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ARKORY

Autonomous Robotics

Advanced Maritime PERimeter Security

AMPERS

- Use case: Offshore Oil and Gas -

A system composed of UAVs, UVS, and various other robotic technologies with an impeccable level of integration.

"In Sight for a Better Understanding"

AUTONOMOUS

FLIGHT TECHNOLOGIES

Contact doug@droneintel.net or carlos@droneintel.net for more information

ARKORY
Autonomous Robotics

AMPERS
Integrated System

Purpose:

Perimeter protection of a marine area with the ability to identify, mark and neutralize threats on the water or in the air.

Components:

- Unmanned aerial vehicles (UAV);
- Unmanned sea vehicles (USV);
- Anti-drone system (C-UVS)
- Ground Control Stations (GCS)

Operational concept:

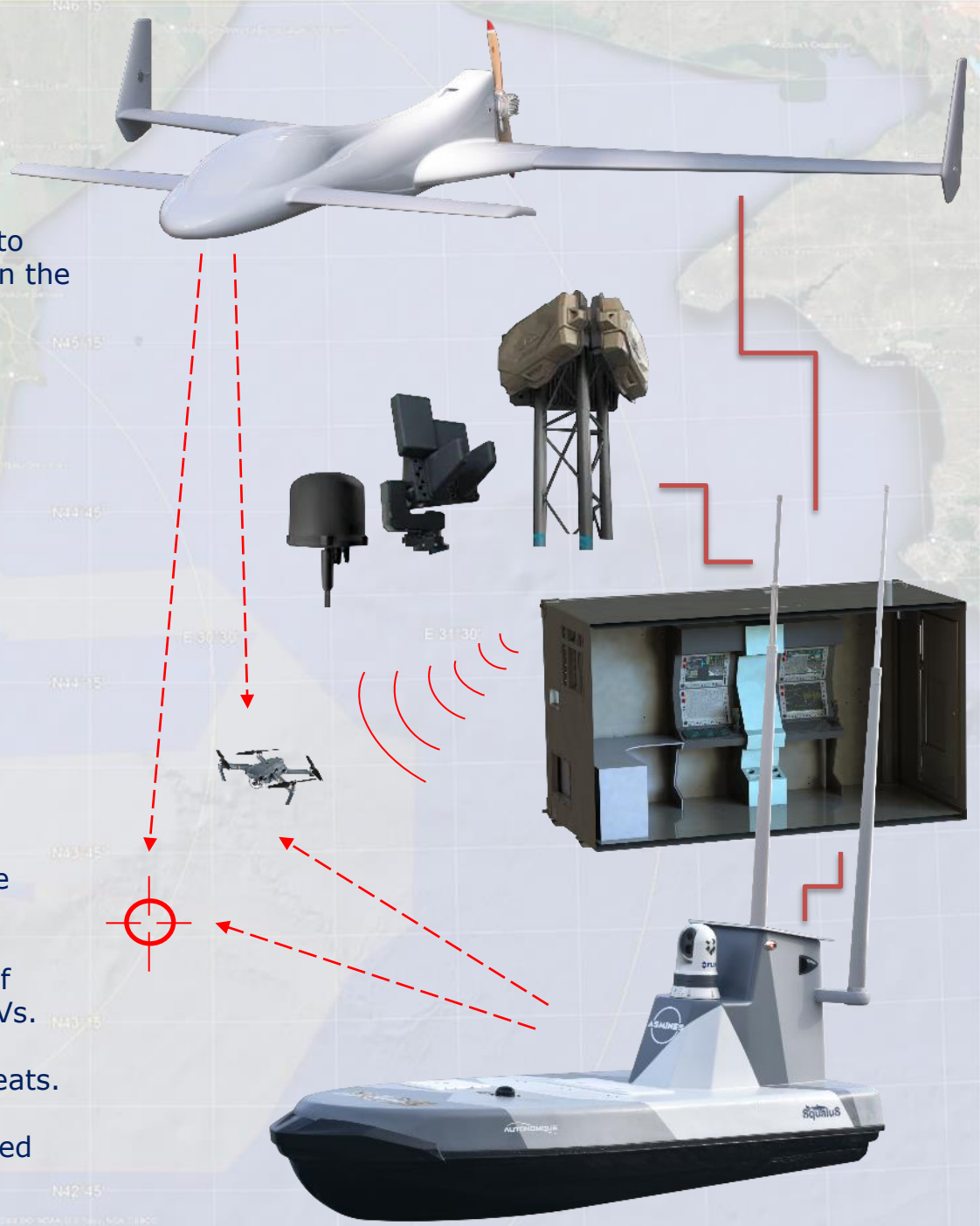
UAVs detect targets and make an initial identification.

