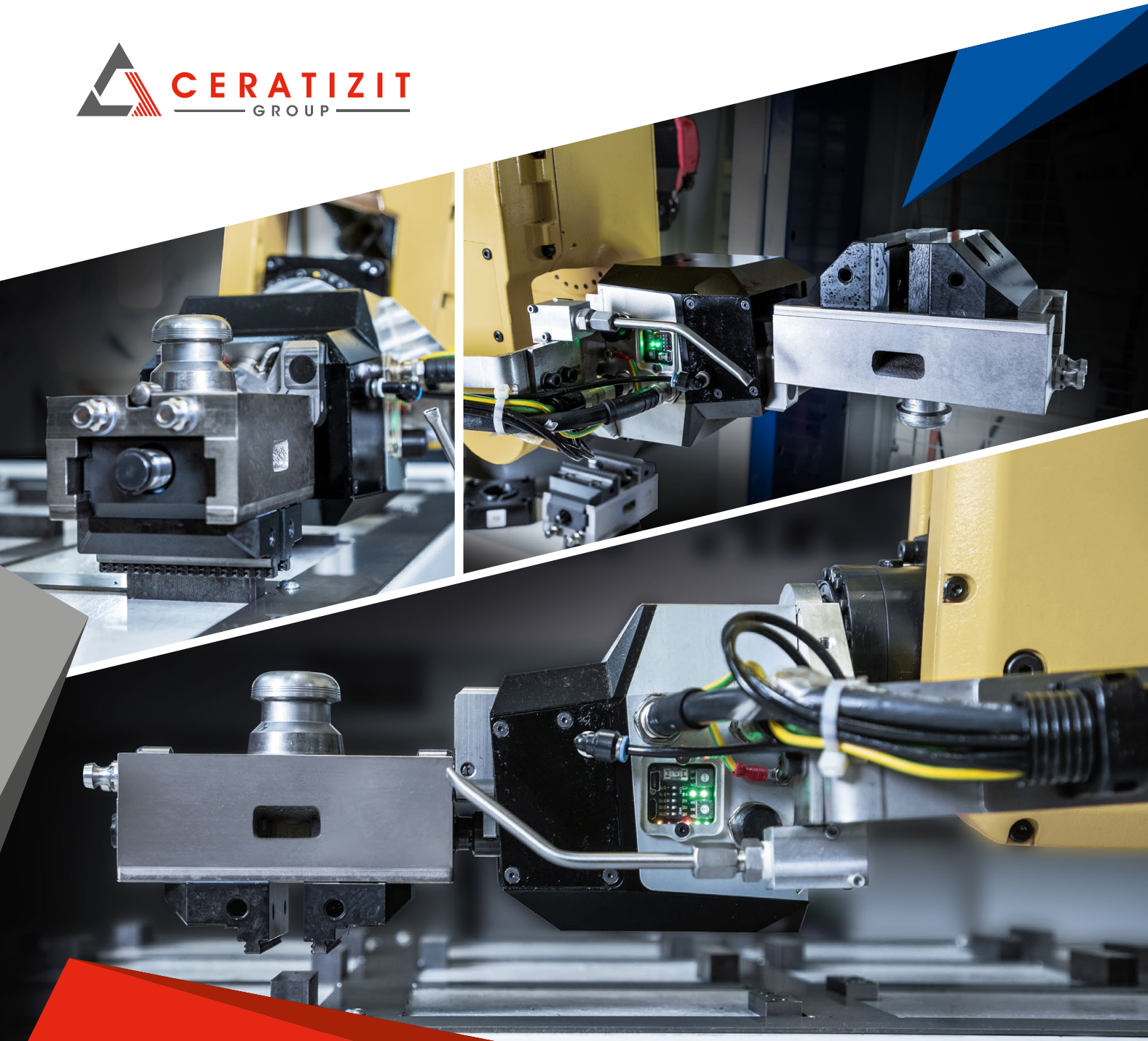
CERATIZIT GROUP



CLAMPING TECHNOLOGY

Our automation solutions for greater productivity with workpiece clamping

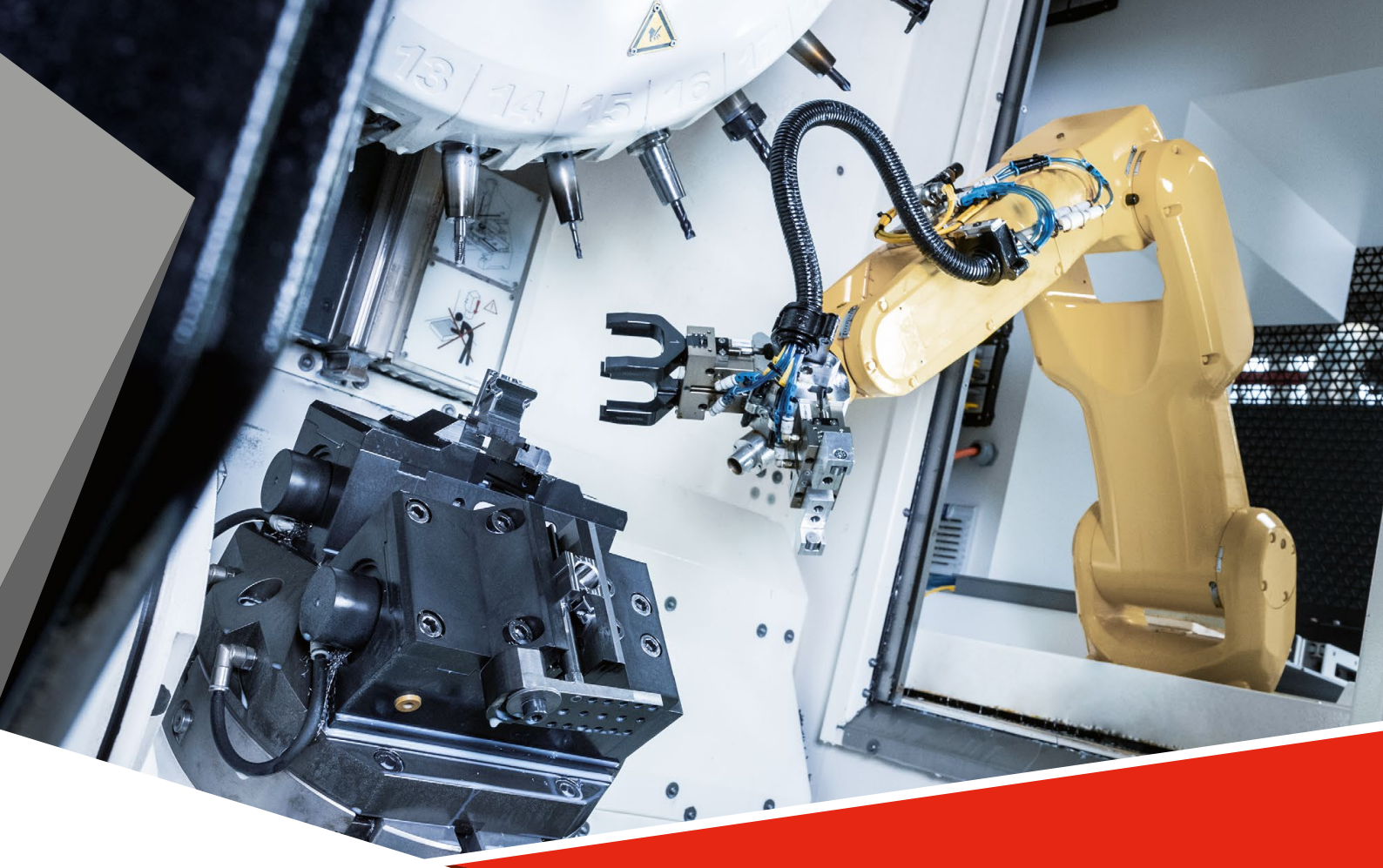
TEAM CUTTING TOOLS

CUTTING SOLUTIONS BY CERATIZIT · KOMET · WNT · KLENK

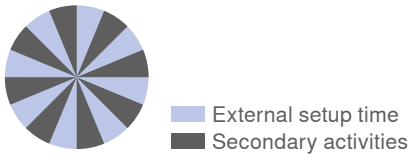
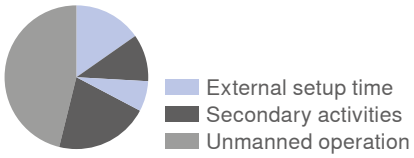
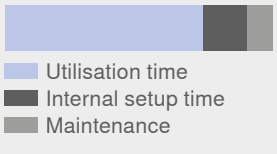
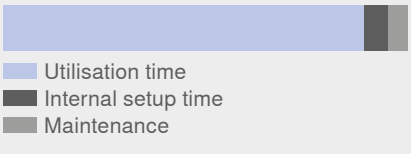
CERATIZIT is a high-technology engineering group specialised in cutting tools and hard material solutions.

Tooling the Future

www.ceratizit.com



The comparison

	Five-axis universal machine without automation	Five-axis universal machine with automation
Machine uptime [hrs/day]	15 (2 shifts)	22.5 (3 shifts)
Internal setup time [hrs/year] with same output	930	720
Machine uptime [hrs/year]	2130	3870
Parts per year	2840	5160
Staff availability		
Machine availability		

Basis for calculating the estimated machining time ~45 min/part; 240 days/year; 85% degree of utilisation

Source: GROB-WERKE GmbH & Co. KG, Mindelheim, Germany



Why should I automate my processes?

Automation – customised to your workpieces

Automation solutions increase output while simultaneously reducing your unit costs per workpiece. With our expert advice, you will find the perfect solution to your requirements and ensure your production line is fully equipped for future challenges.

Advantages/benefits

- **Greater productivity**
  More machine spindle hours
- **Higher turnover**
  More parts at lower production costs
- **Shorter product lead times**
  Orders can be delivered more quickly
- **Unmanned production possible**
  Additional machine spindle runtimes

Do these questions sound familiar?



Milling machine automation R-C2

- How can I improve productivity?
- How can I reduce my product lead times?
- What types of automation solution are there?
- Which automation solution is the right one for me?



Clamping technology

- How can I reduce my setup times?
- How can I increase my machine runtimes?
- Which type of clamping technology is needed for which automation solution?
- How can I fully machine my workpieces?

