OUR COBOTS –

IDEAL FOR THE START IN AUTOMATION
FAMILIAR OPERATION WITH THE ROBOTstar VII

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The manufacturing industry is under strong competitive pressure. However, constantly changing market requirements, limited investment funds and scarce engineering resources pose a challenge when it comes to purchasing, operating and maintaining capital goods. In the world of robotics, **COBOTS** in particular offer an innovative alternative to meet the demands of modern production technologies.

EFFICIENCY AND FLEXIBILITY:
THE REQUIREMENTS OF MODERN PRODUCTION

Collaborative robots, known as cobots, offer a promising solution to these challenges. These robots are designed to work directly and interactively with human workers without being separated by safety fences or safety barriers.

Thanks to advanced sensor technology, AI-supported control systems and intuitive programming, cobots are not only easy to integrate into existing production processes, they are also comparatively inexpensive to purchase and operate.

A key advantage of cobots is their high level of flexibility. They can be quickly adapted to new tasks and enable companies to react efficiently to changing production requirements. This means that small batch sizes can be produced economically and short-term adjustments can be made to production.

In addition, cobots relieve employees of monotonous or physically demanding tasks, improving ergonomics in the workplace and reducing the risk of accidents at work.

Cobots also offer significant added value in terms of profitability. Thanks to their simple programming and fast commissioning, they are particularly attractive for small and medium-sized enterprises (SMEs), which often do not have extensive automation experience. In addition, investments in cobots usually pay for themselves within a short period of time.

Overall, cobots are a forward-looking technology that helps companies in the manufacturing industry to remain competitive. They enable cost-efficient automation, increase flexibility in production and improve working conditions for employees. Cobots will therefore play an increasingly important role in industrial production in the coming years.

WHAT ARE THE **ADVANTAGES** OF COLLABORATIVE ROBOTS?

Our collaborative robots are suitable for a wide range of tasks in companies of any size. They are easy to set up, program, operate and scale. Built by leading experts.

PROFITABILITY

They offer a quick return on investment by optimizing production without the need for large infrastructures.

INCREASING PRODUCTIVITY

Cobots take over monotonous or strenuous tasks so that employees can concentrate on more value-adding activities.

COST EFFICIENCY

Compared to traditional industrial robots, cobots are cheaper to purchase, maintain and operate.

FLEXIBILITY

They can be laid quickly and adapted to different phases of the production process.

DRIVE SAFETY

Thanks to integrated sensors and safety mechanisms, cobots can work safely next to people without protective cages.

SIMPLE PROGRAMMING

Modern cobots do not require complex programming and can often be taught using intuitive interfaces or even manual guidance.

SIMPLE INTEGRATION

Cobots can be quickly integrated into existing production processes without the need for time-consuming conversions.

IMPROVED WORKING CONDITIONS

You take on physically demanding tasks, which reduces accidents at work and health risks.

Welding with cobots is revolutionizing the manufacturing industry by increasing efficiency and improving working conditions for welders at the same time.
The big advantage: you don‘t need to be a welding specialist or robot programmer to operate a cobot!

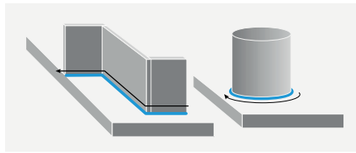
STRONGER TOGETHER: HOW COBOTS IMPROVE THE WELDING PROCESS

What makes the Cobot so interesting for welding is, above all, the fact that it can be learned quickly thanks to the intuitively guided programming, which ensures a correspondingly high level of flexibility with changing component geometries. The Cobot shows all its advantages with components of low to medium complexity or geometry as well as changing small to medium batch sizes where simple fixtures are created.

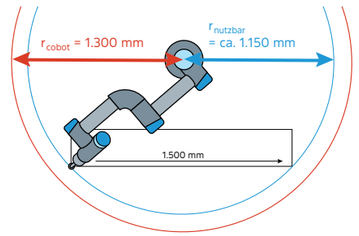
COLLABORATION IN PRACTICE

In principle, a cobot suitable for welding can, with a few restrictions, perform all welding tasks that occur in companies.

All types of movement, whether linear or circular movements as well as grinding of inner and outer radii, are possible with the cobot without any problems and can be combined to create any contour movements.



