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SECURITY AND DEFENSE

# **MINI UNMANNED AERIAL VEHICLES INTELLIGENCE SYSTEM**

Security and defense in five continents

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# MINI UNMANNED AERIAL VEHICLES INTELLIGENCE SYSTEM



An advanced low cost solution for intelligence, surveillance, target acquisition and reconnaissance (ISTAR) missions in short range tactical operations

## Mantis

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MANTIS is an advanced low cost solution for intelligence, surveillance, target acquisition and reconnaissance (ISTAR) missions in short range tactical operations, both day and night, requiring a rapid deployment.

MANTIS is a robust, modular and very light system, portable. The recovery is done by a deep stall maneuver using flaps / brakes to get an almost vertical landing at low speed. The system has automatic take-off and landing (ATOL) capacity.

MANTIS is mounting state of the art avionics and precision navigation equipment (GPS/INS), allowing manual override, with assisted or full automatic navigation. Its capacity to control on forward and lateral motions allows Mini UAV to perform coordinated turns, being able to fix targets easily. It has a Line-Of-Sight (LOS) range bigger than 10 Km. and over 1 hour endurance.

MANTIS transmits color images or infrared in real time to Ground Control Station (GCS) using fixed cameras (bigger reliability and lightness due to the lack of moving parts). It has also ground target laser illumination and telemeter capacity, as well as Blue Force Tracking device with relay function.

MANTIS has interfaces for integration with Command and Control Systems of operative Armed Forces.

## Main characteristics

<b>Missions</b>	<p>Intelligence, Surveillance, Target Acquisition and Reconnaissance (ISTAR). Examples:</p> <ul style="list-style-type: none"> <li>• Air Surveillance for Armed Forces protection</li> <li>• Military Operations on Urban Terrain (MOUT)</li> <li>• Zone Surveillance / Convoy Security</li> <li>• Law Enforcement and Civilian Support</li> <li>• Patrol for Base perimeter, landing/take-off runways...</li> <li>• Target Acquisition Support</li> <li>• Blue Force Tracking relay</li> </ul>
<b>Standard (UAS) system</b>	<ul style="list-style-type: none"> <li>• Three (3) aircrafts</li> <li>• Payload: electro-optical and infrared sensors (EO/IR), laser illumination/telemeter, Blue Force Tracking relay</li> <li>• Ground Control Station (GCS)</li> <li>• Communications System (Data Link)</li> <li>• Batteries and charger</li> <li>• Spares, Supplies, Maintenance set, Manuals</li> <li>• Flight Simulator (Software)</li> <li>• Backpacks to transport a complete UAS System</li> </ul>
<b>Length / wingspan</b>	1.32 / 2.10 m
<b>Max. weight (MTOW)</b>	5.2 kg
<b>Operative range</b>	10 Km (LOS)
<b>Endurance</b>	60-75 min (rechargeable battery)
<b>Velocity</b>	30-100 Km/h (observation velocity: 55 Km/h)
<b>Navigation</b>	Manual override, assisted or fully automatic (programmed and using spline navigation). GPS/INS
<b>Launching / recovery</b>	Automatic Take-Off and Landing (ATOL)
<b>Payload</b>	Interchangeable heads with different payloads: daylight (EO) and nightlight cameras (IR) with high resolution and zoom x10 (EO), laser illumination and telemeter, Blue Force Tracking relay device (1 Km. range)
<b>Data Link</b>	C2 & Payload; digital, ciphered, low latency, 900-2500 MHz
<b>Ground Control Station (GCS)</b>	<ul style="list-style-type: none"> <li>• Light, compact, ruggedized and dust and waterproof</li> <li>• Intuitive Interface</li> <li>• UAS Operation by one operator</li> <li>• Operation as Remote Video Terminal (RVT)</li> <li>• Video Digital Recording and screenshot capture</li> <li>• Screen Information visible under high luminosity conditions</li> <li>• Interface for Command &amp; Control Systems Integration</li> </ul>
<b>Portability and deployment</b>	<ul style="list-style-type: none"> <li>• Complete System (UAS) transportable by 2 people in light waterproof and dust resistant backpacks</li> <li>• Mounting/Dismounting in 5-10 min</li> </ul>



ISO 9001:2000



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