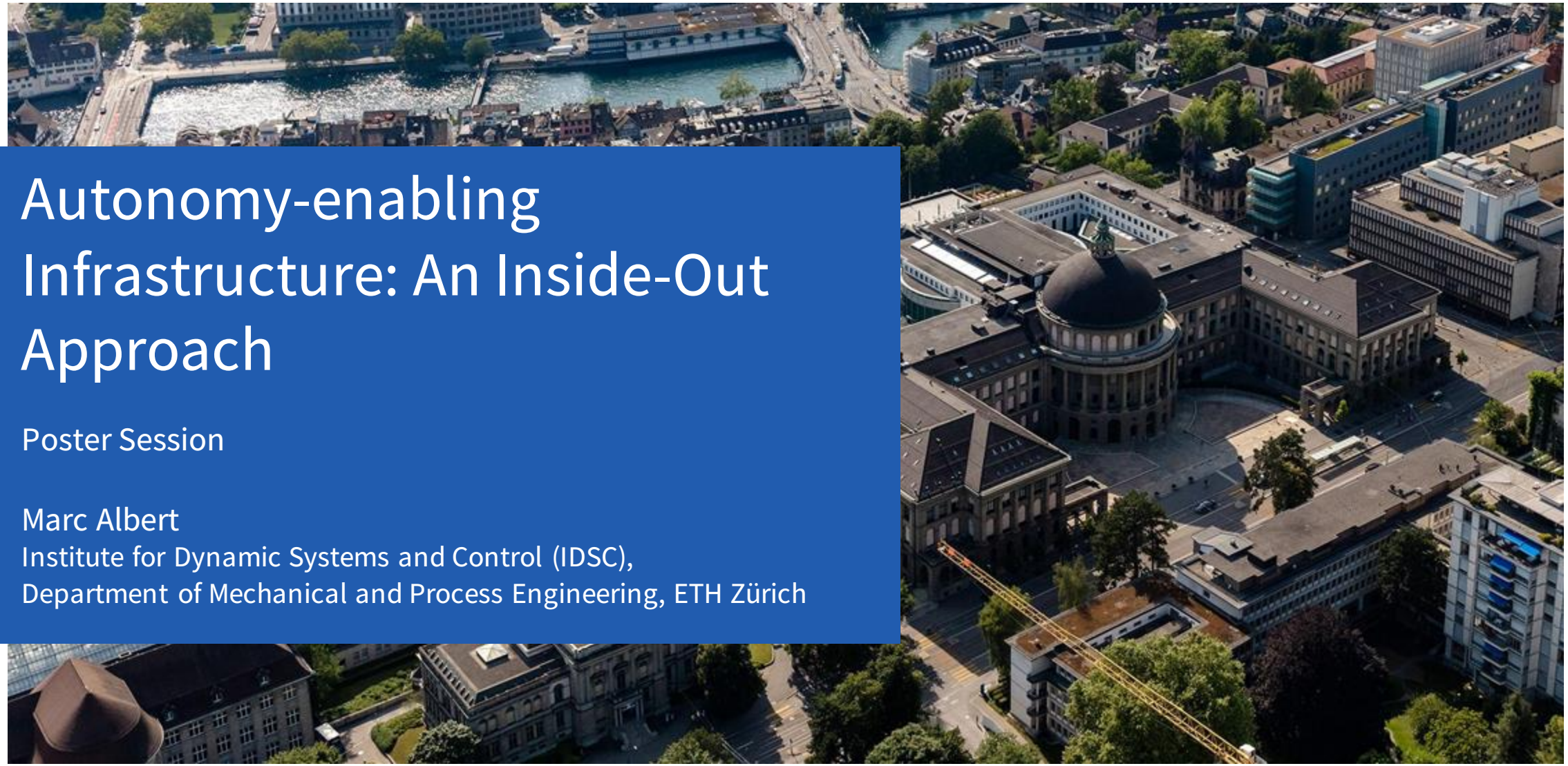

Autonomy-enabling Infrastructure: An Inside-Out Approach

Poster Session

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Autonomy-enabling Infrastructure

Inside approach: Autonomy fully on the vehicle.
AVs can drive everywhere.

VS

Inside-out approach: Autonomy-enabling infrastructure to assist autonomous vehicles.
AVs can only drive on instrumented roads

Fundamental Questions:

- Which streets to instrument?
- How should the infrastructure operator price the usage of autonomy-enabling infrastructure?
- As a result, how should the AV operator price its rides?
- Will the population adopt the resulting mobility offering?

⇒ **Need to study a non-trivial interconnected multi-stakeholder system.**

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Analysis based on Iteration across Three Pillars

1. **First-Principles Analysis:**

   City topology, travel demand and autonomy-enabling infrastructure related costs.

2. **Design Infrastructure Intervention Scenario:**

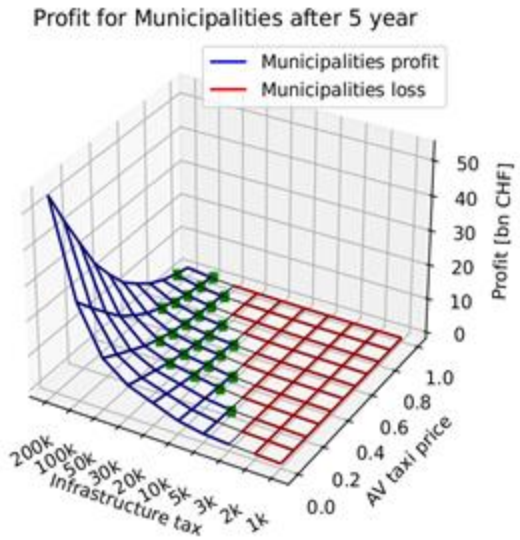
Rural

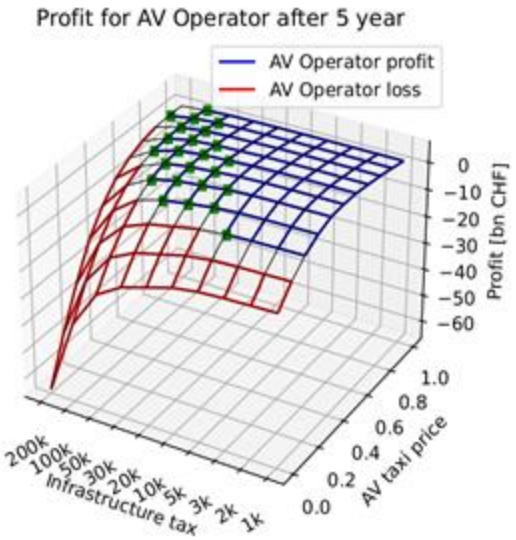
Urban

Optimization

3. **Simulation of all stakeholders:**

   State-of-the-art of the art multi-agent simulation framework based on MATSim (co-)developed by SBB to compute core metrics.





Quantify which **Combinations** of

- **Infrastructure placement** and **pricing**, and
- **AV taxi prices**

lead to **viable environments for all stakeholders.**

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