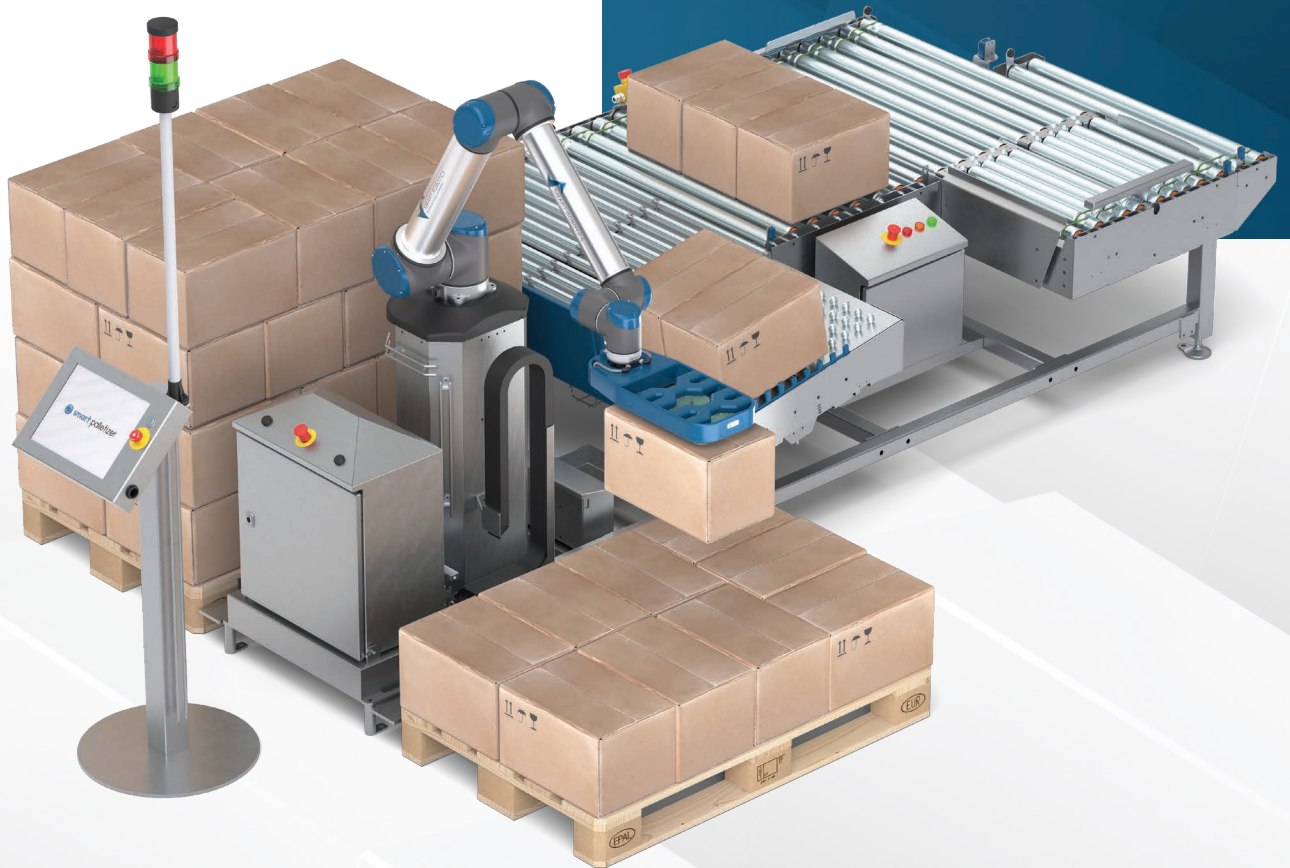


Smart Palletizer

2021

product information

- Large variety of products
- tailored to your needs
- safe & user-friendly



| We are Smart Robotics

We believe competitive advantage can be reached through advanced software

Smart Robotics develops robot-independent AI software for the fast and flexible deployment of pick-and-place robots in various logistics-and production processes. That is our core business.

We distinguish ourselves from the traditional robotics industry by means of high flexibility and reusability. We believe competitive advantage can be reached through advanced software.



By using techniques such as AI, advanced motion planning, 3D-vision feedback and through our user-friendly interface and online monitoring, we develop robots that are flexible, reliable, user-friendly and serve customers all over the globe.

