

**CURTISS -  
WRIGHT**

# Made in the USA: Defense & Aerospace Solutions

An overview of U.S. capabilities and facilities



**Trusted. Proven. Leader.**

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## U.S. Capabilities for U.S. Programs

At Curtiss-Wright, innovation is deeply rooted in our history. Born from the merger of two U.S. companies founded by the world-renowned aviation pioneers Glenn Curtiss and the Wright Brothers, Curtiss-Wright is a global company with headquarters in North Carolina and a long and proud history as a trusted, proven technology leader.

Today, the Curtiss-Wright Defense Solutions division headquartered in Virginia provides high-performance defense and aerospace solutions for all branches of the U.S. military and commercial aerospace corporations.

With design and manufacturing centers of excellence in eight states, engineers, sales, and support teams across the U.S., Curtiss-Wright Defense Solutions is uniquely positioned to address the most challenging electronics, packaging, and systems challenges.

As a long-established technology leader and integration partner, we provide a full range of advanced, highly engineered solutions for the most demanding rotorcraft, fixed wing, unmanned, ground, naval, and space applications. Combined with our facilities in the UK, Europe, and Canada, we offer a unique global perspective, unrivalled capabilities, and powerful,

reliable technology for the mission-critical systems that drive today's aerospace and defense platforms.

### Trusted and Secure Approaches

The threats facing today's defense and aerospace applications are more varied and sophisticated than ever. Modern defense systems require enhanced trusted computing protections to defend mission success from compromise from physical and remote attacks and hardware and software failures.

We build trusted computing technologies and techniques into every aspect of our security solution development, from design and testing to supply chain and manufacturing. This comprehensive, end-to-end approach creates an effective mesh of protection layers that integrate to ensure the reliability of our products in the face of attempted compromise.

Our trusted commercial-off-the-shelf (TrustedCOTS™) and enhanced TrustedCOTS portfolio of embedded security products and capabilities are aligned to give you the flexibility, control, and options you need to build in the right level of assurance into your program. For data-in-transit and data-at-rest, we utilize the NSA's faster-to-deploy Commercial Solutions for Classified (CSfC) program.



## Reducing Risk, Time, and Cost With COTS

Today's aerospace and defense systems require the latest, most advanced technologies, optimized for size, weight, and power (SWaP), delivered sooner with minimal NRE cost. Curtiss-Wright helps you overcome development hurdles with proven commercial off-the-shelf (COTS) technologies that reduce the time, money, and overall risk associated with a program.

### **Curtiss-Wright standards-based COTS modules:**

- Deliver real-time data to support hundreds of critical airborne, ground, and naval missions globally
- Are qualified to MIL-STD, saving you time and money
- Include unmatched, comprehensive approaches for mitigating obsolescence, such as developing detailed product roadmaps and integrating measures that block the use of counterfeit parts, to ease the integration of next-generation technologies into legacy systems and new designs

Our flexible and open approach to product design lets you manage requirements without cost overruns, with the knowledge and confidence that your solutions have the built-in flexibility to meet current and future program needs.

## Modified COTS for Tailored Solutions

For programs with unique requirements, Curtiss-Wright's Modified COTS (MCOTS) program delivers cost-effective tailored solutions.

Our MCOTS approach, applied at the module or subsystem level, leverages existing IP investment and COTS development infrastructure. This approach is proven to save up to 60% of project costs when compared to new, custom-built designs. And, since COTS-based application development can start right away using existing technology, this approach can also save four to eight months of overall development time.



## High-Performance Processing for ISR

Intelligence, surveillance, and reconnaissance (ISR) applications require embedded computing systems to process sensor data streams in real-time. Our facility in Ashburn, Virginia, specializes in developing secure, high-performance processing solutions that meet these requirements using an open systems approach that reduces time to deployment.

