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Eurofighter and Euroradar to develop latest generation AESA Radar

Technical background brief

The Euroradar consortium, (led by SELEX Galileo with partners EADS Defence & Security of Germany and Indra of Spain), has invested heavily in Active Electronically Scanned Array (AESA) radar technology over the last 16 years.

During that time a number of Technology Demonstrator Programmes have been executed, each one taking AESA capability on Typhoon to a new level. These programmes include AMSAR (Airborne Multirole Solid State Active Array Radar) and CECAR (Captor E-Scan Risk-reduction). As part of the CECAR programme, the CAESAR (Captor Active Electronically Scanning Array Radar) flew with great success on Eurofighter Typhoon DA-5 on 8th May 2007.

The Euroradar investment has focussed the enabling core AESA technologies such as high performance Transmit Receive Modules (TRM's) and Array configuration. The timing is now right to move into full scale production development to provide the latest generation AESA radar for Eurofighter Typhoon.

The radar will rely heavily on the "back-end" processor and receiver architecture from the existing best-in-class Captor mechanically scanned radar. This will ensure minimum disruption to the mature Typhoon weapon system and allow a timely and smooth transition to AESA.

Performance of the Typhoon AESA radar will be unmatched in the export marketplace. The very large aircraft nose allows for an optimised array and with the addition of an innovative re-positioner, the field of regard is +/- 100° which is some 50% wider than traditional fixed plate systems. This wide field of view has significant benefits in both air to air and air to ground engagements allowing Typhoon to turn away from, but still engage, target aircraft and carry out high resolution SAR modes whilst maintaining safe distance from enemy forces.

Although targeted at new aircraft the radar can also be retrofitted to existing aircraft.

Euroradar is a multi-national consortium lead by SELEX Galileo, a Finmeccanica Company, alongside EADS Defence Electronics and Indra. Euroradar has delivered over 250 Captor mechanically scanned radars into the Typhoon programme and has orders for over 200 more.