Wireless Charging for Bluepath Robotics

Ford Otosan Yeniköy Plant, Türkiye

- **Location:** Ford Otosan Yeniköy Plant, Türkiye
- **Implementation:** 2025
- **Objective:** Optimization of internal material flow using autonomous mobile robots (AMRs) from Bluepath Robotics
- **Solution:** Integration of the Wireless Charging Infrastructure (WCPS) by PohlCon for seamless, contactless energy supply during the operational process
- **Highlight:** Charging at process-related stop points – no separate charging zones, perfect occupational safety

Project overview

Ford Otosan Yeniköy Plant, Türkiye

Challenges

- Shared pathways for both pedestrians and AMRs along the assembly lines
- Strict occupational safety standards for AMR operations in mixed-traffic areas
- Need for efficient charging during the transfer of engine components between assembly areas
- Fast and minimally invasive installation with rapid commissioning

Solution

- Flush-floor integration of PohlCon's **Wireless Charging Protection System (WCPS)** directly along the AMRs' working routes
- Bluepath's mobile robots now charge **wirelessly during brief stops**, such as when picking up or delivering material – with no need for separate charging areas
- Charging zones are part of the regular workflow
- Charging technology from Wiferion starts automatically when the mobile robots stops above the charging spot
- Thanks to its embedded design, the charging infrastructure remains **walkable and fully accessible**, with no trip hazards or barriers for personnel

Result

- **Improved AMR availability** through continuous in-process energy supply
- **Unrestricted access** to all charging zones for employees
- **Space-saving and easily scalable infrastructure**, suitable for complex layouts
- **Consistent battery levels** maintained along the operational routes – no scheduled charging breaks required

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To optimize internal logistics at one of its production sites, Ford Otosan implemented autonomous mobile robots (AMRs) from Bluepath Robotics for the transport of engine components between assembly zones.

One key challenge quickly emerged: How to charge these robots efficiently without interrupting operations or compromising safety. The answer was PohlCon's Wireless Charging Protection System (WCPS) with **Wiferion's Wireless Charging Technology**.

Instead of routing AMRs to separate charging stations, WCPS allows **in-process charging** directly along the robots' operational routes. The system was installed **flush into the floor** at natural stop points - such as material handover locations - **enabling wireless charging** during short pauses. When a robot arrives at a charging spot, the charging pads detect each other and initiating the power transfer automatically. No cables. No downtime. No manual steps.

This approach solved several logistical challenges at once. First, it eliminated the need for dedicated charging zones, freeing up valuable space. Second, because WCPS is flush with the floor and **driveable / walkable**, it posed no risk to employees sharing the same pathways with AMRs. And third, its **shallow installation depth** made it ideal for fast, minimally invasive deployment - crucial for maintaining production schedules.

The results were immediate and measurable. Robot availability increased significantly thanks to **continuous top-up charging** throughout the process. Energy levels remained consistent, even during multi-shift operations. The mobile robot fleet increases over time? No problem for WCPS. The industry proved **infrastructure is scalable**, with the ability to expand across additional routes as production or logistic needs evolve.

PohlCon delivered the full solution - from technical support and component delivery, training, and support. The system was **fully operational shortly after installation.**

By integrating segments of its autonomous material transfer and logistics flow with intelligent, embedded energy infrastructure, Ford Otosan has enhanced safety and efficiency across its operations—empowering its Bluepath AMRs to operate continuously without unnecessary interruptions.

About the partners

Ford Otosan Yeniköy Plant, Türkiye

Ford Otosan

Founded in 1959, Ford Otosan (Ford Otomotiv Sanayi A.Ş.) is a publicly traded company, where Ford Motor Company and Koç Holdings hold equal shares.

The company is the second-largest industrial organization in Türkiye, the most valuable automotive company in Borsa İstanbul.

Ford Otosan, operating in 4 main centers with its Kocaeli and Eskişehir Plants and R&D Center in Türkiye as well as Craiova Plant in Romania, employs more than 20,000 people.

Ford Otosan is the largest commercial vehicle manufacturer of Ford Europe capable of designing, developing, and testing a complete vehicle, including its engine, from scratch to a finished product. (www.fordotosan.com.tr)

Bluepath Robotics

Bluepath Robotics, a Ford Otosan initiative, develops flexible and efficient material handling solutions to shape the future of industrial automation. With its manufacturing site based in Kocaeli Gölcük, the company offers a wide range of technologies - including autonomous mobile robots and smart traffic management systems - designed to meet the evolving needs of modern factories and warehouses in Türkiye and global markets.

Wiferion

Wiferion develops and sells energy systems for mobile robotics applications. Building on the etaLINK 3000 inductive charging system in combination with standardized battery modules, the company offers scalable and modular energy systems.

PohlCon GmbH

PohlCon offers WCPS – a robust, floor-integrated wireless charging infrastructure for AMRs, AGVs, and advanced logistics systems – wireless, safe, and efficient.