Our open architecture, COTS-based, rugged embedded computing boards for ISR provide the building blocks that reduce costs, lead times, and supportability requirements. These solutions include:

- Powerful digital signal processing (DSP) modules based on the latest commercial processors
- Cutting-edge, highly engineered graphics processing modules with the latest graphics processing units (GPUs), field programmable gate arrays (FPGAs), and analog-to-digital converters (ADCs)
- Interoperable single board computers (SBC) that can be configured together to address ISR applications, especially in small platforms

## Rugged, Reliable, & Secure Data Recording & Storage

Today's defense and aerospace platforms need faster, more flexible, more compact, more secure, and lower cost data recording and storage solutions that can protect sensitive data. Our Dayton, Ohio, facility is our center of excellence for design, development, and support of high-speed data recorders and secure data storage solutions that provide industry-leading innovation in ruggedization, reliability, and security.

Our rugged, removable storage systems use the latest solid-state media technology to provide reliable, secure data in deployed harsh environments. They provide cost-effective, proven, and certified COTS storage for a variety of data security requirements, including:

- National Security Agency (NSA) Type 1
- NSA CSfC
- Common Criteria (CC)
- NATO Information Assurance Product Catalogue (NIACP)
- FIPS 140-2



Curtiss-Wright's Ashburn, VA Facility

These COTS boards are ruggedized to operate in harsh environments and have been deployed in hundreds of defense programs. Curtiss-Wright continues to invest in the latest security and Sensor Open Systems Architecture™ (SOSA) technologies to deliver modules you can depend on.

We provide support throughout their life cycle with a suite of Total LifeCycle Management™ (TLCM™) services that safeguard your program and mitigate the challenges associated with leveraging COTS technology for long-term mission-critical systems, such as the availability of components.



Curtiss-Wright's Dayton, OH Facility

These systems offer flexibility and scalability to support the reliable recording and storage of high-density critical data for today's defense and aerospace platforms.

Whether your application requires high-speed sensor recorders, network attached storage (NAS), or direct attached storage (DAS), Curtiss-Wright delivers scalable rugged solutions to meet your mission-critical requirements.



## Rugged Computing and Networking

Mission computers and networking systems are at the heart of every military platform. The Curtiss-Wright Defense Solutions facility in Portland, Oregon, provides design and development of rugged SWaP-optimized mission processing and networking systems for defense and aerospace applications, including:

- Modular mission computers and MCOTS variants with pre-integrated application-specific I/O, including some based on NVIDIA® technology
- Small form factor Ethernet switches and secure routers, including some based on Cisco® Systems technology

Our mission computers leverage our decades of experience innovating smaller, stronger, smarter, and faster defense solutions. The field-proven rugged switches and



Curtiss-Wright's Portland, OR Facility

routers enable mobile networks on-board vehicle and aircraft platforms to securely and affordably deploy digital network architectures for situational awareness and network-centric operations. Together, these highly engineered solutions enable seamless and trusted communication between mission-critical systems to provide enhanced situational awareness on ground, air, and sea platforms.

## Tactical and Deployable Communications Systems

Our Portland facility also designs and engineers a broad range of rugged and field-proven tactical and deployable communications products for complex and demanding applications in austere environments. IQ-Core® Software addresses the growing problem of communication system management complexity with easy-to-use GUI-based wizards. This advanced software reduces operator training requirements and makes high-speed broadband, IP-based voice, data, and video deployable for a wide range of field personnel. IQ-Core Software has made us a recognized leader in advanced tactical and enterprise communications systems.

- IQ-Core Software
- Deployable communication modules
- Integrated and CSfC solutions
- Enterprise IT solutions

## System Engineering and Packaging

Our facility in Santa Clarita, California, is the center of excellence for hardware-level system integration and advanced packaging design built on decades of innovation and experience. It provides engineering and project management services that lower program risk and ensure your highly engineered systems get to market on time and on budget.

With electrical and mechanical engineering expertise, including advanced 3D electromagnetic field modeling, signal integrity simulation, and thermal analysis, we have the highly skilled engineering teams needed to support any design objectives. In addition, this facility



Curtiss-Wright's Santa Clarita, CA Facility

offers world-class manufacturing for small-quantity prototypes to large-volume production orders. This complete development-to-deployment approach is structured to reduce your program risk, lower program development costs, and improve your time to market with deployable systems.

