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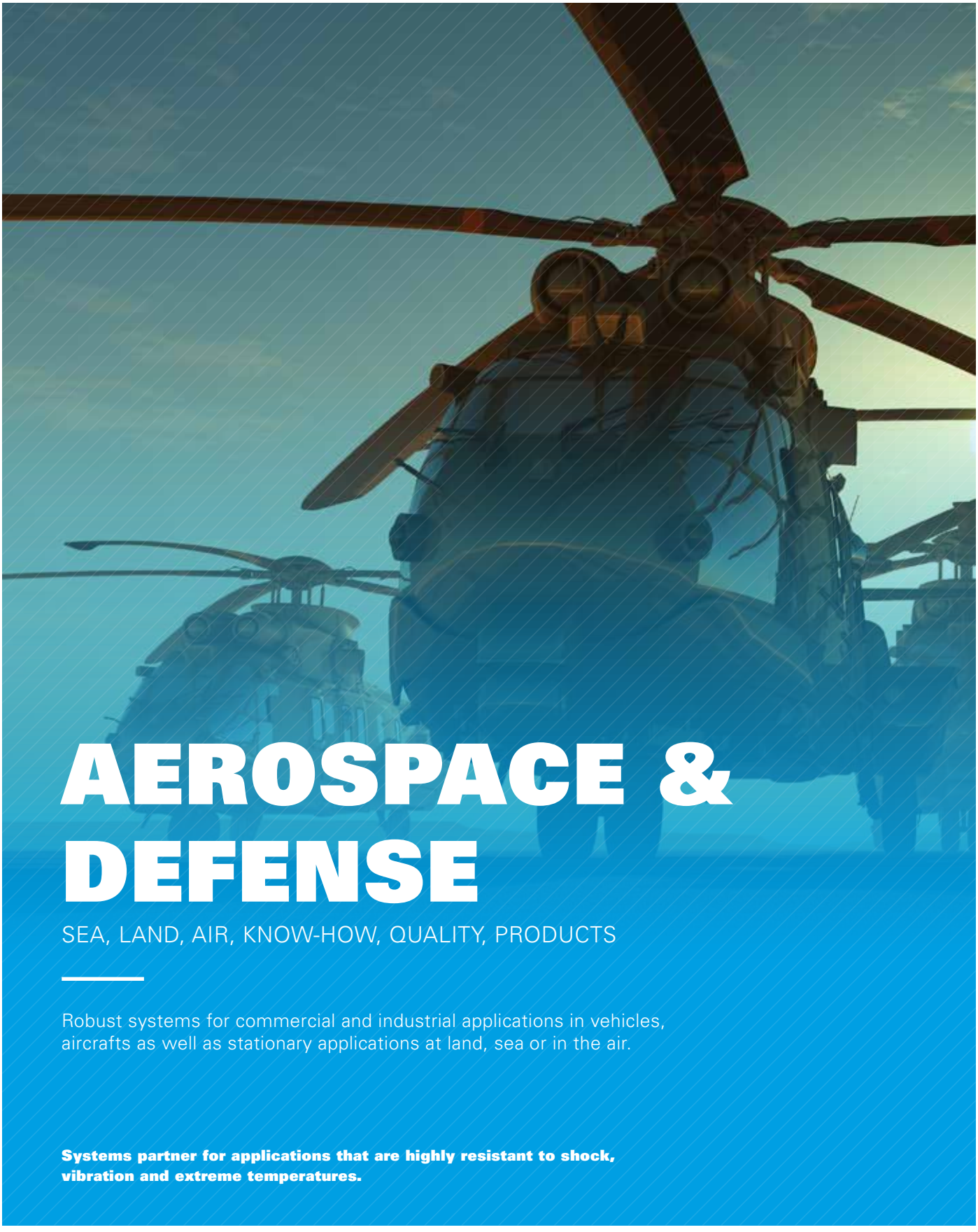
POLY RACK TECH-GROUP



AEROSPACE & DEFENSE

SEA, LAND, AIR, KNOW-HOW, QUALITY, PRODUCTS

Robust systems for commercial and industrial applications in vehicles, aircrafts as well as stationary applications at land, sea or in the air.

