



Long-haul & regional
road transport

Digital Twins, AI
and predictive
technologies

Determining the right vehicle for the right duty



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European Union

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Developed by :



PTV GROUP

TNO

Project by :



Operational fields

Technologies

Solutions



DETERMINING THE RIGHT VEHICLE FOR THE RIGHT DUTY

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Solution description

An AI-driven solution that automates the selection of suitable EMS vehicle combinations for specific routes.

It uses advanced vehicle dynamics models and **digital twins of both vehicles and infrastructure** to assess feasibility, including swept path analysis for complex manoeuvres such as roundabouts and sharp turns.

Designed for ports, terminals, and logistics operators managing HGV movements.



Benefits

- **Optimised vehicle deployment.** Ensures the most suitable vehicle is assigned to each route, improving efficiency.
- **Enhanced safety and compliance.** Identifies route constraints using digital twins and swept path analysis.
- **Reduced operational costs.** Minimises trial-and-error in route planning, saving time and resources.



Main beneficiary:

All companies involved in the operation of HGVs



Technology readiness level : 7
Implementation stage :
Pilot

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Intelligent access

Returns the feasibility of driving a type of EMS combination on a particular road network

- Fully automated workflow
- Using advanced vehicle dynamics models
- Digital twinning of vehicle and road infrastructure

Swept path analysis

- Roundabouts
- Sharp turns

Watch how these digital twins work ->



www.zefes.eu



Would you like to know more?
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