Cobots are well suited for material thicknesses between 1 and 15 mm, which can mainly be welded in 1 layer. Multi-layer welding and oscillating are generally possible.



Max. Weld seam length approx. 1,500 mm

Tolerances and reproducibility
Tolerance handling plays a much greater role in automated welding

Setting up the cobot
The welder programs the cobot using an intuitive user interface or by manually guiding the robot along the weld seam. This enables quick and easy adaptation to new components and welding requirements.

Preparation of the workpiece
The welder positions the components to be welded in the fixture and ensures that all the conditions for an optimum weld seam are met.

Automated welding
The cobot carries out the welding process with high precision. Thanks to sensors and programmed parameters, it ensures consistent quality, reduces errors and minimizes the need for reworking.

Monitoring and quality control
The welder monitors the process and can make adjustments to the settings if necessary to achieve optimum results. He can carry out visual inspections and any rework while the cobot is already processing a new part.

Flexible switching between tasks
While the cobot is welding a seam, the welder can already concentrate on preparing the next component. This leads to a considerable increase in productivity.

TIG WELDING

Even the supreme discipline in automation can be mastered with the Cobot.

ADVANTAGES

- More quality welds in less time
- Ideal for small series – the welder can take on more demanding welding tasks in parallel
- Quick and easy Integration
- Intuitive operation and programming
- Easy to learn
- Consistent seam quality
- Relief for the welder
- Flexible use for changing small series
- Creates potential for further orders
- Facilitates entry into automation

MATERIAL HANDLING

INCREASED EFFICIENCY THROUGH COBOTS

Machine operation involves loading and unloading parts and materials from machines, which is often done when operating CNC machines and injection molding machines. This work is not only monotonous and labor-intensive, but also carries a high risk of injury for workers. Our robots are designed to operate machines with great speed and precision, relieving humans of tedious tasks so they can focus on more creative and value-adding activities.

HOW DOES COBOT HANDLING WORK?

Cobots perform various handling tasks by gripping, transporting, positioning or sorting materials. Collaboration between humans and cobots takes place in several steps:

Setup and programming
The cobot is either programmed using intuitive software or trained by manual guidance. Thanks to modern sensor technology, it can react flexibly to different components.

Material pick-up
With the help of grippers, suction cups or magnets, the cobot picks up the components and automatically recognizes their position and shape.

Transport and positioning
The cobot moves the workpieces precisely to the next station, be it a machine, an assembly area or a packaging line.

Interaction with humans
While the cobot takes care of the standardized handling tasks, the employee can carry out more demanding work in parallel, which increases efficiency.

Quality control and adaptation
Cobots are equipped with cameras or sensors that detect errors or deviations. They can sort components or make them available for reworking.