USVs intercept, identify and mark threats, for example drifting mines.

The marking of drifting threats is done with the help of drones launched and recovered on the deck of the USVs.

If necessary, the USV is capable of towing drifting threats.

The C-UVS system detects and jams remotely controlled vehicles that threaten protected objectives.



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Stingray 450 USV

Stingray 450 USV is the main intervention vehicle in this concept. It will be able to **work in swarms.**

It is a configurable platform for different types of actions:

- Mine marking (carrier of specialized drone for this job)
- Towing mines in groups of two with a mine hooking net system;
- Radio communication platform;
- Submersible inspection platform (it will be able to carry, launch and recover a small cable-controlled underwater robot.

With optional equipment it will be able to perform many other missions:

- Rescue - by launching life rafts pulled by it,
- Discouraging rogue activities,
- Fire fighting platform

Autonomy: > 300 miles;
Radio range: > 200 km, LOS;

Cruise speed: 35 miles/h;

Dry weight: 450 kg;
Propulsion: 170 Hp internal combustion engine.

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Signus 150 UAS

Autonomy:	>12 hours;
Radio range:	>200 km, LOS;
Cruise speed:	90 km/h;
Flight altitude:	3000 m
MTOW:	150 kg;
Propulsion:	32 Hp IC engine.

Signus 150 UAS is a platform initially developed in partnership with Airbus Defense

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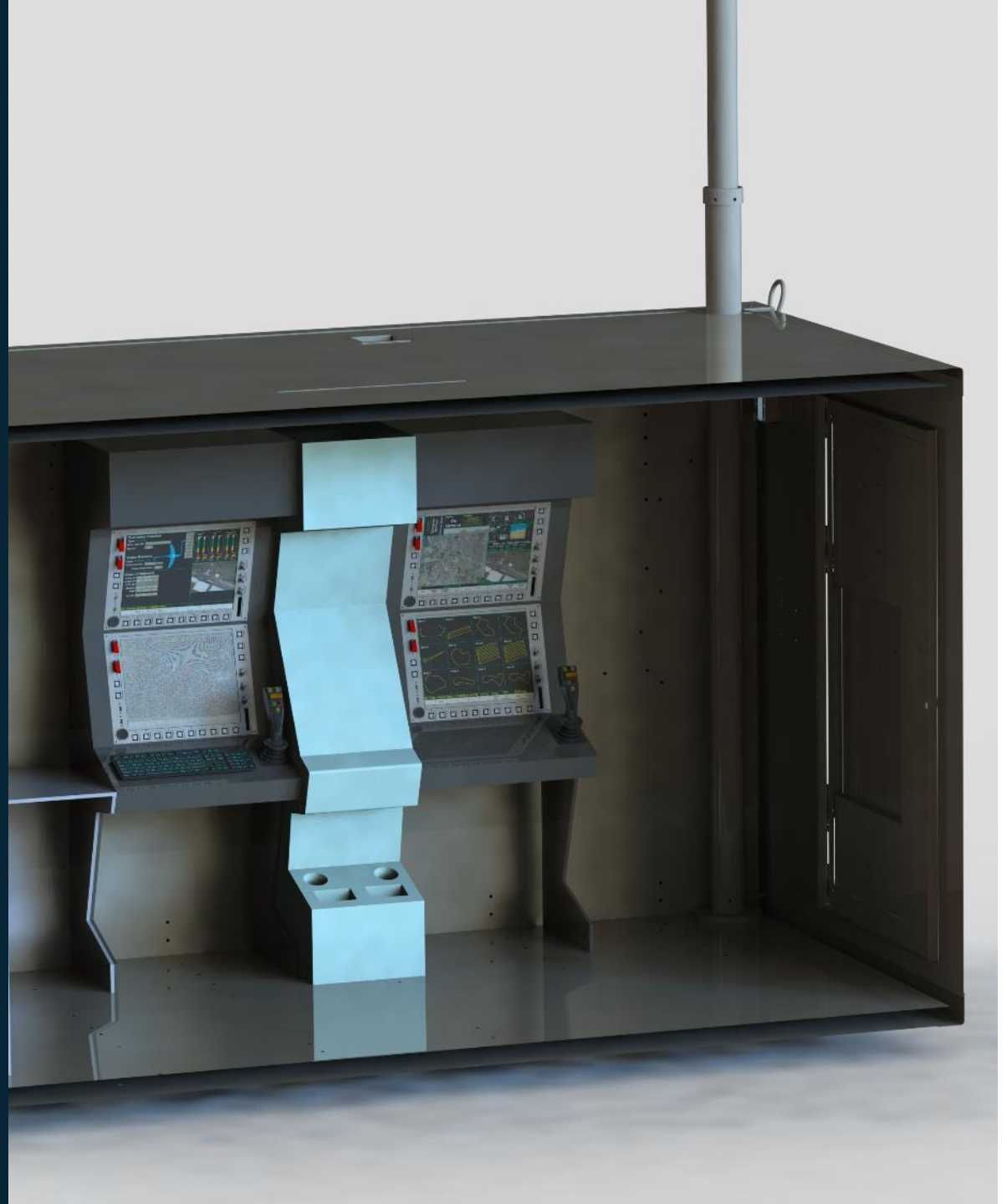
GCS

