

## Case Study: BHS and Local Dealer Team Up to Make Battery Changes 9 Times Faster

Many BHS solutions start when a frustrated facility manager contacts an equipment dealership to discuss problems in the battery room. Dealers are a crucial first point of contact for these customers, and BHS offers unprecedented support to empower members of their dealer network with the most relevant, up-to-date knowledge about available battery room solutions.

BHS nurtures relationships with dealers by offering 24-hour support and robust training resources, including the BHS Sales Academy, the BHS Service School, and a Mobile Showroom where customers can learn about BHS products firsthand.

In 2010, the strong partnership between BHS and one of their dealers — Magnum Industrial Power, based in Lawson, Missouri — helped a major 3PL firm solve the productivity problems that were plaguing a mission-critical facility with a sizable electric forklift fleet.

### The Problem:

BMS Management Inc. (since renamed BMS Logistics) had three major points of inefficiency in their existing battery room, and procedural changes failed to correct the issues.

1. Battery changes were simply taking too long. The fleet included between 100 and 150 batteries at any given time, and each lift truck required 5-6 changeouts per day. Under their then-current system, operators took between 10 and 15 minutes to complete each battery change.
2. Every battery change kept a forklift off the work floor for 50-90 minutes a day. Multiplied across the entire fleet, that added up to a huge loss of productivity — and costs were beginning to mount.

The second problem in the BMS battery room was even more troubling. Accident rates were unacceptably high, with electrolyte spills and dropped batteries risking worker safety and gravely affecting the company's profits.

3. Battery room staff began to notice that some of their batteries were wearing out long before the manufacturer's specified service life. Every battery cost the company thousands of dollars, so losing a year or more of service from multiple units was a serious blow to profits.

Forklift operators offered a related complaint: occasionally they would install a new battery and head out to the aisle only to discover that they were running on a half-charge or less. Both of these issues came down to one thing: insufficient battery fleet management.

In 2010, the economy was still fighting its way out of the global financial crisis, and 3PLs were hit hard. Despite the challenges of the time, management at BMS was determined to find a solution. They knew they wanted a leaner, safer battery room. Their investment would have to provide a quick and measurable return.

To find out, BMS managers visited Magnum Industrial Power. Thanks to the detailed training offered by BHS, Magnum sales staff knew exactly how to start the process of fixing the customer's battery room. The dealer met with BHS Engineered Systems Team members to discuss the project.

### BHS Analysis:

BHS technicians inspected the existing battery room infrastructure with an eye for inefficiency. They traced delays back to the company's battery changer and charging racks.

BMS' battery changers came from a BHS competitor, and they lacked important mechanical features; manual equipment can increase the risk of battery spills while also adding long

### BHS Products Discussed in This Case Study

#### BHS Double Stack System Stand

- Heavy duty steel construction
- Poly-sleeved roller beds provide easy battery movement
- Spark-proof rollers improve safety
- Custom designs fit any space

#### BHS Double Stack Operator Aboard Battery Extractor

- Durable steel frame
- Faster, safer battery changes
- Smooth travel
- Enclosed components protect moving parts
- Exclusive safety features

#### BHS Fleet Tracker

- Complete battery fleet management system
- First In, First Out battery tracking ensures fully charged batteries
- Tracks maintenance tasks
- Generates detailed reports

minutes onto changeout times. The racking system also contributed to inefficient battery changes, so the battery room would have to be completely redesigned from the ground up.

The BHS team also looked into the problems BMS was having with battery lifespans. Their battery stock was all high-quality, but, lacking a sufficient fleet management strategy, BMS staff was unable to keep track of which batteries were ready for use. Drivers would often pick the closest battery to the entrance so they could return to work faster. This led to a hierarchy of battery usage that ignored some while doubling use of others.

Staff also had a difficult time keeping track of maintenance schedules. Without dedicated software to record intervals for watering, washing, and other vital maintenance tasks, batteries weren't always receiving the care they needed.

Battery maintenance was also extremely time consuming. At the time, about 70 percent of the industry was watering batteries by hand, one at a time, traveling randomly from battery to battery. This now-outdated practice would consume staff attention for 15 minutes per battery, according to the journal *Modern Materials Handling*.

It was clear that BHS would have to take a three-part approach to improving BMS' battery room.

