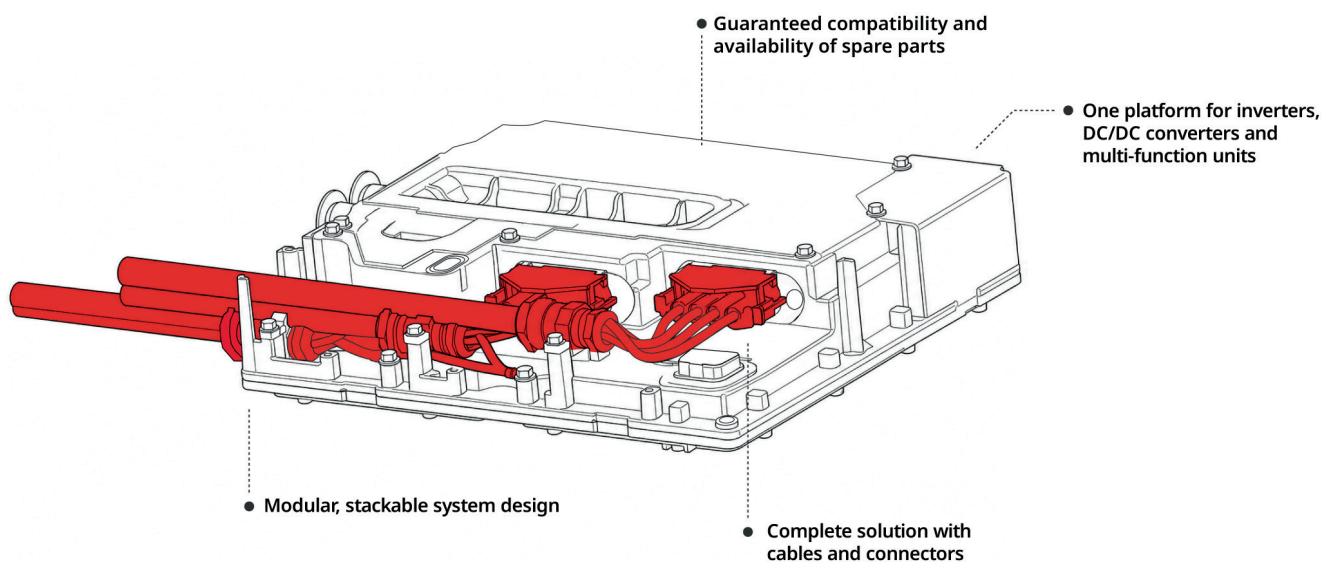


Bucher future-proofs Electric Commercial Vehicles system design

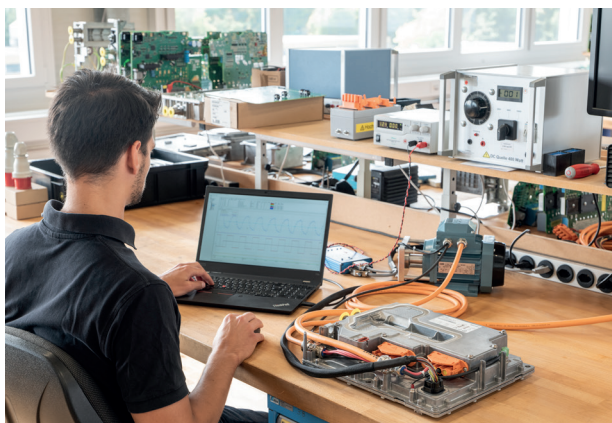


Bucher Hydraulics Mobile Drives' complete system solution helps future-proof vehicle platforms across multiple generations.

Development cycles in e-mobility are becoming ever shorter, yet electric commercial vehicles remain in service for many years, not least thanks to continuous technology upgrades. Bucher Hydraulics Mobile Drives system solutions are based on the company's Form-Fit-Function design philosophy. Components throughout the MOBILE product platform are designed with identical external dimensions and interfaces across all product variants, allowing them to integrate seamlessly into both current and future vehicle platforms for years to come. Power electronics components are developed together with their associated connection technology (high-voltage cable systems and connectors) and software solutions, so they can be integrated into the overall architecture of new vehicles while ensuring long-term availability through backward compatibility.