ADVANTAGES OF COBOT HANDLING

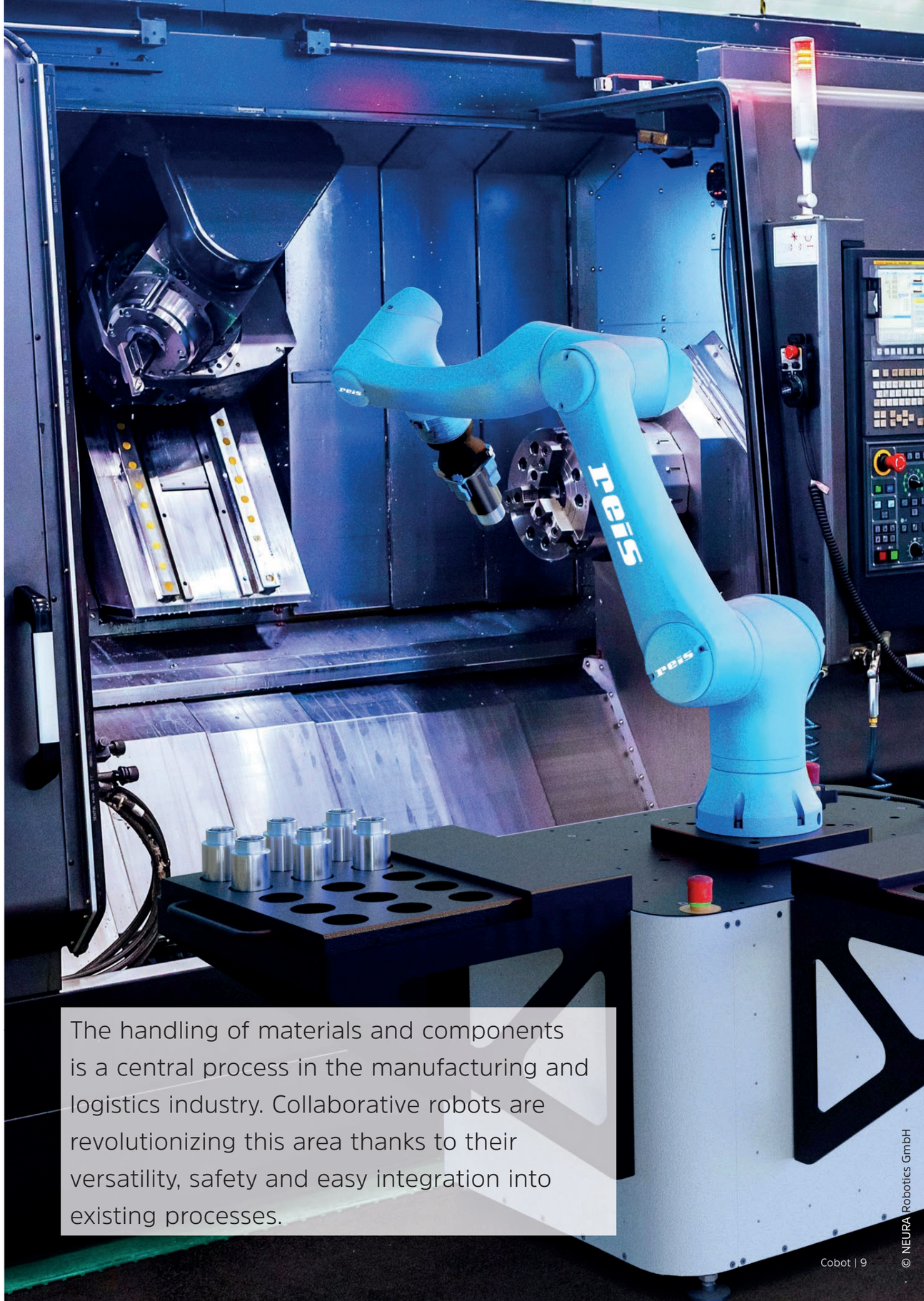
Increased productivity
Cobots take over monotonous handling tasks so that employees can concentrate on value-adding activities.

Improved ergonomics
Physically strenuous activities such as lifting heavy loads or repetitive movements are reduced.

High flexibility
Cobots can be quickly reprogrammed for different tasks and adapted to changing production requirements.

Cost efficiency
Thanks to lower error rates, fewer rejects and reduced downtimes, investments in cobots often pay for themselves within a short time.

Easy integration
Cobots require less space and safety precautions than traditional industrial robots and can be easily integrated into existing work processes.



COBOT RECOGNIZES HUMANS

FROM COLLABORATIVE TO COGNITIVE ROBOT

Among other things, this is ensured by a 3D vision sensor and 3D speech recognition. With the 3D vision sensor, the cobot can recognize gestures as well as identify objects: Integrated machine learning can be used to teach the robot certain objects, for example, and then later have the robot pick precisely these objects from a box. With 3D voice recognition, the cobot can be activated via a command and then programs can be started via voice command. To be on the safe side, the robot always repeats the command it is to carry out.

