Urban Air Mobility

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Some of the current players in UAM - passengers

Volocopter

Lilium
Some of the current players in UAM - delivery

Wing

Uber
“...mobility future will be electric, shared, autonomous, connected...”

“...pre-defined vs on-demand...”

“...mobility disruption happens quickly...”

“...no regulation leads to chaos...”

“...are we just moving congestion to the skies...?"
How to Model UAM?

- Transport Simulator (Micromobility, Intermodality, On-demand)
- Air Traffic Control
- UAM Flight Simulator
How to Model UAM?
UAM extension pluggable in MATSim

Developed on behalf of Airbus by ETH and BHL

Features:

- UAM Network characteristics (landing stations, flight paths, altitude, allowed speeds)
- UAM Vehicle characteristics (capacity, vertical and cruising speed)
- Landing stations characteristics (landing capacity, parking capacity, turnaround time for VTOL vehicle)
- Intermodality
- VTOL dispatching and relocation
UAM extension pluggable in MATSim
Zurich case study – Air Taxis, on-demand, limited locations
Zurich case study – Air Taxis, anytime, limited locations
Final Remarks

- UAM as part of an intermodal trip travel
- Detailed spatial and temporal availability and compatibility with other modes
- Impacts on environment, noise, etc.
- Future work on incorporating information from Air Traffic Management
Questions