## Integrated Command and Control

Whether on the ground, in the air, or at sea, warfighters need timely and accurate information to enable command and control operations.

Our center of excellence in Tewksbury, Massachusetts, specializes in the development and delivery of tactical data link (TDL) network solutions that ensure all personnel have access to mission-critical information whenever they need it. Our innovative, standards-based TDL software and hardware solutions seamlessly connect users with their tactical operational and test networks wherever they are. The portfolio includes:

- Tactical Data Link Processing Software (TCG LinkPRO)
- Battlefield Operations Support System (TCG BOSS)
- Ground Tactical Data Link System (TCG GTS)
- Adaptable TDL Router (TCG ATR)



Curtiss-Wright's Tewksbury, MA Facility

- HUNTR TDL Hub & Network Translator (TCG HUNTR)
- Link 16 and TTNT Terminal Housing Cases (TCG THC MIDS JTRS, MIDS LVT1, & TTNT)

These solutions simplify the process of establishing mission-critical command and control communications that are reliable, comprehensive, up-to-date, and intuitive to operate.

## Proven and Flexible Data Acquisition Systems

Our aerospace instrumentation teams in Newtown, Pennsylvania, and Palmdale, California, provide flexible flight test and monitoring solutions that reduce program risk and costs by delivering data reliably, easing installation challenges, and allowing for rapid reconfiguration when requirements change.

Our extensive product range includes everything you need to deploy a full system using the most advanced data acquisition solutions with the gold standard for data visualization and analysis software. The complete portfolio includes:

- Data acquisition units
- Recorders and switches
- RF transmitters, transceivers, and receivers
- RF acquisition, demodulators, receivers, and converters
- Flight safety systems
- High-speed and HD cameras
- Display and analysis software
- Control and display accessories
- Wireless transceivers and gateways (Ethernet and PCM)



Curtiss-Wright's Newtown, PA Facility

## 901D Rugged Enclosures and Consoles

Curtiss-Wright provides a “one-stop-shop” for complete integrated enclosure solutions, from specification to the delivery of fully qualified equipment. Our business approach leverages the advantages of the best commercial technology and practices and tailors them to the needs of the defense industry. By leveraging COTS and a modular approach to equipment enclosure construction and payload integration, we offer more vertical integration capability, design maneuverability, better affordability and lower technology and schedule risk. Products include the following:

- Custom rugged enclosures
- Semi-custom, rugged enclosures
- Heavy and medium duty enclosures
- Enclosure accessories and components

These shipboard equipment enclosures protect mission systems from salt water and other ingressions, shock, vibration, and electromagnet interference (EMI) while providing security and efficient cooling for long-term reliability. They are built for specific applications requiring in-house system architects to routinely engage with in-house packaging design teams to ensure compatibility and functionality.



## Total LifeCycle Management

Aerospace and defense programs require assured material and process availability to maintain long life cycles and defer or avoid unplanned multi-million-dollar tech refreshes and re-qualifications. Realizing that maintenance cost in many cases is more than the initial cost, many government programs make lifecycle management contractual, and a required supply chain compliance flow down.

Using a holistic approach and robust processes, our TLCM experts closely monitor bill of materials (BOMs) and manufacturing documents for revision control, and ensure components are available. They ensure critical manufacturing and test equipment infrastructure, and

skilled operators are ready to support your electronics production.

As your program partner and a seamless extension of your capabilities, our dedicated lifecycle management team ensures critical COTS technology-based electronics are available throughout your program’s expected lifetime. Our approach enables your program to defer or eliminate costly redesigns due to component, technology, process, or test obsolescence.

TLCM delivers a proactive and comprehensive approach to managing and assuring an uninterrupted supply of controlled, critical electronics throughout your program’s expected lifetime.



### **TLCM Approach**

Assures an uninterrupted supply of controlled critical electronics



### **Configuration Control**

Control critical electronics configuration with ECO authority



### **Assured Availability**

Assured component availability when demand is uncertain



### **Partnership**

TLCM is a seamless extension of your capabilities



### **Sustained Infrastructure**

Assured manufacturing and test infrastructure availability



## Curtiss-Wright U.S. Locations



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