), connection to the ground control station, in addition to a fixed display computer (PC) which runs the display application.

The simulator enables control of the UAV's location, atmospheric conditions, and inputting of malfunctions/faults. The special target control module allows real-time control of the target location.

EOT Electro-Optical Trainer
Dedicated simulator provides electro-optical weapon operators with operational skills by presenting them with real battlefield conditions, enabling mission rehearsals for operations in enemy territory.

Unique Cognitive Stress Inoculation Training - Empowering Combat Forces, tailored to the specific needs and resources of the target population. Commanders run the program, aided by psychologists.

instilled and take root, and achievements are generalized beyond a specific situation.

Advantages:
- Helps soldiers deal with stress of war
- Sharpens performance/overcomes negative consequences
- Stress inoculation training can be also applied to work related stress of military personal during peace time
COURSES

The IAF offers a variety of training courses:

Flight (Combat, Helicopter, Transport)

Search and Rescue

Air Traffic Control and CGI

Medical and Stress Inoculation

A variety of additional courses developed by the IAF.

Please contact us for further information
All the services mentioned below will be supplied under G to G agreement as a part of the contract.

**MAINTENANCE & REFURBISHING**

Under the G to G agreement the IMOD can offer Aircrafts with long term support (including O–Level & D–Level), executed by the Israel defense industries.

**MILITARY EXPERIMENTS & DATA PACKAGES**

Different kinds of armaments (guided and nonguided bombs, rockets or missiles) air defense systems tests, airborne systems and ground systems (communications, radar, etc.).

IAF laboratories service (chemical tests, enviromental tests, etc.) involves support of IAF in operation, technical, logistic knowhow and experience.
The IAF has over 150,000 part numbers for sale!

There are parts for platforms currently in use by the IAF as well as platforms no longer in use such as Bell 212, CH-53, F-4, F-15, F-16, C-130, MD-500, A-4, J-79 (Engine), Bell 206, E2C, HAWK, PATRIOT, and more.
SCRAP
AND GENERAL SURPLUS

Metaalic Scrap (Mostly Mixed)

**Ferrous scrap**
- Casted steel
- Casted iron
- Quality Hardened steel

**Non-Ferrous scrap**
- Aluminum
- Copper
- Brass
- Bronze
- Titanium
- Lead
- Light and heavy alloys (Tungsten)

**Useable Surplus**
- Cartridge cases (Brass)
- Electric Batteries
- Generators
- Rubber tubes
- Vehicles
- Construction equipment
- Plumbing equipment
- General equipment
- Petroleum Products: Oil, lubricant, grease
- Communication equipment
- Computer and peripheral equipment
- Screws
- Metal ring, cylinders and clamps
- Hardware and Tools (including Electrical)
- Plant and general machinery equipment (Lathes)
- Electrical wiring

SIBAT- Israel Ministry of Defense
International Defense Cooperation
Sales Division
Hakirya, Tel Aviv 6473424, Israel
Tel: 972-3-6975754, 6977207
E-mail: sibat_definventory@mod.gov.il
Web Site: www.sibat.mod.gov.il
Sales are executed in accordance with Israeli Ministry of Defense (IMOD) regulations.

The sales are subject to the approval of an IMOD internal committee.

A major portion of the purchasable equipment is of non-Israeli origin. Hence, a relevant Re-Export License should be obtained by IMOD before any sale is finalized.

Buyers are required, from time to time and according to the nature and origin of the equipment, to submit to IMOD an original End Use / End User certificate, before sale is finalized.

Sales are based on a signed contract between IMOD and the Buyer.

Sales of equipment is usually offered “As is Where is” condition. Nevertheless, inspection visits are welcomed.

Sales are ‘Ex-Base’ (INCOTERMS, 2000). Inland transportation and shipping are usually footed by the Buyer.

Purchases can be on the basis of an upgrade program.

Inquiries for items should be made by citing NSN or Part Numbers.

SIBAT’s approach is discrete as pertains to security. It adheres to norms binding government employees and commercial confidentiality.

Information concerning the various purchasable items is valid as at the date of publication and is subject to changes.
Defense Through Preparedness

With the growing risk of unconventional weapons proliferation, defense against Chemical, Biological, and Radiological/Nuclear Explosive (CBRNE) threats is becoming acuter than ever before. Israel has been facing such threats for many years and has established comprehensive means for the protection of its military and emergency units as well as protecting the civilian population against Weapons of Mass Destruction (WMD).

Today, Israel maintains one of the world’s most advanced defense against unconventional attack.

Advanced protection equipment produced by Israeli CBRNE defense specialist companies includes individual protective systems for soldiers, CBRNE and reconnaissance decontamination specialists. Collective protection systems are produced for mobile applications, equipping combat vehicles of various types. Specialized CBRNE protection is also provided for emergency services such as medical points and emergency rooms in hospitals.

Furthermore, protection equipment is provided for operational facilities in a disaster zone or areas infected by CBRNE or other hazardous materials (HAZMAT), where complete collective ventilation and filtration systems are applied. These systems supply clean, fresh air to shelters, hospitals, schools, nurseries and kindergartens and retirement homes. The military uses such systems to protect command posts, tents, and vehicles - allowing people to operate inside protected environments without gas masks or any other type of protective equipment.

In addition to the hardware and systems, local companies can provide consultancy, planning and training services to civil defense and homeland security establishments worldwide, based on the extensive experience gained by Israel’s civil defense specialists.

More Civil Defense offerings from Israeli companies are available through the "Israel Homeland and Cyber Defense Directory 2018-2019" also published by SIBAT.
Beth-El Industries is a world leader in the development, design, and manufacture of filtration, ventilation, air conditioning, integration of turnkey projects, and other technologies for custom implementation into bomb shelters, vehicles, containers, and tents. Founded in 1973, Beth-El has supplied tens-of-thousands of systems to more than 60 armies worldwide, which include most of the NATO states, most of the European countries, as well as a large number of forces in the Far East and North / South America.

In the civil sector, Beth-El has furnished an equally large number of bomb shelter protection systems for critical infrastructure and tens-of-thousands of homes in Israel and abroad. Along with NBC protection, Beth-El produces isolation systems for the medical field and specialized protection systems for fire brigades and other civil services. A few of the key features of the Beth-El systems include coarse and fine dust filtration, carbon monoxide extraction, CAN-bus control, simple interface with Beth-El air conditioning systems, and compliance to all important military standards, such as NATO AEP-54, MIL-PRF-321387, AC 225 (Panel VII) D/251, and German TL standards, amongst others.

Beth-El’s extensive experience, within multiple interrelated fields, includes the supply of ventilation & NBC filtration systems to vehicle manufacturers in over 120 different vehicle types. These platforms include the Piranha, Duro, and Eagle vehicles of MOWAG GmbH, the Boxer, Dingo, Mungo, GFF4, and other vehicles of Krauss-Maffei Wegmann GmbH & Co. KG, the Yak and Wiesent vehicles of Rheinmetall Landsysteme, the Cobra vehicle of Otokar, the Zetros, Actos, Unimog, and G-Wagen vehicles of Daimler AG, the TEP 90 vehicle of Iveco, and the Multi vehicle of MAN, just to name a few.
Ventilation and NBC-Filtration Systems for Tents and Army Camps

NBC-Filtration and Ventilation Systems for Bomb Shelters and Civil Infrastructure

Engine Air Cleaners for Tanks and Heavy Duty Vehicles

Mobile Medical Isolation Systems for Pandemic Protection, Industrial Clean Rooms, and Mobile Surgical Centres

Ventilation, Air Conditioning, NBC-Filtration, & Weapon's Fire Fume Filtration for Vehicles & Containers

BETH-EL ZIKHRON YAAQOV INDUSTRIES LTD.
1 Avshalom Road, P.O.Box 166
Zikhron Yaaqov 3095101, Israel
Tel: +972-4-6299904/05
Fax:+972-4-6299900
E-mail: export@beind.com
Carmor, formerly known as Hatehof, was founded in Israel in 1947 and played a key role since then in equipping the state and other worldwide customers with specialized, dedicated and armor vehicles. This highly respected international brand now manufactures vehicles for the IDF, NATO and United Nations forces, as well as civilian administrations, homeland security and military customers.

Carmor designs a wide range of special purpose vehicles for civilian and law enforcement applications. They are manufactured using a variety of automotive platforms and fitted with storage tanks of different capacities. Designated vehicles can be customized with extra security features for use in special conditions.

- Riot control vehicles with water tanks and sprays
- Rapid intervention vehicles
- Portable aircraft fueling systems
- Fuel bowsers to support UAV operation
- Tanks for fuel storage
- Firefighting vehicles including airport, forest and urban versions
- Trailers and wagons
DEA R&D
Design & Human Engineering

Many years of activity, specializing in the R&D of life support have contributed to the development of skills and capabilities applicable to military, civilian and industrial protective equipment development.

CAPABILITIES AND SKILLS

Our capabilities are based on a blend of design disciplines in many fields: Human engineering Design, tooling, production and assembly, testing, and management of complex projects. The majority of projects are Turn Key Projects including feasibility studies, design of prototyping, testing and documentation.

DEA is carrying out industrial design and full scale engineering development.

DEA cooperates with research institutes in carrying out a variety of tests as part of feasibility studies and qualification tests.

HUMAN ENGINEERING

DEA is carrying out theoretical and applied studies in human engineering:

- Product design.
- Man - machine interface.
- Environments and working stations.
Shalon Chemical Industry is internationally recognized as a leading company in the manufacture and design of personal and collective NBC protective equipment for military personnel and civilian population. The company’s impressive achievements in respiratory protection is the result of applied state-of-the-art technology together with creative design and high quality. Shalon’s quality management system is certified to ISO 9001:2000. Laboratories and test equipment are certified by IMOD. Strong R&D department engaged in continuous improvement of existing products and design of innovative products in cooperation with the MOD.

**MILITARY NBC PROTECTIVE GEAR**

**M15A1T NBC respirator**
The IDF standard military mask. A modular design enabling mounting of the filter canister in front or on either side. Including drinking system, main and side voicemitters, and attachment for corrective lenses. Supplied in 3 sizes. NIOSH approved for riot-control.

**Panoramic NBC protective mask**
Specially designed for NBC military units, riot-control personnel, first responders and medical assistance personnel. A modular design enabling mounting of the filter canister in front or on either side. A very wide panoramic field of vision. Including drinking system and attachment for corrective lenses. With a central voicemitter. One size fits all. Widely used by industrial and laboratory personnel. “CE” marked.

**M15S80 NBC respirator for armored vehicle crew member**
Includes all the features of the M15A1T as well as a built-in dynamic microphone with an external connector. Can be supplied with a corrugated rubber hose and adaptor for connection to the collective filtration system of the vehicle.

**CETER First responder positive pressure NBC protective hood and blower system**
A positive-pressure hood system for protection in prolonged exposure to high concentration of NBC agents. Specially designed by Israeli MOD, for NBC military and police units, first responders and medical assistance personnel. A highly effective neck seal and blower unit, affords a high level of protection while ensuring comfort. One size fits all. Allows use of regular optical eyeglasses.
NEW!
SHALON'S NEW GENERATION OF PERSONAL FILTER CANISTERS

A wide range of filters providing effective protection in military, police, civil defense/homeland security, emergency and industrial applications.

PA12 model: qualified by Israeli MOD for NBC civil protection.
CBRN model: for first responders, meeting NIOSH CBRN standards.
Tear gas model: for riot control.

Parallel pleated high-efficiency particulate filter (P100/P3). 40 mm thread compatible with most military & industrial masks. Robust, durable plastic body providing excellent mechanical & chemical protection. Low breathing resistance design that does not compromise filtration.

ACBS Armored vehicle crew member positive pressure NBC protective hood and blower system

Designed by the Israeli MOD for armoured vehicle crew members, enabling performance of all required tasks on the modern battlefield in prolonged exposure to high concentration of NBC agents. Affording ease of operation and maximum compatibility with other personal safety equipment. Voicemitter and a built-in dynamic microphone system. Drinking system compatible with military canteen threads. One size fits all.

HOPER Helicopter pilot positive pressure NBC protective hood and blower system

Specially designed by the Israeli MOD. A highly effective neck seal and blower, affording a high level of protection, ease of operation and maximum compatibility with flight and personal safety equipment. Special holders for use in the cockpit. Providing at least 15 hours of uninterrupted operation. Voicemitter and a built-in dynamic microphone system. Drinking system compatible with military canteen threads. One size fits all.

BL-90 NBC air supply unit

A compact and reliable air-supply unit that maintains positive pressure in military and civilian NBC protective hood systems and masks. Developed by the Israeli MOD, the blower draws filtered air from 2 standard personal NBC filters, and supplies up to 90 liter/min. Fits all types of personal filter canisters with a standard (40mm / 1/7") thread. Flat design, allowing access to narrow spaces. Special features for mounting the blower on a waist belt.

M80 NBC filter canister

A personal gas particulate filter which provides protection against all chemical and biological warfare agents and radioactive dust. It is manufactured according to IDF specifications and meets all the performance requirements for the US army C-2 canister.
Air permeable NBC protective suit / overall
Designed to enable specialized units to operate in NBC-contaminated environments, affording chemical and biological protection while reducing heat stress buildup and ensuring relative comfort and ease of operation. Suitable for use by NBC military and police units, first responders and medical assistance personnel. The overall is especially designed for armored vehicle crews. Flame Resistant. 4 sizes: S, M, L, XL. Detachable hood. Compatible with all Shalon's NBC protective masks and hoods.

10A1 NBC Youth respirator
Like the 4A1 NBC Adult respirator. For the protection of youth aged 10 to 16 years.

INPRO NBC infant protector
Like the Respro, the Inpro is a positive pressure system, especially designed by the Israeli MOD for newborns up to 3 years old. The infant is conveniently placed and safely secured inside the hood. The Infant can be carried and fed through a built-in nipple system.

CIVIL DEFENSE NBC PROTECTIVE GEAR

RESPRO NBC protective hood for children
For the protection of children aged 3 to 8 years. Positive pressure inside the hood is assured by means of a blower unit with an operation time of 13-15 hours. A drinking system is included.

4A1 NBC Adult respirator
For the protection of civilian population. Including drinking system, voicemitter and peripheral sealing lip that assures high protection factor to the wearer.

CAPS 2000 NBC Civilian Adult Protective System
CAPS is a new respiratory protection device developed by the Israeli MOD. A silicone neck dam around the neck, and a blower system provide high protection and comfort, regardless of donning skill. Can be worn by bearded men. Allows use of regular optical eyeglasses without interference.
CAHBS NBC Civilian Adult Hood & Blower System

CAHBS is a positive-pressure system designed for civil defense by the Israeli MOD. Two air-supply units makes it suitable for the elderly population and for persons with breathing difficulties. One size fits all. Allows use of regular optical eyeglasses without interference.

ATROMAT Automatic Injectors

A lightweight, compact and reliable injector for quick and painless intramuscular self-injection of atropine solution, or atropine solution with oxime. Supplied in 3 doses: 2.0 mg for adults, 1.0 mg for children and elderly, 0.5 mg for infants. Complies with IDF and US army specifications.

BL 45 Mini-blowers

Designed by the Israeli MOD, it fits a standard 40mm x 1/7” thread, for use with different types of personal filters. Suitable for use with different sources of energy.

COLLECTIVE NBC PROTECTIVE EQUIPMENT

For Shelters

 Collective NBC filtration systems

A wide range of Collective NBC filtration systems designed and developed by Shalon, providing complete NBC protection to occupants of communal shelters. Meeting Israeli civil defense specifications. The complete purification system is comprised of: Pre-filter, Blast valve, NBC Gas-particulate filter, Fan unit, Flowmeter, Overpressure valve. 5 models available: FA-75 for up to 12 people, FA-150 for up to 25 people, FA-5 for up to 50 people, FA-10 for up to 100 people, FA-900 for up to 150 people.

For Armored Vehicles

ME4 Merkava tank NBC gas-particulate filter

Designed and developed by Shalon and the IDF. A robust and durable high capacity filter (3000-5000 LPM). Constructed of stainless steel. Withstand extremely heavy vibrations with no distortion of its charcoal bed or any detrimental effects to its performance. Also suited for use in armoured cars, troop carriers, riot dispersal vehicles and mobile shelters.

M48 Gas-particulate filter for Abrams M1A1 tank

Designed by the US army. A compact, lightweight, radial flow filter (100 CFM). Constructed from aluminum alloy and coated with a special chemical resistant paint. Also suited for use in armoured cars, troop carriers, riot dispersal vehicles and mobile shelters.
The BL-45, originally designed as part of the advanced protection system for children, supplies 45 liters of filtered air per minute, at an overall resistance of up to 35mm water, and operating on 3 volts of power.

Blower BL-45

Includes inspection and sampling apparatus for the detection and identification of NBC contaminations.

NBC sampling kit

The BL-45 type b is multi purpose blower, designed to be integrated with all the civilian NBC protective respirators. Supplies 45 liters of filtered air per minute.

BLOWER BL - 45 Type B

The BL-90 blower is designed as part of the group of advanced military protection. The blower is designed to supply 90 liters of air per minute at resistance of up to 65 mm water.

Blower - BL-90
N.B.C RESPIRATORY PROTECTION

Supergum is Israel’s leading manufacturer of protective clothing and protection systems for use by military personnel and the civilian population.

Supergum manufactures high quality rubber, plastic and sealing products for civilian, military and industrial applications. The company’s R&D and engineering departments support a wide range of standard and custom-made rubber and plastic products for highly diverse markets.

Rubber technologies: injection molding, compression molding, extrusion and die cutting.


Certifies to ISO 9001 : 2018.

Children’s protective hood

Suitable for infants from day 1 to children 10 years old. New design allows more flexibility, freedom of movement and enhanced wider field of view.

The hood provides a complete respiratory protection and is equipped with blower supplying clean air to the hood making it easy to breathe. The blower maintains overpressure thus preventing entry of contaminated air.

Adult protective hood for civilians

New concept in civilian respiratory NBC protection. The new design allows high degree of comfort with reliable protection.

The new visor enables clear and undistorted field of view.

The hood is suitable for all facial structures for adults 10 years or older. The hood is equipped with a blower and a filter and a drinking device.

Supergum with a joint venture with ILC-Dover (USA) is the exclusive distributor for this product in North America and Europe.
**SUPERGUM - N.B.C RESPIRATORY PROTECTION**

- **Adult protective hood for military personnel**
  - Based on the civilian hood with adaptation to military requirements providing high reliability in the field combined with superior NBC protection. The hood utilizes new design which provides great physical comfort and freedom of movement allowing long periods of wear. The hood is equipped with a dual filter and a blower and a drinking device.

- **Armored Vehicle Crew-member Blower System-ACBS**
  - A fully integrated protective system allowing an armored vehicle crew member to perform all the required tasks on the modern battlefield (communication, use of Electrooptics and night vision devices). It is based on an under-the-helmet protective hood and blower unit.

- **Chemical Team Respirator - CETER**
  - Soldiers in specialized CW units-reconnaissance, Decontamination, bomb disposal and medical corps are exposed to high concentrations of chemical agents for long periods. These types of activities require a special system for eye and respiratory protection.
  - The system includes:
    - A nose cup integrated into the hood, providing a platform for the valves, speech membrane, communications and drinking devices, A neck seal serving as the required closure.
    - A blower that provides air through two standard filters and suppliers the hood with 90 liters of purified air per minute.

- **Adult protective hood for combat soldiers**
  - State of the art NBC protection for the combat soldier, hood includes dual filter system with a blower, communications equipment interface and external drinking system. The hood was developed to answer the most rigid battlefield conditions in terms of NBC protection.
Disposable N.B.C. Protective Suit

The disposable N.B.C. Protective Suit is made of transparent multi-layered plastic and consists of a two piece (blouse and trousers) protective suit. The blouse has a cutout-contoured hood that fits any mask, and a quick fastener for easy closing. The garment is light and permits freedom of movement. Combines to give excellent barrier properties and strength. The suit stamping and sealing process is done by specially designed equipment, ensuring dependability and based on many years of research and development.

NBC protective suit

Full body protective suit allows maximum NBC protection; the suit is easy to wear, flexible and low weight. The suit comes in 4 sizes to fit all.

Over-shoes Type 2

Allow NBC protection per MIL standard, comes in 8 sizes.

Supplement Kit

The kit is designed for individuals aged 13 years and above. The kit contains all clothing items and footwear necessary for maximum body protection from head to toe. The kit elements are modular and can also be purchased separately.

The Supplemental Kit elements are as follows: Protective Suit, Protective Overshoes and Protective Rubber Gloves.

SUPERGUM-N.B.C. Multi Purpose Over-Shoes

The multi purpose over-shoes have been designed by Supergum to meet the requirements and approval of the Israel Defence Forces. The over-shoes are made of PVC with minimum 1.3 thickness to provide the optimum Weight / protection ratio for the soldier. The material ensures an almost unlimited storage shelf life. The over-shoes are available in 3 sizes (small, medium and large), with additional sizes available according to customers’ specific requirements.
A Token of Quality and Professional Service

Spanning the entire spectrum of Israel’s defense industrial base, professional services complete a cycle that addresses all the phases of defense programs. From the definition of requirements and specifications, through research and development (R&D), engineering, testing, production, subcontracting, in-process quality assurance (QA), to the induction training and after-sale and through-life support.

Consultancy services may also require specific know-how in software integration or integrated logistics (ILS) - all by customer requirements. Such professional services constitute a substantial part of Israel’s defense export, supporting foreign customers, partners in research, planning and proposal submission process, as well as setting multi-national cooperation initiatives.

Israel’s professional consultants and trade companies representatives are often ‘graduates’ from various branches of Israel’s Defense Forces (IDF), the Ministry of Defense (MOD) and industry, where they acquired first-hand knowledge of military disciplines, methodologies and specialized proficiency to their area of expertise.

MOD approved Israeli consultants offer a full spectrum of solutions, specialties, and expertise, ranging from the upgrading and modernization process of weapon systems to concept planning and design of communications networks, aircraft protection systems or training security forces at airports and border crossings.

Israeli consultant experts are intimately familiarized with both Israeli and foreign-made systems operated by the IDF and are therefore capable of offering objective recommendations on hardware utilization, based on extended field experience.

