

# The road to electrification

LEAD-ACID BATTERIES CANNOT SUPPORT THE HIGH ENERGY DEMANDS OF VEHICLE ELECTRIFICATION. THE ANSWER LIES IN LITHIUM

INSET: the electrification of construction equipment has been held back by the limitations of lead batteries



We are in the era of the European Green Deal. Various regulations and directives, primarily European ones, aim to go carbon neutral by 2050 through decarbonisation in all economic sectors, and by further reducing greenhouse gas emissions by 2030. The energy system is obviously critically important to achieve these goals.

Manufacturers of machines and vehicles of the future will have to address a complex, structured change in switching from internal combustion engines to complete electrification.

## Lithium the game changer

In the past, the development of electric machines in the world of construction was mainly hindered by the limited ability to store energy. Lead-acid batteries were not able to support the energy needs of these machines without excessively weighing them down. Everything is now changing with the introduction of lithium technology.

All talk of late has been about lithium batteries but this technology has also raised doubts and occasionally damaged companies which have approached this new chemistry in the wrong way. Some OEMs are still intimidated by accounts of those who ventured into this field without any knowledge or experience, or trusted makeshift companies which helped create a confused and at times negative image of lithium batteries.

## A trusted electrification partner

This is why it is important to trust an experienced lithium manufacturer that can support the technical board of an OEM that wants to electrify their system in choosing the most appropriate battery for the machine's requirements.

Flash Battery has always managed to guarantee the highest safety levels by working on three key aspects: choosing the right lithium chemistry, the proprietary control electronics and the correct assembly of the battery pack.

By focusing on the industrial market, the company has been able to work alongside various European manufacturers, making customised batteries according to the machine's space and size, and offering ad hoc voltage and capacity for its working requirements.

## Safety first, second and third

Flash Battery's choice for each of these applications was to rely on LFP chemistry which offers the best response out of all of them to the specific needs of this sector. It is the safest, most stable chemistry on the market, available in high-capacity formats as required by industrial systems, without needing to connect many small cells in parallel, which would decrease stability and undermine the entire machine's safety.

## Powerful solution for a demanding job

Energy consumption should not be overlooked when electrifying applications in the world of construction and building sites. Such sectors are extremely energy-intensive so it is essential to provide sufficient battery life and power to the machines in question.

The continuous research of the R&D department, which constitutes over one third of the team, together with its expertise in fully customised projects, has increasingly driven Flash Battery towards solutions that increase the energy density inside its LFP powerpacks, taking it from 134 Wh/L to 207 Wh/L in just three years. This results in greater energy density in a smaller size, while maintaining the high safety levels which are guaranteed to every one of the approximately 10,000 Flash Battery products in use around the world.

The short supply chain of Flash Battery's suppliers along with the European partnerships it has forged with electrification specialists mean the company can support every single manufacturer of machines and vehicles in this transition towards electric in complete safety. **IVT**

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