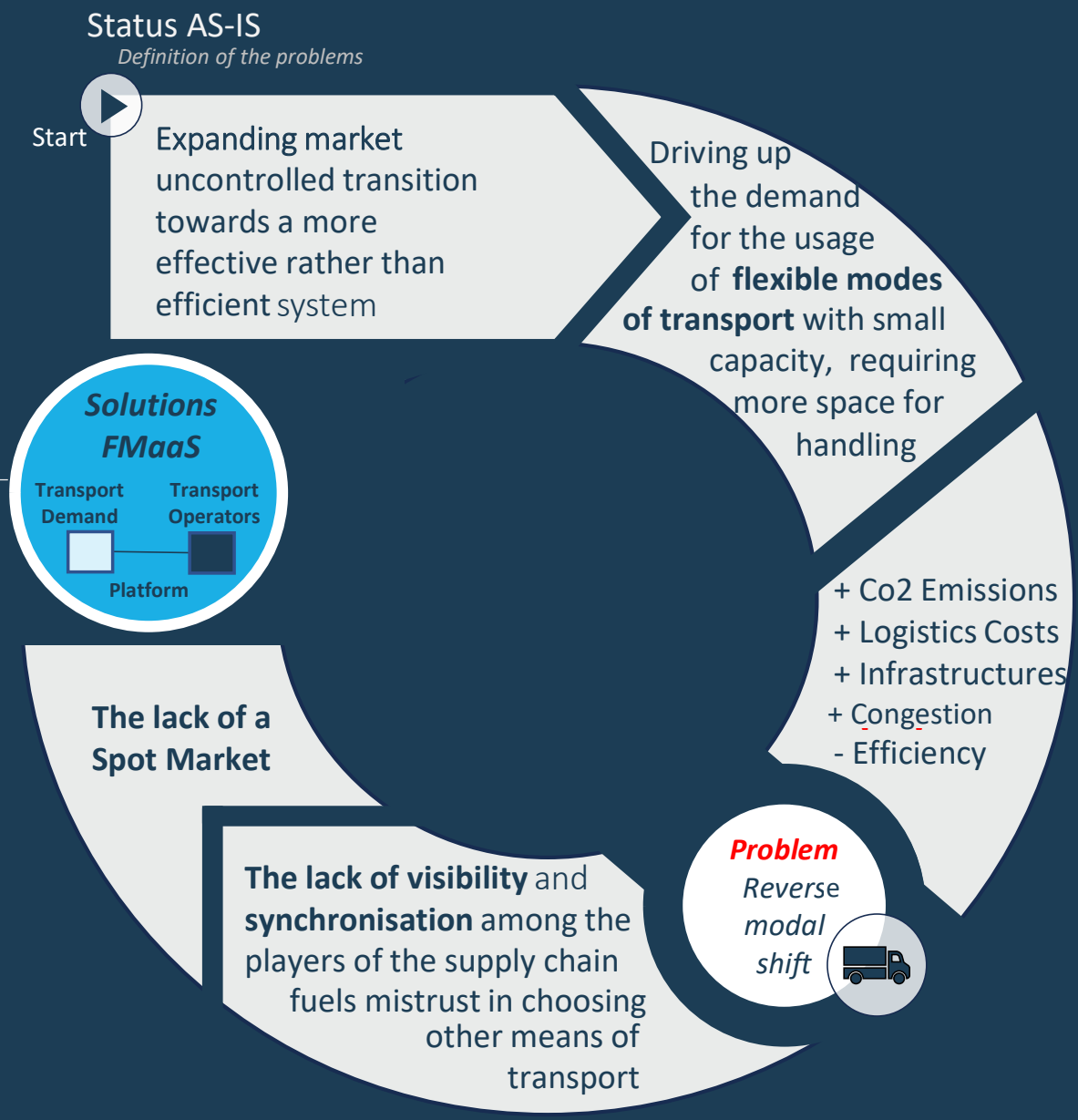
It's a Cargo Match! ...