Labeled “Made in Israel” is therefore not merely the source identification, but a token representing the quality and professionalism of the service provider.
DEFENSE TECHS LTD.

IS YOUR ONE-STOP-PARTNER...
GET EVERYTHING FROM
ONE SUPPLIER!

We are an Israeli company with more than 17 years of experience in the field of HLS (Homeland Security), Defense and Civil protection, being part of the group I.B.L. DefenseTechs Ltd. works in partnership with International top worldwide experts and represents +150 manufacturers worldwide.

We are a unique One-Stop-Partner; by difference with others: we supply everything you need and even propose better solutions fitting your needs, and not only one single solution. 

We are a one-stop-partner in the security, defense and protection field providing technologies, equipments, full turnkey projects, knowledge and Transfer of technology, consulting and trainings.

We are always updated on the best technologies and solutions as well as new innovations in the different fields.

We provide the best quality and very competitive prices as well as new innovations in the field, thus we are constantly looking for new solutions, new technologies, new innovations, in this way we always continue staying one step forward.

We wish to meet new local partners, resellers and agents worldwide as well as Integrators, private corporations and Security companies, in order to continue developing new business in new regions and sectors.

DefenseTechs Ltd. is YOUR Partner, try us… because our defense is your best business.
COUNTERING GLOBAL JIHAD’S WEAPONS OF CHOICE

IED's, VBIED's and Suicide bombers pose serious threats to your operation. We will train you to prevent, detect and respond to these threats - and we keep it real.

WE OFFER:

BOMB SECURITY:
- Counter Suicide Terrorism training
  Details: www.suicide-terrorism.com
- Bomb security, search, evaluation & first response
- Training in the bomb security field
- Explosives detection - X-Ray, Sniffers, K-9, E.T.K
- VBIED/Car Bomb countermeasures & Blast mitigation
- Strategy and training to deal with WMD's
- Mail bomb security
- Threat assessment

Who needs it?

EXPLOSIVE ORDNANCE DISPOSAL:
- Demilitarization - destruction of munitions and explosive waste
- Mobile Disassembly System - a unique cost-effective system which renders various munitions safe, by disassembling them to their primary components
- Special Units - forming new teams to deal with bomb disposal and other explosive devices
- Explosive Entry - tactical pyrotechnics & explosive breaching for Special Forces
- Mines & UXO Clearance - consulting, training and project management
- Supplies - full provision of body armor, professional equipment, and munitions training models

DEMOMAN provides customized services of training, consulting and project management. Our methods are focused on "Hands-On" training. Our E.O.D teams consist of Israeli bomb security experts, Explosive Ordnance Disposal officers and bomb disposal personnel, who are highly trained with extensive field experience from various government agencies.

Enabling You to Make the Most of Our Experience...
As a turnkey solutions provider, the HLS Directorate of IMI Systems offers the world’s governments, security agencies, public and private corporations fully integrated, state-of-the-art multi-layer and multidisciplinary solutions designed to address their spectrum of evolving requirements.

IMI’s comprehensive and holistic security solutions are individually tailored to our customers’ specific needs and cover all aspects of advanced equipment, technologies, implementation and continued support. Its services include consulting, know-how, doctrine, methodology, and instruction led by the IMI Academy for Advanced HLS Training, along with each and every solution is based on the directorate’s experience and proven capabilities in the following areas.

**Security**

Designed for a global audience, particularly police and public security forces, emergency first responders and search and rescue teams, our solutions are tailored to our customers’ needs and specific operational frameworks. Our Security expertise includes the following areas:

- Aviation & Maritime Security
- Critical Site Security
- Cyber & IT Security - an Adaptive Communication Enforcer (ACE) solution for Computerized Based Appliances (CBA)
- Borders & Border Crossings
- Energy Installations and Pipelines
- Mega Events
- Security Force Formation

**Public Security**

Unique expertise in tailoring comprehensive solutions for public safety challenges, such as:

- Counter Terror
- Public Order
- Search & Rescue
- HLS Centers Establishment

**Civil Defense**

Effective solutions for handling various civil defense scenarios, including:

- Crisis & Natural Disasters preparedness
- First responders management
- Shelters & Protection

**IMI Academy for Advanced HLS Training**

A leading training solutions provider for military, law enforcement, government agencies and commercial clients worldwide. The entire range of our diversified training programs can be conducted at the Academy facilities and / or at customer’s sites around the world, and may be tailored to meet any specific requests in the following areas of activities:

- Advanced security
- Public Safety
- Counter terror
- Search and Rescue
- Cyber security
- Intelligence
LUDUS SECURITY Ltd. Specializes in conducting large scale security oriented projects worldwide: from training your units to equipping them with state of the art combat gear.

LUDUS SECURITY benefits from the vast military experience of its founders - veterans of elite IDF Special Forces. Accumulated over dozens of versatile activities, covering the entire span from special operations to large scale military campaigns, our experience and expertise give your forces a decisive edge in a world of growing threats.

LUDUS SECURITY team will guide your force throughout the entire process: from defining your security needs to implement our solutions in the field. In this way we give our clients decisive security tools for coping with immediate or future threats.

LUDUS SECURITY’s goal is to provide high standard security solutions for governmental and commercial organizations worldwide, according to their particular needs and demands.

LUDUS SECURITY’s team is dedicated to the needs and interests of its clients. We are committed to provide the most innovative and professional world class tactics and gear, with the ultimate aim of decisively facing any challenge or threat in the actual battlefield. In this way, we fulfill our main and primer goal, to make you no less than the best of the best, always ready to spring into action.

UNDER OUR SERVICE:
• Counter terror training
• Military training
• Law Enforcement training
• Establishment of special units
• Security equipment & technology
Matrix Defense is part of Matrix IT, Israel’s largest IT Company. Matrix Defense is a leading defense group with over 30 years of experience and hundreds of successful projects for critical defense systems. Customers include Defense Forces, Government Agencies and Defense Industries. Matrix Defense employs over 500 highly qualified and experienced system engineers, operational experts, analysts and systems developers, providing comprehensive multi-disciplinary consulting and development services to defense forces and industries. A dynamic management style coupled with an extensive reservoir of technical and operations experts enables the company to create effective focus groups or designated task forces, adapted to a specific mission. Matrix Defense has acquired a strong reputation in the defense community for its ability to innovate and initiate new products and programs for defense industries, Israeli Ministry of Defense and the Israel Defense Forces, especially in Air and Missile Defense, Command and Control, Intelligence and Cyber systems development.

Products & Services

Matrix Defense has the skills to fully support a complete End-to-End process for strategic defense programs, from the initiation phase through development, testing, operational activation and deployment. Matrix Defense provides a complete set of integrated products and services:

- Strategic Planning & Business Plans
- Technology & Market Studies
- Marketing Presentations
- Competitive Intelligence
- Operational Analysis & System Requirements Definition
- Operations Research
- System Analysis & Design - Technical & Operational
- System Engineering, including:
  - System Requirements
  - System Architecture
  - Algorithm Design
  - System-of-Systems Integration
  - System Test Planning & Execution
- Cyber Research and Development
- Training & Operational Activation
- Seminars & War Gaming
- Program Development Management
- Program "Red Team"

Projects

Matrix Defense has provided a significant contribution to major defense projects, resulting in a large number of fielded operational systems. The company has played an important role in the research and development of national mission critical projects, amongst them the ARROW active missile defense system, AEW (Airborne Early Warning) systems, SIGINT systems, Cyber and C4ISR systems.
INTEGRATED SECURITY SOLUTIONS
Extending Beyond Technology

MLM Protection’s highly qualified security experts develop tailored solutions optimally meeting each client’s needs, taking into account unique characteristics, operational environment and profile, and any relevant constraints. The modular solutions developed by the company range from specific, ad-hoc services to meet specific needs, to comprehensive, wide-ranging services. These are delivered and implemented by the company’s 4 divisions:

**SECURITY CONSULTING DIVISION**

The consulting services provided by the Security Consulting Division are based on the Relevant Threat (RT) Model - a risk assessment methodology developed by Israel Security Agency. Implementing the RT Model, the division's experts define the precise threats faced by each client, down to their essential specifics.

**SECURITY SERVICES DIVISION**

Building on the experience of MLM Protection’s founders and team members, the company’s Security Services Division provides security services at the highest professional level available in the private market. The division provides services in the following main areas:

- Security solutions for sensitive facilities
- VIP protection
- Delegation protection
- Planning and supervision of security arrangements for events, including large-scale and complex events attended by large numbers of dignitaries
- Ongoing professional support

**SECURITY TECHNOLOGIES AND EQUIPMENT DIVISION**

The Technology and Security Equipment Division closely follows Israeli Ministry of Defense regulations and operates under the approval of SIBAT/DECA - Israel’s Defense Export Control Agency. It is also a member of the Israel Export Institute. MLM Protection’s highly qualified and experienced security experts spare no effort in developing and implementing security solutions that optimally meet each client’s particular needs.

**SECURITY TRAINING DIVISION**

MLM Protection has accumulated vast know-how and experience in developing and delivering tailored training programs to diverse clients, including, for example, personal security details, facility security teams, SWAT teams, police intelligence units, corporate security units and more, both in Israel and around the world. The training is based on the TACT method that is implemented by the Israel Security Agency.
NIRTAL TRAINING AND SUPPLY OF COMBAT EQUIPMENT LTD.

Nirtal provides Combat Training & Equipment for:
- Law Enforcement & Military.
- Counter-Terror.
- Intelligence.
- Executive protection.
- Private & Commercial Sectors.

Nirtal is staffed by experienced officers from the ranks of elite Israeli Defense Forces of anti-terror and Special Forces units.
Nirtal is an international forerunner in the provision of security solutions.
Nirtal covers all aspects of security: consulting, training services, acquisition and provision of advanced technology systems all Combining to provide comprehensive solutions, custom made for each individual client.

Nirtal’s Main Expertise:
- Anti-terror & Anticrime.
- Operational training.
- Armed forces training: Special Forces & regular infantry units.
- V.I.P. & Executive Protection training.
- Supply of various advanced technology systems, (interception, jamming, surveillance, ballistic protection, bomb disposal, explosive detection technologies et al).
- Security combat equipment.
- Spy & anti-spy equipment, investigation and detection equipment.
- Security consulting and training using the most advanced techniques, Technologies and combat experienced instructors.
- All aspects of Airport and Aviation, Seaport & Maritime Security.
- Petroleum & Natural gas pipeline infrastructure security.
- Security in the private sector Banking.
- Public transportation.
- Public institutions.
- Surveillance and counter surveillance courses, training of police units for special assignments.
- Crowd control and event management.
- Prison enforcement, special units and technologies.
- “K9”-Task Dog training: explosive and drug sniffing and guard dogs.

Nirtal’s technology division provides the most advanced Israeli and worldwide technological Systems, security solutions and combat equipment.
Nirtal has been operating internationally since 1995 in numerous countries around the world.
DIGNIA at a GLANCE
Dignia is a global leader and trusted provider of Security and Defence solutions. Our customers include military and internal security organizations, intelligence and law enforcement agencies worldwide. With over 25 years experience we bring reliable field-proven technology, backed by professional expertise and “real world know-how” to any large scale government project.

OUR MISSION
We deliver mission-critical technology and operational expertise to safeguard national security, increase public safety and protect critical infrastructure.

PROFESSIONAL EXPERTISE
Dignia brings together world-class military and security experts to address every aspect of your operational needs. Many of our experts are high ranking officers with vast operational experience in air, land and sea combat. Dignia intelligence and security experts are valued advisors to governments and major security forums worldwide.

CUSTOMER FOCUS
Dignia offers scalable, tailored solutions to meet your operational needs and budget. Dignia makes sure you achieve your objectives, and helps your organization to keep pace with technology innovation and evolving security and intelligence threats.

OPERATIONAL LIFE CYCLE
Dignia supports the full operational life cycle of any project. From system design and development, to integration, training and assimilation, we are with you every step of the way. Dignia trains and prepares your personnel and delivers full maintenance and technical support services based on recognised international standards.

HOW WE WORK
Dignia specializes in complex large scale, turn-key projects. Our success is based on TITAS, a proprietary, customer-focused project implementation methodology that covers each stage of your project: Technology; Integration; Training; Assimilation and Support.

DIGNIA HOLDS A LARGE VARIETY OF PRODUCTS:
- Border control integrated projects
- Forensic laboratories
- Cyber solutions
- Command and control systems
- Intelligence solutions
- Critical infrastructure
- Etc...

KEY STRENGTHS
- Customized solutions for military, security and intelligence purposes
- Reliable, high performance systems and equipment
- Seamless integration to all mission-critical systems
- Comprehensive project life cycle support
- Access to world-class military and security experts
- Professional, high quality training programs
- Creative financing and flexible payment terms

Services • Design, Engineering and Planning
ENVIRONMENTAL HAZARDS & TOXINS COMPLETE SOLUTIONS

IIBR CUTTING-EDGE R&D LEADING TO INNOVATION

ENVIRONMENTAL WIND TUNNEL LABORATORY

The only one of its kind in Israel and among a few around the world, IIBR’s Environmental Wind Tunnel Laboratory is a state-of-the-art, unique modality equipped with advanced scientific instrumentation.

SCIENTIFIC SCOPE

+ Model atmospheric boundary layer flows & source release
+ Study flow, transport, dispersion and turbulence
+ Assess numerical models and support field measurements
+ Investigate engineering optimization problems
+ Calibrate meteorological instrumentation and detectors
+ Testing of 3D models of structural of interest

TECHNICAL SPECIFICATIONS

+ Open circuit
+ Total length: 32m
+ Test section: 13m X 2m X 2m
+ 3-D automated transverse system
+ 2 circular turntables
+ Inlet acclimatizer
+ Flow rate: 0.5-10 m/s
+ Temperature range: 5-45°C
+ Relative humidity range: 20-80%

PRINCIPAL INSTRUMENTATION

+ LDA - 2-D Laser Doppler Anemometer
+ PIV - 15Hz 2-D Practice Image
+ FFID - 2-head Fast Flame Ionization Detector
+ CTA - Constant Temperature Anemometer
+ SA - Ultra-Sonic Anemometers

NUMERICAL WEATHER PREDICTION, ATMOSPHERIC TRANSPORT & DISPERSION MODELING

IIBR scientists are leaders in research and implementation of numerical weather prediction (NWP) models in complex terrain and urban areas. This includes applications to transport and dispersion (T&D) of hazardous materials and aviation weather.

NWP includes sophisticated assimilation of observations, from continental to local scales, and focuses on optimization of community models (e.g. WRF, PALM) and on development of in-house models to the scale of large-eddy simulations (Open-FOAM based).

T&D in open environments ranges from plume models, puff models (e.g., CALPUFF), to our in-house developed Lagrangian stochastic particle dispersion models (LSPD) for non-homogeneous scenarios (complex terrain and urban environments) and non-homogeneous turbulence.

Indoor T&D is investigated through experiments and state-of-the-art computational-fluid-dynamics models (e.g. FLUENT and CONTAM) and models developed in-house.

All of the above capabilities serve in risk assessment calculations appropriate to a broad range of scenarios.
THE LABORATORY OF ENVIRONMENTAL MICROBIOLOGY & BIOTECHNOLOGY

Backed by more than 30 years of R&D experience, the Laboratory of Environmental Microbiology and Biotechnology is designed as a versatile platform for research, monitoring, identification and prevention of microbial contaminations in Fuel and fluids containing systems.

Providing continuous microbial monitoring and control of fuel and water systems that enable the assessment of the likelihood for problems developing and addressing of existing damage before it becomes unmanageable.

ADDRESSING PROBLEMS ASSOCIATED WITH:

- Biodegradation of Hydrocarbons and Antifreeze additives.
- Biofilm formation and Biofouling development in Fuel and Water systems.
- Biocorrosion and Biodeterioration of Metals.

DEVELOPING SOLUTIONS FOR ENVIRONMENTAL CONTAMINANTS

- Bioremediation and Biodegradation of contaminants in the environment: Bioremediation of soil contaminated with fuels.
- Applying Bioreactors for Nitrate and Perchlorate remediation of water.

The laboratory employs state-of-the-art multi-disciplinary, analytical, molecular and microbiological tools.

A few of our satisfied customers for over three decades are the Israeli Air Force, Israeli Defense Force, the Petroleum & Energy Infrastructures Ltd., Delek - Pi Gelilot and Eilat Ashkelon Pipeline Company.

COUNTERING PATHOGENS, TOXINS & CHEMICAL TOXIC AGENTS

Top scientists at the Israel Institute for Biological Research (IIBR) conduct cutting-edge R&D to cope with different threats ranging from known chemical and biological toxic agents to new and emerging pathogens and toxins.

Specifically, IIBR develops unique antibody-based solutions for passive-therapy against such threats based on an in-depth understanding of the pathophysiology of these malicious agents, combined with innovations in creation of treatment modalities and state-of-the-art antibody engineering.

This well-established platform successfully enables the isolation of specific, high-affinity and highly efficient human-based antibodies against various offending agents and by tailoring the best immunization and screening strategies this platform can be applied to any other antigen.

EXAMPLES FOR RECENT PROJECTS:

- Antibody that efficiently neutralizes the anthrax toxin, thus expected to widen the therapeutic window and to enhance the management of systemic anthrax infection.
- AChE-Fc chimeric enzyme molecule as a novel nerve agent bio-scavenger, exhibiting high reactivity and an unprecedented plasma half-life.
- Anti-ricin neutralizing antibodies that provides unparalleled extended post-exposure therapy for the treatment of severe ricin intoxication.
Do you need to set up a project from beginning to end, including:
Consultancy, Supply, Delivery, Installation, Training And Maintenance.

A.D. Consultants group has been dealing in military and security consultancy services as well as supplies of new and surplus equipment since 1987.

A.D. Consultants group specializes in:
• Security equipment and devices
• Upgrade of Air and Ground Sales and updates systems
• Training of pilots and technicians on various systems
• Ammunition, light and heavy arm
• Police/Gendarmerie equipment and system
• Communication – clear and cryptic
• Monitoring, direction finding and jamming of both HF and U/VHF

A.D. Consultants group is experienced in planning and controlling entire project or elements of it and provides high standards of services, professional solutions on “turnkey” basis.

Worldwide reputation for absolute discretion, highest quality standards and reliability are A.D. Consultants' most important value. Our worldwide network of agents and suppliers enable us to provide special deliveries either by sea or air, to all destinations.
Integration of defense solutions. Representation, sales and supply of customized solutions.

Strategic consultancy and competitive intelligence

Identification of business opportunities and risks, in the language and culture of the customer

Subsidiaries in Latin America
Dexord Ltd. - established 1989.

We have for decades been a supplier of new and surplus equipment, weapons and weapon systems as well as a refurbishing and upgrading house for small arms.

Our expertise is well known both to local defense industries who we assist and serve in development of weapon stations as well to many overseas clients to whom we supplied renewed or upgraded materials we have our own warehouse and workshop, which enables fast delivery and high quality control.

Our range of products covers:

GROUND FORCES
Small arms up to caliber .50, ammunition, spare parts and accessories, optics, night vision and personal equipment

AIRFORCE
Airborn weapons, weapon systems and bomb racks

NAVY
Boats and vessels, naval guns and weaponry, parts thereof
EBONY Enterprises Ltd. is a company with 25 years of experience in providing total defense solutions to several countries in Africa, Europe, North America, South America and Far East.

We are involved in several fields of activities: Defense, HLS and Critical Assets, Acquisition Banking Investment, Infrastructure Roads Construction, Telecom, IT, Energy, Oil and Gas, HR Development, Turn-Key Medical Projects, Environmental and Water Solutions, Agriculture, Waste Management.

DUE TO OUR ACTIVE FOOTHOLD IN THESE SPHERES AND FAMILIARITY WITH INTERNATIONAL MARKETS, EBONY IS ALSO ABLE TO MAXIMIZE UTILIZATION OF ECONOMIC CONDITIONS CREATED BY AGREEMENTS BETWEEN THE COUNTRIES IN WHICH IT OPERATES.

Ebony Enterprises Ltd. team includes top experts with demonstrated ability to vie for, and capitalize on opportunities. Furthermore, our professional personnel are immersed in the local markets and are often the first to detect and hence profit from the most lucrative business opportunities. Our unique asset is our Intellectual Capital, recruited to analyze the customers’ needs, to design turn-key projects, including Knowledge Transfer and Capacity Building together with our customers, our Partners and Vendors.

OUR EXPERIENCE:

Military communication  
C4I / EW  
Advanced artillery weapons  
Advanced personal missiles TV and laser guided

Intelligence sensors  
Upgrading of all kind of helicopters and fixed wings  
Upgrading of all kind of existing fleet  
Thermo imaging and night vision

Special vehicles for special forces  
Advanced light weapons  
Advanced personal equipment  
Modernized maintenance center

Training  
Special transportations  
From Vision To Reality
SERVICES

Munitions and Weapons Test Center
IMI Systems’ Munitions and Weapons Test Center is the largest and most advanced test site of its kind in Israel, specializing in the performance of comprehensive evaluations and live testing of various explosives, propellants and gun-fired ammunition ordnance. These include small caliber to 8” projectiles, mortars, rockets, missiles, aircraft armament warheads and land based ammunition for ranges of up to 40 km, grenades, mines and pyrotechnic devices.

All IMI’s Test Center activities are conducted in accordance with TOP, ITOP, STANAG, MIL-STD-810 c, d, e, f, g, IDF and IMI test procedure standards, and fully comply with ISO 9002, 14,000 and 18,000 standards. Tests include:

- Environmental Tests
- Climatic, Drop, Vibration, Automotive, Bio-dynamic, and Modal tests as well as Vibration & Shock Analysis.
- Ballistic Measurement
- Externa, Internal and Terminal Ballistics, and Special Tests.

Israel’s Ministries of Defense and of Transport, the Israel Defense Forces, U.S Army, Air Force and Navy, and many other overseas military and civilian organizations rely on the IMI Systems Test Center to meet their most demanding environmental test requirements and ensure the quality and reliability of their products.

