



Center for Sustainable Future Mobility

ODTP Technical workshop

ETH Zurich, 10 October 2023



Speed data (and model) dating

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The rules of the game

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- Part 1: Potential use cases:
 - Please describe your research problem (or ODTP component) following this structure. Only one slide per step.

Input data → Transformation (Modelling) → Output data → Visualization”

Speed data (and model) dating

- **Till Stöckli**, Railway Topology Capturing by Siemens Mobility
- **German Castignani**
 - ACUMEN: AI-aided decision-making tool for seamless multimodal network and traffic management
 - Luxembourg Open-Data Mobility DT
- **Elokda Ezzat**, Karma-based traffic priority simulator
- **Betsy Sandoval**: Operational model of Swiss passenger vehicles fleet based on real-world data and machine learning techniques
- **María Parajeles**, Transport electrification in an evolving power system
- **Siobhan Powell**, How policies shape EV charging infrastructure deployment
- **Imad Abdallah**
- **Michele Magno**, ROBINSON - ROBust multi-sensor INtelligent System for cONtinuous monitoring of hyperloop transport infrastructures.
- **Lukas Ambühl**, Transcality



How could you use the platform
Next steps

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ODTP use cases

Ongoing

- Eqasim + MATSim – **ETH IVT**
- Explainable AI project – **ETH MIE lab**

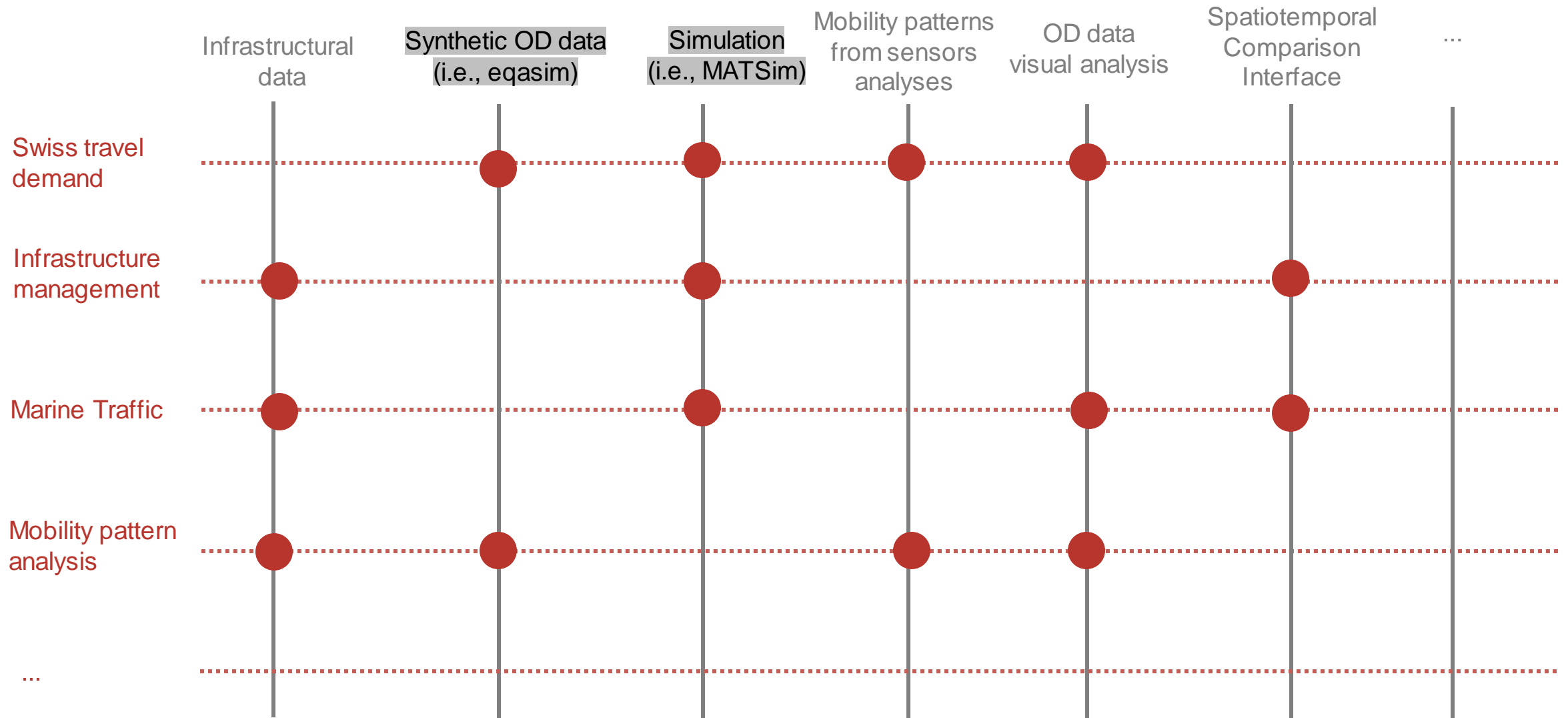
Under discussion

- Maritime Sim – **ETH IDSC**
- Transport planning – **ETH Spinoff Transcality**
- Infrastructure management – **ETH IBI**
- EV charging planning – **ETH PSL (Power Systems Laboratory)**



