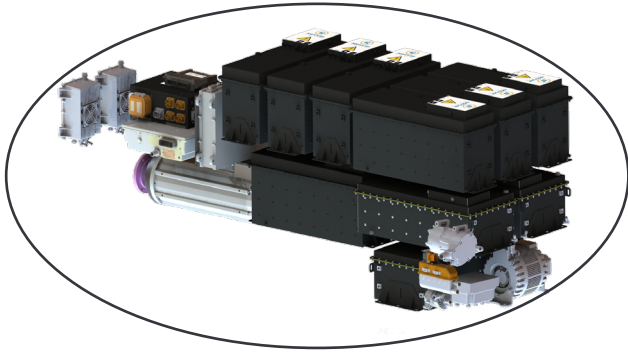




CHALLENGE: REDUCING CO2 EMISSIONS

CO2 emissions are increasingly regulated. Vehicle manufacturers must be able to offer clean vehicles to access city centers by 2025. Customer demand is therefore currently focused on reducing noise and pollution.

SOLUTION: ELECTRIFICATION OF THERMAL MACHINES

Novum Tech and Parker are working on the electrification of on- and off-road vehicles, offering batteries, complete kits, motors and drives for all types of vehicles.

BENEFITS: NO MORE NOISE OR POLLUTION

Electrified vehicles no longer emit CO2 and become silent. The savings can reach 50% on the purchase of a 2.5 ton excavator, for example. The end user benefits from a clean and quiet machine at a lower cost.

NOVUM TECH

NOVUM TECH REDUCES TIME TO MARKET FOR ELECTRIC ON- AND OFF-ROAD VEHICLES FROM YEARS TO MONTHS.

The electrification of on- and off-road machines at lower cost allows manufacturers to reduce CO2 emissions of their machines. Novum tech's batteries and electric kits, combined with Parker's drives and motors, reduce the time required to electrify combustion engines from several years to 6 to 8 months.

“

We work in perfect transparency with Parker Hannifin. The access to Parker's programming software and support reduced the development time required. Another important point is that it provides previously non-existent solutions and saves manufacturers development costs. ”

Lorris Guilloux, Managing Director of Novum Tech

Electrifying on- and off-road vehicles

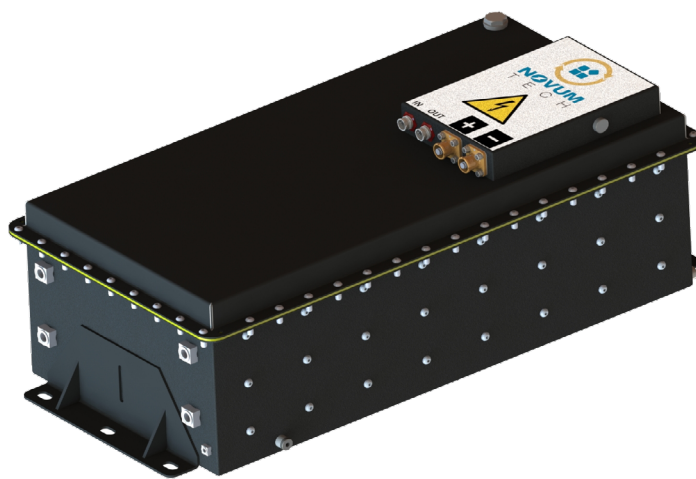
Increasingly strict regulations in cities require vehicle manufacturers to reduce CO2 emissions and noise. They must be able to offer clean vehicles to meet the 2025 deadline. This is a major challenge, given the ageing fleet of vehicles.

Novum Tech, a French start-up based in Goncelin, in the Isère region near Grenoble, has seized the issue head on. It specializes in the electrification of on- and off-road machines (agricultural, public works, handling and other special machines) offering batteries and electric kits to meet the demand.

One of their customers, Neotrucks embarked on electrification in 2016. The principle was to recycle the chassis-cab of thermal machines: engine and gearbox, exhaust, gas tank. Everything was fully recycled and reused in a dedicated circuit. It then adapted the cab, the driver's station and the chassis to the park tractor activity, and implemented a new electric drive train and battery packs created by Novum Tech. Thus equipped and motorized, ELYT has become the first 100% electric fleet tractor from the circular economy.

Up to 50% savings in retrofitting

"Retrofitting offers the great advantage of proposing electric models when they do not yet exist on the new market. When manufacturers offer new electric models, they are often very expensive. The savings offered by retrofitting are significant for the end user in this case" emphasizes Lorris Guilloux, engineer and managing director, responsible for electronic and computer development.



For example, "a customer who uses a mechanical shovel for two hours a day can save up to 50% compared to the same machine bought new, thanks to the retrofit. The electric kit is then amortized after three years," says Lorris Guilloux.

The time required for retrofitting varies from 4 to 6 months between the study and the realization for a 2.5 ton excavator, and up to 8 months for a larger machine, with more complex electronics.

Transparent partnership with Parker

"We work in perfect transparency with Parker Hannifin. We have access to a vast database of their products, allowing us to quickly identify which components to propose to the customer, and then to validate the specifications," says Lorris Guilloux. The access to Parker's programming software and support also reduce the development time required.

20-year life for Parker motors and drives

The machines get a second life with the purchase of an electrical kit. "They get an additional durability of 7 to 10 years," says Lorris Guilloux. This period corresponds to the life of the batteries.

It's a performance guarantee: the batteries will not lose more than

20% of their capacity, depending on how they are used. "For the motor and drive part proposed by Parker Hannifin, the life span can go up to 20 years, in perfect condition" he underlines.

A fast-growing market of electrifying vehicles

In the case of a new retrofitted combustion engine vehicle or a new electric vehicle, the gain can reach 30%. It all depends on the use: how much range will the end user need, how much power, for what purpose? By answering these questions, Novum Tech is addressing a fast-growing market, accelerated by the rise in fuel prices. With a full order book for 2022, and a growth of more than 400% since 2020, the design office is very busy. "The challenge for the coming years is to structure ourselves to meet the many demands." The market is not only substantial but also very dynamic: "There are between 2,500 and 4,000 vehicles in the fleet and about 10% of the overall fleet is renewed every year," says Yves Giroud, head of Neotrucks.

Positive customer feedback of performance

"We have had nothing but positive feedback from our customers to date, thanks to performance that is at least equivalent to that of combustion engines. Novum Tech's "short circuit" approach reinforces this gain: "More than 90% of our suppliers are based in the Rhône-Alpes region, like us," says Lorris Guilloux. Another important point is that it provides previously non-existent solutions and saves manufacturers' development costs.

“ We have had very positive feedback from our customers to date, thanks to performance that is at least equivalent to combustion engines. Moreover, we have opted for a short circuit approach: more than 90% of our suppliers are based in the Rhône-Alpes region, just like us. ”

Lorris Guilloux, Managing Director of Novum Tech