CURTISS-WRIGHT

Defense Solutions Product Guide

A Product Portfolio Overview

Leaders in Innovation Since 1903

Innovation is deeply rooted in Curtiss-Wright's history. Established from the merger of two companies founded by the world-renowned aviation pioneers Glenn Curtiss and the Wright Brothers, Curtiss-Wright has evolved into a global company with a long and proud legacy as a trusted, proven technology leader.

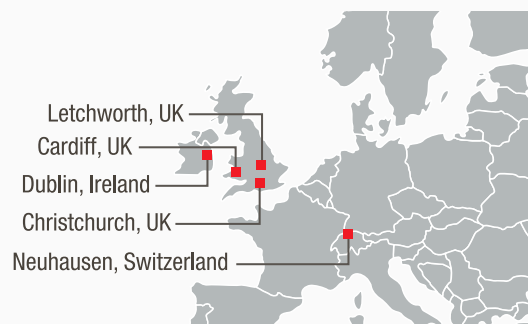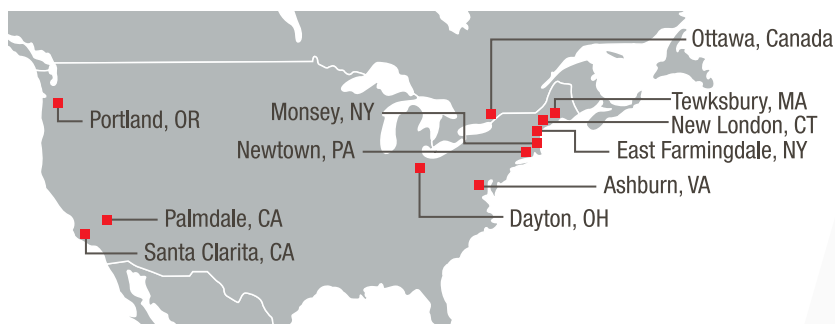| **8,800+**	**2,000+**	**2,500+**
Employees	Engineers	High-spec Products

Trusted. Proven. Leader.

Trusted on thousands of deployed platforms worldwide

Today, the Curtiss-Wright Defense Solutions Division provides secure, high-performance processing, storage, communications, and motion control solutions used on the most important contemporary aerospace and defense platforms. Curtiss-Wright's comprehensive, rugged, mission-critical solutions based on the latest technologies and open standards enable customers to reduce program risk and deliver projects on time. These products include cybersecurity solutions that protect critical data on every mission.

The Defense Solutions global footprint includes 16 facilities worldwide (3 U.S. cleared facilities).

Portland, OR
Monsey, NY
Newtown, PA
Palmdale, CA
Santa Clarita, CA
Dayton, OH
Ashburn, VA
East Farmingdale, NY
New London, CT
Tewksbury, MA
Ottawa, Canada

Letchworth, UK
Cardiff, UK
Dublin, Ireland
Christchurch, UK
Neuhausen, Switzerland

Modular Open System Approach

Curtiss-Wright is a leading contributor to defining and advancing industry open standards, including the SOSA™ Technical Standard, CMOSS™, FACE™, VICTORY™ and OpenVPX™. These standards serve as the foundation for modern Modular Open System Approach (MOSA) acquisition and design strategies and define many of the hardware and software features that minimize size, weight, and power (SWaP) for deployed systems while increasing interoperability, maintainability, reusability, and scalability.

Building on years of experience and contributing to developing MOSA open standards, customers benefit from a full range of semi-rugged to ultra-rugged commercial-off-the-shelf (COTS) solutions for ground, airborne, naval, and space platforms.

Rugged and Reliable

Go beyond industry standards and ensure long-term reliability of today's best commercial technology. Curtiss-Wright tests for failures in the earliest stages of development and throughout the manufacturing process to identify the root cause of failures and develops mitigation techniques to ensure secure, reliable performance in the harshest environments.

With world-class manufacturing facilities certified to the most stringent quality, reliability, and test standards, our trusted rugged solutions are designed and developed to TRL-9, the highest technology readiness level. The use of advanced electrical, mechanical, and thermal modeling, combined with innovative and effective cooling techniques, enables our solutions to perform optimally in support of the most challenging missions.

Safety-Certifiable

Curtiss-Wright has extensive experience and proven success developing low-risk safety-certifiable COTS products, per AMC 20-152A/AC 20-152A to meet Design Assurance Levels (DAL) up to, and including, DAL-A. AMC 20-152A/AC 20-152A, describes an acceptable means for showing compliance with the applicable airworthiness regulations for airborne electronic hardware. It describes how to apply RTCA DO-254/EUROCAE ED-80 with additional guidance and clarification for the development of custom devices, for use of COTS devices and the development of circuit board assemblies (CBA).
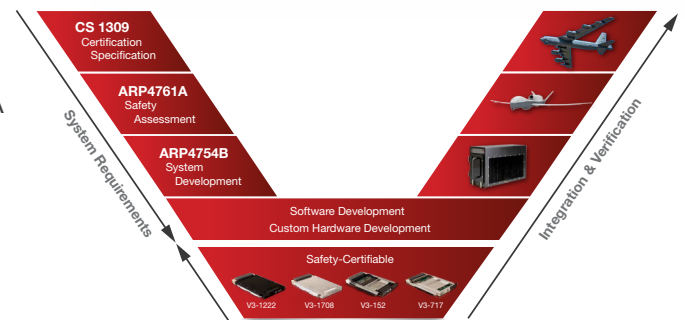
Trusted, Secure, and NSA-Approved

Building comprehensive cybersecurity and trusted computing solutions requires analysis of the entire product lifecycle, from supply chain to design and test to manufacturing. This comprehensive, end-to-end approach creates an impermeable mesh of protection layers to ensure product reliability in the face of attempted compromise.

