

# SYSTEMS TECHNOLOGY

SYSTEM APPLICATIONS, BACKPLANES, ELECTRONIC ASSEMBLIES



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### COMPETENCE

Experience and know-how of more than 20 years in Systems Technology make POLYRACK a good partner for complete systems.

#### SYSTEM DESIGN

Because a system is more than just the sum of its parts, it is not enough to develop products purely on a board level. Instead, it is important to merge these into an overall system. POLYRACK is very aware of the significance of system design and its impact on the finished product and therefore systematically takes a holistic approach to the implementation of the system principle.

#### DEVELOPMENT, LAYOUT & SOFTWARE

When developing standard-based backplanes such as **CompactPCI**, **VME64x** and **VPX**, we use our **solid electronics know-how**. With PADS from Mentor Graphics and Altium we use tools that are capable of meeting the most complex and demanding development requirements. Furthermore, within the scope of your project, our highly motivated team of young engineers takes care of all steps - from the first circuit design of the electronics right up to the first prototype.

#### STANDARDS

As a member of the **VITA** and **PICMG** organizations we have access to the latest technology standards, on which our designs are based. Our internal IPC training program ensures that our products are produced and manufactured to internationally accepted standards, e.g. in the area of cable assembly.



#### CUSTOMER-SPECIFIC SOLUTION

PanelPC2-Series with Multi-Touch as sheet-metal solution or milled aluminum



#### COMPACTPCI



#### ASSEMBLY

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## MACHINERY

A modern machine park is the result of our competence in all mechanical production areas. In the following you will find an overview of some of our technology and machining centres.

### EXTRUSION PROCESSING

- Schön press 40 t / 60 t / 100 t
- EXNER press 25 t

### INSERTING / STAKING

- 3x Semiautomatic insert press PEM SERTER 2000
- 1x Semiautomatic insert press PEM SERTER 3000 press / 3000 press-multibowl
- 1x Häger insert press
- 1x Toggle press for manual mounting
- PEM SERTER 2000 Automat / PEM SERTER PS4

### BENDING

- 1x TRUMPF TRUBEND V85s with angle sensor technology, 2720 mm
- 3x TRUMPF TRUBEND 5085S with angle sensor technology, 2720 mm
- 2x TRUMPF TRUBEND 5130 with angle sensor technology, 3200 mm
- 2x TRUMPF TRUBEND 7036 with angle sensor technology, 1020 mm
- 1x TRUMPF TRUBEND 5170S with Toolmaster angle sensor technology, 4200 mm
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### EXTRUSION PROCESSING

- BAP extrusion process center
- KALTENBACH sawing machine
- EISELE sawing machine

### MILLING

- 2x DATRON M8 2 kW-spindle with 60000 U/min
- 4x DATRON M10 pro 3 kW-spindle with 40000 U/min
- 1x DATRON ML Cube 4 kW-spindle with 40000 U/min
- 1x DATRON NEO 2 kW-spindle with 40000 U/min
- 1x DATRON M8 Cube 3 kW-spindle with 40000 U/min
- 1x CHIRON F12 17 kW-spindle 10000 U/min
- 1x Milling centre Hyundai WIA F500 PLUS 15 kW spindle with 12000 U/min

