STORM

Smart freight TranspOrt and logistics research Methodologies

STORM at glance

Dr. Yancho Todorov, VTT

Project Coordinator

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 101006700.

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Smart freight TranspOrt and logistics research Methodologies at glance

- The project aims at the EU call “Advanced research methods and tools in support of transport/mobility researchers, planners, and policy makers” (MG-4-8-2020 https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/mg-4-8-2020)
- Time span of the project – 01.2021 – 06.2023
- The focus of the project is to identify and screen new data sources, develop novel methodologies, and generate use cases including the latest trends in freight and logistics transport.

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Project Consortium

- VTT, Technical Research Centre of Finland
- Fraunhofer, Institute of Systems and Innovation Research, Germany
- Chalmers University, Department of Space, Earth and Environment, Sweden
- Czech Technical University in Prague, Department of Logistics and Management of Transport, Czechia
- ERTICO – ITS, Belgium

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STORM specific objectives

- ✓ Screen existing trends and challenges in freight transport, including digitalisation of markets and transport systems, together with decarbonisation and automation of transport. Identify analysis needs and knowledge gaps that cannot be met by current models and tools.
- ✓ Assess existing and evaluate new sources of data and how to collect, store, process, and analyse them.
- ✓ Create “synthesized data” that have broader uses and applications. Define tools and procedures needed for a data management and analysis strategy that generates new information without compromising customer privacy or industry commercial-in-confidence data including data sensitive for competition.
- ✓ Elaborate new advanced analysis frameworks, models and tools to address the new needs for the analysis of structural change in logistics and freight transport.
- ✓ Monitor, assess and demonstrate the application of the data strategy and analysis frameworks, models and tools in illustrative case studies.
- ✓ Provide recommendations for research and development on new data, new methods, and new tools to assess the potential of disruptive technologies in freight transport and disseminate the project results

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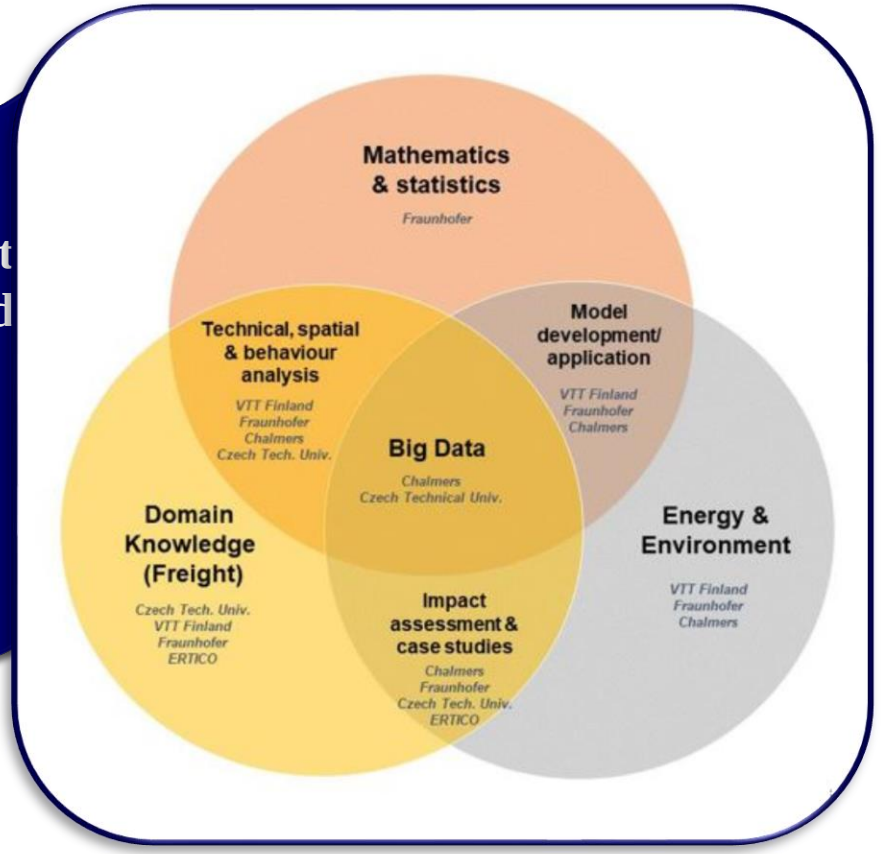
Domain expertise of the consortium

The overall objective of the project is to design concepts, methods and tools to meet the new needs for analysis, monitoring and assessment arising from emerging disruptive technologies and trends in freight and logistics transport.



