

ALTUS LSA

INNOVATIVE UNMANNED TECHNOLOGY





About us

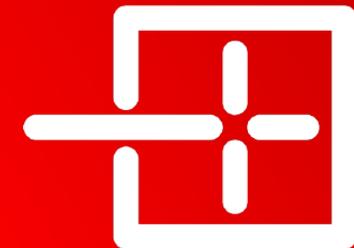
Company profile

ALTUS LSA is an innovative technology company which since 2011 provides turnkey solutions and - **state of the art** - services in the field of **Unmanned Systems**.

Our company's experience and know-how extends to various areas such as **land and sea border surveillance**, intelligence gathering, **airborne ISR**, natural disaster management, GIS applications, control and protection of critical infrastructure, RGB / thermal / multispectral **mapping**, target drone applications training / shooting / evaluation of anti-aircraft systems etc.



The Company is steadily at the forefront of innovation either through its successful presence in major EU and National Research programs or by its internal R&D plan, exploring opportunities in Artificial Intelligence, 5G network utilization, and network-centric operations, aiming to maintain -state of the art- products and services.





Company Milestones

Leader in the Greek Unmanned Aircraft Systems (UAS) sector



ATLAS 8/H

2023

ALTUS Receives EASA SORA Authorisation in Specific Category for cross border operations

2022

ALTUS teams with "the Hybrid Project" and introduces to the market the EDOMON hybrid tactical UAS

2021

ATLAS 4 System completes trials to deliver medicines to remote locations in Greece

2020

ALTUS Develops ATLAS 4 & 204 multicopter Drone family

2019

ALTUS receives Airworthiness Certification from HCAA for its OURANOS system

2017

ALTUS receives Operations Authorisation under HCAA regulatory framework

ALTUS establishes the HCAA accredited "ALTUS Drone Academy"

2015

ALTUS receives its first international contract for ISR Services in Kosovo



OURANOS

2014

ALTUS develops FW tactical UAS OURANOS

2012

ALTUS receives its first Service Contract with the Hellenic Police for ISR border surveillance missions and debuts UAS operations in the Greek Market

2011

ALTUS demonstrates UAS ISR capabilities to FRONTEX



ATLAS 204 N22

ATLAS 4



EDOMON





Customer Portfolio

ALTUS LSA customer portfolio & Worldwide presence



ALTUS LSA has already a significant customer portfolio that consists of major stakeholders in the **aviation, defense & security domain**.

Customer Portfolio: NATO, OSCE, EMSA, Hellenic Army, Hellenic Navy, Hellenic Airforce, Hellenic Fire Service, Qatar Emir Air Force, Israeli Defense Forces, FRONTEX, Hellenic Police, Cyprus Police, Hellenic Ministry of Civil Protection, Hellenic Ministry of Agriculture, European Commission and many other.





ALTUS Performance

ALTUS LSA extensive unmanned worldwide operations performance

ALTUS LSA is a major provider of unmanned services and products all over the globe. Significant purchases and services provision are listed below.



Significant Deployments

European Maritime Safety Agency (EMSA)



RPAS VTOL Services provision for Emissions Monitoring from land and from vessels in Europe Coastal Areas.

NATO Foracs



ARISTOTELIS USV system and training services. ARISTOTELIS USV is a remotely operated surface system, equipped with state of the art command and navigation system, RADAR, VHF voice relay, EO camera, RCS and IR enhancement device sensors.

Organization for Security & Cooperation Europe (OSCE)



Provision of UAS system for Intelligence, Reconnaissance and Surveillance (ISR), Search and Rescue, Border Surveillance, riot control, mapping for OSCE peacekeeping operations

Hellenic Navy



Provision of turnkey Aerial Targets services for the Hellenic Navy used to train Anti Aircraft defense systems installed on Navy vessels.

Major Contracts

Cyprus Port Police



Supply of 1 Hybrid VTOL UAV with related ground support equipment including extensive training of UAV operators and technicians on ISR/Maritime operations in coastal areas.