Systems partner for applications that are highly resistant to shock, vibration and extreme temperatures.

PRECISION QUALITY
ESIGN ENGINEERING
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LAND

Systems for armored and unarmored vehicles, control stations, transport industry, transport rail networks, oil industry.

The rugged systems are used for mobile applications such as ground mobile vehicles, portable shelters or various aircrafts. They are also used in a variety of rugged commercial and industrial applications. These applications have to be compliant to extreme environmental conditions such as extended temperature ranges, sand / dust, vibration / shock, high-altitudes and unusual power input sources.

INDUSTRIAL Secure communications, satellite communications, public security systems, energy mangement systems, transportation systems

SECURITY Transportation platforms, power management, communications control, computer and information systems

DEFENSE Radar applications, ground vehicle systems, data management systems, energy management, communication systems

AR 404 (ATR) CASES

CONDUCTION COOLED ½-ATR
back load system with cold plate

ROBUST ½-ATR CHASSIS
with conduction cooling according to ARINC 404A standard for rear mounting

CONDUCTION COOLED ½-ATR SHORT CHASSIS
with mounting from above

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AIR

Systems for civil or military aircraft, UAVs (unmanned aerial vehicles), helicopters and passenger aircrafts.

Besides standard sizes from ½-ATR to 1½-ATR, POLYRACK also offers customer specific solutions with various backplane slot counts for CompactPCI, VME / VME64x, VPX / OpenVPX or custom designs. The ATRs are designed for harsh mechanical, climatic, chemical and electrical stresses and comply with MILSTD-810 for shock and vibration and MIL-STD-461 for EMC.
The ATRs are available with convection cooling and fan assisted air-flow, conduction cooling and hybrid versions including liquid or air cooling.

INDUSTRIAL Power management, avionics, communication and navigation

SECURITY Commercial aerial surveillance, surveillance and communication systems, navigation and mission computers

DEFENSE Airspace surveillance and control, command and control, communication systems, avionics, fire control and navigation

ATR CASES

4MCU ARINC 600 CASE

ATR CASE
with high current consumption and hybrid cooling and assembly from above

RUGGED CONDUCTION COOLED SFF-ATR CASE
based on ARINC 404A specification for rear board loading

/07

SEA

Navigation systems for submarines, vessels & offshore oil rigs.

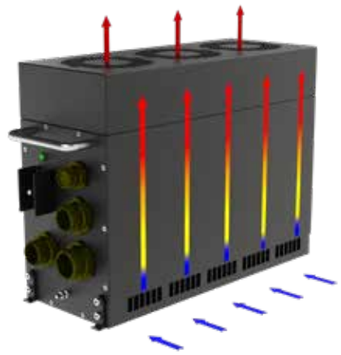
The systems for marine applications are prepared with special attention to water and salt resistance as well as shock and vibration. For demanding salt-spray environments bronze MIL-DTL-38999 III connector systems are used supplemented by electroless nickel plating for below-deck applications.

Zero halogen wires and cables ensure the required level of performance for naval applications.

COMMERCIAL & SECURITY Communications, navigations, security and safety, safety monitoring, coast guard

DEFENSE Microwave and radar, maritime defence, safety and survival systems, maritime communications, power management, navigations

ATR CASES



ATR CHASSIS
with hybrid cooling for high demands concerning heat dissipation

ROBUST ¾-ATR TALL
High Power VME / ARINC 404A Housing

CONDUCTION COOLED ½-ATR CHASSIS
for hard mounting

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CUSTOMIZED SOLUTIONS

Starting with individual components, all the way to a completely assembled, fully functional product, we guarantee comprehensive quality.

CASTINGS & ROBUST CASES Enclosures for ruggedized applications are designed and made to customer specifications considering demands for IP/EMI protection, environmental concerns and heat dissipation aspects.