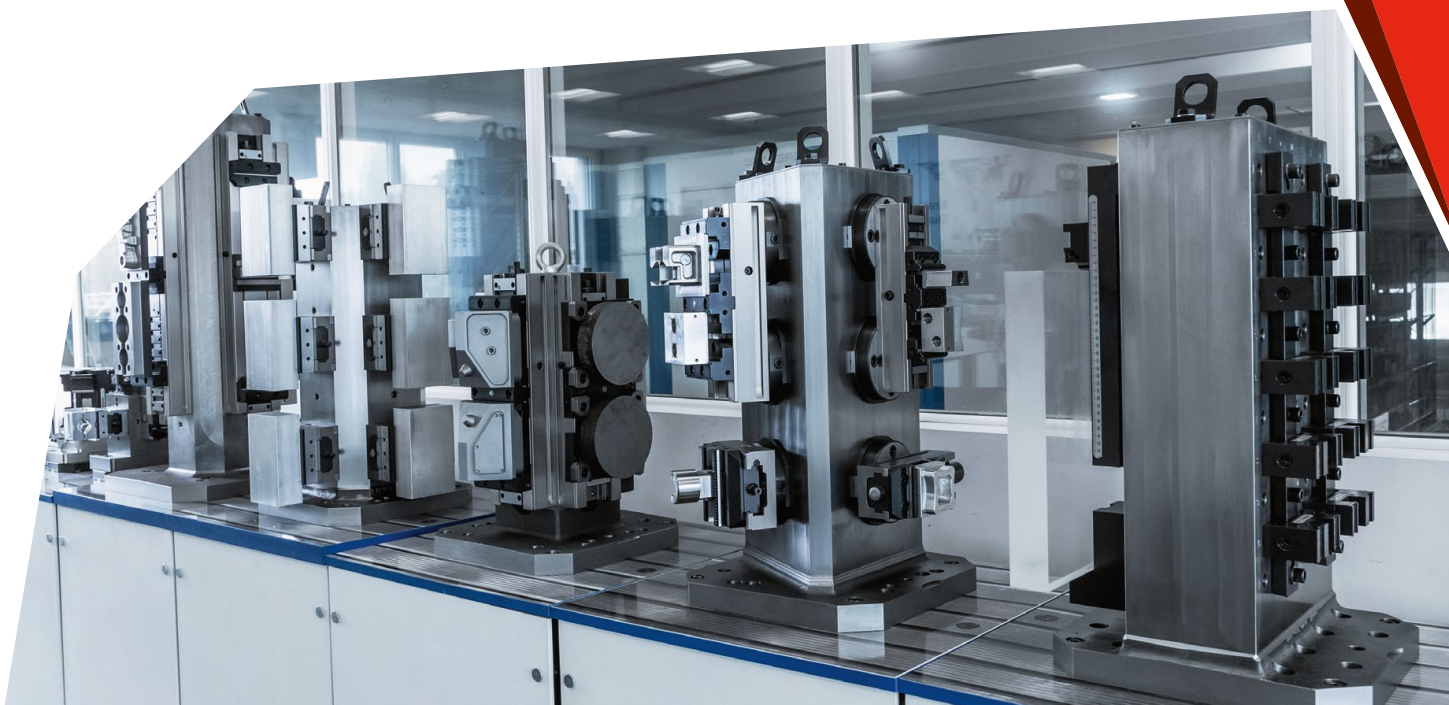


Pallet automation

- How can I reduce my unit costs?
- Which automation strategy would deliver a quick return on investment?
- How can automation help me to meet the strict demands of the market more easily?
- What batch sizes are needed?

Robotic direct loading

- How can I make my production lines more flexible?
- How can I load and unload my machines automatically?
- How can I reduce my reject rate through automation?
- Which components do I need for robotic direct loading?





Pallet automation and MES

With pallet automation, the batch size is restricted to the number of pallets, however almost everything can be manually clamped on the pallets, including larger workpieces.

It is a similar story with manufacturing execution systems (MES) or pallet handling systems, however as more pallets are available here, more parts can be produced.

Investment costs:	1									10
Required floorspace:	1									10
Complexity:	1									10
Reliability:	1									10
Output:	1									10
Chaotic manufacturing:	1									10
Person hours spent on the automation:	1									10

Advantages – The Top 3:

- ▲ **Chaotic manufacturing**
- ▲ **Reliability**
- ▲ **Complexity**



Which automation solution is the right one for me?

Robotic direct workpiece loading

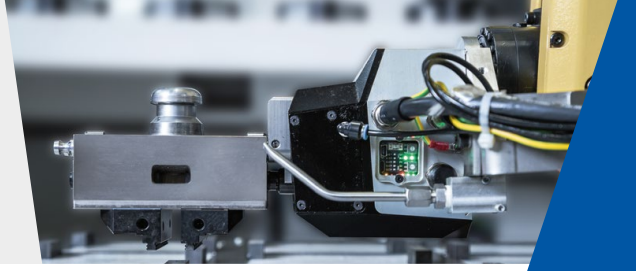
Robotic direct loading allows extremely large batch sizes to be produced, however these systems are fitted with a component-specific gripper with a customised jaw for each blank and finished part. Converting to a different workpiece is therefore a lengthy and complicated process.

	1									10
Investment costs:	■	■	■	■						
Required floorspace:	■	■	■							
Complexity:	■	■	■	■	■	■				
Reliability:	■	■	■	■	■	■	■	■		
Output:	■	■	■	■	■	■	■	■	■	■
Chaotic manufacturing:	■									
Person hours spent on the automation:	■	■	■							

Advantages – The Top 3:

- ▲ **Investment costs**
- ▲ **Required floorspace**
- ▲ **Output**

Which automation solution is the right one for me?



Workpiece automation R-C2

"Fully machine workpieces on all 6 sides – completely automatically and unmanned"

The R-C2 workpiece automation solution from our partner offers new possibilities. It falls between pallet automation and robotic direct workpiece loading, as the clamping device and pallet are merged in the form of the gripping vice. As a result, setup times are reduced and flexibility is increased.

