

AI for ETA Prediction

Supporting Operational Efficiency And Sustainable
Quality Managment Through AI

What We Will Cover

	Topic	Contents
1	Siemens Mobility Software	• Who We Are • TPS • TPS Sales Logistics
2	Siemens & AI	• Overview: Siemens AI Initiatives
3	AI For Freight: ETA Prediction	• ETA Refresher • Our Learnings from EU-Rail HETA • Closing Statement

SMO SW: Who We Are & Our Portfolio

digital solutions to plan, analyze and run their services smoothly, and enabling them to provide their customers with a travel companion



Train Planning System (TPS)

e.g. DB InfraGO, Germany

- Use of TPS.trackworks for planning the maintenance of the rail network (8,000+ users)
- Further solutions include timetable construction, live dispatching & optimization



Mobility-as-a-Service (MaaS)

e.g. Renfe, Spain

- Countrywide platform, allowing users to plan, book and pay for trips in a single application
- Integrates different transport modes for seamless door-to-door traveling



Public Transport Ticketing

e.g. Baden-Württemberg, Germany

- Check-in/Be-out (CiBo) ticketing system for public transport
- Enables passengers to travel seamlessly throughout the state without needing any knowledge of tariffs



Demand-Responsive Transport (DRT)

e.g. Île-de-France, France

- DRT meets the challenges of the first and last mile by offering passengers additional mobility options
- Service extends existing regional public transport offer

