



Innok Robotics



RIGDON[®]

Innok Robotics and RIGDON
A success story



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Thanks to the autonomous mobile transport robot INDUROS and its multi-terrain and outdoor capabilities, skilled workers are now being deployed productively in the company again, saving Rigdon around 60,000 euros per shift and up to 200,000 euros in total each year.

The original problem and the task at Innok Robotics customer Rigdon

Rigdon, a leading tire retreading company based in Günzburg (Germany), was facing significant challenges in its internal logistics. As a medium-sized company that transports a large amount of material (in this case tires) between various production stations and the warehouse on a daily basis, Rigdon needed a solution that offered both efficiency and flexibility. The previous manually guided transport solutions were inefficient and required significant human resources and the use of numerous conventional forklift trucks. In addition, the floor conditions in the older production halls ("brownfield") and in the outdoor area were problematic (including cracks in the floor, thresholds, warping), meaning that conventional mobile indoor robot solutions were out of the question and manufacturers had turned them down.

The following possible applications for the AMR were evaluated:

- Transport vehicle for pallet trolleys, mesh boxes and other material containers
- Replacement of a tugger train with several trailers
- With the "roller conveyor" option as a multi-terrain transport solution for small load carriers, containers and parcels

Rigdon first decided to autonomize the following process: The robot drives the existing tire carts (trailers) between the rubber loading station and the tire press shop several hundred meters away, coupling and uncoupling them autonomously without manual intervention.



The solution

This was installed

Innok Robotics installed the INDUROS, an autonomous mobile robot (AMR) specially developed for use in demanding conditions. Unlike existing products on the market, the robots from Innok Robotics do not require any changes to the existing building, such as induction loops or markers. In addition, the robot does not require a perfect surface, as is the case with classic indoor AMRs. The INDUROS can operate fully autonomously both indoors and outdoors or in mixed missions - and on multiterrain. Innok Multiterrain means that the robot drives fully autonomously indoors, outdoors and in combined indoor and outdoor missions - on both good and poor surfaces, over obstacles such as speed bumps or gravel. It also moves from hall to hall in wind and weather - even in heavy rain. The layout included the integration of the INDUROS into the existing production process.

Why was this particular solution chosen over the alternatives?

The INDUROS was chosen for its unique ability to operate in extreme conditions - Innok Multiterrain. Thanks to the superior INNOK COCKPIT® autonomy software and the INDUROS' robust AMR hardware, which has been tried and tested over many years, a cost-effective and fast implementation was possible.

The INDUROS' safety standards, including certified laser scanners and outdoor-approved safety scanners, ensured that the robot can work safely in an environment with many people.

How quickly could the solution be implemented?

The INDUROS was implemented at Rigdon in a short space of time. Thanks to the intuitive INNOK COCKPIT® software, navigation and order management were set up quickly and easily. The integration of the INDUROS into Rigdon's production process was completed within a few days, so that the robot could be integrated into daily production operations immediately.



The cost side

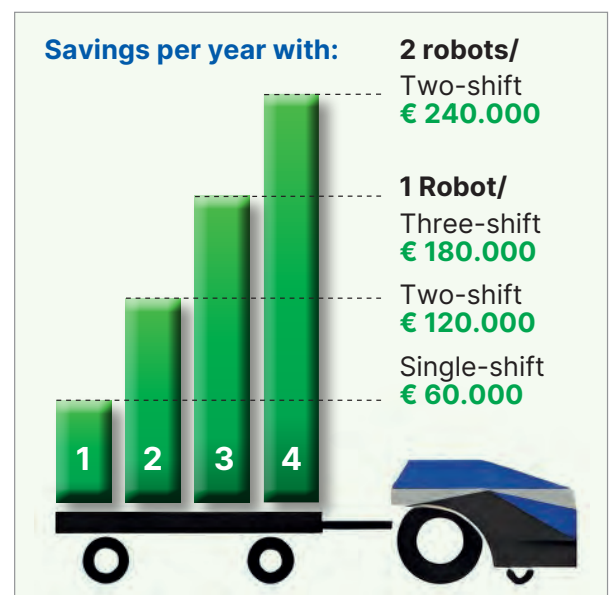
How Rigdon realizes savings of up to € 200,000

Before purchasing the robot, Rigdon incurred costs of around € 60,000 per shift and year just for the process of transporting tires from the carcass/rubber layer to the pressing department. This includes labor costs of just under € 50,000 per year as well as the leasing costs for the forklift truck and the comparatively high energy costs for the vehicle. In manual three-shift operation (24/7), this results in costs of around € 200,000. The ROI (return on investment) of the Innok robot is achieved in well under a year.

The result

The advantages

The introduction of the INDUROS at Rigdon brought significant benefits. The autonomous coupling and uncoupling of the tire carts and the reliable transport between the production stations and the warehouse led to a significant increase in efficiency. The INDUROS can operate for up to 24 hours at a time and recharge fully autonomously and inductively during inactive periods, maximizing uptime. This was particularly important as Rigdon was finding it increasingly difficult to find staff for the night shift.



Innok Robotics' proprietary autonomy software INNOK COCKPIT® enables precise and safe navigation of the robot, even in a challenging environment. This has led to a reduction in operating costs and better use of human resources, as forklift drivers can now be deployed directly in tire production (e.g. in carcass inspection or the processing / buffing of tire carcasses).



Robotics as a Service – Raas

Savings of up to 40% from day one

**The calculation becomes even more attractive with Raas packages:
Innok Robotics as a Service**

With these “all-round carefree packages”, the purchase of the robot is worthwhile from day 1 of commissioning. In discussions with our customers, it became clear that many are currently keen to automate, partly or even because of the difficult economic situation. At the same time, however, they need to conserve their company’s liquidity and therefore cannot or do not want to buy a robot as a whole (in cash), as they did in the past.

These requests for an attractive financing option, without the financial burden of a larger purchase price, were taken up by Innok Robotics:

Innok Robotics now also offers the option of using Innok AMRs as an “all-round carefree package” as part of **Robotics-as-a-Service (Raas)** contracts, in addition to the classic purchase and leasing options. Innok Robotics not only supplies the AMR, but also prepares it for use, commissions it, procures and installs spare and wear parts, supplies a replacement robot if required and, if desired, takes out damage insurance.

With this new option, customers can now not only purchase Innok robots, which already generate cost savings of up to **€ 60,000 per year** in single-shift operation, but also use them as part of a monthly all-inclusive solution (Raas full service leasing, known as OPEX). This means that customers benefit from automation with Innok Robotics from day one.

This is the fastest and easiest way to get started with autonomous mobile robotics, starting from as little as € 2,900 per month Raas rental (with a 48-month term, depending on the vehicle configuration and specific usage conditions in customer projects). This represents a **saving of around 40 %** compared to the € 5,000 cost (€ 60,000 cost advantage per year / 12 months = € 5,000 per month) of the previous, non-autonomous solution from day one with our robot.



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