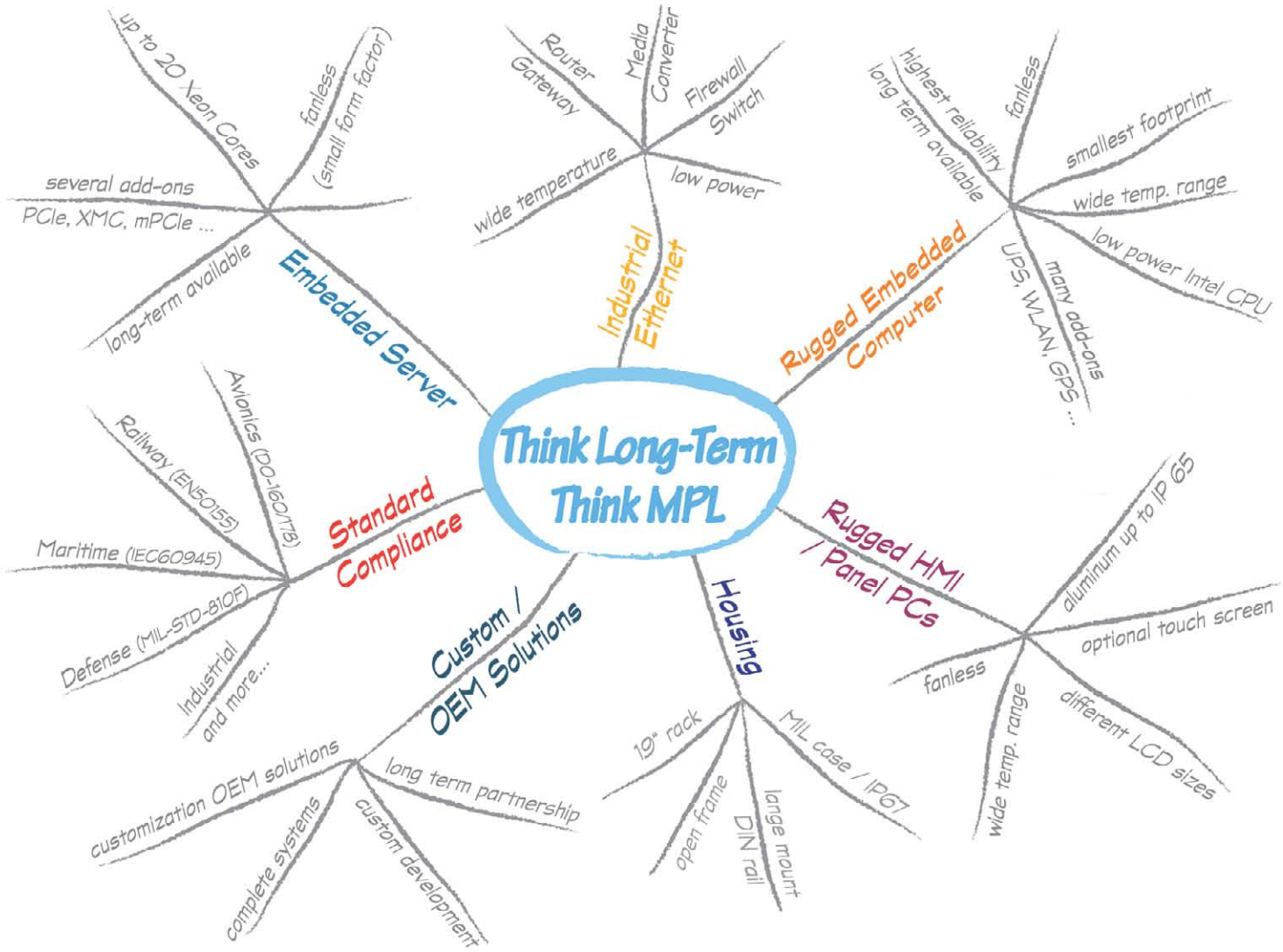
Maritime Solutions



MPL

High-Tech • Made in Switzerland

Why is MPL the right partner for Maritime applications?