Manufacturing Services
IMI Systems’ Slavin manufacturing plant provides a comprehensive turnkey solution for military modernization, maintenance and reconstruction for all types of vehicles including MBTs, APCs and AFVs. It also handles large-scale constructions, infrastructures, processes, equipment, as well as offering transfer of technology, training and support.

Specializing in the manufacture and integration of complex heavy machinery systems and components for the defense, agriculture, energy, automotive and other industries, alongside the development of Slavin’s wide range of products, has resulted in numerous original in-house technologies and capabilities.

Designed to conduct large scale projects and small size missions, the Slavin plant employs hundreds of skilled employees and enjoys a global reputation as a reliable, qualitative and timely supplier in both domestic and international projects in all the following technologies & services:

- Welding, milling, turning, bearing, drilling and honing, manufacturing, gear cutting and manufacturing, hydraulic and pneumatic systems, surface treatment and finishing, and systems assembly and integration.

Wherever dependability, capability and diversity count, customers find IMI System’s Slavin heavy metal manufacturing plant an excellent partner for successful and profitable business.
GOVERNMENT QUALITY ASSURANCE SERVICES FOR FOREIGN COUNTRIES

The Quality Assurance Division at IMOD-SIBAT provides Government Quality Assurance services for foreign contracts placed by foreign governments in the Israeli industries.

QA SERVICES ARE PROVIDED FOR A WIDE RANGE OF COMMODITIES:

- Aircraft
- Ammunition
- Automotive
- Communication
- Electronics
- Materials
- Chemicals
- Computer Software
- Others

Quality Assurance tasks and activities are based on IMOD/SIBAT Quality Assurance Directives as well as on NATO Standardization Agreement, AQAP-2070 STANAG No. 4107, and ISO 9001: 2000 Quality Management System.

The QA personnel rely on I.D.F, and on civilian Q.A. specialists. They are well trained, with many years of experience in performing Q.A. functions.

Periodic Audits are performed by first line supervisors on the QARs Q.A. activities.

Technical support is provided (when required), by experienced engineers and specialists.

All of the QARs are certified engineers and technicians, trained and qualified in various QA systems skill areas, like:

- Non Destructive Tests
- Soldering
- Software Quality Assurance
- Preservation, Packing, Packaging and Marking
- Statistical Process Control
- Statistical Sampling
- Calibration

QUALITY ASSURANCE CONCEPTS OF OPERATION AND METHODOLOGY

- Reviewing the contract and associated technical requirements.
- Generating a Quality Assurance Surveillance Plan based on identification and classification of risks.
- Performing QA Surveillance - Floor level process audits, support process audits and product audits.
- Reviewing Supplier Quality Management System Documentation.
- Establishing and maintaining QA surveillance records.
- Collect and Analyze Data.
- Initiating and processing quality deficiency reports, including validation of corrective and preventive actions.
- Providing risk information feedback.
- Conducting Post-award meetings with the supplier.
- Verifying and validating supplier’s quality evidence.
- Verification of prime contractor controls over subcontractors.
- Preparation of product release.
INDEX OF COMPANIES

ACCUBEAT LTD.
5 Ha’Marpeh St.,
P.O.Box 45102
Har Hotzvim Industrial Zone
Jerusalem 9777405, Israel
Tel: 972-2-5868330
Fax: 972-2-5868550
E-mail: marketing@accubeat.co.il
Web Site: www.accubeat.com
President: Dr. Avinoam Stern
C.E.O: Mr. Benny Levy
V.P Sales & Marketing:
Mr. David Fagelston
Number of employees: 50
Date established: 1993
Ownership: Private

Areas of activity
AccuBeat is a leading provider of Accurate Frequency and Timing solutions for the Aerospace, Defense and Telecommunications industries. Based on proprietary in-house Rubidium Atomic Clock or OCXO technology with optional GPS disciplining, AccuBeat’s products achieve the highest levels of accuracy and reliability. Our products and platforms are used in many sensitive Military and Government programs worldwide, ensuring optimum results in the most complex environmental conditions with unique patented solutions for GNSS Jammed and Spoofed environments.

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A.D. CONSULTANTS GROUP
7 Golda Meir St.,
Science Park
Nes Ziona 7403650, Israel
Tel: 972-8-9313600
Fax: 972-8-9404317
E-mail: adcon@adcon.co.il
Managing Director:
L.T. Col. (R) Gaby Peretz
Number of Employees: 30
Date Established: 1987

Areas of activity
A.D. Consultants has been dealing in military and security supplies of new and surplus equipment, as well as consultancy services. Our worldwide network of agents and suppliers enable us to provide special deliveries either by sea or air, to all destinations.

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AERODAN SYSTEMS (1993) LTD.
17 Kaplan St.,
Tel-Aviv 6473418, Israel
Tel: 972-3-6961099
Fax: 972-3-6966343
E-mail: maerav@aerodan.com
Web Site: www.aerodan.com
C.E.O: Dr. Elkana Rooz
C.T.O: Dr. Vladimir Brotskey
V.P Marketing & Business Development:
Mrs. Maerav Rooz Michaelson
Number of employees: 30
Date established: 1988
Ownership: Private

Areas of activity
Aerodan has since 1988 become an R&D source and an established provider of high-end engineering based software and hardware integrated solutions for aerospace and avionic applications to customers worldwide. Aerodan specializes in systems engineering and integration. Initially providing aerospace engineering support for the Israel MOD, the company provides aerospace development services and solutions for all the major defense industries in Israel. Today Aerodan is mainly involved in the development of avionic modules, products and systems such as flight systems and fire-control computers.

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AEROMAOZ LTD.
Tel: 972-3-6095003
Fax: 972-3-6095033
E-mail: info@aeromaoz.com
Web Site: www.aeromaoz.com
C.E.O: Mr. Yaniv Gadish
Marketing Manager: Mr. Marc Steinberg
Number of Employees: 90
Date Established: 1980
Ownership: Private
Areas of activity
- Internal & External Lighting
- Illuminated Panels Electronic Controls
- Night Vision Imaging System (NVIS) Compatible Products
- NVIS Cockpit Upgrades
- Joysticks & Handgrips
- Bezels/Display Bezels
- Keyboard Bezels
- MFD Bezels
- LED, EL & Conventional Lighting Technologies

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AERONAUTICS LTD.
P.O.Box 169
Yavne 8110101, Israel
Tel: 972-8-9433600
Fax: 972-8-9328912
E-mail: info@aeronautics-sys.com
Web Site: www.aeronautics-sys.com
C.E.O: Mr. Amos Mathan
V.P. Marketing: Mr. Dany Eshchar
Number of employees: 680
Date established: 1997
Ownership: Public
Areas of activity
Aeronautics Ltd. is a global leader in the area of unmanned systems (UAVs). With core technologies in the areas of C4I, navigation, communication, and electro-optics, Aeronautics offers its customers a full spectrum of superior ISTAR solutions at air, sea and on land.

See pages: 28, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188

AEROTACTIX (ISRAEL) LTD.
68 Amal St.,
Petah Tikva 4951368, Israel
Tel: 972-3-9215720
Fax: 972-3-9215434
E-mail: sales@aerotactix.com
Web Site: www.aerotactix.com
C.E.O: Mr. Roel Itshakov
Number of employees: 10
Date established: 2008
Ownership: Private
Areas of activity
AeroTactiX unmanned solutions develops and provides high end mini UAV systems that are compact, simple to operate, and highly capable. The systems are developed according to the experience and knowledge accumulated in thousands of operational missions. Designed for use in military and homeland security missions, AeroTactiX’s systems excel in every ISTAR mission.

See page: 190
**AERO-SENTINEL LTD.**  
16 Modi’in St.,  
Petach-Tikva 4927165, Israel  
Tel: 972-3-5444102  
Fax: 972-3-9212348  
E-mail: israel@aero-sentinel.com  
Web Site: www.aero-sentinel.com  

C.E.O: Mr. Israel Vaserlauf  
Mobile: 972-52-5838944  
Technical Inquiries:  
Mr. Ezra Lebovitch  
Mobile: 972-50-7961122  
Number of employees: 12  
Date established: 2012  
Ownership: Private  

**Areas of activity**  
Aero-Sentinel is an Israeli UAV manufacturer,  
We provide solutions of multi-rotor UAVs for the defense, security and civil authorities.  
Aero-Sentinel's wide range of quadcopters are the most efficient in the world with up to 80 minutes flight. The drones missions are: detect and assess threats, search and rescue, and act as first responders, with maximum reliability and cost-effective operation. Sentinel drones are equipped with dual day and night camera, secured communication, and are operated from a profetional Ground Control System.

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**AL CIELO INERTIAL SOLUTIONS LTD.**  
5 Nahum Hefzadi St.,  
Jerusalem 9134302, Israel  
Tel: 972-2-6595539  
Fax: 972-2-6541221  
E-mail: info@alcielo.com  
Web Site: www.alcielo.com  

C.E.O: Dr. Arnon Arbel  
C.F.O: Mr. Shahak Moshe  
V.P. Business Development:  
Mr. Yitzhak Yoselis  
Number of employees: 75  
Date established: 2013  
Ownership: Rafael & Kearfott co.  

**Areas of activity**  
Al Cielo specializes in the research, development, manufacturing and integration of laser technologies and navigation & control inertial sensors. With over 40 patents, world class facilities and a decade of experience in development and manufacturing of electro and fiber optical systems, Al Cielo brings measurable advantages to Fiber Optic Gyroscopes (FOG), Inertial Measurement Units (IMU) and Inertial Navigation Systems (INS). Al Cielo is the Only local supplier in Israel for closed loop FOGs with sensors engaged in a variety of navigation and control applications.

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**ASHOT ASHKELON INDUSTRIES LTD.**  
P.O.Box 21  
Ashkelon 7810001  
Tel: 972-8-6721511  
Fax: 972-8-6721711  
E-mail: info@ashot.co.il  
Web Site: www.ashot.co.il  

President & C.E.O: Mr. Michael Dayan  
V.P. Marketing & Business Development: Mr. Eyal Lipetz Eliassi  
Number of employees: 530  
Date established: 1967  
Ownership: Government 85%, Public 15%  

**Areas of activity**  
Drive train, suspension and mobility solutions for Tanks & APC’s; tungsten based armor Penetrators and fragments manufacturer. Ashot provides build to print & build to specification, design and manufacturing of Suspensions Systems, Main Automatic Transmissions, Final Drives, Transfer Boxes, PTO’s and wide range of Gear based assemblies and Shafts for Main Battle Tanks. Ashot is AS 9100C & ISO 9001:2008 certified.

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ASTRONAUTICS C.A. LTD.
16 Martin Gehl St.,
P.O.Box 3351, Kiryat Arie
Petach-Tikva 4951207, Israel
Tel: 972-3-9251555
Fax: 972-3-9251550
E-mail: astro@astro.co.il
Web Site: www.astronautics.co.il
Managing Director: Mr. Zvi Krepel
V.P. Marketing & Business Development: Mr. Benjamin Weiser
Director, R&D Engineering: Mr. Shachar Kur
Number of employees: 80
Date established: 1971
Ownership: Astronautics Corporation of America

Areas of activity
Advanced high-technology systems for Airborne, Naval and Land applications.

Main Products:
Naval:

Airborne:

Land:

See pages: 22, 23, 70, 130

AUTOMOTIVE ROBOTIC INDUSTRY LTD.
41 Derech Haemek St.,
Nazareth 1710501, Israel
Tel: 972-50-7373734
Fax: 972-4-6558103
E-mail: info@amstaf-ugv.com
Web Site: www.amstaf-ugv.com
C.E.O: Mr. Ronen Fishman
C.F.O: Mr. Oded Koritshoner
C.T.O: Mr. Shimon Shamai
Number of employees: 7
Year established: 2010
Ownership: private
(Zvi Neta, Amos Goren)

Areas of activity
Automotive Robotic Industry Ltd. (ARI) specializes in developing, manufacturing, and marketing of autonomous robotic systems. Our solutions for the various types of missions keep human operators safe in dangerous and hazardous missions, and save on resources (time and budgets) during ordinary routine.

AMSTAF UGV, the company’s prime product, is a multi-mission, amphibious, integrated Unmanned Ground Vehicle (UGV) system, with swarming capabilities, back to home and follow-me mode. Various payloads can be installed on the vehicle, it was designed for use in diverse military, HLS and law enforcement applications, such as border patrol and others.

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B.A. MICROWAVES LTD.
P.O.Box 25482
Haifa 312540, Israel
Tel: 972-4-8202715
Fax: 972-4-8202716
E-mail: b.gilboa@bamicrowaves.co.il
Web Site: www.bamicrowaves.co.il
V.P BizDev: Mr. Bentzi Gilboa
C.E.O: Mr. Tamir blum
Number of employees: 22
Date established: 1993
Ownership: Private

Areas of activity
BA Microwaves specializes in developing and supplying cutting edge telemetry link solutions
- Leading developer and manufacturer of telemetry links
- Leading supplier for the Defense Industry in Israel
- Agile links, adaptable to a variety of platforms, requirements and formats
- Proven track record with Thousands of BA aerial and ground platforms already installed

Our PCM/FM and SOQPSK systems are designed as a building block for multiple platforms, thanks to the field configuration of the transmitter/receiver parameters that allows users to configure specific, modulation, bandwidth, bitrate and many other parameters.

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**BEEPER COMMUNICATIONS ISRAEL LTD.**

147 Bialik St.,
Ramat Gan 52522341, Israel
Tel: 972-3-6100064
Fax: 972-3-6104396
E-mail: info@beepergroup.com
Web Site: www.beepergroup.com

Senior Vice President, Head of the
The Business Unit Network Products & Public Alert Systems:
Mr. Moshe Levinson
E-mail: moshel@beeper.co.il
Tel: 972-3-6104321

Marketing & Business Development
Manager USA & South America:
Mr. Asa Yanai
E-mail: asa.yanai@beepergroup.com
Tel: +1 (917) 848 3753

Number of employees: 400
Date established: 1988
Ownership: private

**Areas of activity**

Beeper Communications Israel is a leading provider of emergency communication and critical messaging services for security, military, and homeland defense. With cost effective, end-to-end solutions based on its wireless communication infrastructure.

One of the flagship product is the IE-5000 MULTI-WAN CHANNEL BONDER – XTREME, which provides a Software-Defined Wide Area Network (SD WAN) for broadcast quality mobile video, voice and data solutions that go live instantly, providing live streaming video in and out from the bonder on demand – anytime, anywhere and on any existing network.

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**BEIT-ALFA TECHNOLOGIES LTD.**

Kibbutz Beit-Alfa
1080200, Israel
Tel: 972-4-6533060
Fax: 972-4-6533405
E-mail: info@bat.co.il
Web Site: www.bat.co.il

Managing Director: Mr. Ronen Zahavy
Number of employees: 50
Date established: 1966
Ownership: Kibbutz Beit Alfa

**Areas of activity**

- Riot Control Vehicle - various different models have been manufactured with the most advanced BAT new generation computerized “JET PULSE” water cannon system.
- Bullet Proof Armored Vehicles - for police, military VIP transportation, cash in transit vehicles.
- Special Purpose Vehicles - fire fighting and rescue vehicles, airport crash tenders, rapid intervention vehicles, ambulances, mobile clinics and command vehicles.
- WRS - non-lethal Water Restrain System designed specifically to control dangerous inmate situations in correctional facilities.

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**BETH-EL ZIKHRON YAAQOV INDUSTRIES LTD.**

1 Avshalom Road
P.O.Box 166
Zikhron Yaaqov 3095101, Israel
Tel: 972-4-6299904/05
Fax: 972-4-6299900
E-mail: export@beind.com
Web Site: www.beind.com

Managing Director: Mr. Albrecht Fuchs
Export Director: Mr. Joachim Blind
Head of International Sales & Marketing: Mr. Jehudah Fehlauer
Number of employees: 1,000
Date established: 1973
Ownership: Private

**Areas of activity**

Beth-El is a major supplier for combined ventilation & NBC filtration systems as well as combined air conditioning, ventilation & NBC filtration systems, engine air cleaners, blast valves, fuel pumps and other subsystems.

Beth-El systems are installed in numerous platforms like the Merkava MBT, Namer APC, Piranha IIIC, Piranha V, Duro IIP, Eagle IV, new Eagle, Dingo II, Boxer, VAB Mark II, Cobra, YAK and dozens of other vehicle types.

Systems for containers, tents, shelters and infrastructure are as well in the scope of the Beth-El product line.

Some of the key features of Beth-El systems include: coarse and fine dust filtration; toxic shooting fumes filtration; CAN-bus control; meeting important military standards, such as: NATO AEP-54, MIL – PRF – 321387, AC 225 (PANEL VII) D/251, and German TL Standards, amongst other Standards.

Beth-El’s systems are in service with more than 60 armies worldwide.

See pages: **286, 287**
BIRD AEROSYSTEMS LTD.
10 Hasadnaot St.,
P.O.Box 4038
Herzliya 4614001, Israel
Tel: 972-9-9725700
Fax: 972-9-9579613
E-mail: info@birdaero.com
Web Site: www.birdaero.com
Co-C.E.O: Mr. Ronen Factor
Co-C.E.O: Mr. David Dragucki
V.P Marketing: Mr. Shaul Mazor
Number of employees: 110
Date established: 2001
Ownership: Private

Areas of activity
BIRD Aerosystems’ provides airborne solutions for protection of Aircraft against MANPADS (AMPS) and complete task force solutions for Ground and maritime airborne surveillance (ASIO).

AMPS: Family of solutions providing complete protection against all known Surface-to-Air Missiles (including MANPADS). AMPS includes BIRD’s patented Confirmation and Jamming Sensors which performs confirmation of suspected incoming missile to eliminate any False Alarms (MACS Sensor) while also activating an innovative and advance DIRCM laser jammer (SPREOS system). AMPS is currently protecting hundreds of aircraft in many of the leading conflict zones world-wide.

ASIO: Proven turn-key airborne surveillance solution ideal for maritime and ground surveillance, search and rescue, patrol and monitoring. ASIO offers a complete task force approach providing aircraft, naval ships and ground forces to collect real time data and create a unified Situation Awareness Picture.

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BL ADVANCED GROUND SUPPORT SYSTEMS LTD.
P.O.Box 7782
Petach-Tikva 4934829, Israel
Tel: 972-3-9210404
Fax: 972-3-9210405
E-mail: sales@bl-il.com
Web Site: www.bl-il.com
C.E.O: Mr. Rafi Bivas
E-mail: rafi@bl-il.com
Engineer Manager: Mr. Yoav Koster
E-mail: yoav@bl-il.com
Number of employees: 32
Date established: 2004
Ownership: Private

Areas of activity
BL offers development, production, sales and after sales service in two main areas:
- Advanced ground support systems
- Advanced military products for ground forces

BL’s strength is comprised of its ability to develop new and smart solutions rapidly and cost effectively.

Line of Products:
- Bomb Loaders
- Aircraft Towbarless Tug
- HPU - computerized hydraulic power supply

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BLUEBIRD AERO SYSTEMS LTD.
8 Hamatechet St.,
Kadima 6092000, Israel
Tel: 972-9-8999335
Fax: 972-9-8999345
E-mail: info@bluebird-uav.com
Web Site: www.bluebird-uav.com
C.E.O: Mr. Ronen Nadir
V.P Business Development:
Mr. Itai Toren
Marketing: Ms. Natalie Deutsch
Number of employees: 50
Date established: 2002
Ownership: Private

Areas of activity
Bluebird Aero Systems Ltd. (established in 2002) is a dominant player in the Tactical Unmanned Aerial Systems (UAS) industry. BlueBird specializes in design, development and production of Micro, Mini and tactical UAS and their peripheral equipment, and delivers exceptional, unprecedented combat proven solutions to meet the challenges of the Military, HLS and civil UAS markets. BlueBird’s UAS are ideal for supporting ISTAR missions, peace keeping, low intensity conflicts, security, disaster management, law enforcement and commercial applications.

See page: 191
**Camero-Tech Ltd.**
Grand Netter Industrial Zone, Intergama Building
P.O.Box 3521
Kfar Netter 4059300, Israel
Tel: 972-73-7172333
Fax: 972-73-7172323
E-mail: info@camero-tech.com
Web Site: www.camero-tech.com

C.E.O: Mr. Amir Beeri
V.P.BD, Sales & Marketing: Mr. Ilan Abramovich
Date established: 2004
Ownership: Private

**Areas of activity**
Camero is a leading provider of Radar based tactical through-wall imaging solutions.
The Xaver™ products have become the solution of choice for military and law enforcement agencies throughout the world, including:

- **Xaver™ 800** - high performance 3D imaging solution for ISR applications.
- **Xaver™ 400** - small and lightweight tactical tool providing mission-critical information.
- **Xaver™ 100** - a compact handheld through-wall detector.

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**Carmor - Integrated Vehicle Solutions Ltd.**
P.O.Box 639
Ind. Zone Ziporit
Nazareth Elite 1710502, Israel
Tel: 972-4-6410641
Fax: 972-4-6418555
E-mail: info@carmor.com
Web Site: www.carmor.com

Executive Director:
Mr. Roy Riftin (BG reserve)
V.P Marketing & Business Development: Mr. Gabi Davidson
C.F.O: Mrs. Sharon Malul
Number of employees: 150
Date established: 1947

**Areas of activity**
Design and Manufacture of Armored vehicles, Aircraft Refuellers, Tankers,
Fire fighting and Rescue vehicles, Riot Control vehicles, Comprehensive solution of NBC vehicles, Tank transporter, Add-on Armor design and solution, Trailers and Wagons. We have the ability and capability to meet the customer’s needs while offering the most cost effective tailor-made solution.

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**CI Systems Ltd.**
P.O.Box 147
Industrial Park Ramat Gabriel
Migdal Haemek 2310101, Israel
Tel: 972-4-6448888
Fax: 972-4-6543570
E-mail: market@ci-systems.com
Web Site: www.ci-systems.com

C.E.O: Dr. Robert Buckwald
V.P. General Manager & Head of Electro-Optic Division: Mr. Efraim Tzafrir
C.F.O.: Mr. Tzvi Hardoon
Number of employees: 120
Date established: 1977
Ownership: Public, Tel-Aviv stock exchange

**Areas of activity**
IR Sources - Blackbodies.
IR targets.
FLIR testers.
Visible sources.
CCD testers.
Laser range finder testers.
Laser designator testers.
Multi-sensor payload testers.
Spectro-radiometers and remote sensing.
Boresight equipment.
E-O guided missile testing.
Missile warning systems - testers and simulators.

