



Communication from the Commission

on countering potential threats posed by drones

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Eurocontrol WS, 4 November 2024

Drones: Dynamically growing threat

Lone wolves' Olympics have begun with the Will of Allah



Shahed-136 drone

Max range: 1,550 miles
(2,500km)
Max speed: 115 mph
(185 kmph)

Wingspan: 8.2 ft (2.5m)
Warhead weight: 66-110 lb
(30-50kg)

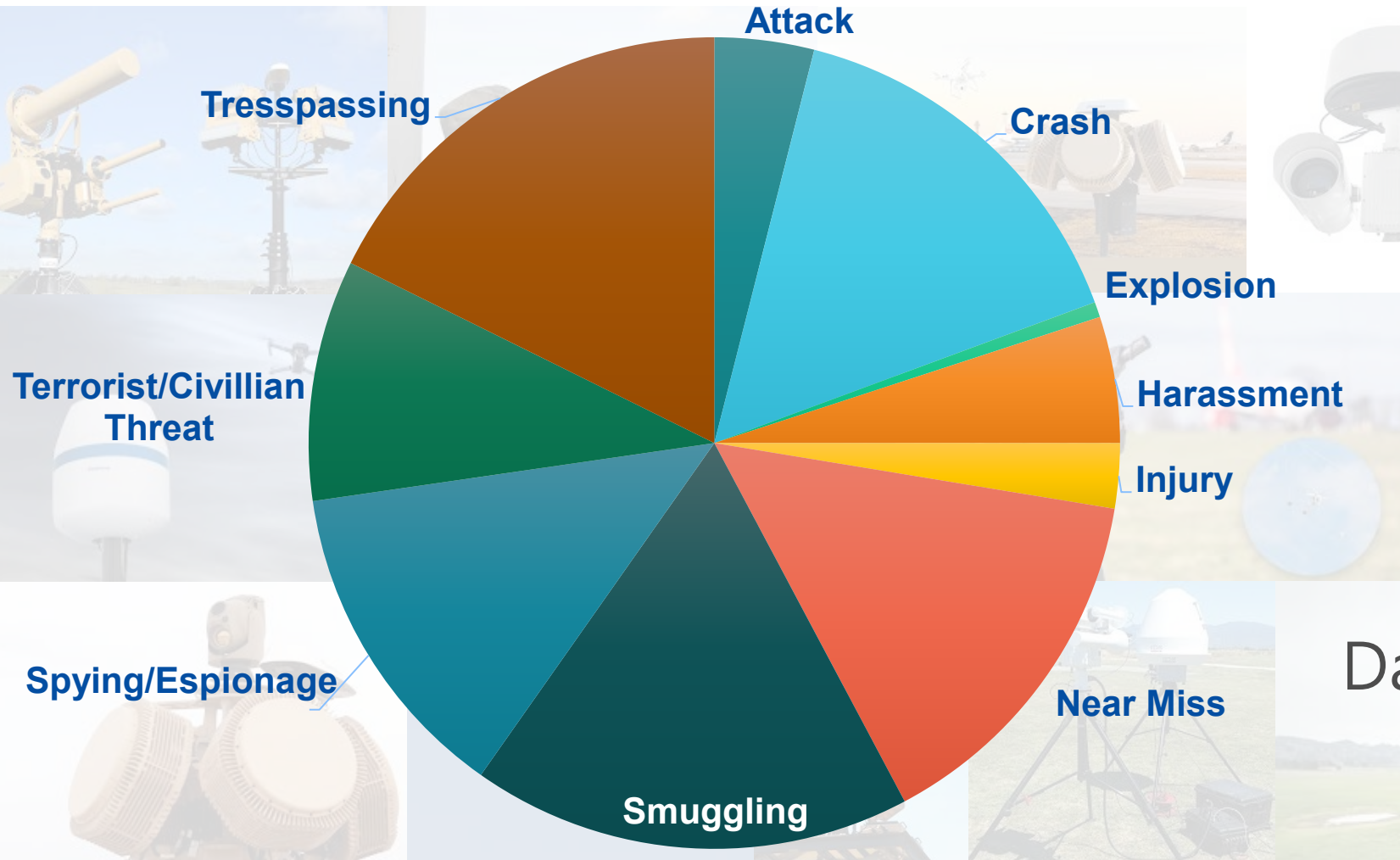


Source: Defense Express, Getty Images

No single “*silver bullet solution*”

