

# Powered to success

## THE CHOICE OF LITHIUM BATTERY MAKES ALL THE DIFFERENCE IN THE ARENA OF ADVANCED ELECTRONICS

▶ Electric mobility is growing exponentially worldwide and becoming a game-changer in the mobility of the future. Electrification does not only affect mobility, but all sectors of the economy, including industry. There is no question that decarbonising has become a necessity and that the sensitivity of OEMs towards what many refer to as the green solution is, and will be, a core element of the future.

One of the main issues facing a technical manager or engineer when making the switch from endothermic engines to electric motors is the choice of the battery. Lithium batteries are the most widely used for electrifying industrial machinery.

There are four main reasons behind this: their high energy density, i.e. they can store a lot of energy while maintaining a low weight (three-times lighter than lead batteries); quick and partial charge acceptance; zero routine maintenance; and very long life, in most cases outlasting the machine in which they are installed.

### Lithium batteries are not all the same

Flash Battery is the best-selling lithium battery in Italy. The Reggio Emilia-based company (turnover of €14 million, 52 employees), which has been making Li-Fe-Po4-chemistry lithium batteries for major industrial players since 2012, produces over 300 models. It started in a garage, when two 20-year-old friends with a passion for electronics began studying the first lithium cells being offered by the market at the time. The cells presented some issues in terms of safety and reliability, and their performance had to be enhanced, but overall had the right characteristics to kick-start the electric world.

With commitment and perseverance, Flash Battery has established itself in the industrial market in just under 10 years, forging important partnerships and building a customer base from a variety of sectors including automation, construction, boating, agriculture, electric



ABOVE: Three of Flash Battery's lithium batteries for industrial machines

vehicles, airport ground support equipment, aerial platforms, industrial sweepers and logistics.

### Active/passive balancing

In the Flash Battery balancing system, the differentiating active and passive electronics offer balancing power 20x higher than conventional lithium batteries. This translates into a twentyfold decrease in equalisation time and maintains the cells balanced, even when the battery is well into its life cycle.

Remote control of the more than 4,000 batteries connected from 54 countries around the world is completely automatic. Flash Data Centre, the proprietary portal, runs self-diagnostics and predictive maintenance on each battery daily, sending automatic alerts to the Flash Battery service centre.

### Eight-step customisation

Making a customised battery pack tailored to the customer means understanding the needs of the industrial machinery or electric vehicle OEMs, and designing ad-hoc solutions appropriate to the specific use. Behind the making of a customised battery, there's a team of people – 20 engineers and technicians – who design and make a battery pack by following a well-established eight-step industrial in-house process.

This innovative production flow has enabled Flash Battery to reach the milestone of 8,000 batteries in just a few years, batteries which are spread all over the world and with one of the lowest failure rates in the sector.

Each of the eight customisation steps provides clear actions down to the finest detail, and every department within the company, from sales and design to production, works alongside the manufacturer in the development and making of the battery pack. **ivT**

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