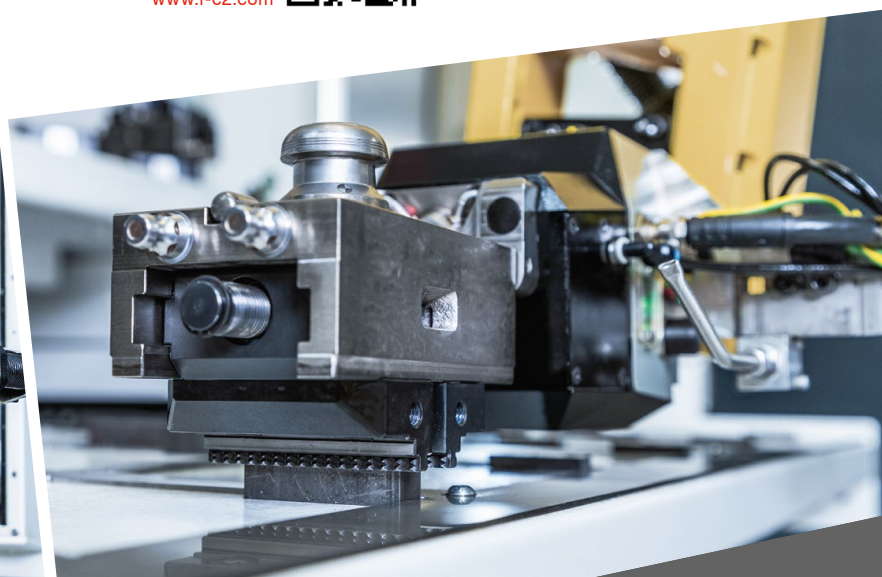
	1									10
Investment costs:	■	■	■	■	■	□	□	□	□	□
Required floorspace:	■	■	■	□	□	□	□	□	□	□
Complexity:	■	■	■	□	□	□	□	□	□	□
Reliability:	■	■	■	■	■	■	■	■	■	■
Output:	■	■	■	■	■	■	■	■	■	■
Chaotic manufacturing:	■	■	■	■	■	■	■	■	■	■
Person hours spent on the automation:	■	□	□	□	□	□	□	□	□	□

Advantages – The Top 3:

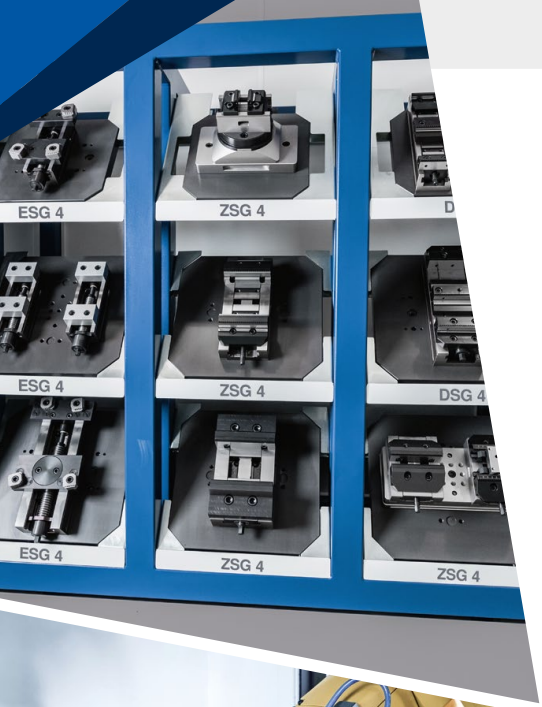
- ▲ **Very few person hours spent on the automation**
- ▲ **Chaotic manufacturing**
- ▲ **Output**

