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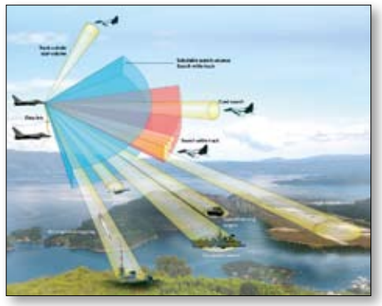
CAPTOR-E

Active Electronically Scanned Array Radar for Typhoon

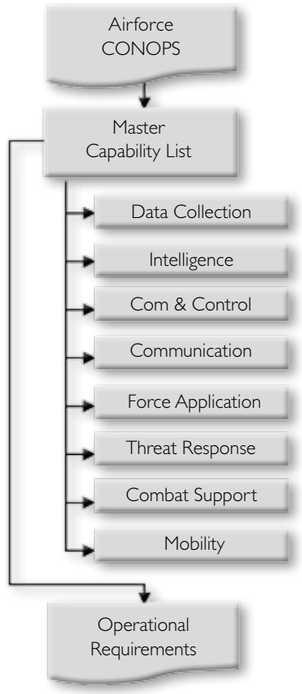
The evolutionary approach for an upgrade of CAPTOR radar – the primary sensor of Typhoon

CAPTOR-E All Weather Radar Features

- Multimode A/A and A/G Fire Control and Weapon Support
- Increased Air-to-Air Range
- Faster Detection and Tracking of multiple Targets
- Improved Tracking Performance
- Simultaneous Air-to-Air and Air-to-Ground Modes
- Extended Missile Guidance
- Increased Operational Performance and Availability
- Reduced Life Cycle Cost
- Low Risk Upgrade of existing CAPTOR-M Radar
- Growth Potential for Future Enhancements



Complex Airborne Threats
Multimode E-Scan Operation



Customer driven requirements

Benefits

The Threat
- Complex scenarios with high agile airborne and ground based threats in combination with asymmetric warfare
- Detection of difficult targets with low Radar Cross Section
- Difficult electronic warfare environment

Facing the Challenge
- Active electronic beam steering with nearly instantaneously repositioning of radar beam enables faster detection and increased tracking ranges
- AESA technology with flexible radar resource management will improve tracking performance/track robustness and missile guidance for simultaneous multi target scenarios.
- Fast beam steering and high reliability of AESA will increase the operational effectiveness and mission availability of fighter aircraft
- Cooperative/network centric operations will counter the growing numbers of threats

Enhancement in Mission Success
- Optimal multirole capability
- Unsurpassed future advantages due to inherent flexibility for simultaneous additional non radar functions – more than radar
- High weapon system mission availability

Operational Benefits
- Increased operational capabilities for detection/ tracking due to high Effective Radiated Power
- Improved situational awareness through simultaneous Air/Air and Air/Ground operation
- Reduction of overall radar cross section
- Inherent increased reliability of AESA frontend

Radar System Benefits
- Fully solid state Gallium Arsenide AESA technology with high Mean Time Between critical Failures
- High agile, fast radar beam positioning
- Full digital radar, highly reliable system architecture
- Modular hardware and software
- Enhanced ECCM features
- High overall system reliability
- Reduced Life Cycle Cost due to solid state technology and graceful degradation

Technical Design Features

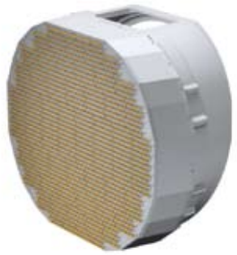
Available AESA Technology
- The Euroradar partner companies have over the years developed powerful AESA technologies and demonstrated during the European AMSAR project in several campaigns the design capabilities for Active Electronic Scanned Array radars.
- CAESAR – CAPTOR AESA Radar
  Euroradar funded demonstrator program 2002-2007
  New AESA frontend with CAPTOR-M backend. Successful flight demonstrations on Eurofighter Typhoon in May 2007
- CECAR
  GE and UK MoD funded program, performed by EADS and Selex Galileo to de-risk an E-Scan development based on early analysis of recorded E-Scan radar data.

Series Production of Transmit/Receive Modules
- European sources are the basis for powerful Gallium Arsenide technology and advanced highly reliable frontend designs
- Proven series production for space (TerraSAR), airborne (Vixen E), naval and ground (MEADS, BÜR) application in mass quantities

Multiple Radar Modes of Operation
- Simultaneous/interleaved A/A and A/G radar modes
- Air-to-Air search and track/search while track
- Air-to-Ground real beam ground map as well as high resolution modes for surveillance and reconnaissance
- Ground moving target indication search and track
- Sea surface search

Integration/ Installation Aspects
- Easy integration in Typhoon
- Low Risk Upgrade of existing CAPTOR-M Radar
- Fits into existing Typhoon power, volume, mass and cooling constraints
- Highly reliable AESA antenna with graceful degradation
- Obsolescence robust design with low life cycle cost

Future Growth Potential
- Non Radar Modes like Data link, Electronic attack, ESM and ECM support
- Multi channel adaptive beam forming including Space Time Adaptive Processing (STAP)
- Wide Field of Regard
- Bistatic operation

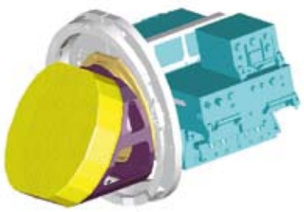


AESA Frontend

Transmit/ Receive Module

CAESAR first flight May 2007

CAESAR integrated in Typhoon



CAPTOR-E Growth Potential
Wide Field of Regard

Radar Makes The Difference