

Phased Array: Precision at Scale

Integrated RF-to-calibration solutions powering next-generation phased arrays.

Phased arrays are rapidly moving from specialized defense systems to scalable sensing and communications platforms. ADI enables this shift with a vertically integrated portfolio spanning RF, signal processing, power, and calibration technologies. By combining industry-leading semiconductors with subsystem-level solutions, ADI helps customers accelerate development and scale advanced phased array systems across commercial and defense markets.



Strategic AESA Applications Shaping the Future

Counter-UAS & Air Defense	Loitering Munition & Seekers	Multi-Domain ISR
Rapid detection and tracking of small UAVs and cruise missiles	Compact, low-power AESAs optimized for mass-scale platforms	Agile sensing across air, space, maritime, and ground systems
Integrated radar and EW on mobile and fixed platforms	Survivable multi-mode seekers with integrated electronic protection	Persistent tracking with high dynamic range and wideband operation
Interoperable sensing for layered air defense networks	Distributed sensing and cross-cueing for long-range engagements	Real-time sensor-to-decision workflows for battlespace awareness

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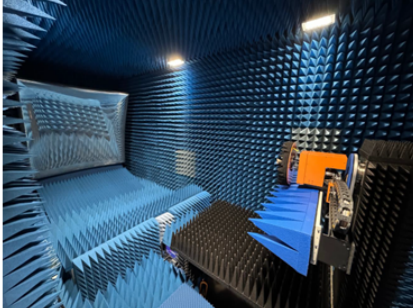
From Prototype to Production

Addressing Highly Integrated AESA Systems

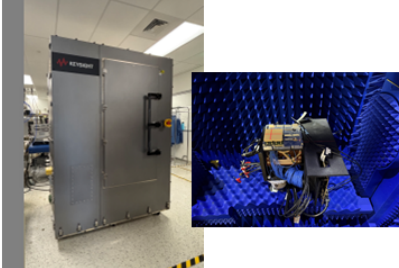
Prototype Validation



System Demonstrations



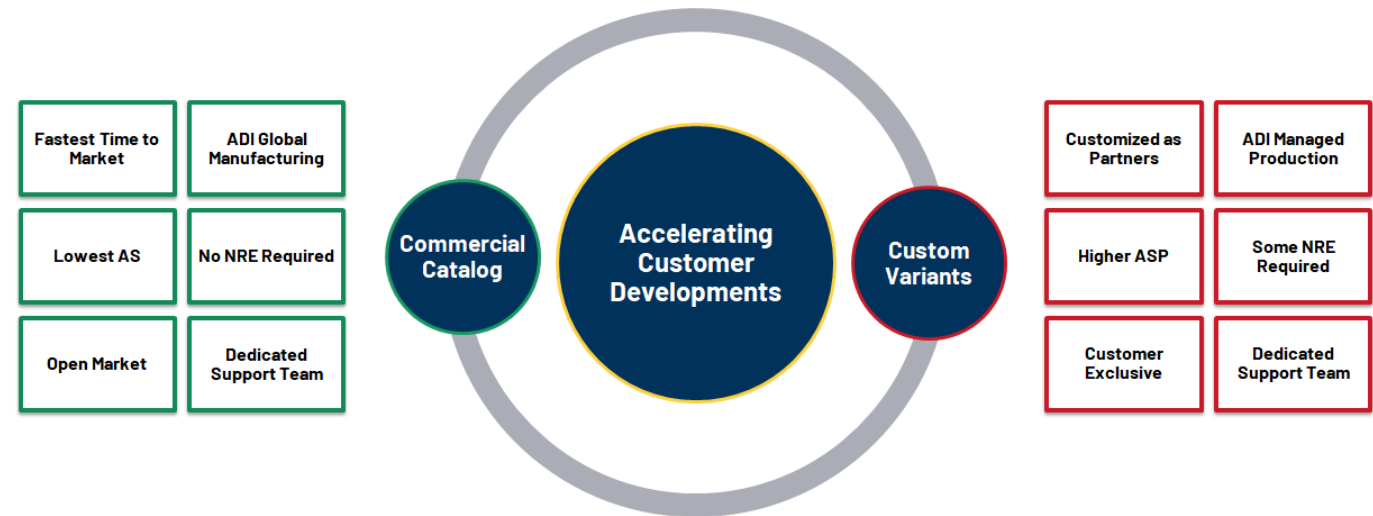
High-Volume Manufacturing



Customer Success Depends on AESA Performance	Required for reliable radar detection, EW effectiveness, secure communications
	AESA accuracy directly impacts target detection, targeting precision, and link reliability
Measurement & Calibration Provide Confidence	Measurements reveal true performances: beam patterns, EIRP, sensitivity(G/T), etc
	Calibration ensures consistent and optimal behavior: amplitude/phase stability, spectral purity, and reduced performance drift
Growing Complexity Demands Advanced Solutions	Increased integration and digital beamforming drive measurement and calibration challenges
	Traditional OTA methods(compact ranges & near-field) approach face limitations

From Commercial Platforms to Custom AESA Systems

ADI enables customers to accelerate phased-array development with flexible engagement models spanning catalog platforms, reference designs, and custom system solutions.



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Scale Your AESA Strategy with Confidence

Customers can begin with commercial AESA platforms and evolve toward reference designs or custom systems as mission and performance requirements mature.

Development Advantages

Proven subsystem platforms accelerate time to prototype

Architecture reuse reduces integration risk

Shared RF digital and calibration backbone

NRE amortized across multiple programs and markets



Supply Chain Advantages

Commercial scale manufacturing yield learning

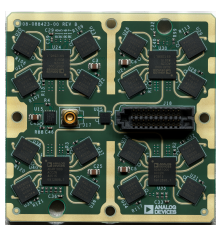
Stable production baselines across programs

Reduced lifecycle sustainment risk

Exportable platforms supporting sovereign integration

Balancing Speed and Scale

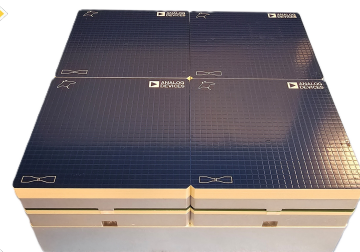
A scalable path from beamforming electronics to wideband apertures to application-specific array configurations.



Beamforming Cards



Wideband Antenna Arrays



Scalable Antenna Personality

The ADI Subsystems Advantage

Commercial-scale subsystem building blocks for rapid integration and deployment of mission-critical AESA systems.



Vertical Integration of IC portfolio



Mix-and-Match ecosystem Modularity



Fastest TTM



Aligned to open standards



Self-funded

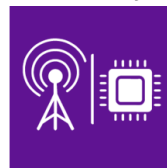
Wideband & Multi-Function Architectures



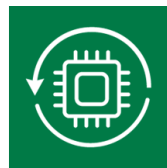
Advanced Packaging & Thermal Management



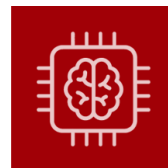
Digital Beamforming & Distributed Processing



Real-Time AI-Enhanced Calibration



Cognitive & Adaptive AI/ML Operational Functions



ADI Solutions

Emerging Customer Focus



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