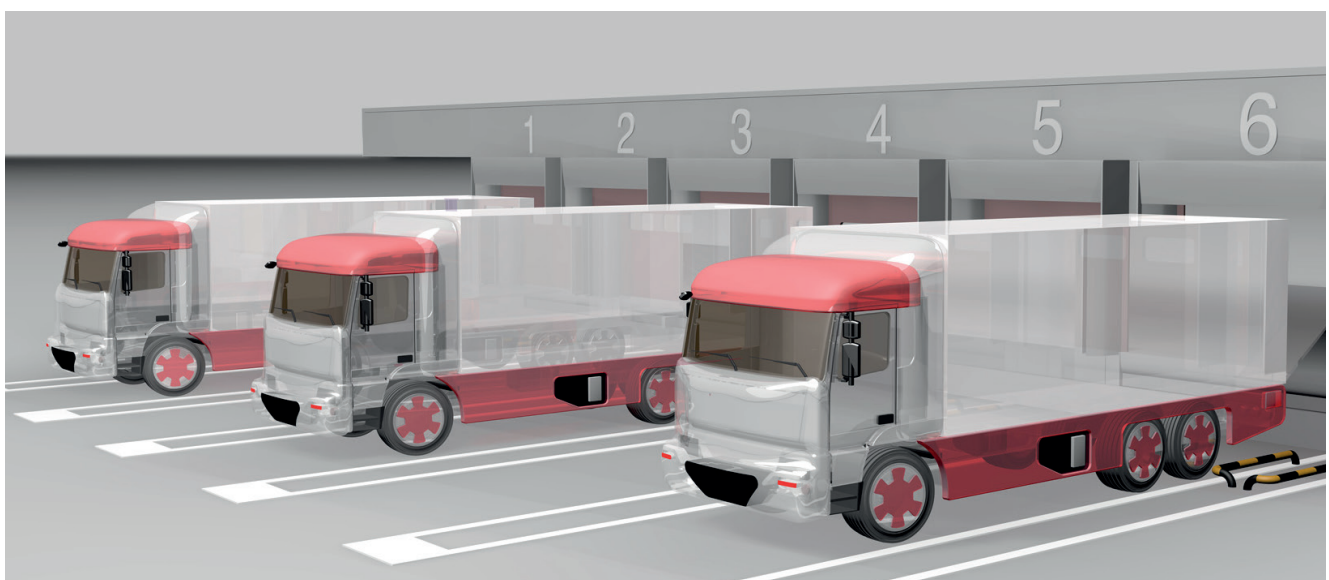
The best solutions are developed through close collaboration.



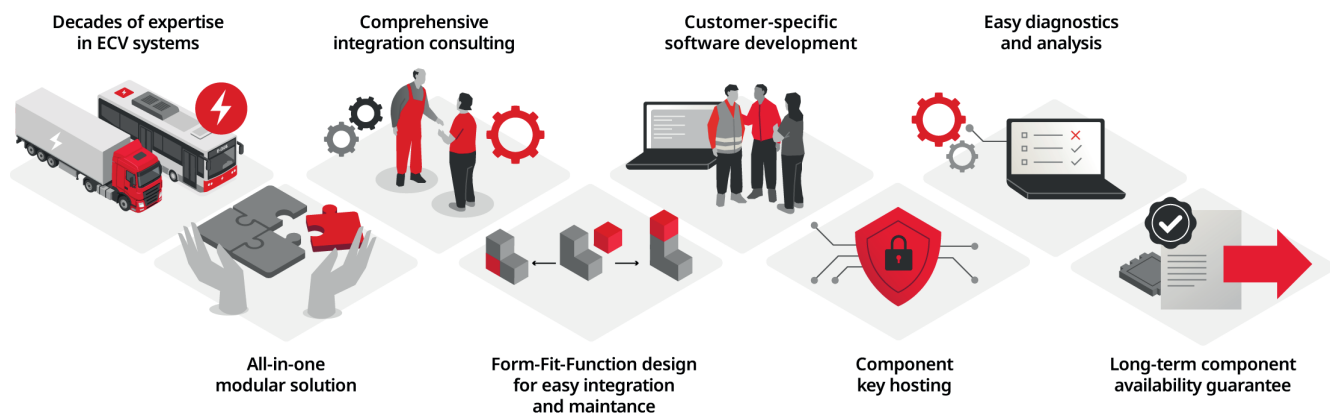
Thoroughly tested until everything works reliably.

The European market for electric commercial vehicles (ECVs) continues to expand rapidly. According to several studies, registrations of fully electric buses are expected to more than triple within the next few years, while electric truck registrations are projected to nearly quadruple. Today, more than half of all newly registered buses in Europe are already battery electric. This rapid growth is also accelerating innovation cycles, particularly in battery technology, making retrofitting an increasingly important consideration throughout a commercial vehicle's service life.

Bucher Hydraulics is well prepared to meet these challenges. As a technology leader in power electronics for auxiliary systems, Mobile Drives, headquartered in Romanshorn (Switzerland), has been supplying leading vehicle manufacturers for many years with modular system solutions for typical auxiliary equipment such as air compressors, air-conditioning compressors, and DC/DC converters. The modular design of these ready-to-use solutions significantly reduces engineering time.



The modular system solutions are used in trucks, among other applications.