See page: 251
**Areas of activity**

Commtact Ltd. specializes in developing and manufacturing state-of-the-art Data link Solutions and wireless communication systems for defense, homeland security and civil applications.

Commtact offers the following data link solutions:
- UAVs (Unmanned Aerial Vehicles)
- Fixed wing aircraft and helicopters
- Naval platforms and USVs
- Ground vehicles, UGVs
- Missile applications
- Ground to Ground Applications

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**Areas of activity**

Supply of surplus military equipment for ground forces, air force and navy, including:
- Arms and ammunition
- Weapon spare parts and accessories.
- Personal equipment and gear
- Military inventory
- Combat vehicles and spare parts
- Aircraft spare parts and components
- Own storage and processing facilities

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**Areas of activity**


Main product lines:
- Intruder Detection Systems for coastal, port/harbour, airport and border surveillance
- Stabilized Observation Payloads for day/night surveillance on UAVs, SUAVs, aerostats/balloons, helicopters, aircraft, maritime patrol boats and ground vehicles
- Thermal Imaging Cameras and more

CONTROP’s products are in 24/7 operational use in many of the most critical HLS and defense programs worldwide.

See pages: **238, 239**
Areas of activity
Cyberbit revolutionizes cybersecurity operations by providing the first analytics-driven product suite for managing the entire incident lifecycle across IT and critical infrastructure networks.
Cyberbit’s products help organizations prevent breaches, increase cyber resilience and improve their security team’s efficiency by detecting advanced threats, managing incidents from detection to response, and training their teams in advanced, simulated environments.

Areas of activity
DEA R&D specialized in research, development, management and design of multidisciplinary Projects. Personal NBC life support equipment for the civilian and military markets, hood blower system, ventilated garments and detectors. Our capabilities are based on a blend of design disciplines: human engineering, tooling, production, assembly, testing and documentation. DEA is carrying out theoretical and studies in human engineering.

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DEMONIAN INTERNATIONAL LTD. - Security & Defense Solutions
P.O.Box 3896
Nazareth Illit 1752606, Israel
Tel:  972-50-5901655
Fax: 972-4-6561632
E-mail: info@demoman.co.il
Web Site: www.demoman.co.il
www.suicide-terrorism.com
C.O.O: Mr. Tal Hanan
Head of Strategy Department:
Col. (Res.) Dr. Hanan Shai (Shchwartz)
Chief Instructor: Mr. Samuel Bashan
Date established: 1999
Ownership: Private

Areas of activity:
INTELLIGENCE
- Financial Intelligence
- Intelligence Operations
- Information gathering and Analysis
STRATEGY DEPARTMENT:
- Strategic Intelligence
- Strategic, Multi-National, Financial Investigations
- Counter Terrorism Funding and Money Laundering
- Crisis Management and turning Risk into Opportunities
- Rapid Decision-Making and Coping with Uncertainty
- Operational Concepts and Operational Field Solutions
SUICIDE TERRORISM & BOMB SECURITY DEPARTMENT:
- Counter Suicide Terrorism in HLS environment
  (www.suicide-terrorism.com) and Bomb Security Training and Consulting
- Explosives Detection
- Anti-Sabotage Awareness
SECURITY DEPARTMENT:
- Terrorism Awareness, and Countering Terrorism Trends
- Experience Sharing - Rapid Deployment Security Training
- Executive Protection Training and Consulting
- Disaster security and logistical support (Including Medical Support and Supplies)
- Defense Systems and Security Supplies

DEXORD LTD.
P.O.Box 12702
Ashdod 7760049, Israel
Tel: 972-8-8681150
Fax: 972-8-8681169
E-mail: dxord_1@netvision.net.il
President & C.E.O: Mr. G. Arazi
Chief Q.A.R: Mr. M. Horn
Number of employees: 5
Date established: 1984
Ownership: Private

Areas of activity
We have for decades been a supplier of new and surplus equipment, weapons and weapon systems as well as a refurbishing and upgrading house for small arms.
Our expertise is well known both to local defense industries who we assist and serve in development of weapon stations as well to may overseas clients to whom we supplied renewed or upgraded materials we have our own warehouse and workshop, which enables fast delivery and high quality control.
Our range of products covers:
Ground Forces - Small arms up to caliber. 50, ammunition, spare parts and accessories optics, night vision and personal equipment
Airforce: Airborn weapons, weapon systems and bomb racks
Navy: Boats and vessels, naval guns and weaponry, parts thereof.

DIGNIA SYSTEMS LTD.
9 Shenkar St.,
Herzlia 4672509, Israel
Tel: 972-74-7200700
Fax: 972-9-9612021
E-mail: recp-d@dignia.com
Web Site: www.dignia.com
C.E.O: Mr. Itzhak Tzadik
Ownership: Private

Areas of activity
Dignia Systems is a global leader and trusted provider of Security and Defence solutions. Our customers include military and internal security organizations, intelligence and law enforcement agencies worldwide.
With over 25 years experience we bring reliable field-proven technology, backed by professional expertise and “real world know-how” to any large scale government project.
Dignia holds a large variety of products such as: Border control integrated projects, forensic laboratories, intelligence solutions, special forces trainings etc. 

See page: 301
See page: 307
See page: 312
D. YOLAND LTD.
17 Hamasger St.,
Old industrial zone
P.O.Box 13518
Natanya 4237878, Israel
Tel: 972-9-8616103
Fax: 972-9-8847221
E-mail: info@yolandcorp.com
Web Site: www.yolandcorp.com
Chairman: Mr. Dani Ginat
C.E.O: Mr. Roni Ginat
Marketing Manager: Mr. Adi Ginat
Date Established: 1976
Number of employees: 40
Ownership: Private

US Subsidiary (100% owned):
Yoland Corporation Inc.
235 36TH St.,
Brooklyn, NY 11232
Tel: 718-499-4803
Fax: 718-499-4834
President: Mr. Dani Ginat
C.E.O: Mr. Tal Ginat
E-mail: yolandcorp2@gmail.com

Areas of activity
Yoland manufactures military textile articles:
Parachutes for:
- Artillery illumination ammunition
- Mortar illumination ammunition
- Hydra 70
- Air dropped illumination flares
- 40mm illuminating grenades
- Other types
Bags for artillery and mortar charges
Flexible Rotating Band Cover for 155mm
Body armor
Seats cover for airplanes, trains and buses
Yoland also manufactures nonstandard and mil-spec textile products which require high quality production.

See page: 131
Areas of activity
- Defense & Commercial Airborne Systems & Simulators
- Unmanned Systems
- C4I - Command, Control, Communications, Computers and Intelligence
- ISR & Electro-optical Systems
- Combat Vehicle Systems
- Naval Systems
- EW & Countermeasures
- Radio Communication & Data Links
- Homeland Security
- Support & Services

Areas of activity
- Training & Simulation Solutions
- Precision Guided Munitions
- Head Mounted Systems
- Integration and Upgrades

See pages: 15, 24, 33, 55
ELBIT SYSTEMS
ISTAR
Advanced Technology Center
P.O.Box 539
Haifa 3100401, Israel
Tel: 972-4-8315315
Web Site: www.elbitsystems.com/istar
E.V.P. & Managing Director:
Mr. Elad Aharonson
V.P. Business Development &
Marketing: Mr. Sasson Meshar
Number of employees: 2,550
Date established: 2014
Ownership: Elbit Systems Ltd.

Areas of activity
The ISTAR Division is comprised of
two main groups: electro-optics (EO)
and unmanned aerial systems (UAS),
each with a unique combination of
capabilities and technological depth
to address a broad range of
operational scenarios.

Electro Optics Group;
Laser and thermal imaging systems
Head Up Displays  ISR
Systems, including payloads for
space, airborne, naval and land
based missions  Space and air IMINT
systems  Ground
Integrated sights, DIRCM systems,
homeland security solutions.
The UAS group;
Unmanned systems in the air (UAS)
and maritime (USV) domains, from
launched mini quadcopters to long-
range MALE (Medium Altitude Long
Endurance) UAS.

See pages: 193, 252

ELBIT SYSTEMS
LAND AND C4I LTD.
2 H’machshev St.,
Netanya 4250712, Israel
Tel: 972-9-8988080
Fax: 972-9-8988231
E-mail: landc4i@elbitsystems.com
Web Site: www.elbitsystems.com/landc4i
Executive Vice President & General
Manager: Mr. Yehuda Vered
Vice President Marketing & Business
Development:
Mr. Boaz Cohen
Number of employees: 2,450
Date established: 2003
Ownership: Elbit Systems Ltd.

Areas of activity
- Armored Vehicle Systems
- Artillery
- Guns
- Mortars
- Ammunition
- Unmanned Ground Vehicles
- Sensors
- Robotics
- Radio Communication
- C4I - Command, Control,
Communications, Computers and
Intelligence
- Homeland Security
- Intelligence

See pages: 97, 132, 214, 221

ELMO MOTION CONTROL LTD.
60 Amal St.,
Pethach Tikva 4951360, Israel
Tel: 972-3-9292300
Fax: 972-3-9292322
E-mail: info-il@elmomc.com
Web Site: www.elmomc.com
C.E.O: Mr. Haim Monhait
V.P Sales: Mr. Ilan Cohen
V.P Marketing: Mrs. Keren Shemesh
Number of employees: 350
Date established: 1988
Ownership: privete

Areas of activity
Elmo Motion Control (Elmo) designs,
produces and implements
comprehensive, field-proven motion
control solutions that make clients'
data-driven, intelligent machines
smarter. Elmo’s advanced
technologies enhance overall
accuracy, speed and throughput, and
ensure fast, accurate, real-time
responses for any application in any
environment. The company’s R&D
department combines intelligent
motion control technologies, real-time
programming and control algorithms.
The company is headquartered in
Israel and has a dedicated presence
in the United States, China, Germany,
Italy, Korea, Poland and the United
Kingdom.

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ELTEL TECHNOLOGISTICS LTD.
7 Martin Gehl St.,
Kiryat Arye
Petach Tikva 4951254, Israel
Tel: 972-3-9205253
Fax: 972-3-9205200
E-mail: sales@eltel.co.il
Web Site: www.eltel.co.il
C.E.O: Mr. Shmulik Rosental
Number of Employees: 300
Date established: 1979
Ownership: Malam Team
Areas of activity
Eltel Technologistics Ltd. is a leading defense provider of technological and logistics solutions that specializes in the field of training and simulation:
- Advanced live fire training
- Digital shooting ranges
- Scenario simulation (urban combat training, pyrotechnics, smoke, etc.)
- Exercise monitoring, debriefing and performance analysis.
- Synthetic Arena Simulation (SAS).
- Competence and Readiness Performance Management (CRPM)
- an advanced BI system that supports the decision making process along the chain of command
- LVC
- Virtual Reality training
- Decision Support System (DSS)

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EMTAN KARMIEL LTD.
P.O.Box 273
Karmiel 2191300, Israel
Tel: 972-4-9987531
Fax: 972-4-998981
E-mail: info@emtan.co.il
Web Site: www.emtan.co.il
Number of employees: +120
Date established: 1977
Ownership: Private
Areas of activity
EMTAN is an Israeli Manufacturer of small arms with over 40 years of experience and knowledge.
EMTAN manufacture the MZ Rifle family: MZ-4, MZ-15,MZ-47,MZ-300
And other models. Based on the known AR15, EMTAN’s small arms are designed and manufacture according to MIL-SPEC to suite the outmost requirements of any army or police force.
EMTAN can offer upgrading parts and knowledge for clients that wishes to upgrade their existing issued fire arms instead of replacing them with new ones.
EMTAN M4/M16 Parts are fully compatible with other standard issue rifles

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EPSILOR-ELECTRIC FUEL LTD.
Rotem Science Park
MP Arava 8680600, Israel
Tel: 972-8-6556280
Fax: 972-8-6559960
E-mail: info@epsilor.com
Web Site: www.epsilor.com
General Manager: Mr. Alex Stepansky
V.P Marketing & Sales:
Mr. Felix Frisch
Number of employees: 170
Date established: 1985
Ownership: Arotech Corporation (NASDAQ: ARTX)
Areas of activity
Epsilor is a world-recognized developer and manufacturer of standard and customized rechargeable batteries, charging systems, soldier wearable power management equipment and other energy products for high reliability applications.
Epsilor’s batteries and chargers serve the following markets: military, aerospace, armored and military vehicle and marine and underwater applications.
The company’s expertise lies in a wide variety of electro-chemistries, smart electronics and sophisticated battery management systems (BMS).
Our customers include government agencies, militaries and large international corporations.

See pages: 25, 71, 152, 215
FIBROTEX TECHNOLOGIES LTD.
P.O.Box 7604
Kiryat Matalon
Petach Tikva 4959369, Israel
Tel: 972-3-9223586
Fax: 972-3-9223533
E-mail: marketing@fibrotex-tech.com
Web Site: www.fibrotex-tech.com
V.P Marketing: Mr. Yosef Kraus
V.P Business Development: Mr. Itai Gomer
Number of employees: 60
Date Established: 1967
Ownership: Private

Areas of activity
Our constant peruse for excellence leads us as we deliver constantly improved solutions for the modern battlefield. Fibrotex brings high quality, tailor made products that suit versatile environments and requirements for our customers, providing the reliability you can depend on.

Our most-compelling advantages are the depth of our camouflage technology and our extensive in-house development and production capabilities. Fibrotex adapts its products to the unique requirements of each customer, while maintaining high levels of reliability and performance. Fibrotex is known as the company that can "provide innovative solutions according to customer needs, not according to what already exists."

Fibrotex focuses on knowledge, innovation and creativity, new materials, new production processes, new services, new markets and requirements. Knowledge and expertise are fundamental principles of the company.

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HAGOR INDUSTRIES LTD.
MILITARY EQUIPMENT MANUFACTURING
13 Shenkar St.,
P.O.Box 3211
Kiryat Arie
Petach-Tikva 4951601, Israel
Tel: 972-3-9248990
Fax: 972-3-9243996
E-mail: michal@hagor.com
Web Site: www.hagor.com
C.E.O: Mr. Haim Frenkel
Production Manager: Mr. David Frenkel
Export Manager: Mrs. Michal Frenkel-Bitton
Number of employees: 70
Date established: 1952
Ownership: Private

Areas of activity
Production, marketing and sales of armored vests of many different kinds, battle vests for infantry units, armored corps, demolition squads, medical units, anti-terror units, naval commando, etc. Winter gear - long and short cold parkas and overalls. Rucksacks, kitbags, sleeping bags, stretchers, field cots, carriers, special personal gear. Unique, reinforced PVC vehicle covers for all kinds of trucks, jeeps, command cars etc. All kinds of tents, from personal tents to giant hospital and camp tents.

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HARTECH TECHNOLOGIES LTD.
22 Maskit St.,
Herzliya 4673322, Israel
Tel: 972-74-7200800
Fax: 972-9-9549394
E-mail: marketing@hartech.co.il
Web Site: www.hartech.co.il
C.E.O: Mr. Offer Har
Director Business Development: Mrs. Rachel Wolstein
Date established: 2002
Ownership: Private

Areas of activity
HarTech's products include:
- Command and Control Systems
- High fidelity simulation engine for the generation of high fidelity simulation solutions
- Provision of Constructive Simulation and Training solutions
- Geo Spatial Management System (GEM)
- HarTech’s Behavior Editor for Advanced Computer Generated Forces
- Smart Scenario Generation Technology (SSG)

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**HBA SYSTEMS INTEGRATORS**

77 Herzl St.,
Oasis Towers
Ramat Gan 5244350, Israel
Tel: 972-3-6722226
Fax: 972-3-6722193
E-mail: manuel.bar-gil@hba.co.il
Web Site: www.hba.co.il

President & C.E.O: Mr. Haim Ben-Ari
V.P Marketing & Sales: Mr. Manuel Bar-Gil
Date established: 1979
Ownership: Private

**Areas of activity**
- EOD solutions - EOD Robots, professional training
- Unique non-lethal equipment & world wide security consultation services
- Integration of border crossing checkpoints & marine cargo inspection facilities and maritime protection
- Security commercial trade
- Explosives - Binary explosives and disrupters, electronic initiation system
- Forensics equipment
- Marine and Underwater Robotics
- Maritime Security
- Special Forces Training

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**HIGHTECH LTD.**

P.O.Box 65184
Tel-Aviv 6949218, Israel
Tel: 972-3-6414306
Fax: 972-3-6418265
E-mail: is_hightech@hsrl.com

C.E.O: Mr. Rony Lerner
E-mail: ronyr@hsrl.com
Number of employees: 8
Date established: 1988
Ownership: Private

**Areas of activity**
HighTech Systems Ltd. specializes in meeting the needs of our clients worldwide. The company brings together field trained experts and technologically advanced specialists to provide optimal solutions for any mission or activity. The company focuses on developing specialized equipment, advanced technology, procedures, training and missions.

**Main Products / Services:**
- MRAP – Mine Resistant Armor Protected Vehicles
- Riot Control Equipment + Riot Control Vehicle
- APC – Armored Personnel Carriers
- Mobile I.E.D./E.O.D System
- Personal Protection Gear
- Covert communications
- Transfer of Knowhow
- Mobile Clinics

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**IAI**
**AMDS - AIR & MISSILE DEFENSE SYSTEMS DIVISION**

Systems Missiles & Space Group
P.O.Box 105
Industrial Zone
Yehud 5610002, Israel
Tel: 972-3-5315699
Fax: 972-3-5315830
E-mail: marketing@iai.co.il
Web Site: www.iai.co.il

General Manger: Mr. Dror Bar

**Areas of activity**
IAI/AMDS is a world leader in the development and supply of the most advanced and effective Air and Missile Defense (AMD) Systems. The BARAK is a modern and innovative, Naval and Land Based, Air & Missile Defense (AMD) system from short to long ranges – low to high altitude targets, fully net centric. It is based on the many years of technical and operational experience that have been acquired from IAI’s previous generations of AMD systems. BARAK is an advanced, all weather, 360°, mobile, local and area Air and Missile Defense System against a variety of threats including fighter aircrafts, Unmanned Air Vehicles (UAV’s), helicopters, missiles, and other guided and unguided munitions.

See pages: **79, 169**
IAI
ELTA SYSTEMS LTD.
100 Yitzchak Hanasi Blvd.
P.O.Box 330
Ashdod 7710202, Israel
Tel: 972-8-8572410
Fax: 972-8-8561872
E-mail: market@elta.co.il
Web Site: www.elta.co.il

President & C.E.O of IAI, Chairman of the Board of ELTA: Mr. Joseph Weiss
IAI Executive V.P & ELTA President: Mr. Nissim Hadas
Senior V.P: Mr. Yacob Saraf
Senior V.P: Mr. Moshe Lippel
Senior V.P: Mr. Tal Sagee
V.P., General Manager, Land & Naval Radars and Systems Div.: Mr. Israel Lupa
V.P., General Manager, Airborne Systems & Radars Div.: Mr. Gideon Landa
V.P., General Manager, SIGINT, EW & Communication Div (acting): Mr. Ran Sade
V.P., General Manager, Cyber Div.: Ms. Etti Peshin
V.P., General Manager, Integrated Microwave Systems Div.: Mr. Yosef Fouks
V.P., General Manager, Technologies Div.: Mr. Ronen Zagoory
Director, Group Marketing & Sales Div.: Mr. Igo Licht

Areas of activity
Military and Para-Military Systems


See pages: 16, 47, 54, 59, 60, 77, 128, 155, 194, 216, 226, 227, 228, 264

IAI
LAHAV DIVISION
Military Aircraft Group
Ben-Gurion International Airport
7010000, Israel
Tel: 972-3-9353163
Fax: 972-3-9358198
E-mail: lahav_marketing@iai.co.il
Web Site: www.iai.co.il

General Manager:
Mr. Benjamin Cohen
Director of Marketing:
Mr. Netta Kerem

Areas of activity
Lahav provides innovative solutions for:
- Military aircraft and helicopter upgrade, refurbishment, overhaul, maintenance, repair, and life extension
- Integrated and NCW Avionics system and software design, development, integration, and testing
- Stand-alone and networked tactical simulators, trainer upgrades with embedded synthetic training
- Design and production of aerostructures, and electrical harnesses
- Robotic solutions for a wide range of operational needs and missions utilizing cutting edge of robotics technology

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IAI
MBT MISSILES DIVISION
Systems Missiles & Space Group
P.O.Box 105
Industrial Zone
Yehud 5610002, Israel
Tel: 972-3-5314010
Fax: 972-3-5314190
E-mail: marketing@iai.co.il
Web Site: www.iai.co.il

General Manager: Dr. Avital Schrift

Areas of activity
- Precision Strike Weapon Systems
- Laser Guided Weapon Systems
- Loitering Munition Systems
- Naval Strike Weapon Systems
- Naval Point Defense Weapon Systems
- Short Range Air Defense Systems
- RF Seekers

See pages: 34, 35, 36, 134, 203

IAI
MLM DIVISION
Systems Missiles & Space Group
P.O.Box 45
Beer-Yaakov 7035001, Israel
Tel: 972-8-9272520
Fax: 972-8-9272890
E-mail: mlm_marketing@iai.co.il
Web Site: www.iai.co.il

Director of Marketing & business Development:
Mr. Amit Haimovich

Areas of activity
MLM Division is the system integration house of Israel Aerospace Industries Ltd. (IAI). As a multifaceted design, development, and system engineering organization, MLM has the experience, knowledge, and capabilities to leverage its cutting-edge technologies to deliver systems that are among the most advanced in the world.

MLM specializes in a variety of disciplines, which enables it to act as prime contractor and leading system architect for governments and armed forces around the world.

MLM offers its partners and customers uncompromising performance, reliability and quality.

MLM provides full service from the earliest stages of concept analysis, through development, production and installation, and culminating in integration and life-cycle support.

