



Towards an EU Programme to counter the threat posed by Drones

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Drones as a possible threat

Russian KZ-6 shaped charge

KZ-6



ORDNANCE SUB-CATEGORY	Detonation Charge
EXPLOSIVE FILL (g)	1800g TG-40
AJW (g)	3000g
DIMENSIONS (mm)	232x112
COUNTRY OF ORIGIN	Russia



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: Defence Express, Getty Images...

Some examples of malicious use*

(Intellectual property) theft

(Dirty) bomb

Surveillance

Smuggling

Command and control

Cyber-offensive platform

Inciting panic/unrest

Stalking/harassment

Kinetic projectile

+ the «clueless» & «careless»

*Potential malicious users include: OC, terrorists/terrorist organisation, lone actors

From 16 grams to 15 tons



Black Hornet military nanodrone (Norway)



Global Hawk (US)

Our focus – COTS & DIY

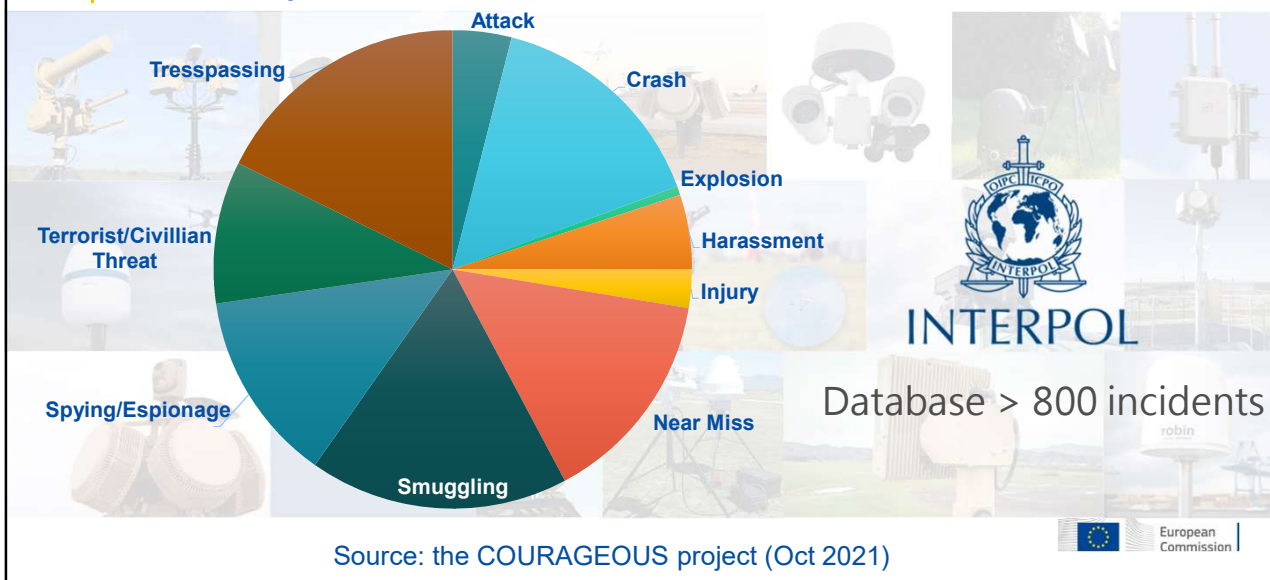


A rapidly evolving drone technology

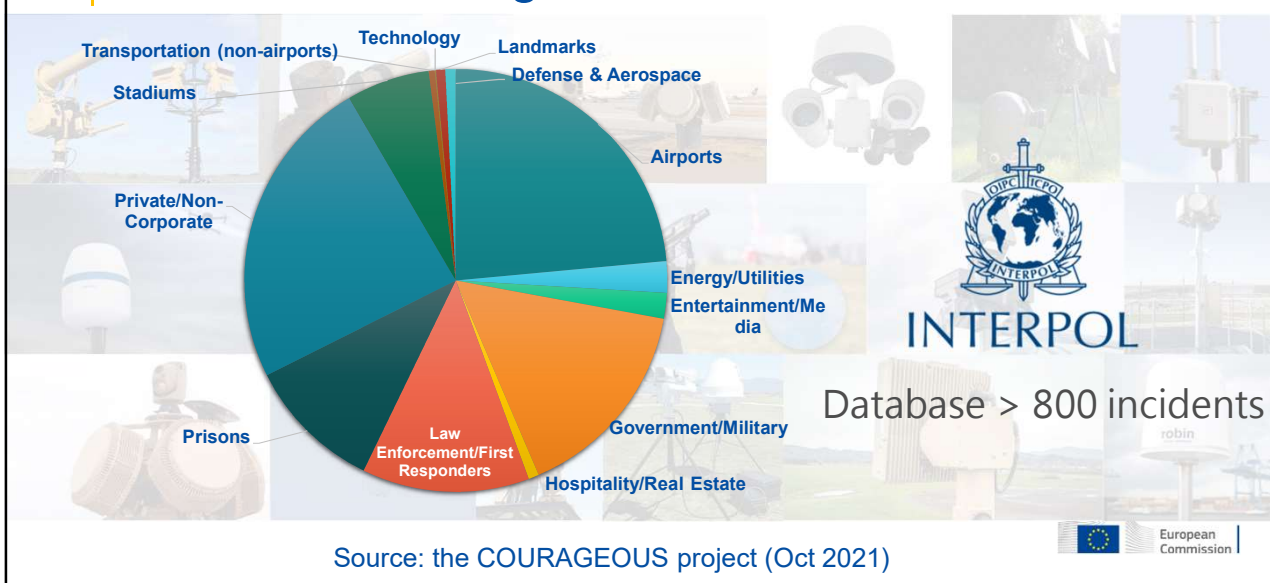
- Beyond-visual-line-of-sight (BVLOS)
- Longer range/flight time
- Faster
- Greater load capacity
- Increased autonomy
- Swarm capability
- Enhanced payload capabilities (cameras, facial recognition software, etc.)



