Deployable Digital ATC Tower

Mobile air traffic control maximising safety, security, quality and efficiency

Fast, easy and cost-efficient deployments
Increased personnel safety, comfort and flexibility
Improved situational awareness and training

Defence

FREQUENTIS
FOR A SAFER WORLD

Maximum flexibility in supporting all operational needs

Military operations rely on centralized and de-centralized command and control. Military forces stage from a Main Operating Base (MOB) in the rear, supporting Forward Operating Base(s) (FOB).

In this environment, the Frequentis Deployable air traffic control tower can operate as a centralized control centre controlling multiple airfields from a single location in a hub-and-spoke configuration. Additionally, the Frequentis Deployable Digital ATC Tower can be transported to a FOB to operate as a single independent facility for that specific base/airfield. Our decentralised approach provides flexibility and resilience, helping military forces to maximise the reliability of operations and communications.

In addition to that, the deployable digital ATC tower is also a contingency system, which can be used when the main tower is out of action. It can be used to help emergency response to natural disasters, or when providing ATC services during crises or in hostile areas.

Conventional mobile and deployable ATC tower solutions are already used in this context. However, they have major limitations.

Challenges for conventional mobile and deployable ATC towers

Crew safety
In contested environments, conventional deployable ATC towers are vulnerable to attack by enemy forces, which puts crew safety at risk.

Situational awareness
Limited operating height reduces above-ground-level visibility equipment versus a conventional full ATC tower decreases flight safety. In addition, darkness or adverse weather can severely restrict operations.

Inefficiencies
Limited visibility and non-ergonomic working environments cause inefficiencies in operations.

Flexibility
The necessity to place legacy mobile towers next to the runway decreases flexibility in setup of forward-operating locations.

Crew experience
Poor ergonomics contribute to operator discomfort and fatigue. Disparities between training/simulation and deployed environments can reduce operator effectiveness and put safety at risk.

The latest deployable digital towers from Frequentis address all these shortcomings, ensuring safe, orderly and expeditious management of air traffic for out-of-area missions, without compromising on security, quality or comfort.

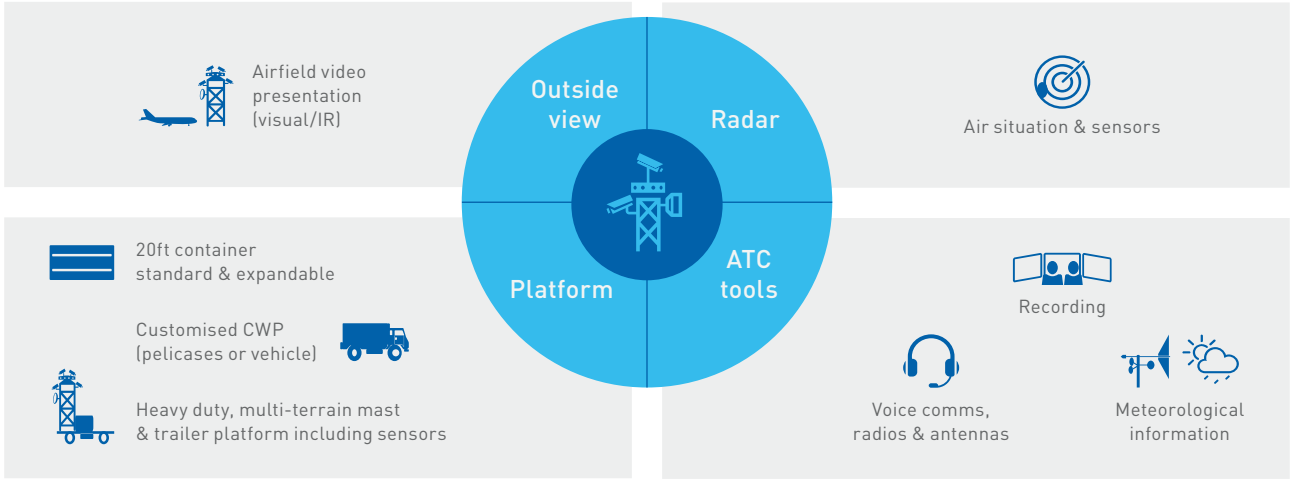
Frequentis deployable digital towers for military ATC

The Frequentis deployable digital tower solution has three main components: a trailer and mast system with cameras and optical sensors, a secure communication network and a control cabin hosting data centre and working positions. The movable mast will naturally be placed near a runway, but the control unit can be located anywhere. Separating mast and working position in this way augments crew safety and adds strategic command advantages through increased location flexibility.

Frequentis deployable digital towers can be set up rapidly and are resilient enough to function with minimal maintenance in the harshest environments. There is no complex configuration, and all key functions are redundant. Our scalable solution can be adapted to each customer's precise use cases and mission requirements. Built on a flexible platform, the solution allows easy integration with third-party ATC and security solutions.

Digitalization improves situational awareness, reduces workload, and improves safety for air traffic with a system which was designed with leading armed forces requirements. This also allows for combination of training, simulation, recording and playback into a single solution and sharing of mission-critical situational-awareness information, such as 360° visual views, with others in the field like security forces or C2.

We offer numerous options across platforms, ATC tools and capabilities and digital tower capabilities, such as cameras, object tracking, surveillance, augmented reality, network options, touch-based controls, stitching, and harmonisation.



Benefits of the digital approach

Augmented crew safety and **strategic command advantages** achieved by separation of mast and working position

Improved field of view based on high resolution stitched and harmonised picture, without overlaps or duplication

Improved vision in adverse weather and at night with advanced visual and thermal sensors, augmented with AI

Improved alertness achieved by object detection and tracking for planes, drones and wildlife

Reduced heads-down time and reduced training needs achieved by information overlays and augmented reality

Enhanced training and simulation by integrating the live and simulation system

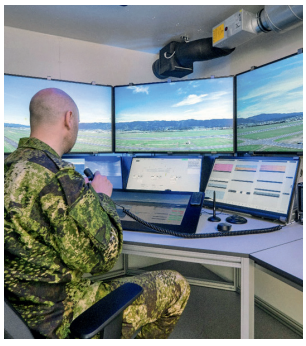
Shared situational awareness by sharing video and data with others in the field

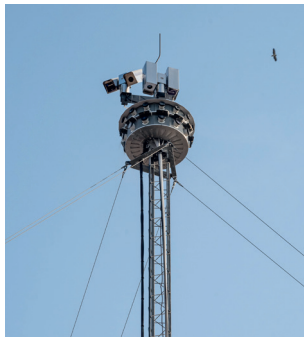
Improved after-action review and investigation based on comprehensive video, data and voice recording

Mature and proven solution

Frequentis is the global leader in deployable digital tower solutions for military ATC. Drawing on more than seven decades of ATC experience, we are the only company offering mature, field-proven deployable digital tower solutions that help military customers ensure mission success and create command advantages.

The Frequentis solution meets all relevant ATC standards and is transportable by air, land, rail and sea in standard shipping containers. The resilient equipment supports low-maintenance operation in all weather conditions.





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