CASTEC The CasTEC case series was specifically introduced for use in harsh industrial environments. The case consists of two-parts made of die-cast aluminum. The sealing gasket required for IP65 compliance is recessed positioned inside the cover. The possibility of unintentional damage is thus practically excluded. This guarantees the reliability of the case, even when it is frequently opened and closed. A mounting plate can be positioned in the base of the enclosure. Easy-to-mount and retrofittable brackets enable wall mounting.

RUGGEDIZED SOLUTION System enclosures in a material combination of sheet metal bending technology, aluminum extrusion process and aluminum die-casting suitable for VPX-custom-backplanes.

CUSTOMER-SPECIFIC DIE-CAST CASE Castings can be made for individual use. The expertise includes design, development and production throughout all mechanical and electronical tasks considering the original specifications.

CUSTOMIZED SOLUTIONS

CASTEC

RUGGEDIZED SOLUTION

CUSTOMER-SPECIFIC DIE-CAST CASE

19" DEVELOPMENT CHASSIS
3 U or 6 U

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PRODUCT HIGHLIGHTS

We guarantee comprehensive quality from the individual components right up to the fully assembled and fully functional product.

BACKPLANES & PRINTED CIRCUIT BOARDS ASSEMBLED Our product portfolio follows a continuous development with a range of backplanes according to different industry standards or completely customer-specific designs such as:

- VME64x
- CPCI
- CPCI-Serial
- OPEN VPX

Open VPX backplanes are seen as the direct successor to the well-known VME64x and are used in a wide range of variations. For every system developer this includes the passthrough VPX backplane in 3 U and 6-slot configuration. Individual high-speed serial point-to-point connections on the backplane are freely definable and allow the creation of a flexible slot profile. Open-VPX sets new standards in terms of data transfer rates and is far superior to its predecessor in this respect. It is particularly used in VPX development systems.

DEVELOPMENT PLATFORMS Even the longest journey starts with the first step. This also applies to the system environment. With our 3 U / 6 U 19" development chassis we offer a solid development platform as a basis for hardware and software developers.

ASSEMBLY SYSTEMS Premium-quality systems need a stable basis to build on. With its assembly systems of the MPS family, POLYRACK has for years offered many different solutions in the area of 19" systems for a wide variety of applications and markets.

PRODUCT HIGHLIGHTS

OPEN VPX BACKPLANE

CUSTOMIZED ATR-SYSTEM

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TECHNOLOGY HIGHLIGHTS

Freed mind sets, promoting developments and accompanying innovations are fundamental components to constitute the future.