Hellenic Police



Supply of 1 multicopter drone, 2 Hybrid VTOL UAVs & related ground support equipment and transformation of VAN into undercover Surveillance System

Hellenic Army



Supply of thirty-two (32) unmanned aerial surveillance vehicles of specific characteristics for the execution of the mission of the Security Forces, in the management of the refugee crisis & provision of certified training of UAV operators

Drone Academy & Certifications

CAA Certified Drone Academy & ALTUS LSA Certifications

CAA CERTIFIED DRONE ACADEMY

- With the aim of developing a **European Center of Excellence in the field of Unmanned Systems**, ALTUS LSA has been approved as a UAS training academy according to EASA Regulation by the Hellenic Civil Aviation Authority, with registration number EL-UAS-TO-03.
- Theoretical and practical training courses according to EASA Regulation (EU) 2019/947 & (EU) 2019/945.
- Pilot training license in Open category and Specific category for UAS fixed and rotating wing.
- Collaboration with Academic Institutions to address future trends in professional development in Drone technology.



CERTIFICATIONS AND STANDARDS

- **Quality Assurance:** ISO 9001:2015 for Services Provision (Repair, Maintenance, Operations & Supply) with Unmanned Systems (Aerial or Surface) & Tow Targets. Research, Development and Production Activities of Relevant Systems. Transformation and modification of special configured vehicles (installation of integrated command and control systems). Technical Support in Specialized Software Applications.
- **Environmental Management:** ISO 14001:2015 for Services Provision (Repair, Maintenance, Operations & Supply) with Unmanned Systems (Aerial or Surface) & Tow Targets. Research, Development and Production Activities of Relevant Systems. Technical Support in Specialized Software Applications.
- **Quality Assurance:** ISO 27001:2013 for Services Provision (Repair, Maintenance, Operations & Supply) with Unmanned Systems (Aerial or Surface) & Tow Targets. Research, Development and Production Activities of Relevant Systems. Technical Support in Specialized Software Applications.
- **Occupational health and safety (OHS):** ISO 45001 is an ISO standard for management systems of occupational health and safety (OHS), published in March 2018. The goal of ISO 45001 is the reduction of occupational injuries and diseases, including promoting and protecting physical and mental health.