What Types of incidents?



What are the Targets?



DG Migration and Home Affairs (DG HOME)

- ❖ Use of commercial drones by **terrorist groups** in Syria-Iraq, the many airport incidents, criminal acts as well as several terrorist threats and plots, and more recently the war in Ukraine...
- ❖ The need for adequate protection against drones is stated clearly in general policy:
 - The 2017 EU **Action Plan to support the protection of public spaces**.
 - The 2020 EU **Security Union Strategy** as well as the **Counter-Terrorism Agenda**.
 - The 2022 **Drone strategy 2.0 for Europe** (sustainable and smart mobility).
- ❖ Provide **support** to EU Member States, mainly **funding** of projects and studies.
- ❖ Currently we are at 2 **stakeholder meetings/workshops** per year.



EU COMMISSION's C-UAS "PACKAGE"

DG MOVE

DRONE STRATEGY 2.0 (29 Nov 2022)

- Communication & SWD
- Including introduction of C-UAS

Protection against Unmanned Aircraft Systems package

DG HOME

COUNTER-UAS COMMUNICATION (Q2 2023)

- Drones and C-UAS in the EU
- The future of C-UAS in the EU

JRC GEEL

Protection against Unmanned Aircraft Systems
Handbook on the protection of Critical Infrastructure and Public Spaces
 "A five Phase approach for C-UAS stakeholders"

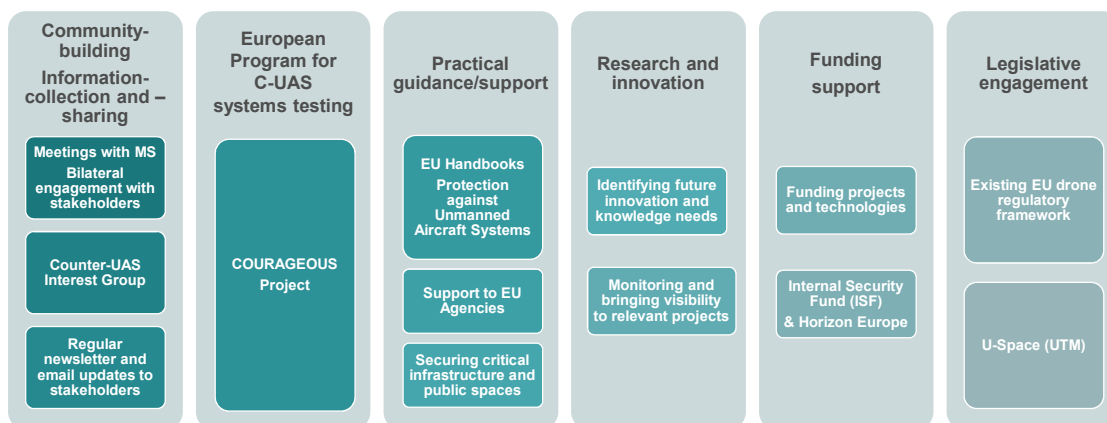
JRC ISPRA

Protection against Unmanned Aircraft Systems
Handbook on UAS Risk Assessment & Principles for Physical Hardening of Buildings and Sites

- Coordinated approach
- Same language/wording
- Consultation with stakeholders and the public
- Publication first half of 2023



DG HOME's Counter-drone activities



Skyfall project



This EU funded project developed a European Counter-UAV matrix, to carry out benchmark testing of existing C-UAS systems, and created a C-UAS training curriculum.

Two courses using this curriculum and counter-drone equipment were organised in September and October of 2021.

Participating authorities: Antwerp police, the Romanian gendarmerie, the Belgian Federal Police, and the Brussels-Ixelles police

<https://www.projectskyfall.org/>





The DroneWISE project

Counter-UAV for first responders:

- Command, Control and Coordination Strategy
- Training modules (online&physical), including tactical options and decision-making frameworks
- Training Handbook
 - Training modules accessible via an online training portal
 - Free for Law Enforcement Agencies
 - Basic modules in English + tailored modules in 4 EU languages

<https://dronewise-project.eu>



The DroneWISE portal

- Module 1: An introduction to the modules
- Module 2: Terrorism and attacks on public spaces
- Module 3: Unmanned Aerial Vehicle threat landscape
- Module 4: Unmanned Aerial Vehicle technology
- Module 5: Counter Unmanned Aerial Systems (C-UAS) technology
- Module 6: Unmanned Aerial Vehicle Legislation & Regulation
- Module 7: Crisis Management, Command & Control of UAV Terrorist Incidents
- Module 8: Forensic Recovery of Unmanned Aerial Vehicles
- Module 9: Threat & Risk Assessment - Reporting suspicious sightings of UAVs
- Module 10: Counter Unmanned Aerial Vehicle Security Strategy

<https://portal.dronewise-project.eu>



The European Programme for counter-UAS systems testing

- Facilitate a more common European approach among civilian authorities to assist the comparing and testing of C-UAS systems
- The **COURAGEOUS project** (2021-2024), coordinated by the Belgian Royal Military Academy, is tasked with:
 - Identifying relevant standard scenarios
 - Developing functional and performance requirements/metrics
 - Developing a testing methodology
 - Conducting performance testing of sensors and integrated systems
 - Dissemination of results to EU MS (& beyond)



<https://courageous-isf.eu/>



Thank you for your attention.

European Commission

Migration and Home Affairs (DG HOME)

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