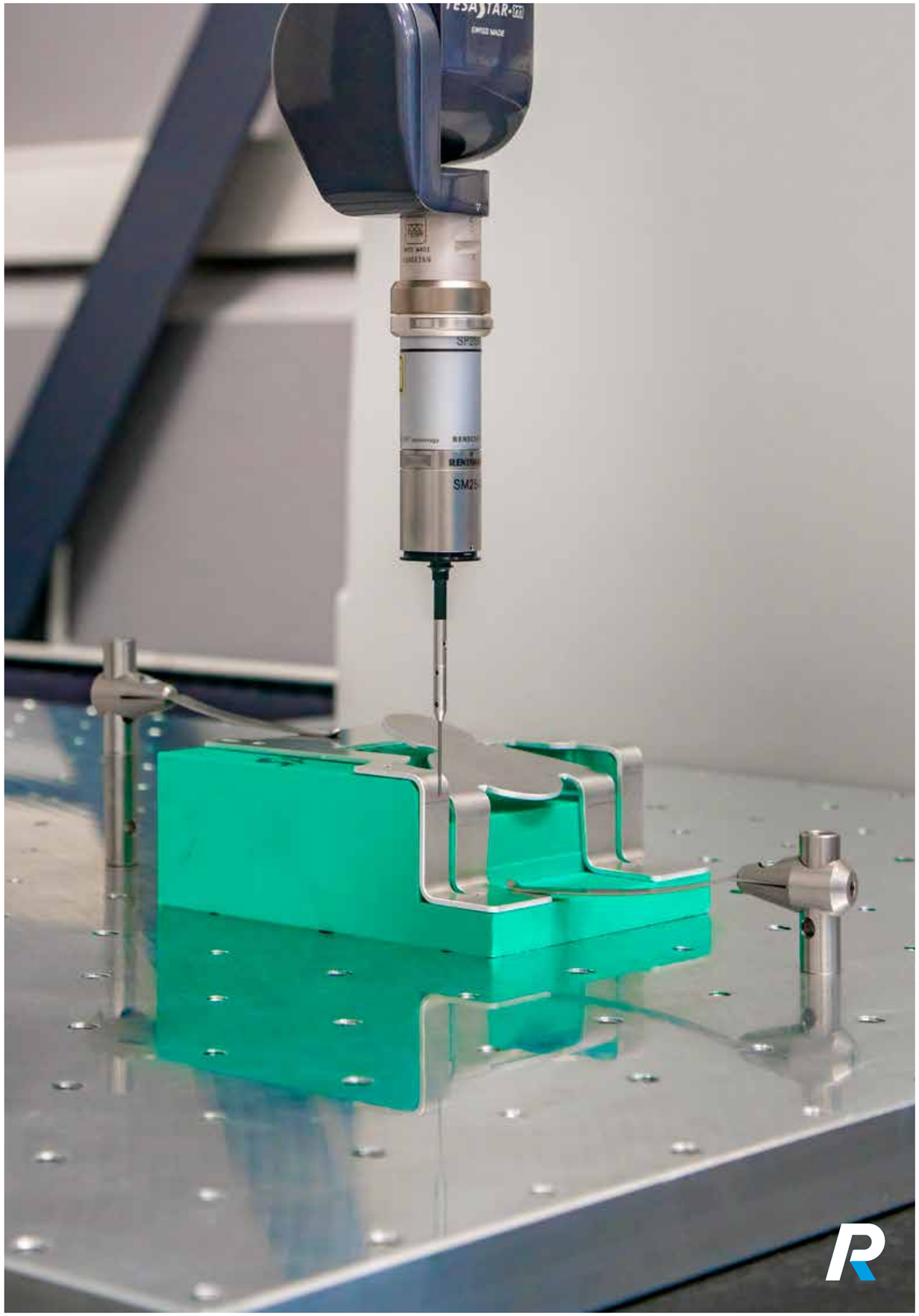
ATR (AIR TRANSPORT RACK) Highly complex system architectures **like ATRs** are designed and manufactured based on the latest technological requirements for extreme conditions offered as standard platform, modified standard or on customized demand.