For more information about our intelligent software and who we are, visit www.smart-robotics.nl

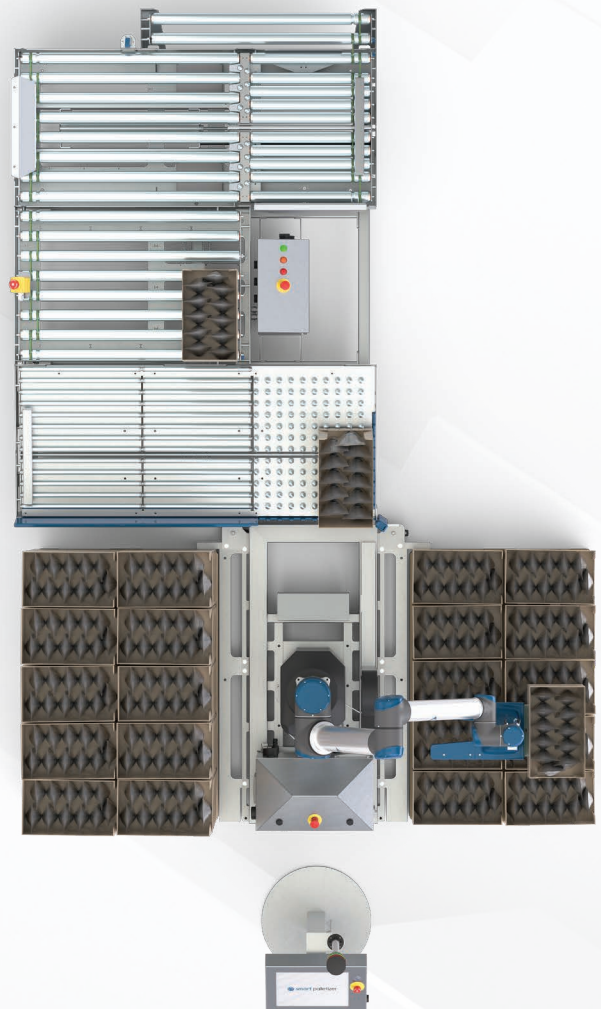
Introduction

Smart Palletizer

Using our intelligent software, we can help lift your production process to the next level with the Smart Palletizer, a flexible and compact end-of-line cobot for the palletizing of your products.

Ready for the future of palletizing?

- 1 The Smart Palletizer has a **small footprint** of only 3m². In combination with our various buffering and formation options, you are still well under 9m². It is easily accessible from all sides and can be **tailored to your factory setup**.
- 2 With our specialized lightweight, 3D printed grippers, both standard and custom, the Smart Palletizer can handle a **large variety of boxes** up to 8kg, both closed, open and with a loose lid.
- 3 The Vacuum gripper can pick one or multiple boxes up to 8kg from the top, whereas the Fork gripper is suitable for open boxes and boxes with a loose lid up to 6kg. **Tailored gripper design** is also available. The Smart Palletizer can stack up to a height of **230cm**, depending on the products and stacking pattern.
- 4 As the Smart Palletizer is a **cobot**, it can **cooperate safely** together with your employees. It is flexible, intelligent, and will be a valuable addition to your team.
- 5 Our core software platform is one of the most advanced cobot-control systems in the market. The Smart Palletizer, in combination with our intelligent software, creates various **benefits** for our customers and will help **improve** your business. Palletizing has never been this easy.

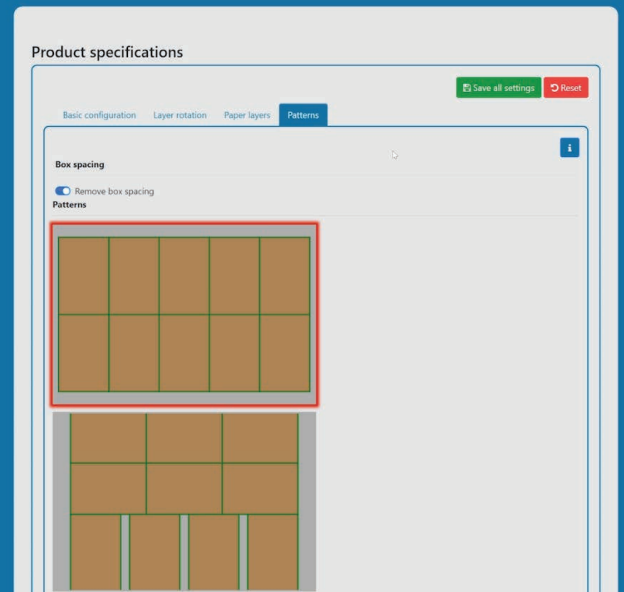


Please find the **technical specifications** at the end of this brochure

Smart Palletizer benefits

Large variety of products and stacking patterns

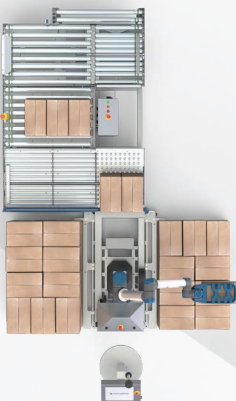
The Smart Palletizer can handle a large variety of products and stacking patterns. We enable our customers to add, change or create products and stacking patterns by using our **Smart Product Editor**.