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IAI
SPACE DIVISION
System Missile and Space Group
P.O.Box 105
Industrial Zone
Yehud 5610002, Israel
Tel: 972-3-5314009/4059
Fax: 972-3-5314560
E-mail: mkt.space@iai.co.il
Web Site: www.iai.co.il

General Manager: Mr. Opher Doron

Areas of activity
Space systems, including Electro-Optical (OPTSAT, EROS and OFEQ series) and SAR (TECSAR series) imaging satellites, Communication satellites (AMOS series), Scientific/Research satellites (such as Venus, Shalom, BGUSAT), Ground Control Center, Mission Centers and related services.

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Areas of activity
TAMAM Division is an integral part of Israel Aerospace Industries Ltd. (IAI) Systems, Missiles and Space Group. Since its foundation in 1964, TAMAM has been a leader in advanced electro-optical systems and inertial navigation technologies for use on air, land, sea and space platforms. TAMAM leads advanced projects for the Israel Defense Forces (IDF) and other armed forces around the world. Among the company’s main products are day/night electro-optical systems for unmanned air vehicles (UAVs), helicopters, fixed-wing aircraft, ground and maritime applications - such as M-19, LOROS, MOSP, POP, MiniPOP, GTAS and MicroPOP. TAMAM supplies an array of land and airborne inertial navigation and reference systems such as NFS, TMAPS, ADNAV, RNAV-IPON and TNL-16, competitively priced strapdown systems for tactical weapons and smart ordnance such as TRF-90 and TNF as well as guidance and reference systems for space platforms.

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Areas of activity
Radiometry, E-O Systems

Signature Control
Multispectral signatures management (measurement, evaluation, and development of suppression measures) for various platforms and installations.

Modeling and Simulation

See page: 253

IMAGESAT INTERNATIONAL N.V.
6 Yoni Netanyahu St.,
Or Yehuda 6037604, Israel
Tel: 972-3-7960600
Fax: 972-3-5163430
E-mail: orders@imagesatintl.com
Web Site: www.imagesatintl.com
C.E.O: Mr. Noam Segal
Executive V.P & Head of Strategic Intelligence Unit: Mr. Noam Zafrir
V.P Head of Geospatial Intelligence: Mr. Yoav Ben-Shem
Number of employees: 60
Date established: 1997
Ownership: IAI, Private Share Holders

Areas of activity
ImageSat International N.V. (ISI) is a leading provider of geospatial and geo-intelligence solutions with over 20 years of experience in space imagery production and analytics. ISI provides earth-imagery and mission-critical intelligence based on its Earth Remote Observation Satellites (EROS) third parties’ remote sensing satellites and additional data sources. Governments, agencies and corporations use ISI’s expertise to achieve strategic situational awareness and to plan and implement policy, intervention and reaction actions in a wide range fields.

See page: 229
IMC MICROWAVE INDUSTRIES LTD.
6 Nahshon St.,
Petach Tikva 4927795, Israel
Tel: 972-3-9300464
Fax: 972-3-9342056
E-mail: imc@imc-mw.co.il
Web Site: www.imc-mw.com
V.P Business development:
Mr. Yaron Benita

Areas of activity
Innovation and Excellence in RF & Microwave
IMC Microwave Industries (founded in 1987) is a worldwide leading provider that specializes in developing & manufacturing state-of-the-art RF modules, microwave components and data link communication systems for defense, homeland security and civil applications.
IMC’s products are integrated as part of various platforms such as UAV/UGV/UGS, ground to ground mobile systems, electronic warfare systems, radar systems and test simulators. The company’s products are based on the latest technology available in the market integrated with its own internal innovations that are based on an invaluable combination of client variety and years of experience.

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IMCO INDUSTRIES LTD.
8 Hataasia St.,
P.O.Box 188
Tel-Hanan 3660102, Israel
Tel: 972-4-8213322
Fax: 972-4-8210508
E-mail: marketing@imco-ind.com
Web Site: www.imco-ind.com
C.E.O: Mr. David Feiner
C.F.O: Mr. Dan Sraya
V.P Marketing & Business Development: Mr. Boaz Weiss
Number of Employees: 300
Date Established: 1974
Ownership: Public Company traded in Tel-Aviv Stock Exchange (TASE: IMCO)

US Office & Plant:
4820 Seton Dr.
Baltimore, MD 21215
Tel: 410-358-1717
Fax: 410-358-7707

SUBSIDIARIES
ADT - ADVANCED DEFENCE TECHNOLOGIES Inc. USA,
Nir-Or (Israel) Ltd.
Atena Ltd.

Areas of activity
Engineering and Manufacturing of military and commercial electrical, electro-mechanical and electronic assemblies, cable harnesses, for airborne, land and naval applications. LED Lights (interior & exterior) for tanks and armored fighting vehicles. Slip-rings, fuel-gauges, smoke grenade launchers.

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IMI Systems Ltd.
P.O.Box 1044
64 Bialik Blvd.
Ramat Hasharon 4710001, Israel
Tel: 972-3-548-5222
Fax: 972-3-548-6125
E-mail: imirktg@imisystems.com
Web Site: www.imisystem.com
Chairman of the Board:
Mr. Yizhak Aharonovich
President & C.E.O: Mr. Avi Felder
V.P. Marketing: Mr. Avinoam Zafir
V.P. Finance & Control:
Mrs. Zmira Ganani
V.P. Research & Development & Business Development:
Dr. Dan Peretz

Areas of activity
Established in 1933 as Israel Military Industries, IMI Systems Ltd. is a globally recognized defense systems house specializing in the development, manufacture, marketing and implementation of end-to-end combat proven solutions for the land, air, naval and homeland security (HLS) requirements of the modern battlefield.
As a reputable company positioned among the world's leading defense solution providers, IMI Systems exports 70% of its products to its customers around the world. The advanced defense systems offered by IMI Systems were developed based on extensive operational experience, advanced technology and exclusive methodologies, and are used by the IDF, US Military (Air Force, Army and Navy), NATO nations and military and government agencies in over 70 countries worldwide.
The nationwide company is wholly owned by the Government of Israel, employs 3200 employees in 6 business units: Armor, Infantry, Artillery, Air, HLS and Small Caliber Ammunition, as well as in its variety of manufacturing, test and laboratory facilities, and has two subsidiaries: the IMI Academy for Advanced HLS Training and Ashot Ashkelon Ltd.

IMI Systems Air Directorate
P.O.Box 1044
64 Bialik Blvd.
Ramat Hasharon 4710001, Israel
Tel: 972-3-5485745
E-mail: yosi.hadar@imisystems.com
Web Site: www.imisystems.com

Head of Directorate: Mr. Avi Felder
Marketing Director: Mr. Yosi Hader

Areas of activity
From the development and production of guided missiles to the research, development, testing and support of rocket propulsion, warheads and pyrotechnical devices, IMI Systems is a leading aerospace systems provider, specializing in weaponry and self-protection systems.

Providing modern air forces with unique operational capabilities, the Air unit’s wide range of operationally proven systems and aerial munitions, deployed worldwide and operated by both Western and Eastern type combat aircraft.

IMI Systems Advanced Artillery & Rockets Systems Directorate
P.O.Box 1044
64 Bialik Blvd.
Ramat Hasharon 4710001, Israel
Tel: 972-8-9277558
Fax: 972-8-9277556
E-mail: info@imisystems.com
Web Site: www.imisystems.com

Head of Directorate: Brigadier General (Res.) Eli Raiter
Marketing Director: Col (Ret.) Yoram Oron
R&D Director: Mr. Moshe Kipnis

Areas of activity
The Advanced Artillery & Missile Systems Business Unit of IMI Systems designs, develops and manufactures a wide range of artillery rocket and missile weapon systems, as well as modernization and upgrade solutions for existing systems.
Our flagship products and services include land-based and naval artillery rocket and missile systems, target rockets, precision strike Trajectory Correction Systems (TCS) rocket systems, upgrades of artillery rocket systems and state-of-the-art artillery ammunitions.

Serving as a major supplier of artillery munitions and systems to the IDF, the Directorate’s products, including thousands of artillery rockets and missiles and hundreds of thousands of artillery ammunition rounds, have been delivered to the complete satisfaction of customers around the world.

IMI Systems Armor Directorate
P.O.Box 1044
64 Bialik Blvd.
Ramat Hasharon 4710001, Israel
Tel: 972-3-5485790
E-mail: Rami.Sokolower@imisystems.com
Web Site: www.imisystems.com

Head of Directorate: Colonel (Res.) Haim Keret
Marketing Director: Mr. Rami Sokolower

Areas of activity
With a broad product portfolio and extensive expertise in land combat systems design, development and enhancement, IMI Systems support of Israel’s land forces spans more than 69 years encompassing combat vehicles’ capabilities throughout their entire life cycles. This includes the design and development, testing and manufacture of armored vehicles, multiple-launch rocket systems and remotely operated weapon stations, to the manufacturing of Tank Ammunition.
IMI Systems supports global armed forces with modernization and upgrade of Armored Fighting Vehicles (AFVs), Armored Personnel Carriers (APCs) and through-life support of Main Battle Tanks (MBTs) and artillery rocket systems.
As a world leader in armor protection and survivability, IMI Systems also offers mature, Active, Hybrid-Reactive and Passive Protection Systems designed for highly effective protection of vehicles, stationary sites and infantry. It is also responsible for the majority of the armor suite of Israel’s latest Merkava Mk4 Main Battle Tank, and for providing armor systems for the new Namer Infantry Combat Vehicle (ICV).
**IMI Systems HLS Directorate**
P.O.Box 1044  
64 Bialik Blvd.  
Ramat Hasharon 4710001, Israel  
Tel: 972-3-5486221  
E-mail: Guy.lalush@imisystems.com  
Web Site: www.imiacademy.com  
Head of Directorate: Mr. Nir Regev  
Marketing Director: Mr. Guy Lalush

**Areas of activity**
As a turnkey solutions provider, the HLS Directorate of IMI Systems offers fully integrated, end-to-end multi-layer and multidisciplinary solutions designed to address the changing needs of governments, security agencies and corporations around the world.

IMI’s state of the art comprehensive, holistic security solutions are tailored to customer’s specific requirements and include consulting services, know-how, doctrine, methodology, and training provided by the IMI Academy for Advanced HLS Training, along with best of breed equipment, technologies, implementation and continued support. Each solution is based on the Directorate’s global experience and proven capabilities in the following areas:
- Security
- Public Security
- Civil Defense
- IMI Academy for HLS training

**IMI Systems Infantry Directorate**
P.O.Box 1044  
64 Bialik Blvd.  
Ramat Hasharon 4710001, Israel  
Tel: 972-3-5486309  
E-mail: Lior.Lifshits@imisystems.com  
Web Site: www.imisystems.com  
Head of Directorate:  
Brig. Gen. (Res.) Alon Friedman  
Marketing Director:  
Colonel (Res.) Lior Lifshits

**Areas of activity**
Armies from all over the world have come to rely on IMI’s innovative, high-performance solutions and unique scope of integrated capabilities designed to enhance the effectiveness of the infantry soldier and the future warrior in the modern battlefield.

IMI Systems’ comprehensive solutions include infantry support weapon systems, precision-guided munitions, IM munitions and a wide range of 60, 81 and 120mm mortar bombs, infantry mobility capabilities, engineering systems which were all developed through close cooperation with IMI Systems’ customers, IDF, infantry forces law enforcement and special units.

---

**IMI Academy for Advanced HLS Training**
P.O.Box 1044  
64 Bialik Blvd.  
Ramat Hasharon 4710001, Israel  
Tel: 972-8-9357040/1  
Fax: 972-8-9357042  
E-mail: academy@imisystems.com  
Web Site: www.imiacademy.com  
C.E.O: Mr. Moshe Elert  
V.P Operation Manager & C.F.O:  
Mr. Gabriel Mirila  
Marketing Director: Mr. Guy Lalush

**Areas of activity**
As a leading training solutions provider for military, law enforcement, government agencies and commercial clients worldwide, IMI’s Academy for Advanced HLS Training offers a spectrum of diverse training programs that can be conducted at the Academy’s own advanced facilities and / or at the customer’s site around the world. Programs are tailored to meet customer’s specific needs covering the following areas:
- Advanced security
- Public Safety
- Counter terror
- Search and Rescue
- Cyber security
- Intelligence
Areas of activity
IMI Systems offers top quality manufacturing and testing services that help its customer to leverage their capabilities of achieving their strategic goals. The various services are all based a unique uncompromising approach of excellence and highly skillful teams of problem solvers who welcome the challenge of applying their expertise and experience to produce optimal solutions and assure customer satisfaction.

IMI Systems Small Caliber Ammunition Division
P.O.Box 1044
64 Bialik Blvd.
Ramat Hasharon 4710001, Israel
Tel: 972-4-6500801
Fax: 972-4-6560686
E-mail: customers.service.scad@imisystems.com
Web Site: www.imisystems.com
VP & Division manger:
Mr. Israel Shmilovitz
Marketing Director: Mr. Eldad Sayada

Areas of activity
The world leading Small Caliber Ammunition Division of IMI Systems specializes in the design and manufacture of a wide range of high quality small caliber ammunition including 5.56mm, 7.62mm, 9mm, 338 Lapua Magnum and 12.7mm. The 9mm and the 5.56mm rounds have been approved and certified to NATO standard. The Division’s capability of rapidly and qualitatively meeting Special Forces’ operational requirements is based on its vast experience as the Sole Supplier of the Israel Defense Forces (IDF) and a long term supplier of other worldwide customers including the US Army, NATO armies, law enforcement authorities, special units and many other security entities.

IMI Systems Space & Rocket propulsion Directorate
P.O.Box 1044
64 Bialik Blvd.
Ramat Hasharon 4710001, Israel
Tel: 972-8-9277285
E-mail: Yoram.Oron@imisystems.com
Web Site: www.imisystems.com
Marketing Director:
Colonel (Ret.) Yoram Oron

Areas of activity
IMI Systems is Israel’s primary developer and producer of Solid Rocket Motors, specializing in the development and production of solid rocket motors in various sizes for a wide range of applications - from small 5-gram micro pulsars up to 13-ton rocket motors for satellite launching. Being Israel’s National Center of Excellence for Solid Rocket Propulsion, IMI Systems has delivered over half a million solid rocket motors of different sizes to its satisfied customers, including:
- Rocket Motors for Interceptor Missiles
- Boosters for Satellite Launchers
- Rocket Motors for Tactical Missiles
- UAV Boosters
- Guidance Thrusters for Trajectory Correction
INKAS® ISRAEL
P.O.Box 564
7 Brussel St., Sderot 8714540, Israel
Tel: 972-8-6788121
Fax: 972-8-6488769
E-mail: info@inkas.co.il
Web Site: www.inkas.co.il

C.E.O: Mr. Arie Amitan
Number of employees: 35
Date established: 1984
Ownership: Private

Areas of activity
INKAS ISRAEL is a knowledge hub within Israel and acts as the expertise center for the end-to-end development of special purpose vehicles, composite materials and vehicle modifications in both local and foreign markets on a global scale. The company specializes in the engineering, development and deployment of armoring kits comprised of lightweight composite materials such as carbon fiber and Kevlar, as well as the implementation of communication systems, hydraulic components and other integrated solutions. INKAS ISRAEL deploys vehicles to military bases, law enforcement agencies as well as government institutions. In operation for over 30 years, the company has solidified its foundation within the special purpose vehicle segment by supplying its mission-ready command and control units, cash in transit trucks, medical evacuation vehicles and surveillance units all over the world. INKAS ISRAEL has supplied the government of Israel with more command & control units than any other supplier in history. The level of expertise and dedication seen within the company’s skilled workforce is an indicator and testament to the ongoing success and expansion of INKAS ISRAEL within the vehicle modification realm.

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I.S.P. INDUSTRY SALES PROMOTION LTD.
1 Lishansky St.,
New Industrial Zone
P.O.Box 500
Rishon-Lezion 7510401, Israel
Tel: 972-3-9513333
Fax: 972-3-9514444
E-mail: ariel.goldman@isp-aero.com

Pressident: Mr. Ariel Goldman
Sales Manager:
Mrs. Smadar Goldman
Sales Manager: Mr. Ori Yovel
Number of employees: 8
Date established: 1977
Ownership: Ariel Goldman

Areas of activity
- Aerospace Systems and components
- Weapon Systems and components
- Small arms, artillery and ammunition
- Spare parts for aerospace and military equipment
- Overhaul and repair of aviation and military systems
- Upgrading programs
- Border defense projects

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ISPRA
Israel Product Research Co. LTD.
20A Galgalei Haplada St.,
P.O.Box 2086
Herzeliya 4672002, Israel
Tel: 972-9-9555464
Fax: 972-9-9559146
E-mail: info@ispraltd.com
Web Site: www.ispraltd.com

General Manager: Mr. Jacob Bialy
V.P. Marketing: Mr. Gidi Peled
Export Manager: Mrs. Chana Michaeli
Product Manager & Sales:
Mr. Sagi Koufman
Quality Assurance Manager:
Mr. Yohanan Stein
Number of employees: 30
Date established: 1969
Ownership: Dr. A. Jacobson

Areas of activity
Development, manufacturing, export of less lethal ammunition, riot control, antiterror equipment, police gear, and personal protection devices. Tear gas devices for short, medium and long range operation.

See pages: 126, 127
ISRAEL INSTITUTE FOR BIOLOGICAL RESEARCH -
Biology, Chemistry & Environmental Sciences
P.O.Box 19
Ness Ziona 7410001, Israel
Tel: 972-8-9381656
E-mail: mambi@iibr.gov.il
Web Site: www.iibr.gov.il

Head of Marketing & business development: Mrs. Sharron Harnoy
E-mail: sharronh@iibr.gov.il
Tel: 972-8-9381540

Number of Employees: Approximately 370 Direct
Date Established: 1952
Ownership: Governmental

Areas of activity
The Israel Institute for Biological Research (IIBR) is a governmental, cutting-edge applicable research institute, specializing in the fields of biology, chemistry, environmental sciences and risk management. IIBR’s core activities have generated leading capabilities in: biochemical processes, genomics, proteomics, pathophysiology of various infectious diseases and chemical exposures, pharmacology, toxicology, synthesis of small and large molecules, bioinformatics, mathematical models, remote sensing, monitoring, advanced chemical analysis, diagnostic microbiology, environmental safety HAZMAT and risk management.
IIBR works in compliance with Good Manufacturing Practice (GMP) and the ISO9001 and 14001 standards.

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ISRAEL SHIPYARDS LTD.
P.O.Box 10630
Haifa Bay 2611702, Israel
Tel: 972-4-8460246
Fax: 972-4-8418744
E-mail: marketing@israel-shipyards.com
Web Site: www.israel-shipyards.com
Chairman of the Board:
Mr. Samy Katsav
General Manager: Mr. Avi Shahaf
V.P for Marketing: Mr. Oded Breier
Number of employees: 500
Date established: 1959
Ownership: Private

Areas of activity
Experts in design and construction of Naval and Coastal Defense vessels, Commercial ships and Marine projects:
- Fast Patrol Craft (SHALDAG Class)
- Offshore Patrol Vessels
- Fast Missile Corvettes - SAAR 4, SAAR 4.5 and SAAR S – 72 Class
- Commercial vessels, Tugs, Floating Docks and multi purpose boats
- Heavy engineering products - Container cranes, Cranes, desalination plants
- Ship repairs and maintenance

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ISRAGOR PROTECTIVE GEAR & SYSTEMS LTD.
3 Hagesher St.,
Hod-Hasharon 4526603, Israel
Mobile: 972-50-3227997
Tel: 972-9-7493105
Fax: 972-9-7493834
E-mail: isragor@zahav.net.il

President: Mr. Israel Goren

Areas of activity
Isragor develops, produces and markets all over the world protective military gear such as bullet proof vests, battle harnesses, covers and camping equipment. Special department of the company specializes in planning and establishing dry storage systems for military and civil uses. The core business of the company supplies all types of bullet proof vests.

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ISREX (94) LTD.
Clal Building
5 Droyanov St.,
P.O.Box 11035
Tel-Aviv 6111001, Israel
Tel: 972-3-6200611
Fax: 972-3-5283280
E-mail: marketing@isty-group.com
Web Site: www.isrex.com

President of the Board: Dany Biran
President: Michael Cirulnik
Number of employees: 35
Date established: 1968

Areas of activity
- Export of products, systems and Israeli know-how
- Police and anti-riot equipment
- Electronic systems
- Telecommunications
- Night vision systems
- Special vehicles
- Command and control systems (C4I)
- Intelligence systems
- Aircraft upgrading, and spare parts
- Airborne and naval surveillance
- Electro-optic systems and UAV’S
- Wide experience in financing solutions

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IWI
ISRAEL WEAPON INDUSTRIES (IWI) LTD.
64 Bialik Blvd.
P.O.Box 63
Ramat-Hasharon 4710001, Israel
Tel: 972-3-7606000
Fax: 972-3-7606001
E-mail: info@iwi.net
Web Site: www.iwi.net

V.P. Marketing & Sales:
Mr. Ronen Hamudot
Number of employees: 600
Ownership: Private

Areas of activity
Israel Weapon Industries (IWI) is a world leader in small arms for over 80 years.

IWI’s most known products include the TAVOR, X95 & GALIL ACE families of Assault Rifles, the NEGEV LMG, the legendary UZI SMG (Mini, Micro and UZI PRO), the JERICHO family of pistols and the GALIL SNIPER Rifle and the new DAN Bolt Action Sniper Rifle– which have all been considered weapons of choice by military units and top law enforcement agencies around the world. The company’s firearms are developed in close collaboration with the Israel Defense Forces (IDF). IWI and the IDF joint forces in developing these weapons, whose final configurations are the product of ongoing interaction, field tests, and modifications, resulting from combat requirements and experience.

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KANFIT LTD.
4 Shaul Amor Avenue
Ramat Gavriel Industrial Zone
Migdal HaEmek 2353004, Israel
Tel: 972-4-6169300
US Toll Free: 1-888-203-4437
Fax: 972-4-6441065
E-mail: shachar@kanfit.com
Web Site: www.kanfit.com

General Manager: Mr. Shai Fine
E.V.P Business Development, Marketing & Sales:
Mr. Shachar Fine
Mobile: 972-50-2331729
Number of Employees: 160
Date established: 1986
Ownership: Private

Areas of activity
Kanfit is a built-to-spec / print aerospace engineering company that manufactures and integrates primary and detailed parts, subassemblies and ready-to-mount assemblies made from composites and sheet and block metals. Parts include cockpit structures, avionics and main landing gear doors, wing to belly fairings, RTM chaff and flare magazines, missile and bomb parts, airborne and space antennas, SATCOM radomes, and more. Kanfit is AS9100C certified and Nadcap accredited for composites, heat treatment and chemical processing.

