FREQUENTIS
COMMUNICATION AND INFORMATION SOLUTIONS FOR A SAFER WORLD

CASE STUDY

AIR TRAFFIC MANAGEMENT

FREQUENTIS KEEPS ISAVIA AT THE CUTTING EDGE OF ATM

It's a familiar challenge for ANSPs: cut costs while improving efficiency and air safety. This challenge has an added dimension for Iceland's ANSP, Isavia. As well as operating all the country's airports, Isavia also manages air traffic in one of the world's largest control areas. As a pioneer of VoIP communication in ATM, Isavia has a reputation for innovation to protect. "Innovation is part of our DNA, so IP-based voice communication systems are now a must for our ACC facilities," notes Hjalti Pálsson, Manager, R&D at Isavia.

An upgrade to their existing Frequentis voice communication system means Isavia continues to have the cutting-edge technology needed to master the modern ATM challenge. The upgraded system is now Europe's largest operational VoIP-based ATM installation.

"Our VCS upgrade process needed to be fast, cost-effective and worth the effort, all while allowing uninterrupted ATM operations. That's exactly what we got from Frequentis."

Hjalti Pálsson, Manager, R&D at Isavia

CUSTOMER PROFILE

Isavia Ltd.
http://www.isavia.is

BUSINESS SITUATION

Isavia identified a need to change their current network as the future availability of leased TDM lines was no longer guaranteed. Furthermore they wanted to capture the benefits of enhanced redundancy and reliability associated with IP networks. Isavia also sought to reduce costs incurred by leased telecom lines.

SOLUTIONS

Isavia and Frequentis identified that a release upgrade was the best way to meet Isavia's requirements. Using a carefully planned migration process, Frequentis upgraded the main and test systems at Reykjavik ACC to Release 7.1 of its market-leading VCS3020X voice communication system. The upgrade enables VoIP communication for 45 working positions and a network of over 100 radios.

IMPACT

→ **Seamless transition**
The switchover took less than 48 hours and allowed ISAVIA to provide a full ATM service throughout the transition.

→ **Reduced costs**
The upgrade was considerably cheaper than a new system, while the IP-based infrastructure cuts telecom costs.

→ **Investment security**
As well as leased line cost savings, Isavia benefits from a cost-efficient midterm upgrade and an expanded system lifetime. With telecommunication providers moving toward offering IP connections only, Isavia is now ready for the future of ATM communications.

→ **Improved efficiency**
The upgraded system is the fastest on the market and controllers also benefit from the latest usability and performance improvements. The next step is activation of the integrated IP radio & telephone back-up system to further reinforce system availability.

INNOVATION AND COST SAVINGS GO HAND IN HAND AT ISAVIA

TOP TECHNOLOGY REFLECTS ICELAND'S STATUS AS A TRANSATLANTIC GATEWAY

With around 320,000 inhabitants, Iceland is one of Europe's least populous countries. But its small size stands in contrast to its huge ATM responsibilities as a transatlantic gateway: Isavia's Reykjavik control centre manages around 5.4 million km2 of airspace. Over 110,000 flights, travelling more than 165 million km, traverse this oceanic area each year.

The ANSP is also known for its forward-thinking attitude, as illustrated by its participation in ground-breaking VoIP trials. Back in 2010, the world's first live VoIP controller-to-pilot communication based on EUROCAE WG67 standards took place in Icelandic skies.

AN EFFICIENT SOLUTION KEEPS COSTS DOWN DURING AND AFTER INSTALLATION

Given this culture of innovation and wider ATM responsibility, Isavia keeps its facilities at the cutting edge of technology. This was one reason why Isavia installed a Frequentis VCS3020X voice communication system (VCS) in 2009 at the Reykjavik ACC. In late 2012, while happy with the system's performance, Isavia wanted to move to a VoIP-capable alternative, recognising the benefits of decreased telecommunication costs. "IP-based technology is the future and we want to be fully prepared for that future," says Isavia's Hjalti Pálsson. Though VoIP functionality saves on expensive line call and rental charges, typical budget constraints meant funds for a new system were limited. Given Isavia's satisfaction with their current system, the obvious solution was to upgrade to the latest Frequentis IP VCS. Despite requiring little new hardware, the upgrade would ensure the compatibility of the core 2009 system with future ATM developments, particularly new standards like ED-137. The decision still left one unanswered question, though: how to ensure a fast and safe transition to the new system without affecting ATM operations out of Reykjavik? Isavia and Frequentis worked jointly to create and analyse a range of transition scenarios before picking a winner.

The best solution was to first upgrade the ACC's test system to Release 7.1 and prepare it for operations. This gave Isavia controllers the chance to gain experience with the new system in a simulated environment, with the SAT completed in December 2013.

Pálsson notes, "The working position and interfaces stayed the same, so controllers get state-of-the-art performance without losing significant time to retraining. That keeps costs down, too."

"The VCS upgrade brings us additional safety benefits. Our highly-reliable network is now ready to make maximum use of the advantages of IP technology, including enhanced redundancy. Our controllers are very happy with the new system and adapted very quickly, so retraining costs were negligible."

Hjalti Pálsson, Manager, R&D at Isavia

SEAMLESS TRANSITION THROUGH COOPERATION

Isavia then examined their annual traffic profile to identify a broad timeframe when air traffic would likely be low enough for the smaller test system to take over temporarily from the main VCS. Frequentis staff was on standby to jump into action as soon as an exact window of opportunity could be confirmed. "We only had a few days' notice before we knew exactly when we could start the main upgrade," recalls Frequentis Project Manager Andreas Obereder.

On March 24, 2014, Reykjavik ACC switched operations to the test system while Frequentis specialists upgraded the main 45-position VCS and integrated it with external devices in under 48 hours. The SAT followed immediately and a controlled switch back to the main VCS ended on the Sunday, less than a week after the whole process began. "The speed, smoothness and efficiency of the transition were a tribute to the excellent cooperation with the Frequentis experts," says Pálsson. Isavia now has Europe's largest VoIP ATM installation, a testament to the company's prominent role in managing the continent's airspace. "Isavia's focus on innovation matches the Frequentis corporate philosophy perfectly, which bodes well for continuing cooperation in the future," says Obereder.

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