This is enabled through:

Artificial Intelligence

In combination with our advanced **motion planning** algorithms. The robot continuously calculates all possible ways to pick and place a box and in which order to place the boxes on the pallet, allowing it to handle complex stacking patterns in a quick and smooth way.



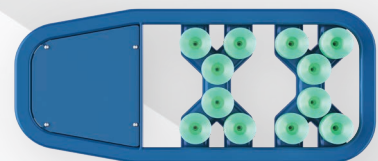
3D printed grippers

- Lightweight & durable
- The **Vacuum gripper** is suitable for boxes to be picked from the top.
- Our **unique Fork gripper** is suitable for open boxes or boxes with a loose lid. Using retractable forks, it picks up a box from the bottom.
- Grippers can easily be changed over during production.



Tailored gripper design

Besides our standard Vacuum and Fork gripper, **tailored gripper design** is possible in cooperation with our team. This way, we can help our customers with a palletizing solution tailored to their needs.



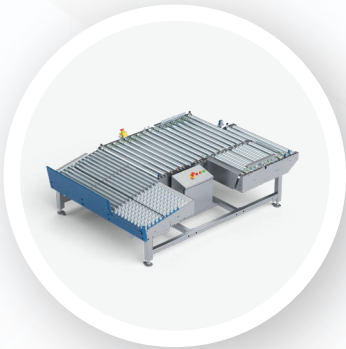
Smart Palletizer benefits

Tailored to your needs



Besides our range of grippers, we have several hardware systems available for the formation and buffering of boxes to ensure the best pick-up position for the Smart Palletizer.

There is a suitable solution for every customer request:



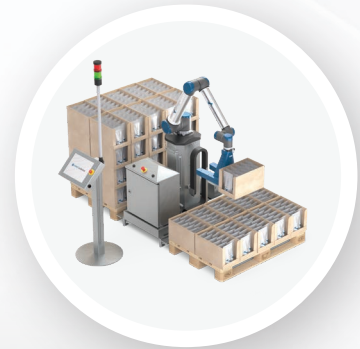
Smart Formation Unit

A system that allows for the flexible accumulation, buffering and precise formation of boxes for single or multi pick. It can easily handle different box dimensions and allows for improved control and time management. It enables you to maintain an autonomous production without the need for operator intervention. It can easily be integrated with existing production facilities.



Single Box Supply

A small buffering and formation station suitable to support the Smart Palletizer for single picks.



Additional options

Of course, other buffering and infeed possibilities can be discussed with our team. Together, we will review what is the best solution for your production process.

| Smart Palletizer benefits

Easy installation

15+

countries with satisfied Smart Palletizer customers

Thanks to our intelligent software, we can ensure a smooth procurement and installation process of your Smart Palletizer

Our core software platform enables us to reuse software, allowing us to offer standardized products that can be tailored to your needs, resulting in a short lead time. In addition, there is no custom programming required for your Smart Palletizer. Our robots are quickly up-and-running during installation.

In fact, several customers have been able to install the Smart Palletizer by themselves within hours, with help of an installation manual, instruction video and remote support. That's how easy it is.



Smart Palletizer benefits

User-friendly



Easy palletizing

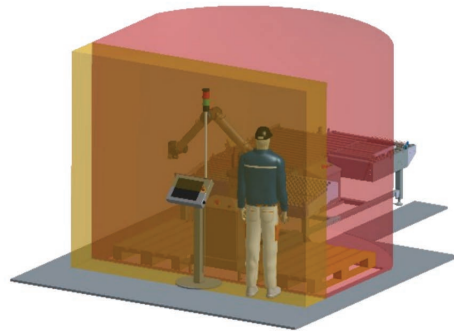
- 1 Once the Smart Palletizer is installed, our software enables you to operate it just as easily as your smartphone. The Smart Palletizer does not require any application dependent programming or teach-in.
- 2 With minimal instructions of an employee, it can easily adjust itself to a new assignment or product variations. This way, we serve organizations that face increasing consumer demand and variation in product series.
- 3 Our software allows for short recovery times. The robot can easily start or continue its operation from any state, without the need for time-consuming recovery procedures. Pause the robot at night when it has only stacked half a layer? It will continue without problem the next morning.
- 4 The intuitive and user-friendly interface ensures that everyone, including untrained employees, can work with the Smart Palletizer. The robot can take over the most physically demanding work, allowing the employee to focus on different, less physically challenging tasks.

