

R-APPIT

**Increases the quality,
efficiency and continuity
of your CSSD**



R-SOLUTION

Wrap it right!

After surgery medical instruments undergo a thorough cleaning, rewrapping, and sterilization process. Presently, wrapping is manually performed within the Central Sterile Service Department, involving physically demanding and repetitive tasks that require the utmost precision to ensure sterility all the way up to the OR.

The patented medical packaging robot, R-APPIT allows you to wrap and label cleaned medical instruments with the highest level of safety. It operates fully automated, adhering consistently to established protocols, and ensuring traceability at all times. This automation not only reduces labor and saves on wrapping expenses but also preserves the throughput of your CSSD while contributing to the prevention of post-operative wound infections.

CSSD EMPLOYEE

DEPLOYMENT

8 hours per day
5 days per week
40 hours per week

PRODUCTIVITY

(1 fulltime employee)
35.000 sets per year

R-APPIT

DEPLOYMENT

24 hours per day
7 days per week
168 hours per week

PRODUCTIVITY

(1 Robot)
up to **525.000** sets per year



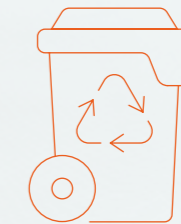
Save 3x with the R-APPIT*



€ 1.497.415
Savings in
labor costs



533.811 Kg/CO₂
Reduction of
CO₂ emissions



31.795 Kg
Reduction of
medical waste

* In 10 years, at 100,000 instrument trays per year. The savings are compared to manual wrapping of instrument trays. See all the benefits for your CSSD on page 8.

Smart wrapping and labeling with AI

AI-VISION SYSTEM

A vision system with artificial intelligence (AI) automatically determines the dimensions of the instrument tray and selects the optimal wrapping method and the required amount of wrapping material based on it.

WEIGHING MODULE

The optional weighing module determines the weight of the instrument tray and, using AI, determines whether a tray liner is needed and/or heavier wrapping material is required to wrap an instrument tray.

WRAPPING SOFTWARE

The R-APPIT wraps as desired using the 1 or 2-phase method, supports your folding protocol, and is compatible with wrapping rolls of various thicknesses from all well-known suppliers.

CONTROL MODULE

The optional control module takes a photo of the instrument tray before wrapping. This ensures that it is always clear whether the instrumentarium was complete in the CSSD and whether the instruments were wrapped correctly.

MANAGEMENTSYSTEMEM

The R-APPIT's management system provides you with detailed insights into, among other things, the number of wrapped trays per type, the amount of wrapping material used, non-conformities, missing instruments, and more.



Configure your R-APPIT



Scan the QR-code and configure your R-APPIT online.

An optimal process flow for your CSSD

From small basic trays to large instruments designed for operating robots, the R-APPIT effortlessly wraps them in accordance with established protocols. To achieve this, seamless integration of the R-APPIT into your CSSD's process flow is essential. Here's a broad overview of the process.

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STEP 1

»» Medical instruments undergo cleaning after surgery in the dirty area of the CSSD.

STEP 2

»» A CSSD worker inspects the instruments and assembles them according to protocol. The tray is then placed on the conveyor belt running along the workstation.

STEP 3

»» The R-APPIT scans the barcode of the instrument tray, checks the dimensions of the tray and picks up the tray from the conveyor belt.

The R-APPIT calculates the optimal wrapping method and the necessary amount of wrapping material.

STEP 4

STEP 5

»» The R-APPIT wraps the instrument tray in accordance with the protocol and applies appropriate labels. Then the R-APPIT places the tray on the conveyor belt.

The wrapped instrument trays are transported to the autoclave via a conveyor belt.

STEP 6



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Benefits for your CSSD

REDUCED LABOUR COSTS

The R-APPIT independently wraps up to 525,000 instrument trays per year, a task that would otherwise require more than 15 full-time employees.

SAVINGS ON MEDICAL WASTE

The R-APPIT consumes 28% less wrapping material by utilizing AI to determine the correct wrapping method and dimensions for each tray.

INCREASED WORKFORCE PRODUCTIVITY

The R-APPIT significantly reduces the number of manual movements within the CSSD, allowing employees to focus more on other tasks, ultimately increasing their output.