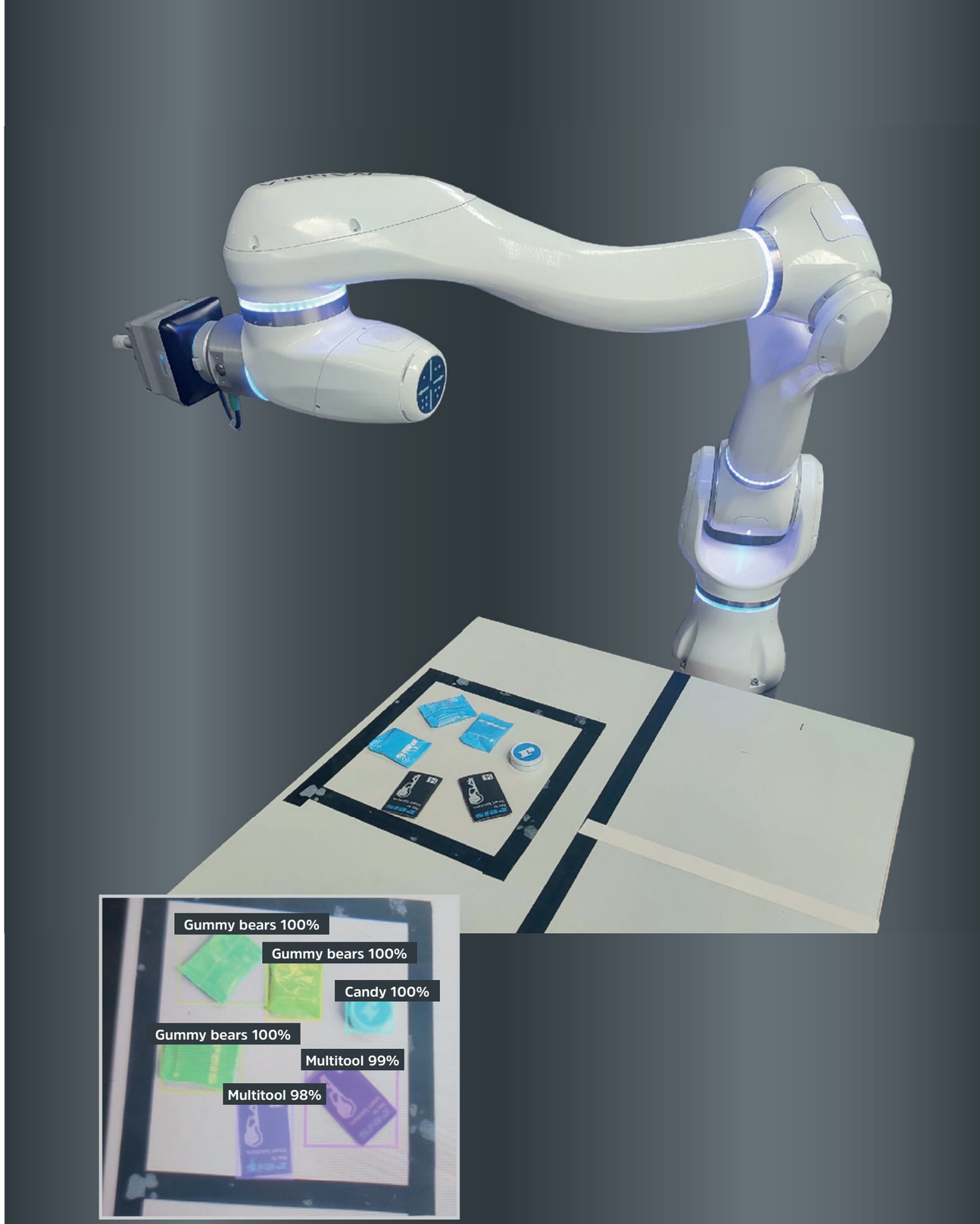
A very special feature is the contactless detection of people in the vicinity. The sensors help to detect the presence of people in the work area and then stop the cobot or, thanks to integrated AI software, reschedule the robot's path so that it does not collide with the person.

If there is no human nearby, the cobot reaches almost industrial robot speed at 4.5 m/s.

Another highlight of the smart cobot is its dynamic load capacity of 9 kg to 18 kg.

It is also easy to program using the established reisPAD interface. The cobot can also be programmed using the force sensors via manual guidance.

Another special feature is the Cobot's IP65 protection class.



ROBOTstar VII

USER-FRIENDLINESS AT THE HIGHEST LEVEL

EASY TO SET UP

The combination of robot controller, PLC (Siemens SIMATIC), HMI and drive technology in one system enables maximum flexibility with minimum effort for process-specific extensions.

Thanks to the digital twin, new applications can be easily tested in a simulated environment.

reisPAD

The intuitive reisPAD with its innovative ProVis user interface makes it easy to program and monitor the system.