Curtiss-Wright's TrustedCOTS™ and enhanced TrustedCOTS security capabilities provide the flexibility, control, and capability that enable customers to meet the highest levels of security assurance in their program. This assurance is built natively into our networking and data storage solutions. We offer National Security Agency (NSA) Commercial Solutions for Classified (CSfC) solutions for data-in-transit and data-at-rest, as well as storage solutions with NSA Type 1 encryption.
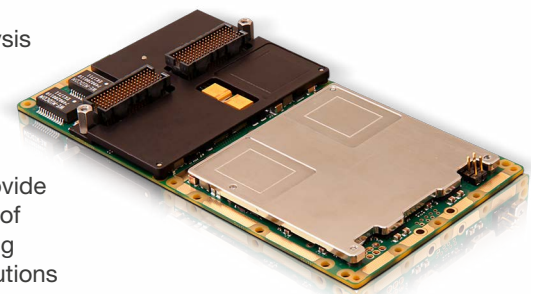
Curtiss-Wright Defense Solutions

for Land, Sea, Air, Space, & Cyber

Embedded Computing

Rugged, modular, open standards-based, high-performance embedded computing (HPEC) modules trusted worldwide in defense, commercial, and industrial applications.
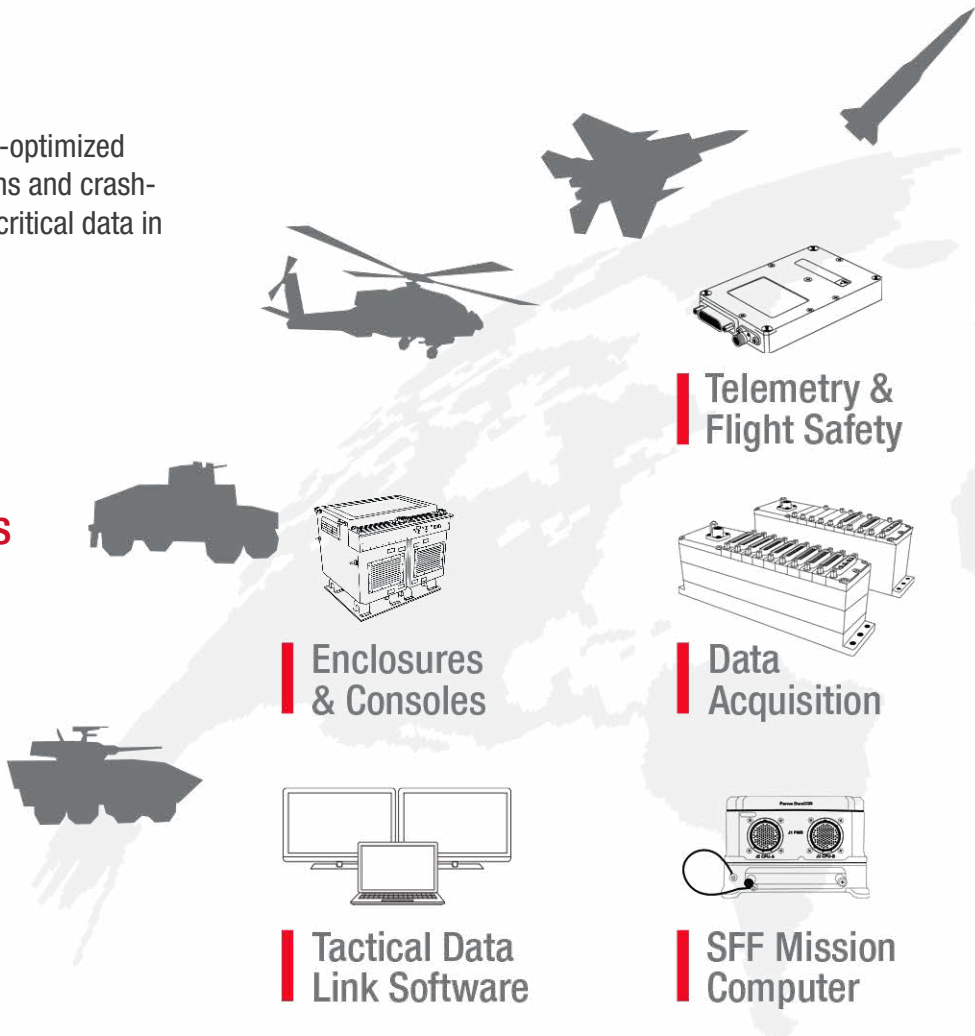
Storage & Recording

Proven rugged storage modules, SWaP-optimized network attached storage (NAS) systems and crash-protected flight recorders for securing critical data in aerospace and defense applications.

Networking & Communications

Field-proven routers, switches, and communications solutions that provide core capabilities for tactical data links (TDL) and secure mobile networks on land, sea, and airborne platforms.

Telemetry & Flight Safety

Enclosures & Consoles

Data Acquisition

Tactical Data Link Software

SFF Mission Computer

Flight Test & Monitoring

Comprehensive range of flight test instrumentation (FTI) solutions, including data acquisition units (DAU), network hardware, recorders, cameras, and product configuration, data analysis and display software.
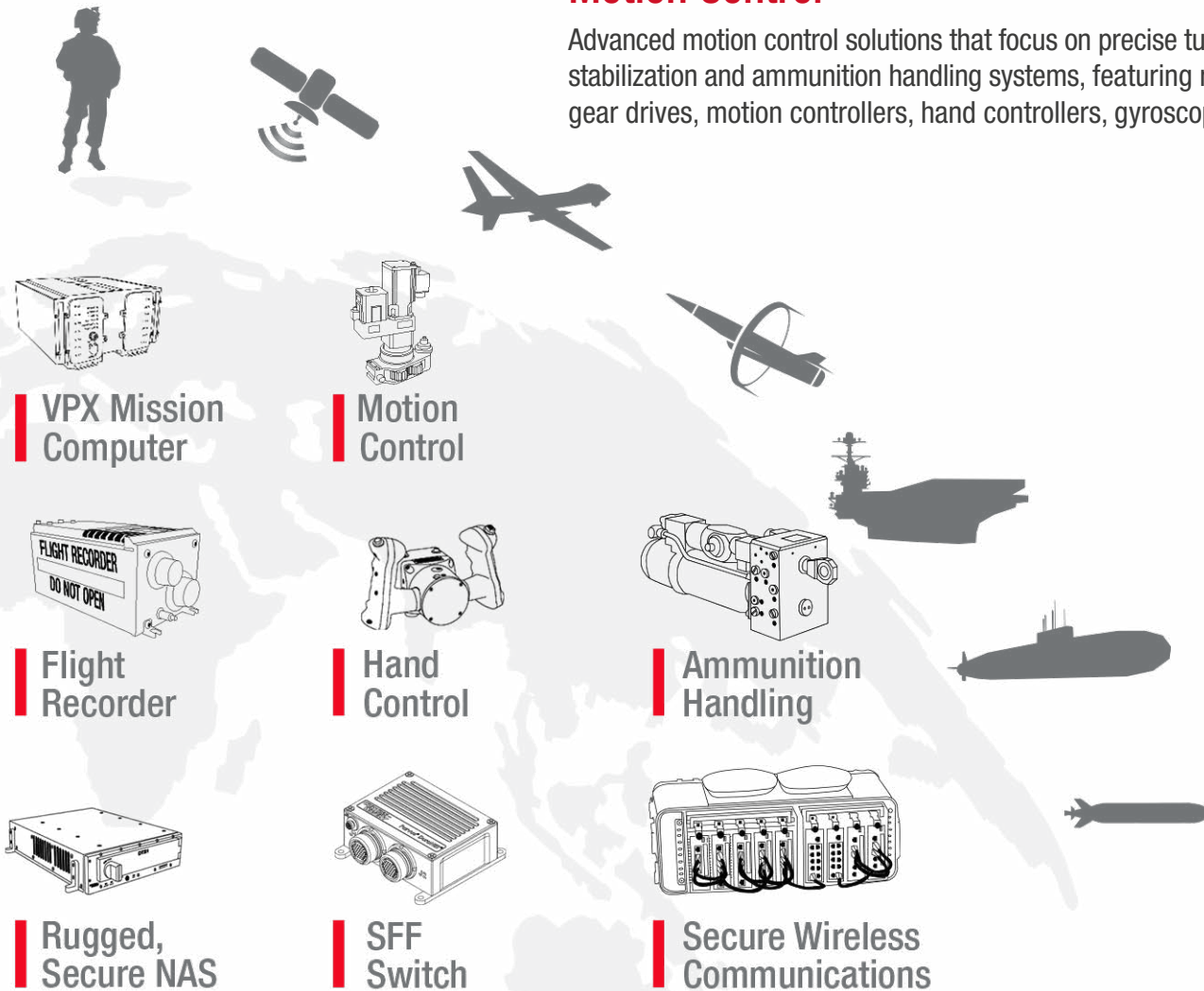
Software

