



ISO 9001:2000



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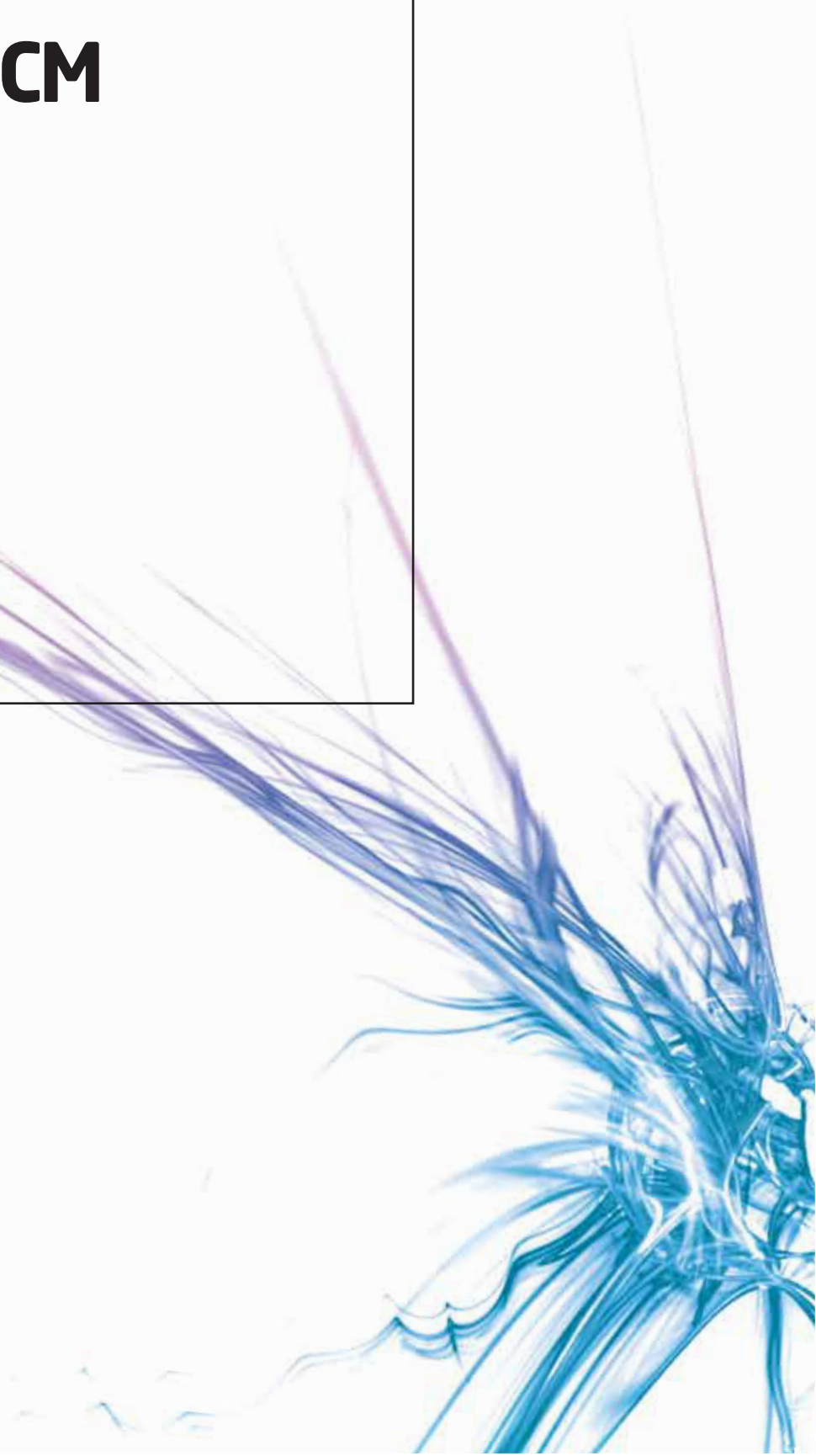
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SECURITY AND DEFENSE

