HARFANG
Medium Altitude Long Endurance UAS for the Joint Armed Forces

Medium Altitude Long Endurance Unmanned Aerial System (MALE UAS) – with the HARFANG system, Joint Armed Forces will get real information dominance capability, one of today’s major operational requirements: HARFANG provides permanent information in real-time at each level of the operational chain. Its design uses system redundancy to afford high reliability and efficiency. Fully integrated into current C4I systems, HARFANG is a major asset in network-centric operations. It can fulfil a wide range of missions, from surveillance to sensitive peacekeeping missions for all forces.

Missions
HARFANG is designed to perform Intelligence, Surveillance, Target Acquisition and Reconnaissance (ISTAR) missions at strategic, operative and tactical levels.
• Real-time theatre intelligence, surveillance and reconnaissance
• Target detection/acquisition; battle damage assessment
• Coastal and off-shore surveillance; naval and law enforcement applications
• Anti-terrorism, border surveillance, anti-smuggling
• Pollution and forest fire detection and surveillance

Technical features
• Long endurance (24 h)
• Medium altitude (25,000 ft)
• All-weather capability (MILSPEC environmental conditions, anti-icing system...)
• Fully autonomous flight with automatic take-off and landing
• High reliability through back-up logic process
• Interoperability with NATO C4I standards

System
HARFANG integrates the most advanced UAS technologies, including EO/IR, laser designators, SAR-GMTI payloads, secured LOS and satellite data links, radio relay and a new generation of ground control stations integrating an already proven Mission Preparation System (MPS). HARFANG is failure-resistant and meets airworthiness criteria thanks to its multiple redundant architecture and its flight management system.
• Certified by the French military authorities
• Type Certificate and Airworthiness Certificate
• Allowed to fly over populated areas

HARFANG: real-time vision, around-the-clock, all-weather, on-the-spot targeting aerial system.
### Performance and Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Altitude</td>
<td>25,000 ft</td>
</tr>
<tr>
<td>Endurance</td>
<td>24 h</td>
</tr>
<tr>
<td>Loiter time</td>
<td>12 h at 550 nm</td>
</tr>
<tr>
<td>Maximum take-off weight</td>
<td>1,250 kg</td>
</tr>
<tr>
<td>Payload</td>
<td>250 kg</td>
</tr>
<tr>
<td>Maximum speed</td>
<td>110 kts</td>
</tr>
<tr>
<td>Wingspan</td>
<td>16.60 m</td>
</tr>
<tr>
<td>Length</td>
<td>9.30 m</td>
</tr>
<tr>
<td>Height</td>
<td>2.30 m</td>
</tr>
<tr>
<td>Propulsion</td>
<td>Rotax 914, 115 hp turbocharged</td>
</tr>
</tbody>
</table>

#### Sensors
- **Synthetic Aperture Radar**: < 1 m resolution, Wide-Area Surveillance (WAS) / Spot mode
- **Electro-optical**: WAS/Spot
- **Infrared**: WAS/Spot
- **Laser designator**: Compliant with NATO STANAG 3875
- **Panoramic camera**: Pilot assistance for all ground and flight manoeuvres (e.g. taxiing or weather avoidance)

#### Communications
- **Ku SATCOM Datalink**: Command and Control + Imagery
- **LOS**: Command and Control + Imagery
- **ATC Voice**: Radio V/UHF and IFF civil & military modes
- **Remote Video Broadcasting**: ROVER Mode IV for EO/IR broadcast to ground troops

---

**Effective**
- Ensures flight safety during critical take-off and landing phases with ATOL using DGPS or RAPS, lands via LOS or SATCOM link in back-up mode
- Provides quick deployment and flexibility
- Reduces manpower workload and training requirements

Thus the HARFANG operator only needs to focus on the mission and on the exploitation of data.

**Proven**
- Over 1,100 missions with more than 12,000 flight hours at 90% availability for missions in Afghanistan, Libya and Mali.
- Regular national homeland security missions on French territory since the end of 2008.