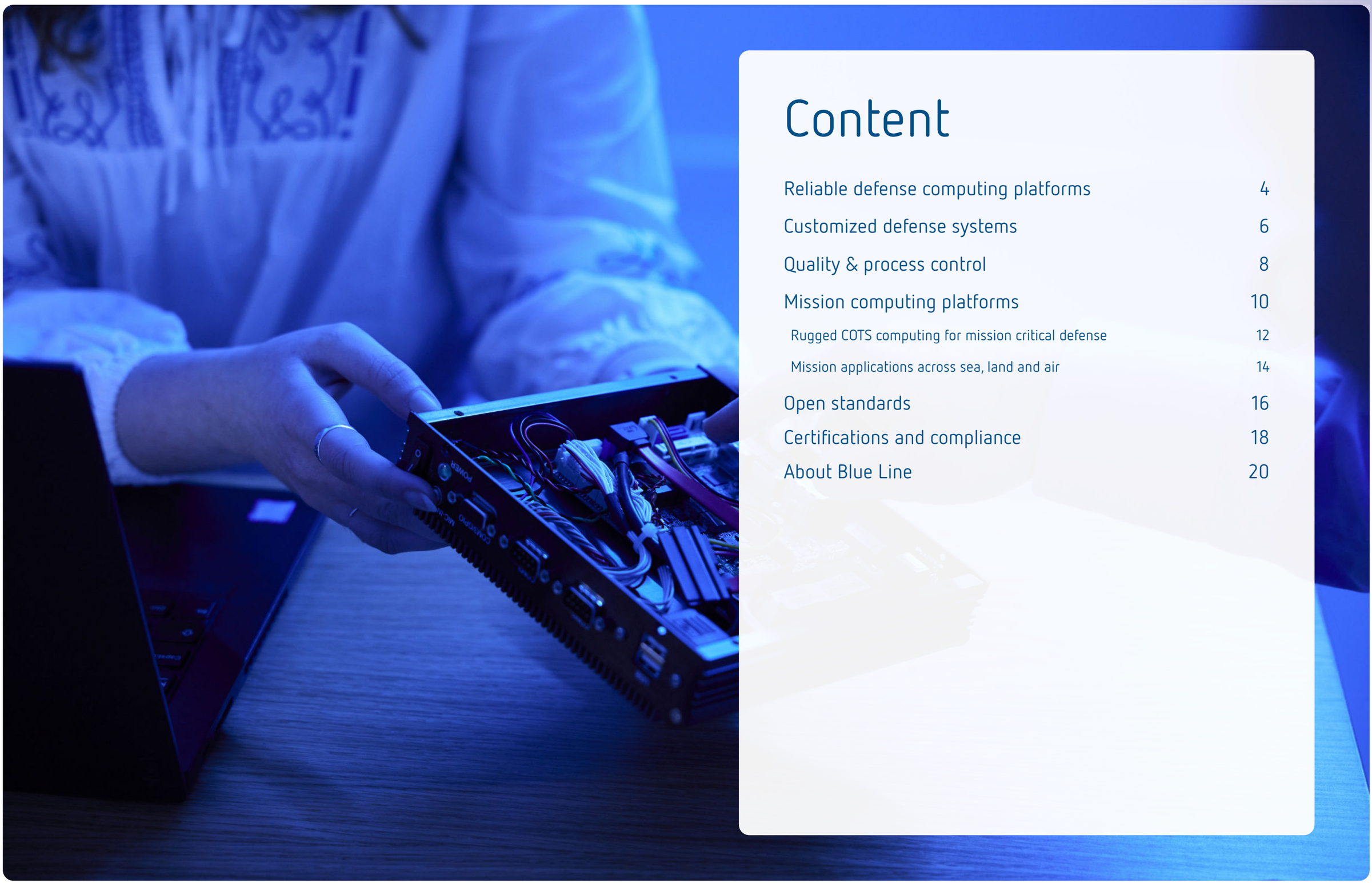
# Rugged computer systems for **defense applications**



