

Surveillance network for Germany



DFS starts a new era of surveillance distribution, smoothly integrating existing and future surveillance technologies into their ASTERIX based network.

Project Highlights

- Advanced exchange of surveillance data over an IP-based network
- Deployment of eight fully redundant operational SDDS-NG systems
- Installation and integration of eight SDDS-NG systems for training, testing and data provision to user test systems

Client profile

DFS Deutsche Flugsicherung GmbH, the German air navigation service provider, is a State-owned company under private law with 5,550 employees as at 31 December 2016. DFS ensures the safe and punctual flow of air traffic over Germany. Around 2,000 air traffic controllers guide up to 10,000 flights in German airspace every day, about three million movements every year. This makes Germany the country with the highest traffic volume in Europe.

The company operates control centres in Langen, Bremen, Karlsruhe and Munich as well as control towers at 16 international airports in Germany. The subsidiary, DFS Aviation Services GmbH, markets and sells products and services related to air navigation services as well as providing air traffic control at nine regional airports in Germany and at London Gatwick Airport in the UK.

SDDS-NG

SDDS-NG facilitates a uniform connection of all surveillance sensors using the ASTERIX standard and was designed and developed to cover complete surveillance requirements, while complying with the latest safety standards.

SDDS-NG is already operational at the Brazilian Airforce on 22 radar sites, in Iceland within the system deployments of Quadrant and in Indonesia and Abu Dhabi in the scope of the Frequentis Comsoft's ATM systems. SDDS-NG installations in Estonia and Portugal have also been completed by Frequentis Comsoft.

“After two years of intensive collaboration with Frequentis Comsoft's experts, SDDS-NG ensures a safe operational cutover, providing a smooth step-by-step transition as well supporting the implementation of the new iCAS implementation at DFS centre Karlsruhe.”

Gabriele Rudolf, Project Manager SDDS-NG, DFS

Advanced exchange of national, military and foreign surveillance data

The challenge

DFS planned a centrally managed distribution for all surveillance data users through a network connecting four ACC sites. The operational and test data networks initially consisted of 16 network nodes, exchanging surveillance data between more than 200 different users.

The provision of application gateways and rapid automatic switching of data provision were means to secure the infrastructure investments and optimise the surveillance data value added service. Latest technology for control and monitoring of the systems paired with low complexity to simplify troubleshooting were important requirements.

The solution

Frequentis Comsoft's Surveillance Data Distribution System (SDDS-NG) has been deployed for DFS, to enable the advanced exchange of national, military and foreign surveillance data over an IP-based network while still supporting the legacy serial lines used to interface existing radar systems. DFS entire Surveillance Data Network is centrally managed by means of Frequentis Comsoft's Network System Management and Control (NSMC) systems.

The result is combined system management expertise at a single place and therefore considerable increase in efficiency of monitoring and control of the whole network. Since 2013 the DFS Surveillance Data Network has been successfully deployed to all four German Air Traffic Control Centres, located in Karlsruhe, Munich, Langen near Frankfurt and Bremen. Extensive testing and validation activities proved its solid performance and proficiency.

The deployment was complemented by a comprehensive training programme on the new systems allowing DFS to license their personnel accordingly.



DFS performed the operational transition of the first centre system in September 2016 and is well on track for the remaining three ATC centres to become operational and to phase out the RMCDEs in 2018. As a result, the operational capability of DFS will not be at risk when the DFS end-of-life RMCDE nodes are decommissioned.

Benefits at a glance

- Increased efficiency through centralised monitoring, configuration and control
- SDDS-NG minimises system complexity of the surveillance chain
- Improves the availability of data through automatic switching mechanisms
- Safe integration of legacy and new technologies
- Security functions by acting as an application level gateway for surveillance data

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