

Germany adopts advanced remote tower technology



Since 2018, more than 36,000 flights at Saarbrücken international airport have been remotely controlled from a Remote Tower Centre (RTC) in Leipzig, hundreds of kilometres away. In 2022, Erfurt-Weimar joined. By end of 2023 Dresden airports will follow, which are phasing in the solution incrementally.

The RTC solution is the result of a close collaboration between Frequentis and DFS Deutsche Flugsicherung (DFS) via its commercial 100% daughter company DFS Aviation Services GmbH. The two organisations are partnered in a joint venture called Frequentis DFS Aerosense, delivering customised digital and remote tower solutions around the globe.

Remote tower technology will help the airports maintain high levels of safety. It will also enable them to boost efficiency, empowering controllers to work more productively while optimising staffing and maintenance spend.

Client profile

DFS Deutsche Flugsicherung GmbH, the German air navigation service provider (ANSP), is a State-owned company under private law. The ANSP ensures the safe and punctual flow of air traffic over Germany. www.dfs.de

Business situation

Air Traffic Control (ATC) environments are becoming more complex, making it increasingly challenging for airports to maintain cost-effectiveness. Three international airports – Saarbrücken, Erfurt-Weimar and Dresden – set out to enhance situational awareness for controllers while optimising operational costs.

Solution

DFS decided to use Frequentis technology to enable remote tower services from a shared RTC, operated from Leipzig. Building on experience gained from operating the RDT Center Leipzig, DFS collaborated with Frequentis to provide consultancy and design services. At the new RTC, Air Traffic Control Operators (ATCOs) benefit from a panoramic view on five screens delivered via video and infrared cameras.

Impact

- Boosts situational awareness for ATCOs with 360° views and improved night vision, making it easier to maintain high levels of safety.
- Improves staffing efficiency in operations and maintenance thanks to economies of scale.
- Significant cost benefits anticipated by controlling three airports from a single location.

“For us, remote tower control is more than just ATC with cameras. We are trying to improve situational awareness for our air traffic controllers.”

Dirk Mahns, Chief Operating Officer,
DFS Deutsche Flugsicherung

Realising the remote tower vision



Turning concept into reality

Each year, ATCOs at the international airports of Saarbrücken, Erfurt-Weimar and Dresden coordinate tens of thousands of aircraft movements. With the ATM industry recovering, airports will face growing demands on limited resources, including ATCO staff, budgets and airspace.

Remote tower technology offers a powerful opportunity to overcome these challenges. Although the concept had been proven years before, real-life implementations of RTCs were still limited, and the airports looked for support to make the transition.

Building the Leipzig RTC

DFS decided to provide the first implementation of remote tower services in Germany at the airports of Saarbrücken, Erfurt-Weimar and Dresden. Leipzig was chosen as the site for the RTC, and Saarbrücken was selected as the first airport to adopt the new solution.

Together, DFS and Frequentis developed the remote tower technology, reproducing an out-of-the-window view using high-resolution video displays. Controllers see a panoramic view across five screens, captured

using a combination of standard and infrared cameras. The solution enhances situational awareness through automatic object recognition and tracking. It is also designed for controller comfort, minimising head movement and head-down times to help ATCOs maintain concentration.

One ATCO will provide single tower control services for one airport at a time. However, they will be cross-trained to provide remote tower services for the other airports as well.

Lower costs, higher productivity

ATCOs at the Leipzig RTC are now equipped with sophisticated features to help them work more effectively. For example, controllers report that adjustable zoom controls offer an advantage over binoculars, while infrared cameras help them discern more details at night.

Saarbrücken, Erfurt-Weimar and Dresden airports will reduce risk by eliminating their reliance on on-premises ATC facilities, enabling them to take advantage of cross-trained ATCOs to ensure coverage at all times. They can make better use of staff resources for both operations and maintenance, and anticipate significant cost-savings once all three airports are onboarded to the RTC.

Through remote tower technology, Saarbrücken, Erfurt-Weimar and Dresden airports will achieve these efficiency and productivity benefits while maintaining high levels of safety and service quality for airspace users.

“My first remote controlled flight was like any other flight”

Andreas Willmann, Supervisor Remote Tower Centre,
DFS Deutsche Flugsicherung

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