## The Solution:

Working with Magnum Industrial Power sales staff, BHS designed a new battery room that would address the three main issues that were affecting BMS's profitability:

1. **The system would speed up each individual battery change.** The central goal was to increase productivity by keeping forklifts carrying loads, not waiting in line for a new battery. With the right BHS battery changer, the facility would be able to significantly reduce changeout times.
2. **Upgrading to BHS equipment would be safer and more dependable, eliminating dangerous accidents.** Safety stations and comprehensive signage would contribute to this improvement.
3. **Battery fleet management software would determine which batteries were ready for use, and guide staff on crucial maintenance tasks.** With optimized battery usage and treatment, BMS could avoid burning through batteries before their natural life spans were up.

Based on the size of BMS' battery collection and their required rate of change, the BHS design team determined that a single row of Double Stack System Stands (BS-DS) would provide the quickest — and safest — battery changes. These heavy-duty steel units store batteries safely as they charge and, when the charge is complete, allow for smooth, low-strain extraction.

Spark-proof, poly-sleeved rollers ease battery movement while also reducing the accumulation of corrosive runoff that can damage batteries. The Double-Stack System Stand also improve access to batteries and chargers for easy maintenance, which was a key concern for BMS managers.

In concert with the racking system, BHS recommended a specialized Double Stack Battery Extractor (BE-26-2-DS) to complete quick, accident-free changeouts every time. The vacuum grip limits wear on battery cases while the unit's speed reduces battery changeout times to a few minutes at most.

Finally, BHS recommended a Fleet Tracker (FLT) system to control battery usage. This software would become the battery room's nervous system, controlling workflow processes for accurate battery picking, compliance with maintenance schedules, and valuable data tracking.

### BHS Tech Tour

BHS offers a free evaluation of every Operator Aboard Battery Extractor System 6 to 12 months after installation to assure peak performance and spot any potential issues prior to the end of its warranty.

BHS Field Service Engineers also demonstrate proper inspection procedures and provide preventative maintenance guidelines essential for maintaining the maximum up-time on the Battery Extractor System.

Following each complimentary BHS Tech Tour, a detailed report is provided to define and prevent any operational issues inhibiting the system's output.

Leadership at BMS Management Inc. examined the plan and decided it was right for their facility. They greenlighted the project.

### Implementation:

Construction of the battery room was highly collaborative, with teams from BHS and Magnum Industrial Power working closely with the customer to minimize downtime at the facility.

Working together, BHS and Magnum were able to beat all construction deadlines — but their support for the customer did not end there. BHS conducted extensive training for BMS battery room staff, performed a BHS exclusive Tech Tour of the entire system within 4 months of installation, and continues to offer support through the BHS 24-Hour Hotline.

Magnum Industrial Power and BHS developed a detailed support plan for BMS. If BMS staff ever has a question or a concern about their new battery room, they know exactly who to call.

## Results:

From the first day using their new battery room, BMS staff was able to reduce their time spent changing each lift truck's battery from 50-90 minutes a day to only 6-10 minutes a day. Each individual battery change shrunk to 2-3 minutes, and overall productivity at the facility soared.

The facility was even able to reduce the number of battery exchanges required per day. Fleet Tracker software helped staff choose fully charged batteries for each change, eliminating unnecessary mid-shift replacement.

Fleet Tracker's maintenance tracking and First-In First-Out battery choice system helped BMS optimize their battery selection. With the new battery room in place, BMS forklift batteries last longer and run better.

The new BHS battery room fully complies with — and even exceeds — all relevant OSHA standards, including:

- **CFR 1910.178(g)(1)**, which dictates the location of battery rooms within a facility.
- **CFR 1910.178(g)(2)**, which requires facilities to protect battery chargers from damage from forklift impacts.
- **CFR 1910.178(g)(4)**, which mandates use of sufficient battery handling equipment for all battery changes.
- **CFR 1926.441(a)(3)**, which instructs employers to use “substantial” racks and trays for storing batteries. It also requires battery stands to resist electrolyte.

This money-saving solution started with Magnum Industrial Power implementing a Sales Order Process, and it continues today with ongoing training and 24-hour technical support. By working closely with the dealer and the customer to deliver a targeted solution, BHS provided battery changes that are 9 times faster.

“The BMS room was a real success,” said Bill Wood, BHS Director of Sales & Marketing North America. “They complimented us on a quick and efficient installation. BMS even took the time to recommend us to another client, a Fortune 500 Company.”

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