## MACHINERY



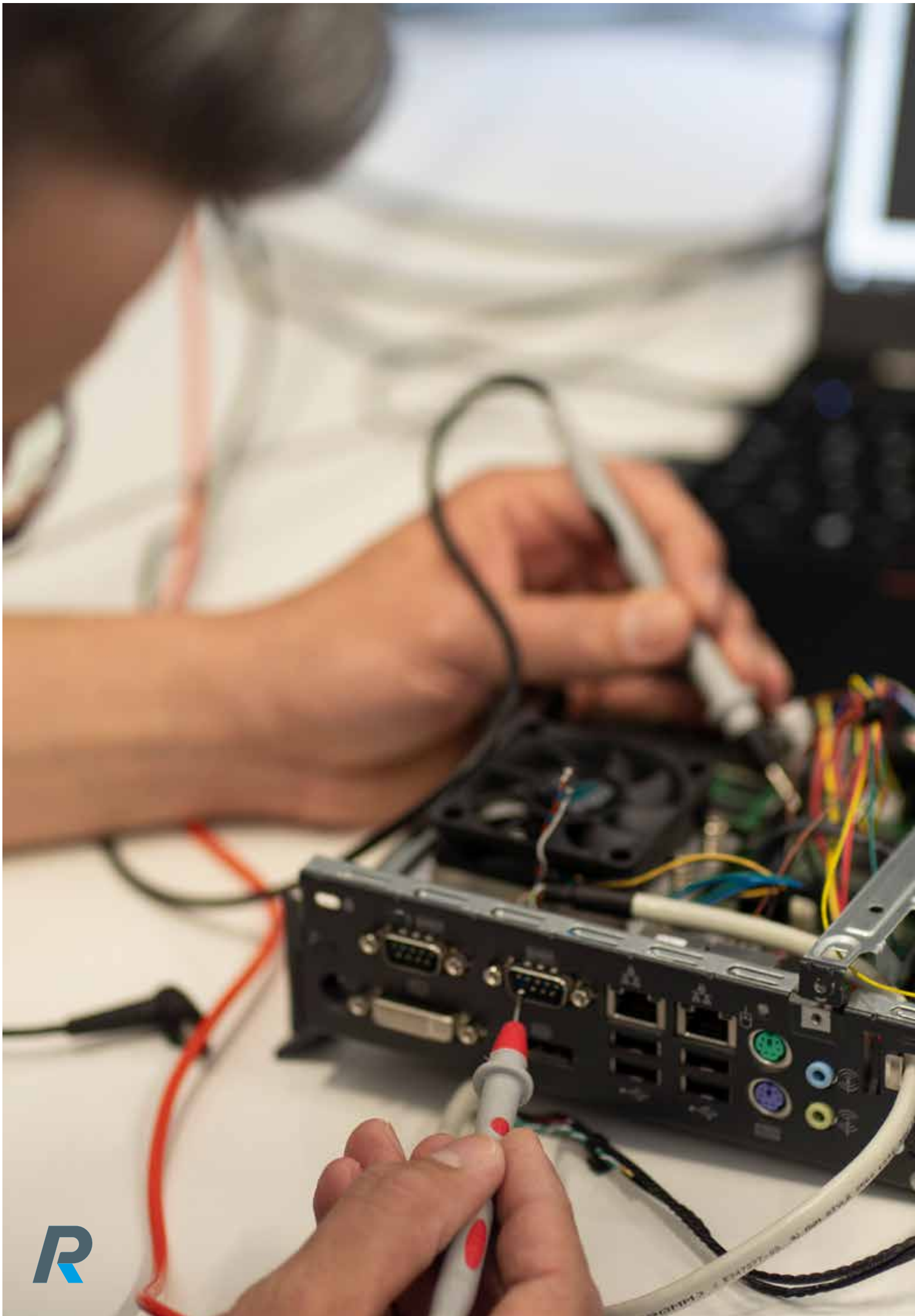
PUNCHING / LASER



BENDING







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## PERFORMANCE

Spirit and passion drive us in everything we do.  
Our team of motivated specialists devotes its efforts to the requirements of our customers.

### ESD-PROTECTED MODULE ASSEMBLY

For ESD-protected module assembly we have an access-controlled ESD assembly area (in accordance with IEC 61340-5) at our disposal. In this area, assemblies with ESD-sensitive components (>100V HBM) are assembled by specially trained staff.

### CABLE ASSEMBLY

The system wiring is also an important component of a system and is produced internally to VDE and UL requirements. The product-specific testing of the wiring is a constituent part of our manufacturing philosophy.

- Semi-automatic cutting to length and insulation stripping
- Semi-automatic crimping
- Soldering compliant with J-STD
- Cable assembly compliant with IPC WHMA-620

### TESTING

We use a wide range of test and measurement equipment not only to ensure that we meet our demands on quality and safety but on top of that to optimize, qualify and verify our products.

Test and Measurement Systems

- VDE testing stations
- Modular backplane tester NT410 for connection, shortcircuit and component test
- Agilent 34980 A multi-functional, automated, programmable test and measurement unit with automatic data capture
- Development and construction of product-specific test and measurement devices

## PERFORMANCE



ESD AREA



CABLE ASSEMBLY



AUTOMATED TEST AND MEASUREMENT UNIT

PERFORMANCE  
PERFORMANCE  
PERFORMANCE



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## PRODUCTS

Products from our standard range often serve as the basis for various developments.

### BACKPLANES & PRINTED CIRCUIT BOARDS ASSEMBLED

For 20 years we have rounded off our product portfolio with a range of backplanes to various industry standards or of completely customer-specific designs, such as:

- VME64x
- CPCI
- CPCI Serial
- OPEN VPX

In addition to backplanes, we also offer printed circuit board assemblies. Based on existing production documents, we can implement your assemblies together with our premium partners and integrate these as subcomponents into the overall system:

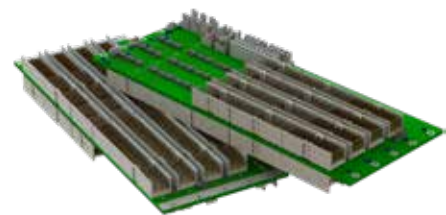
- SMD and THT technology
- Inspection capabilities such as AOI, ICT and X-ray
- Module programming
- Connector assembly using press-in technology

### 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 been offering a variety of solutions in the area of 19" systems for a wide range of applications and markets for years.



