SKY WARDEN
A SCALABLE SYSTEM TO COMBAT UNMANNED AERIAL THREATS

In the continuity of more than 20 years in Ground Based Air Defence Systems (GBAD) development, consolidated by tens of users return of experience, MBDA proposes the state-of-the-art system dedicated to counter UAV (C-UAV), called SKYWARDEN. A C-UAV system that faces the entire spectrum of drone threats, from micro drones to tactical drones or loitering munitions, as well as other classic air breathing threats, with both C-UAV and GBAD engagement chain.

Operational features

SKYWARDEN provides a multi sensor incremental approach to build a rich, clean and merged situational awareness to respond to a wide threat spectrum 24/7. Whatever the environment (urban, maritime, mountainous, desert...), SKYWARDEN is designed to protect fix sites, fix or mobile high value assets, deployed units as well as GBAD units protection.

SKYWARDEN manages simultaneously various types of sensors like radars, electro-optical systems, radio frequencies localiser, various types of effectors, soft kill (ie. jammer, net launcher, etc), and hard kill (ie. missiles, lasers gun, hit to kill drone, etc).

Thanks to multi sensors approach and the artificial intelligence algorithms integrated in the SKYWARDEN's heart, the false alarm occurence is almost zero and the response is adapted to the threats behaviour with an incremental approach offering complementary effects to treat all types of targets.

Operational advantages

- **A modular, scalable, and evolvable system**
- **Neutralises class 1 & 2 UAV**
- **Flexible design allowing integration in vehicle, as well as disembarked solutions**
- **Management of the Threat Evaluation and Weapons Assignment (TEWA)**
- **Ready to be networked with a wide suite of sensors (radars, remote cameras and RF finders) and effectors (machine guns, jammers, DEW, UAVs, Hit to Kill drone and all Mistral launchers)**
- **Compatible with ASTERIX and SAPIENT protocols**
- **Easy to integrate in a wider defence network, thanks to tactical datalink (JREAP-C or national)**

SKYWARDEN is designed to operate both as an integrated component in a layered air defence architecture, or in a stand-alone configuration.

SKYWARDEN is the only C-UAV system in the world which demonstrated its capability to manage the full C-UAS and GBAD kill chain from detection to neutralisation and able to treat the full UAV spectrum from micro drones, to ISR drones and loitering munitions up to class 3 drone with MISTRAL 3.

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Sensors

VSHORAD / CUAV
Radar & IFF
40 km for class2 drones
7 km for mini/micro drones

EOS
Up to 7 km for mini/micro drones

RF Sensor

CUAV Radar
Up to 5 km for mini/micro drones

SKYWARDEN C2

Effectors

MISTRAL missile
8 km & 6000 m altitude on class 2 drone

Jammer on ground & airborne
Up to 5 km

Drone catcher
Up to 4 km

Hit to Kill
Up to 3 km

Canon
Up to 2 km

Laser Gun
Up to 1 km

Net Launcher on ground
Up to 400 m

Modularity as base design

- Flexible configuration tailored to the mission
- Situational awareness through:
  - Local air picture from local radar(s) and other sensors
  - Collaborative SKYWARDEN C²
  - Upper level shared air picture
- Integration within an overall air defence structure thanks to the tactical data link
- Threat evaluation and prioritisation
- Management of engagement, weapon assignment (policy, rules etc)
- Weapon coordination and target assignment with the selection of the most appropriate effector

Additional integrated capabilities

- Centralisation and visualisation of the status of the subsystems
- Mission planning and rules of engagement management
- Embedded training
- Recording for training, operational post analysis and proof

An agile configuration

- SKYWARDEN configuration is tailored to customers' needs and mission; transportable version in boxes or integrated in vehicle
- Fully autonomous including GPU
- Wide suite of radar already integrated (SAAB, RADA, etc)
- Wide suite of effectors: jammers, laser gun, hit-to-kill drone, canon, drone catcher and MISTRAL launchers
- Low manpower and low workload thanks to optimised HMI

Characteristics

- **Core architecture built around modularity**
- **Sensors and effector types and numbers scalable to fit customer needs**
- **Multiple spiral technology options**
- **Threat detection and classification**

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