



ELECTRONICS DIVISION

KRONOS® POWER SHIELD

FULL DIGITAL MULTIFUNCTION AESA D-BAND NAVAL RADAR FOR BALLISTIC MISSILE DEFENCE AND SURVEILLANCE

KRONOS® Power Shield is a D-Band Multifunction AESA Radar specifically designed for Naval Early Warning Tactical Ballistic Missile Surveillance and Defence. Forming part of the KRONOS Family of radars, the key feature of the KRONOS Power Shield architecture is its Fully Digital Antenna based on technology already proven through in-service Active Electronically Scanned Antenna (AESA) Multifunction Radars.

The core block of the digital antenna is the DAT, Digital Active Tile, which implements a full digital radar chain for each single radiating element, starting from the Waveform Generation up to the broadband ADC.

More than 1000 radiating elements grouped in DATs provide a completely distributed architecture controlled at single element level. This brings increased performance, new functionality and the ability to implement a wide range of radar scanning architectures required to cover the various operating requirements for today and tomorrow.

KRONOS Power Shield is the Early Warning Radar selected for the new Ballistic Missile Defence (BMD) fleets of several Navies.

ONE SENSOR FOR FULL BALLISTIC MISSILE DEFENCE

KRONOS Power Shield covers the full spectrum of BMD capabilities that modern complex scenarios require for an Early Warning Radar (EWR).

Tactical Ballistic Missile Defence

High data rate and excellent detection accuracy for a tempestive cue of descending phase Tactical Ballistic Missiles (TBMs) for area defence.

Tactical Ballistic Missile Surveillance

Very extended range for wide areas surveillance and Early Warning Initiation of ascending phase TBMs Mission flexibility to support Tactical Picture Updating or cueing to FCR for self-reaction against ABT and TBM threats.

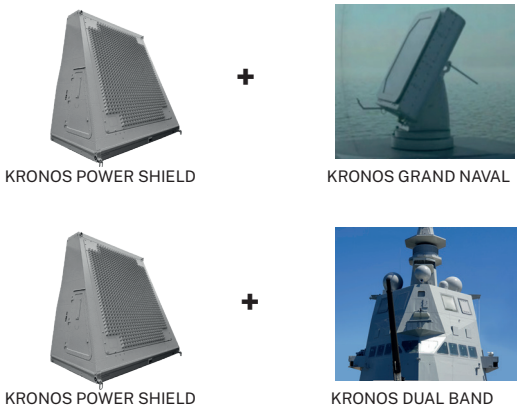


KEY FEATURES

New generation of software defined radar

- Full Digital Rx
- Full band ADC at single element level
- Full Digital Tx
- Waveform generation at single element level
- Excellent tracking accuracy thanks to bi-dimensional digital monopulse based on single element input
- High Range Resolution (Wide Band) to discriminate TBM Booster from TBM Re-entry Vehicle
- Advanced ECCM capabilities and Clutter/Multipath suppression by means of Adaptive Digital Beamforming (ADBF)
- Stared antenna operation for radar performance extension
- Space Surveillance

KRONOS INTEGRATION IN BMD SYSTEMS



TECHNICAL SPECIFICATIONS

• Radar type	Multifunctional, Full DBF
• Antenna type	AESA GAN technology
• Frequency band	L/D
• Antenna rotation	15rpm (4sec scan time)
• Search volume	360° or in a sector
• IFF antennna	Co-mounted
• Electronically scanned	(±45°, 0 to 90°)
• Rotating and Stared Mode	
• Simultaneous track	>1000
• Update time	4 sec rotating 1 sec stared

• Elevation coverage	70° search 90° tracking
• Instrumented Range	400km ABT 1500km TBM
• Weight (Above Deck)	7 Tons
• Cooling	Liquid cooled
• Maintenance	Completely indoor
• Status	Under Contract

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