www.r-c2.com





Clamping technology for all types of automation



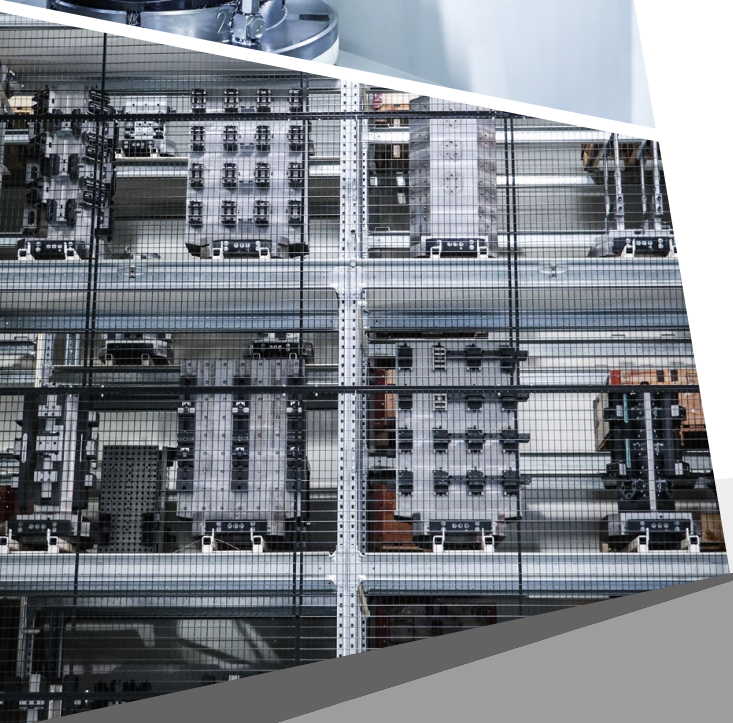
Pallet automation with ZSG 4 / ESG 4 / DSG 4 / ESG 5