Software tools and solutions for tactical network management, tactical data link processing, aiming and stabilization, and flight test.

Motion Control

Advanced motion control solutions that focus on precise turret drive stabilization and ammunition handling systems, featuring rotary and linear gear drives, motion controllers, hand controllers, gyroscopes, and software.

VPX Mission Computer

Motion Control

Flight Recorder

Hand Control

Ammunition Handling

Rugged, Secure NAS

SFF Switch

Secure Wireless Communications

Enclosures & Consoles

MIL-DTL-901 enclosures, along with console design, fabrication, qualification, and integration capabilities, reduce prime contractor schedule and technology risk.

Systems

Curtiss-Wright's industry-leading system architects leverage our comprehensive range of open architecture technology building-blocks to design, build, and qualify COTS-based and program-specific systems.

Embedded Computing

Curtiss-Wright's embedded computing solutions can process data in real-time to support mission-critical functions. Leveraging the latest commercially developed technology, our highly engineered computing cards and system components are trusted and field-proven in aerospace and defense applications worldwide.

These solutions incorporate high performance processors for general purpose processing, as well as more specialist processors for applications such as ML and AI, built-in security for program protection and safety-certifiable options that span form factors from extremely rugged 3U/6U VPX modules to ultra-small cards and line replaceable units (LRU). Built rugged and reliable, these embedded processors support the long lifecycle of military and aerospace programs.

Designed for applications that require customizable security, mission-critical safety assurance, and alignment with industry standards, including CMOSS and the SOSA Technical Standard, Curtiss-Wright processing solutions are highly configurable to meet specific program requirements.

Fastest VPX Fabrics

The Fabric100™ product family incorporates the latest Ethernet technologies in the rugged VPX form factor to deliver reliable 100GbE connectivity and processing architectures that give platforms a sustainable technological advantage. The products address the widest range of rugged deployed applications, from those that require low power, high efficiency general purpose processing (GPP) to those that demand the most extreme and compute intensive processing performance.

Secure VPX Processor Cards

VPX3-1262

Rugged high-performance 3U VPX SBC for time-sensitive mission-critical applications

- SOSA aligned SBC with Intel® Raptor Lake 14-core processor
- Hybrid mix of P-cores and E-cores for maximum processing efficiency
- High-speed connectivity with 100GbE Data Plane and PCIe® Gen4 Expansion Plane

CHAMP™-XD4

More multi-processing power and connectivity in a 6U form factor

- Two Intel Xeon® D-2700 CPUs with 12, 16 or 20 cores each at up to 2.0 GHz
- Fabric100 Technology: 4x 100GbE, 32x PCIe Gen4
- Four memory channels per CPU totaling 128 GB
- SOSA aligned with Enhanced TrustedCOTS Protections

CHAMP-XD3

High-performance, compute-intensive processing

- 3U VPX Intel Xeon D-1700 Cognitive DSP processor
- Enhanced TrustedCOTS protections
- Maximized performance with three DRAM memory channels and dual NVMe SSDs
- 40GbE Data Plane, dual 10 GbE interfaces, up to 16 lanes of Gen3 PCIe

FPGA and GPU Cards

CHAMP-FX7

Highest ISR and EW processing power available in a 6U VPX card

- SOSA aligned dual AMD Versal™ Premium Adaptive SoC devices, up to VP1702
- Fabric100 Technology: 4x 100GbE, 32x PCIe Gen4
- Up to 64 lanes of fiber optic for up to 210 GB/s bidirectional I/O

VPX3-536

3U VPX FPGA Processor Card Featuring AMD Versal Premium Adaptive SoC with AI Engines

- Developed in alignment with the SOSA Technical Standard
- 3U VPX form factor
- AMD Versal Premium VP2502 Adaptive SoC device with AI Engines
- VPX Data Plane: 100G and 10G/25G Ethernet ports

V3-717

Rugged, safety-certifiable video and graphics 3U VPX processor for mission-critical applications

- AMD Radeon® E8860 GPU
- 2 GB GDDR5 dedicated video memory
- Hardware and software certifiable to DAL A
- AMC 20-152A/AC 20-152A certification artifact kits for safety certification

Network Switching, Routing, and Connectivity

VPX3-6826

100GbE Data and Control Plane Ethernet Switch with Time Sensitive Networking (TSN)

- SOSA aligned Ethernet switching and routing for the next generation of 3U systems
- Flexible mix of backplane ports support 1G thru 100G data rates
- Optional optical ports for simplified external connectivity

