

Multimodality

Transport planning  
and execution



# Routing algorithm enabling synchromodal transport chains



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Developed by :



Project by :



Operational fields

Technologies

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# ROUTING ALGORITHM ENABLING SYNCHROMODAL TRANSPORT CHAINS

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## Solution description

**High-Performance Routing Algorithm** that enables synchromodal door-to-door transport chains across Europe by integrating road, rail, inland waterway, and sea modes.

Key features include:

- Multimodal route optimization with real-time updates
- Simulation of disruptions (e.g., strikes, weather, infrastructure failures)
- Dynamic rerouting and cost-emission trade-offs
- Integration with timetable and relay transport data
- AI-based trailer swap coordination (MANSIO)

The system uses advanced graph models, Dijkstra's variants, and precomputed routing networks (HPR) to deliver fast, accurate, and scalable routing results.



## Benefits

- Optimised multimodal routing improves logistics efficiency
- Reduces empty runs and enables door-to-door planning
- Supports modal shift to greener transport, cutting CO<sub>2</sub> emissions
- Real-time disruption management enhances resilience
- Balances cost, time, and emissions for optimal routing
- Seamlessly integrates with existing TMS and planning systems

Main beneficiaries:  
LSPs, Freight Forwarders &  
Shippers, Intermodal Operators  
& Carriers



Technology readiness level : **7**  
Implementation stage : **Pilot**

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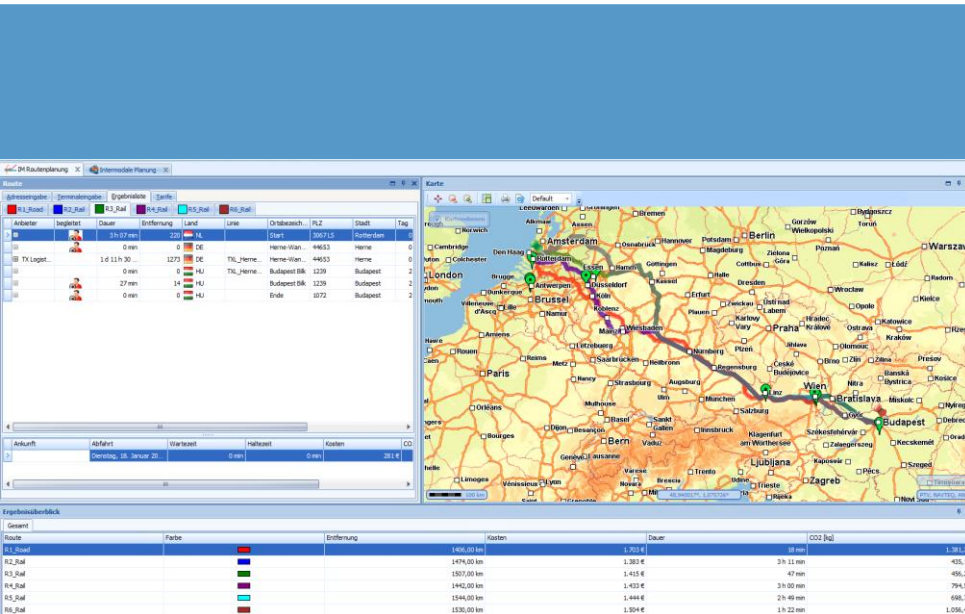
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Share your contact  
details and we'll  
get in touch  
with you!



Would you like to know more?  
Take contact :



Florian Krietsch



PTV Planung Transport Verkehr GmbH.  
Haid-und-Neu-Str. 15. 76131 Karlsruhe.  
Germany



florian.krietsch@ptvgroup.com



+49 721 9651-0

<https://www.ptvgroup.com/en>

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