Barco visualization subsystems

Low-risk, project-specific solutions for integrated visualization

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For more than a decade, Barco has been a trusted supplier of visualization solutions for the defense community. Building on its long-standing expertise and qualified resources, Barco combines its full range of rugged displays, video solutions and COTS workstations with third party technologies to provide low-risk, fully integrated subsystems. Be it for COTS products or complete systems, Barco applies its hardware and software integration expertise to achieve your program-specific visualization solution.

Barco’s far-reaching know-how allows us to create high-end and innovative visualization solutions that meet your project-specific needs. While keeping a constant eye on the future, Barco provides you today with the integrated visualization solutions of tomorrow.
As no other visualization company, Barco knows the challenges of bringing critical image information to the operator. By mastering all components of the imaging chain, Barco is able to provide you with a complete operational system solution from sensor to display. Barco can make use of its full range of rugged display products, sensor processing products, image management solutions, image processing libraries and HMI packages, which facilitate situational awareness anytime, anywhere.

A one-stop provider from sensor to display
High-performance ruggedization
Barco has a long-standing experience in providing rugged systems and components to the military market. At all stages of the production process, Barco’s visualization solutions are rigorously tested to ensure compliance with military standards for application in hostile environments. In addition, our highly qualified engineering staff is flexible in integrating the most suitable display components for your ruggedization needs.

Integrated computing solutions
Barco’s high-end integrated workstations and consoles are designed to perform in the most demanding Command & Control environments. Their modular concept allows for a high degree of customization and expandability, while keeping costs to a minimum. Solutions for deployable or fixed Command & Control are available and field proven.

Extensive program services
Barco shares your strategic view, understands the technical risks and manages the complete product life cycle from concept and design to manufacturing and lifetime support. Our cleared personnel shares your vision and will team up with your specialists to supply cost-effective, technologically advanced solutions that meet your program objectives. This translates into reduced technical risk and lower system cost for integrators. To ensure maximum support and availability of its products, Barco has established a worldwide network of Integrated Logistics Support, with regional support personnel that understand the local language and requirements.
As today’s battlespace is clearly network-centric, Barco’s network-enabled visualization solutions make sure that your high-resolution images and radar data are distributed in real-time to wherever you need them.
Barco in the field

**Landing control system upgrade**

Barco upgraded the display subsystem of the AN/TPN-19 mobile air traffic landing control system. Barco designed a custom subsystem to replace the legacy system and interface with the existing radar subsystem.

**Barco’s offer:**

- Legacy system upgrade
  - Subsystem design to specifications
  - Replaced existing stroker-based subsystem with new LCD-based subsystem
  - Custom computing engine
- Integration into existing shelter and systems
  - Custom radar interface
  - Custom PCB design
  - Custom computer interface
  - COTS component integration
- Complete system testing and certification
- Dramatically reduced operating and maintenance costs
- ASR and PAR radar

**Custom rugged computers and real-time visualization for ground vehicles**

Barco was selected to supply a customized rugged computer for integration into a wheeled infantry combat vehicle.

**Barco’s offer:**

- Complete visualization solution
- Design-to-spec functionality
- Based on existing Barco computing technology and expertise
- Custom rugged vehicle computer
  - Custom mechanics
  - Custom interface electronics
  - Custom HMI software
- Vehicle integration
  - Custom interfaces (CANbus)
  - Discrete inputs / outputs
  - Legacy I/O connectors
- Complete vehicle management
  - Virtual dashboard
  - Battlefield digitization

**Airborne reconnaissance system**

Barco was selected to provide a complete, integrated airborne reconnaissance system for a military aircraft. Barco had complete integration responsibility for consoles, processors, and subsystem network.

**Barco’s offer:**

- Existing system retrofit
- Airborne consoles designed to mission requirements
  - Conform to existing structure
  - Light-weight mechanics
  - HMI stations for HF listening, mission and analysis
  - Support for existing interfaces
- Integrated computing
  - Interface computers
  - Database servers
- Networking
  - Multi-level network
  - High-speed switching
  - System-wide, network-based BIT, status monitoring and reporting
- Ruggedization to airborne military specifications
- Design, production and integration
Advanced sonar detection and display system

Barco provided a replacement subsystem for an obsolete sonar detection and display workstation on attack submarines. The existing unit was large, bulky, heavy and offered no technology upgrade path.

**Barco's offer:**
- Legacy system upgrade
- Size and weight reduction
- Customized to project specifications
- Full-functionality workstation
  - 20” rugged Barco display
  - Touch screen interface
  - Embedded computing
  - 1Gb Fiber Optic Ethernet
  - COTS PMC support for project-specific interfaces
- Complete vessel integration
  - Custom mechanical design
  - Custom I/O interface
- Based on existing Barco rugged, modular workstation platform:
  - Reduced development and customization costs
  - Reduced technical and schedule risk

Rugged vehicle fire control subsystem

Barco supplied a fully functional compact, rugged fire control subsystem for a mobile combat vehicle. The rugged subsystem was based on an existing Barco transportable console platform and integrated into the vehicle environment.

**Barco's offer:**
- Custom vehicle integration
- Ergonomic operator station
  - Spacious desktop
  - Custom vehicle interfaces
  - Project-specific input devices
  - 10” control touch panel
- Full-functionality imaging workstation
  - Embedded computing
  - Advanced visualization
  - High-resolution rugged display
  - Custom interfaces
- Light-weight, transportable design
- Complete logistics support
  - Fault detection and isolation
  - MTBF / MTTR calculations
  - Subsystem support contract
  - Spares recommendations

Modular rugged consoles for FMF programs

Barco has provided rugged consoles for fire control and other tactical systems aboard combat surface ships. In close cooperation with FMF customers, Barco customized its existing console platforms to the specific program requirements.

**Barco's offer:**
- Rugged console platform
  - Modular building blocks
  - Customized HMI
  - Rugged customized displays
  - Embedded computing
  - Live radar and video windowing
- Project-Specific Integration
  - Third party COTS components
  - Customer-specific equipment
  - Custom interfaces
  - Custom PCB design
- Environmental qualification
  - Military standards
  - 901D shock, Vib, EMI
  - Thermal protection
  - Anti-condensation
- Life cycle support
  - 15-year support commitment
  - ILS / spares packages
  - Obsolescence management
About Barco

Barco is a recognized international technology leader providing high-performance visualization components and subsystems for demanding niche markets such as Defense & Security, Avionics, Air and Vessel Traffic Control and Medical Imaging.

A continued, focused investment in research and development has given the company a unique expertise in providing high-performance, state-of-the-art visualization solutions. Its worldwide facilities are fully equipped for in-house design, development, testing and manufacturing. ISO 9001 certification, complete control of the production process, extensive environmental testing programs, worldwide customer support and project-specific customization, confirm Barco’s commitment to technologically advanced, cost-competitive solutions.