



Sandra Krombacher

B2B Marketing Director for Technology
Organizations

About

Sandra Krombacher is a strategic B2B Marketing Leader with 12+ years of international experience specializing in aerospace, defense, communications, medical, and IoT industries. With a proven track record of developing and executing marketing initiatives, she strives to amplify brand visibility, enhance demand generation, and drive significant business growth.



Work Samples

Note: Due to Kontron's rebranding, some assets will have a different look and feel.

Lead Generation

- Customized newsletter with high-quality assets
- Focused on target audience
- High-quality leads

kontron

Special Report:
What's New In COM Express® and COM-HPC
Latest Solution Briefs, White Papers, Use Cases

Embedded
COMPUTING DESIGN

SOLUTIONS BRIEF

Deploy Data-Rich Applications Anywhere at the Edge

Together Kontron and Intel are delivering on the promise of edge computing by bringing high-caliber performance and security to the most complex IoT applications.



[Learn How](#)



Harnessing the Power of COM Express®

An industrial customer approached Kontron for a solution to replace current COMe module with one that increased performance, lowered cost, and supported 10Gb Ethernet. Kontron answered with the COM Express® basic and AMD EPYC – bEP7 E3351.

[Learn More](#)



Kontron and Intel Drive Customized Edge Solutions

Advanced edge systems require scalable, reliable performance, and the COM-HPC module for industrial edge servers provides the answer.

[Discover More](#)

SOLUTIONS BRIEF



High Performance Computing Just Got Better

Taking standardized COMs to the next level with a new High Performance Computing standard from the PCI Industrial Computer Manufacturers Group (PICMG®).

[View Paper](#)



COM Express®: A Recipe for IIOT Success

Ectron is tapping into AI and machine learning to further modernize industrial baking into some tasty treats.

[Learn More](#)



INTEGRATED MISSION COMPUTERS

The COTS alternative to custom systems and blade-based computing

Integrated Mission Computing represents a new approach to developing and implementing rugged computing systems. It gives system integrators a new tool for their system-design tool kit. By taking a COTS, pre-qualified rugged computing platform and adjusting it to their specific mission requirements, integrators can now bring their systems to market more quickly and with lower overall development costs. As a leading worldwide embedded computer manufacturer with a strong track record in meeting the demands of the Defense sector, Kontron is well-positioned to support systems integrators with its proven range of Integrated Mission Computing solutions.



POSSIBILITIES START HERE **kontron**
S&T Group

EXECUTIVE SUMMARY

Since the commercial off-the-shelf (COTS) revolution largely ended most 100% custom defense computing platforms some 25 years ago, there have essentially been two approaches to designing new systems: one designed with a full custom assembly using a mixture of COTS and custom components; the other leveraging COTS blade-style computing components with a custom backplane in a customized chassis.

There were standards to rely on such as classic 19-inch racks, the half- or full-ATX chassis standard captured by ARINC 404/600 and the various blade-computing standards including VME, Compact PCI, or VPX. However, integrators were still forced to do a great deal of system and mechanical engineering to bring their systems to a point where their application could be loaded and run, let alone ready for environmental testing and, ultimately, deployment.

Today, however, there is an alternative with the emergence of Integrated Mission Computers. In this whitepaper we will examine how these systems are designed and tested, and how they can be customized to meet specific mission requirements.

INTRODUCTION

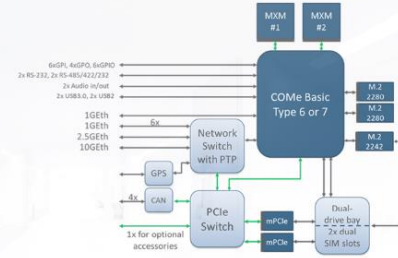
With the emergence of multi-core processing, small-form-factor standards-based computing modules and very small form factor peripheral devices (also standards-based), it is now possible to design and bring to market very compact but configurable mission computing platforms, pre-qualified for the demanding environmental conditions required by defense systems.

We call these platforms Integrated Mission Computers. By leveraging these COTS platforms and modifying them to meet the needs of the mission at hand, system integrators can take months off the engineering effort involved in a development project and reduce overall project risk. While further environmental and emissions/susceptibility testing may still be necessary due to the customizations applied, having a system that has already undergone and passed such testing gives the integrator some confidence that their new custom system will also pass testing.

INTEGRATED MISSION COMPUTING:

WHAT MAKES IT DIFFERENT?
Defense system integrators are increasingly turning to integrated mission computers as starting points for their rugged defense systems. By leveraging COTS or modified COTS systems that have previously undergone rugged environmental qualification testing, integrators not only have a platform ready to integrate their application without a lengthy up-front design and fabrication effort, but they also gain early confidence that their final system will be deployment-ready with little or no additional environmental qualification testing.

