



**LPP**  
HOLDING

# PREDICTIVE DIAGNOSTICS

THE FUTURE OF COST OPTIMISATION

## FOR LOCOMOTIVES AND TRAINSETS

The optimisation of rail operation is motivated by the need to increase vehicle reliability, minimise operational disruption and improve operational safety. Deploying AI predictive diagnostics for rail vehicles brings several key benefits. Predictive diagnostics can identify potential failures and perform maintenance in a timely manner, reducing costs and increasing operational efficiency. In this way, data can also be used to analyse trends and plan long-term infrastructure investments.

### COST OPTIMISATION

- + Predicting the future state of the art
- + Early service alerts
- + Capability to plan service and maintenance more efficiently
- + Logistics chain optimisation
- + Extending the life cycle of the equipment
- + Minimise unplanned downtime and transport disruptions

### THE ESSENCE IS DATA

In order to fully unlock the potential of predictive diagnostics, it is crucial to collect and analyse large amounts of historical data that will allow us to train our predictive models effectively.

### USING AI ALGORITHMS

Using AI algorithms, we can uncover even seemingly unrelated data patterns. The larger the database is and the more we have the ability to optimize AI algorithms, the more accurate our predictions of future states become.

### WE WORK WITH ARTIFICIAL INTELLIGENCE DAILY

Our experience of more than 15 years lies in the collection and analysis of diagnostic data not only for heavy machinery. In recent years, we have taken full advantage of the rapid progress in the field of artificial intelligence to apply our work with neural networks and machine learning to unstructured data sets. Our development activities focus not only on projects for predictive diagnostics but also on image segmentation, subject recognition and autonomous navigation.