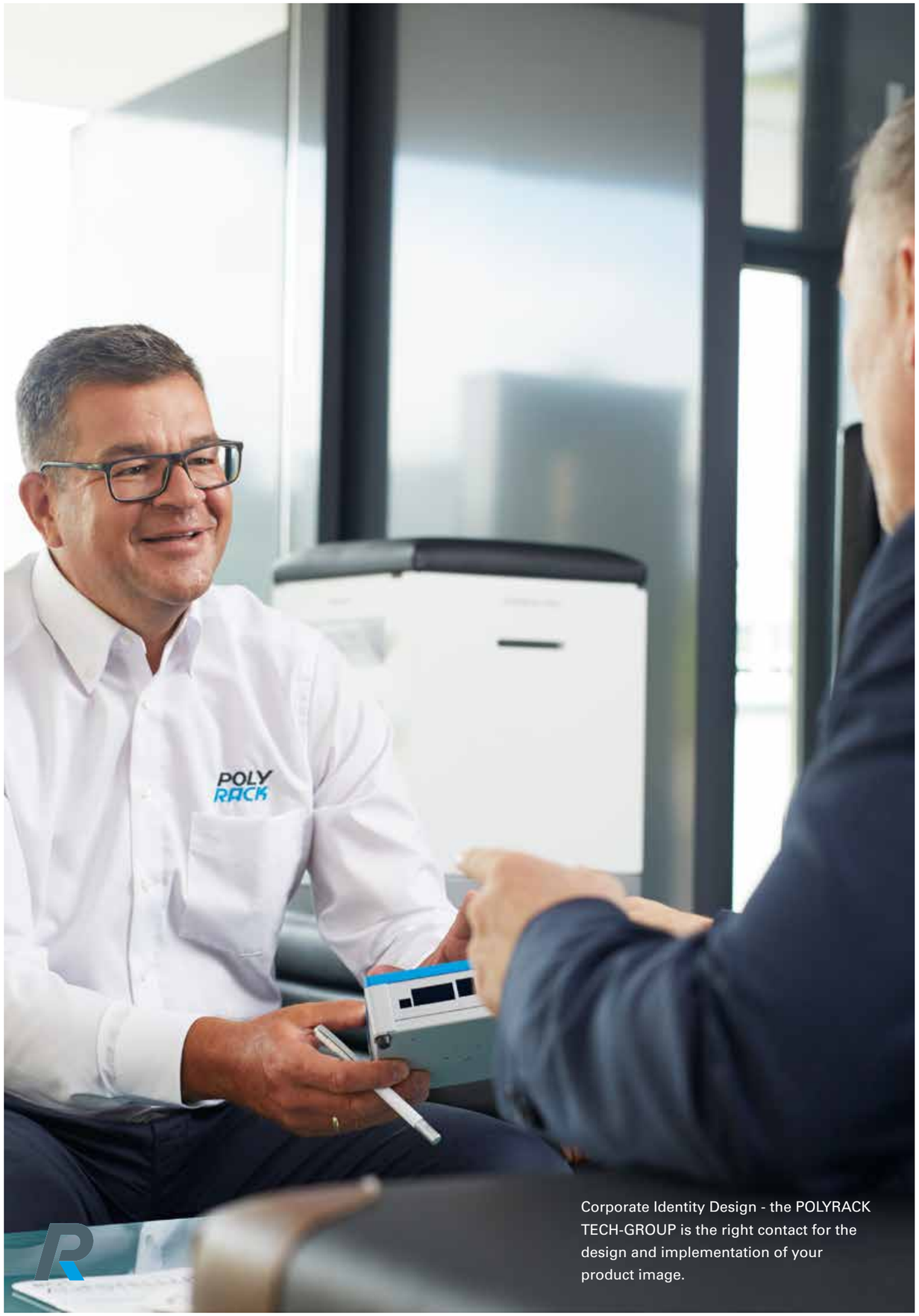
SYSTEM PLATFORMS

- Tailor-made and robust system platform integration in various selections of enclosures covering I**P65+ protection, optimized heat dissipation** and suitable to **MIL grade standards**.
- Rugged MIL grade backplanes for **CPCI, VME/ VME64x and VPX/OpenVPX** applications for extreme environments.
- Multiple power supply options are available according to **MIL-STD-704** and **MIL-STD-1275**.
- Design and integration of customer specific **I/O connector boards** to reduce cabling complexity.

MECHANICAL PARTS

- Precise machined compact and lightweight **aerospace grade aluminum alloy EN AW-6061-T651/ EN AW- 6082-T651 housings** with shaped internal structures or **mechanical components**.
- Laser cut, formed and/or welded **robust lightweight aluminum alloy EN AW-5052-H32 enclosures** for installation in harsh environments.
- The housings can be built as **screw fixed, dip-brazed** or vacuum-brazed version according to **ARINC 404A/600**. The construction withstands extreme mechanical shock and vibration stresses according **to MIL-STD-810 and DO-160** as well as ensuring **MIL-STD-461** compliance for **EMI/EMC** against environmental impacts.
- The housings carry advanced thermal management, **including conduction, liquid, hybrid or fan assisted cooling** considering the highest possible heat load of the plug-in boards.