Integrated Mission Computers are typically relatively small, physically enclosed, rugged computing platform with standards-based I/O using mil-circular connectors. These systems often leverage COTS computing modules such as COM Express or VME and are essentially rugged equivalents of a typical PC – although often enhanced with specialized functionality or I/O. Most often these systems bolt down to a mounting surface (as opposed to the traditional rack-mount approach) and are often fanless, using natural air convection across finned surfaces for cooling, although fans or cold-plates are sometimes used.



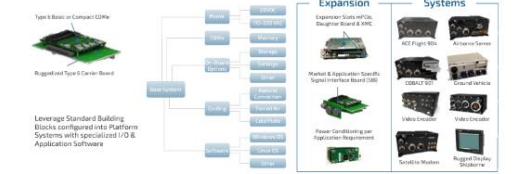
// COBALT™ S1901 Carrier Block Diagram

The COBALT™ S1901 also offers superior thermal capabilities to support higher-power COM Express® modules with one or two MXM-based graphics processing unit (GPU) modules. The baseline unit can support up to 150 W of power across the whole -40 °C to 71 °C operating range with its fanless convection-cooled design, and up to 250 W with the addition of an optional IP67-rated fan kit. A liquid-cooled jacket is even in the works to address those high-performance systems that cannot utilize a fan-based cooling mechanism.

Like the COBALT™ 901, the COBALT™ S1901 is offered both in COTS and customized variants. The COTS COBALT™ S1901 is based on the more powerful COMe-8607 using the Intel® Xeon® D-E39 8-core processor running at 16 GHz, along with an NVIDIA T1000 GPU. Other processor and GPU options are available for customized variants, along with a host of I/O options.

The COBALT™ 901 and S1901 platforms represent a continuous spectrum of integrated mission computing solutions from 35 to 250 Watts. By building on the pre-qualified COTS 901 and S1901 variants, Kontron can quickly create customized solutions to meet mission requirements, and customers benefit not only from this rapid development, but also from the comfort that the baseline system from which their solution was derived has already undergone rugged environmental, power, and emissions qualification testing.

COMe – Carrier – Expansion – System



// COBALT 901 Common Integrated Mission Computing Platform can be easily adapted and customized to meet specific mission requirements.

By providing a carrier/COM Express® "stack" with flexible expansion sites, the COBALT™ 901 forms a flexible, expandable, and adaptable architecture for an integrated mission computing platform. By using a common "Signal Interface Board" along with space for additional custom connectors, the COBALT™ 901 enables rapid customization to meet specific mission requirements.



// COBALT™ S1901 High-performance Integrated Mission Computer

The new COBALT™ S1901 platform builds on this same architectural approach, but targets systems in the 50 to 250 watts in power. The COBALT™ S1901 uses the same carrier/COM Express® module approach as the COBALT™ 901, but the new S1901 carrier offers significantly more I/O and expansion, including two MCM sites (for graphics processors, FPGAs or other high-performance computing), three M.2 sites, two mPCIe sites, and an on-board Ethernet switch with 1G, 2.5G, and 10G Ethernet ports.



High-quality Content

Whitepapers, solution briefs, application stories



inals
to providing the
tion ESA based terminals

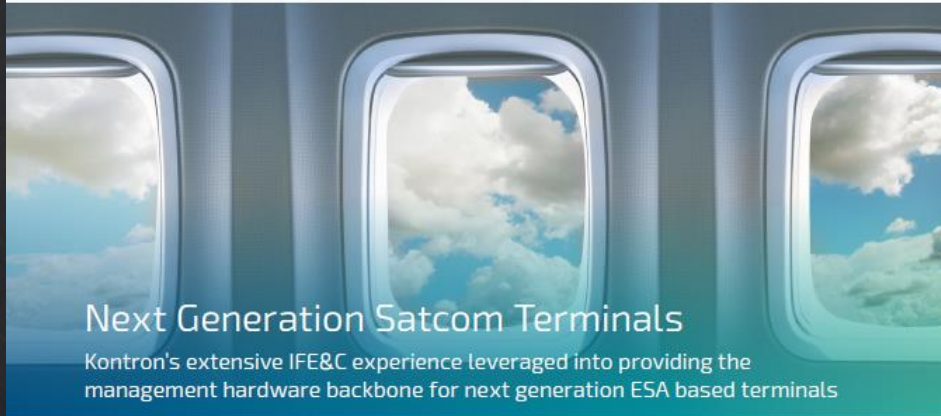
Collateral / Use Cases

Anonymized use cases

CHALLENGE

- ▶ Developing an ESA (Electronic Steered Antenna) based terminals to provide high speed, reliable broadband connectivity
- ▶ Meeting the aggressive time to market standards
- ▶ Ensuring compliance with all relevant regulatory requirements





