

GE
Intelligent Platforms



airborne systems



imagination at work

High performance is a moving target in aerospace applications.

The cutting edge is a dangerous place unless you have a plan to protect your technology investments.

Our product design strategy allows you to minimize the effects of obsolescence, preserve your certifications and manage your product lifecycle. Our robust designs often allow us to change processor and memory types without changing the physical or electrical characteristics of the board, which delivers highest levels of performance and reliability throughout the life of your program.

By maintaining form, fit and functionality across multiple generations of product ,

you can minimize re-qualification following an upgrade. Our Board Support Packages provide a stable software interface between the application and the underlying hardware, also minimizing revisions to application software.

Of equal importance, our products are designed to be rugged right from the start. We have perfected the development of thermal and mechanical technology coupled with test and qualification techniques to bring the best available COTS technology to the rugged market.

As part of GE, we can offer you access to invaluable resources at sister divisions such as GE Research and GE Aviation.

Manned. Unmanned. Rotary. Fixed. Space. We've done it all.

Our rugged hardware has been deployed for decades by leading prime contractors in some of their most high-profile programs.



Airborne applications evolve at blinding speed. If your subsystem contractor isn't up to speed, there usually isn't time to get them there. Fortunately, you can turn to us knowing we have the experience to immediately support the development of your latest application, because that's exactly what we've been doing for so many years.

Our expertise reaches from individual boards through fully integrated subsystems. It includes decades of design, testing and validation of rugged electronics, plus avionics certification standards such as DO-178,

DO-254, ARINC and Certifiable BSP's. Our real-world learning from deployed systems gives us insights that simply cannot be gleaned from laboratory testing.

Our proven Program Management process is designed to execute on our core competencies: Contract Management, Application Domain Knowledge, System Architecture, Thermal Management, Integration, Validation and Verification, Configuration Management, Engineering Process and Procedures, Program Lifecycle Management (PLM), Logistics and Reliability.

Major programs that have selected GE Intelligent Platforms:

- 737 Wedgetail Airborne Early Warning and Control Aircraft
- A400M Tactical Transport Aircraft
- F-18 AT-FLIR
- B2 Mission Display Processor
- MQ-88 FireScout
- F-16
- HALE
- RQ-4A/B Global Hawk UAV
- Predator UAV
- Barracuda UAV
- EuroFighter Combat Aircraft
- ISS (Space Station)
- National Missile Defense
- B-52 Display Processor Upgrade
- T-6A/B JPATS
- NH-90 ASW Helicopter
- V-22 Osprey
- Plus 20 Additional Platforms

Create your application based on our building blocks.

In addition to proven hardware and software, you also have access to a team with decades of experience in aerospace application design.

Autonomous Flight

The MQ-88 FireScout Vertical Takeoff and Landing Tactical Unmanned Aerial Vehicle (VTUAV) System has proven its ability to land autonomously aboard a naval vessel at sea.

This versatile and capable vehicle can stay aloft for over four hours, with a range of 110 nautical miles. Its can identify tactical targets, track and designate targets, provide targeting data to strike platforms, employ precision weapons, and perform battle damage assessment. Many of its functions are controlled and facilitated by computing systems provided by GE Intelligent Platforms.



Lockheed C-130 Hercules.

Artificial Intelligence for Aircraft Maintenance

Our products are part of a new system known as the On-Board Reasoner. It is an extension and improvement to existing integrated aircraft diagnostic systems. Current systems include an on-board data recorder and a ground-based reasoner which performs the data analysis. This ground-based system can improve maintenance by defining root-causes, identifying false alarms, and prioritizing maintenance items. The on-board reasoner has the added benefit of performing much of this analysis in real time, even during flight.

This means the crew can be alerted immediately if there are maintenance issues that need attention, and it also frees the crew from the major distractions presented by false alarms.



Unmanned and autonomous vehicles demand the sophisticated, rugged processing power.



The AIM process is used to determine a more accurate alignment of images, or to match input imagery with a predetermined target.

Image Matching

Automatic Image Matching (AIM) is an image processing technique that allows images taken from different sensors at different times to be aligned. It would allow, for example, matching of an infrared image taken from the payload of a Unmanned Aerial Vehicle (UAV) to a visible band satellite image. This could assist the UAV in terms of navigation or target detection.

For example, the left hand image above shows a thermal image extracted from an airborne platform. Given the position and orientation of the imager, it is possible to approximately match the viewpoint of the imager by warping a geo-referenced photo of the area, as shown by the warped aerial photo on the right.



