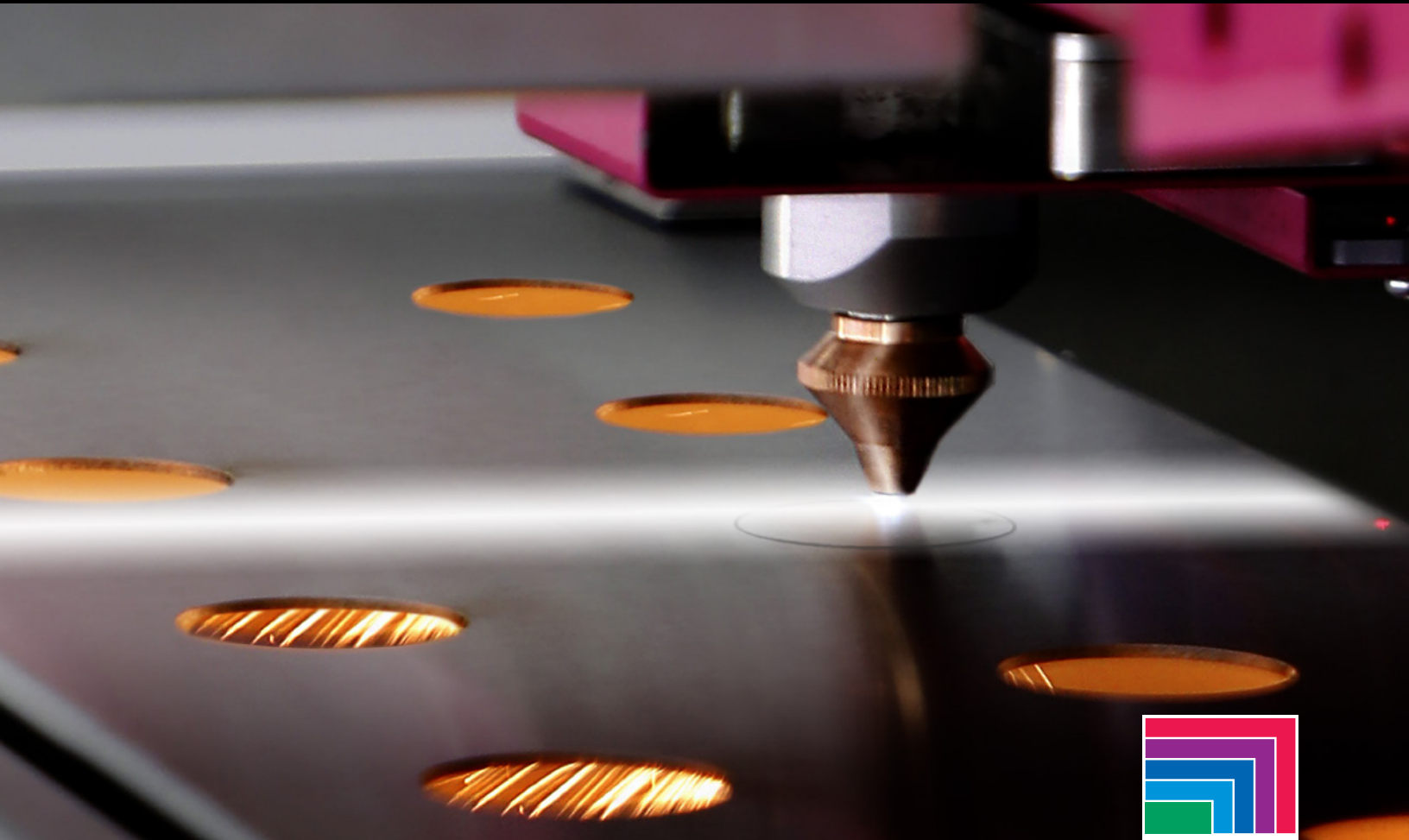


# Rittal – The System.

Faster – better – everywhere.

