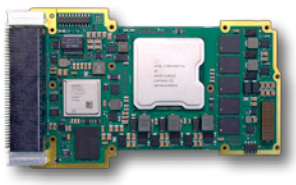
Harness the Power of Modified COTS

Modern embedded computing applications demand that the latest advanced and size, weight and power (SWaP)-optimized processor, networking and I/O technologies be delivered within ever shorter development schedules at minimal NRE cost. This creates challenges for system integrators who need to build a modern technical solution quickly, while staying on budget.

Building your solution with Commercial Off-The-Shelf (COTS) hardware saves you time, money, and reduces your risk - but if your program has unique requirements not built into the original COTS hardware, or needs a specifically tailored solution, how will that affect your bottom line? Developing your own solution is a hassle, and will cost integrators precious time they don't have. When you need to architect the perfect solution, Curtiss-Wright's Modified COTS (MCOTS) program will help address all your customer's development requirements – ranging from the design and manufacture of custom boards, board support software packages and drivers and providing rapid subsystem pre-integration capabilities - that will give you a competitive edge.



CHAMP-XD3
SOSA-Aligned DSP Engine

Parvus DuraCOR
Mission Computer

How Can MCOTS Help You?

Modifying our COTS solutions at the board or system level to suit your unique requirements will help you:

- Save money - save 40 to 60% or more on project costs by leveraging our IP investment and COTS development infrastructure.
- Reduce risk – keep your program going for the long haul with our longevity of supply and technical support services.
- Accelerate your time to market - start your application development right away using COTS products, and save 4 to 8 months of overall development time.

MCOTS Capabilities

We provide two types of MCOTS capabilities – board modification and subsystem pre-integration services.

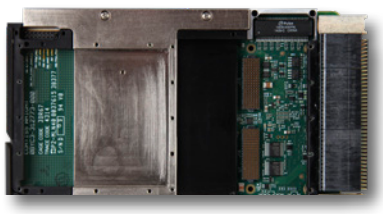
MCOTS Board Modification

Sometimes your application requires modules with a custom pinout, an extra I/O interface, or special configuration not available on the standard variant of a COTS boards. Curtiss-Wright's engineering team will carefully analyze your system requirements and modify your chosen module to meet your unique needs.

MCOTS in Action

We engaged with a customer with custom backplane requirements for a new mission computer based on 3U VPX hardware. Their goal with this new system was to further reduce SWaP in their next-gen mission computers, as well as be able to bid into Foreign Military Sales (FMS). This required security features such as Trusted Boot and other Trust Architecture features not supported on their legacy systems. Not only that, our customer wanted to be able to add their own functionality to the system, and needed a specific backplane PCI Express® (PCIe) configuration that differed from those available on standard COTS product.

At the end of their MCOTS experience, our customer received state-of-the-art VPX3-133 SWaP-optimized single board computer modules, which were easily modified to meet all their custom requirements. In addition, the delivery of these modules was specially arranged to meet our customer's time to market requirements.



VPX3-133

MCOTS Subsystem Pre-integration Services

Embedded systems are made up of a variety of parts, and ensuring those parts function properly together can be a daunting task. Instead of dealing with the hassle, risk, time and cost issues associated with pre-integrating various COTS hardware and software components into the subsystems yourself, take advantage of our modular, scalable hardware offering expansion capabilities. We can pre-integrate your subsystem rapidly to your specific platform needs and deliver a turnkey solution - with all the applicable drivers, modules, I/O interfaces and data storage you need - with qualification testing and interoperability analysis already complete. Not only that, we can generally provide this service without traditional high Non-Recurring Engineering (NRE) costs. You get the highly reliable system you need quickly, and affordably.

MCOTS in Action

Aerospace integrators are often called upon to upgrade aging airframes with new electronic payloads to extend their lifespan and mission capabilities. One such integrator turned to Curtiss-Wright when upgrading a fleet of maritime patrol and surveillance aircraft for a Western European customer. As part of the upgrade, the customer needed new mission and avionics computers. The integrator sought a partner with a flexible commercial off-the-shelf (COTS) solution that could meet the required avionics, network, and sensor requirements with minimal non-recurring expense (NRE).

The new electronics would need to interface with legacy MILSTD-1553 and ARINC 429 avionics data buses on-board. MIL-STD-1553 is common on military platforms and even Modified COTS Solution Extends Platform Lifespan and Mission Capabilities commercial applications (such as automotive, oil, subway, space) for control, as well as monitoring of critical systems. ARINC 429 is the predominant commercial avionics data bus standard used for receiving or transmitting data between avionics equipment.

The system integrator also required the mission computer to have a rugged chassis with MIL-DTL-38999 connectors that could be passively cooled without forced airflow or cold plates. The unit also had to run a Windows® operating system and integrate numerous I/O interfaces beyond MILSTD-1553, ARINC 429, including Ethernet, USB, serial, and digital I/O. Finally, the processor had to be compliant with demanding environmental, power, and EMI specs, including MIL-STD-810, MIL-STD-461, and MIL-STD-704.

Parvus DuraCOR
Mission Computer

MCOTS Advantages

No matter which MCOTS experience you choose, you can expect the following from our team:

- In-depth requirements capture, definition and specification generation and review
- Detailed design processes, including critical design reviews, and highly flexible development and manufacturing options
- In-depth and thorough mechanical engineering development and analysis, uniquely tailored to support highly ruggedized product design and testing
- Comprehensive board support package (BSP) software development, porting and testing
- Optimal software driver integration
- Experienced safety/security certification and artifact generation
- The best COTS longevity of supply and obsolescence management services available
- Effective long term product re-engineering and cost reduction strategies

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