Smart Palletizer benefits

Safe cooperation

Of course, the Smart Palletizer is safe to use by your employees. Safety is taken into account in the development of all our solutions, in both hardware and software.

- 1 Our 3D printed grippers have rounded edges and are spray-coated to ensure a smooth surface.
- 2 Our software includes various safety settings. For example, we have defined an area around the Smart Palletizer where operators typically walk, in which the Smart Palletizer can automatically reduce its speed to ensure the safety of the operators.



We understand the safety of your employees is of great importance, especially when working with cobots. The advantage of cobots is they allow for safe cooperation with people. As the [safety standard ISO/TS 15066](#) says:

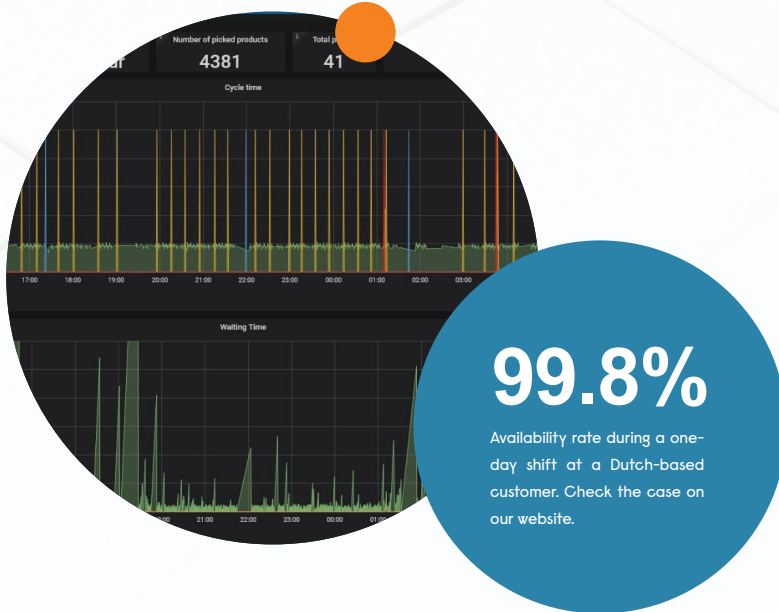
*“Contact between a cobot and a human shall **not** result in injury”*



The safe cooperation with cobots is at the forefront of all our developments. Our solutions comply with the appropriate regulations specifically developed and implemented for cobots in ISO norms and CE, including the European Machine Directive 2006/42/EC. The URIO, the cobot used for the Smart Palletizer, is also TÜV certified for safe deployment.

Smart Palletizer benefits

Remote support to improve performance



Visualize performance

To ensure the best performance of your Smart Palletizer there is an option to remotely monitor the robot through a secured VPN connection. We can visualize the performance on a day-to-day, weekly or monthly timeframe. It enables us to provide online service and to warn for and solve errors remotely. In addition, we can easily upload and install relevant software updates to your Smart Palletizer as soon as they are available.

Benefits for all

With these statistics, we can continuously improve the performance of your Smart Palletizer, pinpoint development needs and share experiences with our after sales team, eventually creating benefits for all our customers.

our goal is
100%
performance



Remote support & hardware replacement

We feel confident that any problem with the Smart Palletizer can be solved, either by your employees with the help of our product manuals, or with remote support from Smart Robotics. Our service team is always available during office hours and will help you identify and solve the problem quickly.

We deliver the Smart Palletizer with a comprehensive spare parts list, enabling you to order spare parts for your Smart Palletizer directly from the manufacturer. In addition, local UR suppliers can assist with the robot arm. It allows you to save time, lower the costs and reduce dependency from your supplier.