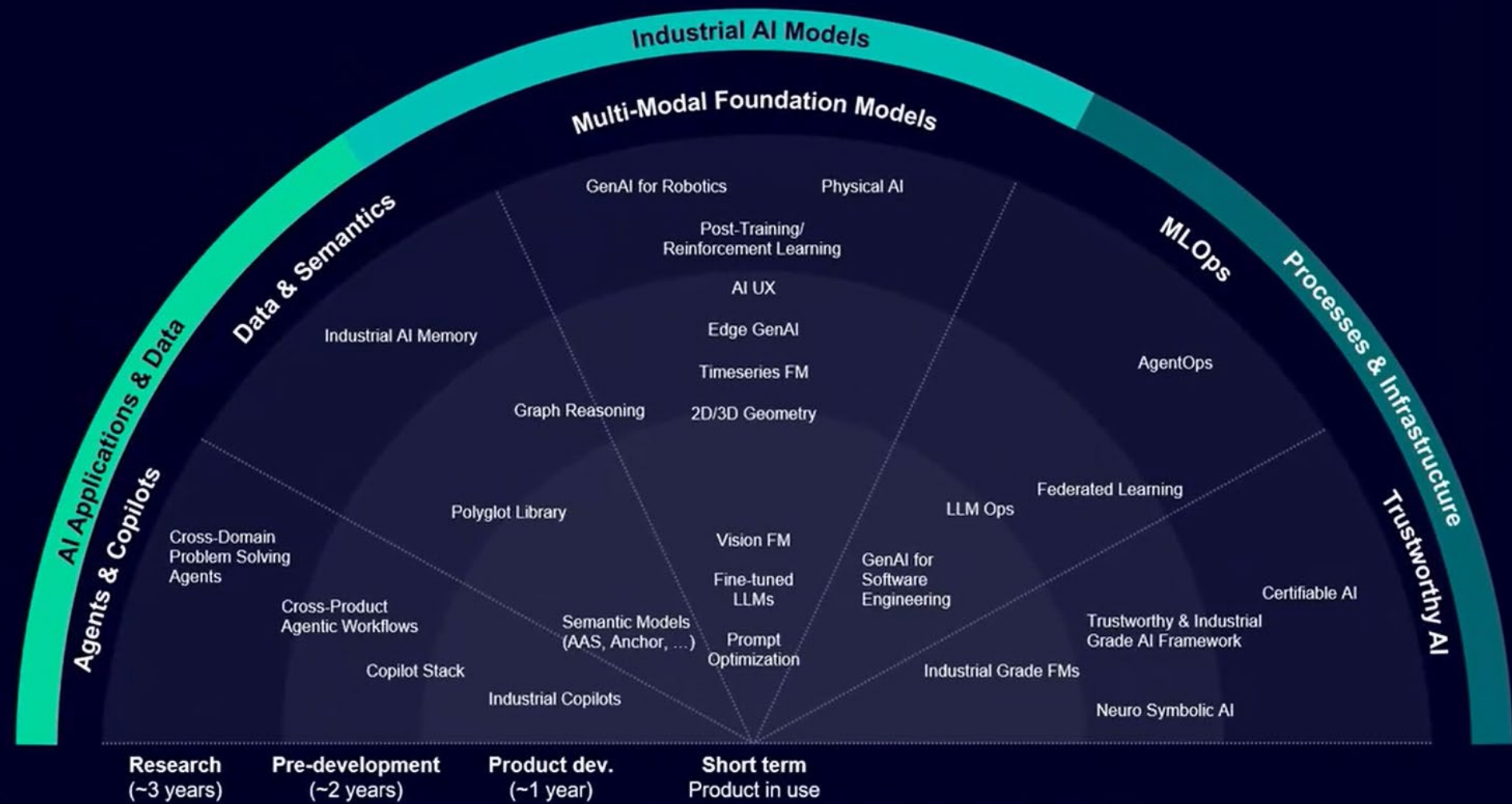


Inventory, Reservation & Ticketing

e.g. Brightline, United States

- Software-as-a-Service S3 Passenger
- Enabling Brightline to optimally allocate seats and maximize utilization, resulting in increased capacity and revenues