BLUE LINE
IT for Demanding Environments



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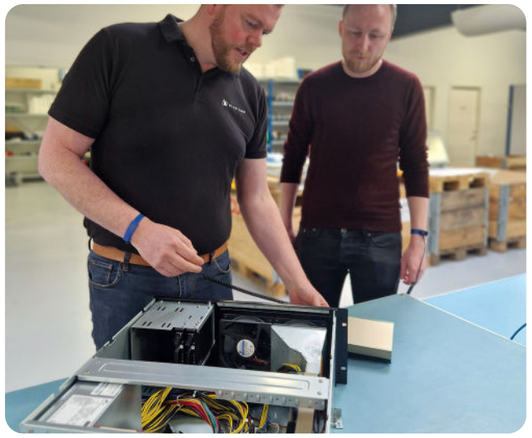
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# Reliable defense computing platforms

Reliable computing platforms designed for mission critical defense operations in harsh environments. Built to MIL grade standards, these systems help you maintain operational capability where conventional IT infrastructure is no longer sufficient.





## Edge GPU systems

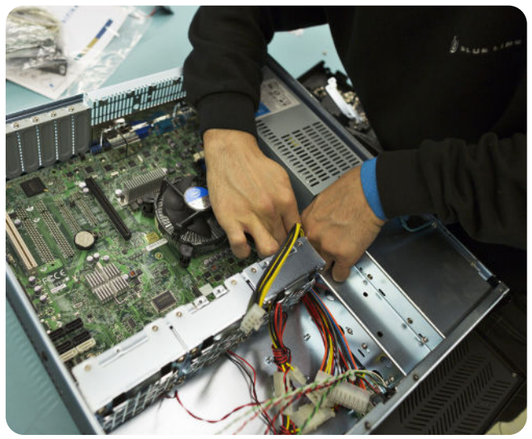
Commercial Off The Shelf based systems provide an open, scalable and modular foundation. This enables faster deployment while giving you control over size, weight, power and cost parameters.

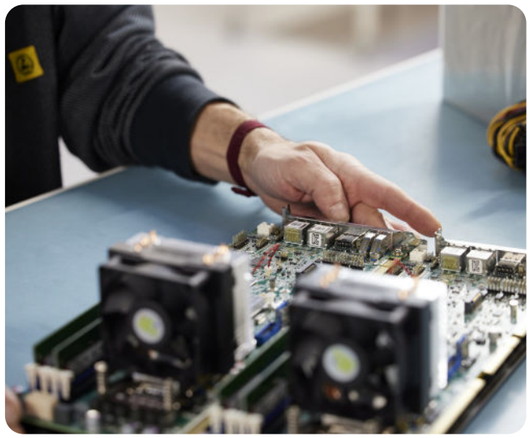
The architecture is designed for flexibility, allowing you to adjust compute performance and system configuration without requiring a full platform redesign.

## Compact rugged server

When you need high density compute in limited space, the 2U rack mount GPU server provides a compact solution. You can combine multiple MXM GPUs with Intel Xeon or Core processors for demanding applications such as command and control, simulation and onboard analytics.

The fanless rugged chassis improves reliability and lowers maintenance. Thermal conduction is engineered for stable operation in environments where vibration and shock would challenge conventional cooling designs.





## Virtualized workstations

For infrastructure workloads, Xeon based workstations support multi core processing for virtualization, secure networking and digital workspace environments. You can deploy VMware based setups that integrate applications, security and operations into one controlled platform.

This enables flexible and scalable defense IT architectures where workloads are isolated but performance remains consistent across compute, network and storage tasks.

# Customized defense systems

Modular and mission adaptable computing systems built on open standards. You can scale and configure each solution to match operational needs while maintaining compliance with strict defense requirements and SWaP C constraints.