# Automate. Industrialize. Grow.

Future-proof panel building  
and control manufacturing



ENCLOSURES

POWER DISTRIBUTION

CLIMATE CONTROL

IT INFRASTRUCTURE

SOFTWARE & SERVICES



# Because investments must make a solid return

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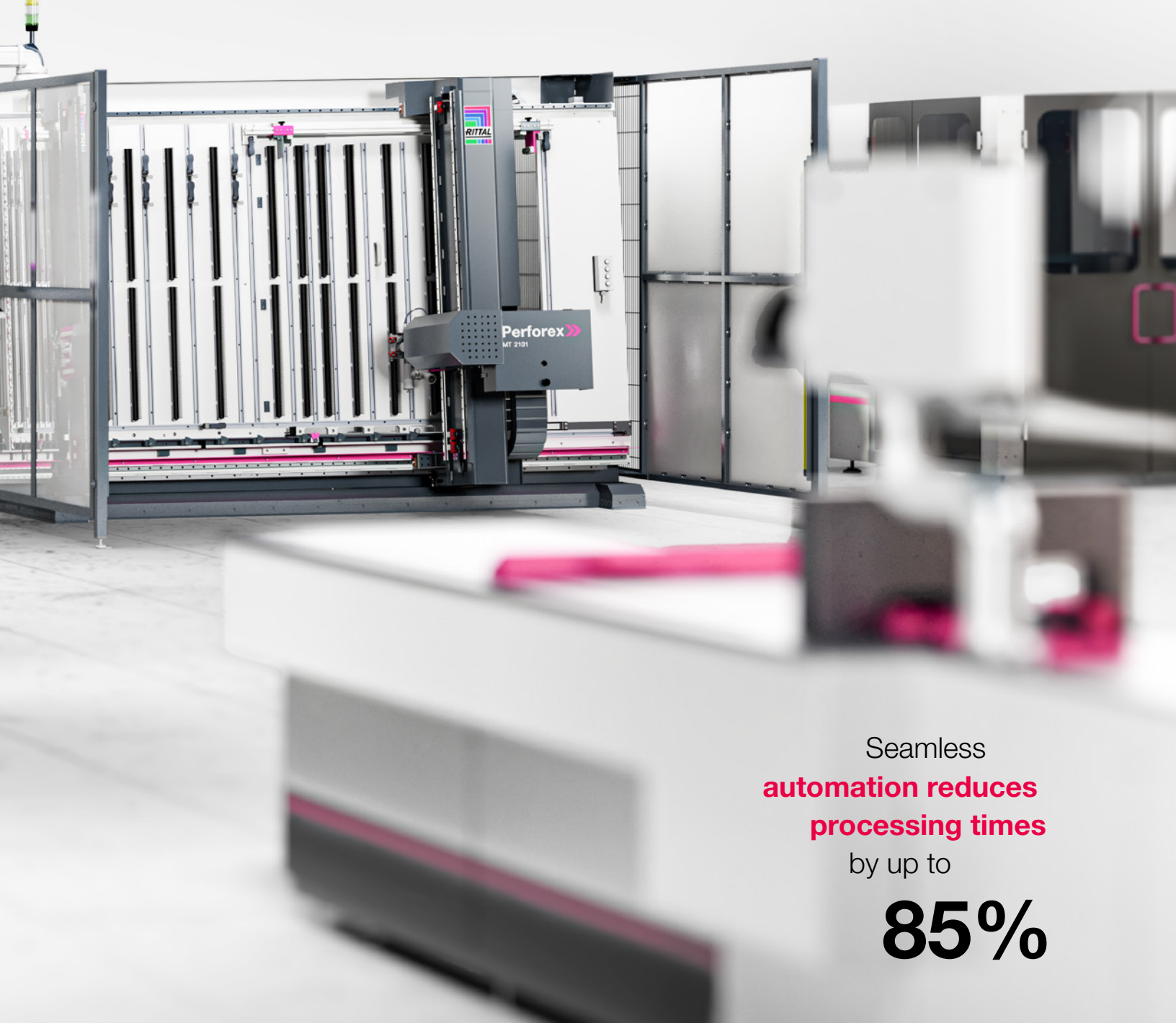
“Automation of our processes is a key element in securing our future.”

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## **Maximize value creation sustainability**

The demands on many manufacturing companies are changing: they have to produce more and have a variety of product options all while maintaining high quality at a low cost and products made available fast. So what does this major challenge mean for panel builders and control manufacturers?

For short-term success, it may be enough to mechanize individual machines and processes. However, medium and long-term success is only possible by upgrading the entire process chain.



Seamless  
**automation reduces  
processing times**  
by up to

**85%**

### **Automation is the key to future-proofing**

The panel building and control manufacturing sector needs comprehensive digitalization and automation if it is to keep pace with the demands of smart factories and Industry 4.0.

As leading partners to panel builders and control manufacturers, Rittal in association with Eplan offers complete end-to-end system solutions for all processes from a single source.



## Powerful allies: Rittal and Eplan

# End-to-end digitalization with knowledgeable and experienced partners

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By mechanizing and automating manual tasks in panel building and control manufacturing, quality can be improved and productivity increased. The basis for this is digital integration and end-to-end data consistency across the entire value chain.

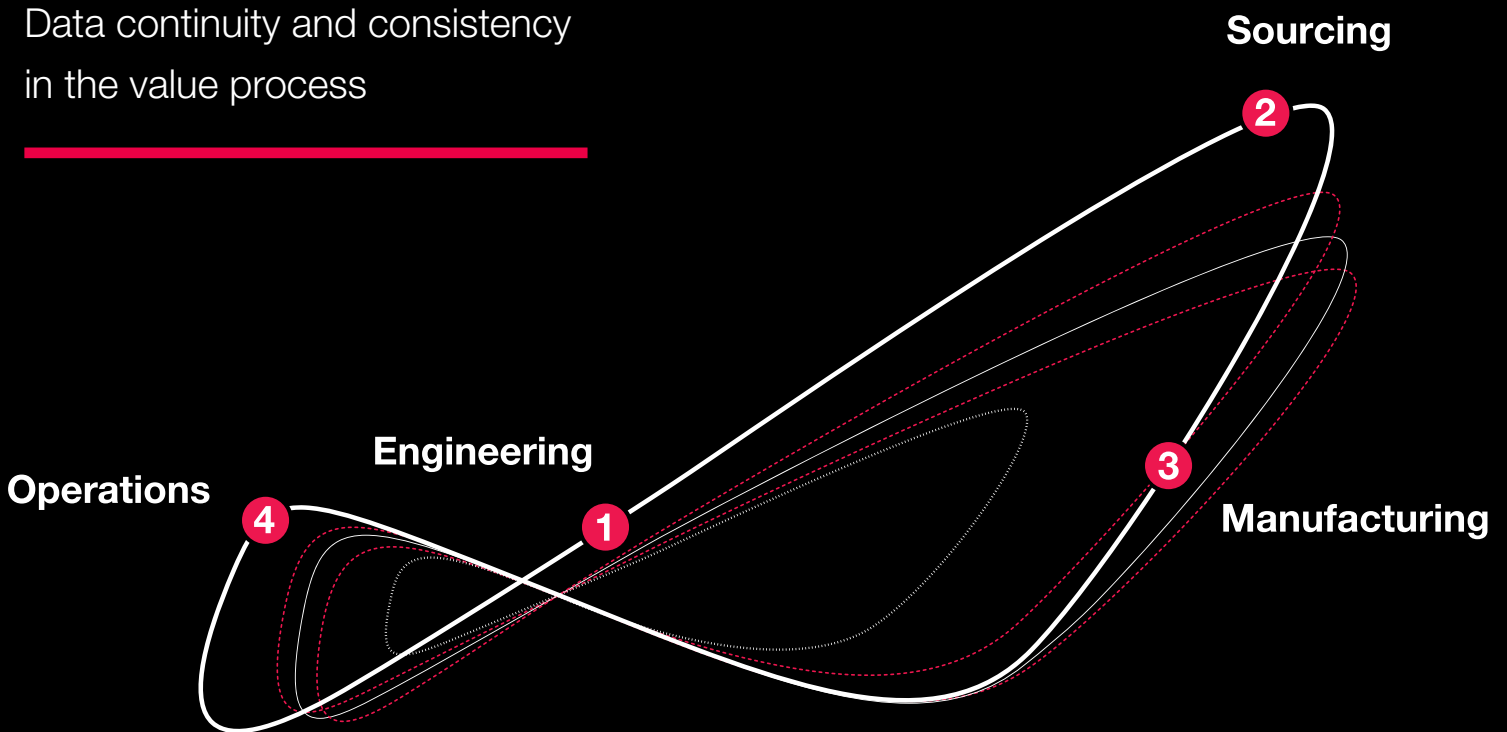
We optimize and mechanize every stage in your value process, from engineering, purchasing, and manufacturing, through to operations and servicing. This leaves you free to actively focus on driving forward your business and positioning yourself for the future.