FIND OUT MORE – WITH ONE CLICK

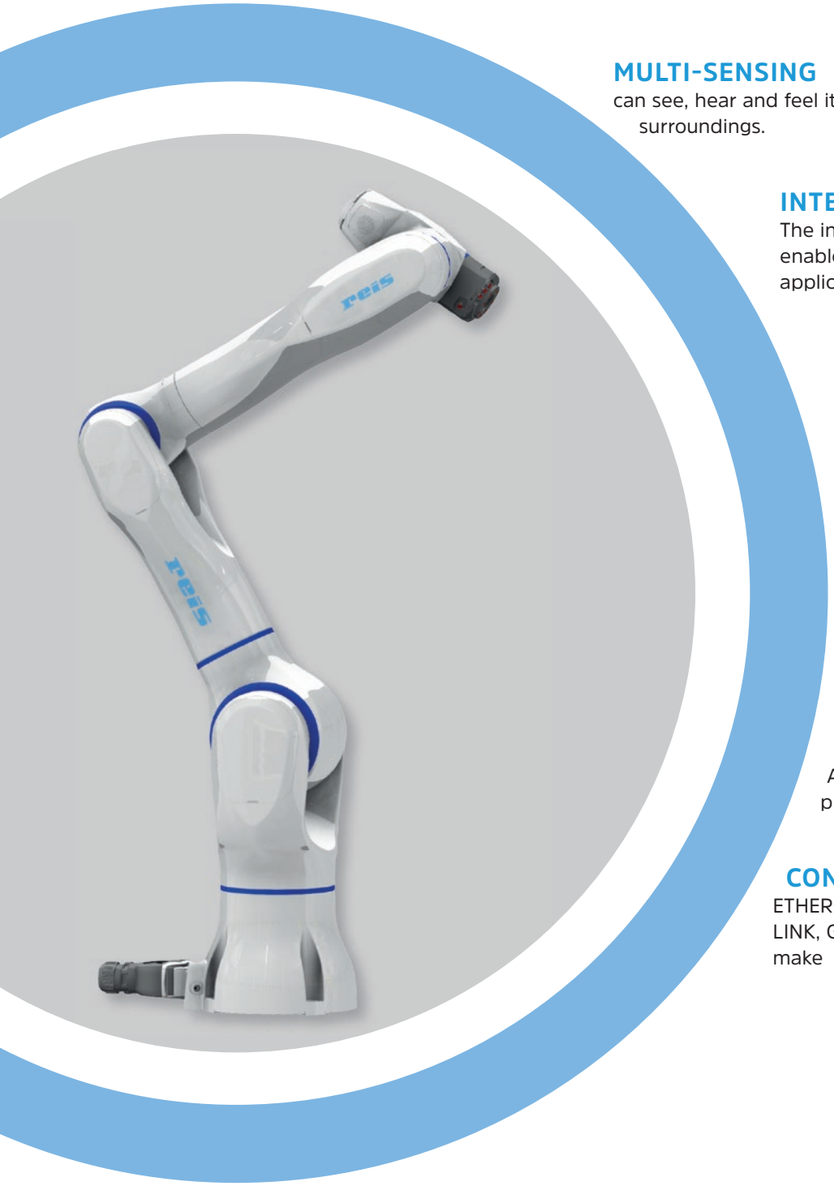
Simply scan the QR code to go directly to the digital brochures and find out even more about the possibilities and benefits of the Robotstar VII solution:

- ROBOTstar VII detailed version
- ROBOTstar VII compressed version

MADE FOR EVERY **APPLICATION**

The combination of lightweight design and industrial performance with an intuitive user interface

Maira is the world's first commercially available cognitive robot. With its integrated, novel, touchless and safe human detection sensor technology, it can sense its environment and easily adapt to all types of industrial environments. Maira opens up a new era of robots and offers endless possibilities for interaction, both for beginners and experts. It enables real collaboration between man and machine.



MULTI-SENSING
can see, hear and feel its surroundings.

INTELLIGENT
The integrated extended intelligence enables it to be used for more applications than any other robot.

