SECURITY AND DEFENSE

MANPADS THREAT AVOIDANCE

Security and defense in five continents

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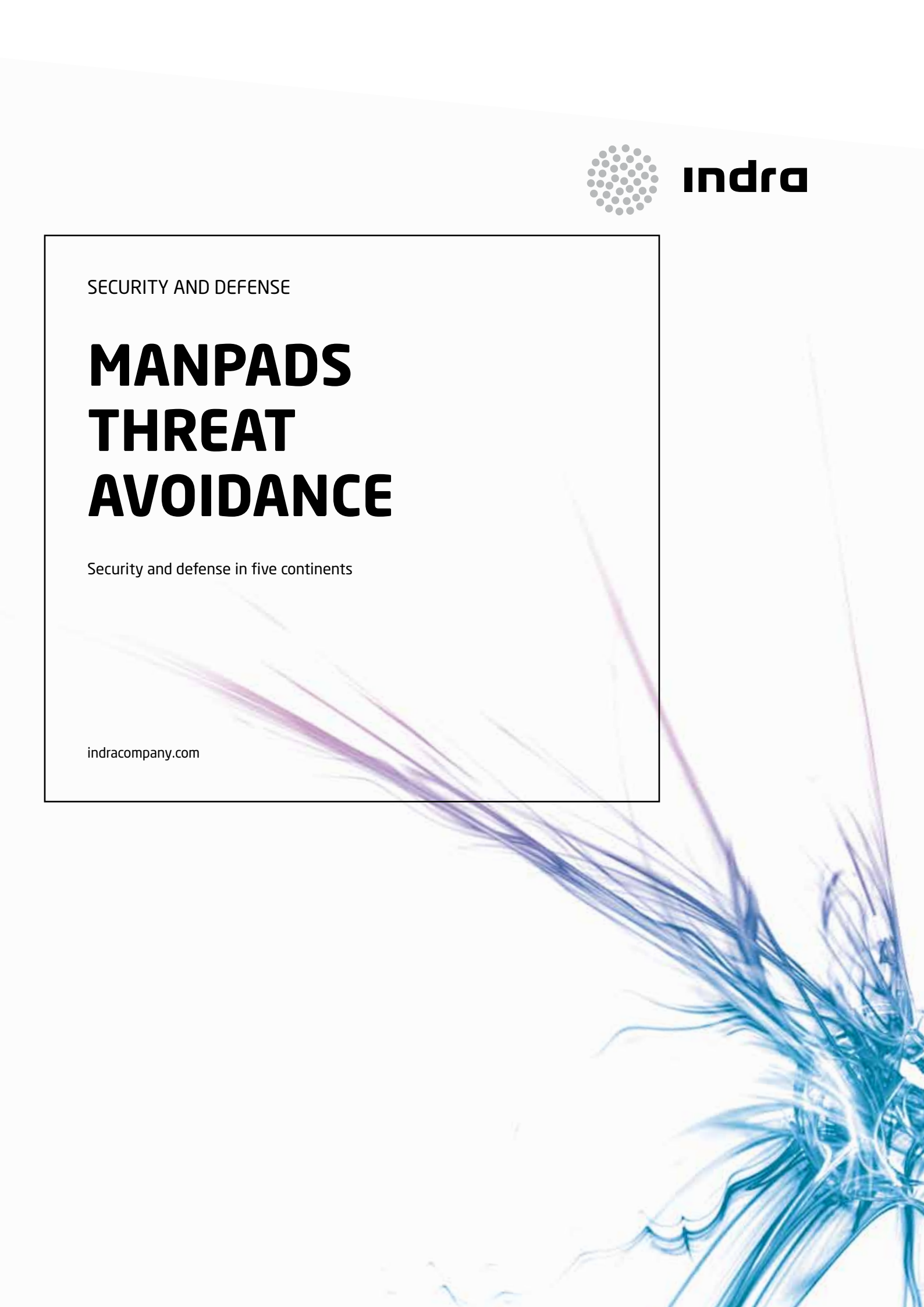