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KARIL INTERNATIONAL MARKETING LTD.
6 Maskit St.,
Herzliya 4614002, Israel
Tel: 972-9-9568212
Fax: 972-9-9568141
E-mail: karil@mistralgroup.com
Web Site: www.karil.com
General Manager: Mr. Ran Ofer
Business Development Manager: Mr. Ben Atlan
Programs and Operation Manager: Mr. Alon Ben-Kimhy
Number of employees: 12
Date established: 1996
Ownership: Private
Areas of activity
Karil offers manufacturers with consulting and representation services. Karil helps equipping Defense and Homeland Security agencies with advanced technologies and tools, to meet current and future challenges. Karil supports its partners through the full program life cycle. From requirements analysis and pre-sale activities through program management to after sale support. Karil is a registered supplier to the Israeli MOD, Military and Law Enforcement agencies. ISO 9001 and TRACE certified and a Registered Broker at the US Department of State.

LIOR TEXTILE INDUSTRIES LTD.
Dora Ind. Zone
P.O.Box 11
Shlomi 2283201, Israel
Tel: 972-4-9808815
Fax: 972-4-9808816
E-mail: info@lior-protective.com
Web Site: www.lior-protective.com
www.concordusa-jackets.com
General Manager: Mr. Itshak Bookris
Marketing Manager: Mr. Haim Avnaim
Sales Manager: Mr. Lior Bookris
Number of employees: 75
Date established: 1976
Ownership: Private
Areas of activity
Developing, Designing, Manufacturing and global marketing of protective gear:
- Body armor for the army, police & V.I.P use
- Ballistic shields & Inserts
- Ballistic helmets
- E.O.D - Bomb Suits
- Tactical Vests
- CBRN protective Suits & Coveralls
- Extended Cold Weather Clothing System (ECWCS)
- Backpacks & Carrying systems
- Fire brigade suits, Nomex pilot & tanker coveralls, underwear
- Work wear outdoor clothing: including reflective rain suits
- Inflatable tent & stretcher
- Dry storage solutions

LUDUS SECURITY LTD.
COMBAT TRAINING & SECURITY TECHNOLOGY
14 Grozenberg St.,
Tel Aviv 6581117, Israel
Tel: 972-54-2103310
Fax: 972-3-6541216
E-mail: info@ludus-security.com
Web Site: www.ludus-security.com
C.E.O: Mr. Avishai kat
Date established: 2013
Ownership: Private
Areas of activity
Ludus Security specializes in defense and security projects. We provide a comprehensive service that covers the entire span of project phases. Our close connections with the defense industry and our skilled personnel-veterans of elite IDF units with extensive real combat experience, enable us to address our client’s needs in a robust, efficient and cost effective manner.
Our services:
- Security consulting
- counter-terror training
- General capabilities training
- Infantry units training
- Establishment of special units
- Supply of cutting-edge security equipment & technology

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**MAGAM SAFETY LTD.**
6 Hasadna St.,
Ziporit Industrial Zone
1789020, Israel
Tel: 972-73-2665800
Fax: 972-4-6412118
E-mail: info@magam-safety.com
Web Site: www.magam-safety.com
C.E.O & Marketing: Mr. Meir Gilady
Purchasing Manager: Mrs. Gila Robinson
Date established: 1934
Ownership: Mifne Ltd.

**Areas of activity**
Magam Safety Ltd. designs, manufactures and distributes a wide range of rescue, survivability and protective equipment;
- Personal protection equipment
- Rubber fuel tanks & self-sealing solutions
- Rescue and survivability equipment
- Inflatable equipment
Magam Safety products are developed in close relationship and constant feedback from the Israeli Defense Forces (IDF). The company is the sole supplier of parachutes, Anti-G suits and fuel tanks to the IDF.

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**MAROM DOLPHIN LTD.**
Industrial Zone Alon Tavor
P.O.Box 1126
Afula 1811101, Israel
Tel: 972-4-6400797
Fax: 972-4-6403074
E-mail: info@marom-dolphin.com
Web Site: www.marom-dolphin.com
C.E.O: Mr. Yariv Sagi
International Marketing Manager: Mr. Shlomo Baime
Number of employees: 45
Date established: 1993

**Areas of activity**
Since founded in 1993, Marom Dolphin has established itself as one of the leading companies for developing, designing, manufacturing and marketing top quality tactical textile solutions such as: Tactical Vests, Body Armor Vests, modular carrying solutions, tactical backpacks and other accessories for armed forces, police units, security services and civilians around the world. Among our customers are military, paramilitary, law enforcement and security organizations across the globe. We are the main authorized supplier of tactical textile solutions to the Israeli Military, the Israeli Ministry of Defense and many other governmental and private customers, worldwide. Our products are manufactured and tested in accordance to ISO 9001:2015 international standards as well as with the Quality Assurance standards of military forces worldwide, awarding them worldwide recognition for their high quality and durability.

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**MATRIX DEFENSE**
3 Abba Eban Blvd.,
Hertzliya 4612001, Israel
Tel: 972-9-9598000
Fax: 972-9-9588650
E-mail: yoramya@matrix.co.il
Web Site: www.matrix.co.il
Director: Mr. Yaron Raz
Number of Employees: 500
Date Established: 1992
Ownership: Public

**Areas of activity**

See page: 304
MEPROLIGHT (1990) LTD.
P.O.Box 26
4 Hahadas St.,
Or Akiva Industrial Park
Or Akiva 3065001, Israel
Tel: 972-4-6244111
Fax: 972-4-6244123
E-mail: sales@meprolight.com
Web Site: www.meprolight.com
C.E.O: Mr. Assaf Shimron
V.P. Marketing: Mr. Benny Kokia
Number of employees: 220
Date established: 1989
Ownership: Private

Areas of activity
Meprolight is an International Electro-Optics company, developing, manufacturing and marketing systems for infantry, armed forces, law enforcement agencies and civil markets since 1990. Meprolight provides a wide array of combat-proven products; Electro-optical and Optical sights and devices, night vision sights and devices, uncooled thermal sights and devices, laser rangefinders (LRF), hand-held laser range finders, fire control systems and self-illuminated (tritium) night sights. The company is certified to ISO9001:2008, ISO14001:2004 and ISO18001:2007.

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MER GROUP
5 Hatzoref St.,
Holon 5885633, Israel
Tel: 972-3-5572555
Fax: 972-3-5580282
E-mail: info@mer-group.com
Web Site: www.mer-group.com
V.P Sales: Mr. Marcelo Robin
Number of employees: 1,100
Date established: 1982
Ownership: public

Areas of activity
Focusing on market leadership, MER Group is a world-leading integrator and innovator in the areas of HLS solutions, cyber, intelligence, big data, communication- infrastructure & tactical, emergency services, defense and more.

The Group offers a diversified portfolio and end-to-end technology-based solutions that include consulting, development, manufacturing, integration, implementation and maintenance. From developing intelligence platforms and comprehensive HLS and cyber solutions, through building advanced cell towers and deploying fiber optics communications network, to developing tactical communications systems, MER is innovative and forward thinking in all it does.

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MIFRAM LTD.
P.O.Box 1165
Ind. Zone Kiriat Bialik
Zur Shalom 2711101, Israel
Tel: 972-4-8808800
Fax: 972-4-8745745
E-mail: sales@mifram.com
Web Site: www.miframsecurity.com
C.E.O & President: Mr. Amos Klein
V.P. Business Development:
Mr. David Noy
President Assistant: Mr. Ron Fischer
Number of Employees: 200
Date established: 1962
Ownership: Private

Areas of activity
Over 50 Years Providing Physical Perimeter Security Solutions Globally!
Specializes in designing, manufacturing, supplying:
- Anti-missile architectural systems and shelters against threat level of direct impact by 122mm Katyusha rockets.

Customers: Military, Peace-keeping Forces (USMC, US Army, MFO, IDF, UN), Major Integrators & Government Law Enforcement Agencies and Suppliers (Police KBR, etc), Critical Infrastructure, Private Sector (Nuclear Power Plants, Airports, Sea Ports, Ships etc).

Include solutions that have been combat tested and deployment by security, military and law enforcement officials throughout the globe.

See pages: 110, 111, 112, 113, 141
MIPHA INTERNATIONAL LTD.
8 Har Nevo St.,
Ramat Hasharon 4722508, Israel
Tel: 972-3-5402403
Fax: 972-3-5490931
E-mail: mipha@mipha.co.il
Web Site: www.mipha.co.il
President & C.E.O:
Mr. Michael Itzhar Belachovsky
V.P. Business Development and
Legal Advisor:
Advocate Yair Itzhar Belachovsky
Professional Consultant in the field of
Hi-Tech: Mr. Eran (Dotan) Rosenberg
Date established: 1983
Ownership: Private
Areas of activity
- Homeland Security and Operations
  Consultancy
- Security & Surveillance Systems
  for Borders, Airports, Seaports,
  Safe & Secure City, Pipelines and
  Sensitive Installations
- Specialize in Intelligence and Law
  Enforcement Consultancy and
  Equipment
- Interception systems for all
  communication technologies,
  cellphone location tracking and
  data mining for government
  agencies
- Advance Intelligence Inference
  Systems
- Surveillance and Counter-
  Surveillance including on-site
  checks to detect eavesdropping
- Advanced Biometric Identification
  Systems
- Data Communications, Storage
  Security and Data Recovery
- GPS Tracking and Fleet
  Management

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M.L.M - PROTECTION
6 Ha’Choshlim St.,
4th Floor
P.O.Box 12590
Herzliya 4672406, Israel
Tel: 972-9-9574377
Fax: 972-9-9574370
E-mail: ofer@mlm-protection.com
Web Site: www.mlm-protection.com
C.O - C.E.O & Director: Mr. Ofer Bar
C.O - C.E.O & Director:
Mr. Sharon Botzer
Number of employees: 25
Date established: 2002
Ownership: Private
Areas of activity
M.L.M Protection is the leading
providerof turn-key security
solutions and one of the few
companies able to supply a high
degree of services and
professionalism in all areas of security
and assault, in both the private and
public sectors.
M.L.M Protection was founded by ex-
Israeli security service personal, who
have served In the Israeli "Dignitary
and delegation protection unit" of
the Israeli "shen bet".

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MORE -
MILITARY OPTICAL RF EQUIPMENT
LTD.
18 Hasivim St.,
Alon Building 2nd Floor
Petach Tikva 4959376, Israel
Tel: 972-3-9208200
Fax: 972-3-9215010
E-mail: roman@eimmore.co.il
Web Site: www.eimmore.co.il
C.T.O: Mr. Roman Rabinovich
Number of employees: 20
Date established: 2010
Ownership: Private
Areas of activity
Four main businesses lines:
- ECM solutions
- Ultra Wide BW spectrum sensing
- RADAR & ECM simulators
- RF and Data over fiber connectivity
MORE developing and supply
Generic solutions for advance EW
arena based on RF-Photonic
technology.
The core of the solution relies on two
levels of system design: Robust
infrastructure, Generic EW
techniques.
The main advantages includes:
- High instantaneous BW
- Negligible inherent min-delay
- Completely coherent and accurate
  phase/amplitude memory
  capabilities
- Very high Sensitivity
- High dynamic-range

See pages: 49, 85
mPrest
Park Ofer
94 Em-Hamoshavot Rd.
Petach Tikva 4970602, Israel
P.O.Box 3027
Tel: 972-7-3216666
Fax: 972-7-3216663
E-mail: info@mprest.com
Web Site: www.mprest.com
C.E.O: Col. (ret.) Natan Barak
V.P Research & Development: Mr. Eli Arlazoroff
Chief Software Architect: Mr. Alexander Arlievsky
Number of employees: ~200
Date established: 2003

Areas of activity
mPrest is a global provider of mission-critical monitoring, control and big data analytics software. Leveraging the power of the Industrial IoT, mPrest’s integrative "system of systems" is a proven catalyst for digital business transformation. Our management solution has been deployed in next-gen IoE (Internet of Energy) applications for power utilities, as well as innovative management applications for water utilities, smart cities, defense and HLS.

By connecting the dots across multiple disciplines, mPrest delivers unified situational awareness, sophisticated analytics, end-to-end IT/OT integration and process management. Featuring unprecedented interoperability and real-time data optimization, mPrest allows organizations to accelerate time-to-market, improve system performance and reduce operational costs.

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MTC
INDUSTRIES & RESEARCH CARMIEL LTD.
P.O.Box 232
Karmiel 2161102, Israel
Tel: 972-4-9987772
Fax: 972-4-9981189
E-mail: marketing@mtcind.com
Web Site: www.mtcind.com
President: Mr. Yechiel Cohen
Vice President: Mr. Yair Avni
Vice President: Mrs. Jemy Gershonovich
Number of employees: 130
Date established: 1977
Ownership: Private

Areas of activity
The development and manufacture of gyroscopes, inertial sensors, actuators and servo actuators, motors and servo motors, resolvers, RVDT, LVDT, slip rings, high pressure vessels, solenoids, canard actuation steering units, tachogenerators and other electro-mechanical components for the Aerospace, Defense and UAV industries. Services include engineering and thermal spray coatings. Scientific instruments for the dental field. AS9100C, ISO 9001:2008 and MIL-STD compliant.

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MYFORM LTD.
Headquarters & Main Office:
9 Lincoln St.,
Tel Aviv 6114102, Israel
P.O.Box 14233
Tel: 972-3-6244488
Fax: 972-3-6244499
E-mail: info@myformgroup.com

C.E.O: Mr. Igal Hayoun
E-mail: igal@myformgroup.com
SVPBD: Mr. Arik Nir
E-mail: arik@myformgroup.com
Date Established: 1996
Factory: Nazareth, Israel
Ownership: Private

Areas of activity
Focusing on excellence and the incorporation of new solutions to emerging markets, MyForm Group is a leading integrator, innovator and manufacturer in the areas of homeland security Defense, Water & Sewage Solutions, pipeline assessment and monitoring, ToT, emergency solutions and more. The Group offers a diversified portfolio and end-to-end technology-based solutions that include consulting, development, manufacturing, integration and implementation. From, Building new capabilities in ballistic protection gear and designing mission kits for riot and firefighters, to designing citywide water and waste management solutions or providing long-term services for utilities. MyForm is making a difference for its customers in innovative and forward thinking approach.

- Defense Ballistic protection
- Defense Mission gear and kits
- Public Safety
- Tactical Solutions
- Training
- Emergency solutions
- Utilities (Water, Waste, pipeline monitoring)
- Consulting

See page: 122
**Netline Communications Technologies (NCT) Ltd.**
Azrieli Circular Tower, 13th floor
132 Menachem Begin Rd.
Tel Aviv 6701101, Israel
Tel: 972-3-6068100
Fax: 972-3-6068101
E-mail: info@netlinetech.com
Web Site: www.netlinetech.com
C.E.O: Mr. Yallon Bahat
Number of employees: 95
Date established: 1998
Ownership: Private

**Areas of activity**
Netline Communications Technologies develops and manufactures cutting edge electronic countermeasures and spectrum dominance solutions to the global defense and homeland security markets.
- Counter IED & communication jamming solutions with advanced features such as pre-initiation and hybrid active/reactive capabilities
- Tactical interception and COMINT/SIGINT solutions including spectral analysis, signal classification and demodulation, cell phone monitoring and location/direction finding
- Prison cell phone control solutions including cell phone jamming, detection and managed access systems
- Counter Drone – detection & Identify, Locate & mitigation solutions for any mission.
- RF monitoring and detection systems to combat cyber and wireless attacks on sensitive information.

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**NIMDA CO.**
P.O.Box 768
North Industrial Zone
Lod 7110604, Israel
Tel: 972-8-9781111
Fax: 972-8-9781137
E-mail: info@nimda.co.il
Web Site: www.nimda.co.il
C.E.O: Mr. Nimrod Avni
President: Mr. Arieh Semel
V.P. Marketing: Mr. Isaac Pery
Number of employees: 100
Date established: 1972
Ownership: Private

**Areas of activity**
Turn-key programs for modernization, integration and production of military vehicles of U.S., British, French and Russian origin. Upgrading of MBTs, APCs, amphibious armored vehicles, such as T-72, M-60, T-55, M-41, M113, Shilka, BMP II, Achzarit HAPC, Puma Engineering MBT, M-109 SPG.
Design and manufacture of power packs and advanced automotive applications, assembly and installation of ground forces Power Trains and marine propulsion systems.
Advanced weapon systems integration modernize platforms for anti-tank and air defense use.
Building customer’s local military shops infrastructure logistic centers and vehicles production plants.

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**NIRTAL TRAINING & SUPPLY OF COMBAT EQUIPMENT LTD.**
10 Moshe Aviv St.,
Or-Yehuda 6037132, Israel
Tel: 972-73-2262753
Fax: 972-3-6341176
E-mail: nirtal@nirtal.com
Web Site: www.nirtal.com
Chairman: Mr. Nir Shaul
V.P. Marketing & Business Development: Ms. Shiri Lalezar
Mobile: 972-54-2226800
Number of employees: 12 (+ 200 - 300 Temporary workers)
Date established: 1995
Ownership: Private

**Areas of activity**
- Counter Terrorism & Anti-crime operational training
- Armed forces training: Special Forces & regular infantry units
- V.I.P. & Executive Protection training
- Supplier of various advanced technology systems & a variety of combat equipment
- Security consulting and training using most advanced techniques, technologies and combat experienced instructors
- All aspects of Airport and Aviation, Seaport & Maritime Security
- Security in the private sector - Banking, Public transportation, Public institutions Petroleum & Natural gas pipeline infrastructure Etc
- Surveillance and counter surveillance courses, training of police units for special assignments
- Prison enforcement, special units and technologies
- Crowd control and event management
- "K-9" supply & training
- VIP & Delegations Security Escort

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**NOGA EINAT SHOE INDUSTRIES LTD.**
Kibbutz Givat Hashlosha
4880000, Israel
Tel: 972-3-9030150
Fax: 972-3-9030151
E-mail: info@nogaeinat.co.il
Web Site: www.nogaeinat.co.il

General Manager: Mrs. Ora Gilad
Finance Manager: Mrs. Noga Polishuk
Number of employees: 50
Date established: 1930
Ownership: Kibbutz Einat & Kibbutz Givat Hashlosha

**Areas of activity**
Noga-Einat Shoe Industries Ltd. is a manufacturer and supplier of military- and safety shoes.
Product lines include: combat boots, products for unusual conditions and special forces, police boots & shoes and boots for anti-terror and anti-riot units.

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**OPGAL Optronic Industries Ltd.**
P.O.Box 462
Karmiel 2161401, Israel
Tel: 972-4-9953903
Fax: 972-4-9953900
E-mail: info@opgal.com
Web Site: www.opgal.com

President & C.E.O: Mr. Amit Mattatia
Number of employees: 150
Date established: 1983

**Areas of activity**
Opgal Optronic Industries Ltd. is a leading global provider of innovative infrared imaging systems and advanced vision and surveillance solutions. Using state-of-the-art thermal and other imaging technologies, Opgal leverages advanced electro-optics and image processing expertise to create high performance, versatile visualization products. Founded more than 30 years ago, Opgal is a major supplier to leading contractors and integrators, as well as corporate and professional customers in over 60 countries.

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**OPTITASK LTD.**
4/B, Hazoran St.,
South Industrial Area
Netanya 4250604, Israel
Tel: 972-73-2436600
Fax: 972-9-8656746
E-mail: iv@optitask.net
Web Site: www.optitask.net

C.E.O: Mr. Samuel Weiner
V.P Marketing & B.D:
Mr. Israel Vilenchik
Number of employees: 22
Date establishment: 1995
Ownership: Private

**Areas of activity**
OPTITASK specializes in development and manufacturing of Er:Glass laser transmitters for laser rangefinders and active vision with SWIR cameras. Thousands of our laser transmitters have been successfully integrated in various products, successfully operating in wide range of environmental conditions.
Manufacturing facilities include clean rooms class 10,000 to 100. Highly qualified and experienced team of physicists, engineers and technicians facilitate development and manufacturing of unique devices. Such include active q-switches, mono-block cavities, micro-lasers and more.

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ORBIT COMMUNICATION SYSTEMS LTD.
New Industrial Zone,
P.O.Box 8657
8D Hatzoran St.,
Netanya 4250608, Israel
Tel: 972-9-8922777
Fax: 972-9-8855944
E-mail: info@orbit-cs.com
Web Site: www.orbit-cs.com
Number of employees: 170
Date established: 1950
Ownership: Orbit Technologies Ltd,
is a public company traded on the
Tel-Aviv Stock Exchange
(TASE: ORBI).

Areas of activity
Orbit Communications Systems is
wholly-focused on precision tracking-
based communications – in the areas
of satcom, telemetry and remote
sensing – and provides an innovative
solution for airborne audio
management. With certification by
defense, government and commercial
agencies, we deliver tailor-made,
turnkey solutions at sea, on land and
in the air. Orbit’s unique combination
of smart design, unsurpassed
reliability and field-tested experience
means that if you can conceive it, we
can provide it.

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ORION ADVANCED SYSTEMS LTD.
P.O.Box 156
Yavne 8110101, Israel
Tel: 972-77-2989100
Fax: 972-77-2989101
E-mail: marketing@orion-as.com
Number of employees: 90
Date established: 2009
Ownership: ELBIT Systems Ltd.

Areas of activity
Orion Advanced Systems Ltd.
specializes in the research,
development, manufacturing and
integration of advanced fuzes for
aerial munitions and custom fuzing
systems. Orion’s state-of-the-art
fuzes are compatible with modern
guided bombs and hard penetrator
warheads. Orion is the sole supplier
of fuzes to the Israeli Air Force and
has an outstanding reputation for
safety and reliability. Orion also
manufactures and customizes fuzes
for customers around the globe.