## Modular COTS design

Commercial Off The Shelf based systems provide an open, scalable and modular foundation. Faster deployment is supported while you maintain full control over size, weight, power and cost requirements.

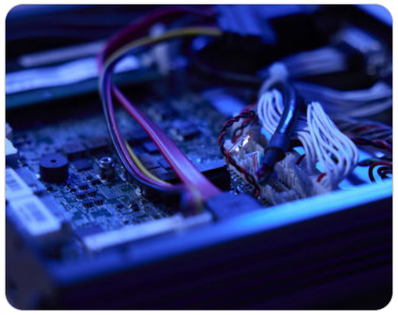
The architecture is designed for flexibility so you can adjust compute performance and system configuration without redesigning the full platform.



## Embedded standards

Proven embedded computing standards such as VPX, VMEbus, CompactPCI and MicroTCA are used as the technological basis. These platforms provide long term reliability and interoperability in defense applications.

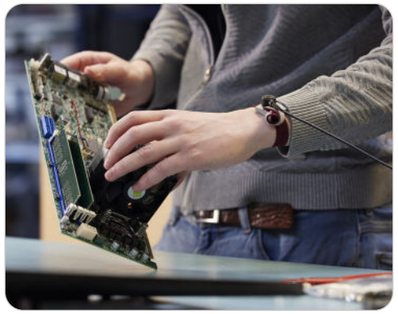
This gives you a stable technology foundation for complex systems where consistency, upgradeability and lifecycle support are critical.



## Tailored Integration

System designs can be adapted to fit your existing hardware setup, including custom I/O configurations and MIL DTL 38999 connectors.

All solutions can be qualified according to MIL STD 810 and MIL STD 461, ensuring performance under environmental stress, vibration and electromagnetic conditions.



# Quality & process control

Structured development and delivery processes supported by digital quality management. You get full traceability, controlled documentation and transparent validation across the entire product lifecycle.

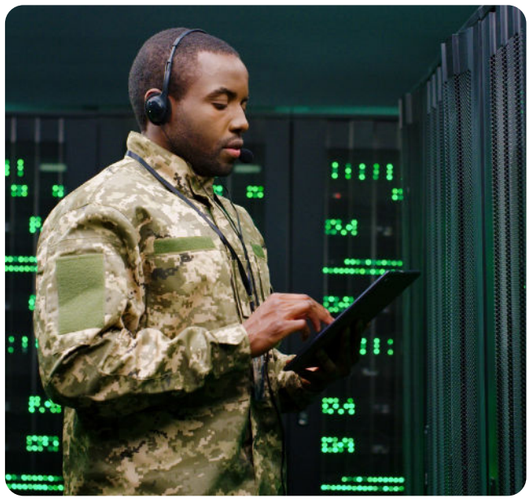
## Digital quality system

A modern, digitally based quality management system supports all development and delivery activities. You get consistent control of processes, documentation and approvals across projects, ensuring that engineering changes, test results and release workflows are managed in a structured way.

The system is designed to maintain structure and repeatability, so every delivery follows defined quality standards for you. This reduces variability between projects and supports reliable execution even in complex, multi system programs.







## Full lifecycle traceability

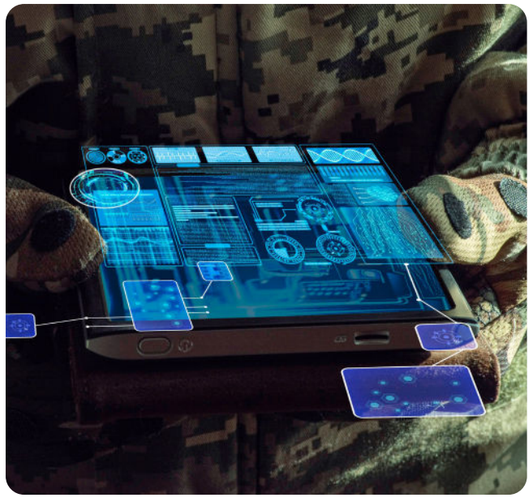
PLM based Product Lifecycle Management ensures complete tracking of document versions, configuration data and system history. You get a continuous record of every modification, from initial design through production, testing and deployment.