STATE-OF-THE-ART 3D VISION SENSOR
Gesture control, 3D object recognition, AI-controlled

HUMAN-LIKE SPEECH RECOGNITION
With the help of an integrated 360° microphone array and AI, it can understand your commands and improve the user experience even further.

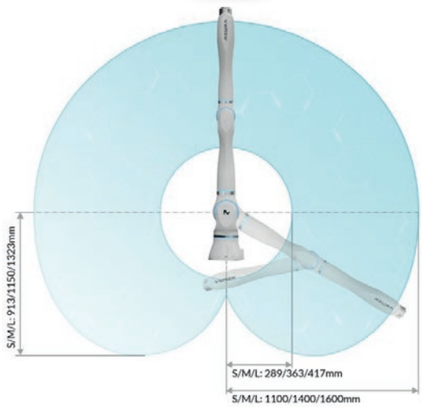
ROBOTIC ASSISTANT
Anyone can program it, no programming skills are required.

CONNECTION FLANGE
ETHERCAT, MODBUS, CAN BUS, IO LINK, GPIO and 3x compressed AIR make

TECHNICAL DATA

Specification	S	M	L
Payload	15 – 18 kg[1]	12 – 14 kg[1]	9 – 11 kg[1]
Reach	1,100 mm	1,400 mm	1,600 mm
Degrees of Freedom	7 rotary joints	7 rotary joints	7 rotary joints
Weight	51 kg	53 kg	56 kg
Robot Mounting	Any orientation	Any orientation	Any orientation
IP Classification	IP 65	IP 65	IP 65
Ambient Working Temperature	0 °C – 40 °C	0 °C – 40 °C	0 °C – 40 °C
Data, Power, and Media	Full inner harness	Full inner harness	Full inner harness
Footprint Base	Ø 252 mm	Ø 252 mm	Ø 252 mm
Tool Flange	ISO 9409-1-50-7-M6	ISO 9409-1-50-7-M6	ISO 9409-1-50-7-M6
Status Illumination	RGB LED on each axis	RGB LED on each axis	RGB LED on each axis
Performance Level	PLd Cat. 3/SIL 3[2]	PLd Cat. 3/SIL 3[2]	PLd Cat. 3/SIL 3[2]
Accuracy	≥ 0.01 mm[3]	≥ 0.01 mm[3]	≥ 0.01 mm[3]

[1] Lower number indicates payload for full workspace, higher number indicates payload for application specific smaller workspace and reduced speed.
[2] PLe Cat. 3/SIL3 released in 2024.
[3] In In reference to ISO9283. Robot specific values might differ depending on application environment.



Movement

Axis	Working angle	Maximum Speed
A1	± 180°	120°/s
A2	± 120°	120°/s
A3	± 180°	150°/s
A4	± 150°	150°/s
A5	± 180°	200°/s
A6	± 145°	200°/s
A7	± 180°[4]	360°/s[5]

[4] Effectively available working range depending on link7 configuration. Restriction due to pneumatic air and vision sensor might apply.
[5] To be released 2025.

Tool Flange

Hole Pattern	DIN ISO 9409-1-50-7-M6
Compressed Air (optional)	3x push-pull-plug S/M/L: 3 mm OD
I/O Power Supply	24 V, 1.5 A
Interfaces	Analog Input, GPIO, Modbus RTU via M8 8-pin-A-M, IEC 61076-2-104

SUITABLE FOR EVERY **INDUSTRY**

The most intelligent, safest, fastest and most accurate robot in the world.

Lara, is a collaborative robot with six degrees of freedom that combines the agility of a lightweight design with industrial performance. With unmatched speed, precision and protection, Lara bridges the gap between the world of collaborative robots and industrial robots. In this way, Lara enables the cost-efficient automation of any production process.

PRECISION
We offer maximum accuracy thanks to innovative high-precision encoders.

SIMPLE OPERATION
Our modern ProVis user interface enables intuitive operation of the ROBOTstar VII.

SAFETY
The innovative design enables safe collaboration with people.

SPEED IT UP
It bridges the gap between the world of collaborative robots and industrial robots. The combination of industrial performance with an intuitive user interface makes it the perfect solution for any application.

HAPTIC BUTTONS
Individually configurable buttons enable simple operation for every application.

