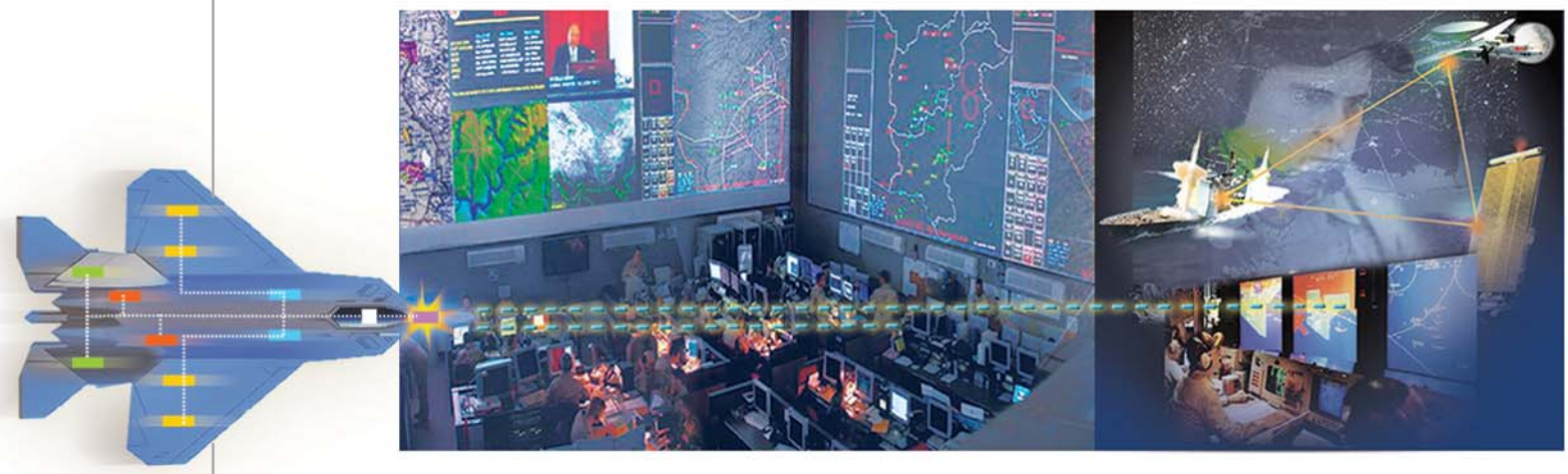
Airborne Processors

When Situational Awareness Counts

Raytheon

Raytheon airborne processors provide a high performance, multilevel secure foundation for the delivery of rapid, precise effects in a joint battlespace.



Powerful

Raytheon's airborne processors provide unsurpassed processing performance to meet advanced mission needs. Powerful features such as high processing throughput, large memory capacity, high-bandwidth scalable interconnectivity, and interface to multiple sensor types support the advanced operational capabilities of modern air platforms.

Our airborne processors deliver the performance and reliability needed for mission success. Compact and rugged, they withstand the stringent cooling constraints and severe environmental requirements of high-performance jet fighters. Highly reliable and fault tolerant, our processors support safety critical and mission critical applications such as fly-by-wire. Raytheon processors feature robust architectures enabling us to meet hard, real-time deadlines.

Net Centric

Network Centric Operations (NCO) — the networking and sharing of information among planners, sensors and battle managers — enable the delivery of precise effects and rapid, effective decision making across highly distributed joint and multinational forces.

A key enabling technology for NCO is multilevel security (MLS). Raytheon has developed the processor hardware and system software for the only embedded, real-time MLS secure avionics system deployed in the world today. Our MLS technology enables the simultaneous processing of data at multiple, different security levels, ensuring that input/output occurs at only the authorized security level of each user.

Raytheon is investing to develop affordable, next-generation processor capabilities that will enable all legacy and new aircraft to connect to the future NCO Global Information Grid. For the warfighter, this will assure that the right information is shared with the right platform, at the right time, for the right effect.

Advanced Mission Needs

- Improved situational awareness
- Increased targeting accuracies with onboard/offboard data fusion
- Dramatically reduced kill chain time
- Combat identification
- Nontraditional ISR
- Interoperability with joint and coalition forces

Net Centric Processor Features

- High processing throughput
- Large memory capacity
- Multilevel security
- Cryptography
- Robust anti-tamper

Affordable

Our processor architectures adapt commercial-off-the-shelf (COTS) technologies to unique platform and mission requirements, achieving affordable, mission-ready solutions. With customer success as our top priority, we have developed proven processes that enable us to deliver high-performance airborne processors on time and on budget.

Key enablers to achieving powerful, cost-effective solutions include:

- Flexible and scalable open architectures, with modular expandability for easy platform insertion and future upgrades
- System engineering that balances performance, design and cost to achieve best value and lowest risk for our customers
- Processor simulation and modeling for design trades, hardware and software integration, and performance
- Flightworthy brassboard units for easy transition from development to production

Proven

Raytheon has delivered more than 3,000 airborne processors on current programs. Our proven processes ensure low-risk transition from development to production. Raytheon's proven airborne processor solutions range from integrated avionics systems to processor subsystems and processor modules. We have the unique capabilities to design, develop and manufacture processor solutions for a variety of aircraft to meet evolving requirements and priorities.

- Innovative and cost-effective high-performance processors
- Integrated processor solutions for emerging net centric needs
- Low-risk midlife upgrades to meet growth requirements and extend the mission capabilities of aircraft well into the 21st century

Preferred Provider

Raytheon — the preferred provider of a wide variety of airborne processor solutions — has a history of successfully developing and delivering processors on all fighter aircraft currently produced in the United States.

Working as a collaborative partner with our customers from the processor's inception, we provide fully integrated processor solutions with proven transition from development to production. We develop processors to extend mission capabilities well into the 21st century, increase performance and meet future customer needs on schedule and on budget for a variety of aircraft types (fighters, bombers, airlift, surveillance, rotorcraft).

Proven Solutions

- F-16 Modular Mission Computer (MMC)
- F-22 Common Integrated Processor (CIP)
- F-22 Processor, Interface Controller and Communications Module (PICC)
- F/A-18 Common Integrated Sensor Processor (CISP)
- F-35 Integrated Core Processor (ICP)
- Long heritage of processing solutions: F-15, B-2, E-2C

Enabling Capabilities

- System engineering that balances performance, design and cost
- Sensor and avionics system expertise
- Robust anti-tamper for domestic and export systems
- High-performance signal, data and image processor architectures
- System software and middleware
- Platform-driven software development (CMMI® Level 5)
- Proven use of COTS components in challenging airborne applications
- Processor simulation and modeling
- Ultra-high-density packaging for rugged, militarized environments
- Advanced thermal management techniques

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Customer Success Is Our Mission