

Clean energy in the industrial machinery market

LITHIUM IS PROVIDING A DECISIVE BREAKTHROUGH IN THE TRANSITION TOWARDS ELECTRIC MOBILITY

In recent years, more and more OEMs and industrial machinery manufacturers have started to make a real push towards going electric, not to mention the increasing number of electric vehicles that are on our roads. This is why the industrial sector, followed closely by markets and sectors where only combustion engines with hydraulic drives were once used such as agriculture and construction, are now moving towards electric power that uses lithium batteries.

Until just a few years ago, batteries were always the major hindrance when it came to electrifying machinery that required high levels of power or endurance. Lead batteries could not provide high power peaks and their low energy density (40Wh/kg) made it impossible to reach sufficient levels of endurance to replace endothermic motors.

High energy density

The advent of lithium batteries has opened up considerable possibilities for designers of industrial machinery and vehicles. Their energy density, which is over four times higher (170Wh/kg with LFP chemistry) and their ability to deliver very high-power peaks have made it possible to electrify miniloaders, telehandlers and concrete mixers to name but a few.

However, not all companies have solved their problems by switching to lithium batteries, as these are no longer simple batteries composed of a series of chemicals as was the case with lead batteries. With lithium, you have to choose between different types of chemistry (LFP, NMC, NCA, LTO, etc.), the cells can be assembled together in various ways and there is an electronic system that monitors and manages the battery by interacting with the piece of equipment.

If all of this is not chosen and manufactured correctly, it is possible to run into reliability issues or safety risks. I think we have all read reports where lithium batteries have been blamed for fires.

Number one lithium battery in Italy

Flash Battery was founded in 2012 with the mission to make lithium batteries reliable and safe, allowing them to be used on a large scale in industrial machinery and vehicles. Eight years



ABOVE: CEO and founder Marco Righi

INSET: A laser guided vehicle by Elettric80 with Flash Battery pack

later, Flash Battery is the number one battery in Italy with over 8,500 batteries supplied across 54 countries worldwide.

“Our growth has been facilitated by the fact that we have long-standing industrial experience behind us,” says Marco Righi, CEO and founder of Flash Battery. “This has allowed us to develop our products with a very different level of understanding compared to the approach that a start-up might take. Our strong focus on our target market has made us highly focused on the needs of our customers, which means increasing the endurance of work equipment, whilst avoiding any possible downtime.”

Partnership with logistics provider

Since 2013 Flash Battery – known as Kaitek S.r.l. until earlier this year – has been a partner

of Elettric80, a global leader in the production of automated logistics solutions (LGVs and AGVs) for companies producing consumer goods. In addition to fitting out all of their own equipment with Flash Battery lithium batteries, the two companies have achieved some major technological goals: high-power induction charging and proprietary remote control allowing predictive analysis and remote diagnostics on all batteries installed throughout the world.

All in all, the conversion to electric power is underway and there are no longer any excuses for putting it off. Nor has the pandemic stopped the company's research and development departments. Rather, it has increased its focus towards sustainability. Over these last few months, the company has been developing various projects in the industrial, construction and agricultural sectors. **ivT**

Author: Marco Righi, CEO and founder, Flash Battery



FREE READER ENQUIRY SERVICE

To learn more about this advertiser, visit www.magupdate.co.uk/pivt