VPX3-655

Versatile 1/10/40G Switch with mix of Backplane and Base-T ports

- Flexible connectivity mix of internal 1/10/40G and external 10GBase-T ports
- Fully managed L2+ switching features
- Fast boot with low power consumption
- Includes IEEE-1588v2 features for PTP and accurate time synchronization

VPX3-663

Hybrid PCIe and 10G Ethernet Switch with XMC Mezzanine Site

- Up to 11 ports Ethernet switching
- Unique system builder also provides PCIe expansion flexibility with 24-lanes of configurable PCIe Gen3 switching
- XMC mezzanine site for expansion
- Air-cooled and conduction-cooled form factors

Small and Ultra-SFF Mission Computers

Parvus® DuraCOR® 8044

Rugged, SFF mission computer with Intel Xeon W processor

- 128 GB ECC DDR4 memory
- 8-core (16-thread) W-11865MRE at 2.8 GHz
- Intel Iris® Xe GPU and AVX512 VNNI
- Low-SWaP IP67 rugged chassis with Mini PCIe and PCIe/104 I/O card expansion
- Rugged removable 2.5" NVMe®

Parvus DuraCOR 313

Ultra-SFF rugged computer with quad-core Intel Atom® 6400E processor

- Integrated 11th Gen Intel UHD graphics processor unit (GPU) with 2D/3D graphics
- Wide voltage input MIL-STD-1275/704/DO-160 power supply for aircraft and ground vehicles
- Modular I/O architecture: Up to three slots for mini PCIe I/O card expansion

Parvus DuraCOR 312

Rugged, ultra-SFF mission computer with NVIDIA® Jetson™ TX2i SOM

- 6-core Armv8 (Cortex®-A57 + Denver 2)
- 256 CUDA® core Pascal GPU capable of 1.5 TFLOPS 16-bit floating point
- ECC memory and full industrial temp
- Rugged IP67 chassis with micro-mini MIL-performance circular connectors

Networking & Communications

Secure mobile networks on land, sea, and airborne platforms with field-proven networking and communications solutions. Leveraging advances in enterprise and data center technology, Curtiss-Wright designs and builds rugged solutions to deliver high-performance connectivity on converged, application-aware networks in disconnected, intermittent, and limited (DIL) environments.

For network security and information assurance, Curtiss-Wright networking and communications modules and systems support a variety of secure network management protocols and authentication methods. Rigorous testing ensures the solutions deliver reliable performance in the most demanding environmental conditions and extended temperatures. System integrators rely on Curtiss-Wright networking and communications expertise to securely and affordably deploy COTS digital network architectures for enhanced situational awareness and network-centric operations.

Data Links Simplified

Innovative, standards-based TDL software and hardware solutions seamlessly connect users with tactical, operational, simulated, or test networks wherever they are. These solutions include, but are not limited to, TDL processing engines, operational support systems, routers, translators, and terminal housing units. The primary focus of these solutions is to simplify TDL deployment, operations, simulations, testing, and the training of operators and warfighters through support for multiple communication protocols, hosts, and interfaces, thus facilitating interoperability among platforms.

TDL Processing

TCG Ground TDL System (GTS)

TDL solution with full situational awareness and C2 capabilities

- Multi-link message processing
- Track and message simulation
- Link 16 and Link 22 support
- Network enabled weapons (NEW) support
- Comprehensive situational awareness

TCG HUNTR

HUNTR™ provides battlefield operators with intuitive translation for multiple TDLs

- Multi-link tactical gateway
- Link 16, Link 22, JREAP, SADL, VMF, CoT, CESMO
- Automatic translation and routing
- Expanded situational awareness from multiple TDLs

TCG BOSS

Battlefield Operations Support System (BOSS®) provides reliable and cost-effective TDL testing

- Advanced, standards-compliant TDL simulation and test software solution
- Allows users to create immersive and realistic simulations
- Provides realistic scenarios in a matter of minutes

Modular Rugged and Ultra-Rugged Tactical Communications

PacStar® 400-Series

Tactical, rugged, low-SWaP networking and communications hardware

- Ideal for mobile military communications, civilian disaster preparedness and response, and remote commercial operations
- Includes a wide range of packaging solutions, transforming individual network modules into complete modular communications solutions

PacStar 200-Series

Ultra-compact tactical communications and processing modules

- Provides system designers with a SWaP-optimized alternative solution for space-constrained applications
- Complements and increases the functionality and capability of the PacStar 400-Series
- Innovative snap-together design

Integrated Solutions

Tactical and expeditionary solutions based on PacStar 400-Series

- Includes a variety of Commercial Solutions for Classified (CSfC) solutions optimized for a range of tactical and enterprise environments
- Offers customers the capability of deploying new or existing MOSA-based systems with an easy upgrade path

PacStar Modular Radio Center

PacStar Modular Radio Center Integrates DoD and civilian radios into compact, rugged mobile systems

- Adds IP integration to tactical radio networks
- Supports a vast array of use cases
- Customizable
- Based on RoIP and voice management technology
- Compatible with PacStar Packaging Solutions

Parvus DuraMAR®/DuraNET®

Cisco ISO XE powered routers and switches in ultra-rugged chassis

- Available in standard, SFF, and USFF sizes
- Enables mobile networks on vehicle and aircraft platforms to securely deploy digital network architectures
- Lets systems integrators connect cards, sensors, and processors simply through switched Ethernet

IQ-Core® Software

An intuitive user interface that makes communications setup and operation easy

- Network communications management technology optimized for the unique challenges faced by tactical networks
- A unified "single pane of glass" view for network monitoring and diagnostics, providing operators with real-time situational awareness

PacStar Secure Mesh Command Post

Enables remote and command post vehicles to communicate over mesh wireless

- Modular, low-SWaP solution including all components necessary for a CSfC Remote Site
- Expandable/modular system may be customized to meet expanding mission requirements
- Managed by IQ-Core Crypto Manager (CM), providing management, configuration, and troubleshooting

PacStar Tactical Fusion System

PacStar Tactical Fusion System based on next-generation models of PacStar 400-Series

- Smallest SWaP available today
- Modular system can be optimized for program needs, maximizing the number of CPU and CPU cores, solid-state storage, and radio types
- Easily reconfigured
- Vendor-agnostic platform supporting a variety of industry-standard devices

PacStar Packaging Solutions

Transforms individual networking modules into complete modular communications solutions