Siemens & AI: Overview of Initiatives

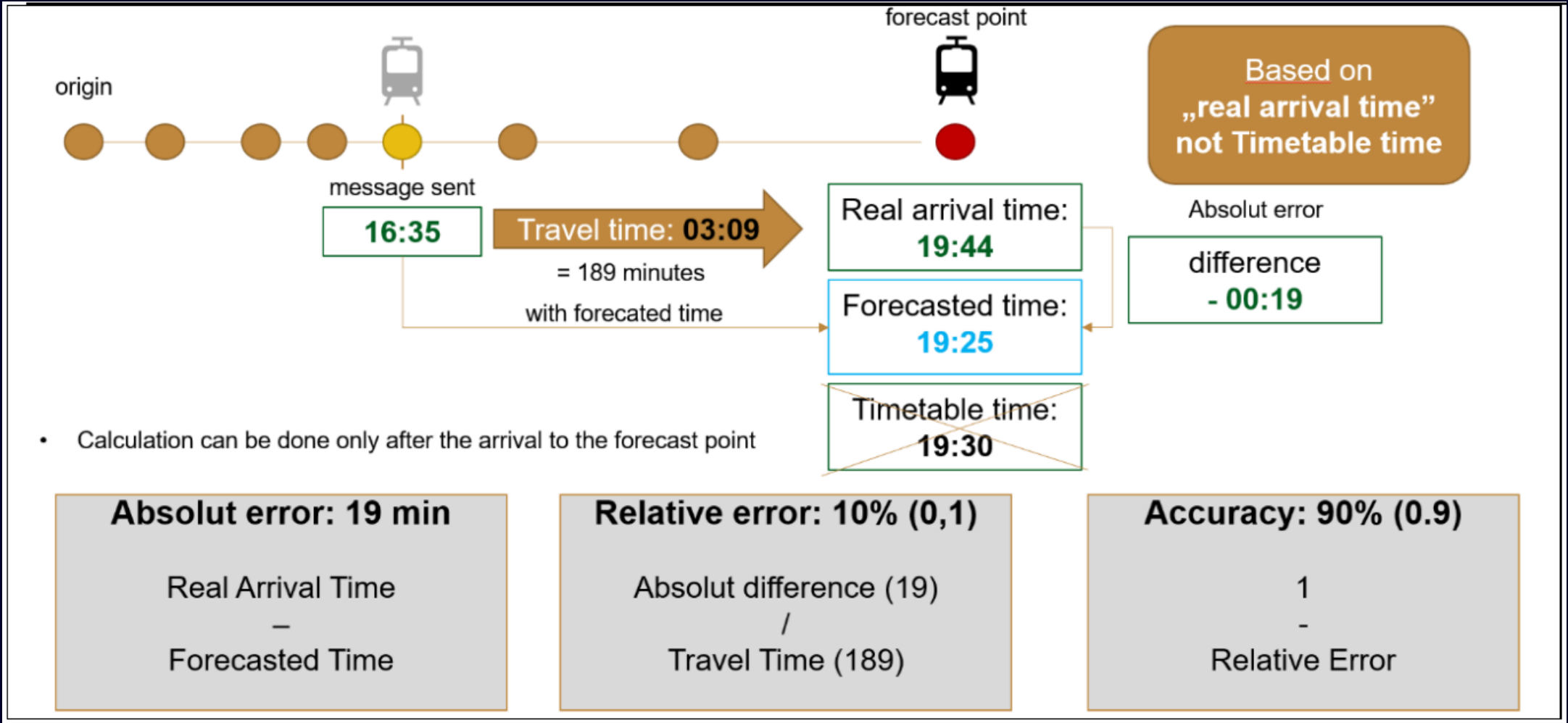


AI for Freight: ETA Prediction - HETA

- HETA-Project is part of EU-Rail FP5
- Shifting Road to Rail
- Development of an AI-System to make accurate ETA predictions for freight transportation
- Integration of various data sources including TAF/TSI for model training
- Uses a mixture of machine learning and deep learning techniques
- Lean and agile development process

