

Forklift Battery Handling Growth in Non-U.S. Markets: Developing Trends

It can be dangerous to make predictions in industries as complex and ubiquitous as material handling and global logistics; those who try to guess the future can end up with egg on their faces and nothing in their pockets. But there is a very convincing reason to believe that battery handling equipment will expand its reach in major markets across the world in coming years: The growth has already begun, and it shows no signs of stopping.

Of course, every nation has a different view of dedicated battery handling equipment — and lead-acid forklift batteries in general. In Great Britain, these batteries are seen as an established and reliable source of motive power. In India, electric power is considered a cutting-edge technology for material handling equipment.

As electric forklifts continue to capture more and more market share in industrial applications around the globe, knowledge about the safety benefits and efficiency gains of optimized battery handling equipment will follow, company by company, soon to be translated into all the languages of the Earth.

In the near-future, though, nations that meet two distinct criteria will lead the charge toward efficient and safe battery handling systems. First, they will be countries with a growing demand for electric forklifts. Second, their governments will have established legally actionable safety regulations for forklift users.

Lead-Acid Batteries Lead Global Markets for Forklift Power

Electric power remains the most popular technology among forklift users, both in the United States and around the world, according to a study from Persistent Market Research. In 2014, the latest year for which figures were available, electric power made up 57.3 percent of the global market for lift trucks. That figure is projected to grow to at least 64.4 percent by 2021.

This growth is driven primarily by the appetite for electric forklifts in emerging markets like China, Brazil, and, especially, India. The 2015 Business Trend Survey from the Industrial Truck Association (ITA), a U.S. trade group, placed that country first in potential for the growth of forklift markets through 2018.

There are a few new trends in electric forklift power, including lithium ion batteries and hydrogen fuel cells. But these technologies remain cost-prohibitive. The 2015 ITA survey still placed lead-acid batteries first in motive power for forklifts, with a rating of 3.7 on a scale of one-to-five. By comparison, respondents ranked lithium ion batteries at only 2.3 for 2015, down 0.2 points from the previous year.

While studies tend to focus on battery usage itself, their results hint at the market for battery handling equipment, as well. Without the ability to change out forklift batteries as quickly and safely as possible, warehouse operations will soon fall behind the competition. In a global market, that will drive demand for robust battery handling systems across the globe.

There is one caveat, however.

Not every operation that transitions to electric fleets will make the investment in a well-developed system to handle their batteries. Some will inevitably stick to unsafe practices, particularly where governments fail to enforce far-reaching occupational safety standards.

Unsafe Methods of Changing Forklift Batteries Remain

Some warehouses in emerging markets still change batteries however they can. There are reports of European forklift operators pulling batteries out of vertical-extraction trucks with a chain looped around another truck's forks, which creates a serious risk of dropping batteries.

An Industry Analysts Speaks Out on Forklift Batteries:

"Lead-acid batteries with a conventional charger are the predominant technology option, due to their low cost, reliability, and well-established supply chain," wrote Lisa Jerram, a senior research analyst with Navigant Research, in 2014.

"From 2014 to 2020, new technologies will continue to gain market share in the U.S., although conventional lead-acid will still account for the majority of the market."

So far, the second half of that prediction has proven true — not just in the United States, but around the world.

Others manhandle 1,000 pound batteries onto dollies or makeshift carts. The ergonomic risks of this technique are obvious.

On the marginally safer end of the spectrum, facilities that own overhead traveling cranes for other purposes sometimes use them to extract and replace forklift batteries. This is not the intended purpose of most traveling cranes or hoists, though, and the risk of dropping a battery — potentially causing serious injury or death — is greatly reduced with a dedicated system of Gentries and Hardwood Battery Stations (HBS). For side-extraction trucks, which are taking over the industry, only a battery extractor designed for the job can ensure safe change-outs.

The troubling persistence of unsafe battery handling practices has led analysts to favor countries with occupational safety laws in place, or at least in process, for the fastest growth in high-tech battery handling systems.

The World's New Hot Spots for Forklift Battery Handling Equipment

Emerging trends in electric forklift sales and governmental safety regulations make the following countries the places to look for greater adoption of optimized battery handling equipment over the next few years. This selection by no means includes every country in which the demand for battery handling equipment should grow, but because of specific legislative and industrial developments, these nations offer a snapshot of the battery handling industry's exciting new position in world markets:

- India - Forklift battery handling equipment is expected to grow in this emerging market, driven by increased demand for electric lift trucks and the legislation coming out of the Ministry of Labour and Employment's Working Group on Occupational Health and Safety.