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Data continuity and consistency  
in the value process

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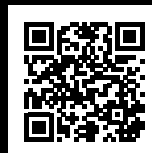
## Digital prototyping – Digital twin

# Plan once – and profit at every stage

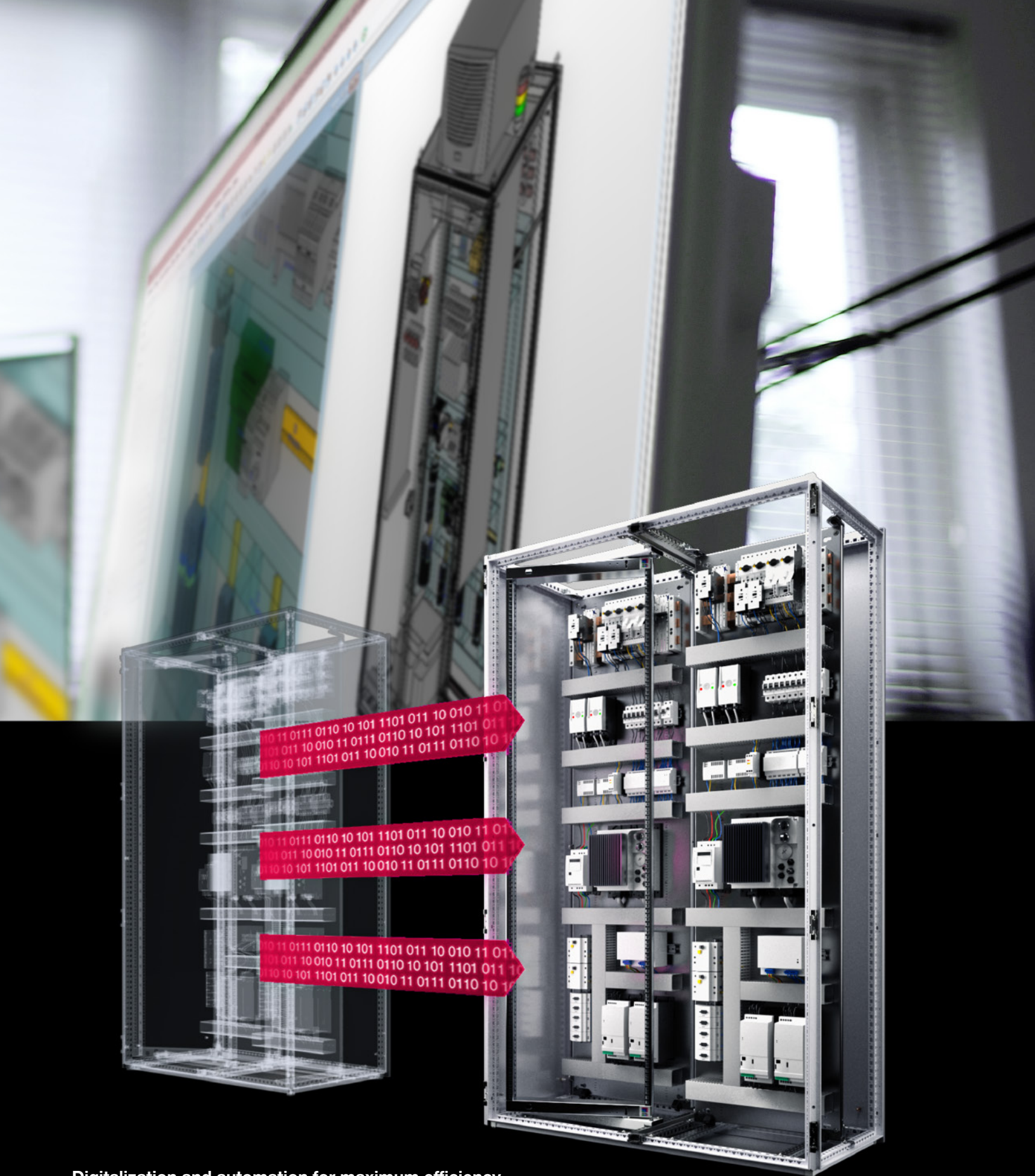
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Digital prototyping is the basis for digitalizing your engineering processes. Data is transferred to the digital twin of the actual product, so that it always has all relevant information available.

The actual product is accompanied by its digital twin throughout the process. Streamlined, error-free planning is the key to super-efficient manufacturing. Additionally, the digital twin continues to deliver vital information during subsequent operation and in the event of servicing. In terms of value creation, this translates into seamless digitalization, end-to-end automation, and superior, more cost-efficient production results.