TEN Reasons to buy MPL Products

1. Continuity
Since 1985, MPL has been the industry leader in developing and manufacturing rugged, fanless electronics, and embedded systems for customers demanding best quality. MPL's commitment to design, high reliability, low power consumption, extended temperature, and long-term available products are the cornerstones of our success.

2. Innovation
MPL products differ clearly from other products on the market. Most other products are cost optimized, but neglect the quality in design control, life cycle management, low power consumption, and MTBF optimization found in each MPL product. MPL maintains special agreements and relationships with the major chip suppliers who offer MPL early access to the latest technology developments.

3. Unmatched Quality
MPL products are designed from inception to insure high reliability when operating in rugged and tough railway environments. A further development focus is to produce consistent, stable, long-term available products, helping to reduce our customers TCO.

4. Low power Design increases MTBF
We design products and solutions that have the lowest possible power consumption in the industry. They generate less heat, less stress, and therefore a higher MTBF value with a better reliability rate as the proven result.

5. Extended Temperature Range (-40°C up to +85°C)
Each standard MPL product withstands operating temperatures of -20°C to +60°C. Products with the extended temperature option receive additional specific product tests and test cycles in our environmental chambers. Test reports are delivered with each product. Wherever possible, components with a temperature range of -40°C to +85°C will be selected.

6. Long-term available Solutions
Our main target is long-term availability, as this is a major cost reduction factor for our customer. Whenever possible, MPL uses products out of the embedded road map from various suppliers. MPL maintains end-of-life stock to ensure longevity of supply and longevity of repair. Typical long-term availability is 10 years after introduction, and repairs over 20 years.

7. Highly Ruggedized
MPL products are specifically designed to withstand harsh environmental operations. In numerous Marine applications, MPL products have proven their ability to withstand extreme temperatures, thermal cycling stress, high shock, and vibration conditions. They have been used worldwide on Ship or Naval application meeting the IEC 60945 / IACS E10 as standalone or as 19" rack solution.

8. Reliable Partnership
MPL offers to its customers and business partners a long-term, cooperative engagement. Our financial strength and independence is important to sustain MPL's growth and future.

9. Closeness
Our distributors are near you! To serve our customers the best, we maintain a global distributor network which will handle your local pre- and post sales support.

10. MPLcare
MPLcare is a system which is maintained by design engineers, management, and the MPL administration team. MPLcare is provided to each customer free of charge and includes technical support questions answered in less than 24 hours by the product design engineering team.

Think Long-Term – Think MPL

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Shipboard Power Control

Control of complete power distribution on marine ships. In addition on ship failure simulation for crew with Xeon server. The systems are IEC60945 qualified and certified. The units have been approved for ship board operation.

Features

- Systems and board ground are separated (isolated)
- Removable drives
- IEC 60945 approved
- Three application areas
  - PIP32 as Human Machine Interface (HMI)
  - PIP38 as Enhanced Performance Data Recorder (EPDR)
  - MXCS1548-CA failure simulation and crew training

Tough Open Frame Solutions

Open frame firewall/ router with 3 GigE ports (copper & fiber), using OpenWRT firewall SW incorporated in a larger environment. Solution is built into an existing cabinet on the ship.

Features

- GUARD open frame firewall
- On board soldered Flash
- On board soldered RAM
- SFP multi-mode & single-mode (-40°C to +85°C)
- Each unit tested in climate camber at -40°C to +85°C
- Sustains toughest environment (shock & vibration)
- Designed to meet IEC 60945

User training on the Ship

Description

On board U.S. Navy ships to conduct user training sessions during sailing.

Features

- Rugged server with embedded Xeon CPU with 8 cores
- 2U rack mount chassis
- Multiple Ethernet ports
- 10GigE ports for fast data transfer
- Compatible with VMware, EXSi

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Remote Maintenance Monitoring

Description

To eliminate unexpected down times of the drives, a remote maintenance and monitoring device is installed on steel plant, ships, tunnels, to name just a few.

Features

- Used worldwide on small and large drives
- Customized CEC and specific housing
- Integration of MPL firewall (GUARD), fiber optical IO distribution of the customer and loading customer application software
- Reliability, modularity, compactness
- Wide temperature range
- Withstand the humidity and tough environment on sea
- IEC 60945 certified

Boat Navigation with MPL Embedded Computer

Description

Main computer on single handed offshore Race Sailboat. Responsible for navigation, positioning, speed, wind angle, depth, temp. of water and air, analyzing collision risk, optimizing trimming, collecting weather forecast, ...

