

Successful validation: COOPANS and Thales reached another milestone in their collaboration around the development of Virtual Centres, within the SESAR project PJ.10-W2 PROSA Solution 93.

Another successful validation exercise (EXE 5, Solution 93) based on Virtual Centre technologies with the application of delegation of ATM services provision among ATSUs have now been executed by COOPANS and Thales as part of SESAR project PJ.10-W2 PROSA, which is under the lead of German air navigation service provider DFS Deutsche Flugsicherung.

This time, a newly developed TopSky ATC platform was deployed in Copenhagen, Malmoe and Paris to exercise ATS delegation across national boundaries in support of workload distribution. The exercise was mainly focused on the operational aspects, human acceptability and feasibility in relation to ATS delegation.

The Virtual Centre platform was based on a Y-architecture consisting of an ATM data service provider (ADSP) in Paris and air traffic services units (ATSUs) in Denmark and Sweden. Pilots were located in the ATSUs and technical support in Rungis, Paris.

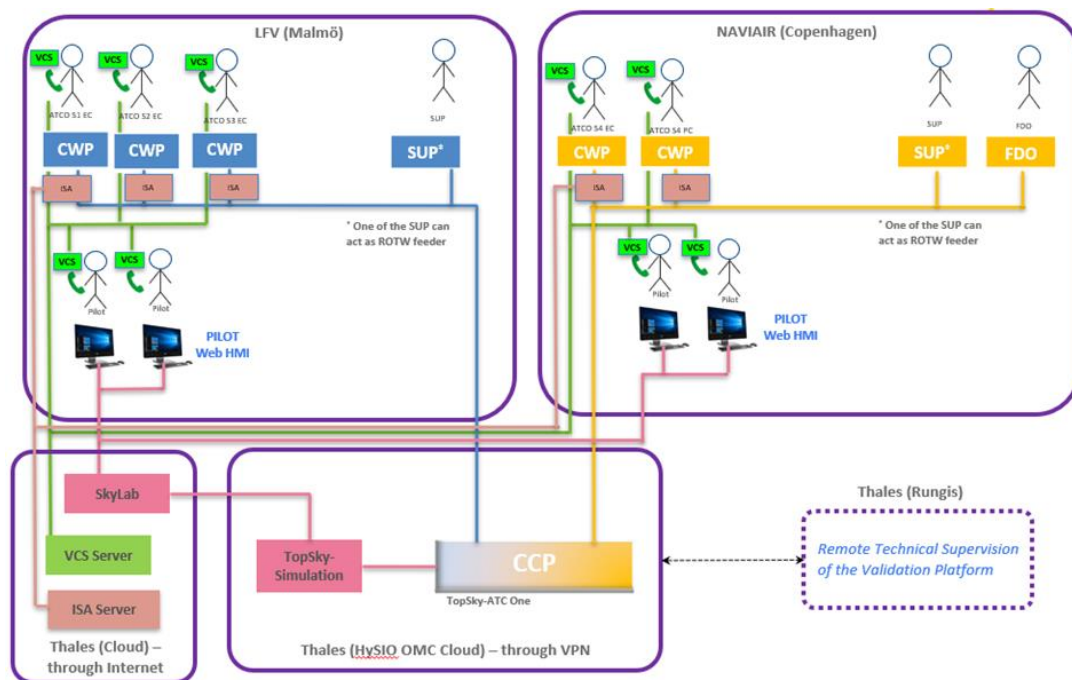


Figure 1 - Platform overview

In the scenario, a traffic increase occurred in Copenhagen airspace, triggering a delegation request to Malmoe, to reduce the workload for the Copenhagen controllers. The operational procedures developed in PJ.10-W2 PROSA Solution 93 were applied during the delegation process and ATS delegation was performed across the boundary, both to an idle (not used) controller working position (CWP) as well as to a CWP already managing traffic. Several different sector configurations / delegation scenarios were tested. The

exercise provided useful information about safety, human performance and operational concept, as well as platform development possibilities.

