

## One hundred days of COBRA CENTRAL: challenges and benefits of cross-border airspace design enhancement (DFS DEUTSCHE FLUGSICHERUNG)

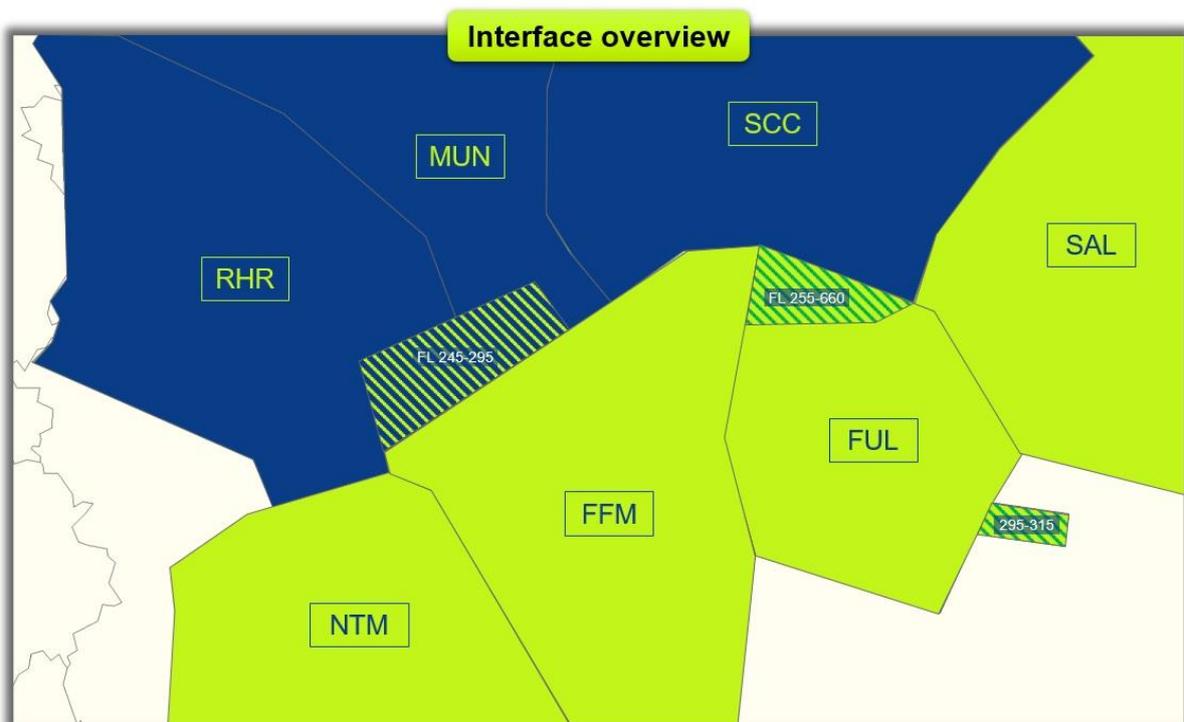
*In the second of two articles on the Cooperative Optimization of Boundaries, Routes and Airspace project (COBRA) programme, Markus Eiden, COBRA CENTRAL responsible planner and operational expert for DFS Karlsruhe, gives his views on what has been achieved now the programme has been operational for some months*

### After 100 days of operational COBRA CENTRAL what has been the feedback from controllers?

They really like the new concept and have asked us why we hadn't done this years ago. The main aim of the programme was to analyze optimum flows and dynamically configure the airspace to the controller rather than shifting flows to meet the airspace design. It has made their life much easier.

### From an airspace designer perspective what were the key challenges?

Redesigning the airspace to fit the traffic flows and the size of the project were the key issues for us. Instead of making minor changes we realigned the common boundary for more than 100 nautical miles (NM) and changed sector shapes in five centres simultaneously. We began with just two centres - Maastricht Upper Airspace Centre (MUAC) and Karlsruhe UAC – but then added Bremen, Langen and Munich.



### What were the most difficult implementation challenges?

The biggest challenge was to have everyone focused and ready for a common implementation date. This involved more than just five centres. There was a huge amount of related work such as developing legal publications, simulations, safety assessments, performance assessments, air traffic controller training, authority approvals, Route Availability Document (RAD) updates and other items.