Next Generation Satcom Terminals

Kontron's extensive IFE&C experience leveraged into providing the management hardware backbone for next generation ESA based terminals

CHALLENGE

- ▶ Developing an ESA (Electronic Steered Antenna) based terminals to provide high speed, reliable broadband connectivity
- ▶ Meeting the aggressive time to market standards
- ▶ Finding a partner with rapid design capability and existing design building blocks to leverage for success



SOLUTION

- ▶ Kontron to develop and manufacture an Antenna Control Modem Unit (ACMU), including the management of various 3rd party controls to be incorporated into the overall design
- ▶ Implementing Kontron proven avionics system design practices and FAA qualification process know-how to ensure on time, cost effective strategies

BENEFITS

- ▶ Kontron has a long history of successfully supplying airborne servers, wireless access points and communication units to the rapidly growing In-flight Entertainment & Connectivity market
- ▶ Partnering with a company that has 5,000 commercial aircraft and business jets operating worldwide with Kontron equipment on board
- ▶ Resulting in an accelerated time-to-market, reduced total-cost-of-ownership, product longevity and the best possible overall application with leading-edge, highest reliability embedded technology

Learn more:
Avionics | Kontron Embedded Computers



ACE Flight 4783

Dual Modem MODMAN Enabling Efficiency and Functionality



CHALLENGE

- ▶ The customer needed a MODMAN to accommodate two satellite modems in a single 4MCU LRU while maintaining ARINC 791/792 standards
- ▶ Two Ka-Band modems would be required
- ▶ Automatic network switching would need to occur for a seamless passenger experience across all regions

SOLUTION

- ▶ Kontron developed the Dual modem MODMAN ACE Flight 4783, integrating dual satellite modem cards with an RF switch
- ▶ In addition, Kontron added full Server capability within the same 4MCU package, including a Xeon processor, managed Gigabit Ethernet Switch, up to 16 TByte internal storage, a 4G Cellular Modem for ground communications, and all expected standard aircraft interfaces in an airborne server
- ▶ Kontron has designed its ACE Flight 4783 MODMAN product family to support different modem configurations (ordering options)

BENEFITS

- ▶ The additional features enable the use of the Dual MODMAN not only as a connectivity support but also as a combined Connectivity & Media Server for aircraft installations with Size, Weight, and Power (SWAP) constraints
- ▶ The ACE Flight 4783 architecture allows support for multi-orbit connectivity projects
- ▶ Being based on Kontron's in-house product technology allows for total control over lifecycles and customization
- ▶ Qualified to DO-160G and Line-Fit Ready

Learn more:
Avionics | ACE FLIGHT™ 4783



COBALT™ S1901

Rugged Conduction Cooled High Performance CPU/GPU Platform for Next Generation Technology Insertion

CHALLENGE

- ▶ Rapid response to next generation technology insertion requiring rugged high performance computing and connectivity
- ▶ Fully qualified to MIL-STD-810G, -704F/-1275E, and -461E for airborne application with no fan assist
- ▶ Application ready, fully validated BSP for ease of software integration and fast time-to-deployment

SOLUTION

- ▶ COBALT™ S1901 integrates Intel® Xeon® technology coupled with an NVIDIA T1000 GPU for ease of porting next generation AI software algorithms onto a fully qualified rugged platform without any performance compromise at temperature or harsh environment conditions
- ▶ Provides common connectivity ports such as 10GbE, 2.5GbE and 1GbE, USB3.0, CANBus, Discretes, and Serial I/O for interfacing to a wide range of external sensor payloads and data buses within the aircraft or vehicle

BENEFITS

- ▶ Meets the DoD initiative for Modular Open Systems Approach (MOSA) and provides unique configuration capabilities for different mission profiles and future upgrade capabilities based on industry standard modules and hardware devices
- ▶ Readily available & cost effective - standard configurations allow a short delivery cycle due to utilizing common hardware and reduces the overall cost of the platform without compromise to the performance capabilities
- ▶ High reliability - the platform is built upon Kontron's years of experience in ruggedizing COM Express® modules and hardware devices in harsh environments

▶ Learn more:
[COBALT™ S1901](#)

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DARC™ VX208 Rugged Mission Computer

Provides situational awareness capabilities to Armored Ground Vehicles

CHALLENGE

- ▶ Requiring a rugged, high performance but compact mission computer, qualified for armored vehicles for harsh environments
- ▶ Demanding a made in Europe, ITAR and BAFA Free solution
- ▶ Expecting capabilities to intensively send/ receive RTSP* packets, compress and post-process multiple video streams in parallel

*The Real Time Streaming Protocol is an application-level network protocol designed for multiplexing and packetizing multimedia transport streams, such as interactive media, video and audio, over a suitable transport protocol

SOLUTION

- ▶ Offering an optimized SWAP-C rugged COTS mission computer with GPGPU support, attached to a touch display to present the Human Machine Interface of the vehicle, its sensors, cameras and communication equipment. DARC™ VX208 is providing full situational awareness capabilities to the dismounts and operators in armored vehicles.

