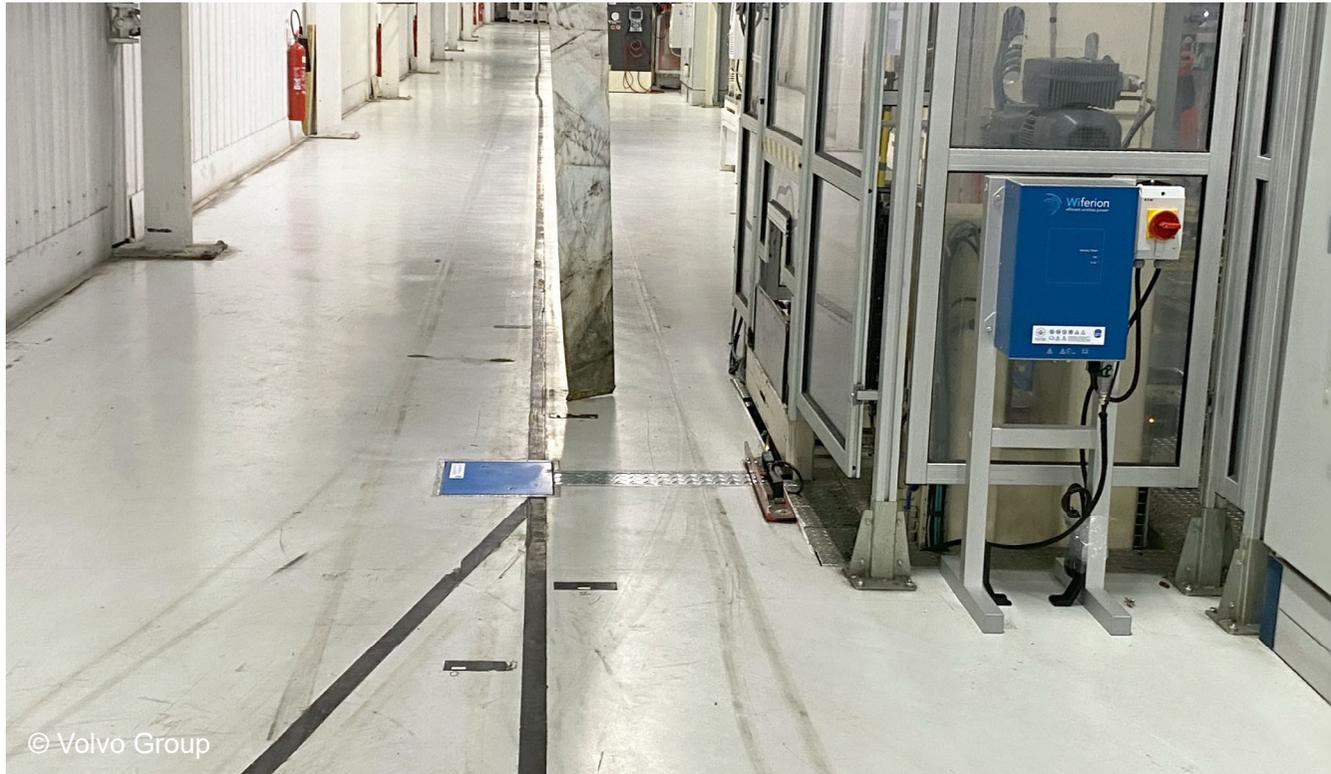


Wireless Charging for Sherpa Robots at Volvo Group Plant

Lyon, France



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- Implementation: 2022/23
- Extensive retrofit of the Volvo Group plant in Lyon for the production of engines for trucks and ships
- Challenge: Modernization of the robot fleet, including power supply
- Solution: Flush floor integration of the Wireless Charging Protection System WCPS using Wiferion's efficient charging technology.
- No barrier area or separate loading zones, maximum space utilization

The project in brief

Volvo Group in Lyon, France

Challenges:

- Passenger and AMR traffic on the same line
- High demands on occupational safety
- Charging of AMR during the transfer process of engine components between different assembly areas
- Fast & minimally invasive installation of charging infrastructure and possibility of commissioning after one day