Attaining waste-free and effective freight transport systems by seamlessly matching demand and supply with inclusive, smart, and green-oriented booking platforms

Contrasting the *Reverse Modal Shift* to trucking



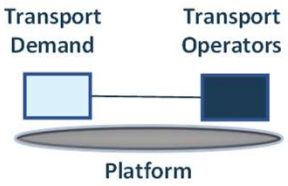
FMaaS as a solution to boost efficiency for interconnected and intermodal transport looking for solutions in real-time

Interconnecting demand and supply in freight transport with an inclusive booking platform as a *"Value Proposition"* for *FMaaS*

Stakeholders

- **Shippers: request transport services, main** users of the platform *(e.g., Eversspecial, Evofenedex, Philips)* ;
- **Transport operators**: will improve the **visibility** of their transport capacity and facilitate cargo **consolidation** through the platform, (e.g., ITV) ;
- **Freight forwarders:** mediators between shipper and transport operators. They facilitate the booking of transport services, (e.g, TLN);
- **Platform operators:** creators of the platform environment (e.g., Uturn, Trans.eu, Cofano)

Framework



Goals

- **Short term** scientifically defining conditions for developing a fair and efficient marketplace
- **Long term** Emissions' reduction, limiting expansion of infrastructures.

Value proposition

An online **platform** that can **favour the synchronization** between **shippers** and **transport** providers by offering seamless matching, execution, **monitoring and payment of transportation services**.

Partners

- Universities;
- Universities of Applied Sciences;
- Industries;
- Public Administration.

Methodologies

- Surveys;
- Interviews;
- Stated choice; experiments;
- Empirical research;
- Optimization;
- Reinforcement learning;
- Action Design Science;

Work packages

A set of **8 work packages**, addressing:

- WP1) Business models;
- WP2)OperationsManagement;
- WP3) Behavior, acceptance and adoption
- WP4) Legal frameworks
- WP5) Data Management and Trust;
- WP6) AI;
- WP7) Architecture;
- WP8) Valorization;

Risks mitigation

- Developing a **solid legal framework** that tackles risk distribution, the liability of the service, the balance of interests;
- Developing a set of **secure protocols for data processing** and data sharing to manage trust issues;
- Creating a set of business models to **limit market control strategies and boost fairness;**

Benefits

- Better use of available capacity (infrastructures and modalities);
- Decentralized allocation (small transport providers that want to emerge in the market);
- Reduce intermediaries costs;
- Dealing better with uncertainty (no shows, late arrivals -> using spot market);

Matching supply and demand to boost efficiency

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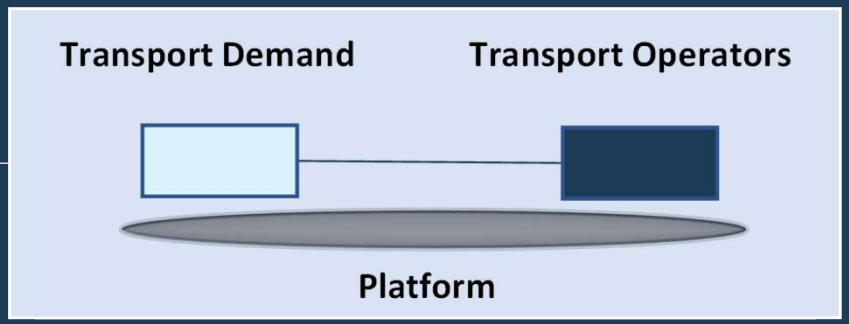

Goals

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- **Long term** Emissions' reduction, limiting expansion of infrastructures.

Risk Mitigation

- Unclear definition in terms of role/liabilities;
- Mistrust on data sharing;
- Fragmented market due to concentration of power from a unique player;

A platform-based free market can potentially attain a higher utilization of available transport capacity and a reduction of external effects

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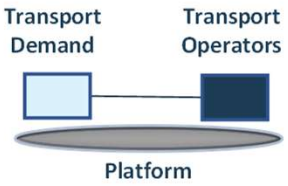

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Project structure and cooperation between Universities, Industries and Public Authorities

Scope	*Owner*	*University*
WP1 Business Models	*L.C.I. Denoo, K.S. Podoynitsyna*	TU/e, Tilburg University
WP2 Supply chain and operations management	*S. Fazi, J. Fransoo*	TU Delft, Tilburg University
WP3 Behavior choice modelling incentives	*E. Molin, E. Spiliotopoulou*	TU Delft, Tilburg University
WP4 Legal Framework	*W. Verheyen, F. Smeele*	Universiteit Antwerpen, Erasmus University Rotterdam
WP5 Data management and trust	*R. Zuijdwijk, S. de Leeuw*	Erasmus University Rotterdam, Wageningen University & Research
WP6 Artificial intelligence	*N. Yorke-Smith, M. Mes*	TU Delft, University of Twente.
WP7 FMaaS It architeture	*M. Iacob*	University of Twente.
WP8 Knowledge utilization	*T.M Verdujin*	Hogeschool Rotterdam, University of Applied Sciences, Fontys University of Applied Sciences

Collaborations through WPs