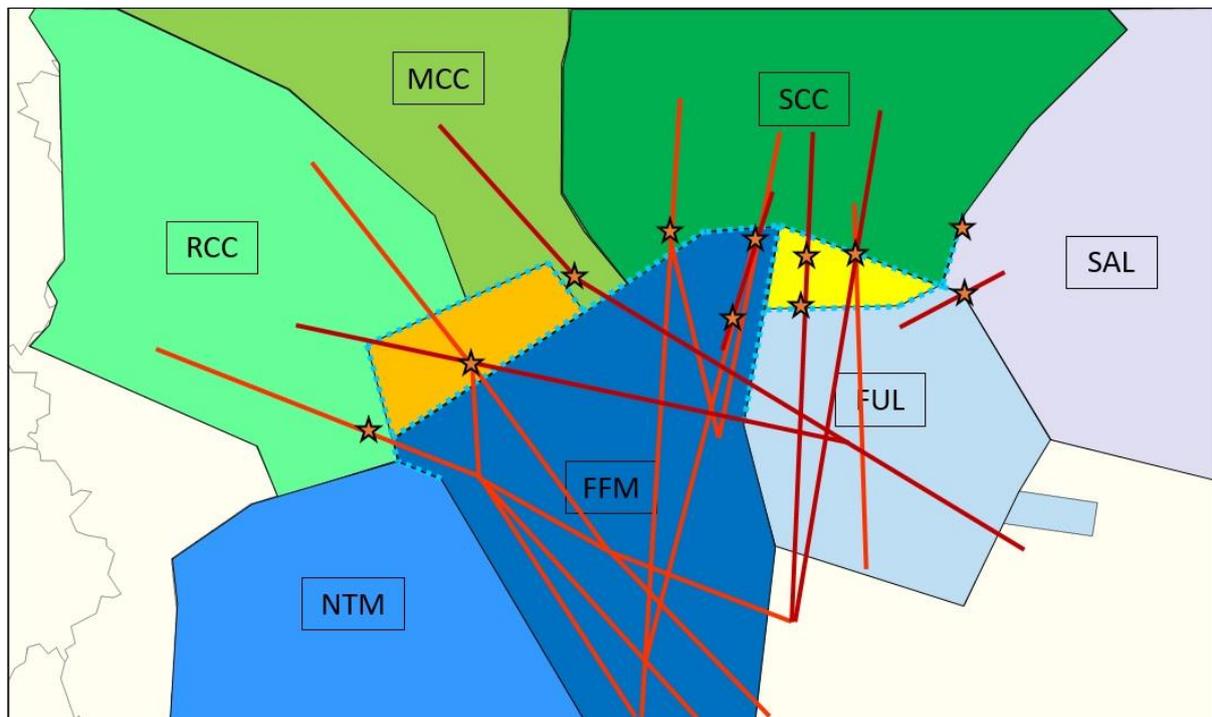
So all participants had plenty of homework to do. Due to the pandemic the project was “digitally-based”, another new challenge for us. But we developed a good communications network and a system for tracking issues - which was one of the key elements.

### **How complex is this airspace?**

The changes we made were close to the large airports in central Germany, such as Frankfurt, Düsseldorf and Cologne, which meant there were considerable vertical movements close to the airspace boundaries. With flights transitioning between lower and upper airspace in some areas it required four centres to re-define one single departure or arrival flow. We realigned sectors and boundaries between the centres. But the result has been an optimized airspace with a reduced complexity and enhanced sector capacity.

### **How did cooperation between Karlsruhe and MUAC work – is COBRA an exceptional programme or do you cooperate in airspace redesign projects on a daily basis?**

It’s always a pleasure to work with the colleagues from MUAC – and with other centres, too, of course. We did not always share the same views but we were focused and professional. What was extraordinary was the fact that there were no political limits, which made it much easier.



### **Were airlines and military incorporated into the project?**

We changed the way we managed the handover of military traffic between Maastricht and Karlsruhe. Managing military traffic is slightly different from civil flights so we had some negotiations with military colleagues - mainly on the MUAC side – to develop a common view and way of managing all flights. Airlines were mainly involved in the COBRA West package, introduced in October 2021, which focused to flows arriving into Frankfurt. We organized a substantial airline briefing document which incorporated all the new route filing options.

### **Do you envision the programme being expanded to more airspace sectors?**

We were able to spend time and resources on the project during the pandemic. Now these resources are limited again, which will hamper developing other such large projects with so many partners. But to rethink the way we design sectors and flows – rather than managing traffic within historical sector boundaries - seems to be a good way forward and I am sure we will see “little COBRAs” in the future, but merging the concept to the available resources.

**What have been the other major lessons?**

The project was huge and complex but very much worthwhile and I would like to thank all centres and parties involved. It was successfully and smoothly implemented in all centres without any political concerns. I believe this is the way forward: to have a common view of the entire network and to implement new concepts like COBRA at regular intervals. This provides capacity enhancement and environmental improvements to all stakeholders.