

Digitisation of airport operations

With airports looking for efficiency and sustainability gains, a partnership between T-Systems and Frequentis is driving the digital transformation to improve flexibility and resilience

The entire aviation industry has suffered monumental losses over the past two years and it will require a lot more than just returning passengers for it to recoup the shortfalls. Reducing airport operator costs will not be enough – airports need to look at becoming more flexible, efficient and resilient if they are to even survive.

In Europe, the industry had been struggling with performance and delays for decades. The lack of air travel during the COVID-19 pandemic has also led to a knowledge loss at airports due to staff cutbacks, adding to the challenge. For airports to fully recover, the focus must be on innovative processes and technology that will allow them to improve resource allocation and streamline operations.

For this, digitisation is key. It is clear that this will be a continuous process for airport operators and other stakeholders. The ability to adapt to unpredictable circumstances and potential crises is mandatory. Airport operators need to transform their organisations to the 'new normal', preparing for the future and new working methods.

Improving predictability, resilience and decarbonisation

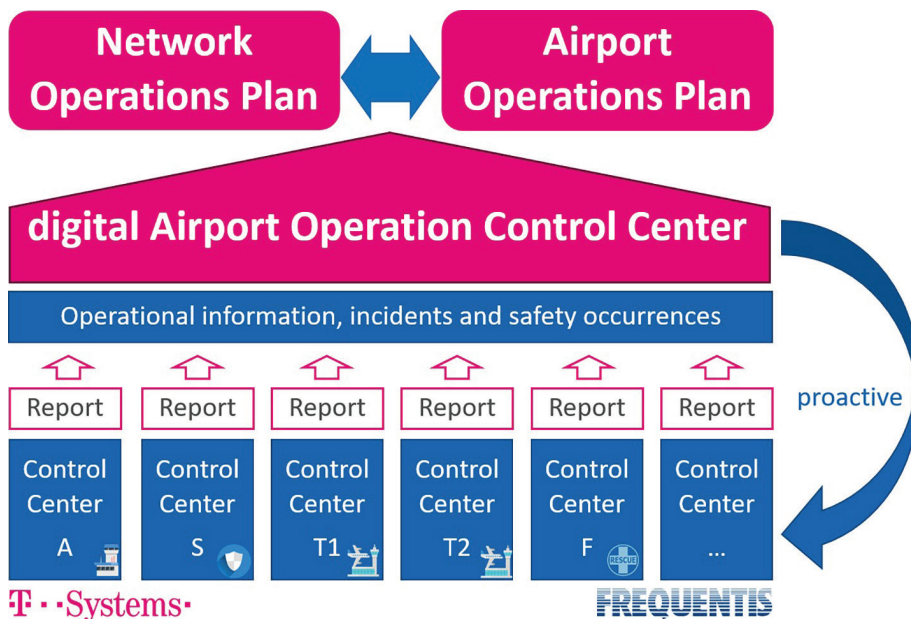
The Single European Sky initiative requires airport operators to be more collaboratively and proactively integrated within the air traffic management (ATM) network. Introducing the Airport Operations Plan (AOP) is a pre-requisite for harmonising and synchronising processes and services, with the Network Operations Plan as the link between the airspace and infrastructure on the ground.

Like any other business, airports need a high-quality service to attract

customers, which includes not only airline passengers but also cargo, retailers, security, ground handlers and airlines, among others. Passenger experience depends on a streamlined process between a whole network of players to keep them moving and ensure that any disruptions are dealt with and resolved as promptly as possible. Improving the customer experience from door to destination also requires the consideration of all phases of the journey. For this to work, information silos need to be removed and replaced with efficient, modernised processes that allow shared situational awareness across all stakeholders, so that they can collaborate effectively.

Some airports were able to advance digitisation efforts in some areas reasonably well, but the challenge remains to cover the entire value chain. Frequentis and T-Systems envisage the seamless connection of air traffic control services and airport operations to reduce delays and, increase productivity, thus improving the passenger experience. As well as efficiency gains, digitisation drives the reduction of greenhouse gas





T-Systems interoperability diagram Frequentis

emissions at the airport and in their vicinity. Transparent processes and a holistic view of airport operations is necessary to make the required contribution to achieve the agreed climate targets.

In many cases, problems on either the airside or landside directly impact the efficient operations of the ATM network. Using their products, Frequentis and T-Systems support airports by bridging the airside and landside operations so that disruptions can be resolved faster. To avoid disruptive repercussions, Frequentis and T-Systems integrate products from both of their portfolios to drive the digital transformation of the major processes at airports – including those operational processes that have, until now, remained untouched.

The digitisation and automation of relevant workflows is what will support staff and their individual processes to become more efficient and transparent. On top of this, executive management are further supported by the ability to evaluate and improve the entire airport operation continuously, ensuring a smooth transition to new working methods at the airport – a big win for all stakeholders.

Working in harmony

Frequentis and T-Systems have designed a digital Airport Operations Centre (dAPOC) that increases the overall airport performance by combining airport operations, firefighting, security control, external stakeholders and, importantly, ATC. This gives Air Navigation Service Providers (ANSPs) and the network

manager a better understanding and prediction of what is happening at the airport and improves flight efficiency.

T-Systems has been in the business of airport management solutions for more than 30 years and is now one of the top four global airport management solution vendors. Its knowledge of the aviation sector and market-leading global solutions cover airport terminals, ground handling and resource management, as well as operational databases, airport collaborative decision making (CDM), flight information displays and master systems integration.

Frequentis has ATM knowledge spanning more than 70 years and operational references for market-leading solutions such as the arrival manager (AMAN), departure manager (DMAN) and state-of-the-art remote digital towers (RDT), which bring further advantages for the enhancement of airport operations. Frequentis also has domain knowledge in the public safety sector, providing control centre solutions for security, firefighting and emergency and crisis management – transferable knowledge, which also ensures smooth and safe operations at an airport.

T-Systems already provides airport management solutions, as well as planning and consulting services, to more than 50 international airports around the globe, including Frankfurt, Munich, Dublin, Beijing Daxing and Jakarta. The focus is on flight plans and resource management in the terminal and on the airside, including aprons. The solutions support the efficient handling of passengers, baggage and cargo.

Frequentis, for its part, specialises in apron management, including situational awareness, airside works, taxiing aircraft and secure voice communications with airport customers including Frankfurt, Munich, Dubai and Hong Kong.

Overall, the coronavirus pandemic has shown that customers need tailored, flexible and scalable solutions. When only around 50% of passengers pass through the airport, operational costs must be saved. This is also relevant for rethinking the staffing of airport towers and the digitisation and virtualisation of these services to increase flexibility and enable hybrid cloud operations, which is also important in disruptive and volatile phases. A digital driven airport operations plan will improve the predictability and resilience of airport operations contributing to sustainability goals, while simultaneously reducing airline costs. **ATM**



About...

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Edgar is director of strategy & partner management airports at T-Systems. He joined the airport industry as an IT project leader in 1997 and has held management positions within T-Systems for 20 years.

Being an aviation enthusiast, he has considerable expertise in airport operations and progressive IT solutions.

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