Every change is recorded and traceable throughout the lifecycle, which gives you full visibility into system evolution and decision history. This supports both compliance requirements and long term maintainability of deployed solutions.

## Transparent validation

Development and delivery processes are accessible for validation as part of collaboration. You can review process flows, quality documentation and test evidence to ensure alignment with project requirements.

On request, external audit documentation can be shared for verification, providing additional assurance of compliance with relevant standards. This gives you confidence in quality control through open and verifiable process insight across the entire delivery chain.



# Mission computing platforms








# Rugged COTS computing for mission critical defense

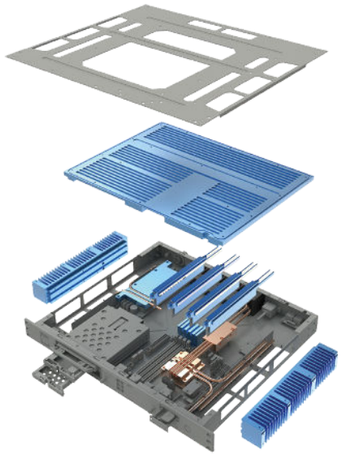
Modular VPX based systems and rugged platforms designed for high performance computing, secure data handling and reliable operation in demanding defense environments.

## Rugged defense computing

COTS based computing platforms designed for high performance defense applications where reliability and interoperability are essential. VPX and OpenVPX architectures enable scalable system integration in mission critical deployments relevant to the environments you operate in.

The portfolio includes rugged mission computers, servers and workstations for embedded and deployed use in harsh conditions, validated to MIL STD 810 for shock and vibration.

VPX 3U and 6U platforms support high speed processing for ISR, sensor fusion and mission computing you rely on in real time operations. Compact 1U and 2U servers provide SWaP optimized computing for constrained installations where capability must fit limited space.





## Modular mission systems

Rugged COTS systems designed for modern defense requirements with focus on modularity and operational flexibility in the environments you work in. VPX and OpenVPX architectures provide a scalable foundation for airborne, land and maritime platforms you deploy in complex missions.

The portfolio covers mission computers, rugged servers and embedded systems for stable operation in harsh conditions.

MIL STD 810 compliance ensures resistance to vibration and shock.

3U and 6U VPX systems deliver high bandwidth computing for real time data processing and sensor driven applications you depend on for situational awareness. Compact server platforms in 1U and 2U formats support integration where space and power are limited.

## Rugged computing for mission systems



Displays
& Computers



VPX, VME
& cPCI Systems



Servers
& Workstations



Ethernet Switches
& Routers



SWaP
Mission Computers



NAS
& Recorders

# Mission applications across sea, land and air

Rugged computing platforms supporting mission processing, sensor fusion and edge AI across modern defense operations



## Fitted to your environment

Blue Line's MIL specified computing platforms support high speed data acquisition, control and mission processing in demanding defense environments. Based on CPU, GPU and FPGA technologies, the systems enable scalable performance for embedded applications supporting surveillance, autonomy and tactical operations you rely on.

AI inference and accelerated edge computing support faster analysis, prediction and decision support closer to the mission, where performance, interoperability and reliability are critical to your operations.



Radar & Sonar Systems



Land, Maritime & Vehicle Computing



Mission Computers & C5ISR



Recording, Simulation & Communication



# Open standards and partners

## Supporting interoperability and long term system availability.

Open standards provide a defined framework for system design, enabling interoperability between components and subsystems across different platforms. This makes integration more predictable and reduces dependency on specific vendors in the systems you develop and maintain.

Using established and actively maintained standards allows access to compatible components from multiple sources. This supports upgrades over time and reduces the need for redesign in systems you operate and evolve.