- Enables a wide range of applications from small team deployments and vehicle-mounted communications to large-scale command posts
- Includes custom solutions meeting customer requirements for all-in-one small team communications kits and for accessory kits matched with larger complete solutions.
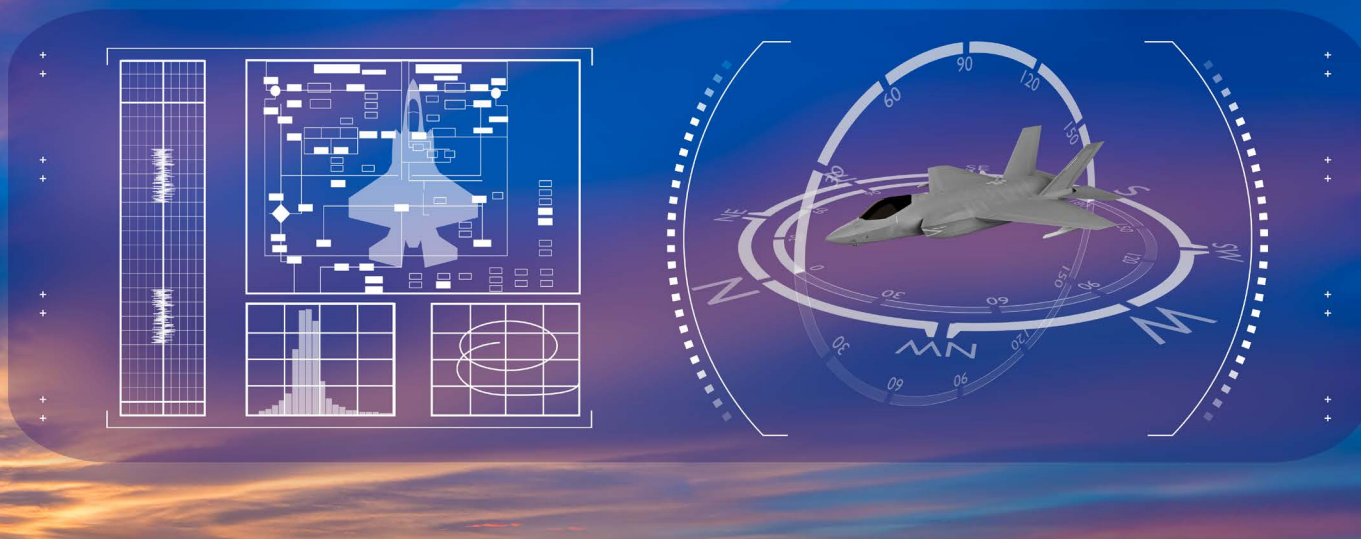
Flight Test & Instrumentation

Modern aerospace instrumentation systems can be highly complex, with evolving requirements that can cause significant and costly program delays. The ability to reliably capture flight test data is essential for avoiding expensive additional flights or losing months of program data. As a global leader in flight test instrumentation (FTI) solutions, Curtiss-Wright lowers these risks through a comprehensive range of cutting-edge COTS-based systems that can be customized as required.

These reliable flight test solutions have been proven on hundreds of programs to reduce the risk of data loss, repeating flights, or compromising a maintenance program. Curtiss-Wright's extensive portfolio of products allows rapid delivery of large complex systems with significant flexibility for future adaptation. This comprehensive FTI product family includes data acquisition, telemetry, recording, switching, data display, and processing solutions that enable applications such as flight test, missile and hypersonic development, launcher and space instrumentation and usage monitoring.

Space Data Acquisition

Electronic systems that work well in terrestrial environments can fail with severe consequences in harsh space environments. Curtiss-Wright mitigates this risk with cost-effective, proven solutions for launchers, low-earth orbit (LEO) platforms, and space vehicles. These space data acquisition systems are deployed on many platforms including, the Boeing CST-100, Lockheed Orion, ULA Delta Atlas V, SpaceX Dragon, Space Shuttle, Virgin Galactic SpaceShip Two, NASA SLS, Airbus DS ISS ACLS, and ASL Ariane 6 platforms. Our products include space COTS and radiation-tolerant systems for both development and operational flight instrumentation.

Data Acquisition
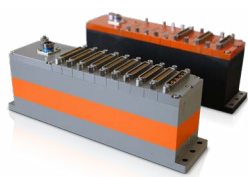
Axon™/ADAU

Advanced data acquisition units (DAU) that offer low SWaP with the best feature set and performance

- Next generation data acquisition architecture
- High data throughput (up to 380 Mbps per DAU)
- Single 15V backplane power rail for improved efficiency
- Multiple industry0standard format support

MnACQ

Miniature DAUs that use 100s of off-the-shelf modules to reliably acquire data

- Compact network-based data acquisition
- 100s of analog, bus, encoding, etc., modules to meet virtually any data acquisition and processing need
- Environmentally rugged with proven performance in the harshest conditions

MATS

Designed for applications that need a compact DAU, telemetry, and flight safety telepack solution

- Compact, one box solution
- Modular design that can adapt to meet the needs of all stages of development
- Encryption solutions that secure streaming telemetry data
- Field configurable

Telemetry, Flight Safety and Imaging

TTS-5500

High-efficiency airborne multimode transmitter

- Supports forward error correction and IRIG-compatible randomizer
- Highest RF power efficiency with programmable power levels
- L and S bands, up to 10 watt

FTR-200

Airborne flight termination receiver and tone decoder

- Rugged miniature packaging
- Sensitive RF receiver with programmable RF center frequency
- Programmable decoder tone frequencies
- Full failsafe operation with standard range safety logic

nHSC-36-S1

High-speed camera for applications where space is at a premium

- Rugged, lightweight, and miniature size
- High frame rate
- IEEE 1588 for time synchronization and timestamp support
- Circular buffer for pre-event and post-event image capture

Recorders and Switches

ADSR-4003

A small form factor, rapidly installable, all-in-one recorder

- Intelligent, IP packet recorder and networked file server
- High-speed Ethernet packet recording
- Three solid-state memory modules
- Supports IEEE 1588 precision time protocol plus IRIG-B time

nREC-7000

Compact high-speed network recorder for use with flight test data acquisition

- Records up to 18,000 Mbps sustained, 10G acquisition and recording at full line rate
- Records in multiple data formats simultaneously: Each of the 6 virtual drives can be configured with its own data format
- Two hot-swappable Removable Memory Modules (RMM) cartridges