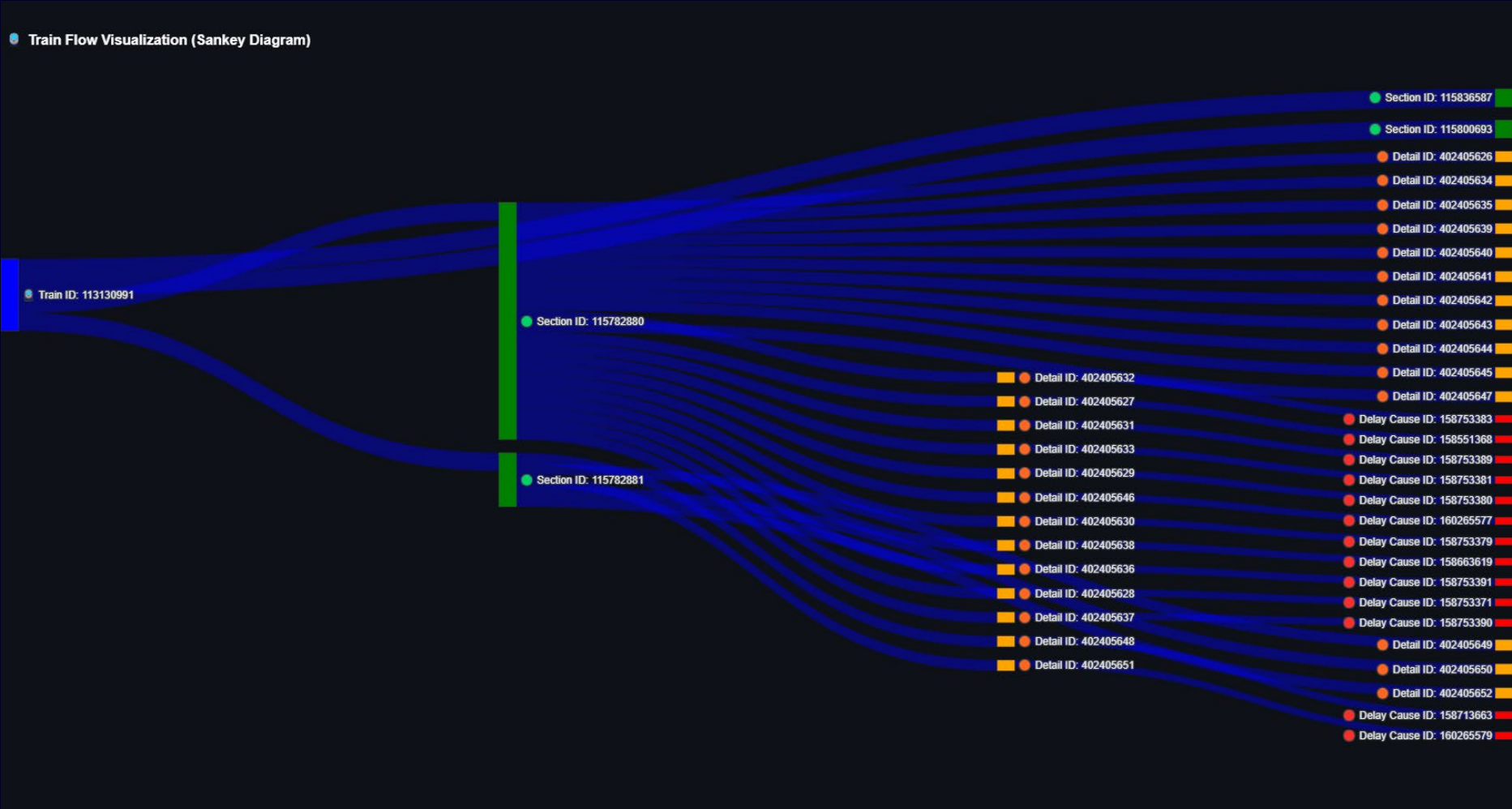


AI for Freight: ETA Prediction - Refresher

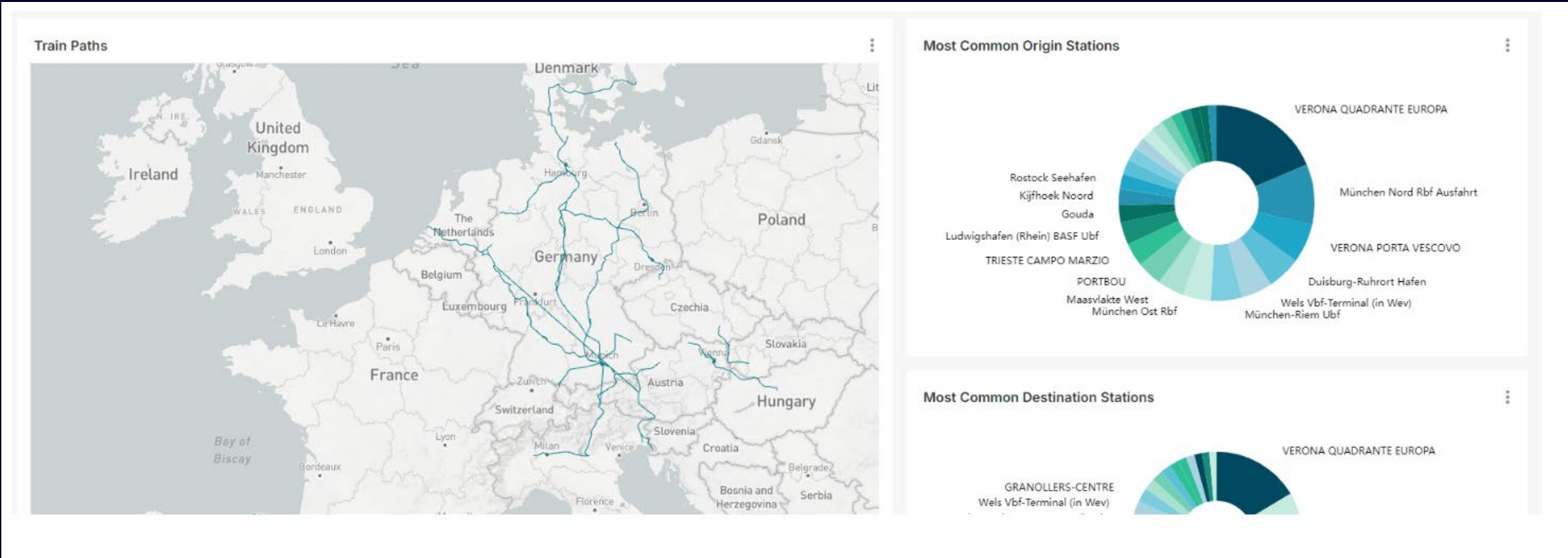


