

VUZ

VUZ Offers Cyber Resilience Assessment

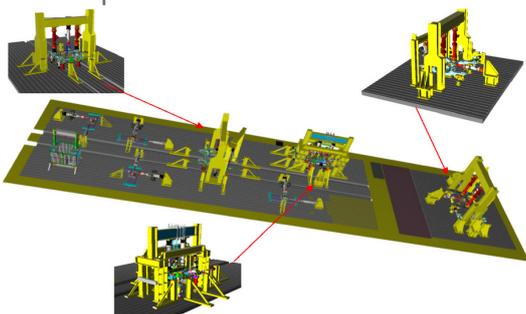
Cyber Security in Accordance with ČSN EN 50129

The new European NIS 2 Directive on cyber security measures to be taken across organisations is entering into force this year.

That is why VUZ newly offers cyber security assessments in the field of railway transport. We perform tests in accordance with our internal standards, as well as with CENELEC 50701. The final assessment report and certificate are issued in accordance with ISO 27000, IEC 62443 or TC 50701.

The standard focuses on assessment of cyber resilience of both standing and driving vehicles, and documentation and IT architecture from the point of view of cyber security; on top of that, VUZ also provides external examinations of IT architecture and acceptance of vehicles from the point of view of cyber security.

Starting from this year, the European NIS 2 Directive is obligatory, and the fine for an infringement may amount to up to CZK 10 million (EUR 416,000), or 2% of the total worldwide annual turnover of the company. In view of the gradual transition to exclusive operation under ETCS supervision, security and cyber security is becoming a factor that needs to be focused on when legal requirements are fulfilled. As the European leader in rail testing and certification, VUZ also offers training or workshops in this field.



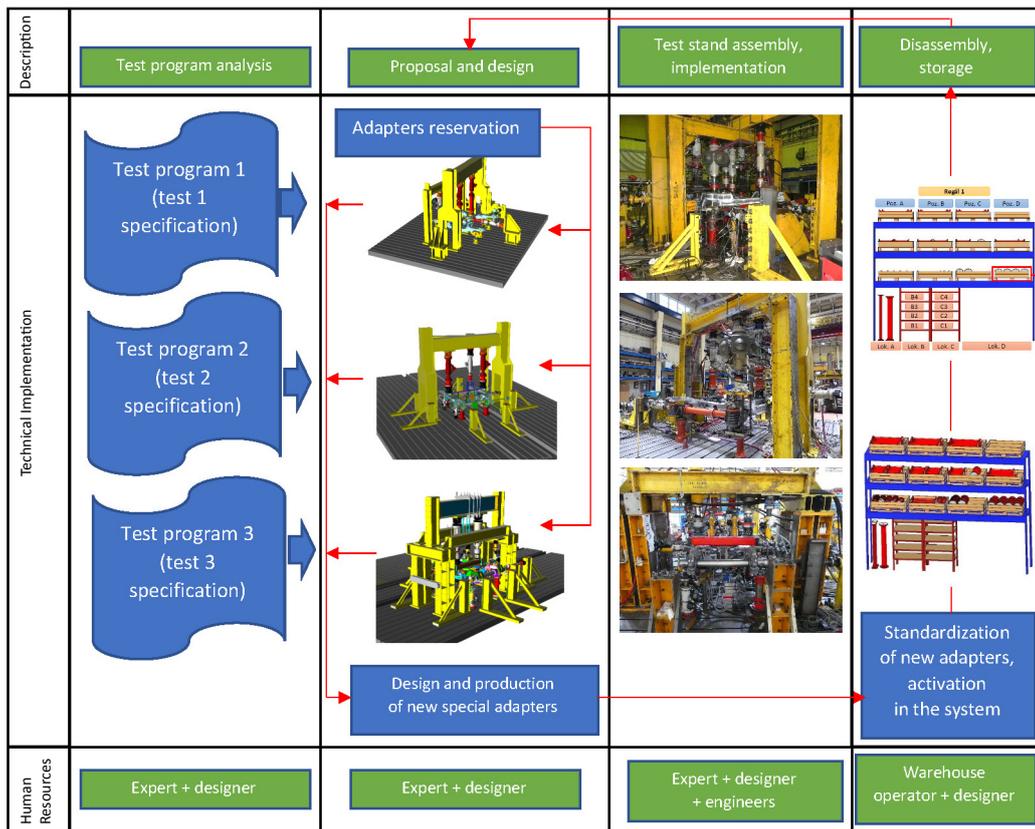
Sample of the 3D design and update of the 3D layout of the VUZ Dynamic Test Laboratory

We Will Calculate Your Carbon Footprint and Help You with ESG Responsibilities

The environmental impact is not the only factor for the companies anymore; in addition to that, ESG is newly coming to the foreground (environmental, social and governance responsibilities).

The carbon footprint, as an indirect energy consumption indicator, determines the amount of greenhouse gas emissions related to company operation. VUZ provides carbon footprint calculation and verification of an organisation as a whole or of a product (Scope 1, 2, 3), and a carbon footprint audit in accordance with the GHG Protocol and ISO 14064. The reported data can be subsequently used in the process of creation of the customer's corporate strategies in the field of environmental protection and sustainable financing.

This year the ESG reporting obligation will start to apply to big companies. It is likely to cover even medium-size and small businesses in the future. But even now many banks and investors take ESG reporting into account, especially when granting loans. VUZ therefore offers the ESG Report in accordance with the EU legal regulations. We guide you through the process of ESG Report preparation, quick analysis and workshop, and determine and help you to set environmental and social factors, as well as sustainable corporate governance and management factors.



DTL project management and planning scheme

Accreditation & Certification

VUZ has been certified by CDP as the first entity in Central and Eastern Europe in the railway transport segment, and we work together with an internationally recognised data verification organisation.

Accredited Fatigue and Strength Tests at the Dynamic Test Laboratory (DTL)

At our testing facilities, we test a wide range of rail components, such as bogie frames, wheels, bearings, axles, rails, sleepers, etc. The bogie frame testing facility is one of the most frequented parts of the DTL equipment. We have therefore expanded its capacity and now we can carry on three mutually independent tests at the same time – mostly tests of bogie frames of railway but also other types of vehicles. The demands on the frequency and overall real-life characteristics of the simulated load tend to grow continuously; the accredited tests performed at our facilities therefore simulate a maximum number of potential situations that can occur or really occur in operation. And that applies to both the static and the dynamic modes.

DTL is equipped with 34 hydraulic actuators in the load range of 30–630 kN, which can be combined

into almost any testing setup and are controlled by the EU 3000 system including TestControl® software. They are fed by four hydraulic pumps set to the total flow rate of up to 500l/min and working pressure of 28MPa throughout the whole main feed pipe. To secure measurement by a sufficient number of strain gauges and other sensors, DTL is equipped by HBM measuring systems with MGC plus measuring control panels. By means of them, up to 2 x 128 channels can be measured simultaneously. On three stands, both static measurements of bogie frames and dynamic tests can be performed at the same time.

For complicated and complex projects, we use a ‘digital twin’, i.e. a complete 3D model created by Inventor® software and a planning system related to it. The tests are performed by an experienced team of experts, leading professionals in their field of expertise ready to carry out and evaluate even the most demanding projects.



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A European Leader in Rail Transport Testing



Railway vehicle testing
Dynamic component testing
ETCS testing
Interoperability assessments
Safety assessments
Accredited certifications

17 km of railway test tracks
Covered by GSM – R signal
Equipped with ETCS L1 and L2 signalling systems
All major European power supply systems supported
10,000+ vehicles tested
1 500+ certifications issued
50 years of experience



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