4th URBAN AIR MOBILITY SYMPOSIUM

FROM URBAN TO INNOVATIVE AIR MOBILITY

9 October 2024
Braunschweig, Germany

FROM URBAN TO INNOVATIVE AIR MOBILITY

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DLR

Innovative Air Mobility (IAM):

the safe, secure and sustainable air mobility of passengers and cargo enabled by new-generation technologies integrated into a multimodal transportation system

EASA IAM Hub, December 2023

UAM as subset of IAM

EASA IAM Hub, December 2023

- **Urban Air Mobility (UAM):**
  the subset of IAM operations conducted into, out of or within urban environments.
- **Regional Air Mobility (RAM):**
  the subset of IAM operations conducted outside of urban environments.
- **Advanced Air Mobility (AAM):**
  Synonym to IAM, mainly used in North America since 2020.

BACKGROUND: HORIZONUAM

Urban Air Mobility Research at the German Aerospace Center (DLR)

HorizonUAM

Objective:
Assessment of opportunities and challenges of air taxis and urban air mobility (UAM) concepts

Main content

- Forecast of UAM market share
- Model-based UAM system simulation
- Air taxi vehicle system development
- Flight guidance concepts for vertidromes
- Airport integration of UAM traffic
- Public acceptance
- Scaled flight demonstrations in model city

- Duration: 07/2020 – 08/2023 (38 months)
- Scope: 52.1 person-years (9.1 M€)
- Participants: 10 DLR institutes, cooperation partners NASA and Bauhaus Luftfahrt

www.horizonuam.dlr.de

Can Urban Air Mobility Become Reality?

Opportunities and challenges of UAM as innovative mode of transport

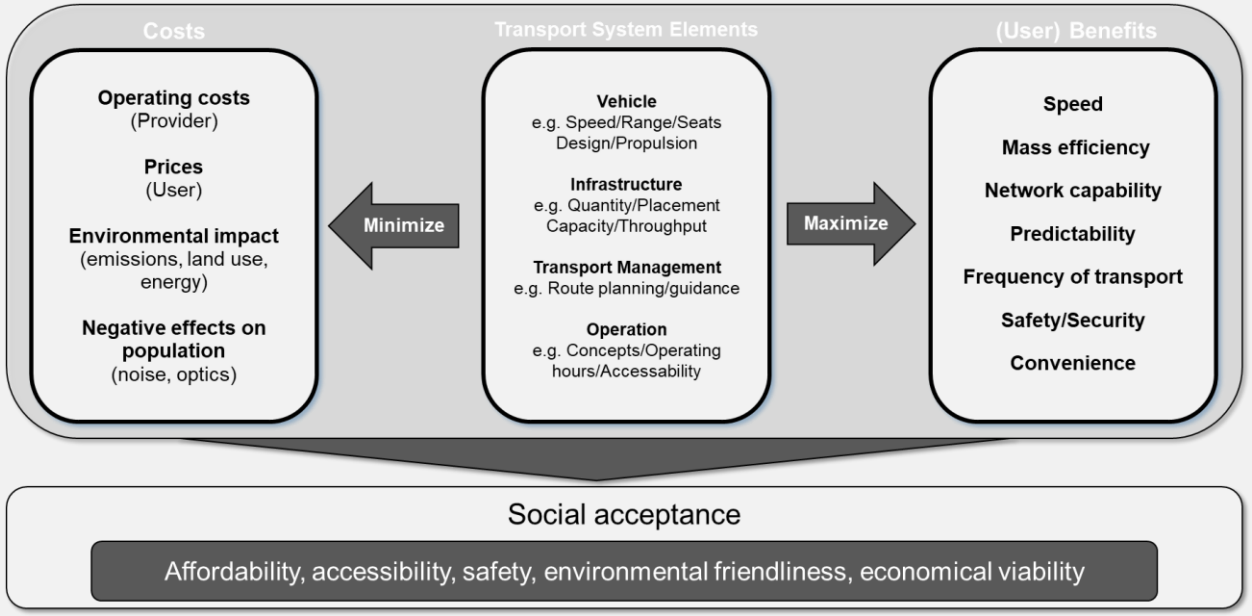
Overall system assessment

- The results of HorizonUAM indicate that UAM could become technically feasible in the near future.