Source: TAP and TAF TSI Sector Handbook P. 168

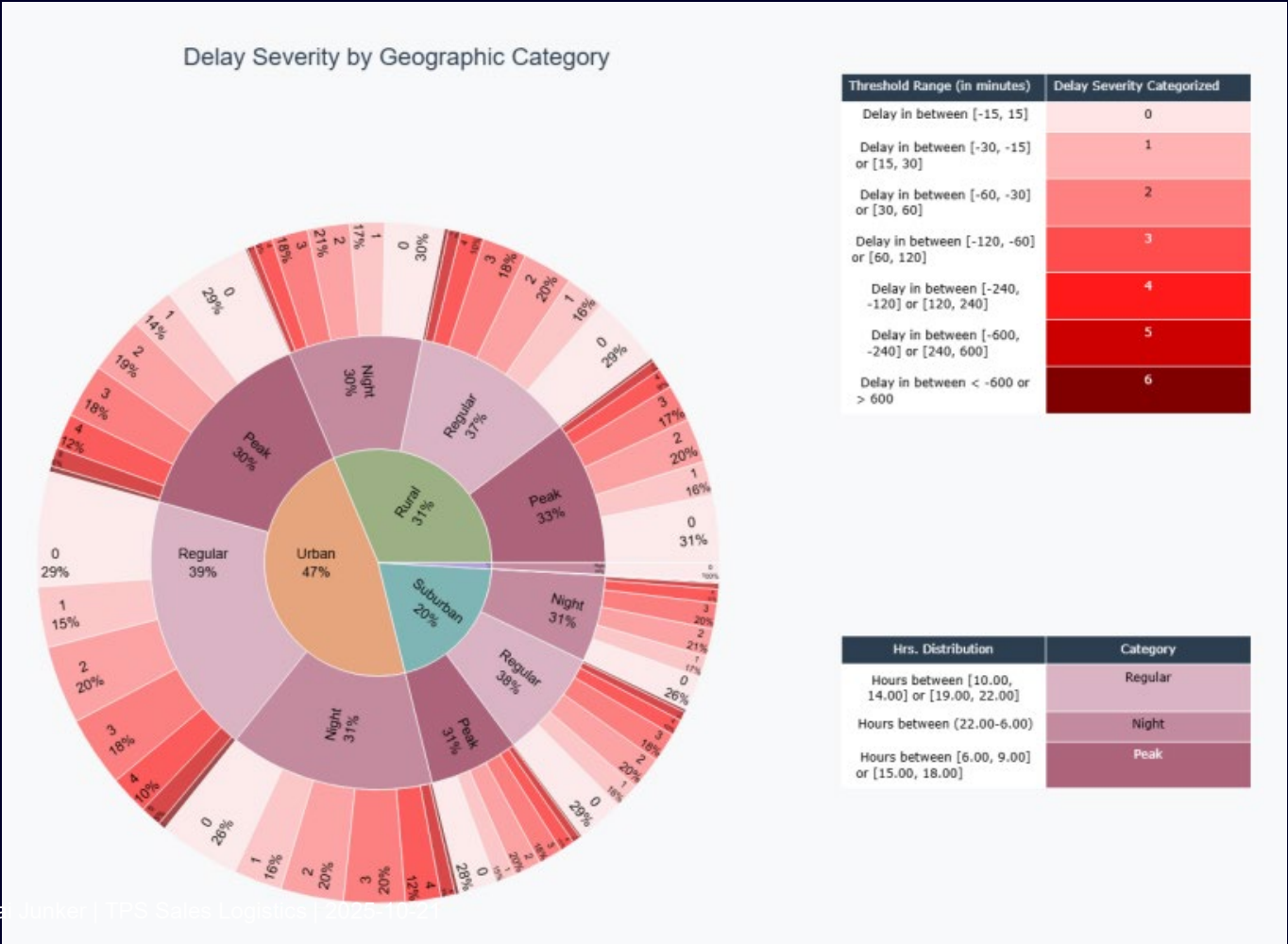
AI for Freight: ETA Prediction – Data Quality