ENHANCED PATIENT SAFETY

Robotic wrapping prevents the inclusion of human material, such as skin flakes or hair, in instrument trays and ensures sterility up to the operating room.

GUARANTEED TRACEABILITY

With wrapping traceability at tray level, rapid verification of the integrity of the wrapping process can occur in case of emergencies.

REDUCED SICK LEAVE IN THE CSSD

The robot takes over physically demanding and repetitive tasks from CSSD employees, reducing their risk of developing chronic wrist, elbow, shoulder, and back problems.

CSSD CAPACITY ASSURANCE

The R-APPIT can handle up to 90% of manual wrapping labour. This makes your CSSD less vulnerable to aging staff, labor market shortages, and staffing issues during holiday periods.

Comprehensive support: from consultation to assistance

The fully developed and patented R-APPIT is currently utilized by leading innovative hospitals in the Netherlands. R-SOLUTION Medical is here to provide your hospital or commercial CSSD with the safest wrapping and labeling solutions.

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CONSULTATION AND DEMONSTRATION

Are you curious about how to seamlessly integrate the robot into your CSSD? We are delighted to arrange a visit to discuss the available options with you. Additionally, by appointment, you can visit a CSSD where you can witness the R-APPIT in action. Furthermore, we assist you in presenting the medical value and business case of the robot to the investment, construction, and innovation committee.



INSTALLATION AND VALIDATION

We collaborate with you to optimize process flows in your CSSD and execute the R-APPIT implementation. Before commissioning, the installation team conducts thorough testing and validation of the R-APPIT. This validation process is repeated annually to ensure the R-APPIT operates in compliance with established protocols.



SERVICE & SUPPORT

Through a Service Level Agreement, R-SOLUTION Medical guarantees support in the event of error messages and malfunctions. A 24-hour service is readily available in case of emergencies.



DATA-DRIVEN MAINTENANCE

The R-APPIT meticulously records all daily operations. Using this statistical data, maintenance is carried out by R-SOLUTION Medical (at least annually), ensuring timely replacement of parts.

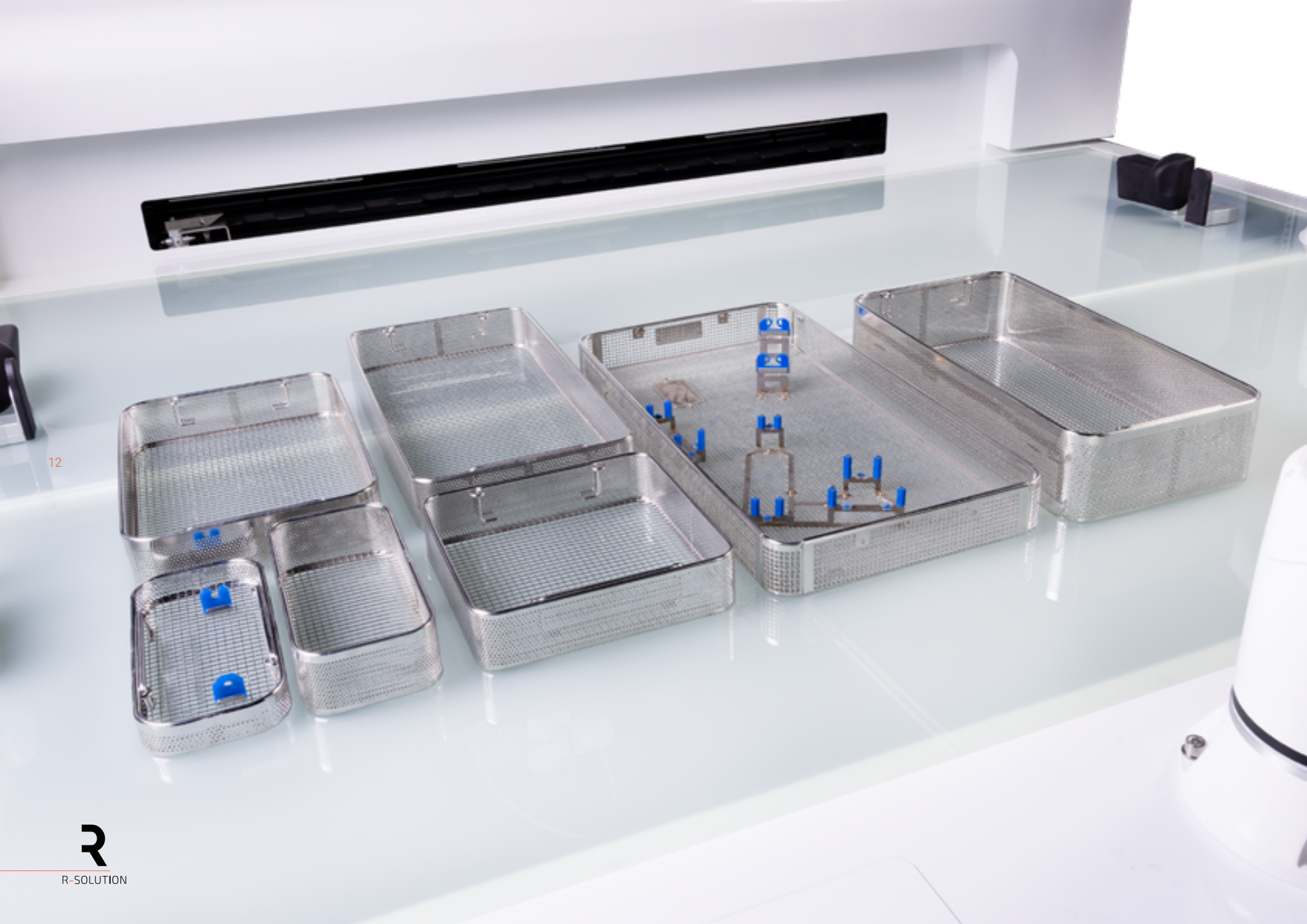
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Can we be of help?