The F-16 is one of the first platforms to deploy a new all-digital radar warning receiver.

Rugged 3U
CompactPCI
solution comprised
of PPC SBC, FLASH
and MIL-1553.



All-digital radar warning receiver

The world's first all-digital radar warning receiver (RWR), the ALR-69A(V) features capabilities previously unattainable in a tactical RWR: suppression of enemy air defenses, easy cross-platform integration, and enhanced spectral and spatial coverage for high-sensitivity detection in dense signal environments. Initially to be installed on the U.S. Air Force AC/MC/C-130 and F-16, the system is compatible with virtually any airborne platform.

To learn more about GE Airborne Systems, visit www.ge-ip.com

Military Aerospace Applications.

The environmental challenges faced by ground-based defense platforms range from Arctic cold to Saharan heat and dust. Our systems and modules are specifically engineered to overcome these challenges and deliver high performance and reliability in the most demanding circumstances. Newer form factors like VPX and XMC are extending these capabilities and enabling the latest application types.



Network
Switch Units



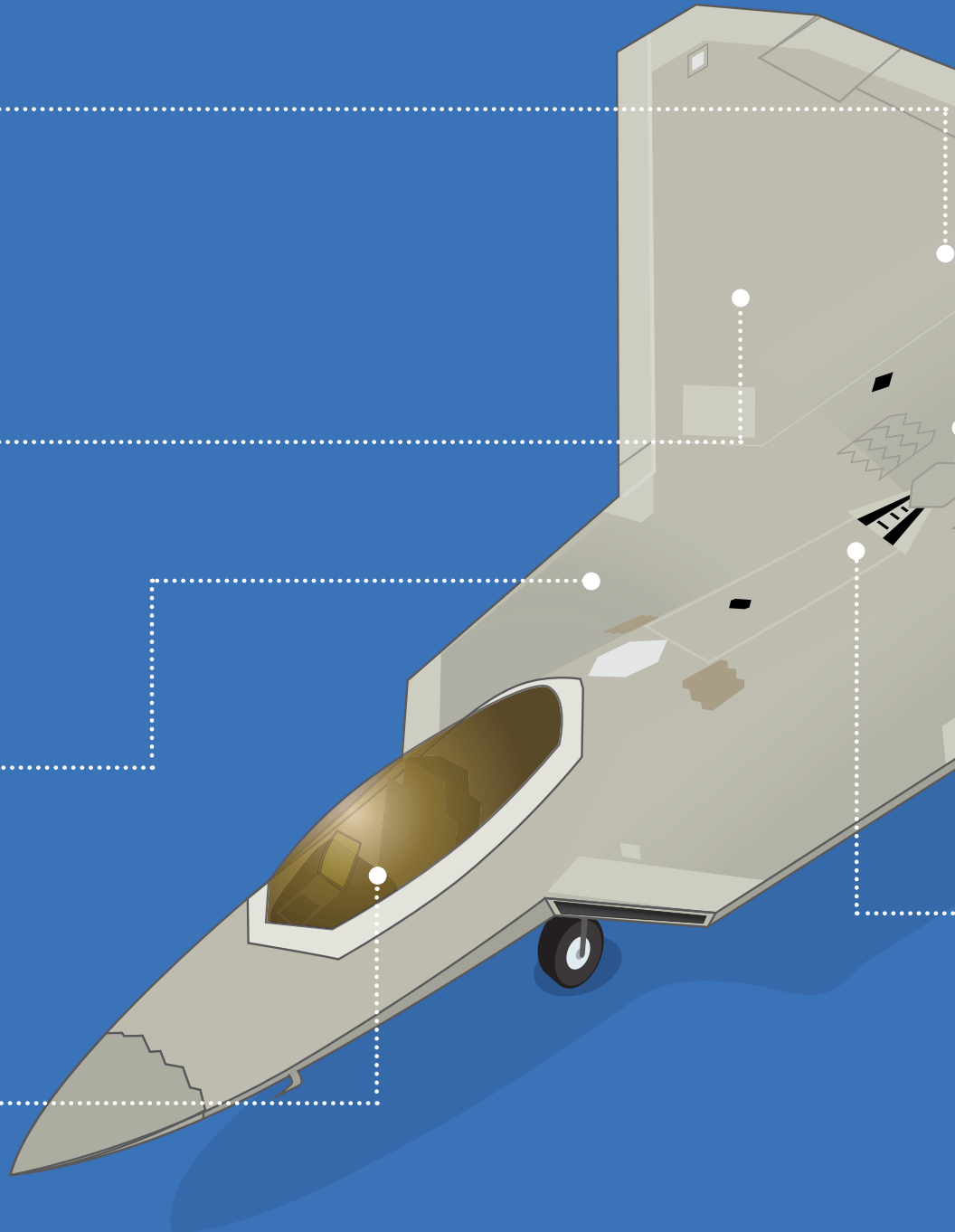
Radar Warning
Receivers

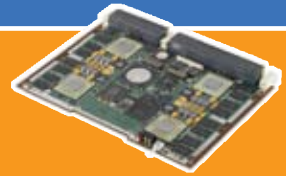
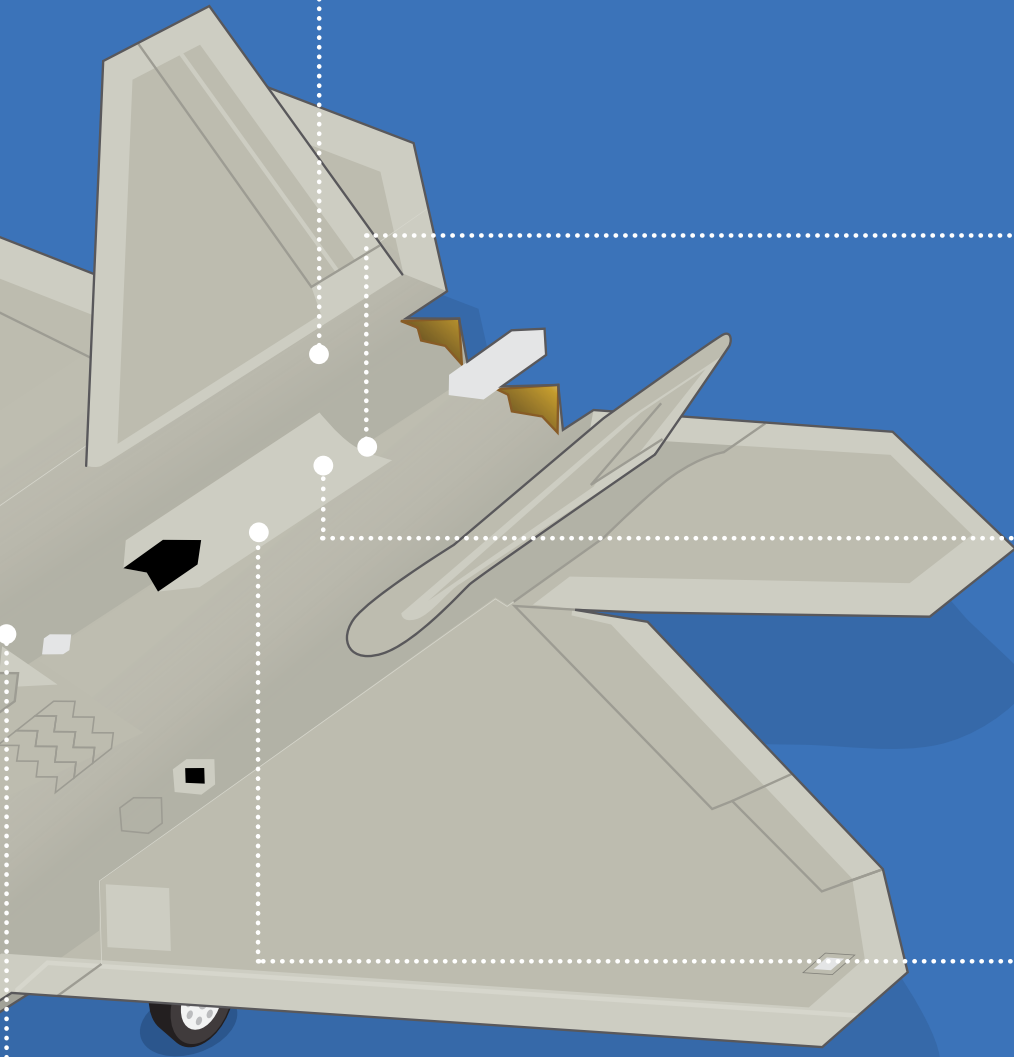


Stores Management
Computer



Integrated Display
Processing





SBCs, DSPs,
Graphics, I/O Cards



Mission Management
Computers



Remote
Interface Units



Flight Management
Computer



IFF Controllers



Navigational
Control Units



GE Intelligent Platforms Contact Information

Americas: **1 800 433 2682** or **1 434 978 5100**

Global regional phone numbers are listed by location on our web site at www.ge-ip.com/contact

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