

# Press Release



## FEV Increases Efficiency through Algorithm for Vehicle Weight Determination in Real Time

**Aachen, 6. August 2020 – Vehicle weight is a crucial factor when it comes to an electric car’s efficiency and range. Having the ability to accurately determine environmental factors and vehicle payload at any time also means being able to provide precise forecasts for range and optimal route navigation. Under a new EU directive, all commercial vehicles also need to have a device to determine weight on board in order to be registered in the EU, starting in May 2021.**

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The approach taken by FEV – a globally leading service provider for vehicle and drive train development – is cost efficient and precise. “Our in-house software solution analyzes vehicle sensor data, correlates it, and compares it with a dynamic vehicle model that is also based on sensor data,” said Dr. Thomas Hülshorst, Group Vice President Electronics & Electrification at FEV. “This means that compared to other approaches, FEV’s solution is affordable, is flexible, and can be integrated into any vehicle type – whether a gas vehicle, an e-vehicle, a compact car, or a truck. What ultimately matters is that the algorithms are accurately calibrated for the specific vehicle.”

The gross vehicle weight needs to be precisely determined for various areas of application. For instance, range can be determined very accurately for e-vehicles, and FEV’s system allows for an optimized operating strategy for everything from energy management to navigation routing and charging strategy. This truly enhances end user comfort and thus creates another selling point.

In addition to this, FEV's solution helps fleet operators to accurately map out their fleet strategy. In the supplier industry in particular, weight load, recipient addresses, and traffic conditions can be used to generate automated dynamic routes and thus reduce costs for energy and staffing. On top of this, all commercial vehicles sold in the EU need to have an integrated, permanently installed system to determine gross vehicle weight as of May 2021, pursuant to a new EU directive. By eliminating additional cost-intensive hardware, the Aachen (Germany) based company offers a genuine alternative to other solutions.

FEV's system has already been tested in real applications and operating scenarios. "Our engineers have successfully configured and tested numerous vehicle types as well as trailer, tire, and axle configurations combined with various powertrain set ups," says Dr. Hülshorst. "We therefore are very pleased that the automobile industry is showing great interest in our solution."

The software has been successfully integrated and tested in various vehicle types in collaboration with leading manufacturers in the passenger vehicle and truck segment. The algorithms are currently undergoing further development and validation for use in series production of the next generation of vehicles.

For additional information on FEV's vehicle software development please visit: <https://www.fev.com/en/vehicle-software>



FEV's system for real time vehicle weight determination allows for an optimized operating strategy for everything from energy management to navigation routing and charging strategy.

Source: FEV Group

### **About FEV**

FEV is a leading independent international service provider of vehicle and powertrain development for hardware and software. The range of competencies includes the development and testing of innovative solutions up to series production and all related consulting services. The range of services for vehicle development includes the design of body and chassis, including the fine tuning of overall vehicle attributes such as driving behavior and NVH. FEV also develops innovative lighting systems and solutions for autonomous driving and connectivity. The electrification activities of powertrains cover powerful battery systems, e-machines and inverters. Additionally FEV develops highly efficient gasoline and diesel engines, transmissions, EDUs as well as fuel cell systems and facilitates their integration into vehicles suitable for homologation. Alternative fuels are a further area of development.

The service portfolio is completed by tailor-made test benches and measurement technology, as well as software solutions that allow efficient transfer of the essential development steps of the above-mentioned developments, from the road to the test bench or simulation.

The FEV Group is growing continuously and currently employs 6700 highly qualified specialists in customer-oriented development centers at more than 40 locations on five continents.