INTERFACES
GPIO | Modbus RTU | 24V PSU

STATUS-LED
Status display via LED ring

TECHNICAL DATA

Specifications	A	B	C	D
Payload	3 kg	5 kg	8 kg	10 kg
Reach	590 mm	800 mm	1,300 mm	1,000 mm
Weight	18 kg	26 kg	48 kg	45 kg
Degree of Freedom	6 rotary joints	6 rotary joints	6 rotary joints	6 rotary joints
Repeatability	± 0.02 mm	± 0.02 mm	± 0.02 mm	± 0.02 mm
IP Rating	IP66	IP66	IP66	IP66
Footprint base	Ø 144 mm	Ø 156 mm	Ø 200 mm	Ø 200 mm
Bolt circle	Ø 126 mm	Ø 140 mm	Ø 180 mm	Ø 180 mm
Operating Temperature	0 °C – 40 °C	0 °C – 40 °C	0 °C – 40 °C	0 °C – 40 °C
Power Cables	complete inner harness			
Tool Connector Type	M12 12-pole			
Status Indicator	RGB LED on flange			
Tgt. Perf. Level	PLd Cat. 3/SIL 2			
Mounting	any orientation			

Movement

Axis	Working Angle (Degrees)	Maximum Speed (°/s)		
	3/5/8/10	3	5	8/10
A1	± 180°	180	170	130
A2	± 180°	180	170	130
A3	± 150°	180	180	150
A4	± 180°	180	180	150
A5	± 180°	200	200	180
A6	± 360°	200	200	180

Reach 590/800/1,000/1,300 mm

TCP Connector and Flange

Hole pattern	DIN ISO 9409-1-50-4-M6
GPIO	3x digital in, 3x digital out, 2x analog in
I/O port	M12 12-pin-A-M / IEC 61076-2-101
I/O power supply	24 V, max. 1,000 mA
Electrical interfaces	GPIO, Modbus RTU, 24V PSU
Control functions	2 programmable buttons on flange

AUTONOMOUS UNIT
PRECISION AND QUALITY IN PRODUCTION

A new collaborative robot impresses with its ease of use and high flexibility. Operation is intuitive, so that users quickly become familiar with the system – regardless of previous knowledge. Thanks to protection class IP66, the robot is also suitable for demanding environments. Precise operation and high movement speed enable efficient use in a wide range of applications.

The model is available in versions with a payload of 9 kg to 18 kg, making it suitable for both delicate tasks and heavier handling activities.

The portfolio is complemented by an autonomous, mobile system that also relies on advanced sensor technology – including 3D detection and contactless safety technology. This can not only be used independently as a transport solution, but also in combination with a collaborative robot.

The result is a mobile manipulator that can take on a wide range of tasks in the production or logistics environment – also in conjunction with other units in fleet operations.

ADVANTAGES

The mobile robot navigates autonomously, recognizes its environment precisely and works safely with people. Its modular expandability with a cobot makes it a versatile, mobile manipulator for production and logistics.

- **Autonomous navigation:** The MAV moves independently through complex environments – without any manual control or external guidance systems. This significantly reduces planning and installation costs.
- **Multi-sensor technology for precise understanding of the environment:** Equipped with 3D sensors and other intelligent sensors, the MAV recognizes its surroundings in real time and reacts reliably to people, obstacles or changes in the room.
- **Safe Human Detection:** The non-contact safety solution enables direct cooperation with humans – without a safety fence. This makes it possible and safe to use in open production or logistics areas.
- **Fleet capability:** The MAV can work as part of a robotic fleet. Several units can be controlled and coordinated centrally – ideal for automated material flows or scalable logistics solutions.
- **Modular expandability (mobile manipulator):** With an assembled cobot, the MAV becomes a mobile manipulator that can not only transport, but also grip, assemble or check – directly on site.
- **Flexible use in different industries:** Whether in manufacturing, logistics, electronics production or in the laboratory – the MAV can be easily adapted to different application scenarios, where it increases efficiency and automation potential.

The combination of MAV with a collaborative robot enables complete process automation, which significantly reduces the time required for individual work steps. The combination of this system with a shelf attachment enables the handling of smaller production parts.

For further information, please contact us at sales@reisrobotics.com

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Learn more about our company

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