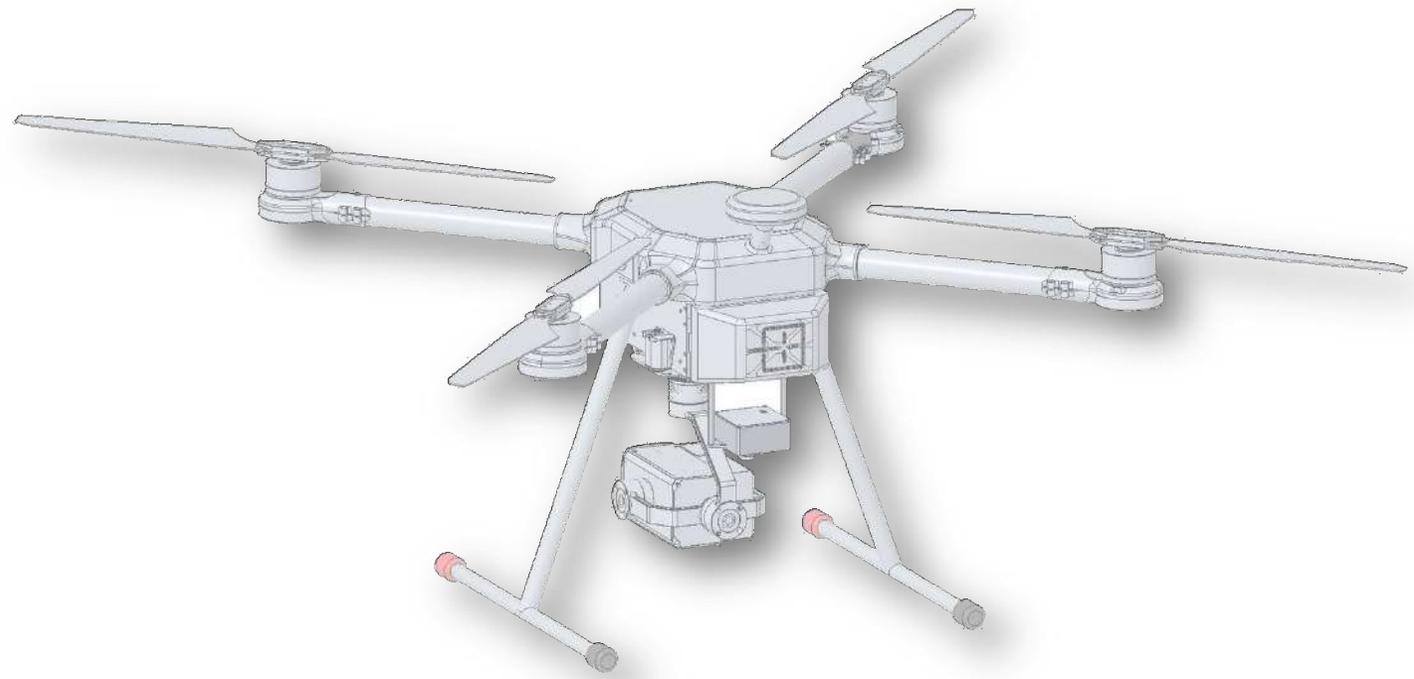




ATLAS 204 N22

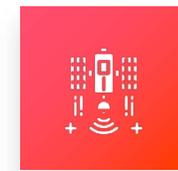
Multicopter Drone System

The **ATLAS 204 UAV**, being the smallest of the ATLAS family, is designed to deliver **highly reliable services** in the domains of **defense, security and industrial surveillance**, and agriculture mapping. The system is rapidly deployable and can also operate in **challenging environmental & electromagnetic conditions** with minimum manpower & operational footprint.



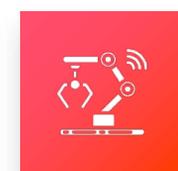
**Flight
Autonomy**

Sixty minutes (60 min)



**Max Flight
Speed**

52 mph | 82 km/h



**Flight
Range**

12 miles | 20 km





ATLAS 204 N22



TECHNICAL SPECIFICATIONS

- Dimensions (length - width - height) - folded: **258x258x345 [mm]**
- Dimensions (length - width - height) - developed: **640x640x345 [mm]**
- Maximum take-off weight (MTOW): **13700 [g]**
- Payload capacity: **5 [kg]**
- Endurance (with EO/IR payload): **Sixty minutes (60 [min])**
- Telemetry and video range: **10-20 [km] LOS**
- Degree of protection - tightness: **IP44 (upgradable to IP55)**
- Maximum flight altitude: **9,000 [ft]**
- Maximum flight speed: **82 [km/h] (52 [mph])**
- Wind resistance: **7 beaufort**
- Positioning system: **GNSS (GPS & GLONASS)**
- Frequency of communications: **2.4 [GHz] AES 128 & 256 Encryption)**
- Temperature operating range: **-10 to +50 [°C]**
- Possibility of automatic take-off/landing: **Yes**
- Number of people required: **ONE (1)**
- Battery features: **Two (2) Li-ion 22000 [mAh] (hot swap capability)**
- Navigation lights: **Yes (Green, Red and white)**

The fuselage of the system consists of **reinforced multiple layers of synthetic materials and stainless steel metals**, appropriate for vibration absorption, assignable to the corrosive environment of the sea and other stresses due to use and transportation. Furthermore, the system has **integrated automatic pilot** capable to take off and land the UAS in **fully autonomous mode**, equipped with the essential communication subsystems for transmission and reception of telemetry and image/video data; GPS for position determination through the duration of the flight and **system video image stabilization**.



ATLAS 204 N22

MULTI CONFIGURATION



Dual EO/IR/LRF camera



Bright light projector



Collision avoidance



Parachute



Ground Control Station

Windows Based

M3NTOR C3 system

10 inch FHD screen

UAV & payload command & control

Mesh radios





ATLAS 4

Multicopter Drone System

The **ATLAS 4 UAV** is designed to deliver an array of services in the fields of surveillance, industrial monitoring, **emissions monitoring**, and **small cargo delivery applications**. The system is manufactured to the highest industry standards, with **state-of-the-art mission command systems**, encrypted RF links, redundant safety systems, and a **reconfigurable payload hub** which provides the flexibility to address the needs of multiple end-users in various domains.