MANTA DIRCM

Security and defense in five continents

indracompany.com



MANTA DIRCM



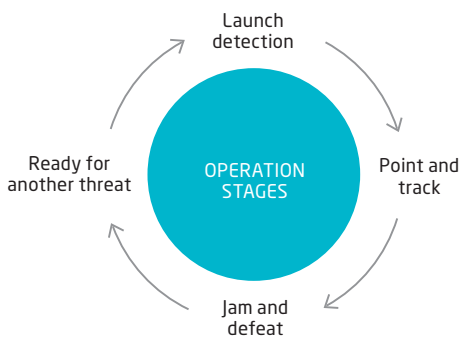
Multispectral multiband high-energy laser: counters all types of IR missiles.
Fastest response: counters several missiles launched simultaneously from short distances.
Closed loop operation: allows the fastest response and the best protection against simultaneously incoming threats. No need of missile identification.

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 possess 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.

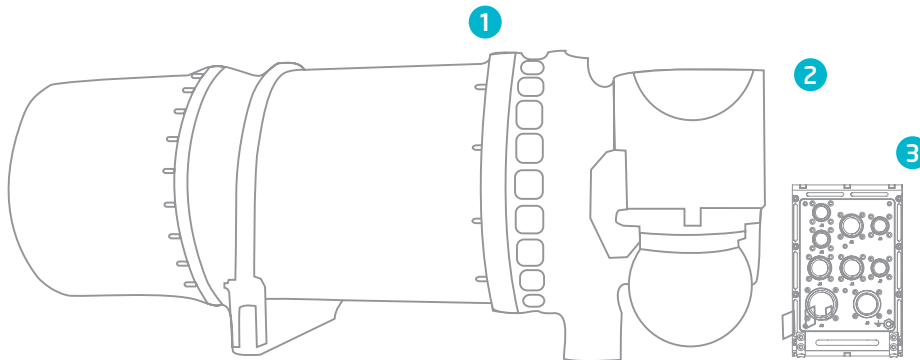
The system



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 or in a standalone configuration with a Missile Warning System (MWS). The operation is as follows: the MWS detects the incoming missile threats, communicates them to MANTA, which automatically tracks and jams the seekers using its laser to counter the IR missile guidance.

MANTA DIRCM system has been flight qualified through test and demonstration (TRL-8) in different countries and environments, witnessed by independent experts. The development is completed and system is already in production phase.

Key features



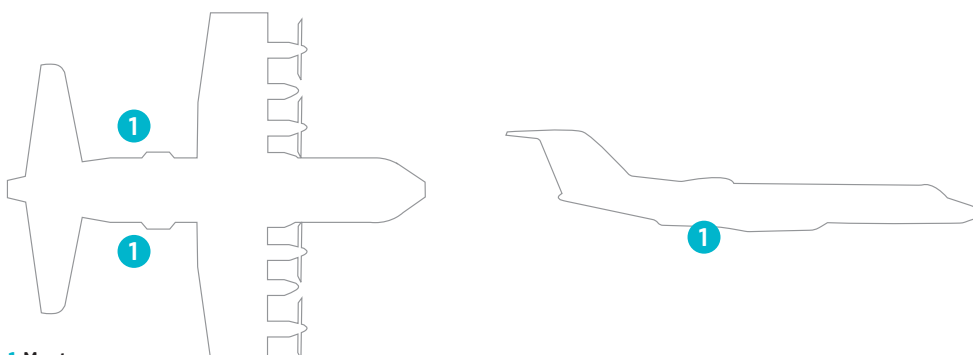
1 Laser system

2 Optronic block

3 Processor

- MANTA Laser Unique technology combines high Energy per pulse with more than 30 simultaneous lines covering the two IR bands used by missiles. MANPADS cannot avoid the effect of the laser by filtering.
- MANTA universal jamming code laser emission is effective against all fielded MANPADS. Therefore, MANTA doesn't need the identification of the incoming missiles, neither a specific countermeasure selection. However, jamming code is reprogrammable and can be adjusted by the user.
- MANTA is effective against simultaneous attacks of several missiles. MANTA fast time response and closed loop operation (capacity to determine when a missile has been deviated) are key features.

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 aerodynamic impact is negligible: Its dome is the only element outside the fuselage of the aircraft and there are no external moving parts.

The system has been qualified as airborne system according to international standards