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OSG - ORAN SAFETY GLASS
Kibbutz Palmach Zova
D.N. Harei Yehuda 9087000, Israel
Tel: 972-2-5706100
Fax: 972-2-5706101
E-mail: info@OSG.co.il
Web Site: www.osg.co.il
C.E.O: Mr. Daniel Cohen
V.P. Marketing: Mr. Assaf Karni
C.F.O: Mrs. Tamar Gol
Number of employees: 350
Date established: 1979
Ownership: Kibbutz Palmach Zova
USA: Oran Safety Glass Inc.
48 Industrial Parkway, P.O.Box 126,
Emporia, VA 23847, USA
Tel: 1-301-9139366
Fax: 1-301-9139369
E-mail: paul@mistralgroup.com

Representative Office EUROPE:
IbA Industrieberatung Dirk Abrie
Koblenzer Str. 33
D – 66115 Saarbrucken
Tel: 49-681-97058630
Fax: 49-681-97058631
Mobil D: 49-171-7613467
E-mail: info@oranglas.de

Areas of activity
OSG is a leading supplier of
Transparent Armor (TA) worldwide.
Building on 40 years of proven field
experience, OSG’s products are the
result of an intensive R&D program
conducted in coordination with the
world’s foremost militaries including
Israel and the US.

OSG unique product line consists:
- TA for any threat, both flat & curved
- ADI - Ultra Long-Lasting Technology
- Ceralite - Ultra Light TA Technology
- Advanced TA add-on system
- Emergency egress window system
- Rock-strike glass shield
- Heating elements (wire, grid,
coating)
- Aluminum or steel frames
OSG operates 4 cutting-edge
manufacturing facilities – two located
in Israel and two in the USA.
OSG’s in-house laboratories and
testing facilities are designed to
streamline manufacturing and deliver
the best possible product.

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PHANTOM TECHNOLOGIES LTD.
68 Amal St.,
Petah Tikva 4951368, Israel
Tel: 972-3-9215720
Fax: 972-3-9215434
E-mail: sales@phantom.co.il
Web Site: www.phantom.co.il
C.E.O: Mr. Roei Itshakov
Number of employees: 40
Date established: 1996
Ownership: Private

Areas of activity
Ari-Phantom Technologies provides a variety of jamming solutions for all RF based communications applications such as Cellular, Wi-Fi, tactical communications and satellite phones. The company develops and manufactures its systems in all sizes and in multiple configurations – from low power to extreme high power jammers, for stationary, man pack, vehicular/convoy protection and complete compound area coverage. The company offers both off the shelf solutions and customized products to meet special client requirements. The company’s line of products includes also internally developed digital receivers used for conditioned jamming systems, counter surveillance systems and SIGINT applications.

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PHYSICAL LOGIC LTD.
48 Ben Zion Galis St.,
Petah Tikva 4927948, Israel
Tel: 972-3-5708188
Fax: 972-3-5709180
E-mail: info@physical-logic.com
Web Site: www.physical-logic.com
Sales & Marketing Assistant: Ms. Gal Erez
Number of employees: 20
Date established: 2004
Ownership: Private

Areas of activity
Physical Logic designs and manufactures high precision open loop and closed loop MEMS accelerometers for a wide range of applications such as inertial navigation, vibration, tilt and seismic sensing. Our closed loop MEMS accelerometer offers performance you would expect from a traditional electro mechanical accelerometer at a fraction of the cost. The MAXL-OL-2000 open loop series fills the performance-cost gap between currently available MEMS accelerometers and mechanical accelerometers.

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PICSIX LTD.
41 HaMeyasdim St.,
P.O.Box 6006
Even Yehuda 4051113, Israel
Tel: 972-9-8911202
Mobile: 972-544-335197
Fax: 972-9-8911202
E-mail: mk@pic-six.com
Web Site: www.pic-six.com
V.P Business Development: Mr. Menachem Kenan
Number of employees: 20
Date established: 2011
Ownership: Private

Areas of activity
PICSIX LTD. Designs, produces and sells a variety of unique solutions for interception and counter-interception. Our solutions include:
- Advance features Man In The Middle Systems for GSM and UMTS
- IMSI Catchers including DF capabilities
- Smallest form-factor largest capacity PASSIVE INTERCEPTION SYSTEMS in the market facilitating 10s to hundreds of channels per system
- Integrated solutions combining Passive and Active Interception as well as jamming and selective jamming
- Counter Interception measures detecting a blocking of-the-air interception systems
- Integrated intelligence collection and management systems with bespoke command and control centers

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PLASAN
Kibbutz Sasa
M.P.Merom Hagalil 1387000, Israel
Tel: 972-4-6809000
Fax: 972-4-6809001
E-mail: info@plasan.com
Web Site: www.plasan.com

Number of employees: 1000
Date established: 1985
Ownership: Kibbutz Sasa

Areas of activity
Plasan is a leading designer and provider of mission ready solutions for a broad range of military and security survivability solutions for land vehicles, airborne platforms and personal protection. Our range of products and solutions includes: integrated and add-on armors, blast protection kits, RPG defeat solutions, multi-mission armored vehicles designed for optimized mobility and operational versatility. Plasan offers full design, development, engineering, testing and integration under a single roof. Plasan has designed more than 400 armored hulls and delivered more than 32,000 armored vehicles to armed forces and security organizations worldwide.

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PRONAT Industries Ltd.
Tzavei Hanachal St.,
Emek Hefer Industrial Park
3877001, Israel
Tel: 972-4-6286888
Fax: 972-4-6286890
E-mail: sales@pronatindustries.co.il
Web Site: www.pronatindustries.com

C.E.O: Mr. Jeremy Rosenstein
Export Sales Director:
Mr. Jonathan Weil
Number of employees: 125
Date established: 1986
Ownership: Private

Area of Activity
Pronat Electronics specializes in the production of die-cut parts for electronic & avionic applications. Our specialist areas are die-cut parts for EMI/RFI shielding, thermal conductivity, electrical insulation, gasketing & sealing. We offer design and prototype service.

Pronat Aerospace is a producer of light weight UAV airframe parts by CNC machining. Typical materials used are Rohacell® high density foams, Nomex® and aluminium honeycomb sheet, pre-pregs, composite materials, graphite and carbon. Applications include light weight wing sections, ribs and mounting plates for UAVs, radar and radomes.

Pronat is certified to AS9100C & ISO 13485.

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Quadro
Projects & Technologies LTD.
33 Arik Einstein St.,
(Yahadut Canada)
Or Yehuda 6037533, Israel
Tel: 972-3-9413010
Mobile: 972-50-8818886
Fax: 972-3-9410743
E-mail: quadro@quadro.co.il
Web Site: www.quadro.co.il

President & C.E.O: Mr. Pini Dagan
E.O.D: Mr. Moshe Chaky
Demining & SO : Mr. Matan Dagan
Number of employees: 12
Date of established: 2000
Ownership: Private

Areas of activity
Treatment & Disposal of dangerous War Remnants and other Explosive Obstacles
- Consulting ,Planning ,Management and Supervision of Humanitarian Mine Clearance Operations
- Disposal of all Explosive (EOD, IEDD's and UXO)
- Cleaning of "Contaminated Areas"
- Planning and conducting of all explosives & Ammunition tests

Integrated Defense Technologies Solutions
- Permanent disposal services for Government offices (consulting planning & implementation)

Crisis Solutions / Emergency Preparations Homeland Security
- Integrated security systems for Country Border lines, boundaries and crossing points
- Detection and Identification of Explosives and Narcotics
- Detection of Smuggling operations
- Planning ,conducting & supervision of all national and local emergency exercises


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RADA ELECTRONIC INDUSTRIES LTD.
7 Giborei Israel Blvd.,
P.O.Box 8606
Netanya 4250407, Israel
Tel: 972-9-8921111
Fax: 972-9-8855885
E-mail: mrkt@rada.com
Web Site: www.rada.com
C.E.O: Mr. Dov Sella
V.P Business Development & Marketing: Mr. Gil Schwartz
Number of employees: 110
Date established: 1970
Ownership: Public company – Traded on NASDAQ (RADA)

Areas of activity
RADA Electronic Industries Ltd. is a Defense Electronics System House specializing in advanced electronic systems for airborne and land systems.
RADA’s product lines include:
- Tactical Land Radars
- Inertial Navigation Systems
- Avionics Systems and Upgrades
RADA offers advanced Pulse-Doppler, multi-mission, AESA radars for the maneuver force. The company’s INS solutions provide best value solutions for aerial and land tactical vehicles. RADA is a leading provider in the field of airborne video and data recorders, and complete avionic upgrade suits for combat and ISR aircraft.

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RAFAEL
Advanced Defense Systems Ltd.
P.O.Box 2250
Haifa 3102102, Israel
Tel: 972-73-3354714
Fax: 972-73-3354657
E-mail: intl-mkt@rafael.co.il
Web Site: www.rafael.co.il
President:
Maj. Gen. (ret.) Yoav Har-Even
Executive V.P Business development & Marketing: Mr. Giora Katz
Number of employees: 7,500
Date established: 1948
Ownership: Government of Israel (Since 2002)

Areas of activity
Rafael designs, develops, manufactures and supplies a wide range of advanced defense systems. These leading edge products include naval, air and ground precision weapons, electro-optic systems, electronic warfare (EW) systems, C4I and unmanned systems, acoustic defense systems, armored protection, breaching munitions and space technologies.


RAYZONE GROUP LTD.
Toyota Building
65 Yigal Alon St.,
Tel Aviv 6744316, Israel
Tel: 972-73-2802266
Fax: 972-73-2802260
E-mail: info@rayzoneg.com
Web Site: www.rayzone.com
Date established: 2010
Ownership: Private

Areas of activity
Rayzone Group designs and manufactures Cyber & Intelligence solutions for governmental and federal agencies, based on broad expertise and operational experience accumulated within the framework of the Israeli Cyber & Intelligence agencies.
Rayzone Group has established the MATRIX concept, a comprehensive methodology for intelligence gathering and analysis capabilities. The MATRIX concept and solutions focuses on improving awareness of the threat, developing capabilities to prepare and respond, and enhancing law enforcement agencies capabilities.

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RESHEF TECHNOLOGIES LTD.
7 Haplada St.,
P.O.Box 5035
Or-Yehuda 6055001, Israel
Tel: 972-3-5388604
Fax: 972-3-5339223
E-mail: info@resheffuzes.com
Web Site: www.resheffuzes.com
Managing Director: Mr. Eitan Shemesh
Plant Manager: Mr. Avner Shamir
R&D Manager: Mr. Ehud Lahav
Number of employees: 80
Date established: 1984
Ownership: private

Areas of activity
Reshef manufactures the most sophisticated Electronic Fuzes for ground forces units:
- Proximity, Time and Point Detonating (PD) fuzes for Mortar bombs, Artillery projectiles and Artillery Rockets.
- Time / Distance fuzes and Anti Personnel Anti Material fuzing system (APAM) for Tanks rounds.

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RICOR SYSTEMS 2011 - A.C.S. LTD.
En Harod Ihud 189600, Israel
Tel: 972-4-6530800
Fax: 972-4-6532424
E-mail: marketing@ricor.com
Web Site: www.ricor.com
C.E.O: Mr. Yuval Beeri
C.F.O: Mr. Simchon Horesh
Number of employees: 200
Date established: 1967
Ownership: private

Areas of activity
Ricor Systems is a world-leader in innovative cooling technology for, military defense, homeland security, space and semiconductors, commercial and scientific equipment industries. Ricor develops, manufactures and markets a wide range of advanced products and solutions. Ricor offer tremendous flexibility, servicing cooling power needs ranging from a fraction of a Watt up to 15W and temperatures from 35K to 200K and input power consumption under 2W.

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ROBO-TEAM LTD.
14 HaAhim Mislavita St.,
Tel Aviv 6701025, Israel
Tel: 972-3-6870008
Fax: 972-3-5717327
E-mail: info@roboteam.com
Web Site: www.roboteam.com
C.E.O: Mr. Elad Levy
Number of employees: 62
Date established: 2009
Ownership: private

Areas of activity
Roboteam designs, develops and manufactures cutting edge, useroriented, multipurpose, unmanned platforms and controllers for Defense, Law Enforcement and Public Safety missions. Our team includes dozens of highly experienced engineers that are dedicated to creating units that provide complete operational and tactical control, overall mission management and enhanced force coordination.
We’ve created a line of lightweight, fast deployable unmanned ground systems that deliver technological and functional breakthroughs for tactical purposes with unmatched reliability. Among our customers are top units in the Military, Special Forces, EOD and SWAT teams of elite forces around the globe.

See page: 208
RT LTD.
10 Nahal Snir St., Yavne 8122447, Israel
Tel: 972-8-6433616
Fax: 972-8-6433607
E-mail: info@rt.co.il
Web Site: www.rt.co.il

General Manager: Mr. Rami Shmueli
V.P: Mrs. Taly Kosberg Shmueli
Number of employees: 40
Date established: 1996
Ownership: Private

Areas of activity
RT Ltd., is a world – class designer, developer and manufacturer of the SkyStar™ aerostat family proven for use in intelligence, surveillance, reconnaissance, and communication applications.

Users active in prevent-prepare-respond-recover settings requiring continuous and compact aerial support are a natural fit for SkyStar™ products.

RT Ltd., delivers self-contained, versatile, easily transportable, cost-effective tactical system comprised of a mobile control station, ground system module, tether, lighter-than-air platform, stabilized payload platform, and sophisticated sensor suite. SkyStar™ systems are easy to operate, rapidly deployed and customized for a range of operating conditions worldwide in various military and civilian missions.

Currently, systems are deployed in countries such as Afghanistan, Israel, Mexico, Thailand, Canada, Africa and Russia.

Applications:
Unmanned Aerial ISR and target acquisition, Border and coastal security, Force protection, Crisis and emergency management, Law enforcement and public safety, Safe City, Search and Rescue, Communication relay, Offshore/Onshore business continuity recovery, Event traffic/crowd control, VIP protection, Environmental measurement.

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SANSOLO Consulting, Development & Manufacturer Ltd.
Special Operations Equipment - Explosive Entry
19 Harel St., Ashkelon 7864919, Israel
Mobile: 972-54-7886261
Mobile: 972-52-3843758
Fax: 972-8-6780986
E-mail: info@sansolo.co.il
Web Site: www.sansolo.co.il

Areas of activity
SANSOLO develops and manufactures innovative tactical EOD / IEDD products, operationally used worldwide.

The company specializes in creating new types of tools and methods helping professionals, under stressful combat conditions. Sansolo field-proven products provides operational convenience and multipurpose use, in a miniaturized, reliable tool sets designed especially for combatants, bomb disposal professionals, police SWAT units and military special forces.

Main products:
- Bomb disposal (EOD / IEDD)
- Offensive demolition
- Combat pyrotechnics
- Unique tactical marking products

The company also supplies consulting services.

Arie Sansolo, the company founder and CEO has 25 years of operational experience in Israeli Special Forces and anti-terrorist units.

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SCD - SEMI CONDUCTOR DEVICES
P.O.Box 2250
Haifa 3102102, Israel
Tel: 972-4-9902535/2500
Fax: 972-9902627/2686
E-mail: marketing@scd.co.il
Web Site: www.scd.co.il

C.E.O: Mr. Dan Slasky
V.P Marketing & B.D: Mr. Kobi Zaushnizer
V.P R&D: Mr. Itay Shtrichman
Number of employees: 470
Date established: 1986
Ownership: Elbit Systems (50%) and Rafael (50%)

Areas of activity
SCD is a worldwide leader in development and manufacture of infrared detectors and laser diodes. SCD’s unique capabilities and technologies are deployed in its extensive range of Cooled and Uncooled detectors based on a variety of sensing materials such as InSb, MCT, InGaAs, T2SL and VOx, which are available in almost any video format: QVGA, VGA, XGA, HD.

SCD’s detectors are from across the infrared spectrum: NIR, SWIR, MWIR, and LWIR and are integrated in Airborne, Maritime, Land, and Space applications.

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SHALON CHEMICAL INDUSTRIES LTD.
Head Office:
2 Kaplan St., 10th Floor
Tel-Aviv 6473403, Israel
Tel: 972-3-6957191
Fax: 972-3-6957980
E-mail: shalon@shalon.co.il
Web Site: www.shalon.co.il
Plant:
14 Heshvan St.,
Kiryat Gat 8202373, Israel
Tel: 972-8-6879111
Fax: 972-8-6811115
General Manager: Mr. Michael Barel
Marketing Manager: Mr. Itai Barel
Number of employees: 160
Date established: 1968
Ownership: private

Areas of activity
Shalon Chemical Industries Ltd. is internationally recognized as a leading company specializing in the manufacture and design of personal and collective NBC protective equipment for the military and civilian markets. The company’s impressive record of innovations and achievements in respiratory protection is the result of applied state-of-the-art technology together with a firm commitment to creative design and high quality. Production is effected in a high-volume, extensively equipped, vertically integrated manufacturing plant with research laboratories employing the latest high-tech methods, and with comprehensive quality control systems enhanced by application of Total Quality.

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SHLADOT LTD.
18 Keren Hayesod St.,
Kiryat Ata 2611801, Israel
Tel: 972-4-8808000
Fax: 972-4-8411221
E-mail: info@shladot.com
Web Site: www.shladot.com
Executive Vice Chairman:
Mr. Alon Fridenson
General Manager: Mr. Eitan Igra
Head of Armor Division:
Mr. Jonathan Wharthman

Areas of activity
Shladot operates in three fields -
Mobilized Defense Solutions - mobile defense and security platforms including shelters, trailers, heavy duty tank transporters, special purpose vehicles etc.
Armored Vehicles -
- “David” Family – Toyota based, seating for up to 8 passengers, widely used by the Israel Defense Force.
- “Tiger” Family – 9-12 ton platforms based, variety of armor levels, seats up to 14 passengers.
- Up-armored vehicles based of customer mission profile.
Aircraft Armor - ballistic protection for helicopters and cargo aircraft.

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SIBAT -
ISRAEL MINISTRY OF DEFENSE
International Defense Cooperation
Hakirya Tel-Aviv 6473424, Israel
Tel: 972-3-6975585, 6977906
Fax: 972-3-6976359
E-mail: sibat_bic@mod.gov.il
Web Site: www.sibat.mod.gov.il
Director:
Brig. Gen. (Ret.) Mishel Ben Baruch
Principal Deputy Director:
Mr. Itamar Graff
Deputy Director & Head of Defense Inventory Marketing & Sales:
Mrs. Anat Brill

Areas of activity
SIBAT, the Israel MOD International Defense Cooperation Directorate is uniquely positioned within the Israel Ministry of Defense (IMOD), while having a close, ongoing relationship with the defense industry. This combination ensures SIBAT to maintain in-depth and up-to-date knowledge of the defense world’s relevant concepts, as well as a clear understanding of the Israel Defense Forces’ (IDF) operational needs.

SIBAT facilitates international cooperation through its various services.
- Generating Government-to-Government agreements
- Initiating official foreign delegations
- Identifying industrial cooperation with the Israeli defense industry
- Locating the relevant technological solutions for specific requirements
- Establishing of joint ventures
- Conducting advanced training seminars
- Managing the sales of IDF inventory
- Providing in-depth information on Israel’s defense industry through biennial directory and national pavilions

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SK Group
64 Bialik Blvd.
P.O.Box 63
Ramat-Hasharon 4710001, Israel
Tel: 972-3-7606000
Fax: 972-3-7606001
E-mail: info@sk-g.net
Web Site: www.sk-g.net
Chairman: Mr. Samy Katsav
Number of employees: 2000
Ownership: Private

Area of activity
The SK Group is a privately held technology and innovation holding company specializing in global frontline defense, and para-military solutions, marine infrastructures and property development. With a history of research, development and manufacturing spanning over 80 years, SK Group provides small arm systems, electro-optic and laser solutions, imaging systems, naval solutions and more. Drawing on Israel's innovation and field-proven solutions, SK's companies offer a powerful track-record of technology, experience and excellence.

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SMART S LTD.
7 Ha-Kharuv St.,
Rishpon 4691500, Israel
Tel: 972-54-2344266
Fax: 972-9-954122
E-mail: marketing@sms-simulators.com
Web Site: www.sms-simulators.com
Owner & C.E.O: Mr. Noam Segal
C.T.O: Mr. Matan Duchne
Marketing Director: Mr. Shaul Hatzir
Number of employees: 5
Date established: 2006
Ownership: Private

Areas of activity
SMS develops, manufactures and markets innovative tactical training simulators and related products of the highest quality for demanding applications in the defense, law enforcement and commercial markets around the world.
Our value-added solutions result from a thorough understanding of our customers' needs and aspirations and our relentless pursuit of innovation and customer satisfaction using their own weapons.
SMS develops and creates a uniquely advanced simulators based on a large combat experience that has been integrated to products that takes users' doctrine and needs, alongside technological innovations, to formulate a video display that gives a realistic updated tactical simulator.

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SMART SHOOTER LTD.
Kibbutz Yagur 3006500, Israel
Tel: 972-72-3202111
Fax: 972-72-3202120
E-mail: info@smart-shooter.com
Web Site: www.smart-shooter.com
C.E.O: Ms. Michal Mor
V.P BD & Marketing: Dr. Abraham Mazor
Number of employees: 35
Date established: 2011
Ownership: Private

Areas of activity
Smart Shooter was established in response to the demand for increased lethality and survivability of military and paramilitary (HLS) small arms shooters.
The company develops, designs and manufactures advanced systems (SMASH family) that provide higher hit accuracy for small arms, day and night.
The company’s technologies combine electro-optics, image processing, real-time embedded software, ergonomics, and system engineering to provide real and affordable solutions for modern, symmetric and asymmetric conflicts.
“SMASH family” is an add-on Fire Control Systems and can be mounted on almost any rifle using standard ammunition, it enables any shooter, regardless of skill or operational stress, to hit precisely any stationary or moving target, and thus reducing collateral damage and hit at bystanders people.
Smart Shooter holds an ISO 9001 certification, and all products fully meet MIL-STD 810.