Smart Palletizer

Technical specifications

general specifications	
cobot	Universal Robots type URIO. For detailed specifications please check the Universal Robots brochure and tech specifications on www.universal-robots.com .
frame	<ul style="list-style-type: none"> Stainless steel frame with 2 pallet seats and automatic sliding mounting pillar for raising and lowering the robot position during pallet loading. Integrated stainless steel control cabinet with two push buttons for registration of empty pallets. Separate pneumatic box with air filtering unit and optional pneumatic valves.
controls	<ul style="list-style-type: none"> UR Controller and Smart Robotics Processor (PC) in the stainless steel frame, including 5m power cable for external power connection. Detached light pillar with a 2-color lamp (green and red) and mounted stainless steel touchscreen (rated IP54).
software	Smart Robotics robot AI-software for easy (re)configuration of the cobot.
capabilities	
payload	The maximum payload for the URIO cobot is 10kg.
lifting weight	Depending on the gripper design, the maximum lifting weight is 8kg per pick.
pallets	<ul style="list-style-type: none"> 1200 x 800mm, 1200 x 1000mm (compatible with Vacuum and Fork gripper) 1165 x 1165 mm (compatible with Vacuum Gripper)
stack height	Pallet height up to approximately 2300mm, depending on the stacking pattern and box size.
cycle time	<ul style="list-style-type: none"> Vacuum gripper: approximately 9-10 seconds or 6 boxes/min, 12 for double picks. Fork gripper: approximately 9-10 seconds or 6 boxes/min.
repeatability	The repeatability of the URIO cobot is ± 0.1 mm.
safety	15 advanced safety features tested according to EN ISO 13849: 2008 PL d and EN ISO 10218-1: 2011, Clause 5.4.3.
electrical specifications	
input voltage	100-240 VAC 50-60Hz
system operation	24 and 48 VDC
operation power	app. 400W for a standard program
temperature range	0 - 40°C (non-condensing)
classification	IP54 with the stainless steel touchscreen

Want to get to know the **Smart** Palletizer?

Do you think the Smart Palletizer can be a valuable addition to your team and would you like to experience its advantages in real life?

Feel free to contact our team for more information. Send us a copy of your product list, and we will run a quick scan with our simulation software and recommend a configuration suitable for your needs.

There are different options to invest in a Smart Palletizer. Besides traditional Capex, we offer full operational lease of the Smart Palletizer for 36 or 60 months. Other lease possibilities can be discussed with our team.



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the Netherlands**



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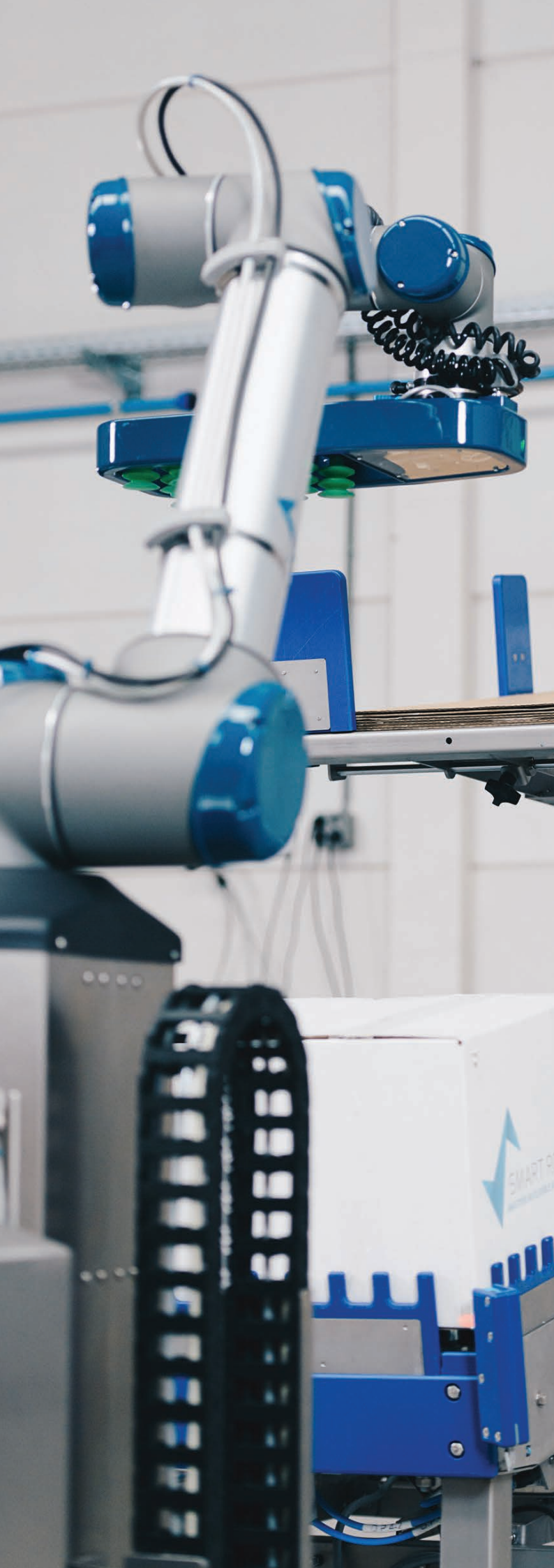


sales@smart-robotics.nl



www.smart-robotics.nl

We offer various trial possibilities, including a **2-week free trial**, that allow you to test the Smart Palletizer in your production process*



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