The approach contributes to shorter development cycles and more manageable lifecycle support in complex defense environments you work within.

### Technology partner

GPU accelerated platforms support AI inference at the tactical edge, enabling advanced analytics and autonomous processing to enhance mission decisions and autonomous capabilities.

**MTCA**

MicroTCA defines a compact, backplane based computer system built on AdvancedMC (AMC) modules. These systems are used across various industries, including research, medical technology, transportation, defense, telecommunications, and networking. MicroTCA systems are typically employed when there is a need to process large amounts of real time data, such as analog or digital signals, for example using FPGAs.

**PXIe**

PXIe stands for "PCI Express eXtension for Instrumentation" and is a modular computer platform designed for measurement and automation applications. It is based on the PCI Express bus architecture and provides high bandwidth and fast data transfer rates. PXIe offers a flexible and scalable platform for developing and integrating test and measurement systems.

**COM Express**

COM Express is a PICMG specification for x86 based Computer on Modules. These modules integrate the core functions of a bootable PC, including CPU, graphics processor, main memory and standard interfaces, on a single board. The module is connected to a carrier board via two connectors.

**CPCI/CPCI-S**

CompactPCI is an American industrial bus system based on the Eurocard format, available in single or double width versions. It is typically used with passive backplanes. CompactPCI Serial is the further development of the CompactPCI standard. In contrast to CPCI, CompactPCI Serial uses serial point to point connections and supports the PCI Express bus.

**HPC**

High Performance Computing describes systems that represent the current state of the art in computing performance. These systems are typically equipped with PCIe slots and support the latest GPUs and CPUs. They are primarily used for image processing and AI applications.

**VMEbus**

The VMEbus is a multiprocessor bus system that allows multiple CPU boards to be connected together with various I/O boards. VMEbus systems typically support up to 20 slots. VME64 extends the standard with a 64 bit data and address bus width. A wide range of processor types can be used on VMEbus cards. Today, VMEbus systems are used across many applications in industry, research, medical technology, aerospace and defense.

**VPX (VITA 46)**

The VPX standard (Virtual Path Cross Connect) defines a modular bus architecture for 3U and 6U board systems. Communication takes place via serial high speed connections on passive or switched fabric backplanes. VPX is primarily used for rugged high performance applications such as mission computers in defense systems.

**Open VPX (VITA 65)**

Based on VPX, OpenVPX defines standardized system architectures in 3U and 6U formats. OpenVPX enables interoperability between products from different manufacturers. It specifically defines the architecture of high speed interfaces between payloads, switches, backplanes and chassis.

# Certifications and compliance

Defense systems are tested and certified according to your specifications in cooperation with accredited defense test laboratories, covering relevant military standards, ensuring you achieve compliance, reduced risk and reliable performance in mission critical environments.



## Certification testing



Certification testing ensures that your systems meet defined military and aerospace standards for deployment in mission critical environments.

Structured test programs are used throughout development, qualification and accredited approval to ensure compliance and reliable system performance.

Standards include:

- MIL STD 810 environmental and mechanical testing
- MIL STD 461 electromagnetic compatibility
- AECTP 300 NATO environmental standards
- RTCA DO 160 airborne equipment testing

## Qualification testing



Qualification testing verifies that your systems perform according to defined requirements under controlled and repeatable conditions.

System behavior can be validated under environmental, mechanical and operational stress to ensure readiness for deployment.

Standards include:

- MIL STD 810 environmental stress
- AECTP 300 defence qualification testing
- RTCA DO 160 environmental conditions
- Defence specific qualification procedures

## Compliance testing



Compliance testing ensures that your systems meet required standards for performance, safety and interoperability in complex defense environments.

