

# Drone detection and incident handling Police, Border Guards, Defence Forces

Full air/ground situational awareness Automated incident handling and optimised workflows Multi-location and multi-operator coordination



### Drones pose a threat to safety and security

The growing use and availability of drones has created new technical and organisational challenges for law enforcement and military units. In particular the unlawful use of drones threatening events or infrastructure, smuggling goods across borders, or spying on governmental authorities is posing a new threat. Recent incidents have spotlighted this security gap and highlighted the urgent need for a comprehensive solution that deals with drone detection and incident handling.

#### Customer needs

#### **Perimeter protection**

In the protection of camps, airfields and critical infrastructure, drones create a new threat to operations. Integrating drone detection with existing air defence systems protects existing investments while creating comprehensive situational awareness for drone incidents.

#### **Border security**

Drones present a significant threat to border guards who are responsible for the security of large geographic areas. Immediate detection of drones and their operators, agile counter-measures, and efficient incident handling procedures are critical.

#### **Event protection**

At events, authorities face the threat of direct or collateral damage by drone accidents or drone attacks. The response by law enforcement units needs to be coordinated across all supporting agencies integrating mobile units, decision makers and multiple sensor and effector systems.

#### Operational and technical requirements

The large variety of drones in terms of size, technology and capability create a challenge for drone detection. In large geographical areas, and in increasingly congested airspace, traditional sensors alone cannot reliably detect drones.

Therefore, a robust drone detection solution must fuse data from a wide variety of sources to create an accurate picture including:

- Primary sensor systems for drone detection
- Visual observations of ground staff
- Link to unmanned traffic management (UTM) systems to differentiate non-cooperative and cooperative drone traffic
- Overall air traffic and detection of conflicts
- Blue force tracking of law enforcement units for automated dispatching

Due to the speed and flexibility of drones, reaction and resolution times are short. For that reason all involved agencies at all levels (e.g. mobile staff, operation centres and decision makers across multiple locations) need to be connected through a shared cross-agency incident management system with integrated communications.

Solutions must take into consideration best practice from air defence and air policing including:

- Trusted air situation and IFF
- Integrated communications and data exchange
- Cross-agency incident management
- Resource management of staff and effectors
- Legal recording for investigation and documentation

### Reliable detection and minimised resolution time

Frequentis' goal is to ensure an efficient management of drone incidents. The solution delivers a comprehensive situational picture by fusing all available data feeds: cooperative drones, non-cooperative drones (including visual observations), air traffic and blue forces. The cross-agency incident management system shares the situational picture with all stakeholders and manages communications and incidents across hierarchies, operators and locations.



#### Full air & ground situation

A comprehensive data fusion creates a complete situational picture, which correlates primary sensor detection, visual observations, air/ground traffic, cooperative drones by UTM systems, and blue force tracking for direct interaction with security forces.

#### Best use of sensors / effectors

A large selection of sensor and effector systems are available with varying capabilities. Frequentis' independent experts will ensure customers receive the most suitable systems depending on operational, technical and commercial requirements.

#### **Fast resolution**

The incident management system connects all stakeholders across all hierarchies in multiple locations. Mobile devices allow coordination of law enforcement units and reporting of observations. Communication across all platforms is fully integrated.

#### Control and tasking of drones

By creating a direct link to Frequentis UTM solutions, customers can, simultaneously use their own drones to generate additional sensor information for situational awareness or to implement countermeasures against potential threats.

#### **Optimised workflows**

Frequentis' control room consulting ensures thorough understanding of customer needs, workflows and HMI requirements across all organizations. A tailored fit for purpose solution maximises efficiency in training and operations.

#### Seamless extendibility

The system is fully integrated with UTM and is able to share sensor data to coordinate responses. It is build to respond to multi threat scenarios and supports full incident and crisis management by delivering a fully integrated common operational picture.

### Mature solution components used across industries

Frequentis drone detection and incident handling is based on mature solutions used operationally. The integrated solution is tested and verified in trials with customers and research programs.

#### Data exchange platform

MosaiX SWIM is Frequentis' data exchange platform for safe and reliable integration of various drones into one management system. It comes with a Service Registry which provides the tools for all the agencies to discover the services available by the publisher of services. MosaiX SWIM is the enabler for a seamless drone integration into a common operational picture.

#### Operation centre and mobility

The drone detection operation centre and mobile solutions are based on the field proven Frequentis Situational Awareness Framework. This framework enables complex incident management for National Air Policing, Search and Rescue and Railway Emergency Management. It is used operationally worldwide.

#### **UTM** Platform

The UTM platform provides communication and connectivity for cross-divisional collaboration. It facilitates control and tasking of own drones, by integrating drone, video and sensor data to support reconnaissance missions. This allows real-time aerial view and agile counter-measures based on UAV utilisation.

#### Drone Detection Framework

#### PTZ tracking and visual link

Visual pan tilt zoom (PTZ) camera control and visual object tracking is achieved with Frequentis smartVISION, an integral part of the Frequentis Remote Digital Tower. It is fully operational at airports worldwide for visual object detection, line of sight tracking, and intuitive visual verification and control.

#### Legal recording

Thorough documentation of all activities and events is a vital task for drone incidents. The market leading DIVOS logging system collects and archives phone and radio communication, while also capturing screens, giving operators and investigators easy access to securely stored information.

#### **Control Room Consulting**

With more than twenty years' experience, Frequentis Control Room consulting is ensuring best fit of purpose by using not only user-centric but also business process centric design. A rapidly growing number of customers appreciates this unique approach.

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