

Press Release



FEV Offers Unparalleled Capability for Environmental Tests with eDLP

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Aachen, Germany, March 2021 – High-voltage batteries, electronics, and other vehicle components are exposed to a variety of punishing environmental influences during their life cycle. FEV, a leading global service provider in vehicle and powertrain development for hardware and software, supports manufacturers and suppliers with a comprehensive test facility capable of accounting for virtually all environmental factors.

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With the new e-Dauerlauf Prüfzentrum (e-Duration Test Center) or *eDLP*, FEV boasts the world's largest development and endurance test center for electric powertrain components. The facility is situated near Leipzig, Germany, and provides around 70 test systems dedicated to performance, durability, abuse testing, and more on a total area of 42,000 m² (452,100 sq-ft.).

At the eDLP, 15 stations cover all common environmental tests in an area of approximately 2,500 m² (27,000 sq-ft.). Special attention is given to the requirements of ISO 16750 (Road Vehicles – Environmental conditions and testing for electrical and electronic equipment) as well as UN Standard 38.3, proving suitability for transport. Also, the behavior of batteries and electronic components with regard to warranty commitments is a critical concern resolved for eDLP customers. In addition, components of other vehicle assemblies can undergo environmental testing at the eDLP as well.

"Our team of experts at the eDLP provides advice and support in the specification of individual test objectives. If required, we also

develop suitable test cycles and take over their execution," says Prof. Stefan Pischinger, President and CEO, FEV Group. "We extract data from our findings and insert determinations directly back into the development process for our customers. This not only shortens virtual iteration loops, but also reduces real test requirements; and thus saves both time and money on the way to product series maturity."

The environmental test capabilities of eDLP at a glance:

- **Climatic tests/condensation:** climatic cabinet and temperature chambers for temperature and humidity profiles between -40 and 90 °C (-40 and 194°F) and 10 to 95 % RH
- **Chemical resistance:** climatic and temperature chambers to test the general resistance of materials to the effects of chemicals at different temperature and humidity profiles between -40 and 90 °C (-40 and 194°F) and 10 to 95 % RH
- **Surge water:** temperature chamber with surge water system (ice water, dirty water) for thermal shocks
- **Corrosion testing/salt fog:** climatic chambers with salt fog spraying systems for different temperature and humidity profiles
- **IP protection class:** dust, strong jet water, hot water, etc.
- **Dust testing:** dust chamber with high air circulation for use with SAE J726 standardized Arizona Road Dust or talcum powder
- **Dip tanks:** two 14 m³ (3,700 gallon) masonry dip tanks, in which test specimens can be immersed to a depth of one meter (over 3-ft.)
- **Negative pressure test:** Vacuum temperature chamber for changing air pressure conditions
- **Stone impact:** Multi-impact tester with chilled cast iron granules

The dimensioning and performance profiles of the individual test rigs are designed for maximum flexibility and to meet or exceed the requirements of all testing standards commonly used in the U.S., Asia and Europe. Like all test rigs in the eDLP, environmental tests run in 24/7 operation to ensure the fastest possible processing of projects and the continuous flow of information to customers. Clients can also be connected to selected test benches in real time and follow test runs of their product live. Once test cycles have been completed, there is also the option of being present virtually during the findings: This allows results to be exchanged directly and solution approaches or next steps to be coordinated together with the eDLP experts for unparalleled efficiency.

For additional information on eDLP visit: <https://edlp.fev.com/>



At FEV's eDLP, 15 stations in approximately 2,500 m² (27,000 sq-ft.) cover all common environmental tests for high-voltage batteries, electronic and other vehicle components.

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 currently employs 6,300 highly qualified specialists in customer-oriented development centers at more than 40 locations on five continents.