Features

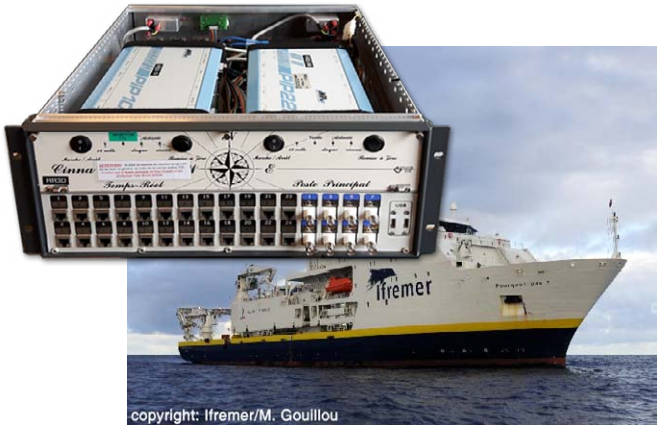
- PIP32 serial ports for navigation
- Sound and WiFi
- Key points: low power consumption, withstands humidity, shock & vibration resistant
- Excellent experience with former MPL PIP since 2008
- Free of charge support over the years

Navigation & Information System on Research Ships

Electronic Chart Display and Information System ("ECDIS") used for nautical navigation that complies with International Maritime Organization (IMO).

Features

- Use of PIP10, PIP20 & PIP30
- Multiple IOS (VxWorks - Linux)
- 4x RS232 port additional
- 2 x LAN ports
- 2 x display ports
- Designed to meet IEC 60945
- Fanless and vibration resistant
- Long-term availability
- At least 10 years supply and repair



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Remote Control of Unmanned Surface Vessel (USV)

Redundant system with 2x PIP39. The redundant PIP39 are responsible for remote controlling the boat. All data is analyzed, calculated and displayed by the PIP39.

Features

- Remote Control of an Unmanned Surface Vessel (USV)
- Redundant system with 2x PIP39
- Convection cooled (fanless)
- Shock and vibration proof
- Operation at extended temperature
- Systems and board ground are separated (isolated)

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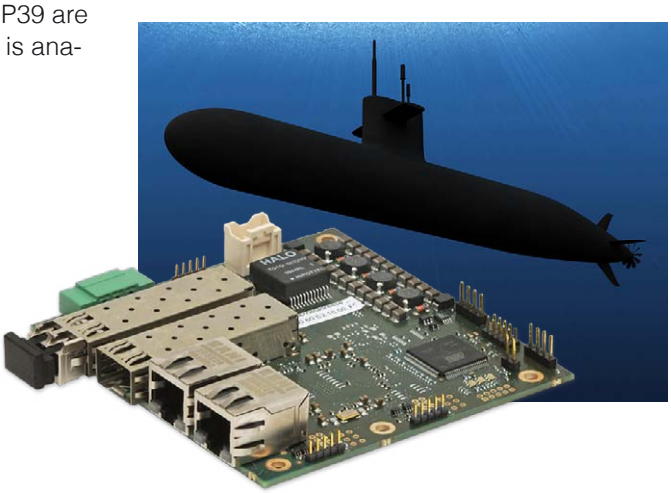

Features

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Rugged Controller on Sea

Controlling on-board welding process of oil pipelines on Pioneering Spirit offshore vessel (largest ship in the world)

Features

- Compact Atom computer
- Humidity, shock & vibration resistant
- Extended temperature capability -40°C to +85°C
- Long term availability
- IEC 60945 certification

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Network Security on Ships

Providing best secure protection of the ship network during communication with the base.

Features

- Used worldwide on ships & oil platforms
- GUARD firewall with OEM housing
- OpenWRT OS for firewall flexibility
- Firewall setup according customers requirement
- Reliability, temperature range, compactness
- Coating

Interface Controller in Oil & Gas Industry

PIP used as universal Interface switch for different field buses on oil and gas platforms

Features

- Customized PCIe and PCI adapter card
- Customized mechanics for 3x PCI and 1x PCIe cards matching a 19“ rack
- Long-term availability (frustrated from earlier supplier with constant EOL)
- Extended temperature
- Easy maintenance
- Easy to install on oil & gas platforms all over the world

CPU Control of Sonobouy Launcher System

The system drops Sonobouys into the ocean to passively and actively detect targets that are below the surface.

