

# Battery farming

FLASH BATTERY AND EFA FRANCE OFFER AN ITALO-FRENCH VISION OF FUTURE ELECTRIFICATION SCENARIOS IN THE AGRICULTURAL MARKET

**"AGRICULTURAL MACHINES ARE GOING ELECTRIC. GREEN ENERGY, NO MAINTENANCE AND LOWER OPERATING COSTS ARE KEY FOR MORE SUSTAINABLE AND EFFICIENT NEW AGRICULTURAL TOOLS"**

Benoît Beaumont, CEO of Efa France



Marco Righi, CEO and founder of Flash Battery

▶ Twenty years ago, few would have imagined that thanks to satellite guidance today's tractors would be able to work without the need for a driver, or that a medium-high power tractor could be developed that would work continuously for 12 hours using only the electricity produced on board.

Today the growing sensitivity to environmental issues, anti-pollution regulations and real technological advances are leading to a rapid evolution of electric propulsion in the agricultural sector, in both France and Italy. Benoît Beaumont (BB), CEO of Efa France, and Marco Righi (MR), CEO and founder of Flash Battery, offer their views to *iVT*.

**What is your vision and future perspective for the electrification of the French agricultural market?**

**BB:** It is moving quickly towards electric power. Farm work is changing and new tools are required. Moreover, farmers are concerned with environmental issues. For those reasons, agricultural machines are going electric. Green energy, low

maintenance and lower cost are key points for new agricultural tools.

**What about the Italian agriculture market?**

**MR:** Increasingly, endothermic engines and the agricultural mechanical industry are investing significant resources in developing electric engines capable of progressively replacing those powered by fossil fuels. I still remember how, in a seminar on the technological evolution required for agri-tech products, there was a real need for knowledge and information about the electrical world, especially batteries.

**What is the driving factor behind electrification?**

**BB:** The driving factor is obviously autonomous robotics and machines that don't require extensive use (the opposite of a combine harvester, for instance). We are also developing agriculture robotics in other sectors. Farms are getting bigger and employing fewer people but have a high need for quality. Electrification and robotics are two strong solutions. All big tractor OEMs are developing a self-driving

tractor prototype, and we are working on many other projects involving other types of machines. They will soon hit the market so farmers will be able to use robots, giving them more flexibility in their daily work. They will be able to work 24 hours a day if conditions are good, and they can work in many different places at the same time thanks to these robots.

**MR:** The EIMA international trade show, a point of reference for Europe in the agricultural sector, would have been held in November, and it is no coincidence that Italy is the protagonist of one of the main trade fairs in the sector. Not just the major manufacturers, but even small and medium-sized businesses are adopting the zero emissions mantra, converting various machines from their catalogues.

Our target market is divided among industrial machines (35%) and electric vehicles (25%), with the remaining 40% being driven by laser-guided vehicles (AGVs and LGVs). Precisely in this sector, the most stressful for batteries considering the fast charges and 24/7 use, we have exceeded 3,000 charge cycles and expect to reach

**What are the needs of the agricultural market and why?**

**BB:** Machines should offer flexibility and clear total cost ownership. Agriculture needs to feed an increasing number of people, locally – especially in Europe – and with higher quality items. These trends are behind the need for more modern, flexible, autonomous electric machines.

**MR:** The world's current situation requires companies to pay more attention to sustainability, and the most forward-thinking businesses in the agricultural market are investing accordingly.

By its very nature this sector is energy-intensive, so it is critical for an electric agricultural machine to have sufficient autonomy and power. In fact, lithium batteries have made it possible to overcome limits that previously blocked the development of such vehicles.

The possibility of producing batteries with custom shapes and technical specifications has greatly helped the electrification process, as the company can go beyond supplying batteries and become a partner, working with others on exciting new projects.

**Tell us about an important or representative project involving the agricultural market**

**BB:** We're currently working on two major projects. One is a multi-tool crawler, the other an electric tractor. The latter has an operating cost that is much cheaper than a thermal tractor. The machine is also fairly versatile.

**MR:** The excitement on the European side is very high. In the first two quarters of the year we saw an increase in demand from a number of players in France and the Netherlands. Each individual project is analysed starting from the requirements in terms of power, autonomy and the space available for the lithium battery.

One of the first fields of application is viticulture. Today all tasks can be performed with fully electric machines that benefit from the lightness of lithium batteries and their autonomy. The livestock sector is also growing strongly, especially feed mixers used on farms to mix animal feed. Most of these applications require customised mechanics and call for high-voltage battery packs.

Another niche includes wood chippers. These machines are being

deployed by municipalities that appreciate the benefits of lithium in terms of zero emissions and zero noise. The agricultural world is seeing an increasing number of hybrid or full electric applications, and in the near future we will see more and more automated robotic systems in the fields across Europe, and beyond.

**And in summary?**

**BB:** The French market offers many opportunities. We still have many small farms, and the market requires local, high-quality products. The combination of these two factors leads to the development of many electrical machines. Every day we are helping more and more OEMs to convert their machines to electric. Electric is no longer a choice, it's a must.

**MR:** I fully agree with Benoît. The electrification process has started and won't stop. Every day we receive new requests from sectors that we never even contemplated before. Batteries have made giant strides in recent years and have created the conditions necessary to electrify the most diverse applications within this marketplace. **iVT**



Benoît Beaumont, CEO of Efa France