Integrate data and models for various Use Cases

Future Plan



Added value for user

- Exchange data and models
- Increase visibility
- Foster interdisciplinary research

- Following a DT standard
- Easier implementation in industry

- Connecting physical and digital worlds
- Scalable platform for digital twins

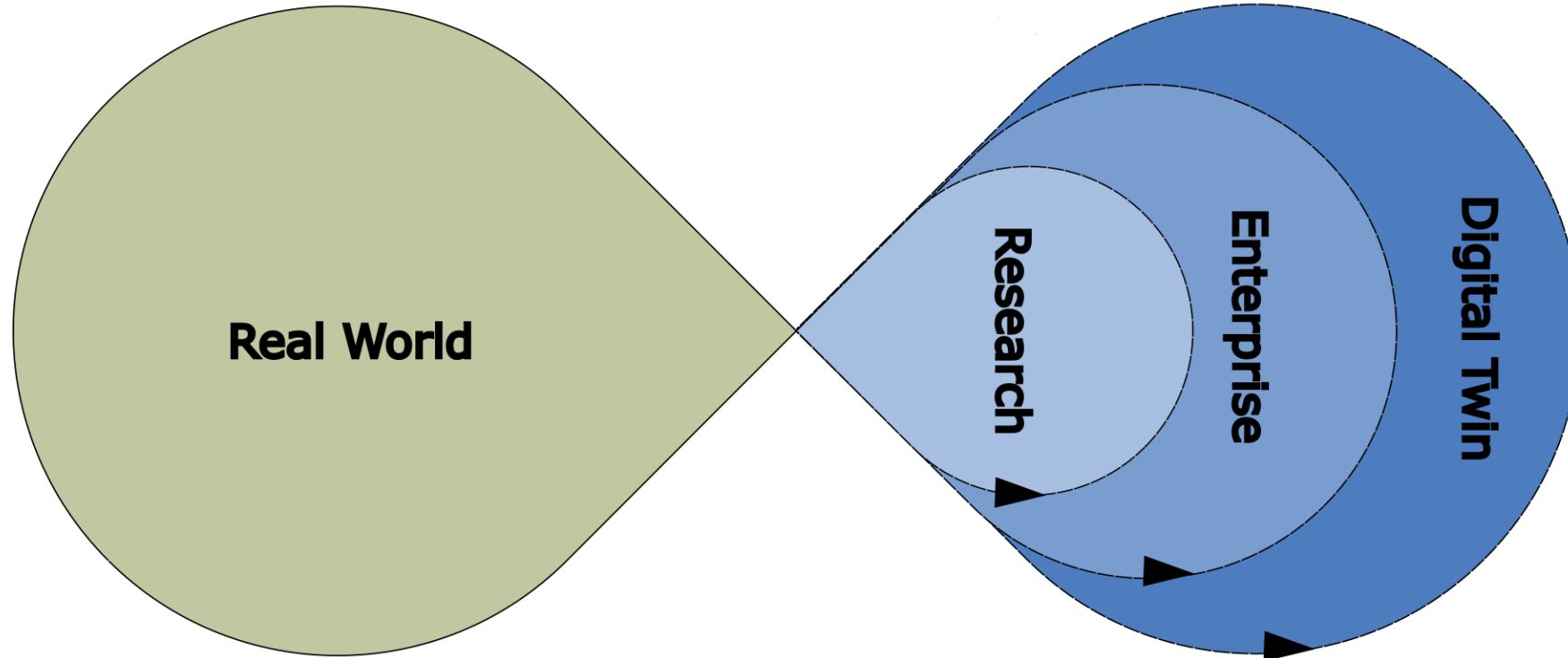
Short-term

Medium-term

Long-term

Towards a Digital Twin of Swiss Mobility System

- The challenges
 - closing the loop from virtual environment (digital twins) to the real world
 - data acquisition, harmonization, and actuation



Closure of demonstration and the hybrid part of the workshop

Thanks for your attention and stay tuned!

<https://csfm.ethz.ch/en/>