Shelter-type concept



The concept is based on MFD (Multi Functional Display) modules designed for ease of operation. The Ground Control System (GCS) contains all the necessary capabilities required for managing the entire system:

- Vehicles management system;
- Payloads management functions;
- Radio and satellite communication system;
- Safety management system .

The module can be organized both as portable / stand-alone GCS or as module inside a command shelter, on board of other vehicles, to perform specific functions.

Thus, as a shelter-type organization, these modules can provide multiple functions for system operators.

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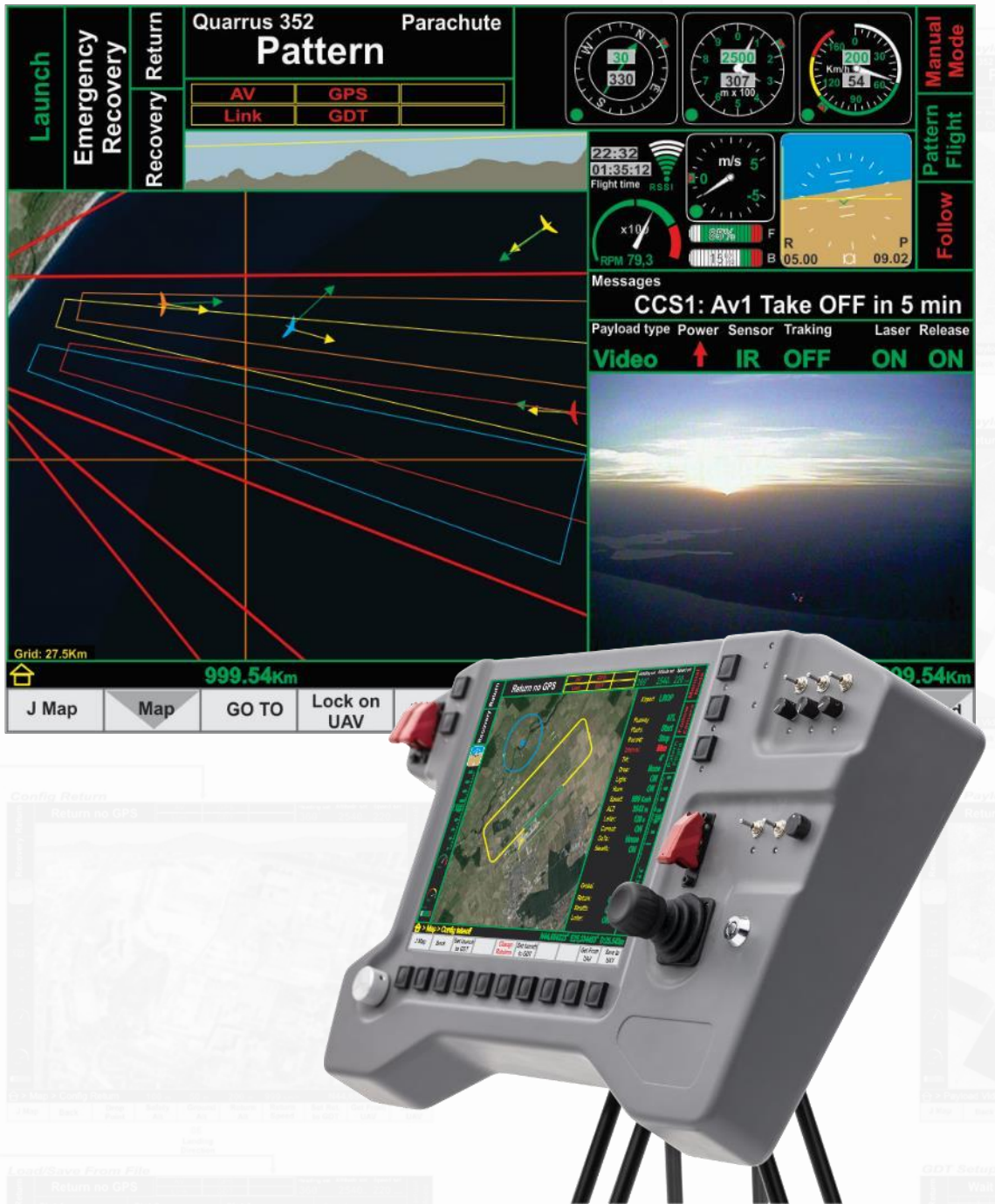
Software

The “command and control” software and automatic pilot for UAS was developed by AFT over 10 years of R&D and it is NATO standard compliant.

The system meets all the requirements of complex missions. It has a modularity and level of integration that is rarely found in such systems.
This provides great **robustness and scalability**.

System includes as standard option the ability to **operate several UVs simultaneously**.

It is made according to NATO standards for interoperability, which ensures integration with other military command and control centers



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Multiple GCS

Multiple Ground Control Stations can be interconnected over an IP network. With the help of the appropriate infrastructure, such a connection can be made even via the Internet.
Integration with “Command and Control Centers” is therefore particularly easy.
The **collaborative** way of working between different operators is intuitive. Any operator intervention is replicated automatically in all terminals connected to the system.