Solution:

- PohlCon's contactless charging infrastructure installed into the ground: WCPS
- Double use of the roadway as a work route and charging point
- No barrier area or separate charging zones

Result:

- Maximum availability of the AMR thanks to safe energy supply
- Accessibility of the charging infrastructure without restrictions for employees
- Easy expansion of the infrastructure on all routes thanks to low installation depth
- Ensuring a constant battery level along the working route



Challenges and solution

Volvo Group in Lyon, France

Renault Trucks, part of the Volvo Group since 2001, is one of the world's leading manufacturers of trucks and other transport solutions with its headquarters in Lyon. The plant near Lyon produces diesel engines for trucks and ships in particular. The existing factory building of the traditional company underwent an extensive retrofit, in the course of which the robot fleet was also to be modernized: Away from wired charging solutions for robots to wireless charging. As part of the plant and fleet modernization, the energy supply for the robots used was also to be reconsidered.

Volvo chose robotics manufacturer Sherpa Mobile Robotics and its Autonomous Mobile Robots (AMR), which differ from AGVs in their flexibility: They have no fixed paths and are particularly suited for dynamic environments. Sherpa Mobile Robotics is a subsidiary of the company NORCAN, which was responsible for the implementation and integration of the Sherpa robots into the production and logistics processes at the Volvo plant.

Special requirements

The robots used transport motor components between different assembly areas and move completely autonomously. Energy is supplied by wireless charging: Wireless Charging. Here, Volvo opted for the inductive charging technology of our partner Wiferion.

This brought with it some requirements for the charging infrastructure: extra charging breaks and additional vehicles to compensate for charging times, as well as separate charging stations, were to be avoided altogether. There was also no space available for separate charging areas. Accordingly, the charging points were to be located at process-related stopping points: in other words, where the transfer of the engine components takes place. The loading infrastructure thus had to be subordinate to production and logistics in order to meet the highest demands in terms of occupational safety and the lack of space. Not only did the robots' routes and loading points have to be combined, thus making the area doubly usable, but people also had to be able to move along the route.

Our service

The solution was the flush-floor integration of the Wireless Charging Protection System (WCPS) from PohlCon in the direct working area of the robot. The robust, walkable system, which can be approached from all sides, can be used for mixed traffic and subordinates itself to the work processes of humans and robots. Employees can move along the work path without restrictions, as open contacts or tripping hazards in the space are a thing of the past. AMRs are maximally available due to in-process recharging. Their battery level is at a constantly high level.

In addition to the delivery, PohlCon was also responsible for the project consulting and on-site construction support as well as the training of the subcontractors. The infrastructure could be classified as ready for operation already one day after installation and can be easily expanded in the future - for uninterrupted logistics and production processes.

About

Volvo Group in Lyon, France

With its trucks, buses, marine and industrial engines and construction machinery, the **Volvo Group** is one of the largest producers in the commercial vehicle industry. In 2001, Renault Trucks, founded in 1894, became part of the Volvo Group, which unites other well-known brands under its umbrella.

Sherpa Mobile Robotics develops, manufactures and markets the Sherpa range of mobile and collaborative robots (AMR). As the inventor of the combination of "Follow-Me" and "Autonomous" modes, SMR offers innovative and versatile solutions in the field of automation with high-end robots. Founded in 1987, the parent company **NORCAN** focuses on optimizing production processes and increasing the efficiency of the work environment, and ensures the integration of Sherpa robots into complete production lines.

The **PohlCon brand PUK** has been designing, developing and producing high-quality power supply solutions for over 50 years. The charging infrastructure for contactless charging of robots via the ground is their latest innovation. Here, energy provision is ensured robustly, efficiently, reliably and via the ground. WCPS thus supports the special requirements for automated electrification of robot fleets in modern production and logistics facilities.

In cooperation with **Wiferion** and using the efficient etaLINK 3000 charging technology, PUK offers a comprehensive ground charging solution for fleet operators, AGV manufacturers and automation planners, for which the process determines the charging location and not vice versa.