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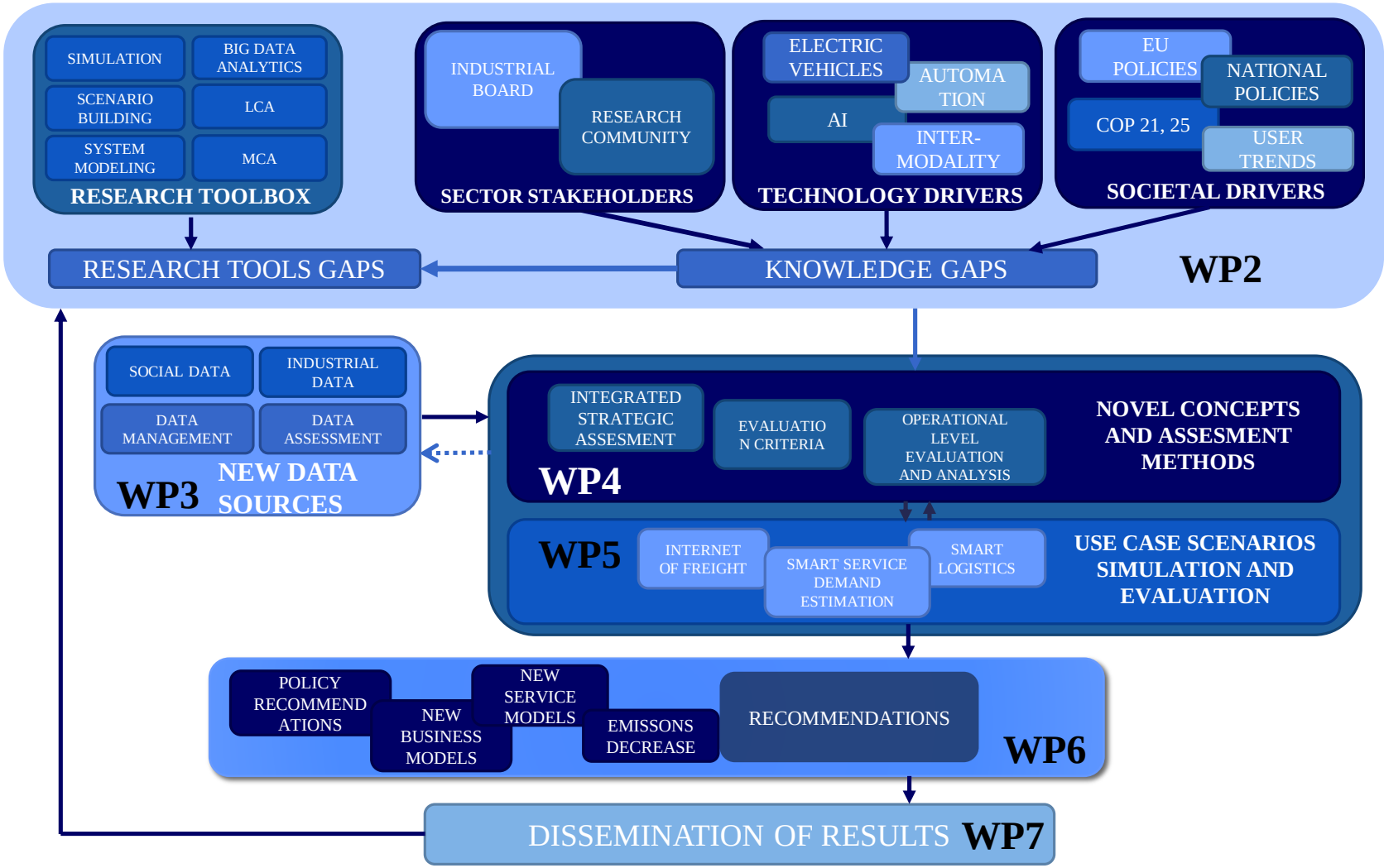
Project Workflow



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Use case scenarios to support real life future exploitation

- ✓ **Zero-emission Freight**
  - ✓ Analyze truck movement data for zero emission trucks
  - ✓ Design optimal charging network for electric road freight
- ✓ **Green city logistics**
  - ✓ Optimize transport flows in inner city logistics
  - ✓ Create a virtual city model
- ✓ **Policy Analysis**
  - ✓ Include structural changes in logistics in an agent-based simulation
  - ✓ Propose policy interventions

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The impact of STORM

- ✓ Generating knowledge through identifying freight and logistics knowledge gaps and needs.
- ✓ Developing novel freight and logistics concepts to enable the deployment of innovative sustainable transport systems.
- ✓ Enabling capabilities for research and business.
- ✓ Design and analysis of novel concepts, methods and tools to support transport/mobility researchers.
- ✓ Translating the generated knowledge into policy recommendations
- ✓ Definition of future directions for freight and logistics

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Exploitation potential of STORM

STORM Toolbox

MS7 Data sources, data management, descriptive data, and preliminary analyses of data collected from various sources.

MS8 New methods and tools developed to exploit data and synthesized data and new insights gained.

MS9 Elaboration of methods and assessment frameworks.

MS10 Prototype data assessment methods and assessment tools completed.

MS11 Use case scenarios elaborated, tested and demonstrated to stakeholders.

MS12 Consolidation of knowledge for research and policy makers.

MS13 Consolidation of knowledge for planners and business organizations.

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Interested to collaborate with us?

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