

# SyntheSys Adds Value to Swedish Defence Materiel Administration (FMV) with Test Support

## Försvarets Materielverk (FMV)

The Swedish Defence Materiel Administration, FMV, is constantly investigating different ways to exploit existing products as well as developing new, innovative solutions.

FMV has a collaborative approach to its projects which has given SyntheSys the opportunity to support various test programmes.

An initial collaboration saw SyntheSys represent FMV at the Tactical Data Link Capability Team Interoperability Test Syndicate (TDL CaT ITS) with a view to test participation with their Airborne Surveillance and Control (ASC) 890 platform.

As part of the TDL CaT ITS rules, a platform should generally participate passively i.e. initially, without transmitting any data on the test network.

Upon second participation, they are usually semi-active, transmitting own unit information only. It is only on the third participation that the platform can be fully active and be fully integrated into the test.

As Sweden is not a member of the North Atlantic Treaty Organisation (NATO), the ASC890 had to participate in a NATO Partner Tactical Data Link Interoperability (IO) Test (PTDLIOT). As these tests occur only once every two years, FMV would get no real value from their test participation for several years. Another consideration was that they do not have a representative system rig available at their chosen test site, and therefore needed to use a real operational aircraft to perform the testing. Aircraft are high value assets and, as such, are very difficult to tie up for test events.

## PTDLIOT

SyntheSys approached the FMV representatives with a proposal to enable the ASC890 aircraft to participate in its first PTDLIOT in a fully active capacity. The first task involved a derisking test between the ASC890 and the United Kingdom's (UKs) Sentry E-3D, evidence of which was passed to the TDL CaT ITS forum in support of a request for permission to participate actively on first joining the tests.

SyntheSys was tasked by the Swedish FMV to organise the test between Sweden and the UK, to provide the detailed test plans and associated test procedures, to act as Test Director and to report on the test conduct. The test was successfully undertaken and the subsequent report provided evidence to the TDL CaT ITS forum that the ASC890 test configuration would not adversely affect the test network. The forum approved the ASC890 to participate actively in the second PTDLIOT of 2014 (PTDLIOT 14-02).



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Following the forum approval, SyntheSys was further tasked by FMV to provide full platform support to the ASC890 test participation. This involved representing the ASC890 at the TDL CaT ITS planning and analysis sessions, which included briefing on the platform test objectives at the planning session and on the test conduct at the analysis session.

SyntheSys personnel acted as Platform Test Director for the duration of the PTDLIOT 14-02 formal event and were also responsible for performing the detailed analysis and for providing the formal observed issues for subsequent discussion and agreement at the analysis meeting.

SyntheSys' involvement in the ASC890 TDL CaT ITS participation was instrumental in ensuring that the ASC890 could join the first test as an active participant allowing them to realise immediately the benefits of testing IO with other nations, saving our customer, the FMV, both time and money achieving its IO goals.

In addition, SyntheSys enabled maximum benefits to be achieved by helping derive focused platform objectives, guidance in following the test process and full technical event support, all contributing to an extremely successful test event for Sweden's first participation in PTDLIOT.

*Mark Hudspeth, The SyntheSys lead for the ASC890 support, commented: "The ASC890 team of engineers and operators were highly focused and extremely professional, it was great to be part of their team for the TDL CaT ITS test event. Not only did they identify interoperability issues with their own platform, they also contributed actively to what was a highly successful first event for FMV."*

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### About SyntheSys

SyntheSys provides defence systems, training, systems and software engineering and technical management services over a spectrum of different industry sectors. Along with distinct support and consultancy services, our innovative product range makes us first choice provider for both large and small organisations. Established in 1988, the company focus is on fusing technical expertise with intuitive software applications to solve common industry challenges.