NSW-16GT

Rugged 16-port Ethernet switch

- Highly rugged for harsh environmental conditions including excessive heat and cold, shock and vibration
- Twelve 1000BASE-T and four 10GBASE-SR ports
- Supports IEEE 1588 V1 or V2 and SNMP V2c/V3 network management
- Full line rate non-blocking switching capacity

Software, Power systems, and TSPI

TSPI Acquisition and Recording

High-quality position and orientation data

- Provides user defined TSPI information for real-time telemetering
- Simultaneous recording option
- Stand-alone device or integrated into a DAU system

FTI Power Systems

Power conversion and battery back-up

- Power conversion from 270 VDC to 28 VDC with the ability to provide up to 2.4 kW of power
- Whole DAU battery power solutions as well as batteries for maintaining real-time clocks in time code modules between test flights

IADS Software

Data analysis and post-test search and reporting

- Real-time data processing, archiving, computation, display, and reporting components
- Connects to a wide range of data sources
- Custom data displays, parameter definitions, analysis options, and test setup
- Powerful search and reporting tools

Systems

From multi-platform mission computers (MPMC) to network solutions, Curtiss-Wright reduces program risk, cost, and schedule by leveraging our innovative COTS cards. Whether our customer's program requires a modular SFF LRU or a scalable VPX architecture designed to meet specific requirements, Curtiss-Wright systems are built to perform in the harshest environments.

To ensure system integration success, Curtiss-Wright assigns a dedicated program manager to keep customers informed at every step of their program's progress. This single point of contact approach eliminates the need for complicated communications across internal groups and departments. The program manager oversees program execution from functional specification to customer installation, and monitors the programs to mitigate risks and ensure design optimization.

Subsystem Pre-Integration

Curtiss-Wright designs and manufactures technology building-blocks and pre-integrates them into built-for-purpose subassemblies that lower program overhead, cost, and risk. Our industry-leading system architects partner with our customers to meet their unique system integration and program management requirements.
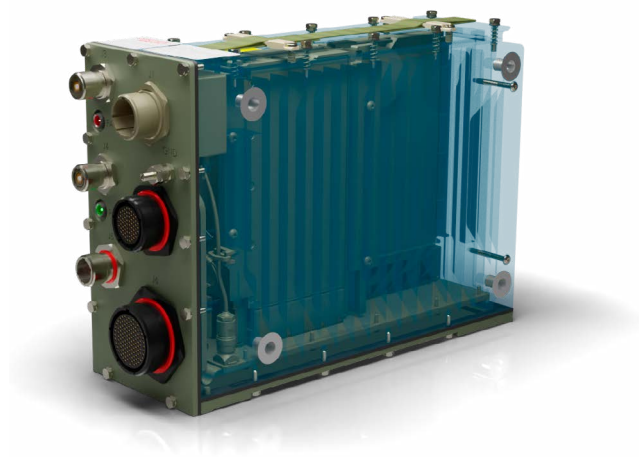
Strengthen your program with our end-to-end services and support

System Integration

With decades of experience designing VITA standards-based rugged C5ISR systems our team of system architects works with customers to define a system solution.

Manufacturing

Curtiss-Wright is an American company with global manufacturing, services, and support capabilities.

Program Management

Curtiss-Wright has established a world-class program management organization designed to ensure the success of your system integration program.

LifeCycle Management

Choose technology solutions with longevity opportunities and reduce the risk of component obsolescence.

6U VPX and VME Systems

MPMC-965x 6U 5-Slot Mission Computer

Flexible, rugged, and readily configurable to meet military or aerospace needs

- High Performance Processing (CPU, FPGA, GPU, etc.)
- 6U Backplane: VPX
- Power Supply: 28 VDC input per MIL-STD-704E, DO-160E
- Qualified to DO-160, MIL-STD-810, and MIL-STD-461

MPMC-9655 6U 5-Slot Mission Computer

Ready to handle multiple applications in harsh environments

- Supports up to two SBCs
- 10x ADC inputs (0 to 10V DC)
- 48x DIO (0-80V DC)
- 2x 10/100BaseT Ethernet

MPMC-9675 6U 7-Slot Mission Computer

Rugged computer designed to support multiple roles in air and land vehicles

- 6U backplane: VPX/VME/hybrid
- Under 20 kg fully populated
- Power supply: 28 VDC or 115 VAC
- ITAR free

3U VPX Systems

MPMC-9321

Rugged 3U 2-slot integrated subsystem provides high functional density in a small package

- Supports up to two 3U VPX cards
- Supports up to four XMC sites
- Offers natural convection or baseplate cooling
- Up to 200W of 28VDC input power per MIL-STD-704F and MIL-STD-1275D

MPMC-9355

Easily reconfigurable 5-slot rugged processing system

- Five slots plus power supply unit (PSU)
- Intel-based SBC
- GPU video processing
- 3U VPX backplane
- 60 to 512GB embedded or removable
- FPGA processing options available

8-Slot Enclosure

Ideal for high performance ground or rotary wing processing applications

- Eight CMOSS/SOSA aligned slots
- Natural convection cooling
- Dual load-sharing/redundant power supplies
- Slots for A-PNT, network switch, SBC, and RF payloads

Program Specific Systems

ISR Video System

Leading-edge technology in a 6U form factor

- CHAMP-XD2M DSP with an Intel Xeon 16-core D-1587 @ 1.7 GHz with 128 GB DDR4 memory
- 6U VPX NVIDIA GPU co-processor card
- AMD Kintex 7 FPGA frame grabber with 4x HDSDI digital video inputs

SDR & EW System

Small rugged 3U VPX processing system

- Intel Xeon processor
- FPGA-based ADCs and DACs
- Auxiliary I/O options (MIL-STD-1553, ARINC-429, etc.)
- XCLK1 clock generator
- Qualified to MIL-STD-810 and MIL-STD-461

Video Processor

Powerful embedded video processing system

- Dual Intel Xeon D 8-core DSPs
- 3U VPX NVIDIA GPU co-processor card
- 2x 3G-SDI video and 2x analog I/O
- Auxiliary I/O options: GbE, MIL-STD-1553B, ARINC-429, etc.
- Qualified to MIL-STD-810 and MIL-STD-461

CSfC · Type 1 · TS/SCI · NVMe · SATA

Storage & Recording

Curtiss-Wright's storage and recording products are designed to support a wide variety of applications and perform critical functions for manned and unmanned land, air, and naval platforms. From high-capacity storage systems that protect mission-critical data-at-rest (DAR), to crash-protected cockpit voice recorders (CVR) and flight data recorders (FDR), Curtiss-Wright storage and recording solutions meet the most demanding requirements.