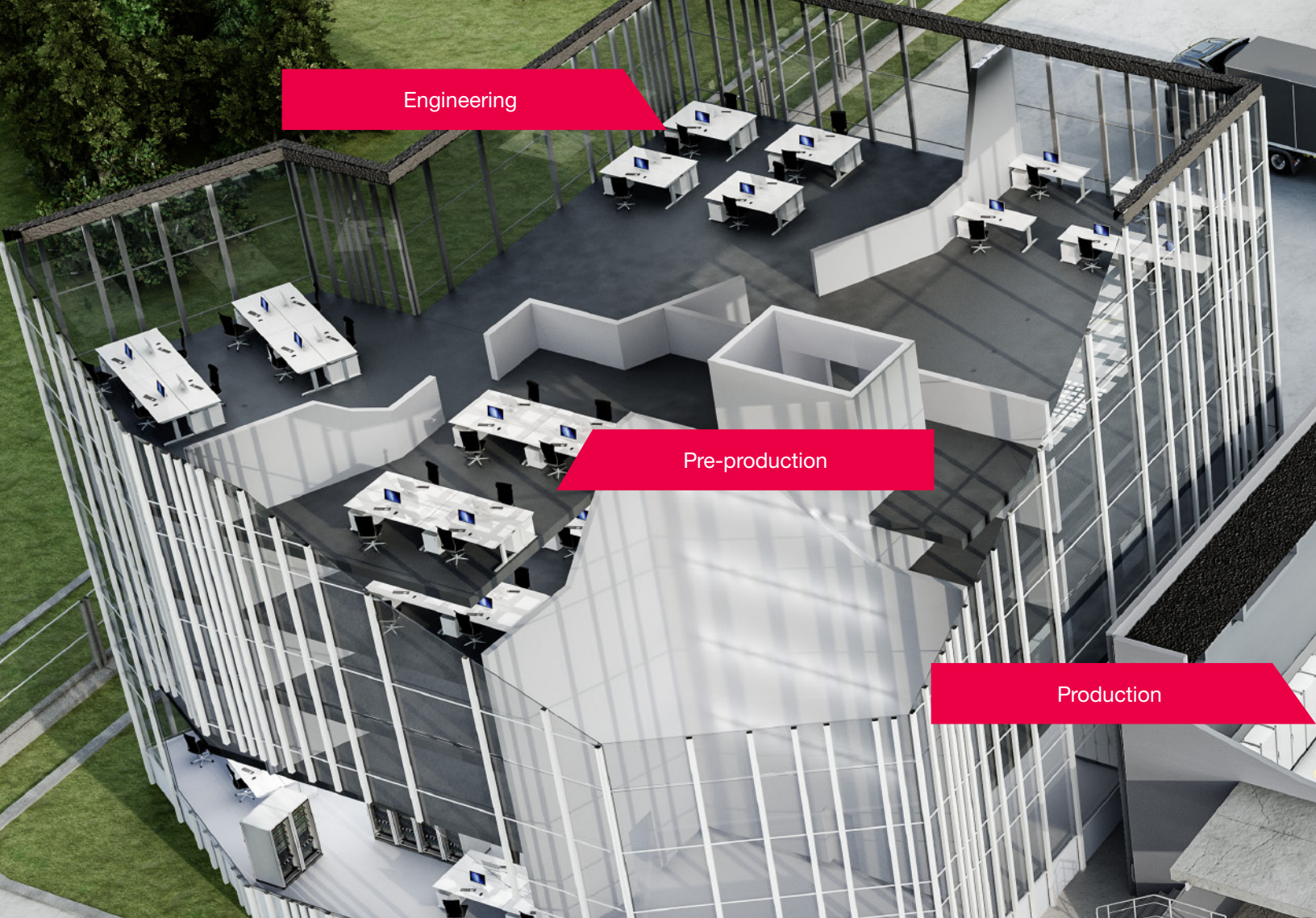


[www.rittal.us/software](http://www.rittal.us/software)



### Digitalization and automation for maximum efficiency

- Up to 85% shorter processing times for rack and enclosure panels
- 10X faster wire processing
- Frees up skilled workers from performing routine, mundane, and time-consuming tasks



## Seamless digital production processes

# Consistent optimization of quality and organization

In collaboration with Eplan, Rittal offers a seamless digital solution for the efficient management of production and machine orders. This helps to significantly shorten throughput times and reduce errors.

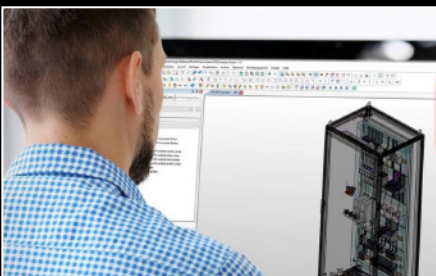
- **Planning/design:** The data from the digital twin developed at the design stage is transferred to the job management system in the RiPanel Processing Center via direct interfaces.
- **Pre-production:** The job management system transfers all production-relevant documents to the machine processes for each specific project. This helps to boost planning reliability and optimize your processes.
- **Production:** The data transferred from pre-production is used by the workstations to help ensure efficient project management of each specific task.



Integrating the equipment into the digital processes is a vital step.

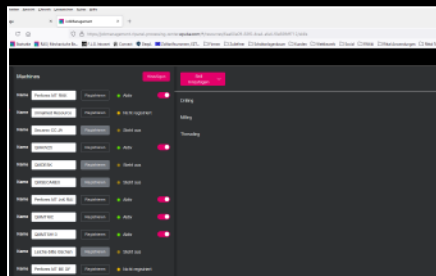


## From design to manufacturing at the push of a button



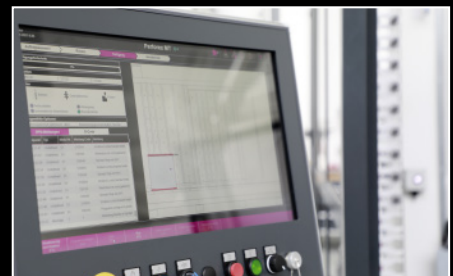
### Design

The digital twin is developed using Eplan engineering tools and Rittal configurators and includes all production-relevant data.