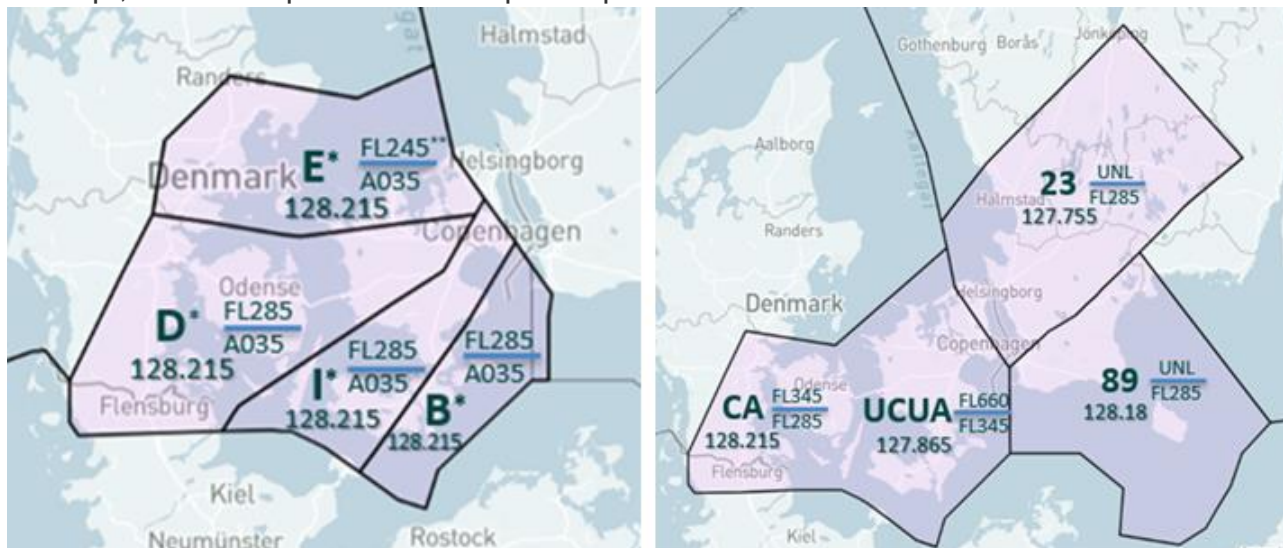


Figure 2 - Airspace used in Exercise #5

Even though some delay was perceived in data transmission during the exercise, while using public internet for the data transfer, the stability of the platform was a major contributor to the successful outcome. The overall concept of ATS delegation was perceived as acceptable from a human performance perspective, even if some adaptation might take place in both systems and procedures to mature the concept further. No critical safety issues were identified during the exercise.

Both partners are satisfied with the results, which have brought the future one step closer.

About SESAR 2020 PJ.10-W2 PROSA

The SESAR 2020 project PJ.10-W2 PROSA, which is under the lead of DFS Deutsche Flugsicherung, is paving the way for the future of air traffic management by advancing automation technology solutions and procedures that will help controllers to handle traffic in an even more efficient way. The project focuses on various aspects relevant for keeping aircraft safely separated. One focus lies on further maturing the concept of flight-centric air traffic control, in which aircraft remain the responsibility of the same controller instead of referencing on geographical sectors. This will be accompanied by examining more flexible non-geographical sector qualifications for controllers. Another part of the project covers delegation of airspace among air traffic service units in expected and planned situations. The virtual centre concept will be further validated within a realistic environment. In addition, human machine interface interaction modes and technologies will be addressed as a way to reduce air traffic controllers' workload and mental strain. In particular, attention guidance will be explored, by using visual stimuli to lead the controller's attention to potential conflict areas. And voice communications will be covered by exploring automatic speech recognition.

PJ.10-W2 PROSA has received funding from the SESAR Joint Undertaking under the European Union's Horizon 2020 research and innovation programme under grant agreement No 874464. With a funding of €37 million, 28 partners and ten "linked third parties", the project is one of the largest projects in the SESAR 2020 Industrial Research part.

More information via the website: <https://www.sesarju.eu/projects/prosa>