

Rafael – Advanced Defense Systems Ltd

Spyder – Short-Medium Range Air Defense System

The **Spyder** (Surface-to-Air **Python** and **Derby**) is a quick reaction, surface-to-air missile system capable of engaging aircraft, helicopters, UAVs and PGMs. It provides excellent protection of valuable areas, as well as first-class defense for forces located in the combat area. The **Spyder** system incorporates RAFAEL's most advanced, state-of-the-art air-to-air missiles – the **Derby**, active radar (RF) missile and the **Python-5**, a dual band Imaging Infra Red (IIR) missile.



Both missiles are the outcome of many years of research and development efforts utilizing the most modern technologies. **Spyder** missiles have full commonality with the air-to-air missile version. Just recently, Rafael added its **Toplite**, day/night observation and targeting payload to the system to guarantee optimal precision guidance.

The Spike Missile Family

The **Spike** Family consists of missiles suited for several platforms, multiple ranges and a variety of targets. The missiles in this family have sophisticated electro-optic CCD or IR sensors for operation day and night and in adverse weather conditions and a tandem warhead. Their lofted trajectories enable the warhead to hit the target at its most vulnerable part 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 unique fiber-optic data link in the **Spike-LR** and **ER** missiles enables the operator to observe & update during flight and provides the unique ability to change targets after launch, attack concealed targets, achieve urban warfare precision, perform real-time surveillance and damage assessment, achieve extended range and pinpoint accuracy, minimize collateral damage and abort mission after launch.

The **Spike** Family is comprised of the following missile types:

Designation	Max. Range	Application
Spike-MR	2500m	Infantry
Spike-LR	4,000m	Infantry, Special Forces, Light Combat Vehicles
Spike-ER	8,000m	Infantry, LCV, Helicopters, Naval Vessels

Add-On Armor Protection

Rafael develops, designs, manufactures, provides and installs add-on reactive and passive armor kits for a wide variety of vehicles including MBTs, APCs and light vehicles. The passive armor provides enhanced protection against projectiles and artillery fragments, while the reactive armor provides protection against anti-tank shaped charge warheads.

Rafael has also developed a line of multi-purpose Light Armored Vehicles (LAV), such as the **Golan** and **Wolf**, which provide outstanding protection for troops on the move.

Golan – Multi-purpose modular armored vehicle

The **Golan** is a multi-purpose vehicle designed to provide modular armor protection. The maximum protection level includes reactive armor tiles that defeat RPG's, IED's and up to 14.5 mm AP rounds, while the medium and light protection levels are based on passive modular armor that defeat small IED's and up to 12.7 mm AP bullets.

The **Golan** is 4x4 tactical vehicle that has exceptional maneuverability and tractability; on/off road, cross country terrain capability. The **Golan** can be operated efficiently in urban arenas.



Mini-Samson – Remote controlled weapon station

The **Mini-Samson RCWS** is a 12.7mm Remote Controlled Weapon Station for crew protection and target engagement. It is suitable for any light combat platform such as wheeled/tracked vehicles. The **Samson** provides enhanced accuracy, under-armor operation and flexibility of location at any hatch. It features closed hatch and head-out operation capability, manual emergency mode of operation, day/night operation and can be adapted to a variety of weapons. The **Samson RCWS** is also available as a 30mm weapon station that can host a variety of weapons, as well as the **Spike** multi-purpose missile



Trophy – Active protection system

The **Trophy** Active Protection System (APS) for Armored Fighting Vehicles (AFV) rapidly detects and tracks any anti-tank threat, classifies it, estimates the optimal intercept point in space and finally neutralizes it away from the platform.

The threat detection and warning subsystem consists of several sensors, including search radar with four flat-panel antennas, located around the protected vehicle, to provide full hemispherical coverage. The neutralization process will take place only if the threat is about to hit the platform



SpotLite-P – Electro-optic small arms fire detection system

The **SpotLite-P** is an electro-optic system designed for the precise location of small arms fire sources. The **SpotLite** system allows for detection of multiple small arms/sniper fire sources simultaneously, day and night, at long ranges and with high precision and detection probabilities.

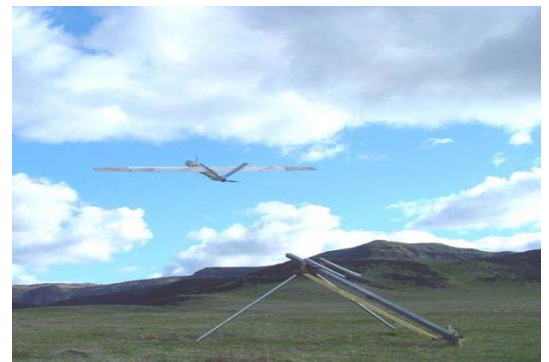
Your Vision is our Mission

The system is capable of investigating the fire sources detected, verifying that it is actually enemy fire, transferring verified targets to friendly force snipers and thereby closing the sensor-to-shooter loop quickly and efficiently. When required, the system can translate target data into coordinates for other shooters, or mark the target with a laser marker



SkyLite B – Long endurance Mini-UAV

The **SkyLite B** is a man-portable, long endurance mini-UAV system designed to meet the ISR needs of all military branches including infantry units. SkyLite B is specially configured to fly below a low cloud ceiling and in adverse winds. The system provides high resolution, real-time imagery to the field operator and to higher command levels by using stabilized, gimballed day and night electro-optical payloads.



Mini-Typhoon – Stabilized naval weapon station

The **Mini-Typhoon** is a lightweight, stabilized, remote-controlled naval gun system, especially designed for fast maneuvering patrol boats. The system provides day and night observation, operation and accurate firing capability.



Protector – Unmanned Surface Vehicle

Your Vision is our Mission

The **Protector** is an unmanned integrated naval combat system, based on unmanned surface vehicles (USV). Highly autonomous and remotely controlled, the **Protector** is able to conduct a wide spectrum of critical missions, while eliminating unnecessary risk to personnel and capital assets.

The **Protector** is comprised of three main building blocks: First, an unmanned boat that includes the vessel itself and maritime systems. Second, the tactical control system

that provides the means for effective control over missions, including the USV and mission modules. Third, the mission modules which are reconfigurable through their plug-and-play design, allowing utilization of a variety of modules adapted to various missions, such as AT/FP, ISR, and MIW.



C4I Connect – Military IP Network

The **C4I ConNeCT** solution, is a converged military IP network that provides the ground Command & Control center with a complete and advanced solution for all C4I applications, including voice (telephony & intercom), video (VoD, conferences), data and radio. The **C4I ConNeCT** solution is based on commercial off-the-shelf (COTS) products and technologies, such as Voice over IP (VoIP) and Network Management, adapted to military customers.