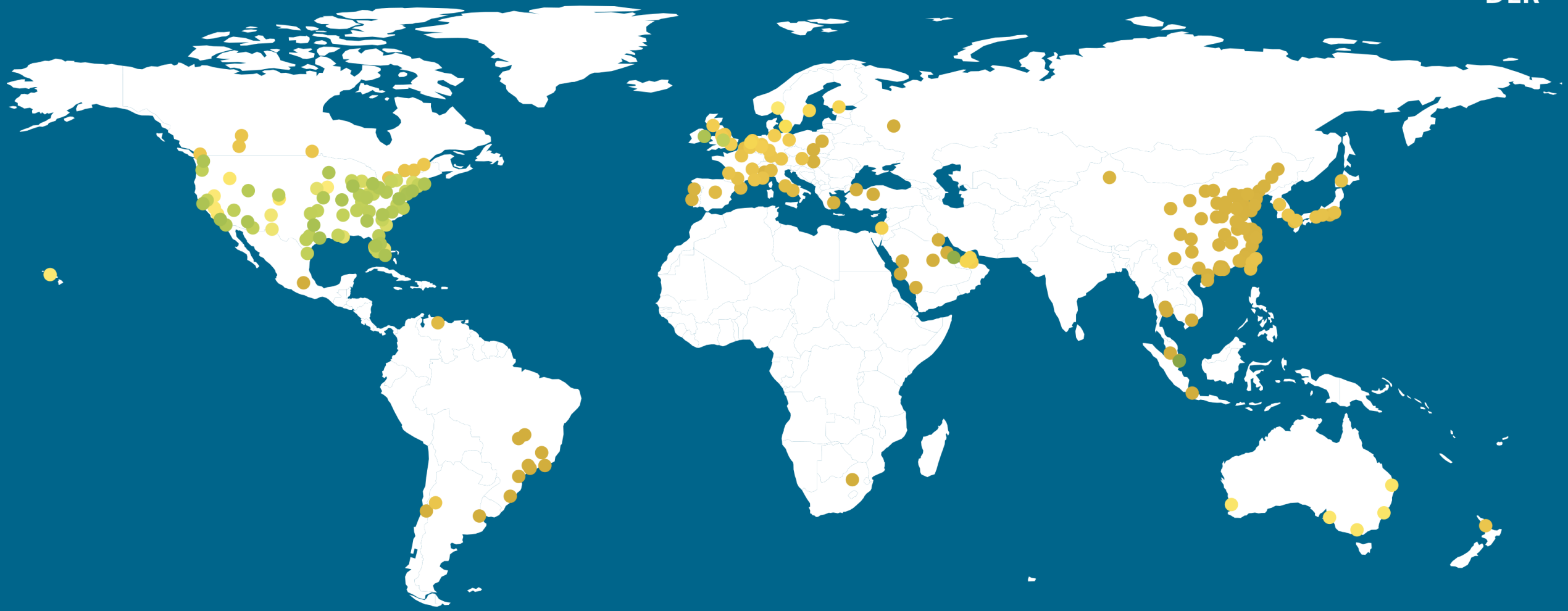
Key challenges

- Following key challenges need to be addressed:
  - *Profitability*
  - *Complexity of the UAM system*
  - *Social acceptance & community acceptance*

Social acceptance resulting from balancing the costs and benefits of a transportation system



- Careful optimization of system components and a holistic view on the system are needed to minimize costs and maximize the quality of UAM services in order to contribute to the economic viability and successful deployment of UAM systems.



