

BLG: Intralogistics for Automotive



Stöcklin

Home of Intralogistics

Meeting the Demands of JIT Assembly

Being a supplier to an automotive production plant requires speed and precision to keep up with the pace of just-in-time manufacturing. Materials and parts must arrive at facilities just as they are needed on the vehicle assembly line to eliminate the need for storage areas and significantly reduce capital that is tied up in the supply chain.

In addition, the many options available on today's automobiles mean that in many cases, the components differ for even the same model of cars on the line.

Suppliers must sequence the correct parts to match up with each individual vehicle being assembled.

"It makes my job easy. It gets everything in there, comes out automated in order. My people, it's easy for them to do their job. All they've got to do is follow the light and follow the instructions. It makes it very simple. A child can do it."

Joseph Williams, Group Leader AS/RS

BLG Logistics for Mercedes-Benz

At its 350,000-square-foot facility in Vance, Ala., BLG Logistics supplies wiring harnesses for the Mercedes-Benz assembly plant next door.

BLG provides three separate wiring harness systems for each car produced at the plant. Because options differ on every car rolling down the assembly line, each wiring harness needs to be different to make the proper electrical connections to support those options.

For that reason BLG considers each build its own stock-keeping-unit for inventory purposes. Keeping track of hundreds of thousands of specific harnesses each year can be daunting. That's why BLG installed this automated storage and retrieval system from Stoecklin Logistics.

The AS/RS sits at the heart of its operations to deliver the right harnesses at the right time to match the sequencing of cars being built at the plant.

"With having something of this magnitude with sequencing wire harnesses, we felt that we needed something that could be competitive, be smart, and be fast. We chose this machine because it's proven to us how effective that it is." JAMAAL ROBERTS – Manager of Operations, BLG:

The Process:

Most of the harnesses are manufactured in Mexico. They are trucked North to Alabama and unloaded at the BLG facility. It is here that the three harness systems needed for each automobile assembly are married together for storage until that car is ready for production.

Care is taken to record information on each component before placing them into these large wooden boxes for storage in the Stoecklin AS/RS. Assist devices help with the heavier engine harnesses, some of which weigh up to 70 pounds. The harnesses are next conveyed to the AS/RS for storage. The tailor-made solution was designed around a miniload system consisting of three 238-foot long aisles, with a crane operating in each aisle. Carriers and storage locations were modified to accept the over-sized boxes that each measure 73 by 32 by 18 inches.

Upon pickup, the crane whisks the box to a storage location. Most harnesses are initially stored in upper and distant locations. Throughout the day, the cranes reshuffle the harnesses to move those needed sooner to positions lower in the system and closer to the output stations. This reduces the time needed for retrieval.

"The Stoecklin AS/RS is very dependable. We can run all day," says Roberts. "We chose this machine because it allows us to be competitive, smart, and fast."

The system was also designed with redundancy. The interior racking only contains one wire harness between the two crane aisles. This is so that the middle crane in Aisle 2 can retrieve products from the interior racks of Aisles 1 and 3. This assures product can be reached even when a crane is down for maintenance. The system typically stores about two to three days of inventory.



Critical Assembly

Any delays in processing at BLG could stop the line at Mercedes-Benz. That's why it's critical that accuracy and speed are assured.

The system has the capacity for 3,400 harness sets in a footprint of only 50,000 square feet. At any given time, there are between 2,000 and 3,000 sets in storage. The additional capacity allows for growth and a continuous reshuffling of inventory, so that harnesses needed soon are re-deposited closer to output stations to reduce retrieval time.

"We do about 1,200 a day – harnesses – to the customer. And we store about 2,000 on hand." JOSEPH WILLIAMS – Group Leader, AS/RS.

Orders are received throughout the day from the automotive plant. The correct harnesses must be retrieved from the AS/RS and delivered to the system's output stations. The Stoecklin control system assures they are properly sequenced. According to Williams BLG can't afford errors for the customers. They can't afford miss-sequences – and the machine makes sure everything comes out perfectly fine.

The entire operation has to be performed within a very short window – a time frame that would be nearly impossible to meet without the automation.

"Once that order has been received, it has to come down our line and we have about 45 minutes to come down the line to be sequenced, picked, verified, and actually to be shipped out onto the truck, says Williams.

The harnesses are then conveyed to loading stations where workers verify that the right harnesses have been selected. The harnesses are loaded into these racks using an assist device. Put-to-light systems assure they are deposited into the correct position – with each rack holding six harness assemblies.

Then lift trucks gather the racks for loading onto delivery trucks. It's a short two-minute drive to the assembly plant, where they will be sequenced line-side.

The AS/RS and the supporting automation and software assure that BLG has the accuracy and speed that the company needs to properly serve the Mercedes-Benz plant.

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