Video: [ATLAS 4 Demonstration.mp4](#)



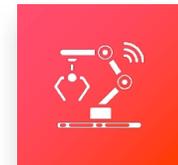
Flight Autonomy

Sixty minutes (60 min)



Max Flight Speed

40 mph | 65 km/h



Flight Range

12 miles | 20 km



EDOMON UAS

Hybrid VTOL UAV



EDOMON is a Hybrid VTOL UAV, designed to deliver reliable and efficient **ISR Operations** for the Law enforcement, Civil Protection, and Defence Market. The **EDOMON system** is designed to operate with **minimum manpower and operational footprint** and is able to operate under harsh environmental & electromagnetic conditions. The System is able to deliver enhanced ISR capabilities with the use of **EO/IR, AIS & IMSI Catcher Payloads** for an extended period of time (**up to 7 hours**) and to an extended area (**up to 60 miles**)

Video: [Edomon Demonstration.mp4](#)



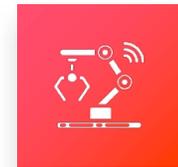
Flight
Autonomy

Seven hours (7 hrs)



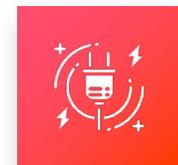
Max Flight
Speed

65 mph | 120 km/h



Flight
Range

60 miles | 100 km





ATLAS 8/H

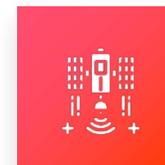
Multicopter HeavyLifter Drone System

ATLAS 8 is a heavy lifter multi-copter able to carry a **40 kg payload at a distance of 20 km**, ready to address the emerging requirements of the **small cargo (goods, weapons, search and rescue means, etc)** and last mile (commercial products) transport market. **Atlas 8/H** employs design features and operational experience from the smaller members of the ATLAS family of UAVs and provides the end user **with the best weight to mile to cost ratio** as well as the inherent ability to comply with the **EU 945 and 947** certifications directives in the specific category.



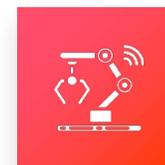
Payload Capacity

Forty kilos (40 kg)



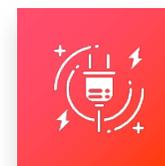
Flight Endurance

20 minutes
(max payload)



Flight Range

20 km





ATLAS 8/H



ATLAS 8 was conceptualized and designed to fulfil missions that require the **transport of heavy payloads** of up to 40kg (88 lbs). The redundancy and reliability offered by its **8 extremely powerful motors** along with its robust design and sophisticated modular payload bay make **ATLAS 8 a platform with unlimited potential**. Beyond heavy freight transport, the on-board industry-leading advanced control systems will allow **precise mid-air deployment of passive or active cargo** making it a perfect candidate for a **wide range of weapon systems and resupply operations**.