COTS data storage and recording systems enable users to leverage the latest technologies and deliver a scalable, future-proof solution aligned to industry standards. Designed for use in harsh environments, these industry-leading storage and recording solutions collect and protect critical data.

Cutting-Edge Encryption

Choosing the right encryption approach enables the protection of classified information, from both internal and external threats, to ensure critical and sensitive data is kept out of the wrong hands. Curtiss-Wright's cost-effective, proven and certified COTS storage solutions meet an extensive range of demanding data security requirements, including NSA High Assurance Type 1, NSA CSfC, Common Criteria (CC), NATO Information Assurance (NIAPC) and FIPS 140-2.

2 CSfC ENCRYPTION LAYERS INSIDE

Data Transfer Storage – Network Attached Storage

DTS1+

Rugged, secure, easy-to-use, turnkey network file server

- NAS solution
- Full disk encryption (HW & SW)
- NSA CSfC Components List approved
- International CC certified
- Remote embedded client boot
- ITAR free

DTS1X

Rugged, 1-slot DAR network attached file server

- 1x 10 GbE port
- CSfC certifiable
- Full drive encryption (HW & SW)
- 400 MBps (Write) throughput

DTS3+

Rugged, SWaP-optimized network attached storage

- Up to 16 TB with 3x RMC modules
- SWFDE, FIPS-validated AES-256 bit encryption
- Optional HWFDE module

High-Speed Recorders and Storage – Network Attached Storage

HSR10

DAR storage for 10 GbE-based networks

- 2x 10 GbE optical ports
- CSfC certifiable
- Two layers of encryption – hardware and software
- Support for RAID 0, 1, 5, 6, and 10

HSR40 AC/HSR40 CC

40 GbE network file server or streaming recorder

- 2x 40 GbE, 1x 1 GbE
- Over 6 GBps throughput
- Up to 64 TB removable storage
- AES-256 encryption (opt)
- Air- or conduction-cooled

HSR100 Rackmount

100 GbE, 120 TB secure DAR storage & recording

- 1U Rackmount
- 2x 100 GbE (storage)
- 2x 100 GbE (recording)
- 4x 10 GbE via RJ45s & SFP+s

Unattended Network Storage and Flight Recorders

UNS

Rugged, unattended network storage system

- Top secret protection for unattended operation on deployed vehicles
- 32 TB removable SSD
- 4x 10 GbE, 8x 1 GbE

UNS-GS

Unattended network storage ground station

- Facilitates mission data uploading, transport, and offloading from UNS RSMs at operations base

Fortress® Voice, Data, Image, and Datalink Recorder

Parametric FDR/CVR, CPDLC, and image recorder

- ED-112A compliant
- Compact and lightweight
- Fast and free data download
- Stand-alone options available

Direct Attached Storage

VPX6-SBM

6U VPX storage blade module

- Up to 64 TB
- x16 PCIe low latency/high bandwidth
- NVMe PCIe technology

XMC-544C-SBM

NAND flash solid-state drive

- 1 TB of MLC NAND flash
- 2x independent mSATA interfaces
- ECC, wear leveling & bad block management

FSM-C

3U Flash storage module carrier

- 3U, 1" pitch form factor
- 2.5" SATA SSD (inside)
- VPX or 100K connector

Enclosures & Consoles

Curtiss-Wright provides a "one-stop-shop" for complete integrated enclosure and console solutions – from specification to the delivery of fully qualified equipment to the door or dock and ready for mission. Best commercial technology and practices are leveraged to deliver solutions tailored to the specific needs of the defense industry. This COTS technology and modular approach to equipment enclosure construction and payload integration provides customers with greater vertical integration capability and design maneuverability, along with improved affordability and reduced schedule risks.

The highly rugged equipment enclosures protect mission systems from shock, vibration, electromagnetic interference (EMI), salt water, and other ingressions, while providing security and efficient cooling for long-term reliability. Curtiss-Wright enclosures and consoles, built for specific applications, are supported by in-house design teams to ensure compatibility and functionality.

Dedicated to Highly Engineered Design

Curtiss-Wright has been a provider of vital technology to the U.S. Navy for almost 70 years, with significant content on nuclear submarines and aircraft carriers throughout the fleet, starting with the very first operational nuclear-powered submarine, the USS Nautilus (SSN 571).

901D Naval Enclosures and Consoles

Custom Rugged Enclosures

Highly engineered enclosures and consoles for naval and other applications

- Best-in-class naval system architecture
- Solutions from bare enclosures to fully-integrated systems
- Enclosures for every class of U.S. Navy combat vessel
- Varied levels of customer payload pre-integration

Heavy and Medium-Duty Enclosures

Standard and versatile rackmount enclosure solutions for greater program velocity and affordability

- Range of versatile, reconfigurable standard enclosures
- Addresses the most common environmental conditions
- Offers ruggedization, isolation, and EMI protection

Energy Storage Enclosures

Externally isolated battery enclosures for scalable energy storage

- Power on demand
- Highest energy density
- Safe reliable operations
- Modular and flexible
- Safe to store and ship

Motion Control

Curtiss-Wright's high-speed precision motion control systems bring new levels of stability and control to almost any military or industrial application. Built using a modular suite of rugged and field-proven components, every motion control solution we deliver is engineered to address unique program performance and environmental requirements with unmatched levels of precision and reliability.

The modular approach to development allows quick adaptation and configuration of existing components to meet the most challenging motion control and stabilization requirements. These scalable solutions increase the speed, accuracy, and control of complex systems, including weapons and turret systems, ammunition handling and loading systems, rapid actuation direct-drive systems, missile launchers, and train tilting and camera crane stabilization systems.