Features

- Semi-customized PowerPC board
- VxWorks as OS
- -40°C to +85° C
- Coating and bonding
- Long-time availability (15 years since first design-in)
- Rugged & reliable design

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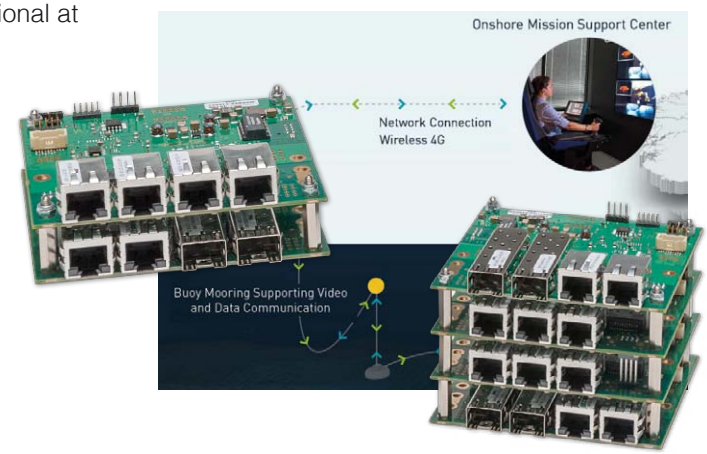
Maritime, Communication

Rugged managed 14-port 1 Gbit switch is operational at 1000 under sea level



Features

- Built into self-contained, battery powered remotely operated vehicle
- 10x copper ports
- 4x fiber ports
- Solution is extremely flexible and universal
- Extended temperature requirement
- Low power consumption

Design

All MPL Embedded Computers meet or even exceed the IEC 60945 / IACS E10 maritime standard and are the ideal choice for long-term offshore applications. The unique rugged design, combined with the best industrial-grade components, offer high reliability and long-term performance. MPL products are 100% designed and manufactured in Switzerland by MPL AG. All our products are fanless, shock and vibration proof, low power, rugged, and long-term* available. The perfect solution for a system to be used in maritime applications and rugged environments.
* Typically 10 years or more after first introduction, 20+ years repair-ability

Standards

All MPL products are designed to meet or exceed the most common standards. This includes maritime certification IEC 60945, but also railways certifications EN 50155, defense certifications MIL-STD-810, EMI certification, as well as other certification that might be required.

ISO Certification

MPL AG is an ISO 9001 certified company since 1995. The ISO 9001 quality standard ensures that the products and services are of consistently high quality.

References

Worldwide, MPL has more than 1000 companies which use our reliable products on a daily basis. Our applications are based in the industrial control, medicine, military/aerospace, traffic, transport, and food service industries. A partial list of trusted Maritime application customers are:

ABB	ALLSEAS GROUP	BAE SYSTEMS	GENAVIR/IFREMER
BEL	BOEING	DCNS	GENERAL DYNAMIC
EDO	FRAUENHOFER	L3 HARRIS	LARSEN & TOUBRO
L&T MARINE	MILCOTS	OCEANEERING	LEONARDO FINMECCANICA
RAYTHEON	RHEINMETALL	ROLLS ROYCE	LOCKHEED MARTIN
SAAB	SIREHNA	THALES	NORTHROP GRUMMAN
WOODWARD	YOKOGAWA	NAVAL	THYSSEN KRUPPS
KROHNE OIL & GAS			

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Local sales support

Our distributors are near you! To serve our customers best, we have a worldwide distributor network which will handle your local pre and post sales support.

Technical support from the engineer

Our customers get direct access to our design engineers to assist with initial product function and operation. We do not work with call centers or large support teams, but we rather rely upon our prompt and courteous service, while giving customers direct access to our design engineers to resolve any support issues.

MPLcare

is provided to each customer free of charge and includes technical support questions answered in less than 24 hours by the design engineering team.

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