TECHNICAL SPECIFICATIONS

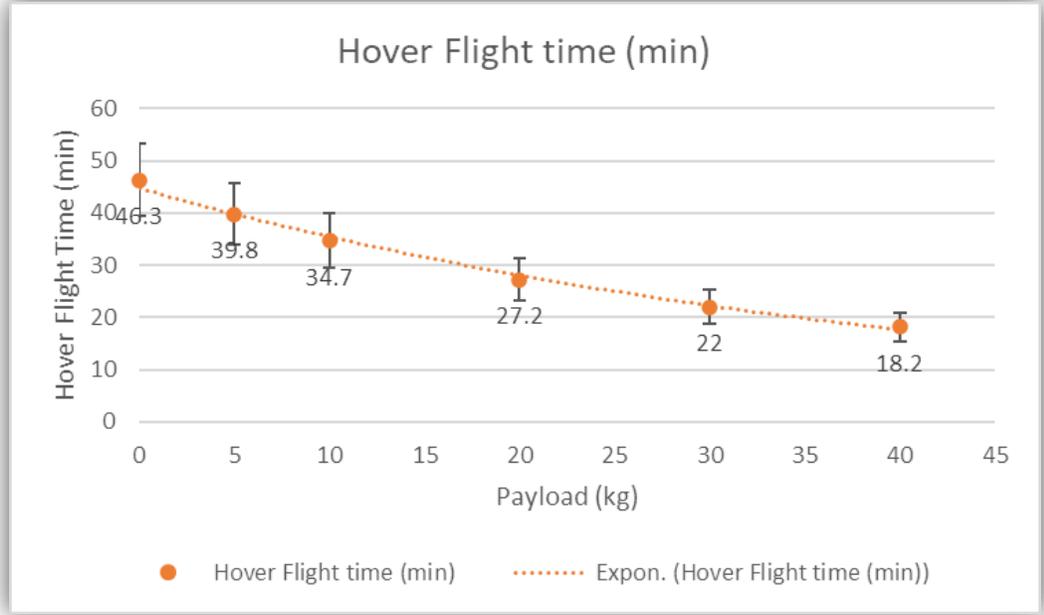
- Dimensions (length - width - height) - folded: **920x780x380 [mm]**
- Dimensions (length - width - height) - developed: **2290x2400x680 [mm]**
- Maximum take-off weight (MTOW): **90 - 150 [kg] (depending on configuration)**
- Endurance (at max payload): **Twenty minutes (20 [min])**
- Telemetry and video range: **20 [km] LOS**
- Degree of protection - tightness: **IP44 (upgradable to IP55)**
- Maximum flight altitude: **16,400 [ft]**
- Maximum flight speed: **79 [km/h] (49.1 [mph])**
- Positioning system: **GNSS (GPS & GLONASS)**
- Frequency of communications: **2.4 [GHz] (AES 128 & 256 Encryption)**
- Temperature operating range: **-20 to +60 [°C]**
- Possibility of automatic take-off/landing: **Yes**
- Number of people required: **TWO (2)**
- Battery features: **20S3P 111000 [mAh]**
- Navigation lights: **Yes (Green, Red and white)**



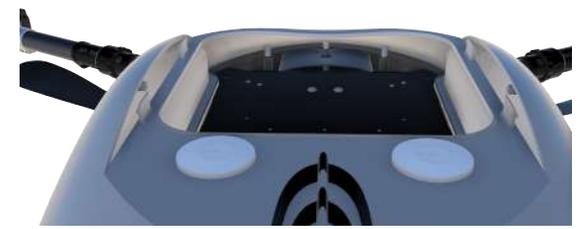
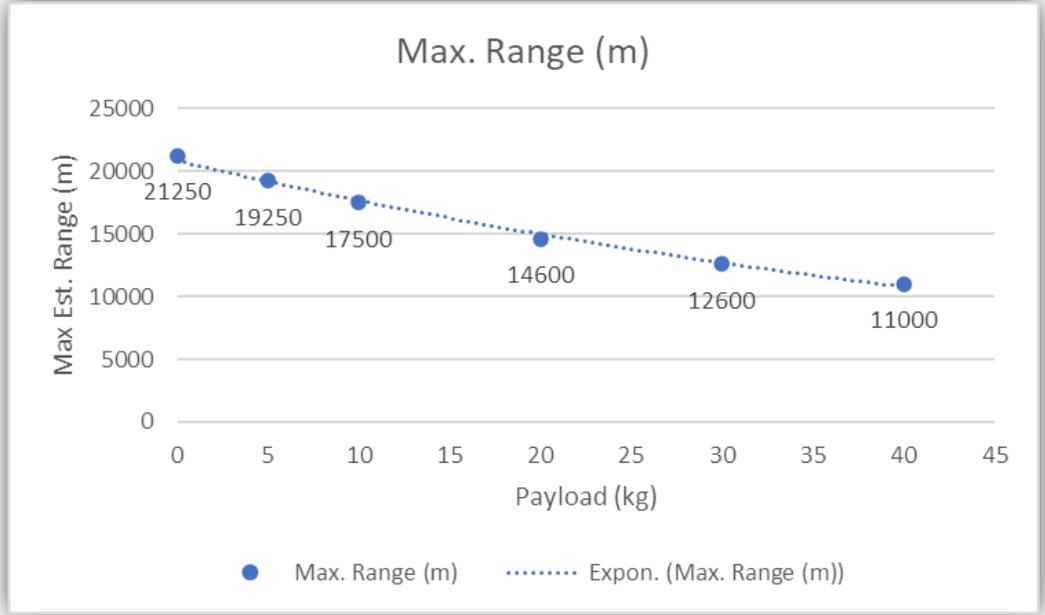


