

ELECTRICAL MACHINES AND DRIVE SYSTEM DIAGNOSTICS

This competency evaluates electrical machines and drive systems under lab and industrial conditions. It provides measurement-based insights into performance, efficiency, and operational behaviour, supporting RDI by enabling validation, optimisation, and diagnostics of machines and drives. Partners benefit from identifying inefficiencies, operational risks, and improvement opportunities.



ACHIEVEMENTS

- Established measurement and signal acquisition workflows for condition assessment of electric machines and drives.
- Applied structured signal analysis methods for performance evaluation and fault detection.
- Implemented standards-compliant testing procedures in laboratory and industrial environments.



INFRASTRUCTURE

- Measurement systems for motor parameters, inverter outputs, and operating conditions.
- Power analysers, current and voltage sensors, temperature sensors, VFDs, oscilloscopes, DAQ systems.
- Tools for condition monitoring, efficiency assessment, and fault observation.
- Signal processing and analysis software for post-processing, visualization, and diagnostics.



REFERENCES

- Peer-reviewed publications on electric machine performance assessment and drive diagnostics.
- Internal technical reports on industrial and laboratory testing campaigns.
- Standards-compliant case studies and measurement protocols for electrical machines and drive systems.