BENEFITS

- ▶ Building on Kontron's know-how in the design and manufacture of COTS embedded rugged systems for defense market
- ▶ Leveraging Kontron's ability to provide modified COTS products, minimizing NRE costs and improving the Total Cost of Ownership
- ▶ Made In France / ITAR and BAFA free

▶ Learn more:
[Kontron | DARC™ VX208](#)

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QUESTION: How does the Sensor Open Systems Architecture™ (SOSA) Technical Standard build on open standards? Pick one and explain: OpenVPX, HOST, FACE, CMOSS, RedHawk, other.

The SOSA™ Technical Standard Revolutionizes Sensor Systems for Defense and Aerospace

By Sandra Krombacher, Director Marketing, Kontron America



The SOSA™ Technical Standard is an evolution of the OpenVPX standard, aimed at enhancing interoperability and flexibility in sensor systems for defense and aerospace applications. While OpenVPX defines a framework for ruggedized, high-performance embedded computing systems, SOSA extends this framework to address sensor-specific requirements and further promote modularity, scalability, and reuse.

SOSA builds on the foundation laid by OpenVPX by incorporating several key advancements. Firstly, it introduces a modular approach to sensor systems, enabling the integration of different sensor types such as radar, electro-optical, electronic warfare, and more, into a common architecture. This modularity allows for easier upgrades, replacements, and enhancements without disrupting the entire system.

Secondly, SOSA emphasizes interoperability through the use of standardized interfaces and profiles. It defines a set of common interface standards, including data transport, command and control, and power, which enable sensor modules from various vendors

to seamlessly communicate and cooperate within the same system. This interoperability reduces integration efforts, promotes competition, and fosters innovation within the sensor ecosystem.

Additionally, SOSA incorporates the concept of open system architectures, encouraging the use of open standards and common building blocks. This approach facilitates technology insertion and enables system scalability by allowing modules and components from different generations or vendors to be easily integrated.

Overall, the SOSA Technical Standard builds on the foundation established by OpenVPX by providing a comprehensive framework that addresses the specific needs of sensor systems. It promotes modularity, interoperability, and openness, enabling the development of advanced, future-proof sensor architectures for defense and aerospace applications.

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Introducing the VX307H:

Next-Generation Powerhouse Combining Unparalleled Performance at an Efficient Power Budget



- › First 3U Plug-In Card to meet the challenge of 100Gb Ethernet and take advantage of the performance/power improvement provided by the new Air-Flow Through AFT (VITA4B.B) cooling solution
- › Intel® Xeon® D-2700 HCC processor
- › From 12 to 20 cores, enabling computing power to be adapted to applications of different Size, Weight, Power and Cost (SWaP-C)
- › Long term availability with 10-years of typical life cycle
- › SOSA™ aligned



Find out more about
Kontron's SOSA
aligned products

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#Kontron #IoT #Connectivity #DigitalTransformation



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K-PORT
Transform your Mondays
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Branding - New Introduction of Hardware & Software Solutions to North American Market

3rd Party LinkedIn Branding Campaign

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Kontron is transforming the healthcare market through technical innovation in every room in the hospital. We help you lower costs while delivering faster time to market and cutting-edge designs. Don't be left behind. Learn more: <https://lnkd.in/gtv2agaF>



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Calling all medical manufacturers! Are you ready to save costs with the latest embedded technology? [Learn more](#)

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Webinar

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We'd love to see you at our [#medical](#) webinar tomorrow exploring [#robotic](#) -assisted surgery, and it's incredible potential. If you can't make it live, you can register and watch the recorded event later with popcorn! :) ...more



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Join our webinar:
Realizing the Potential
of Robotic-Assisted Surgery

Tuesday, October 31, 2023
11:00 am PDT | 2:00 pm EDT | 20:00 CEST

Our partner: 

Tue, Oct 31, 2023, 11:00 AM - 11:30 AM PDT [View event](#)

Beyond Science Fiction: Realizing the Potential of Robotic-Assisted Surgery

 Online



Event Management



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Thank you for your time. Let's stay in touch!

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[LinkedIn Profile](#)