ATLAS 8/H

Est. Endurance (Hover Time) with Variable payload



Est. Range with Variable Payload





Software Suite

M3NTOR is an innovative network-centric, hierarchical, **C3 assets and mission management system** designed to exploit data originating from multiple assets in a 3D projected environment, **interconnecting heterogeneous sensor networks** (unmanned systems, cameras, radars, logistics monitoring, etc) which through the extensive use of **advanced AI and Machine Learning algorithms** will provide users in various places in the hierarchy not only with an **advanced decision-making tool** but also an operational planning assistant based on up to date and cross-referenced information from all the sources available to the system.

Assets

Assets Management
Capabilities



Operation

Operations Management
Capabilities



Artificial Intelligence Algorithms





M3NTOR



- ✓ **Battle** management
- ✓ Fast **coordination** of units
- ✓ **Resources** monitoring
- ✓ **Logistics** monitoring



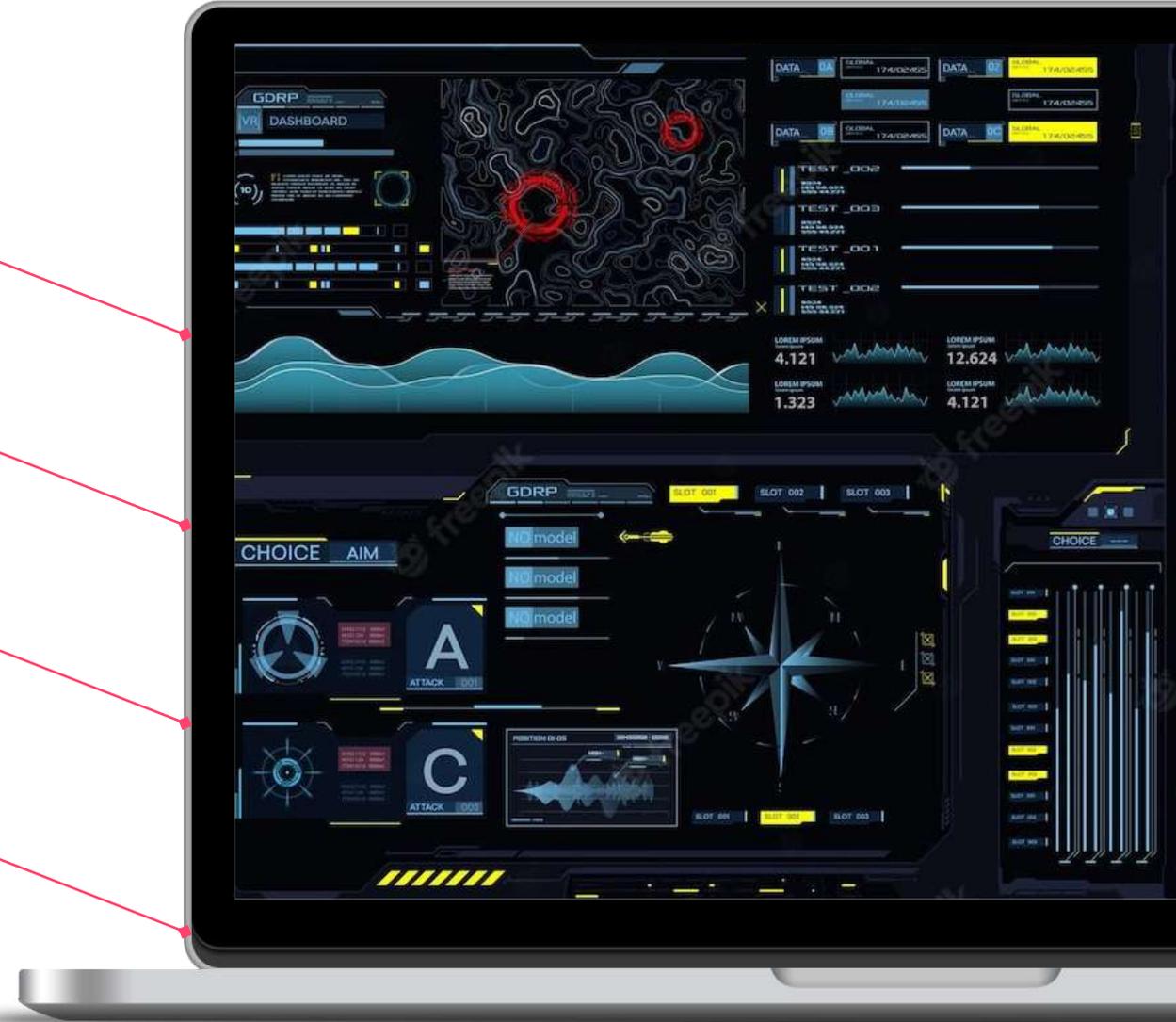
- ✓ **ISR** gathering - storing - querying - relaying