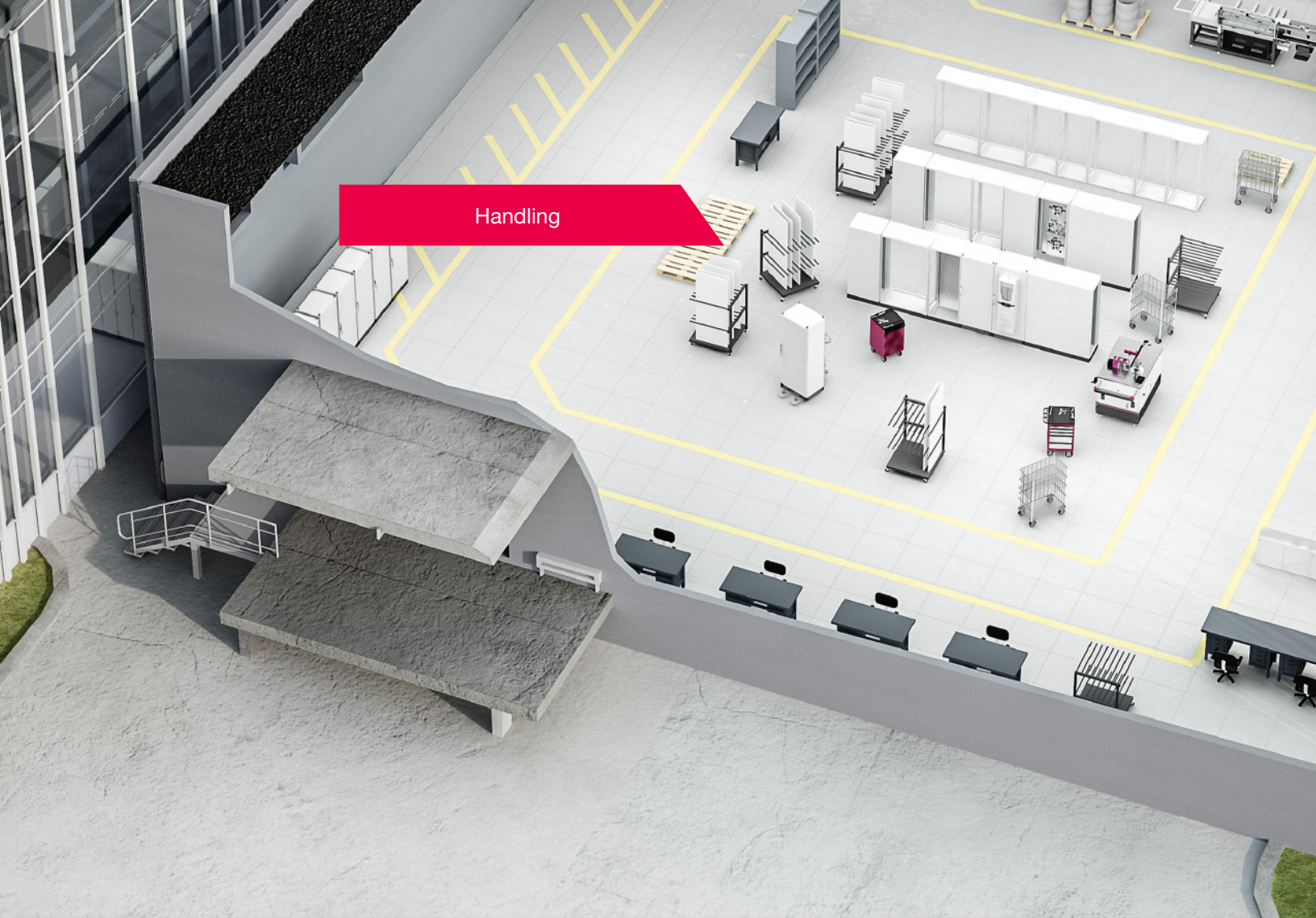
### Pre-production

Simple, centralized planning of resources and production orders for manufacturing is carried out using the RiPanel Processing Center with its state-of-the-art order management and layout tool.



### Production

The systematic use of digital data in machining and wiring offers a host of benefits and eliminates the need for programming work on the machine.



## Automating panel building and control manufacturing

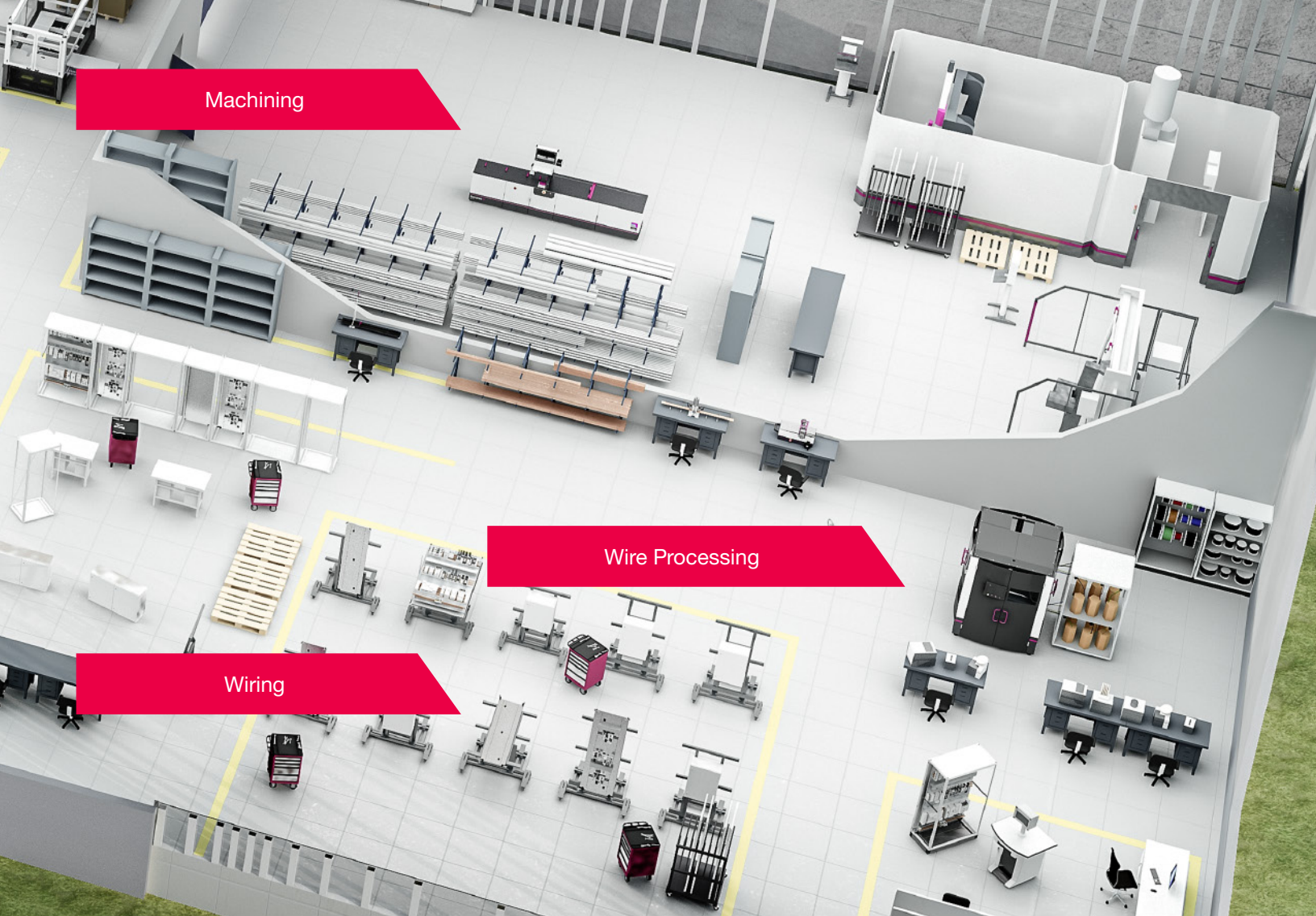
# Reliable and safe progress one step at a time