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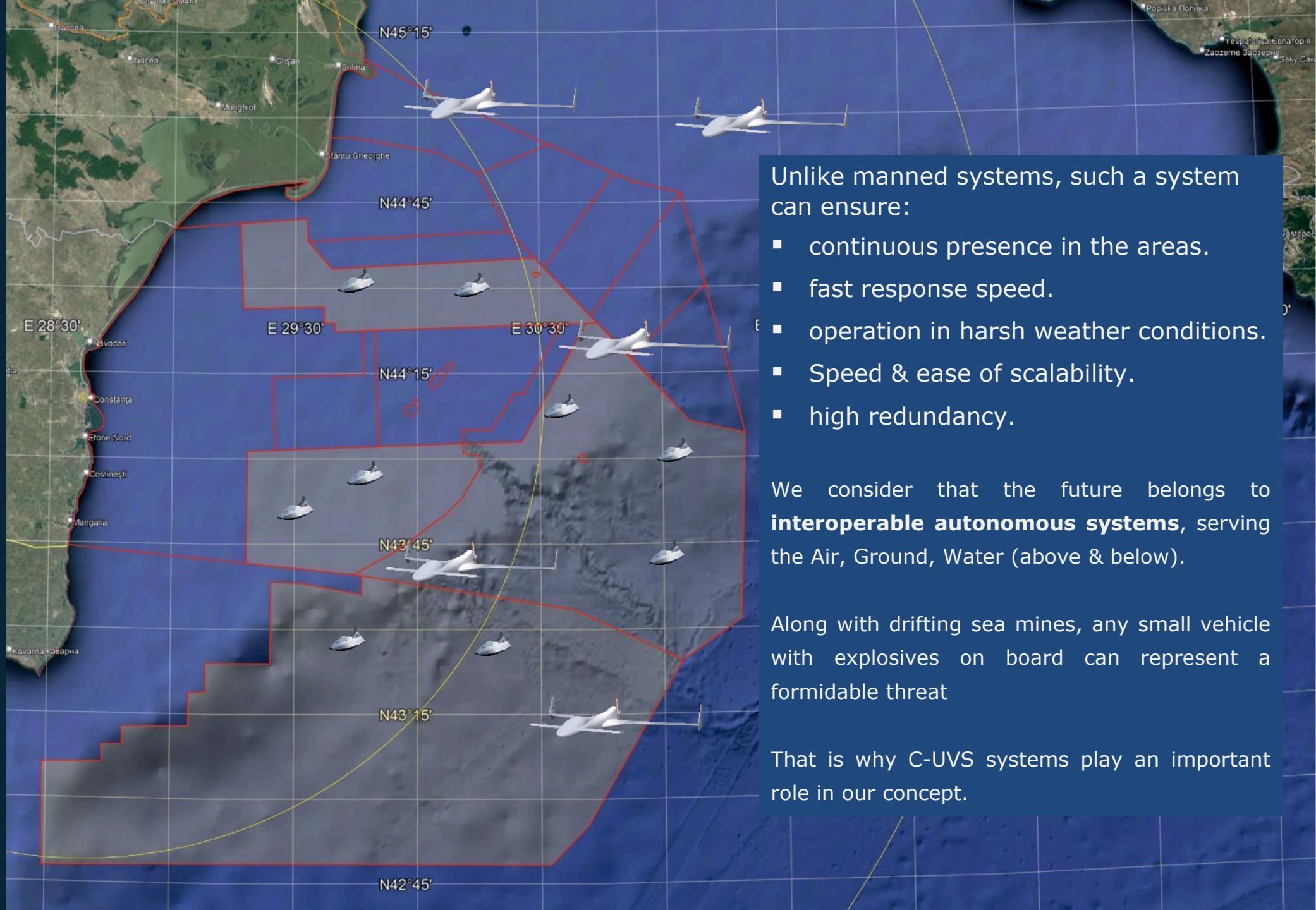
Why unmanned?



Unlike manned systems, such a system can ensure:

- continuous presence in the areas.
- fast response speed.
- operation in harsh weather conditions.
- Speed & ease of scalability.
- high redundancy.

We consider that the future belongs to **interoperable autonomous systems**, serving the Air, Ground, Water (above & below).

Along with drifting sea mines, any small vehicle with explosives on board can represent a formidable threat

That is why C-UVS systems play an important role in our concept.

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Why us?

UAS & C-UAS
EXCELLENCE CENTER

Our mission is precisely to offer **defense solutions** in a viable philosophy that is more recently defined by the word "**resilience**". That's why we have this vertical approach to our R&D processes.

And for this reason, as well, we actively acted to achieve **strong partnerships** with any private or public organization that believes, like us, in this philosophy…

That's why in the present we work in close relation and benefit from the support of Romanian National Security experts

High level of interdisciplinarity.

20 years of experience.

High capabilities in complex technical projects**.**

Real and deep know how in field of **autonomous vehicles.**

The ability to gather powerful teams with experience in **defense projects**.