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STEADICOPTER LTD.
6 Hatikshoret St.,
P.O.Box 729
Migdal ha Emek 2307049, Israel
Tel: 972-4-9592959
Fax: 972-4-9597606
E-mail: noaml@steadicopter.com
Web Site: www.steadicopter.com
C.E.O: Mr. Itzik Shnipitzki
Sales & Marketing Manager: Mr. Noam Lidor
Number of employees: 15
Date established: 1999
Ownership: Private

Areas of activity
Steadicopter Ltd, is a revolutionary player in the tactical Unmanned Aerial Systems (UAS) industry, specializing in the design, development, and production of rotary tactical UAS, and delivers exceptional, unprecedented, proven solutions to military, HLS, and civilian applications. The Black Eagle ROTARY UNMANNED AERIAL VEHICLES (RUAV) is a robotic observation system that provides Maritime and Land solutions for intelligence, surveillance, target acquisition and reconnaissance (ISTAR). This is provided using an air vehicle with the ability to vertically take-off and landing, with hovering capability, together with a day & night sensor.

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SUPERCUM INDUSTRIES LTD.
11 Shoncino St.,
Tel-Aviv 6721611, Israel
Tel: 972-3-5622333
Mobile: 972-50-6659993
Fax: 972-3-5622345
E-mail: giladg@supergum.co.il
Web Site: www.supergum.com
General Manager:
Mr. Yehuda Gescheit
Head of NBC Division:
Mr. Golan Gilad
Number of employees: 250
Date established: 1956
Ownership: Private

Areas of activity
Specialization in CBRN protective equipment. Manufacture of high quality rubber, plastic and sealing products for civilian, military and Industrial applications.
R & D and engineering department support a wide range of standard and custom made rubber and plastic products for highly diverse industrial and automotive applications. Rubber technologies: Injection molding; Compression molding; Extrusion: Die-cutting.
- Plastic technologies; Heat; H.F and U.S sealing; injection molding.
Certified to ISO 9001:2018, QS9000

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TAMOR S.M.R LTD.
Southern Industrial Zone
P.O.Box 19
6 Hacharoshet St.,
Migdal Haemek 2310001, Israel
Tel: 972-4-6546735
Fax: 972-4-6546738
E-mail: main@tamor.co.il
Web Site: www.tamor.co.il
President: Mr. Moshe Mazor
C.E.O: Mr. Ronen Mazor
Number of employees: 50
Date established: 1988
Ownership: Private Corporation

Areas of activity
Manufacturer of Turnkey Systems, Subsystems, Kits and Assemblies
Production for Wheeled or Tracked Vehicles Prototypes, Low Series, Full Production.

TECHNOLOGY
METALWORK
- Multi-processes in-house
RUBBER VULCANIZATION
- Bonding of rubber and metal
- Rubber molding
PRODUCTION
- Traversing Machine Gun Mount Systems
- Armored Hatches and Mechanisms
- Fuel Tanks and Water Tanks
- Equipment Compartments, External, Internal
- Structural Kits
- Wheels, Solid Rubber
- Track Shoe Parts and Track Assemblies
- Track Tension Adjusters
- Sprockets and Carriers
- Supporting Road Arms
- Hydraulic Bumpers
- Brake Systems

QUALITY ASSURANCE
- U.S. Army TACOM (Tank- Automotive and Armaments Command) QSL-01, QSL-03, QSL-04
- NATO AQAP 2110
- ISO 9001:2008
- European and American Welding Certifications and Compliance

See pages: 106, 107
TECHAYA LTD.
P.O.Box 1500
Pardes-Hanna 3711401, Israel
Tel: 972-4-6377741
Fax: 972-4-6377761
E-mail: info@techaya.com
Web Site: www.techaya.com

Business Development:
Mr. Tsahi (Zak) Sucher
Number of employees: 48
Date established: 2003
Ownership: Private

Areas of activity
TECHAYA is a prime developer, innovator, and manufacturer of compact military rugged and tailor-made IP based communication solutions, where extreme conditions, minimal SWaP and unique tactical requirements must be met. Developed for military and harsh-environment applications, TECHAYA’s product range features mechanical packaging solutions to comply with airborne, marine, and ground environments. Designed for C4ISR applications and battlefield communications, TECHAYA provides unique, top-quality solutions for the battlefield zone.

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TOP CAR ARMORING LTD.
10 Amsterdam St.,
Sderot 8714401, Israel
Tel: 972-8-6496192
Fax: 972-8-6483494
Mobile: 972-54-4957184
E-mail: dorontopcar@012.net.il
Web Site: www.topcar-armoring.com

C.E.O: Mr. Doron Labock
Number of employees: 13
Date established: 2012
Ownership: Private

Areas of activity
TOP CAR has developed the most advanced car armoring technologies. TOP CAR is a company with the most advanced know-how and experience in armoring of passengers cars with High-Tech and Light Weight composite armor materials, (more protection and survivability) and supplies all international markets. TOP CAR has unique knowledge and experience on international standards (USA, Europe and Israel) including extensive knowledge in producing materials to get the best ballistic solution.

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TRI-LOGICAL TECHNOLOGIES LTD.
7 Toolipman St.,
Rishon Lezion 7505002, Israel
Tel: 972-3-9509888
Fax: 972-3-9500245
E-mail: sales@trilogical.com
Web Site: www.trilogical.com

C.E.O: Mr. Menashe Terem
V. P sales: Mr. Michael Tolub
V.P projects: Mr. Eyal Trichter
Number of employees: 27
Date established: 1994
Ownership: Private

Areas of activity
Tri-logical technologies, a global leader in asset tracking and process management solutions, successfully developed, deployed and supported asset management solutions to a wide range of customers worldwide. We provide end to end safety, security and operational solutions for mobile assets in the Security & Defense, Airport and Train industries. Tri-logical specializes in customized projects to provide innovative solutions for our customers ranging from process management platforms, tactical C&C systems and operational solutions to smart controllers and tracking devices.

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TROYA
P.O.Box 2494
4 Ha’Yetsira St.,
Ra’anana 4366350, Israel
Tel: 972-9-9500560
E-mail: info@troya-tech.com
Web Site: www.troya-tech.com
C.E.O: Mr. Yacov Galam
C.M.O: Mr. Tomer Snir
Number of employees: 10
Date established: 2013
Ownership: Private

Areas of activity
Troya Tech Defense Ltd. is a world-class designer and producer of defense, security, HLS, and tactical solutions. We specialize in night vision and thermal imagery, with a focus on single-user systems featuring smart ergonomics and user interface (UI). Troya's industry specialists and tech experts are shaping the future of battlefield capabilities, striving for constant technological improvement in our operational uses, platforms, and applications. Our vastly knowledgeable management team has a combined experience of over 30 years in the defense and security sectors. With partnerships, collaborations, and associates spanning the globe, Troya maintains a headquarters and an R&D facility in Israel, with an international office in Milan, Italy. We pride ourselves on first-rate customer service and manufacturing processes, and are ISO 9001:2008 certified.

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TSG IT ADVANCED SYSTEMS LTD.
P.O.Box 58010
Tel Aviv 6158101, Israel
Tel: 972-3-5483555
Fax: 972-3-54483700
E-mail: tsg@tsgisystems.com
Web Site: www.tsgisystems.com
C.E.O: Mr. Michael Zinderman
Senior V.P. C4ISR Group: Mr. Ofer Burin
V.P International Marketing & B.D: Mr. Uri Woldiger
Marcom Director: Mr. Oleg Guzikov
Number of employees: Over 400
Date established: 1969
Ownership: Private

Areas of activity
TSG is a global company, held by IAI - Israel Aerospace Industries (50%) and Formula Systems (50%). We provide advanced Command, Control, Communications, Computers, Intelligence, Surveillance, Target Acquisition and Reconnaissance (C4ISTAR) solutions systems for the defense and homeland security sectors. With over four decades of experience, TSG specializes and has a proven track record in designing, developing, supplying and integrating advanced, comprehensive and highly innovative solutions and systems. Dedicated to delivering cutting-edge, best-of-class solutions, TSG serves a diverse client base of governmental organizations worldwide. The proven record of TSG's deployed systems, combining command and control with intelligence and surveillance systems, enables us to offer unique solutions that bridge effective intelligence processing and operational command and control, providing our customers with incomparable value.

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UNDERWATER TECHNOLOGIES CENTER (UTC) LTD.
8 Omarim St.,
Baran Building
P.O.Box 3003
Omer 8496500, Israel
Tel: 972-7-22153153
Fax: 972-8-6900466
E-mail: info@utc-co.il
Web Site: www.utc-digital.com
Director: Mr. Arie Kalo
C.O.O: Mr. Golan Ben Ari
Number of employees: 44
Date established: 2003
Ownership: Private

Areas of activity
At UTC, mechanical, electronics, software and acoustics engineers, physicists and technicians, team together to build trustworthy products to spec. Examples are underwater communication, sonar, acoustic release, parametric arrays and tracking systems. Adopting innovative technologies, we create new ideas, concepts and designs, ultimately developing and commercializing these products. We provide an incomparable combination of leadership, an experienced multi-disciplinary team, leading-edge acoustic and electronic engineering with excellent client working relationships. Our proven underwater operational and security systems are testimony to our abilities.

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UNI-SCOPE
OPTICAL SYSTEMS LTD.
34 H’anapach St.,
P.O.Box 817
Carmiel 2161701, Israel
Tel: 972-4-9887022
Fax: 972-4-9887023
E-mail: dannym@uniscope.biz
Web Site: www.uni-scope.co.il
Managing Director: Mr. Danny Marelly
Chairman: Mr. Samy Katsav
Director: Mr. Arie Bar-Ner
Number of employees: 32
Date established: 1991
Ownership: Oshira Ltd. & Danny Marelly

Areas of activity
- Design and production of:
  a. Acrylic and glass periscope for armored vehicles.
  b. Vision blocks for armored vehicles.
  c. Handheld periscopes for infantry and special force units
- Comprehensive metal parts machining according
- Comprehensive optical and mechanical assembly
- ISO 9001:2009 and Mil-Spec, Quality Assurance and Quality Control facility
- Field and in-house maintenance and technical support

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UVISION AIR LTD.
4 Bazelet St.,
Sapir Industrial Park
Zur Igal 4486200, Israel
Tel: 972-9-7496822
Fax: 972-9-7496823
E-mail: uvision@uvisionuav.com
Web Site: www.uvisionuav.com
C.E.O: Mr. Noam Levitt
V.P Sales & Marketing:
Mr. Shane Cohen
Number of employees: 70
Established: 2011
Ownership: Private

Areas of activity
UVision designs, develops and manufactures smart, innovative, cost-effective, lethal aerial loitering systems for customers worldwide. UVision’s Lethal Loitering Systems include precision attack munitions and advanced airborne guidance and navigation systems and command and control stations fully integrated with communication links.

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VERINT SYSTEMS LTD.
33 Maskit St.,
Herzliya 4673333, Israel
Tel: 972-9-9622300
Fax: 972-9-9624747
E-mail: marketing.lis@verint.com
Web Site: www.verint.com/cis
President: Mr. Elad Sharon
V.P Marketing: Ms. Amit Daniel
Number of employees: 5000 worldwide
Date established: 1994

Areas of activity
Verint Cyber Intelligence Solutions (CIS) is the market leader in security and intelligence solutions dedicated to the needs of government, critical infrastructure, and enterprise organizations worldwide. For more than two decades, Verint CIS continues to be the most reliable choice to execute highly complex and demanding deployments, with a customer base that spans every continent.

Working hand in hand with government, critical service providers, and enterprise customers, Verint CIS supports their evolving needs as they address today’s biggest challenges in fighting criminal activity, terrorism, cyber-attacks and physical threats. With a singular intelligence domain expertise and the most innovative technologies, Verint CIS helps customers worldwide assume a stronger stance in their mission for a safer world.

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Areas of activity
Xi designs, develops and produces command and control systems including intelligent multi-mode wireless communications and intelligent sensors for real-time remote sensing, monitoring, guidance and management of field operations, vehicles and drones, for defense and homeland security applications. Xi's expertise and decades of track record in C4I, time critical GIS, geolocation, remote sensing, telematics and wireless data communications technologies, enable it to offer its customers professional services and customized solutions, including location based field sensors, wireless communications and georeferenced C4I Control Center.

Among Xi Products are:
Time Critical location based Command, Control, Communications and Information system, multi-model, short and long range communications; RF and cellular, and intelligent location based sensors for defense and homeland security / IoT applications.

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<td>NBC youth respirator</td>
<td>Shalon Chemical Industries Ltd.</td>
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<tr>
<td>4A1</td>
<td>NBC adult respirator</td>
<td>Shalon Chemical Industries Ltd.</td>
<td>292</td>
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<tr>
<td>A-4 N/T SKYHAWK</td>
<td>Multi-role fighter aircraft</td>
<td>SIBAT- Israel Ministry of Defense</td>
<td>274</td>
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<td>AACMI</td>
<td>Embedded training for fighter jets</td>
<td>IAI MLM Division</td>
<td>57</td>
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<td>ACBS</td>
<td>Armored vehicle crew member blower system</td>
<td>Superpum Industries Ltd.</td>
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<tr>
<td>ACBS</td>
<td>NBC hood and blower system for tank crews</td>
<td>Shalon Chemical Industries Ltd.</td>
<td>291</td>
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<tr>
<td>ACCULAR</td>
<td>Artillery system for urban warfare with penetrating or controlled fragmentation warhead</td>
<td>IMI Systems Ltd.</td>
<td>133</td>
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<td>ADA</td>
<td>GNSS Anti-Jamming System</td>
<td>IAI MLM Division</td>
<td>258</td>
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<td>ADCCS</td>
<td>Air Defense interoperable and scalable C2 System</td>
<td>TSG IT Advanced System Ltd.</td>
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<td>ADTS</td>
<td>Air Defense Training System</td>
<td>IAI MLM Division</td>
<td>57</td>
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<tr>
<td>AEROSHIELD</td>
<td>All-in-one airborne AMPS pod</td>
<td>Bird Aerosystems Ltd.</td>
<td>44</td>
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<td>AEROSTAR</td>
<td>Tactical Unmanned Air System</td>
<td>Aeronautics Ltd.</td>
<td>177</td>
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<tr>
<td>AH1 COBRA</td>
<td>Single engine attack helicopter manufactured by Bell Helicopter</td>
<td>SIBAT-Israel Ministry of Defense</td>
<td>273</td>
</tr>
<tr>
<td>AIRMOR</td>
<td>Self-protection suite for helicopters and transport aircraft</td>
<td>IMI Systems Ltd.</td>
<td>48</td>
</tr>
<tr>
<td>AIRSTAR</td>
<td>Multi-Sensor System for Extended ISR</td>
<td>Rafael Ltd.</td>
<td>171</td>
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<tr>
<td>AISR</td>
<td>Aerial Intelligence, Surveillance &amp; Reconnaissance System</td>
<td>Aeronautics Ltd.</td>
<td>28</td>
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<tr>
<td>AMI/TAMI</td>
<td>360° Vision bulletproof combat post/tower</td>
<td>Mifram Ltd.</td>
<td>110</td>
</tr>
<tr>
<td>AMIR</td>
<td>Mine-Resistant Ambush Protected Platform</td>
<td>Hightech Systems Ltd.</td>
<td>98</td>
</tr>
<tr>
<td>AMLS</td>
<td>Wireless communication systems and tactical data</td>
<td>Commtact Ltd.</td>
<td>192</td>
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<tr>
<td>AMPS</td>
<td>Airborne Missile Protection Systems</td>
<td>Bird Aerosystems Ltd.</td>
<td>43</td>
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<tr>
<td>AMPS</td>
<td>Advanced Multi-Sensor Payload System – Strategic ISR</td>
<td>Elbit Systems Ltd.</td>
<td>252</td>
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<tr>
<td>AMSTAF</td>
<td>Multi-mission, amphibious, integrated Unmanned Ground Vehicle (UGV)</td>
<td>Automotive Robotic Industry Ltd.</td>
<td>206</td>
</tr>
<tr>
<td>APM</td>
<td>Improved long range accuracy &amp; penetration ammunition</td>
<td>IMI Systems Ltd.</td>
<td>165</td>
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<tr>
<td>AQUASHIELD</td>
<td>Diver Detection Sonar</td>
<td>DSIT Solutions Ltd.</td>
<td>88</td>
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<tr>
<td>AR51A, AR76A</td>
<td>Rubidium clocks, frequency and timing solutions</td>
<td>Accubeat Ltd.</td>
<td>212</td>
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<td>AR133A</td>
<td>Calibration suitcase for OCXO devices</td>
<td>Accubeat Ltd.</td>
<td>212</td>
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<tr>
<td>ARROWCELL</td>
<td>Detector, preventer and locator of active GSM interception</td>
<td>Rayzone Group Ltd.</td>
<td>265</td>
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<tr>
<td>ASA35A1</td>
<td>Floating Personal Body Armor</td>
<td>IMI Systems Ltd.</td>
<td>83</td>
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<tr>
<td>ASIO</td>
<td>Airborne Surveillance, Intelligence and Observation solution</td>
<td>Bird Aerosystems Ltd.</td>
<td>58</td>
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<td>BRAND NAME/Acronym/Abbreviation</td>
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<tr>
<td>ATACS</td>
<td>Automated Tactical Artillery Control System</td>
<td>Astronautics C.A. Ltd.</td>
<td>130</td>
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<tr>
<td>ATMOS</td>
<td>155mm 52 caliber truck-mounted howitzer</td>
<td>Elbit Systems Ltd.</td>
<td>132</td>
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<tr>
<td>ATROMAT</td>
<td>Automatic atropine injectors</td>
<td>Shalon Chemical Industries Ltd.</td>
<td>293</td>
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<tr>
<td>AYIT</td>
<td>A4 Skyhawk Flight simulator</td>
<td>SIBAT-Israel Ministry of Defense</td>
<td>278</td>
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<td>BARAK</td>
<td>Air and missile defense system Land-based, short to long range, point &amp; area</td>
<td>IAI Air Defense Division</td>
<td>79, 169</td>
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<tr>
<td>BARAK</td>
<td>F16C Flight simulator</td>
<td>SIBAT-Israel Ministry of Defense</td>
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<tr>
<td>BAZ/RAAM</td>
<td>F15 Flight simulator, most advanced trainer for F15AUP and F15I fighters</td>
<td>SIBAT-Israel Ministry of Defense</td>
<td>278</td>
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<tr>
<td>BB-2590/u</td>
<td>High density rechargeable Li-ion batteries</td>
<td>Epsilor-Electric Fuel Ltd.</td>
<td>215</td>
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<td>BGUSAT</td>
<td>Scientific and research satellite</td>
<td>IAI Space Division</td>
<td>64</td>
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<td>BIRD-EYE 400, 650</td>
<td>Family of Mini UAS</td>
<td>IAI Malat Division</td>
<td>199</td>
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<td>BIRD-EYE 650D</td>
<td>Long-Endurance Small Tactical UAS</td>
<td>IAI Malat Division</td>
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<td>BL-45</td>
<td>Blower for children protection systems</td>
<td>Supergum Industries Ltd.</td>
<td>294</td>
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<td>BL-45</td>
<td>Mini-blower for NBC protective systems</td>
<td>Shalon Chemical Industries Ltd.</td>
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<td>BL-45 TYPE B</td>
<td>Multi-purpose blowers</td>
<td>Supergum Industries Ltd.</td>
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<td>BL-90</td>
<td>NBC air supply unit</td>
<td>Shalon Chemical Industries Ltd.</td>
<td>291</td>
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<tr>
<td>BL-90</td>
<td>Advanced military protection blower</td>
<td>Supergum Industries Ltd.</td>
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<tr>
<td>BLACKFISH</td>
<td>Hull Mounted Sonar</td>
<td>DSIT Solutions Ltd.</td>
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<tr>
<td>BNET</td>
<td>Advanced Broadband MANET IP Software Defined Radio for air and land applications</td>
<td>Rafael Ltd.</td>
<td>30, 61, 129</td>
</tr>
<tr>
<td>BOOM 9000</td>
<td>Riot control vehicle</td>
<td>Beit-Alfa Technologies Ltd.</td>
<td>125</td>
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<tr>
<td>BREACHING FRAME</td>
<td>Pyrotechnic Breaching Device</td>
<td>IMI Systems Ltd.</td>
<td>160</td>
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<tr>
<td>BREAKWATER</td>
<td>Reactive armor kit for protection against large EFPs</td>
<td>IMI Systems Ltd.</td>
<td>100</td>
</tr>
<tr>
<td>C130 HERCULES</td>
<td>Four engine turboprop military transport aircraft</td>
<td>SIBAT-Israel Ministry of Defense</td>
<td>276</td>
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<tr>
<td>CAHBS</td>
<td>NBC civilian adult hood and blower system</td>
<td>Shalon Chemical Industries Ltd.</td>
<td>293</td>
</tr>
<tr>
<td>CAPS 2000</td>
<td>NBC civilian adult protective system</td>
<td>Shalon Chemical Industries Ltd.</td>
<td>292</td>
</tr>
<tr>
<td>CARPET</td>
<td>120 mm autonomous soft recoil mortar system</td>
<td>Elbit Systems Ltd.</td>
<td>132</td>
</tr>
<tr>
<td>CARPET</td>
<td>Minefield Clearing and IED Neutralization and Detonation System</td>
<td>Rafael Ltd.</td>
<td>150</td>
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<tr>
<td>C-DOME</td>
<td>Naval Missile Defense System</td>
<td>Rafael Ltd.</td>
<td>80, 81, 82</td>
</tr>
<tr>
<td>CETER</td>
<td>NBC hood and blower system</td>
<td>Shalon Chemical Industries Ltd.</td>
<td>290</td>
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<tr>
<td>CETER</td>
<td>Chemical Team Respirator for soldiers in specialized units</td>
<td>Supergum Industries Ltd.</td>
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<td>C-GEM</td>
<td>Shipborne Off-Board Active Decoy</td>
<td>Rafael Ltd.</td>
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<td>CHR</td>
<td>Multi-mission tactical AESA radar</td>
<td>Rada Electronic Industries Ltd.</td>
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<td>CIDS</td>
<td>Coast &amp; Islands Defense System</td>
<td>IMI Systems Ltd.</td>
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<td>IAI Missile Division</td>
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