Focus on vice



Robotic direct loading with ESG mini and NCG hydraulic

Focus on the hydraulic vice

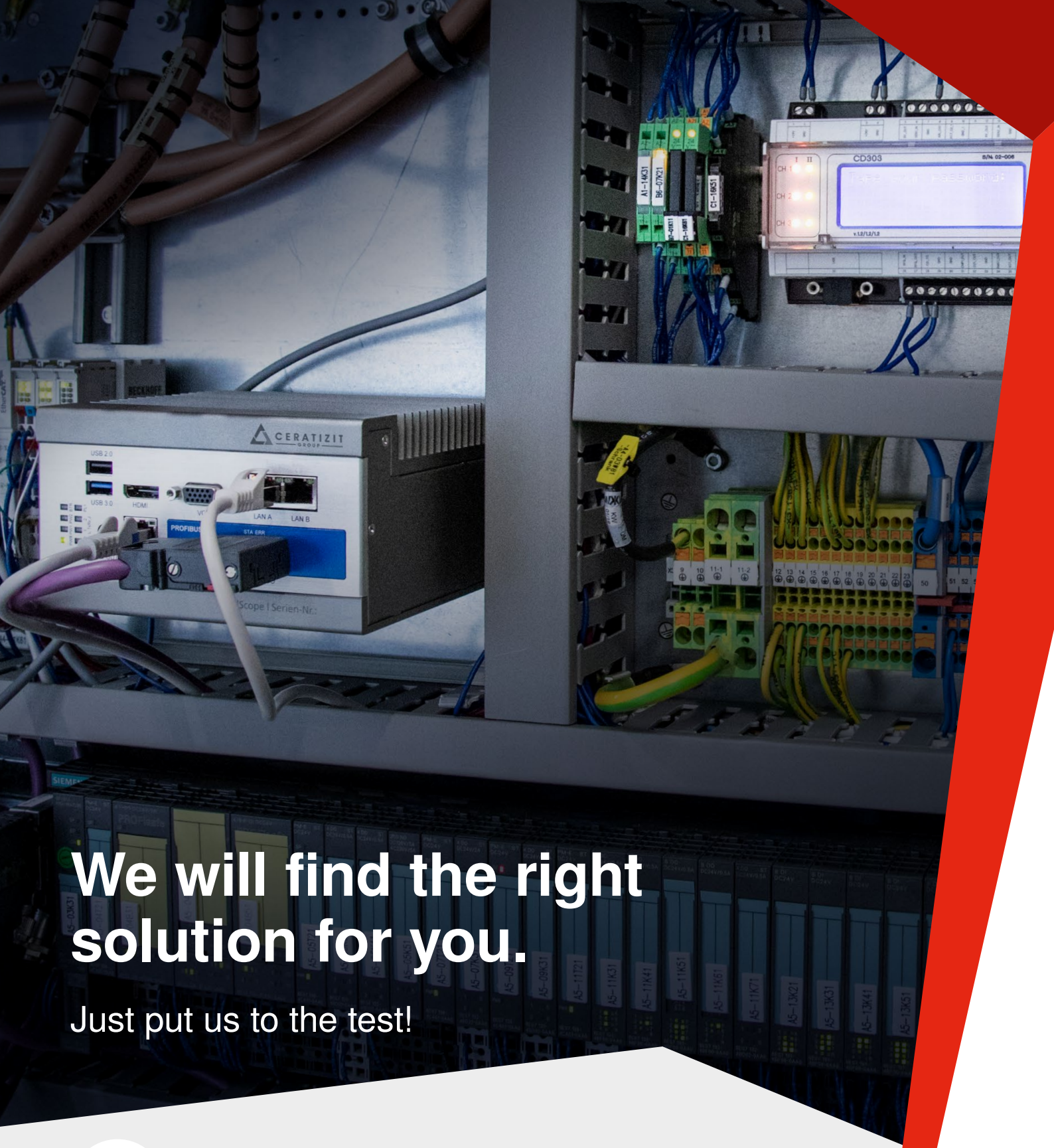


Flexible manufacturing system with ZSG 4, ZSG mini, DSG 4, MSG 2, ESG mini, NCG, MNG, etc.

Focus on vice

Have we caught your interest?
Then please get in touch!

We would be happy to advise you on the R-C2 automation solution for milling machines and clamping technology for automated workflows!



We will find the right solution for you.

Just put us to the test!

+ ToolScope

The economical automation of CNC machining centres for small and medium batch sizes is an exciting yet challenging task.

We work together with you to find your perfect solution and offer the perfect companion to your automated setup with our ToolScope.

Keep a close eye on your processes…

CERATIZIT is paving the way for the digital future of machining. A central element of this is the ToolScope monitoring and control system, which continuously records signals from the machine that are generated during the production process. This data is visualised and used to monitor and adjust the machine.

Process control

- Process data is recorded, visualised and evaluated by ToolScope
- Deviations are identified in real time
- ToolScope can be automated and integrated into your production processes

Machine protection

- The machine condition is monitored for maintenance purposes
- Emergency stop triggered in the event of a collision (machine airbag)
- Overloading of the tool and machine tool can be prevented

Documentation & digitalisation