AFT is founding member of the **Romanian Counter-UAS Excellence Center**

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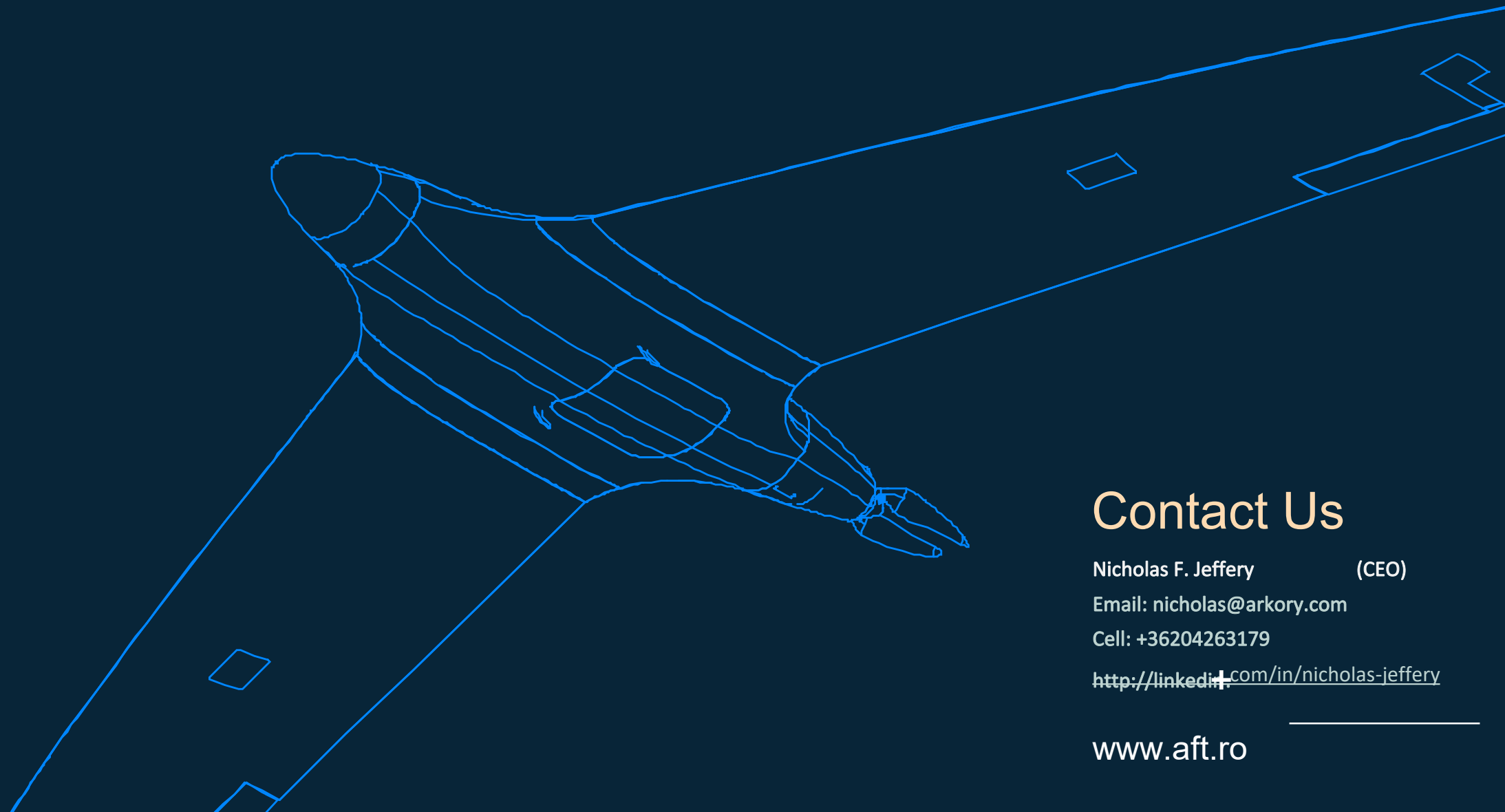

Contact Us

Nicholas F. Jeffery (CEO)

Email: nicholas@arkory.com

Cell: +36204263179

http://linkedin.com/in/nicholas-jeffery

www.aft.ro

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