- Different technologies used comprehensively to cope efficiently with the threats posed by non-cooperative drones
- Solution : **INTEROPERABILITY**
- **Ideal C-UAS system:**
 - Very early detection, minimum false positive
 - Quick and easy deployment of a C-UAS system
 - Low risk of collateral damages
 - Record functionalities for incident after action analysis
 - Reliable and robust
 - Capability of facing multiple drone threats in parallel
 - Capability to recognise and distinguish legitimate drones

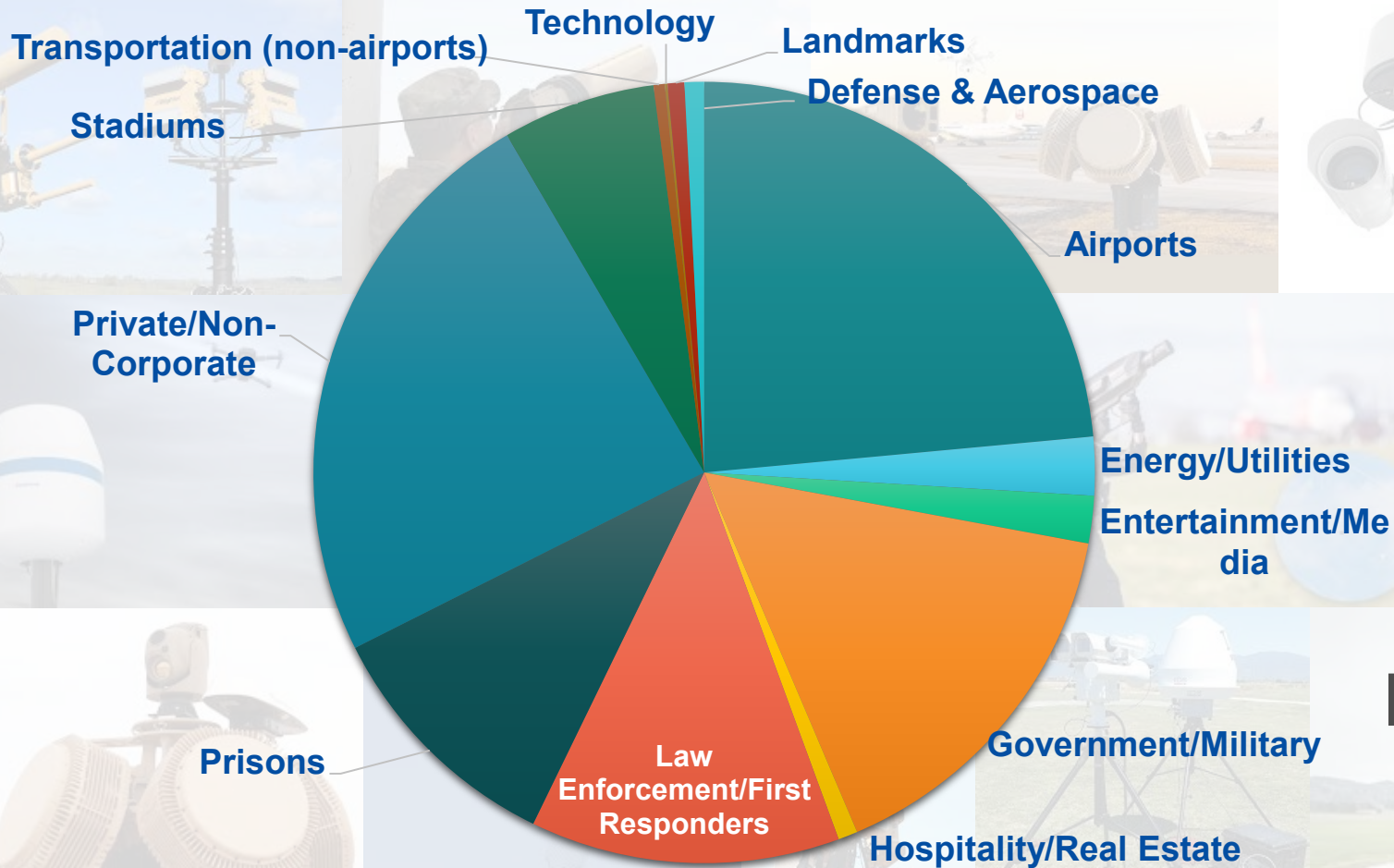
What Types of incidents?



