



Remote Virtual Tower

Enhancing military air traffic control

Mature, safe and secure solution

Scalable and deployable

Designed by operators

Defence

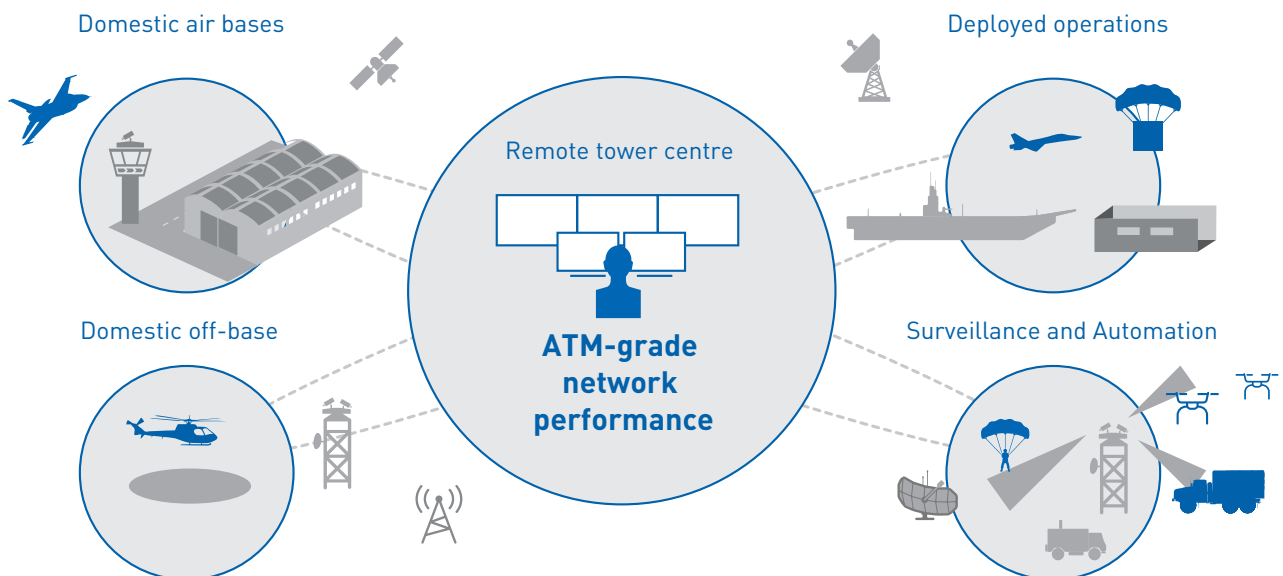
FREQUENTIS
FOR A SAFER WORLD

Ensure mission success and safe air traffic control

Inefficient and insufficient ATC staffing, operations with limited visibility, vulnerabilities of deployable ATC towers, as well as new challenges, such as non-cooperative drones, require modernisation of military air traffic management. In addition, air forces need to embrace innovations driven by increased automation, connectivity and data fusion at air bases.

Addressing the needs of military use cases

A remote virtual tower replicates the visual tower view to provide ATC services from remote locations, thus improving operations and enhancing safety. It adds new operational capabilities for a number of military use cases in Air Traffic Management and beyond to ensure accomplishment of the mission.



Domestic airbase operations

- Efficiency for smaller airbases
- Cost-efficient tower alternative
- Enhanced visibility and safety

Domestic off-base operations

- Fast emergency landing strips
- Safety for remote landing sites

Deployed operations

- Safe combat operations
- Fast humanitarian assistance
- Cost-efficient contingency tower

Surveillance and Automation

- Drone detection
- Airbase security and protection
- Airbase automation and data fusion

A mature solution designed by operators

The Remote Virtual Tower solution from Frequentis is a flexible and scalable solution that improves efficiency, safety, and ensures mission success.

Turning challenges into opportunities

The Frequentis Remote Virtual Tower increases flexibility for ATC and increases situational awareness, while keeping controllers out of harm's way by locating them in secure environments.

The operationally proven and tested controller working positions ensure safe operation of air traffic, while a variety of sensors, cameras and surveillance options increase controllers' situational awareness.

Advanced sensor technology creates visual and IR data feeds, which can be used beyond ATC in base and technical operations with the purpose of surveillance and asset tracking.

Flexibility and efficiency gains

- Service on demand
- Several bases managed from one centre
- Lower investment and expenses

Enhanced vision

- Enhanced situational awareness
- Blind spot coverage

Safety and protection

- Protection of operators
- Object and threat detection

Maximising performance and minimising risk

The Frequentis solution modernises the aviation standard, while meeting regulatory requirements at a reasonable cost-benefit ratio.

Maturity and user acceptance

Frequentis has extensive experience in air traffic management. Remote Virtual Tower is operationally approved, tested and accepted by DFS (German ANSP).

Successful change management

Frequentis mitigates risk by applying its incremental change management process, supported by DFS consulting services and long term support and maintenance commitments.

Scalability and integration

This solution is scalable and highly customisable to individual defence customer needs and builds upon a fully integrated Frequentis solution portfolio.

High-end visuals and cameras

High-end visual panorama, supported by cooled military infrared technology and advanced object tracking improve flight safety.

Product safety and security

Highest safety and security standards - including secure data backbone solutions - guarantee continuous operation.

One step ahead

Deployability, mobility, drone detection and smart airbase concepts using RVT sensors for surveillance and asset tracking complement the solution.

Remote Virtual Tower success stories

Remote Virtual Tower by Frequentis benefits from seventy years of experience and commitment to mission critical air traffic management and communication solutions for military users. The company is actively driving the evolution of remote tower solutions across the world through involvement in major research programs, such as SESAR, and by driving standardisation, e.g. via the EUROCAE working group.

ÖBH, Austria

Video-based surveillance

ÖBH (Austrian Armed Forces) and Frequentis have performed a validation at the military airfield in Zeltweg (Austria) to evaluate the system for the purpose of air traffic control from a remote position and the use of this system for the protection and security of critical infrastructure. An interface to the local approach radar has been implemented.

DFS, Germany

Remote Virtual Tower

Frequentis has equipped the airport of Saarbrücken (Germany) with a remote tower that manages roughly 15,000 traffic movements per year. Advanced video tracking allows controllers to detect and mark IFR and VFR flights and vehicles, while surveillance information increases their situational awareness. The airports of Saarbrücken, Dresden and Leipzig will be controlled from the remote tower centre in Leipzig.

VIE Airport, Austria

Apron management

Vienna Airport and Frequentis deploy a video-based surveillance solution for apron management at the largest airport in Austria with about 220,000 movements per year. Controllers are provided with an ultra-high resolution panorama using advanced stitching algorithms and individually controllable PTZ cameras.

Remote Virtual Tower product portfolio

- smartVISION visualisation and surveillance
- smartTOOLS information display and control
- smartSTRIPS flight data handling
- iSecCOM red/black voice communication system
- QUADRANT ADS-B and multilateration
- DIVOS 3 log recording and replay
- Consulting services

Extensions and related solutions

- ATM-grade network performance
- Deployable Remote Virtual Tower
- Drone detection system
- Airbase security solutions
- Smart airbase data automation and fusion



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