- ✓ **UxV fleet** management
- ✓ Temporal Geospatial **Database**



- ✓ Distributed/Centralised control of **operations**
- ✓ **Swarming** Coordination



Decision Making through Machine Learning



M3NTOR

The Solution

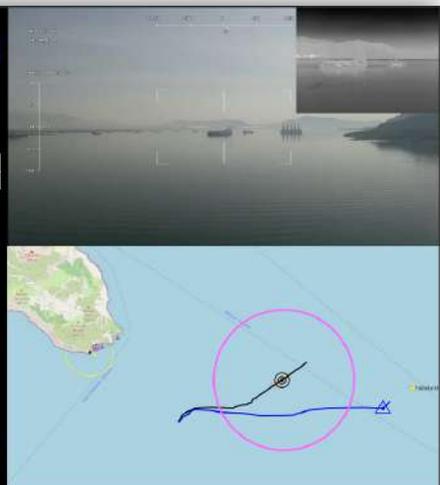
- ✓ Interconnection of **disparate systems** (NETWORK CENTRIC) (Radar, vehicles, helicopters, RWS, outposts, staff, UAV)
- ✓ Direct **coordination of units** belonging to different direct administration Infantry - Artillery - Logistics
- ✓ **Direct flow of information** vertically / horizontally Information Collection (Sensor Data/Reports)
- ✓ Planning in **SPACE AND TIME**
- ✓ M3NTOR **adapts to the structure** (hierarchy) and processes of the organization it serves and NOT the other way around.



Current Deployments

- ✓ **FRONTEX** - Immigration Flows Monitoring
- ✓ **CIVIL PROTECTION** - Mytilene, Samos, Chios
- ✓ Connection with **Centric M3NTOR Node**
- ✓ On **all** ALTUS LSA Uav's from 09/2023

TIME	ALL TIMES	DATE				
13:00	ZULU	26APR23				
CALLSIGN						
KRAKEN	MOTHERSHIP	CP905 PELUSO				
EAGLE	RPAS	ATLAS 4				
CONFIGURATION / PAYLOAD:						
EO/IR/LRF	DROP	PROJECTOR	AIS	ADS-B	PARACHUTE	FLOTATION
FITTED	N/A	N/A	FITTED	FITTED	N/A	FITTED
RPAS STATUS			LAT=00 00.00 N	LONG=000 00.000 E		
TAKEOFF TIME:	MAX FLIGHT TIME ENDURANCE:	CHARLIE TIME:	FLIGHT TIME LEFT:			
1245	00:45	1330	0:30:12			
SPEED	HEADING	ALTITUDE	DISTANCE	BEARING		
20 kts	048°	380 ft 116 m	2.3 nm	124°		
FLIGHT COURSE:				350 / 5		
WEATHER AND MID SEA STATE						
WIND SPEED	HEADING	WH	DIRECTION		VISIBILITY	
11 kts	342°	2 m	NW		GOOD 10 nm	
SUNRISE	SUNSET	MISSION IMPACT DIAGRAM		GREEN		
0542	2012					