The solutions offered by Rittal Automation Systems cover a wide range of individual processes throughout the entire production operation – from manual tools to fully automated mechanical engineering.

- Our **equipment** for machining metals is fast, precise, and highly efficient.
- Our **automated solutions** for wire processing achieve major efficiency gains.
- Our **ergonomic handling tools** streamline a range of processes involved in manual tasks.
- **We offer customer specific advice**, precise-fit solutions, and flexible financing options at every stage of your automation upgrade.



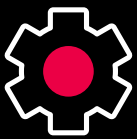
[www.rittal.us/ras](http://www.rittal.us/ras)



Machining

Wire Processing

Wiring



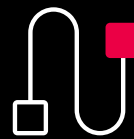
**Automate  
machining**

See pages 12 – 17



**Accelerate wire  
processing**

See pages 18 – 19



**Support  
wiring**

See pages 20 – 21



**Handling  
Assistance**

See pages 22 – 23

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## **Rittal Automation Systems –**

The simple way to automate and mechanize your panel building and control manufacturing.

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## **Machining: Perforex MT drilling and milling center**

# Minimize your processing times with maximum precision

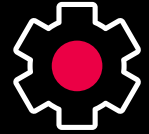
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Perforex Milling Terminals will significantly accelerate your throughput times when machining anything from the smallest housings and flat panels to large enclosures. These versatile drilling and milling centers are capable of handling all machinable materials including painted sheet steel, stainless steel, aluminum, copper, and plastic.

A variety of interfaces support problem-free data transfer from virtually all standard CAD systems and planning tools, such as .dxf, EPLAN Pro Panel, RiPanel Processing Center, and Rittal Configuration System. What's more, the RiPanel Processing Center allows you to create layouts directly in the workshop, safeguarding your digital workflow and ensuring high levels of efficiency.



[www.rittal.us/perforex](http://www.rittal.us/perforex)



#### **Automated machining**

With a fully automated tool changer and an integrated magazine for up to 21 tools, all work operations are completed in a single pass.



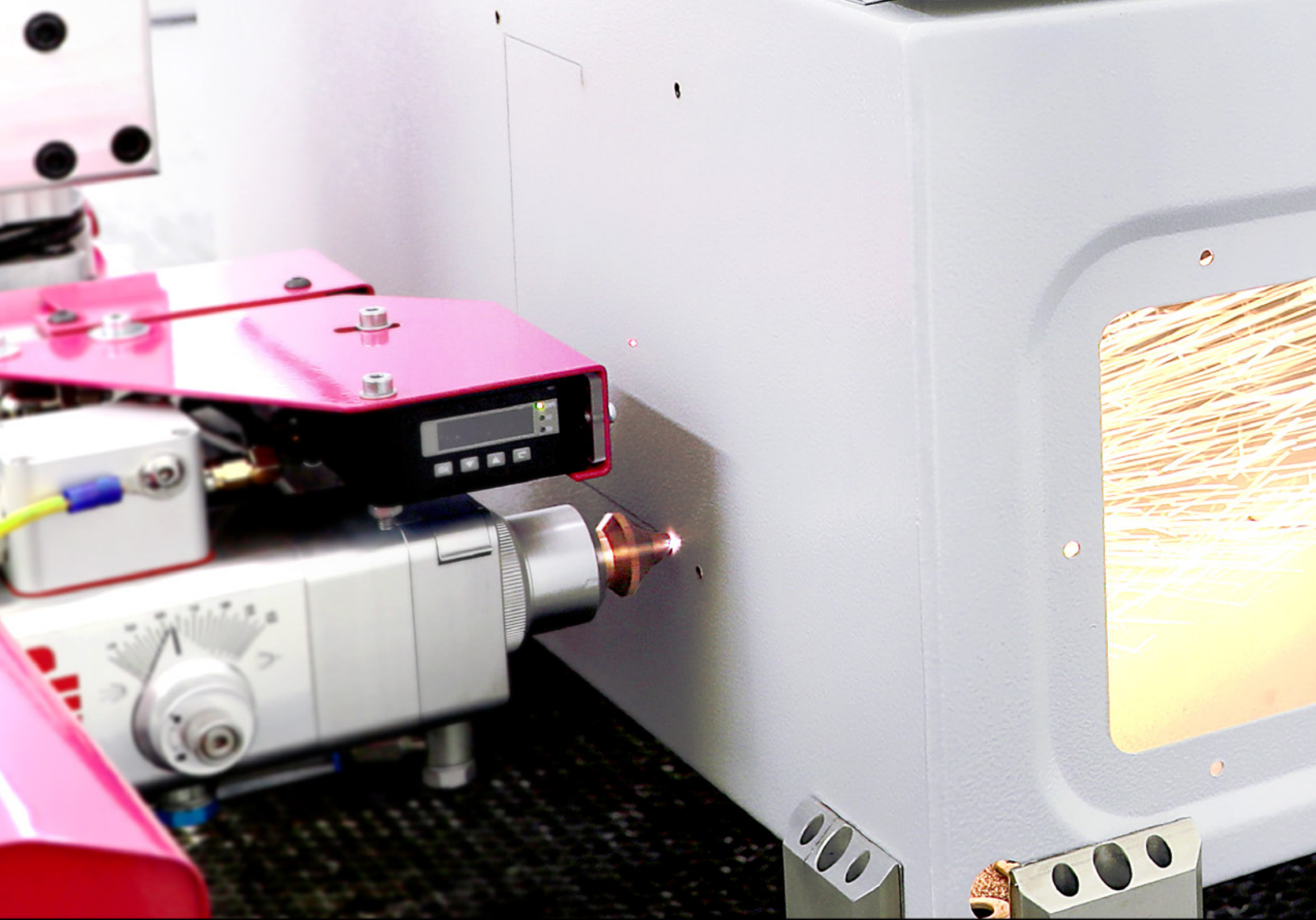
#### **Profitable even with a batch size of 1**

