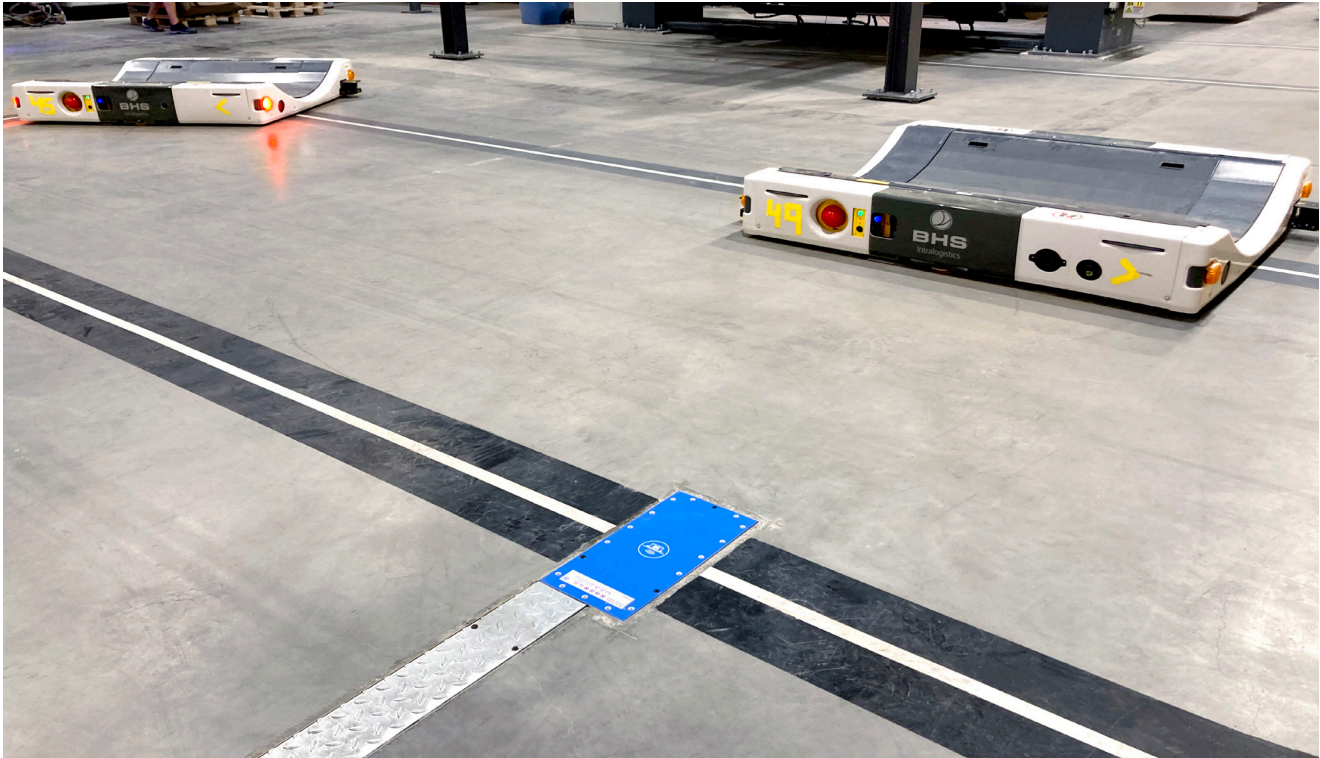


# Reference

Integrated loading for BHS transport shuttles at the Schumacher Packaging plant in Greven, Germany



## The project in brief

### Challenges:

- Sophisticated routing for large-load AGVs from BHS taking into account mixed and passenger traffic
- Loading of the AGVs in the immediate vicinity of the printing plant and at the paper reel loading station without separate loading zones and unproductive loading pauses
- Consideration of optical track guidance
- Fast & minimally invasive installation during commissioning of the printing system

### Solution:

- Loading of AGVs during the loading process at the loading station and in buffer zones
- Ensuring a continuous material flow thanks to the installation of charging points at several locations along the line
- Use of the contactless WCPS in-ground charging infrastructure

### Result:

- No separate loading zone area & rededication of the saved area for logistics
- Successful implementation of in-process charging: no loss of fleet availability or no need to purchase more vehicles for compensation
- Highest level of occupational safety
- Scalability for expansion projects or reorganization of processes ensured by simple integration

The Schumacher Packaging Group, one of Europe's largest manufacturers of corrugated and solid board packaging solutions, has expanded its corrugated board plant in Greven, North Rhine-Westphalia, adding more than 20,000 m<sup>2</sup> of production space by 2022. The doubling of production capacity has been accompanied by increased demands on logistics. Autonomous vehicles support production and logistics in continuous operation.

BHS Intralogistics was selected to drastically increase the degree of automation in material and logistics processes and ensure a smooth flow of materials: In Greven, the ultra-modern "iShuttles" from BHS autonomously transport the paper reels, which can weigh up to 4 tons, to the printers, where they are then transferred to a gripper system. The control navigation of the iShuttle is based on guidance by means of tracking sensors.

#### **The goal: Loading where the material flow allows it**

A number of challenges had to be overcome in order to use the AGVs in the production facilities - with the aim of keeping the iShuttles in continuous operational readiness close to the printer and the paper reel loading station. The AGVs are equipped for inductive charging. The corresponding charging infrastructure had to be subordinate to production and logistics and meet the highest standards of occupational safety. Extra charging breaks and additional vehicles to compensate for charging times, as well as separate charging stations, should be avoided altogether.

#### **The solution: In-process charging with WCPS, the contactless charging infrastructure.**

With state-of-the-art wireless charging technology from Wiferion, the AGVs can be charged contactlessly during the work process. This is made possible by the interoperable

charging infrastructure solution from PohlCon, the Wireless Charging Protection System WCPS, which is integrated into the floor. In this way, the iShuttles from BHS can be charged when they are loaded with paper rolls at the loading station or briefly waiting for a transport order - in other words, precisely when the work flow allows the AGVs to be recharged during short idle times. The waiting position also serves as a loading point. This means that no valuable time is lost for loading breaks or the routes to and from the loading station. In addition, no vehicles need to be kept in reserve to compensate for loading breaks.

Blocked areas around charging zones are also a thing of the past, as the WCPS charging infrastructure is installed flush with the ground. This eliminates open contacts or tripping hazards in the space. The risk of violent damage to the charging technology is also reduced to a minimum. This increases safety for people and vehicles to a maximum and ensures permanent operational readiness.

#### **Our service**

In addition to project consulting and delivery, we were also commissioned with the installation of the systems. Tight time constraints had to be observed in order to integrate the infrastructure and to convert the manual loading of the AGVs into an automatic loading process. Our WCPS rectangular system (WCPS-R-R40) was used for this purpose. The loading systems were installed flush with the floor at several points along the plant and now ensure an uninterrupted material flow and safe work processes.

## About

The **Schumacher Packaging Group** is one of Europe's largest manufacturers of corrugated and solid board packaging solutions with sites in Germany, the Netherlands, Poland, the Czech Republic and Great Britain. For its products and in its plants, the tradition-rich family business relies on the latest technologies.

Since 2018, **BHS Intralogistics** has been supporting companies in setting up or modernizing production facilities, warehouses or logistics centers. With autonomous transport technology such as the iShuttles, BHS ensures a high degree of automation and thus efficient and optimized material and logistics processes.

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. Hereby energy is provided 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.