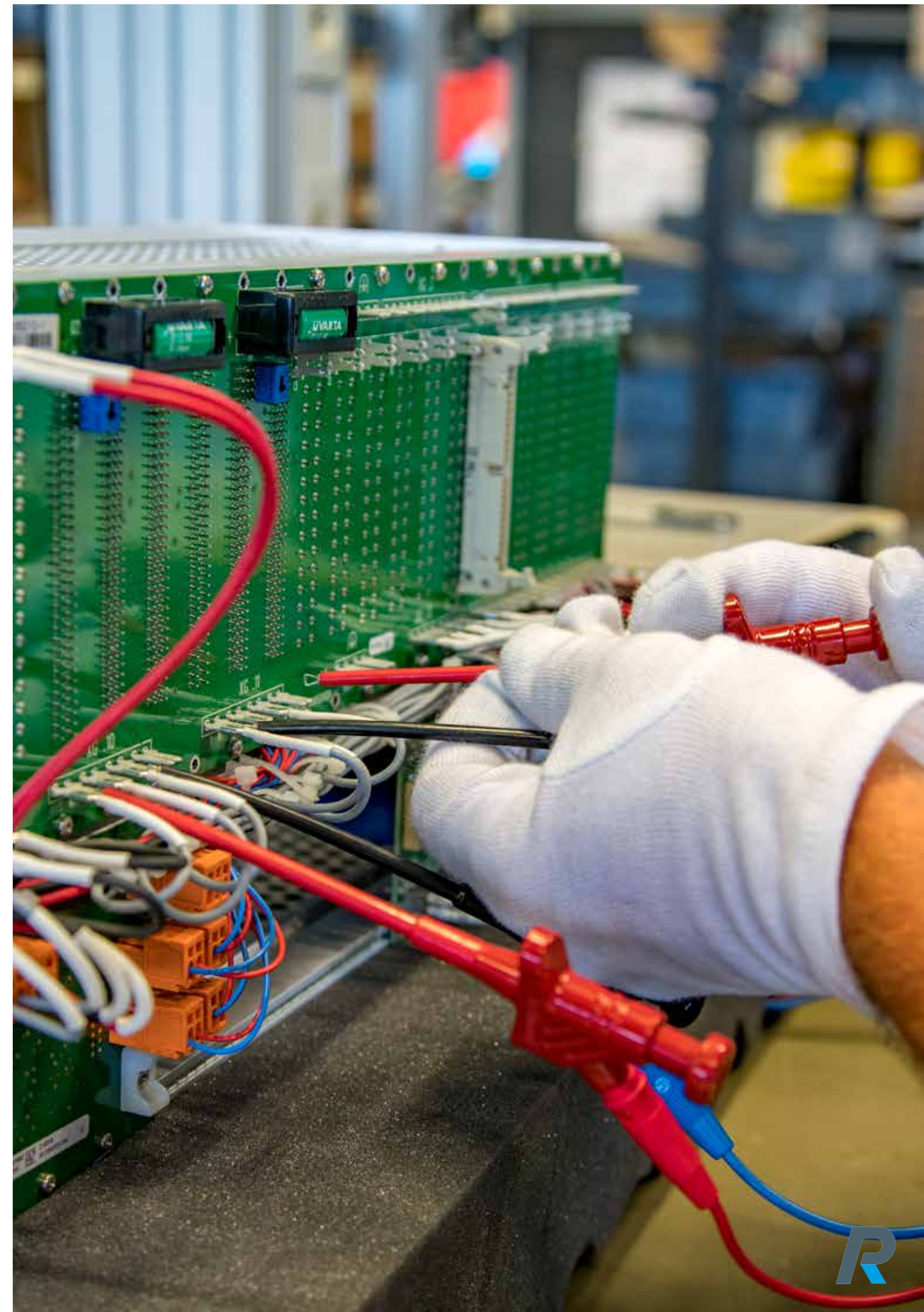
6 U CPCI BACKPLANE



3 U OR 6 U DEVELOPMENT  
CHASSIS



RACK SYSTEM MPS03







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## CUSTOMER SPECIFIC SOLUTIONS

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

### COMPLETE SYSTEMS

We are happy to keep going right until the very end. Our project management provides full support and advice in order to bring your complete system to fruition. In doing so, we draw on all of the technologies available to us and our partners in order to achieve the optimum for your system. The basis for this is your existing product specification or simply your vision.

### HMI & DISPLAY SYSTEMS

Hardly any application today goes without a display or a touchscreen. Our solutions in the field of display systems/HMI are open to your challenge. We offer practical solutions that range from purely mechanical right up to finished systems.

### RUGGEDIZED SYSTEMS

We also feel at home in the world of ruggedized or HMI systems. Our AR404 (ATR) product family serves our customers as a solid basis for efficient systems.

### VPX BACKPLANES

VPX backplanes are put to use in a wide range of different versions. The VPX pass-through backplane in 3 U and 6-slot assembly is a must for every system developer.

Individual connections on the backplane can be freely defined and enable the creation of a flexible slot profile. This is used in particular with VPX development systems.



PANELPC 2.0



VPX BACKPLANE



CUSTOMIZED EMBEDDED-SYSTEM