MANPADS THREAT AVOIDANCE

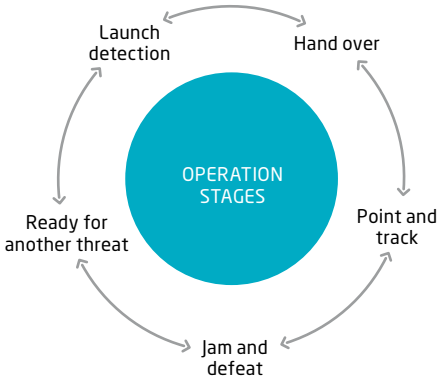
Multispectral multiband high-energy laser: counters all types of IR missiles.
Fastest response: counters several missiles launched simultaneously from short distances.
Closed loop operation: allows the fastest response and the best protection against simultaneously incoming threats

The threat

MANPADS (Man Portable Air-Defense Systems) represent the major threat for rotary and fixed wing aircrafts in conflict scenarios. All countries in the world hold infrared (IR) shoulder-fired missiles in their inventories. Moreover, all significant terrorists and uncontrolled groups also posses them since they are often traded in the black market.

The technological evolution of MANPADS has been notable over the last years. Systems have evolved from the initial IR seekers based on reticules to the latest developments based on multi-spectral images. Moreover, MANPADS can be modified to avoid countermeasures. In fact, modern seekers cannot be countered by traditional countermeasures such as flares. In order to be protected you need a system which is able to counter them all.

The system



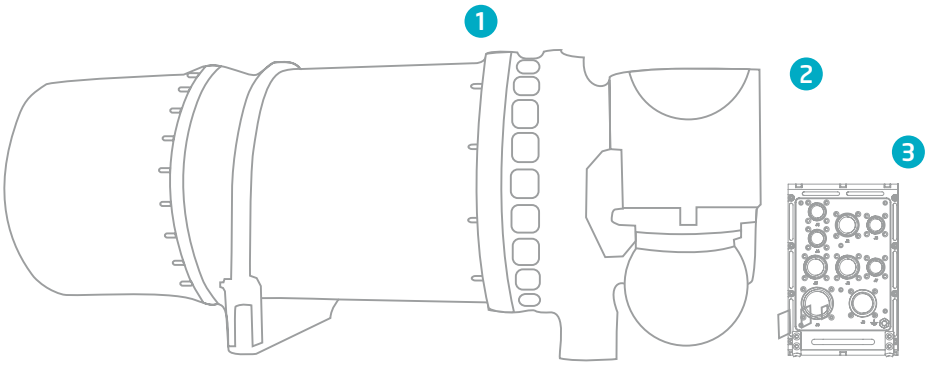
Indra and Rosoboronexport have jointly developed a laser-based DIRCM system capable of defeating all types of IR guided missiles.

MANTA works integrated in a self-protection suite including a Missile Warning System (MWS), and consists of three blocks, a laser, an optronic block, and a processor.

The operation is as follows: the MWS detects the possible missile threats, it then communicates them to MANTA, which automatically tracks and counters the seekers using its high-energy IR laser beam to jam its guidance system.

The partners have managed to build a unique high-energy laser that emits a beam to "hide" the aircraft IR signature and fits into a small, manageable system, which can be installed on board any aircraft. The laser can jam all sorts of IR missiles.

Key components



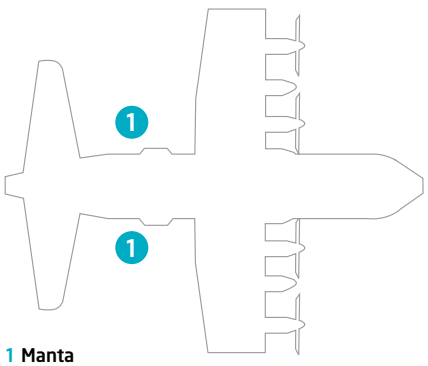
1 Laser system

2 Optronic block

3 Processor

The optronic block performs the identification of the threat, and the tracking and aiming of the laser to the missile. The block has been configured to provide a very fast time-response combined with the best on-target accuracy and a very low aerodynamic impact. Its dome is the only element outside the fuselage of the aircraft.

Installation



1 Manta DIRCM system

MANTA DIRCM system installation can be tailored to fit any rotary or fixed-wing platform requirements. Feasible options include installation in a hard pod or in a sponson as well as installing the system inside the aircraft.

The system does not include moving elements outside of the aircraft which facilitates its installation.

ISO 9001:2000

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