With its simple, intuitive programming and option of remote maintenance, the machining center guarantees a rapid return on your investment.



#### **Top quality**

A choice of operating modes and automatic tool calibration help to ensure accurate results every time.



## Machining: Perforex LC laser center

# Rapid modifications even in stainless steel

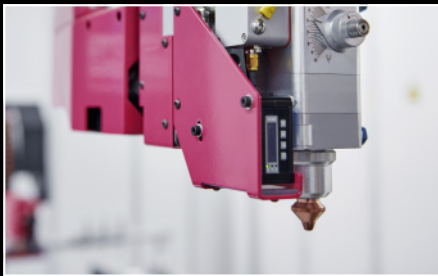
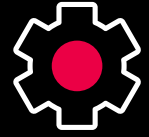
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Perforex LC laser centers are ideal for automated mechanical modification of standard enclosures in stainless steel, sheet steel, and powder-coated metals. Machining stainless steel enclosures is very fast and there is no damage to the cut edges. Even small and medium-sized panels can be machined, shortening the amortization period even further.

Additionally, the machining of painted metal panels with intricate contours and mounting plates with tapped holes can be achieved without any visible damage to the painted surface. Contactless, low-vibration 3D laser machining boasts significantly shorter throughput times and enhanced productivity.



[www.rittal.us/laser-machining](http://www.rittal.us/laser-machining)



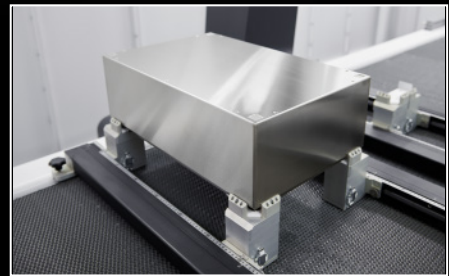
#### Highly efficient

Perforex laser centers can machine multiple components in a single operation and from five sides simultaneously, with minimal set-up and operating input.



#### Thread tapping option

The LC 3030 offers even greater flexibility with six thread sizes in the tool magazine and automatic change-over of the machine head.



#### Clean process

Fast, wear-free cutting, even in stainless steel, requires no coolants or lubricants and is exceptionally precise, eliminating the need for time-consuming rework.



## Machining: Secarex cutting center

# Precise length cutting with reduced waste

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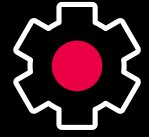
Wiring ducts, support rails, and cable duct covers can be precision-cut to size with the Secarex cutting center. The cutting dimensions can be transferred directly from a CAE system in CSV format (EPLAN Pro Panel) or manually entered. The parts are then quickly and precisely cut to length and labelled on a project-specific basis using the integrated label printer.

The cutting center includes five DIN rail sizes in one tool. This helps to ensure superior cut quality and reduced waste while speeding up the process thereby significantly lowering overall cost, resulting in financial pay-back after just 130 enclosures per year.

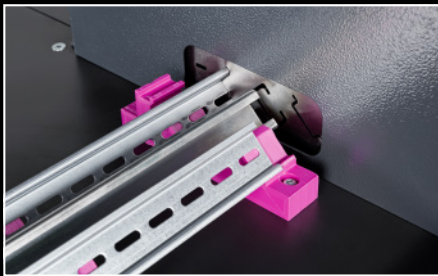


[www.rittal.us/component-cutting](http://www.rittal.us/component-cutting)



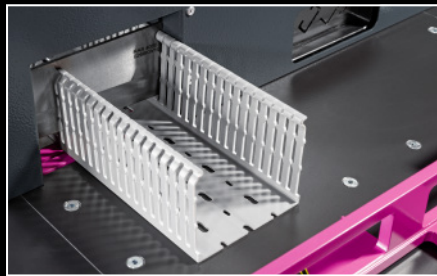


The **Secarex** is cost-effective  
from just **130** enclosures  
per year.



#### **Sped-up processes**

Simple data transfer and automated length-cutting of the parts is significantly faster and more reliable than the manual alternative.



#### **Reduced waste costs**

Because of smart waste minimization over several projects, waste costs can be significantly reduced.



#### **Automatic labelling**

The integrated label printer automatically produces clear labels for parts after cutting.