- Tool service life analysis (data about the use of the tool is captured)
- Machining time analysis
  (analysis of machine downtimes and the reasons for them)
- Full inspection of the workpiece: critical process parameters are documented
  (ensure quality standards are met)

For more information
cutting.tools/en/toolscope

Scan here!

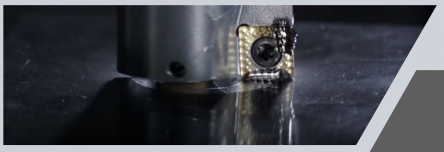
UNITED. EXPERIENCED. METAL CUTTING.



CUTTING SOLUTIONS BY CERATIZIT

SPECIALIST FOR INDEXABLE INSERT TOOLS FOR TURNING, MILLING AND GROOVING

The product brand CERATIZIT stands for high-quality indexable insert tools. The products are characterized by their high quality and contain the DNA of many years of experience in the development and production of carbide tools.



KOMET

THE QUALITY LABEL FOR EFFICIENT BORE PRODUCTION

High-precision drilling, reaming, countersinking and boring is a matter of expertise: efficient tooling solutions for drilling and mechatronic tools are therefore part of the KOMET brand name.



WNT

EXPERTS FOR ROTATING TOOLS, TOOL HOLDERS AND CLAMPING SOLUTIONS

WNT is synonymous with product diversity: solid carbide and HSS rotating tools, tool holders and efficient workholding solutions are all part of this brand.



KLENK

CUTTING TOOLS FOR THE AEROSPACE INDUSTRY

Solid carbide drills specially developed for the aerospace industry bear the product name KLENK. The highly specialised products are specifically designed for machining lightweight materials.

CERATIZIT GROUP

Climate neutral
Print product
ClimatePartner.com/16441-2105-1001

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