

Measurement of Vehicle Emissions and Performance

Výzkumný Ústav Železniční, a.s. (VUZ) offers professional services in the field of measuring emissions and performance parameters of vehicles. Measurements are carried out under real operating conditions and are intended for the development, certification, and environmental assessment of various types of vehicles and drives.

Key services:

- › Determination of energy and fuel consumption in defined driving cycles (results in g/km, MJ/km, kWh/km)
- › Measurement of exhaust emissions: CO₂, CO, NO, NO_x, CH₄, HC, particulate matter (PM) – according to customer requirements and vehicle type
- › Evaluation of performance parameters – efficiency, traction, and dynamics of vehicles with different types of drive systems (diesel, gasoline, HVO, electric, hybrid, hydrogen)
- › Environmental and energy assessment of operational demands – results that can be used to improve and manage ESG reporting, fleet management, and strategic decision-making
- › Measurements in accordance with EU, ECE, UIC regulations, or customer methodologies

Vehicles suitable for measurement:

- › Rail vehicles
- › Passenger cars and trucks
- › Buses and special equipment

Customer benefits:

- › Support from an accredited testing laboratory and a team of VUZ experts
- › Reliable data from real-world measurements
- › Support for the development and homologation of new vehicle types
- › Independent results suitable for authorities, investors, and internal decision-making
- › Comparison of technologies and carbon footprint calculations



REFERENCES:

- › České dráhy – research project on HVO Diesel alternative fuels with PESA 847 unit
- › České dráhy – ČD Bus and ČD Cargo: calculation of pollutants from motor vehicles in operation



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