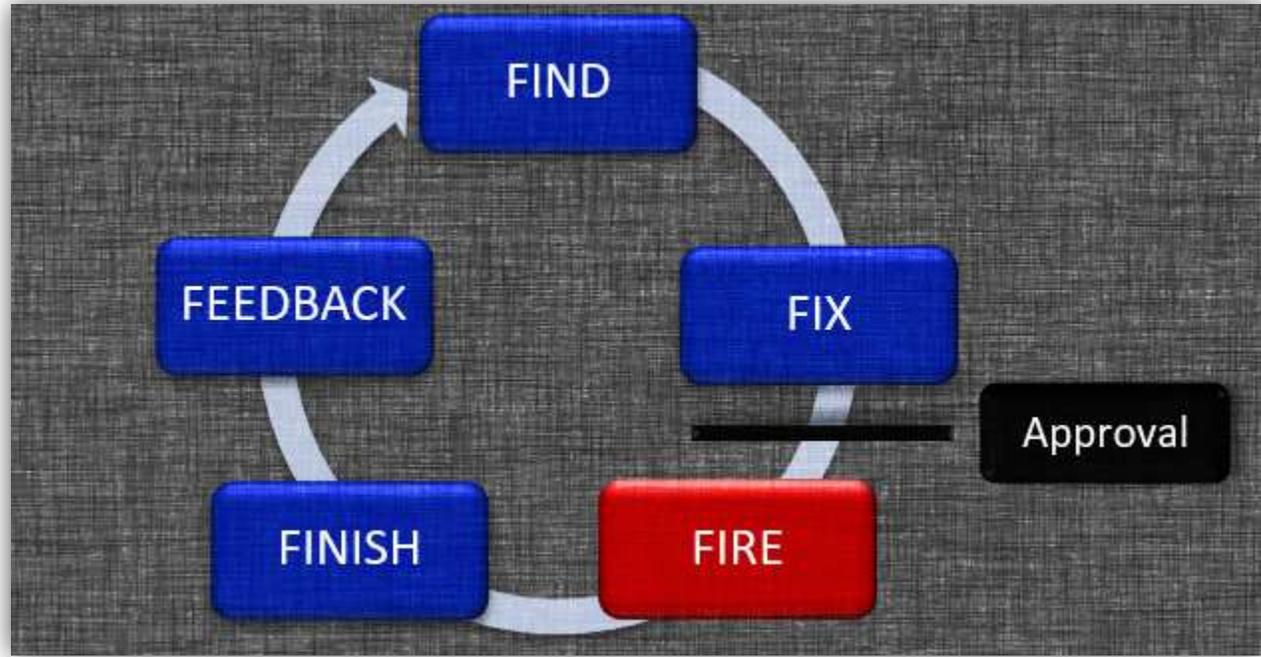


M3NTOR

Database
GIS
Graphs - Virtual Instruments
3D Engine
Point Cloud

Application & Capabilities

Video
Perception Level AI
Kill Chain
Detect, Track, Engage, Assess
Swarming



Advanced Capabilities



Payloads

Multiple EO / IR payloads & IMSI Catcher

Functions:

Target georeferencing and automatic monitoring

AI Features:

- Detection of changes
 - Fire detection
- Identification (person, vehicle, etc.)
 - Abnormal behavior

Direction Finder IMSI Catcher:

- 2G (GSM)
- 3G (UMTS)
- 4G (LET)



Mobile Centers

Mobile Command Centers

Tailor made Mobile command Center solutions

Integrated with our **UAV line-up** for transportation - charging - maintenance & **field operations**



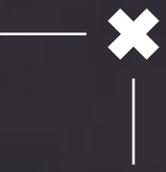
Drone Hangar

Drone-in-a-box Solution

Completely autonomous system for running operations with minimum footprint

Features:

- Automatic charging base & weather station.
- No human interaction to charge the batteries
- Built-in meteorological station for pre-flight meteorological data
 - Waterproof



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