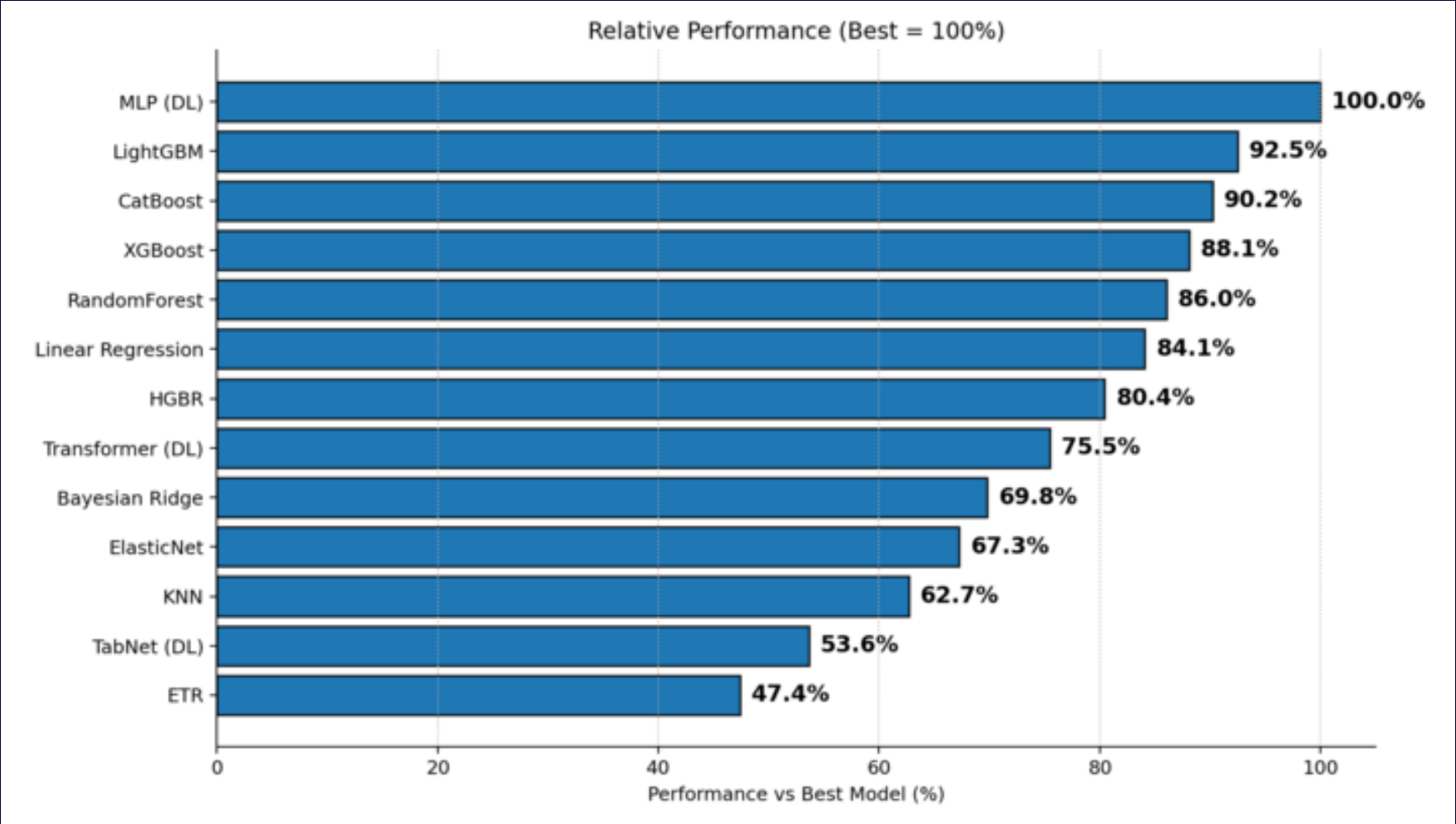
AI for Freight: ETA Prediction – Data Integration



AI for Freight: ETA Prediction – Complexity of Freight Data



AI for Freight: ETA Prediction – Comparison of AI Models



Closing & Contact

- Thank you for your time
- For further questions and inquiries:
- Lars.Deiterding@Hacon.de
- Nikolai.Junker@Hacon.de