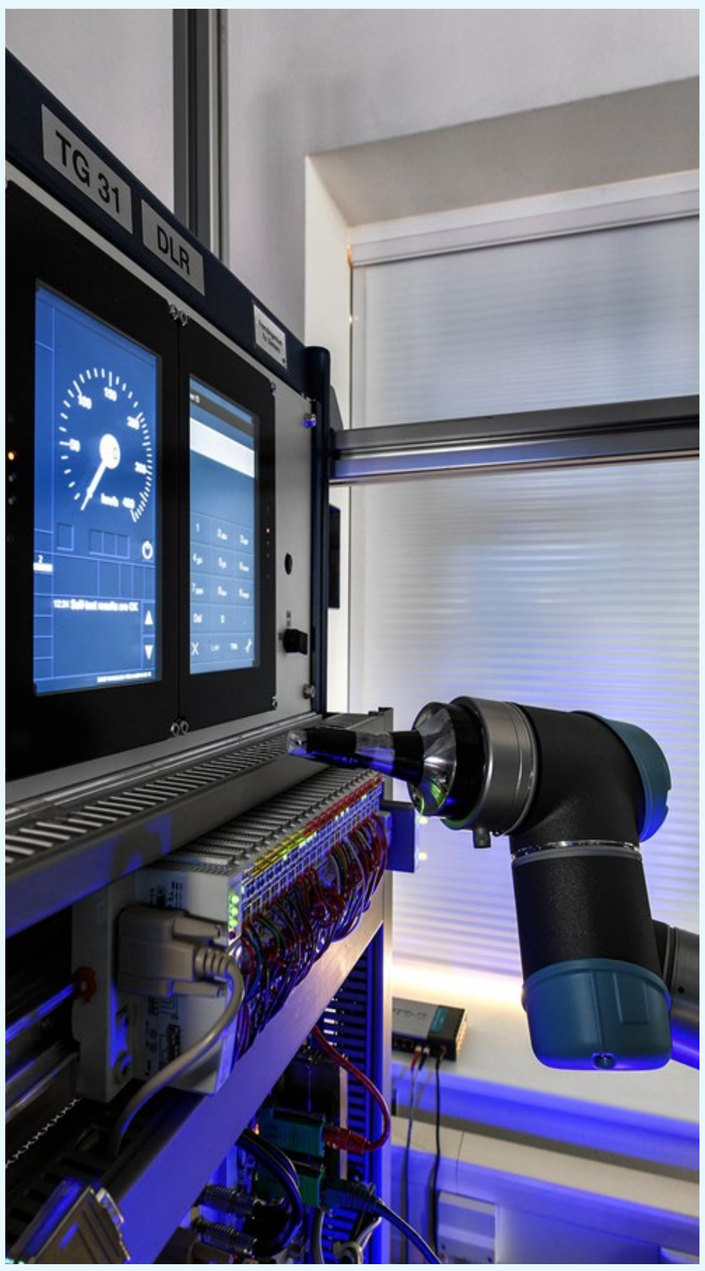
RailSiTe® from the DLR Institute of Transportation Systems, Braunschweig

RailSiTe® is a simulation and testing environment developed by the DLR Institute of Transportation Systems in Braunschweig, Germany. It provides a platform for the simulation, testing, and validation of railway control and signaling systems under realistic conditions.

- Simulation and testing laboratory for railway control and signaling systems
- Detailed technical and operational simulations possible
- Accredited since 2012 according to DIN EN ISO / IEC 17025 for functional conformity testing of ETCS onboard units
- Representation of the entire functional chain of rail transport:
  - Trackside control and signaling technology
  - Interlocking and track infrastructure
  - Air gap (track-to-train communication)
  - Onboard vehicle components



A robotic arm precisely simulates train driver actions on the Driver Machine Interface (DMI), enabling automated testing and integration into railway vehicle simulation environments. This technology supports research, development, and validation of train control systems, enhancing the reproducibility of operational procedures.

- Robotic arm for DMI (Driver Machine Interface) operation
- Simulates train driver actions on the DMI
- Precise execution of operations on the DMI
- Integration into test and simulation environments for railway vehicles
- Used in research and development of train control and signaling systems
- Supports automation and reproducibility of operational procedures

- Human-centered design is crucial in railway system development
- Driver's cab includes high-resolution screens for realistic track representation
- Human-in-the-loop simulation enables operator-system interaction.
- Simulates real train operations to enhance understanding.
- Integrates with test environments for train control and signaling systems.
- Supports testing and validation of operating procedures and system behavior

The RailSET laboratory (Railway Simulation Environment for Train Drivers and Operators) significantly contributes to all stages of this human-centered development process.