Database > 800 incidents

Source: the COURAGEOUS project

What are the Targets?



Database > 800 incidents

Source: the COURAGEOUS project

Technology type	Strengths	Weaknesses
RADAR	Detection of relatively small drones at long range	Expensive, sensitive to refraction in urban environment, active sensors, not deployable everywhere (hospital), no pilot detection
RF Detection	Very effective at detecting and identifying drones and pilot passive sensor ,cheapest solutions, mobile	Can be spoofed using low cost devices and open software
Acoustic	Effective in identifying drone types through rotator/propellor,	Limited in range Can be confused with other acoustic signals/no location or track
INFRARED	Detection of drones through heat signature	Infrared frequencies are affected by hard objects (e.g. masts, glass) , smoke, dust, fog, sunlight etc.
Optical-Video	Effective at identifying individual drone types	Requires good weather conditions and direct line of sight
Net capture systems	Reduced risk of collateral damage	Limited range “one shot” capability
Jamming	Relatively low cost Portable	Interference with nearby communication systems

C-UAS technologies strengths vs weaknesses

Technology type	Strengths	Weaknesses
Counter drone-Drones	Very precise engagements	Expensive, Reliance on accurate targeting, active sensors, collateral damages,
Munitions and missiles	Can be adapted to C-UAS ops with training	Military environment few civil applications, reliance on accurate targeting, heavy risk of collateral damages, not effective vs small drones
Directed energy	Very precise engagement	Still in its infancy, expensive, need for high power and accurate long-range targeting, weather limitations, mainly military application
Cyber take down	Effective and precise of disabling non-cooperative drones Identification of drones and operators	Legal constrains (need for a court order since is a hacking of IT devices), ineffective vs 5G

EU COMMISSION'S C-UAS "PACKAGE"

A Drone Strategy 2.0 for a Smart and Sustainable Unmanned Aircraft Eco-System in Europe

DG HOME

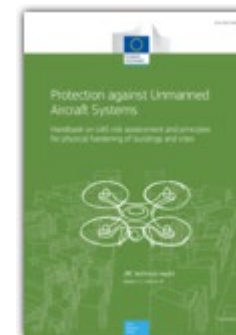
COMMUNICATION FROM THE COMMISSION
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[EUR-Lex - 52023DC0659 - EN - EUR-Lex \(europa.eu\)](#)

JRC GEEL

[Protection against Unmanned Aircraft Systems: Handbook on UAS protection of Critical Infrastructure and Public Space - A five Phase approach for C-UAS stakeholders](#)

JRC ISPRA

[Protection against Unmanned Aircraft Systems: Handbook on UAS Risk Assessment Principles for Physical Hardening of Buildings and Sites](#)



Formulating an EU counter-drone policy

Community- building & information sharing	Testing of counter-drone systems	Practical guidance & operational support	Research & innovation	Funding support	Regulatory measures
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C-UAS Communication implementation timetable

C-UAS Package adopted
18 October 2023

Midterm stocktaking by
2027

Full revision of the EU's counter-drone programme 2030

— The JRC will publish two handbooks as part of the C-UAS package ✓
Q4 2023

— The Commission will set up a C-UAS Expert Group ✓
Q1 2024

— The Commission will develop a digital platform containing info on drone incidents ✓
Q2 2024 (draft platform presented to the EG by JRC)

— The Commission will compile an annual report on C-UAS technical developments ✓
Q2 2024 (draft report presented to the EG by JRC)