An exceptional service commitment

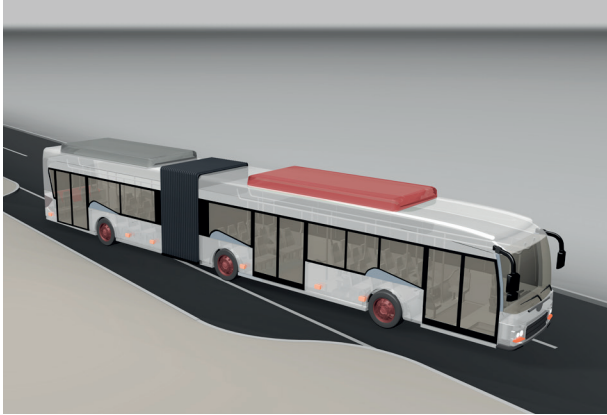
As drive units and peripheral components become increasingly complex, so do the demands placed on power electronics during vehicle development. The Mobile Drives complete system solution offers the advantage that all components are preselected and designed to work together reliably. Additionally, Bucher Hydraulics offers comprehensive support, from advising on the appropriate power class and assisting with integration to automated diagnostics and analysis. The company also offers software solutions for parameter configuration and optimization. Customer-specific software configurations allow individual requirements to be addressed, while the modular design enables custom software to be seamlessly integrated into each customer's existing application where required. Overall, the Bucher Hydraulics solution helps accelerate motor integration, minimize EMC interference, and ensure cybersecurity.

The latter, in particular, is becoming increasingly important for modern commercial vehicles as they become ever more interconnected. All Bucher Hydraulics solutions are cybersecurity-ready and support cybersecurity features that meet the current state of the art. One example is the Secure MOBILE Bootloader, which features a comprehensive hardware root of trust to ensure the integrity of both hardware and software. Upon request, Bucher Hydraulics can also provide the required cryptographic infrastructure. In addition, the company has implemented and established the processes required by ISO 21434. Furthermore, its solutions comply with the EU Cyber Resilience Act (CRA).

Long-term availability and usability of components

Beyond the benefits of comprehensive support, Bucher Hydraulics system solutions also help manufacturers avoid the more routine challenges that typically arise during retrofitting. Individually sourced components often result in unexpected compatibility issues, while troubleshooting is made more difficult by limited diagnostic capabilities across mixed-component systems. As a fully integrated system, the Bucher Hydraulics solution ensures seamless compatibility with new drive units, batteries, and auxiliary systems, extending the service life and operating life of electric commercial vehicles. Smooth functional analyses when upgrading auxiliary system components from one generation to the next also accelerate the process significantly and reduce planned downtime to a minimum.

When components are sourced from different manufacturers, a lack of transparency in supply conditions and gaps in the supply chain are also common causes of unnecessary delays, both when integrating systems into new vehicles and during retrofit projects. Bucher Hydraulics' service philosophy is centered around the needs of manufacturers and design engineers by ensuring the long-term availability of components and peripheral equipment, such as connection technology, over many years. One example is a Dutch bus manufacturer that, as part of a large-scale retrofit project, gradually recalled several hundred buses already in service to replace outdated batteries. The Bucher Hydraulics inverters in the Mobile Drives family remained in place and fully compatible throughout the process.



Reliable auxiliary power supply for buses.



Mobile Drives site in Romanshorn.

This demonstrates that Bucher Hydraulics solutions are far more than the sum of their individual components. The company has built a comprehensive support ecosystem around its products, enabling manufacturers and design engineers to integrate them easily, operate them safely and reliably, and ensure long-term viability across multiple vehicle generations.

Applications for the product platform MOBILE

The Product platform MOBILE platform has been specifically engineered for demanding operating environments, including:

- City buses, intercity buses, and airport buses
- Trucks
- Low-floor trains
- Mobile machinery (construction and mining equipment)
- Municipal vehicles (e.g. street sweepers)

Bucher Hydraulics Mobile Drives

The Mobile Drives business segment develops, designs, and supplies inverters and DC/DC converters as complete system solutions for mobile applications with supply voltages of up to 848 VDC for integration into electric commercial vehicles. (Optional section linking Mobile Drives to Bucher Industries, as in previous articles) Organizationally, Mobile Drives is part of Bucher Hydraulics within the Bucher Industries Group, the specialist in electrohydraulic drive and control technology. Headquartered in Romanshorn (Switzerland), Mobile Drives leverages Bucher Hydraulics' and Bucher Industries' global manufacturing and sales network to serve customers worldwide.

More than 200 years of industrial history

Bucher Industries is a global technology business with production facilities on five continents and leading market positions in mechanical and automotive engineering. The activities of the Group, which was founded as long ago as 1807, are geared to mankind's basic needs: reliable machines for a safe and healthy life. Bucher's five divisions, with decentralized management and profit responsibility, include specialized agricultural machines, municipal vehicles, hydraulic components, production equipment for the glass-container industry, as well as beverage-production equipment and automation solutions.

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