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Volpak's Barcelona plant sets industry benchmark with smart intralogistics system

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Fully automated warehouse, autonomous mobile robots (AMRs), and multi-level material-flow routes

Volpak, a Coesia company and global leader in HFFS solutions for flexible packaging, has unveiled a groundbreaking intralogistics transformation at its Barcelona facility. The project integrates Lean principles, automation, and data-driven process redesign to address rising production demands and space constraints. The upgraded system features a fully automated warehouse, autonomous mobile robots (AMRs), and multi-level material-flow routes. The project was executed in just six months and represents one of the most significant logistics upgrades in the company's history

By adopting a "pull" material-flow model, the plant ensures just-in-time delivery of components, optimizing efficiency and flexibility. Vertical conveyors and high-density storage maximize capacity within the site's compact, two-level layout. The first milestone came two years ago with the introduction of **autonomous mobile robots (AMRs)** that deliver selected components from the warehouse to the assembly lines. The new phase brings full system integration: a **fully automated warehouse synchronized with three AMR** connected to the production floor and synchronized with three AMRs, ensuring seamless, just-in-time delivery of materials.

Volpak's Barcelona site is spread across two levels—a configuration that naturally limits traditional warehouse expansion. To overcome this, the new system leverages **vertical conveyors, high-density storage, and multi-level transport routes**, creating a continuous material flow across the plant. The resulting architecture introduces a **multi-level material-flow system** designed to maximize capacity and minimize travel time. Each component, from inbound goods to production orders, is tracked and routed automatically through intelligent conveyors and buffer zones, linking warehouse, inspection, and assembly areas with precision timing.

Volpak's Lean journey also includes classifying over 40,000 SKUs to streamline storage and movement, dedicating high-throughput areas to frequently used parts. The system's scalability supports future growth and positions the Barcelona site as a model for Coesia's operational strategy, showcasing the potential of Industry 4.0-ready logistics.

Sustaining growth through smarter logistics

In recent years, Volpak's growth has accelerated, driven by the global success of flexible pouches—a format that fits the modern, fast-moving lifestyle and offers strong sustainability advantages. As demand and production volumes grew, so did the internal movement of parts and subassemblies, putting pressure on both space and workforce. The company faced a clear challenge: how to handle higher logistics complexity while maintaining flexibility, quality, and efficiency within the existing footprint.

A benchmark for Coesia's operational future

Entirely designed and managed by Volpak's internal teams—with Coesia's engineering and digital expertise as enabler—the new intralogistics system represents a scalable model that could inspire similar evolutions across the Group. It embodies the convergence of Lean principles, smart automation, and advanced logistics design—proving that even a multi-level, space-constrained facility can achieve world-class operational excellence through intelligent planning and innovation. Looking ahead, Volpak's new intralogistics architecture strengthens its role within Coesia's long-term strategy, setting a clear path toward fully connected, Industry 4.0–ready operations and positioning the Barcelona plant as a reference model for future advancements across the Group.