



HOW LITHIUM-ION SOLUTIONS ARE **ELEVATING WAREHOUSE** **OPERATIONS** TO THE NEXT LEVEL



SUPPLYCHAINDIVE

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Warehouses, distribution centers, and the materials handling equipment that runs them have seen major changes over the last several decades as consumer demands and technological advances usher in a new era of solutions. Driven largely by growth in e-commerce, warehouses have become bigger, taller and faster than ever. Though the focus on productivity and efficiency is at an all-time high, the solutions to meet these goals are better than ever.

Take the electric forklift and the energy storage system that powers it. Once considered too expensive, lithium-ion batteries are increasingly replacing lead-acid technology, making electric lift truck fleets more productive, more efficient and simply superior than using traditional lead acid solutions.

For the few warehouses and distribution centers still using propane powered forklifts, the entrance of lithium-ion in the industrial market is proving to be the final piece to the puzzle in empowering operations to make the switch to electric.

“Case after case, lithium-ion has proven itself to be the technology which has empowered operations to finally make the switch over to electric,” says Martin Boyd, chief marketing officer at Big Joe Forklifts. “It’s torn down the barriers which held back operations for many years, transitioning their propane-powered fleets to electric. In a very short period of time, Lithium-ion has practically eliminated all the drawbacks and pains associated with traditional lead acid technologies, and now the avenue to electrification is wide open.”



SAVE ON MAINTENANCE AND FUEL COSTS

Electrifying your fleet is helping warehouse owners and operators meet several goals. From lowering operational costs and boosting productivity to meeting legislative sustainability requirements and corporate green initiatives, lithium-ion-powered forklifts are creating more efficient working environments — and even giving back valuable real estate along the way.

The cost of an electric forklift is always the biggest shock when converting from internal combustion, but the payback is significant. Yes, electric can be more expensive upfront, but the return on investment is quicker, and the overall cost over time will be less.

Eliminating fuel costs alone will generate huge cost savings, but electric forklifts can lower the operational cost of maintenance by about one-third, according to Boyd. Adopting lithium-ion technology on top of simply going electric can further those cost savings even more.



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As an organization, Big Joe is also lowering those upfront costs by manufacturing its own lithium-ion batteries. Rather than relying on a third party, Big Joe controls its entire supply chain from design to manufacturing, which allows them to control costs and offer a more attractive price to the market which is in some cases, competitive with its internal combustion counterpart.

"We are driving those costs down with our purpose-built, integrated lithium-ion solution that is approaching the same price as a comparatively equipped propane forklift," says Boyd. "We aren't there yet, but we are aggressively moving in that direction so customers that buy a Big Joe forklift achieve an ROI in months, not years."



A MORE PRODUCTIVE AND COMFORTABLE WORK ENVIRONMENT

Another outdated mindset in the industry revolves around lost productivity. Lithium-ion has essentially eliminated the limitations associated with lead acid technology, and has done so in such a way that performance and productivity actually surpasses that of an equivalent internal combustion forklift.

Lithium-ion offers excellent performance, and recharging can be quickly and easily performed during breaks and shift changes. It also lowers many of the risks associated with maintenance, refueling and internal combustion fumes without requiring space for battery storage rooms.

In addition, lithium-ion-powered forklifts are much quieter and create a more pleasant operating environment. Big Joe's purpose-built, integrated lithium-ion lift trucks are designed with the operator in mind, optimizing ergonomics and their interface with the truck.



"Oftentimes, veteran lift truck operators that operate internal combustion trucks will brush off the idea of using an electric truck," says Boyd. "They've probably tried electrics in the past, and they've gone right back to their propane forklifts because there were so many drawbacks using a truck that was designed to operate with a lead acid battery."

"They feel like they are sitting on top of a box with wheels. There's little foot room. They sit higher on the forklift. It's difficult getting on and off. With a purpose-built, integrated lithium-ion truck from Big Joe, it takes very little time before an operator completely changes their mind about making the switch to electric." Boyd explains.

Another big difference is the comfort level. For example, when operating an internal combustion forklift in a hot environment, the engine gets hot and creates a lot of discomfort for the driver.

"You've got heat that's being expelled from the engine compartment, and it's usually right behind the operator's legs, which is very uncomfortable for an operator that's trying to get work done," says Boyd. "They end their days exhausted from working their entire shift sitting on top of a hot engine".

The engine cooling fan can also kick up a lot of dust into an operator's eyes when driving in reverse, and the smell and heat from the exhaust can add an extra level of discomfort. With an integrated electric forklift, that unpleasant experience is eliminated.



A yellow BIGJOE 50 forklift is shown in a warehouse setting. An operator wearing a white hard hat and a grey jacket is seated on the machine, which is carrying a large cardboard box. The forklift has "BIGJOE 50" and "L-ION" branding. The background is a blurred warehouse interior.

SUSTAINABILITY: AN ADDED BONUS

Sustainability is a top priority for many companies looking to contribute to a cleaner future, and transitioning from internal combustion to lithium-ion is an easy solution to lower one's carbon footprint and meet internal corporate social responsibility (CSR) goals.

Advances in lithium-ion battery technology have broken down the barrier between internal combustion and electric lift trucks, leaving few reasons not to electrify.

Making your own choice about electrification may not always be an option, however. Planning for a more sustainable future is critical for not only meeting your own corporate sustainability goals, but also to comply with government mandates.

A lot of uncertainty remains around government-mandated sustainability, especially as a new administration takes over, but the value of electrification from an industrial standpoint remains, regardless.

“The value proposition, even without government forcing it, is still very compelling,” says Boyd. “Of course, government will always be there to help drive these things, but the value proposition right now is strong enough where it simply makes sense.”



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THE **FUTURE** OF FORKLIFTS

Electrification is here to stay, and there's never been a better time to convert your fleet. Big Joe's purpose-built, integrated lithium-ion electric forklift is designed with the intention to replace internal combustion, with 100 percent of their resources dedicated to helping you convert your fleet to the future of lift truck technology.





Established in 1951, Big Joe is a customer-driven North American material handling equipment company. We distribute innovative products for in-between-handling applications, purpose-built counterbalanced lithium-ion forklifts, and market-leading autonomous solutions. Based in Madison, Wisconsin, we provide engineering expertise, customer service, aftermarket parts, and warranty support to our extensive dealer network and customers.

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