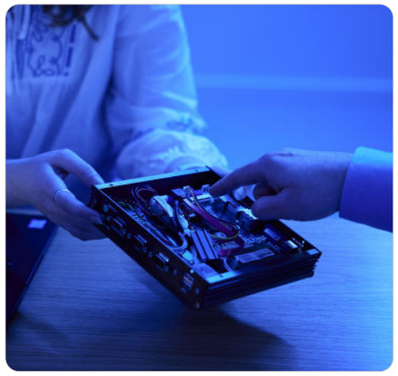
You can verify both environmental and electromagnetic requirements to ensure stable operation alongside other mission critical systems.

Standards include:

- MIL STD 461 emissions and immunity
- EMC conducted and radiated testing
- IEC 61000 EMC standards
- Defence compliance requirements

# About Blue Line

As industry leaders, Blue Line's mission focuses on ensuring uninterrupted performance in environments where traditional IT solutions are not enough.



## More than three decades of IT excellence

Drawing on more than 35 years of expertise in the rugged IT sector, Blue Line's solutions deliver positive results in customer sites worldwide and cover industries like pharmaceutical, defense, maritime, food production, AI, and automation.

Whatever the industry, your requirements are at the forefront of our solutions. Everything springs from client needs, ensuring products designed in full compliance with all relevant regulations and requirements across multiple industries. Clients benefit from purpose-built technology that addresses their needs while maintaining regulatory compliance.

## Framework for mutual succes

Commitment to excellence is reflected in our ISO 9001:2015-rated management system certification, which ensures consistent quality across all of our operations. In addition, a AAA credit rating maintained for 12 years provides clients with assurances of financial stability.

This framework means customers receive reliable products, transparent processes, and a relationship backed by recognized standards – eliminating uncertainty and strengthening the entire value chain.





## Sustainable partnerships

One of the key tenets of Blue Line's partner strategy is enabling companies to confidently partner with an organization dedicated to sustainability and integrity. This is reflected in, among other things, our strict ethical standards and a comprehensive Code of Conduct for our suppliers.

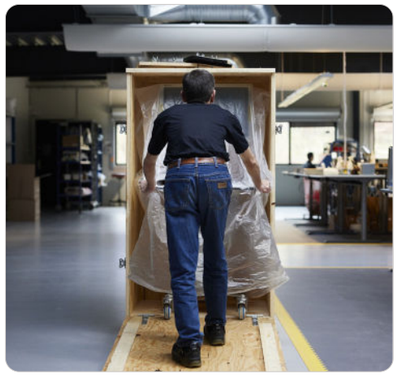
Balancing business success with environmental responsibility creates measurable value for our customers. The aim is to implement policies focused on energy efficiency, waste reduction, and recycling. This translates into customers gaining a trusted partner dedicated to quality, sustainability, and positive community impact.

## Expanding reach and capabilities

Since our inception, Blue Line has undergone transformative growth that continues to this day. 2023 saw the establishment of a new headquarters in Hinnerup, Denmark, which quadrupled operational capacity. Then came a strengthening of our Scandinavian presence by expanding into Norway and Sweden, where our focus includes defense, telecom, marine, transportation, and AI/GPU solutions.

The most recent expansion marked a pivotal milestone in Blue Line's global journey, with the establishment of a US subsidiary in North Carolina's Research Triangle Park, positioning us perfectly to support our growing North American customer base.



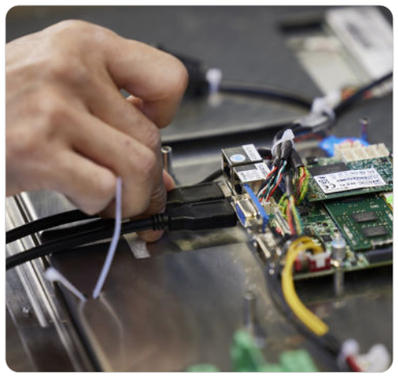
## Securing your delivery time

At Blue Line, we understand the critical importance of proactive delivery planning and transparency with customers. To ensure optimal delivery performance, we've built strategic, long-term partnerships with our subcontractors.

