

## **Accelerate Your Time-to-Mission™**

**With Custom-On-Standard Architecture™ (COSA™)**

**Configured to Customize**



**Architected for Versatility**



**One-Source Efficiencies**



[www.naii.com](http://www.naii.com)



**Multi-function  
I/O**



**Single Board  
Computers**



**Rugged Power  
Supplies**



**Rugged  
Systems**



**Benchtop & VXI  
Instruments**

# Why NAI?

NAI is a leading independent provider of standard and specialized embedded electronics and computing solutions for the military, industrial and commercial industries. Since 1955, major defense systems integrators have leveraged our capabilities to meet their demanding requirements with uncompromising quality, efficiency and responsiveness. We accelerate your time-to-mission by providing the best of both worlds – custom solutions with COTS efficiencies. We deliver high-performance, SWaP-efficient systems with more processing power, all under tighter timelines and shrinking DoD budgets.

We have built a reputation by listening to our customers, understanding their needs, and designing, testing and delivering board and system-level products for their most demanding air, land and sea requirements.

Located in the heart of Long Island's High Tech Corridor in Bohemia, NY, NAI occupies a 60,000 square foot manufacturing facility with state-of-the-art engineering and manufacturing equipment operated by a highly skilled team.



## Products

Our products support a broad range of applications while retaining all the advantages of commercial-off-the-shelf (COTS). NAI's COTS products include:

- Multi-function I/O
- Single board computers
- Rugged power supplies
- Rugged systems
- Benchtop & VXI instruments

*Smarter systems in less time*  
*Lower power requirements*  
*Less weight*  
*Less program risk*  
*No NRE*

## Quality

NAI's quality systems are certified to ISO9001:2008 and AS9100:2009 standards plus Federal Aviation Regulations FAR 21 & FAR 45.15. Our in-house certified QCI trainer ensures that all company assemblers and testers are trained and certified to IPC-A-610. Automated test equipment (ATE) and in-house design, production and test systems reduce delivery time to the customer and ensure every product is tested to the same rigorous standards throughout the production cycle.



**Obtain greater  
SWaP efficiencies**



**Lower  
acquisition costs**



**Add intelligent  
I/O anywhere**



**Field-proven for  
rugged environments**

# One-Source Efficiencies

Eliminate man-months of integration with a configured, field-proven system from NAI. Specification to deployment is a seamless experience as all design, state-of-the-art manufacturing, assembly and test are performed under one roof. Delivering the most value and highest performing products from one source, NAI accelerates your time-to-mission.

COSA™

Capabilities

Processes

Products

*Greater Flexibility*

*Lower System Cost*

*Faster Integration*

## Engineering

NAI's extremely talented, world-class team of engineers works closely with customers and employs the latest design techniques to develop products that have achieved industry leadership. By utilizing our COSA™ approach, NAI's engineering team can quickly tailor an innovative board or system solution, while retaining all the advantages of COTS products. NAI frequently acts as an extension of a customer's own engineering team, providing the most appropriate and cost-effective solution.

## State-of-the-Art Manufacturing Capability

North Atlantic Industries' continual investment in state-of-the-art manufacturing technologies enables the delivery of high quality sophisticated products in less time. With the latest SMT assembly and inspection equipment, we have expanded the functionality available on smaller boards to improve system designs and reduce SWaP (size, weight and power). This has changed the game for our customers.

Our manufacturing management processes are designed to eliminate delays. Computerized management data at every process point helps coordinate engineering and production, while moving people to the work with progressive build and inspection at every assembly point.

State-of-the art equipment includes: SMT pick and place; pin-point selective solder; automated optical and 5D X-ray inspection; robotic conformal coating; storage retrieval system with part traceability; automated programmable connector press; high-speed component underfill jet dispenser; high-speed router for depaneling PCBs, and CNC machining.



**Configurable hardware with COTS efficiency**



**Plug and play interoperability**



**High density mix-and-match I/O**

# COSA™ = Smarter. Smaller. Faster.

NAI's Custom-On-Standard Architecture (COSA) helps customers eliminate the need to design custom data acquisition systems for most sense-and-response applications. COSA-enabled designs incorporate an innovative mix of processors and FPGAs that perform complex and time-critical tasks, such as motion control, process control, monitoring, data transfer and background built-in-test (BIT). With all the advantages of COTS products, our modular and highly adaptive, programmable architecture delivers more intelligence and functionality in a smaller footprint – all at a lower cost.

- Add more processing power
- Obtain greater SWaP efficiencies
- Meet tighter schedules on smaller budgets



## Configured to Customize

Eliminate the need to design a custom data acquisition system. Highly configurable hardware enables faster system integration and accelerates deployment of SWaP-optimized systems in air, land and sea applications.

## Architected for Versatility

COSA offers more than 40 intelligent I/O, communications, or Ethernet switch functions, providing the highest packaging density and greatest flexibility in the industry. Pre-existing, fully-tested functions can be combined in an unlimited number of ways, quickly and easily.

## One-Source Efficiencies

NAI is optimized to accelerate your time-to-mission with integrated design, manufacturing, assembly and verification teams – all from one trusted source.

## Software

OS-specific Software Support Kits for Windows®, Wind River® VxWorks® and Linux are supplied, with source code and board-specific library APIs, to facilitate system integration – regardless of the single board computer (SBC) used. Each I/O function has dedicated processing, unburdening the SBC from unnecessary data management overhead.

**NAI's COSA delivers completely integrated and tested solutions from one source.**



# NAI Delivers Smarter, Smaller, Faster Solutions for Air, Land and Sea Platforms

Proven performance in rugged and commercial environments



**THAAD**

Tracking & Target Pointing,  
Control & Monitoring



**Predator**

Multi-Spectral Targeting



**Apache Longbow**

Mission Computer Power



**LCAC-SSC**

Data Acquisition and Control



**Airbus**

Flight Simulation & Test



**Abrams Modernization (ECP1)**

Fire Control

## Innovative solutions for global mission success include:

Abrams Modernization  
AEGIS MK99  
Airbus A3XX  
AN/APS-153  
Apache Block III  
ARES

Blackhawk  
Boeing 7XX  
C-130 MCC  
Chinook  
E-2D  
F-16 FPCI

G-BOSS  
GCV  
GPNTS  
HH-60 CDU  
IDM OSA  
Indigo

JBPDS  
Kiowa  
LCAC  
LHA7/LHD8  
NMT

PATRIOT  
Predator  
RAM Launcher  
RTCASS/eCASS  
THAAD

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