

## The Future of Fighter Aircraft

Active electronically scanned arrays (AESAs) are adding a new dimension to the demanding fighter aircraft environment, and Raytheon is at the forefront of this radar revolution. At the same time, we continue to lead the way in developing next-generation electronic warfare systems and secure airborne processing technology, providing aircraft with self-protection against RF and cyber threats.

Raytheon's AESA radar and electronic warfare technology — combined in one package — represents a significant leap ahead in performance. We've successfully integrated selected functions of our AESA and EW systems, facilitating development of additional capabilities to meet customer needs.

Combining the full complement of Raytheon sensors and weapons reduces overall costs while maximizing operational capabilities. No other company offers such a high performance, cost-effective package. This customer-focused approach gives warfighters a wider range of actionable information, enabling superior combat performance and operational effectiveness.

*Raytheon built the first operational AESA fighter radar and still leads the field.*

## Raytheon's AESA Combat Aircraft Radars

Revolutionary capabilities. Mission ready.



Raytheon Company  
**Space and Airborne Systems**  
2000 E. El Segundo Blvd.  
P.O. Box 902  
El Segundo, California  
90245-0902 USA  
[www.raytheon.com](http://www.raytheon.com)

**Raytheon**  
*Customer Success Is Our Mission*

**Raytheon**

## Scalable for Multiple Platforms

Compact, lightweight and highly capable, Raytheon's AESA radar systems are fully scalable and can be tailored to virtually any fighter platform. Selected by U.S. and international customers, options are available for both markets now.

AN/APG-63(V) RMP

AN/APG-79

AN/APQ-181

RACR: Raytheon  
Advanced  
Combat Radar

## Current and potential platforms

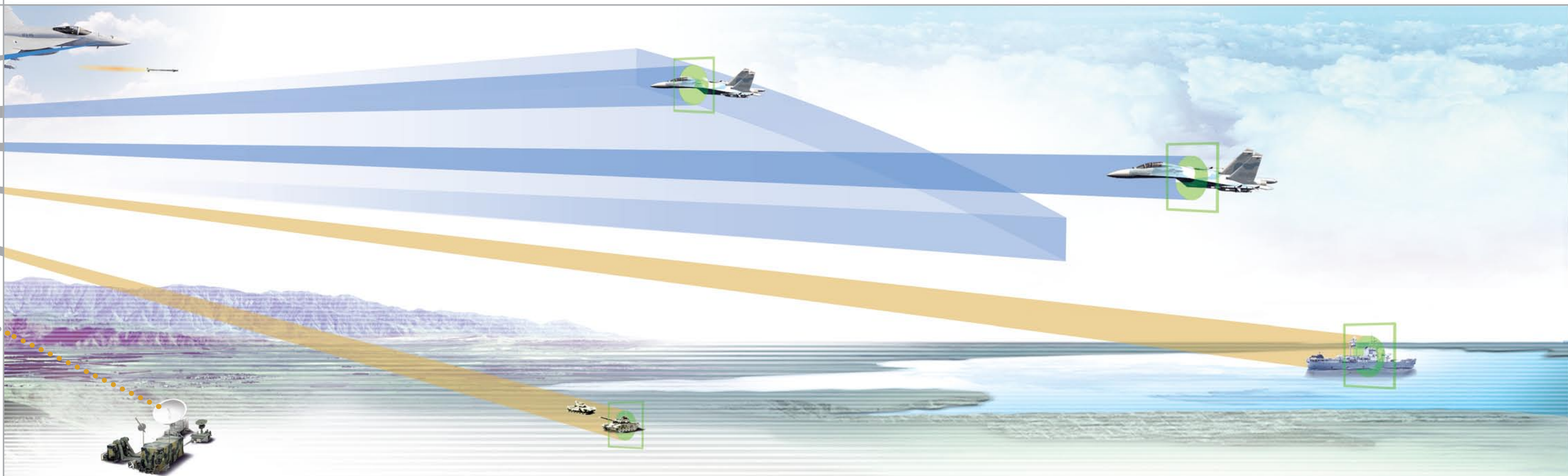
- F-15 (flew the world's first operational fighter AESA)
- F/A-18
- F-16

## Raytheon's Revolutionary AESA Technology

With groundbreaking performance and tactical advantages, AESA radar is the cornerstone of future fighter aircraft — and Raytheon is the AESA provider of choice. No one offers Raytheon's level of proven operational AESA capability and mission support.