We would be happy to tell you more about the R-APPIT.

Niels Welling & Mariska van der Vliet
Founders & Managing Partners



Technical specifications of the R-APPIT

| Dimensions | |
|--------------------------------------|-------------------------------|
| Length | 2876 mm |
| Width | 2570 mm |
| Height | 1675 mm |
| Weight | |
| Weight | 1650 kg |
| Support points | 8 |
| Floor load | 350 kg/m ² |
| Usage | |
| Power supply | 400V, 3ph + n + pe, 25A |
| Air supply | G1/2", 7 bar, 250L/min |
| Heat load | 1 kW |
| Peak capacity | 7,5 kW |
| Other specifications | |
| Conveyor belt for feed and discharge | Customer-specific composition |
| Robot arms | 4 pieces (max weight 12 kg) |
| Tray length between | 240 - 560 mm |
| Tray width between | 120 - 320 mm |
| Tray height between | 50 - 120 mm |

| Required transport space | |
|--------------------------|---------------------------|
| Door width | 880 mm |
| Door height | 2000 mm |
| Required working space | |
| Minimum length | 3876 mm |
| Minimum width | 3970 mm |
| Minimum height | 2400 mm |
| Required service space | |
| Front side | N/A |
| Left side | 700 mm |
| Right side | 700 mm |
| Rear side | 1000 mm |
| Connectivity | |
| Internet access | Wired or wireless (Wi-Fi) |