## Speed up your wire processing: Wire Terminal WT C

# Boost takt rate, cycle times, and improve processes

Digital wires and fully automated wire processing on the Rittal Wire Terminal means improved efficiency and speed with reduced error rates, enabling you to process increased volumes without additional staff.

- **The Wire Terminal WT C fully automated wiring machine** has a compact design and can automatically assemble up to 36 different wires without manual intervention – optionally with wire ejection, project-specific wire output in labelled wire rails, or as a chain bundle.
- **Use of an optimized, fully integrated, servo-powered crimper solution tailored to this application** supports the production of wires with different wire end ferrule lengths and cross-sections from 0.5 – 6 mm<sup>2</sup> without retooling. The new WT Tube 12 wire store is ideal for simple wire changeovers. The modular system features modern wire routing including wire infeed block with quick-change system and RFID memory.



[www.rittal.us/assembly](http://www.rittal.us/assembly)

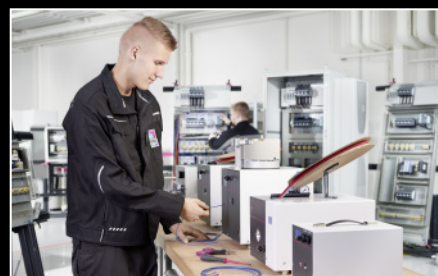
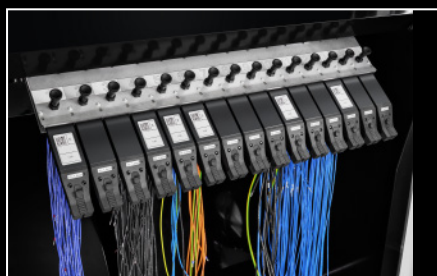


The systematic **reduction**  
of manual pre-production work  
increases the **process speed**  
by a **factor of 10**



#### Wire Terminal WT C:

Fully automated wire assembly including length-cutting, wire stripping (full and partial), fitting with wire end ferrules, labelling and project-specific order picking from the dedicated storage system, or as a chain bundle.



#### Rittal's semi-automatic machines:

Boost your efficiency in the workshop with wire cutting, stripping and crimping.

**New:** Efficient job management with the RiPanel Processing Center



## Wiring support

# Perfectly streamlined processes down to the last detail

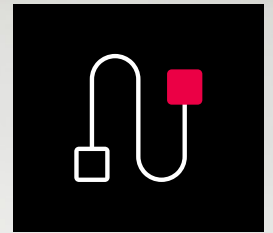
### Whether you opt for partially or fully automated wire processing:

Component wiring in the rack or on the mounting plate can be time-consuming. Rittal has developed a series of perfectly coordinated solutions to streamline this process and make wiring more reliable and efficient.

Wires processed on a project-specific basis at the Wire Terminal are easily order-picked for the Wire Cart and transported to the Wire Station wiring bench. The wires are sequentially arranged in the wire rails for simple, intuitive wiring. At the Wire Station, the wires are securely wired using robust, ergonomic hand tools. The EPLAN Smart Wiring digital assistant visually presents every step in the wiring process for superior results and to technicians.



[www.rittal.us/assembly](http://www.rittal.us/assembly)



**Wiring** typically accounts  
for **49%**  
of the **processing time**  
on an enclosure.



**EPLAN Smart Wiring:**

Digital assistant for clear presentation of the wiring process, also suitable for use on mobile output devices



**Wire Station:**

The mobile and ergonomic wiring table enables fatigue-free working



**Rittal hand tools:**

A wide assortment of screwdrivers, pliers, hole punches, cutters, and other mechanical tools for professional results



Ergonomic tools and equipment  
can reduce injuries  
by up to **57%**

**Simple handling**

# Clever tools for ergonomic working

With the right equipment, manual tasks can be considerably simplified, streamlined, and sped up. That's why we offer a wide range of high-quality and ergonomic bench solutions for machining, assembling, wiring, and testing enclosures.

Our ergonomic handling systems for transport and lifting operations make the work for technicians and service personnel easier. They are ideal for transporting materials and tools to the jobsite and can even accommodate very large components.



[www.rittal.us/handling](http://www.rittal.us/handling)



**Rittal assembly frames:**  
With a height and tilt adjustable mounting level for efficient, ergonomic machining of mounting plates and enclosures.



**Rittal Smart Lifter:**  
Powerful and sturdy lifting and transport device for easy handling of enclosures and bayed enclosure suites.



**Rittal functional trolleys:**  
Converts from transporter to practical desk by simply unfolding. Extremely stable and rugged.



**Rittal storage and transport trolley:**  
Ideal for storage and order picking for easy handling of enclosure panels.



**Professional servicing for your machines**

# Service and support direct from the manufacturers








No-one knows your equipment better than the manufacturers. Regular maintenance of your machines by the Rittal Manufacturer's Service team is the best way to help ensure their availability for use, performance, and a long service life. Draw on the experience and knowledge of our highly trained qualified service technicians and benefit from dependable production quality and exceptional reliability.

**Service agreements – Individual and fully customizable**

Everyone's service needs are different. Rittal service agreements allow you to arrange multiple services individually and combine various service packages, all with fixed, transparent conditions.



[www.rittal.us/service](http://www.rittal.us/service)

		Scope of services included in standard contract	Optional contract package
<b>Maintenance</b> 		1 x per year	2 x per year
<b>Availability</b> 		Working days (Mon – Fri) 7am – 5pm	Every day of the week (Mon – Sun) 24 hours
<b>Service call back</b> 		Within 72 hours	Within 48 hours
<b>Machine warranty</b> 		No warranty extension	+ 12 months
<b>Individual stocking of spare parts</b> 		On request	
<b>DXF remote training</b> 		One training session	
<b>Software update</b> 		As necessary (but excluding hardware/PC or operating system replacement)	

# Rittal – The System.

Faster – better – everywhere.

- Enclosures
- Power Distribution
- Climate Control
- IT Infrastructure
- Software & Services

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