

New F-16 tactical trainers are now ready

Full configuration of the newly developed F-16 tactical trainers is now complete after several years of close collaboration between Danish company IFAD, the Royal Danish Air Force and the Danish Defence Acquisition and Logistics Organization.

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The Royal Danish Air Force (RDAF) and the Danish Defence Acquisition and Logistics Organization (DALO) have been involved in a close collaboration with the Funen-based company IFAD since 2016 to develop new simulators for use in the training of F-16 pilots. These new simulators are known as Deployable Advanced Readiness Trainers (DART) and are, as already mentioned, developed by IFAD

together with a subcontracted company called ArenaLogic.

ArenaLogic was, in collaboration with IFAD, responsible for the development of the actual flight aspects of the simulator whereas IFAD was responsible for the development of the instructor station. The flight aspect of the simulator is comprised of the actual "cockpit" in which an F-16 aircraft's most important buttons and handles are integrated. The remaining buttons are activated via a touch screen. The cockpit is encapsulated by five large monitors that show the terrain in which the simulator is "flying". The instructor station, which is an important part of the tactical trainer, is where the instructor plans where each mission will take place and the various threat scenarios to which the mission will be exposed.

Close collaboration with the industry

DART was developed in close collaboration with IFAD, who have continued on a month-by-month basis to introduce functions according to the sequence required by the Royal Danish Air Force. The initial concept for DART was rather simple, being comprised of a screen with a chair in front of it, from where the pilots could only train in the use of a new Targeting Pod system, for which pilots at that particular time needed to receive a considerable amount of training.

The current facilities and functions have been expanded somewhat; DART now more closely resembling a real simulator, albeit a static one. The cockpit resembles that of real aircraft, while the many screens give a real sense of the airspace in which the aircraft is flying. The project launched with only two simulators, but its early success meant that it was quickly expanded with an additional two simulators, giving a current total of four. The capacity of four simulators offers some advantages as it allows pilots to train in the same tactics as flown by the actual aircraft where the ability to focus on four planes working as a unit is ideal. The driver behind the development of DART was a desire to expand simulator training exercises to closely resemble the missions performed in the actual aircraft.

“The DART simulator is a fantastic example of how a close collaboration between the dedicated employees at Fighter Wing, DALO and the manufacturer has produced a product and a capacity that is completely unique even from a global perspective, within a much shorter time frame and at a fraction of the price that would otherwise be considered normal for such capacity,” says Lieutenant Colonel Casper Børge Nielsen, head of DALO’s Aviation business area.

There is already interest in the tactical trainer from several other nations that fly the F-16. Most recently, IFAD and its subcontractor ArenaLogic won an international tender to deliver this solution to the Portuguese air force and concluded an agreement to supply two DART systems to Belgium.

New training exercises

Some of the latest expansions on this front have been the ability to train simulated flights, not only in daylight but also as night operations with the helmet-mounted sights that are also a feature of the actual aircraft. It is also now possible to train together with Air Control Wing and Joint Terminal Attack Controllers. The weapons package has been updated too, so as to constantly stay up to date with weaponry that is either already in service on the aircraft, or that is on the way. The electronic flight bag tablet, which is strapped to the pilot’s leg, has also been linked to the system. And last but not least, it has now become possible to connect the simulator to actual aircraft flying in the airspace, via the Link16 network. This means that the pilots can view each other on their respective screens, talk to each other and see when a pilot delivers weapons. This offers completely new opportunities for the pilots when simulator and actual flight training can be combined so that pilots are flying the same mission together.

Keeps pilots busy

It may seem unnecessary to develop a tactical trainer for the F-16 at a time when they are due to be phased out. However, part of the tactical training that is currently performed on the F-16 also serves as the basis for the various concepts that will be used on the F-35 combat aircraft that will be entering into service with the Royal Danish Air Force in the years ahead. DART can thus help to ensure that new pilots can continue to be trained as well as maintaining the training and skills of experienced pilots in the lead up to the transition to the new air fleet.

Danish Defence – collaboration and dialogue with the industry

The Danish defence industry plays an important role in the security of Denmark and in Denmark's community of allies and partners.

We are working within the framework of the National Defence Industrial Strategy of the Danish Government and the Open for Business Strategy of the Danish Ministry of Defence to promote Danish security policy interests through our support of the Danish defence industry, both in Denmark and abroad.

More information at DALO:

News release and Video (in Danish)

[Nyudviklede taktiske trænere til F-16 står nu færdige \(fmi.dk\)](https://www.fmi.dk/nyheder/nyudviklede-taktiske-tranere-til-f-16-star-nu-faerdige)