Cities with market potential for UAM services in 2050

DLR Institute of Air Transport

OUTLOOK: IAM-OSA

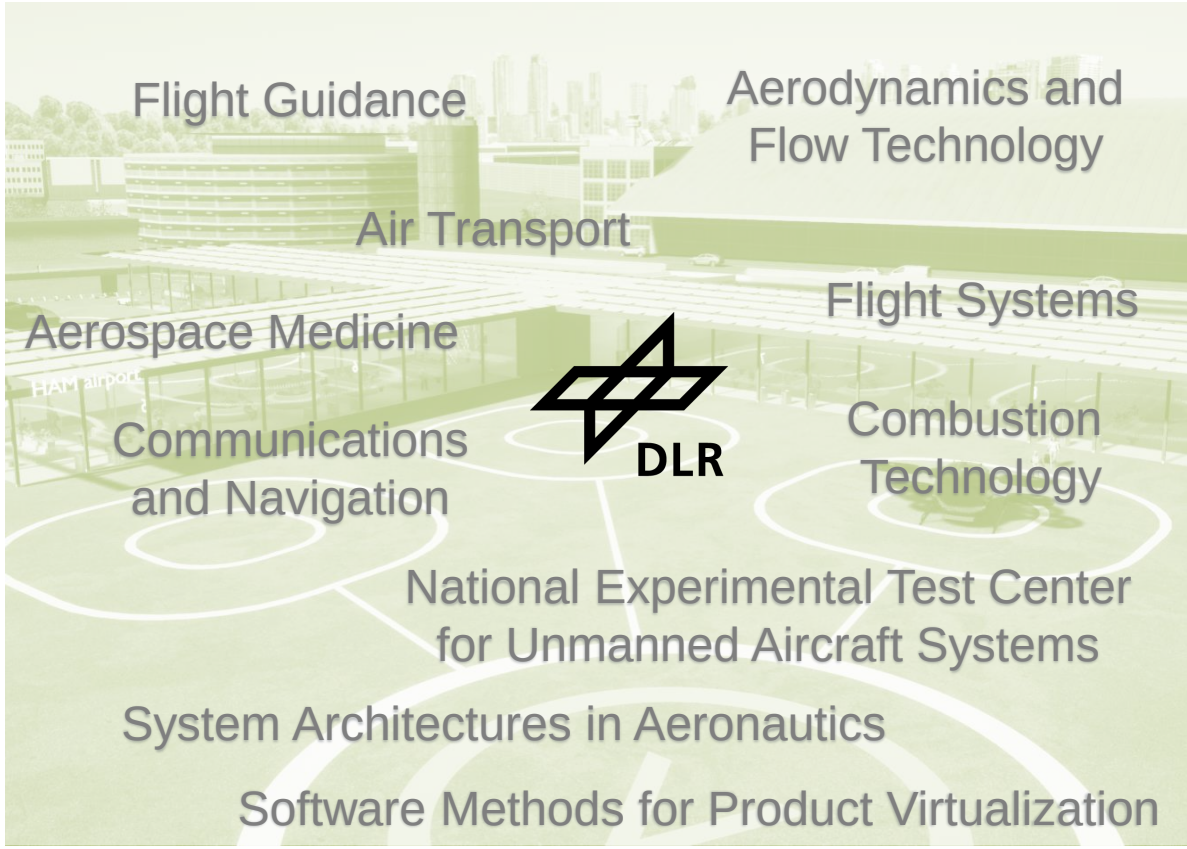
IAM-OSA

Innovative Air Mobility for Optimal Sustainability and Accessibility

Objective: Investigate inter-modal and regional air taxi applications

Main content

- Sustainable integration of IAM into existing mobility networks
- Accessible vertiport placement
- System-of-system simulation
- Air taxi control center conceptualization
- Passenger acceptance for autonomous aircraft
- Safe and secure autonomy functions
- Aircraft acoustics



- Duration: 01/2025 – 12/2027 (36 months)
- Scope: 7.0 M€ (tbc)
- Participants: 10 DLR institutes/facilities

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Questions?

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Imprint

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