Workplace safety is a particular focus of the Indian government's twelfth five-year plan, which extends through the end of 2017. A 2011 report from the Ministry of Labour and Employment states that "the Government is committed to regulate all economic activities within the country with a view to ensuring that every working employee is provided with safe and healthful working conditions." Legislation designed "to make significant difference in the [occupational safety and health] status" is expected by the end of 2017, at the latest.

- Brazil - As recently as 2013, forklift industry insiders considered Brazil an important strategic ally for manufacturers. The ITA Business Trend Survey for that year gave Brazil a score of 6.5 out of 10 on the country's placement for local manufacturing partnerships with U.S. forklift providers. Respondents rated Brazil at 6.8 as a location for a direct U.S. manufacturing presence.

By comparison, the booming markets in India only received a rating of 4.4 as a prospective location for U.S. forklift manufacturers.

In addition to the growing demand for lift trucks in Brazil, the country has strong health and safety regulations that will encourage facility managers to invest in the best equipment for handling forklift batteries.

In 2008, the Brazilian government established the Comissão Tripartite de Saúde e Segurança no Trabalho, or Health and Safety Tripartite Commission (CTSST). This office established occupational health and safety policies for Brazilian workers, a condition that the government considers "a basic social right." The CTSST helped to establish Brazil's National Security Policy and Health at Work plan, which was created by governmental decree on November 7, 2011.

- China - Previously, relatively inexpensive labor and low penalties for workplace injuries limited the implementation of robust forklift battery handling equipment in China. In December of 2014, that began to change.

On the first of that month, the National People's Congress of the People's Republic of China issued the Amended Workplace Safety Law. The new law imposed harsher penalties for workplace injuries. If an accident occurs in the battery room, the "responsible person" usually a manager tasked with "control over workplace safety" can be demoted or fired outright. Managers who fail to prevent injury might also be charged a fine between 30 and 80 percent of their previous year's salary.

Given these new controls over workplace injury, warehouses across China are likely to enter the market for reliable battery handling equipment. This effect will be intensified by the explosive growth of electric lift trucks in recent years; a report from the ITA's 2015 President's Forum showed sales growth of almost 19 percent for electric warehouse trucks for that year. In the same span, sales of counterbalance trucks powered by internal combustion dropped by nearly 16 percent.

- South Africa - South Africa has detailed regulations regarding all lift trucks and lifting machines. The South African Occupational Health and Safety Act contains many standards that apply directly to forklift battery handling equipment.

The New Cost of Workplace Injury in China

According to a 2016 report from Gemini Personnel, senior warehouse managers with four or more years of experience take home up to ¥55,000 per month, or a yearly salary of ¥660,000.

That translates to annual pay of \$101,883, based on the exchange rate in April 2016. If a worker were injured by a falling forklift battery or electrolyte spillage, a manager could be liable for a fine equivalent to \$81,506.40.

All lifting machines, which should include forklift battery extractors and gantry cranes for vertical extraction, must be “designed and constructed in accordance with a generally accepted technical standard,” reads section 18 (1) (a) of the Department of Labor’s Driven Machinery Regulations of 2015.

This statute is particularly relevant to vertical-extraction forklifts. Power Drive Gantry Cranes (PGC-PDC) from BHS ensure that batteries can be safely and efficiently changed, and conform to South Africa’s exacting safety regulations for warehouses. As more South African companies invest in side-extraction forklifts, expect to see the demand for Operator Aboard Battery Extractors (BE) to grow, as well.

Growing International Partnerships

In 2014, material handling trade groups from four regions established the World Material Handling Alliance (WMHA). This international organization will share market data and encourage global trade in material handling equipment, as well as collaborating on safety solutions and regulatory innovations.

When the WMHA was unveiled at the 2014 CeMAT trade show, it included four signatories: the Beijing Materials Handling Research Institute (BMHRI), the European Materials Handling Federation (FEM), the Japan Institute of Material Handling (JIMH), and the U.S.-based international industry group MHI. As the WMHA grows, so will its membership, bringing the standards and best practices of the world’s highest performing enterprises to every nation.

As globalization continues its inevitable march toward a single world market, the safety and efficiency benefits of battery handling equipment will continue to spread to every nation. These are exciting times for global battery handling.

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