— Voluntary performance requirement for C-UAS systems ⚠
Q4 2024

— The Commission will work on implementing a harmonized testing methodology ⚠
Q2 2024 (ISF Protect Call)

— The Commission will organise meetings for the exchange of classified information in DG HOME secure zone ⚠

— The Commission launched a call for proposal- Protect Call 2024 ✓

— MS encouraged to implement their ISF programs for 2021-2027 ⚠

— Update of the current aviation security rules (MOVE) ✓

2023

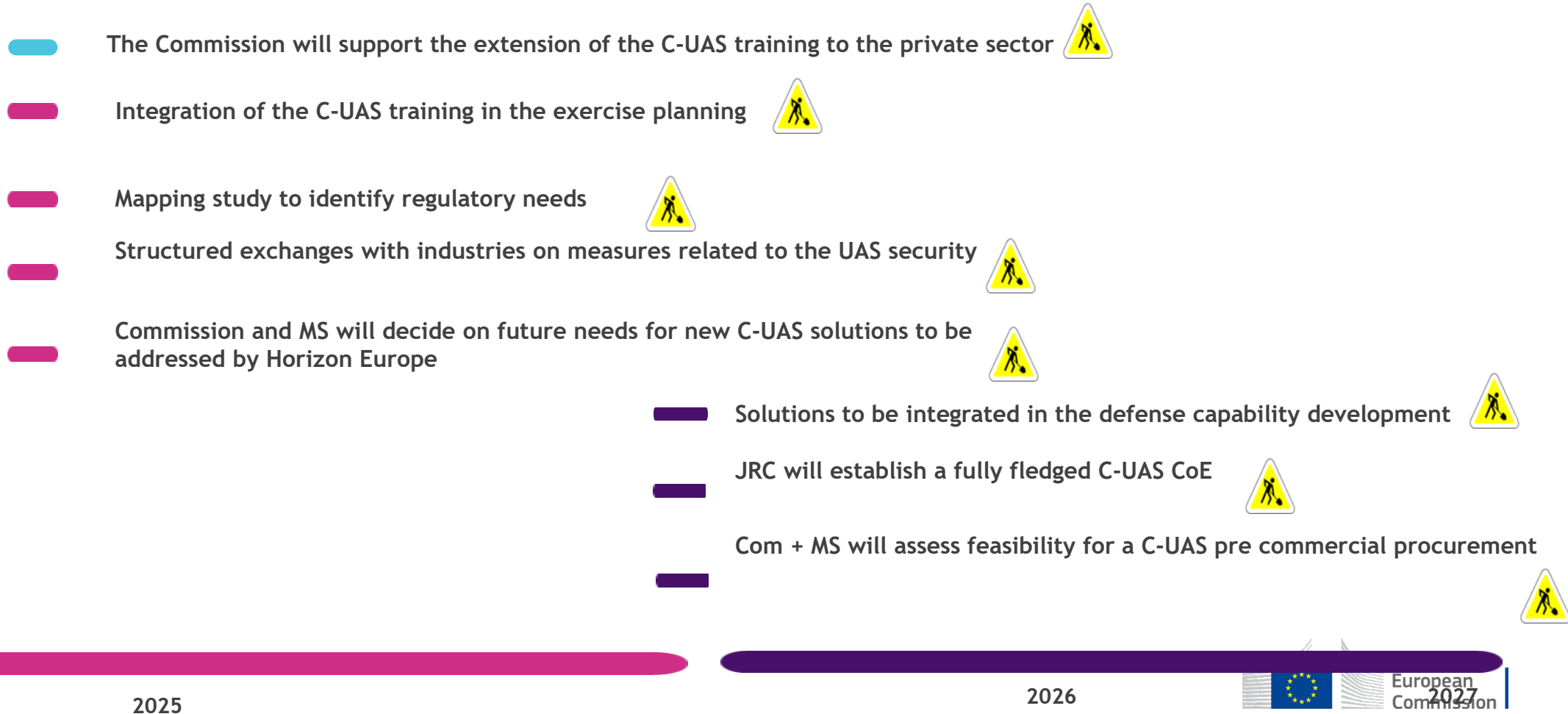
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Thank you for your attention!

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