Corporate Identity Design - the POLYRACK TECH-GROUP is the right contact for the design and implementation of your product image.

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CROSS TECHNOLOGICAL SYSTEMS PARTNER

Due to the technology crossing company concept POLYRACK distinguishes itself from the market and combines all different fields that are shown below.

PROCESS DEVELOPMENT

Plastic solutions
Tool construction, injection molding

PRODUCT- & SYSTEMS DEVELOPMENT

Mechanical production
Welding, laser robot, CNC punching, milling, etc.

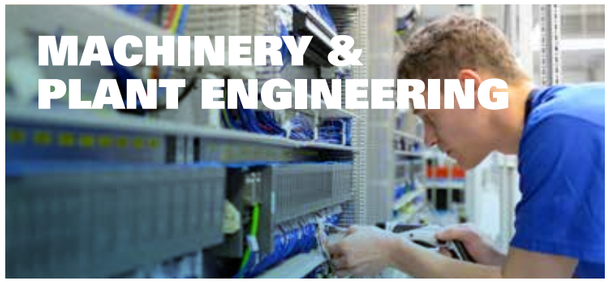
TECHNOLOGY & MATERIAL CONSULTING

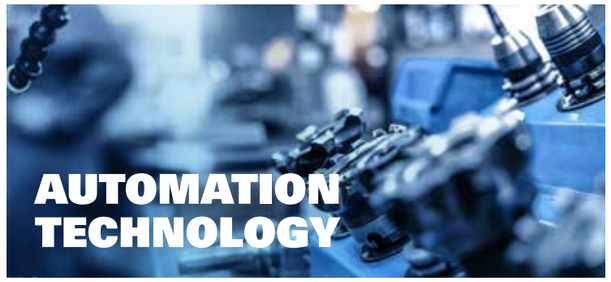
Extrusion solutions, cast
Aluminum-, zinc-, magnesium casting

Electronics	• Development and layout of circuit boards • Interface connection test for backplanes	• Partially and fully assembled systems • Cable assembly
Surface Treatment	• Wet painting • Powder coating	• Silk screen, pad printing, HD printing • Electroplating
Mounting and Assembly	• ESD-compliant assembly • Function and final testing	• Quality control • Software installation and testing
Logistics	• Packaging concepts • Global inventory support • Individual logistic concepts	

With our wide range of products we can always offer our customers the optimal solution across technologies.

Andreas Rapp





MARKETS & INDUSTRIES

Industries at a glance: The more diverse the challenges become, the more individual our solutions are.

Take advantage from our know-how of more than 40 years.

POLYRACK TECH-GROUP

Our group of companies – POLYRACK Electronic Aufbausysteme GmbH, RAPP Kunststofftechnik GmbH, POLYRACK Aerospace GmbH, Metalle in Form Geräteteile GmbH, as well as their subsidiaries abroad - offers an innovative and comprehensive range of products that are manufactured in high quality and with the economical benefits of series production.

Our focus is particularly dedicated to the development and manufacturing of customer-specific products and solutions. Extensive consultancy in the conception stage, right at the start targeted and reliable development, production and assembly combined with on-time delivery are characteristic of our service offering.

+2000 CUSTOMERS WORLDWIDE

+40 YEARS OF EXPERIENCE

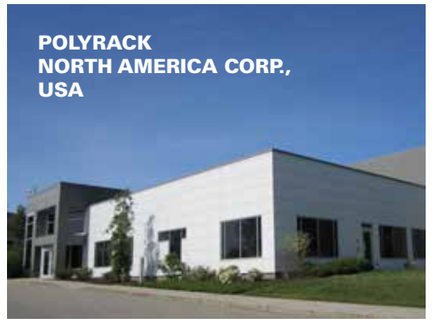
+500 EMPLOYEES WORLDWIDE

+25 TRAINEES

+90 MILLION € TURNOVER

+10 LOCATIONS

Effective: 01.01.2024



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