

HUMAN AND ORGANISATIONAL FACTORS

Q&A

REMOTE TOWERS



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1. What is a significant change planned within your organisation at the moment that has relevance to human and organisational performance?

Successful digitisation is an opportunity and a challenge at the same time. We are dealing with the question of a more flexible and efficient future service delivery model. We are virtualising our systems and striving for a significantly higher degree of automation. We are increasingly relying on cloud solutions. A concrete example is our remote tower control (RTC) project, which we have implemented. With its RTC project, DFS aims to cut costs in the long term by using new technologies and procedures and by optimising staff numbers. This will include making more efficient use of air traffic controllers and pooling operational, technical, and administrative support functions. Our Remote Tower Control Center (RTCC) in Leipzig is proving itself every day.

2. Why is this change necessary? What is the opportunity or need?

For DFS, RTC means the location-independent provision of aerodrome control services. A remote tower centre is not necessarily located at an airport or air traffic control centre, if the security requirements needed for the provision of such a service are met.

RTC increases efficiency and saves costs – with the focus on keeping safety at its highest possible level, a decisive factor in air traffic management.

At the RTCC in Leipzig, our remote tower controllers will be cross-trained and authorised for the three designated airports. Maintenance and repair costs are reduced immensely because the systems are bundled at one location. In this way, we can reduce the number of staff and plan schedules more flexibly and efficiently.

For the controllers, the job at an RTCC offers new opportunities and therefore will become more attractive, more digital and modern. It offers more variety than it is the case today at, for example, similar medium-sized single-runway locations.

3. What are the main obstacles facing this change?

From a technical point of view, the biggest challenge was to find a system for the out-of-the-window-view that met our requirements in terms of performance, flexibility, quality and safety.

The next challenge, however, was the introduction of a fundamentally new working environment. Even though the feasibility of the RTC project had already been demonstrated in 2012 by a human factors study together with the German Aerospace Center (DLR), we still had to deal with the change process.

Remote tower control is a paradigm shift in air traffic control. With it, we are taking the first step into a new world and a digital future.

4. What is the role of front-line practitioners? How is their expertise incorporated into change management?

We practised field expert involvement from the outset, an important and critical element of 'systems thinking'. The early involvement of ATCOs and ATSEPs (air traffic safety electronics personnel) was very important and contributed to the success of the first commissioning (Saarbrücken airport from RTCC Leipzig). For example, the ATCOs were actively involved at the very beginning of a tender and worked out their requirements themselves.

5. What do they think about the change?

Despite the commissioning of the first site, close monitoring by all involved employees is still required. The change process is not yet complete and will take some more time. Regular feedback meetings with those people involved are a means of achieving this. In this way, the ATCOs will continue to be actively involved in the further development and evolution of the system.

6. What has been learned so far, more generally?

The advanced functions are balancing the loss of the large tower windows, so they are appreciated and are now part of the daily work. The zoom cameras in use have different zoom settings, advancing the capabilities of binoculars. The infrared camera and infrared panorama are very helpful and give more details during darkness.

The safety concept developed together with ATCOs and ATSEPs works well and has proven its effectiveness. The RTC project has been accompanied by the safety assessment process from the beginning, all the way up to the implementation, always taking into consideration the human dimension. Thanks to that, an early implication of nearly all safety requirements in the development process was possible. In the end, three main safety cases have been established concerning transition phase including the implementation, ATCO training and target state. The project is constantly developing the system, always ensuring the necessary involvement of the operational colleagues. **S**