About R-SOLUTION Medical

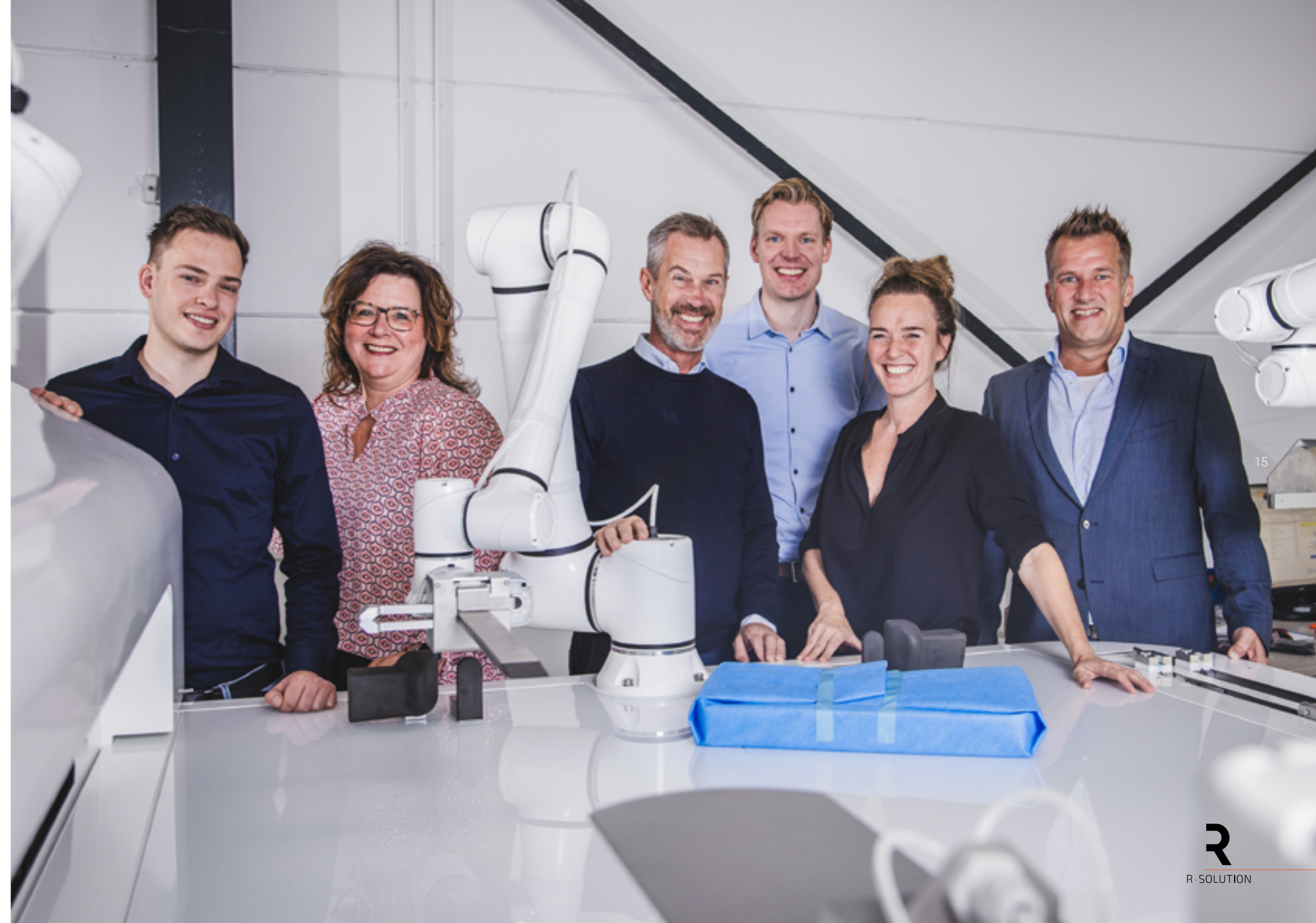
R-SOLUTION Medical, a rapidly growing medtech company based in the Netherlands, was founded by Mariska van der Vliet and Niels Welling. For years, they advised on deployment of technology and materials in CSSDs. Time and again they noticed how much variation there was between manually wrapped instrument trays and that more wrapping material was being used than necessary.

Drawing from practical experience and gathering input from CSSD staff and medical experts they became the pioneers in developing the world's first robot that automates the wrapping and labeling of reusable medical instruments: the R-APPIT.

Backed by a dedicated team of medical and technical professionals and patented technology, R-SOLUTION Medical is establishing a new global standard for CSSDs. In pursuit of this mission, we engage in international collaborations with reputable distributors, dealers, and medical partners.

OUR VISION

Every patient deserves to have their cleaned medical instruments for surgery wrapped in the safest possible way, consistently following protocols and always being traceable.



R-SOLUTION Medical
Anthonie Fokkerstraat 47
3772 MP Barneveld
The Netherlands

+31 (0)342 785930
info@r-solution.nl
www.r-solution.nl



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