Through substantial investments in our supply chain, customers can avoid the pain of component shortages and severe delivery delays that many industries have experienced in recent years.

# Quality and sustainability

At Blue Line, a commitment to quality and sustainability is deeply ingrained in everything we do. It's not just a set of policies, but a fundamental part of our DNA that guides our actions and decisions every day.



## Excellent industry standards

Every year, we review of our goals and policies, ensuring a constant push to be better. This management system is audited annually by DNV, while sustainability performance is assessed by Ecovadis.

Over the past three years, hard work has gone into consistently enhancing this Ecovadis sustainability score. This dedication has paid off – as of April 2024, we're proud to rank among the top 19% of companies assessed. The objective is to further elevate our rating to the prestigious Gold level within the next five years through targeted sustainability initiatives across our operations.

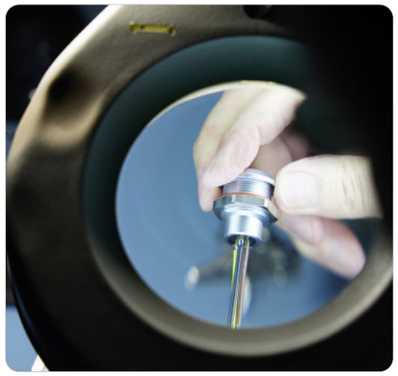
## Social responsibility

Commitment to doing business the right way extends to social responsibility as well. We strive to balance the interests of all our stakeholders – from our employees and customers to our suppliers and the communities we operate in. This means fostering a work environment that promotes talent, inclusion, and job satisfaction, while also respecting national legal frameworks and the UN Global Compact principles on human rights and employee rights.

## Environmental policy

Reducing environmental impact is a major part of our sustainability efforts. Every Blue Line employee contributes to complying with our environmental policy, which covers focus areas such as energy usage, waste reduction, and recycling. Because we believe that sustainability is a shared responsibility.





## Sustainable sourcing

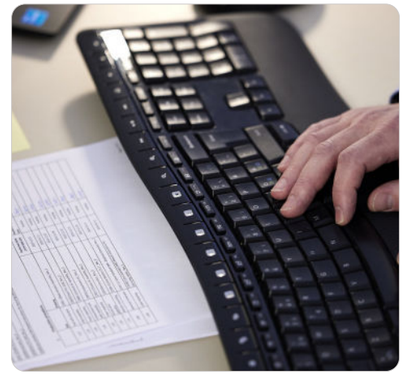
Sustainable sourcing is another key part of the Blue Line approach. Evaluating the sustainability of our supply chain in various parameters is crucial and therefore we have implemented a Code of Conduct for our suppliers. Working with suppliers who share our commitment to sustainability is a major priority.

## Anti-corruption policy

Blue Line maintains a zero-tolerance policy for any form of corruption. Clear anti-corruption guidelines and reporting procedures are in place to ensure the highest standards of business ethics.

## Comprehensive policies

To support our commitment to quality, sustainability, and ethical practices, we've established a comprehensive set of policies and procedures. These cover crucial areas like the environment, work conditions, employee rights, inclusion, anti-corruption, and more. These policies are publicly available on our website and audited annually by management to ensure accountability.



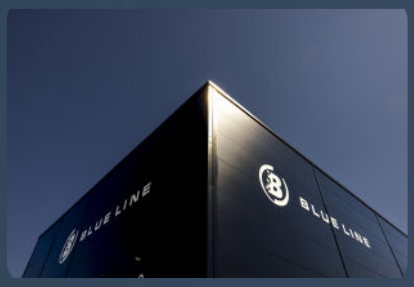


## Our values and commitment

Dedication to quality and sustainability isn't just a corporate obligation – it's a heartfelt commitment that is integral to our long-term success. It's about being a trusted partner to our customers, a responsible employer to our team, a fair client to our suppliers, and a positive force in the broader community.

BLUE LINE
IT for Demanding Environments

# Blue Line headquarters




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