Frequentis OneATM

ACCELERATED DRONE MANAGEMENT

Safe and compliant orchestration
of new airspace users

FREQUENTIS
FOR A SAFER WORLD

Unlock the full potential of converged airspace

Uncrewed flights are set to revolutionise our world. From automated logistics to infrastructure monitoring, and from remote firefighting to emergency medical support, drones have the potential to transform our lives and economies.

The technology already exists to enable safe flights – whether fully or partially automated, or remotely operated by human pilots – in all kinds of use cases. Rail companies are starting to use drones to check infrastructure maintenance, and public safety bodies are testing the use of drones to provide emergency assistance and reduce risk for first responders in hazardous situations.

Drones represent a huge untapped resource in both economic and societal terms. Imagine a world in which people and physical goods can be rapidly and cost-effectively transported to otherwise inaccessible locations, or in which vital infrastructure can be monitored and repaired automatically, even in

remote locations. Drones can also help keep people safe by delivering timely medical assistance, by accelerating search-and-rescue operations, and by helping firefighters manage blazes safely.

If the ATM industry can safely and efficiently integrate drone flights with crewed traffic, and simplify operations through greater integration, there is vast potential for the creation of new multi-billion-dollar markets. Existing ATM organisations can extend their systems and use their expertise to build valuable new revenue streams and become the backbone of new drone-based markets.

Safe and compliant orchestration
of new airspace users

Converging airspace
management

Simplifying drone usage
in all domains

ACCELERATED DRONE
MANAGEMENT

Value added services

Converging airspace management

To unify operations for managing crewed and uncrewed traffic, data from multiple sources must be fused and shared between ATM and UTM organisations. Full convergence of airspace will depend on increased automation in decision making, backed by human expertise and always-on communications.

Simplifying drone usage

By sharing flight plans automatically with all relevant parties, operators can automatically and safely launch and manage drones. Geofencing of sensitive areas and the design of fail-safe procedures will further reduce risk, making it easy for new market entrants to participate.

Value added services

Openness and interoperability will be vital in the future drone economy. By creating shared situational awareness through SWIM-compliant data exchange and robust real-time voice communications, Frequentis is helping a growing ecosystem of partners build a one-stop-shop platform for drone services.

Supporting the pioneers
of the new drone economy

Our vision for Accelerated Drone Management combines Frequentis technologies into a turnkey solution for integrating automated drone operations with existing air traffic. Frequentis also offers consulting and support services to help new market entrants rapidly build profitable businesses in the future drone economy.

Public and private infrastructure

Frequentis is helping Austrian Federal Railways to enable automated rail track inspections using a hangar-based fleet of drones. The drones will enable faster, more frequent and more efficient maintenance checks, helping prevent incidents by detecting potential damage or obstacles before they present any risk to rail traffic. With drone hangars distributed nationally, the rail company will also be able to respond faster in the event of emergencies.

Emergency response

Frequentis is working with emergency services organisations to pioneer the integration of automated drone hangars into emergency response systems. Drones enable rapid and cost-effective initial observations of incidents, and help managers to coordinate the activity of first responders. They can also provide visibility in hard-to-access or hazardous locations; for example, when firefighters are responding to fires potentially involving dangerous chemicals.

Mobility and logistics services

Frequentis worked with SESAR on the GOF U-space project in Estonia and Finland to demonstrate the feasibility of safe and secure drone traffic management alongside conventional air traffic. The project included successful tests of urban delivery drones, cooperation with search and rescue services, international parcel delivery, personal mobility drones and automated infrastructure inspection. Frequentis continues to work with national and regional bodies to help build a unified airspace across Europe.

# Integrated technologies to enable a safe shared airspace

The Accelerated Drone Management concept from Frequentis is enabled by a core set of integrated technologies that is scalable and open to further integration.

The key product is Frequentis UTM Suite, already in use by customers around the globe to manage uncrewed traffic safely and efficiently. Built around an integration component that provides Common Information Services, UTM Suite includes UTM Operation Manager for drone operators and UTM Airspace Manager for air traffic controllers and authorised third parties. As a platform for the two-way exchange of data between ATM organisations and UTM service providers, UTM Suite plays a foundational role in enabling the future drone economy.

Recognising that greater sophistication and speed will be required as complexity and traffic volumes grow, Frequentis supports the introduction of automated decision support systems based on shared data. The goal is to increase automation in decision-making without taking human experts out of the loop. Our MosaiX digital platform breaks down the silos between systems, enabling the creation and management of safe automated workflows across control centre applications. We also support the fusion of data – including aeronautical, meteorological and surveillance – from practically any third-party system or source to enable richer situational awareness. Given that some of the most compelling use cases

for drones are in the blue light domain, our deep expertise across multiple safety-critical domains – aviation, maritime, public safety, public transport and defence – gives us a crucial advantage in understanding how to integrate drone-related information and services in control centres. Integration with Frequentis control centre solutions such as MissionX, MarTRX and Incident & Crisis Management (ICM) allows for automated drone flight planning directly in the first responder's management system. In addition, Frequentis automated drone dispatch software empowers emergency services organisations to rapidly deploy drones from hangars and manage them from within their existing control room systems. Integration with third-party applications enables automated risk assessment for planned flights, simplifying and accelerating the use of drones without reducing safety.
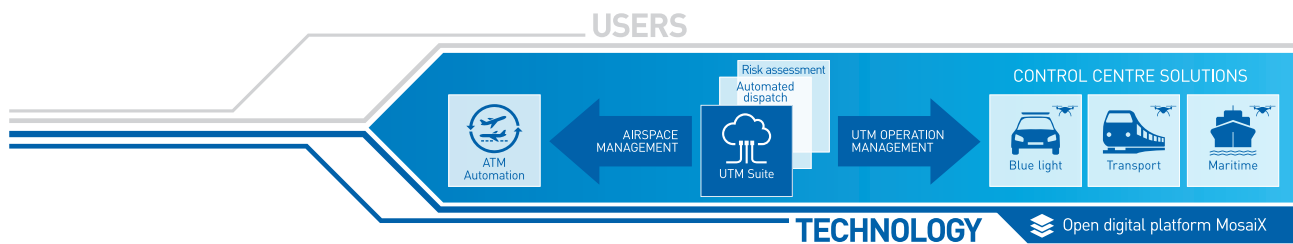
UTM Suite

UTM Suite provides both drone operators and air traffic controllers with all the core services they need to manage drone traffic safely and efficiently in shared airspace.

ATM Automation

Frequentis seamlessly integrates data from drone operators into ATM automation systems such as TowerPad and PRISMA, enabling drone flights to be presented directly on air traffic controllers' screens.

Control centre solution

Integration with blue light control rooms enables automated flight planning and management from within first responders' management systems, supporting search and rescue missions, rapid incident response and more.

Risk assessment

Integration with third-party applications for Specific Operations Risk Assessment (SORA) enables operators to automate risk assessments for planned flights, accelerating the process of gaining the necessary approvals.

Automated dispatch

Frequentis is working with an ecosystem of partners to create a one-stop-shop platform for drone services, built around technology for launching and controlling drones from remote automated hangars.

MosaiX integration

The modular, container-based Frequentis MosaiX digital platform enables deep integration of voice and data applications, supporting integrated controller operations and advanced automation across multiple control centre applications.

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