Raytheon designed and built the world's first operational AESA fighter radar — the APG-63(V)2 for the F-15C, first fielded in 2000. We are also the only company to retrofit an AESA radar. Our proven AESA technology provides incomparable detection, targeting, tracking, and self-protection — giving pilots the edge in today's challenging scenarios.

Controlling the battlespace, Raytheon's proven AESA technology gives fighter pilots and aircrews the ultimate operational edge.



## Extended Range

The ability to see clearly from longer standoff distances is a major advantage that Raytheon AESAs bring to the fighter environment. Aircrews equipped with our AESA radars can detect and identify targets well beyond the range of current weapons.

The Raytheon AESA's superior targeting and tracking range, and image resolution, give pilots greater tactical maneuverability for "first shot-first kill" and other crucial actions. Their longer standoff range also allows more time for persistent target observation, information sharing, tactical analysis, and commander assessment before critical decisions are made. The result: greatly increased aircraft-aircrew effectiveness and survivability.

## Multi-target Track

From our APG-63(V)2, the first operational fighter AESA, to our new F-15 and F/A-18 radars in production, Raytheon has significantly increased multi-target search and track capability—air-to-air, ground-moving target, and long-range sea-surface — providing pilots and aircrews with greater situational awareness.

Our AESA radars track significantly more targets than other radar systems, and perform long-range synthetic aperture radar (SAR) mapping with superior surface detection and target breakout.

## Interleaved Modes

Raytheon's state-of-the-art AESA is the only radar flying that performs simultaneous air-to-air and air-to-surface operations. Its highly agile beam allows multiple air-to-air and air-to-ground modes to interleave in near-real time, providing pilot and aircrew with unprecedented situational awareness and tactical flexibility.

Raytheon AESAs continue scanning while capturing ground imagery and communicating with other aircraft, and can simultaneously guide multiple weapons to multiple targets widely spaced in azimuth, elevation, and range. A unique built-in resource manager automatically schedules tasks to optimize radar functions and minimize aircrew workload.

## Precision Engagement

Raytheon AESA radars provide all-weather precision targeting and weapon delivery.

Key features include:

- Long-range multi-target detection and tracking
- Multiple simultaneous targeting and tracking capabilities
- Superior situational awareness, maintained during weapons deployment
- Interoperability with onboard weapon and electronic warfare systems

Raytheon's AESA technology is establishing a new standard for precision strike, enabling simultaneous air-to-ground weapons delivery against multiple targets at unprecedented ranges.

## Versatility

Our versatile AESA radar family delivers multirole, multimission support, superior fighter flexibility, and optimal performance even in heavy clutter environments such as mountains, coastlines, and cities. All models are easily upgradable and scalable.

## Net Centric Capability

Versatility also makes our leading-edge AESAs an important force in the modern networked battlespace. Built with secure, interoperable technology, they effectively share crucial data with other air- and ground-based systems for close battlefield cooperation.

## Lower Lifecycle Cost

With their simpler stationary design and fewer components, AESA radars offer significant reliability and maintainability benefits over mechanically scanned radars — resulting in much lower lifecycle costs.

Designed for years of service in rugged fighter conditions, Raytheon AESAs rarely need maintenance or repair over the life of the aircraft platform. Lower operational costs and a dramatically reduced deployment footprint enable unprecedented in-commission rates.

Combining high performance with high reliability, Raytheon AESAs are the right choice for pilots and aircrews — and the smart choice for cost-effective long-term use.