Maintain Accurate Turret Control

Curtiss-Wright's motion control solutions for turreted weapons systems are engineered to provide highly precise and reliable stabilized aiming tailored to meet extremely demanding program and platform requirements. These solutions deliver extreme target location accuracy and turret stabilization while providing system integrators with an unprecedented level of freedom to define and deploy the exact solution required.
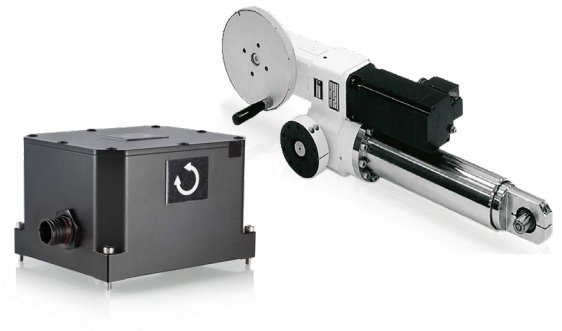
Motion Control Solutions

Turret Drive Stabilization System

Modular and scalable turret drive stabilization system (TDSS)

- TDSS building blocks include motion controllers, rotary and linear gear drives, motor and hand controllers, gyroscopes, and software
- Integrated to deliver excellent stabilization that is globally recognized for its high performance and reliability

Hand Controllers

Highly reliable and optimal comfort for many applications

- Configure individual hand controllers to meet application specific requirements
- One-handed, two-handed, and portable models available
- Available options include fixed (no deflection), classic, or ergonomic deflection

Motion Controllers

Motion controllers for the most demanding requirements

- Modular and scalable design (from 1.5 kW to 24 kW)
- Field-proven, rugged, and reliable design
- Ultra-low latency motion control and stabilization
- User interface for parameterization and software configuration

Software

The high standards required of defense and aerospace application hardware also apply to the software products installed on these systems. Software must meet high performance, security, and reliability requirements while complying with all relevant regulations and policies. Delivering a software solution that meets the unique requirements of a wide range of defense and aerospace programs can be challenging.

The Curtiss-Wright suite of software tools and expansive hardware system solutions complement each other to ease and speed system integration. With proven software solutions for tactical network management, TDL processing, aiming and stabilization, and FTI applications, Curtiss-Wright offers system engineers the ability to optimize the functionality of their mission-critical systems. Designed with the end-user in mind, these powerful software tools leverage decades of experience to provide easy-to-learn, intuitive user interfaces that minimize set-up times.

Unified Network Communications Management

At the tactical edge, users often find enterprise network management software packages too complex and lacking key tactical requirements. Curtiss-Wright's IQ-Core Software manages the unique challenges presented by deployed tactical networks. Providing a unified view for network monitoring and diagnostics, this powerful tool provides operators with a single-pane-of-glass solution that delivers real-time situational awareness of the network's health, provides configuration management, and enables the user to easily troubleshoot the entire suite of network software and devices, regardless of the vendor mix. Uniquely, IQ-Core Software is ideal for both entry-level and advanced network administrators.

Software

TDL Software

Standards-based solutions designed to improve tactical communications

- Reduces the time, risk, and expense of TDL implementation and integration
- Alleviates interoperability issues
- Lowers lifecycle maintenance costs for military and prime contractor customers
- Facilitates interoperability among platforms

TTCWare and DAS Studio

FTI setup and management software

- Optimized for rapid flight test system setup with intuitive user interfaces
- Built-in wizards and tools speed time-consuming tasks
- Tools for viewing network information in real-time
- Library enables re-use of proven configurations

IQ-Core Software

**Intuitive user interface simplifies communications setup and operation**

- Network communications management technology optimized for unique challenges of tactical networks
- Provides unified "single pane of glass" view for network monitoring, diagnostics, and real-time situational awareness

Total LifeCycle Management

Long-life military and commercial programs increasingly rely on COTS technology for its outstanding performance, affordability and interoperability. To fully leverage the benefits of COTS technology, program managers need to de-risk the typically short lifecycles of commercial devices. Long-life programs require fixed configurations with assured material and process availability to guarantee success and avoid unplanned multi-million-dollar technology refreshes and re-qualifications. Since maintenance costs often exceed a program's initial cost, many government programs now make lifecycle management a contractual requirement and an obligatory supply chain compliance flow-down.

Curtiss-Wright's Total LifeCycle Management™ (TLCM) services deliver a proactive and comprehensive approach to configuration management for assurance of an uninterrupted supply of controlled, critical electronics throughout the customer's expected program lifetime. Using a holistic approach and robust processes, our TLCM experts closely monitor bill of materials (BOM) and manufacturing documents for revision control and to ensure that components are available as needed. These experts ensure that manufacturing and test equipment infrastructure and skilled operators are ready to produce critical products. TLCM helps eliminate costly redesigns due to component, technology, process or test obsolescence.

Total LifeCycle Management			
Standard			
Active Production	LTB	EOL	Obsolete Status
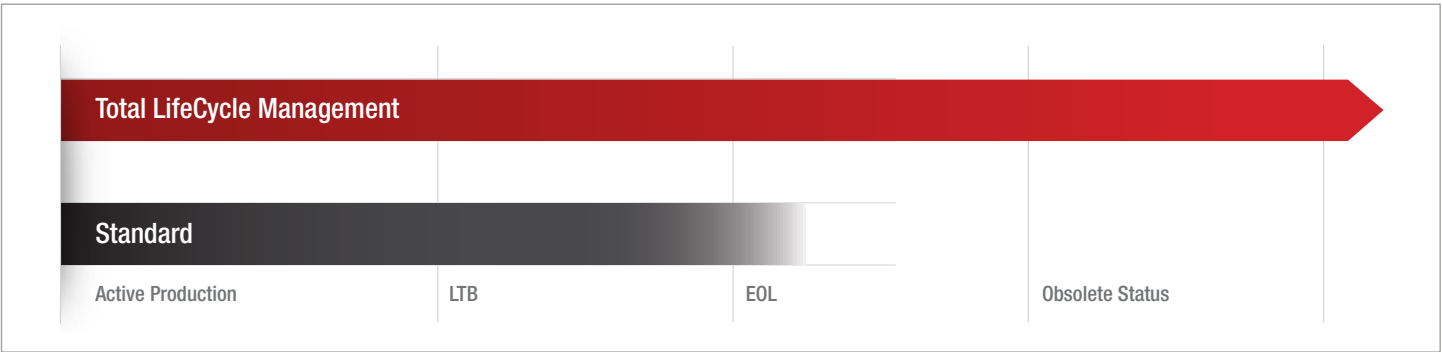
How to recognize the need for Curtiss-Wright's TLCM Suite of Services

Does the program require configuration management?

Does the product configuration need to be locked down?

Does the product adhere to source controlled drawings?

Is the application safety-certifiable?

CURTISS-WRIGHT

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