



**AAM 2024** ICAO'S FIRST ADVANCED  
AIR MOBILITY SYMPOSIUM

# Community Perception of eVTOL Sights and Sounds: Perspectives by Eve Air Mobility

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# About Eve Air Mobility



## eVTOL

Designing, developing and certifying an electric vertical take-off and landing vehicle.

## Services & Operations Solutions

Agnostic services and solutions to support flight operations and optimize eVTOL performance and efficiency.

## Urban ATM

Agnostic Urban ATM solution to share situation awareness and support safe, efficient and scalable airspace integration.



# UAM Noise Context

## External Context

**FAA/NASA:** necessary to understand public acceptance of emerging technologies

**EASA:** *safety and noise* ranked on **top** of expected concerns from communities

## Internal Context

Understand how people perceive eVTOL noise in order to support:

- Product requirements
- Eve and Customer's Community Engagement approach



# Visual and Sound Perception Study

## Methodology

### GOAL

*Understanding people's perception to eVTOL sight and sound aspects.*

Partner: **NLR** (Royal NLR - Netherlands Aerospace Centre)

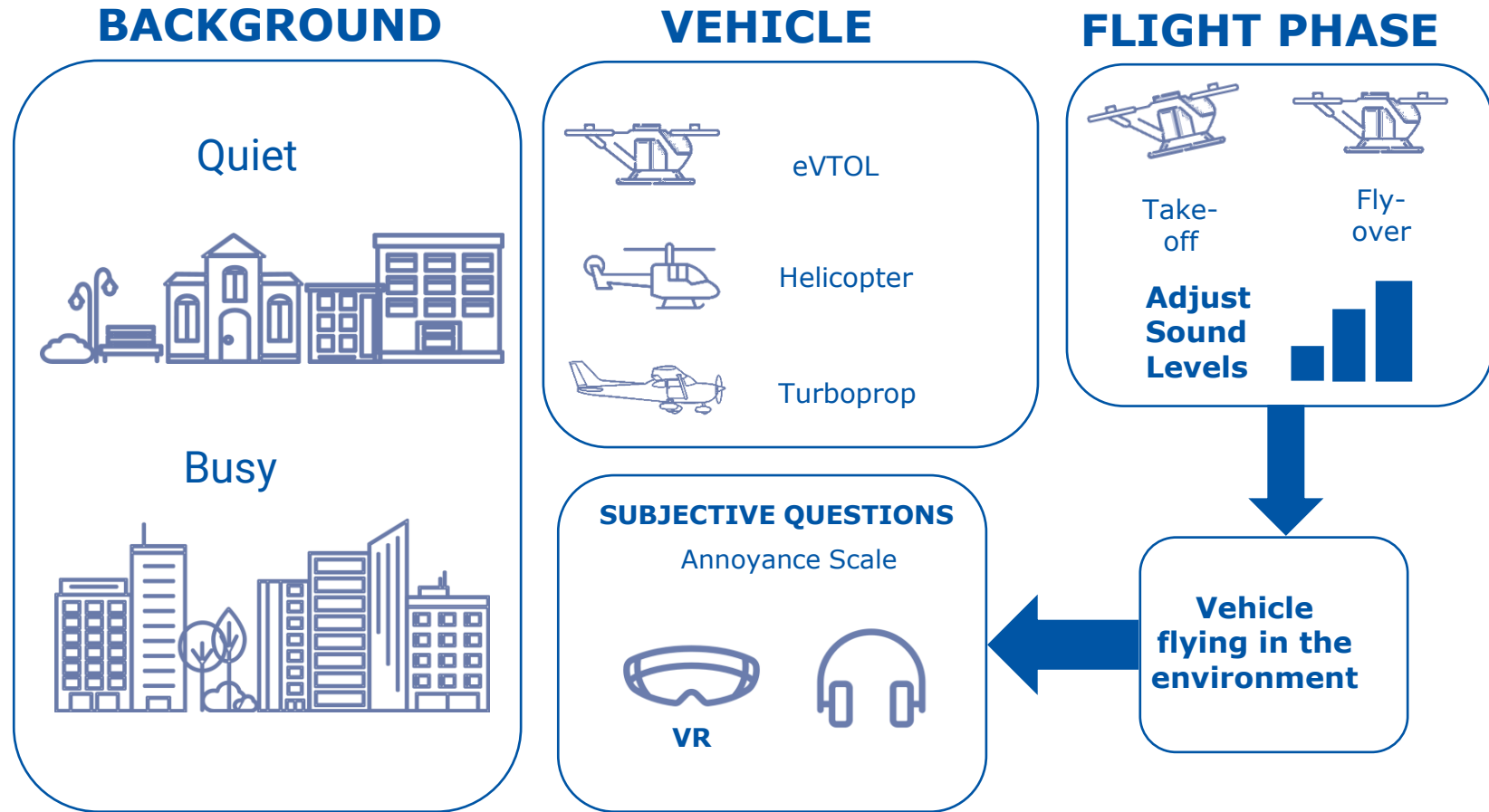
Auralization + Immersive Virtual Reality

Target audience: Local residents

Locations: **New York City, Orlando and San Francisco**

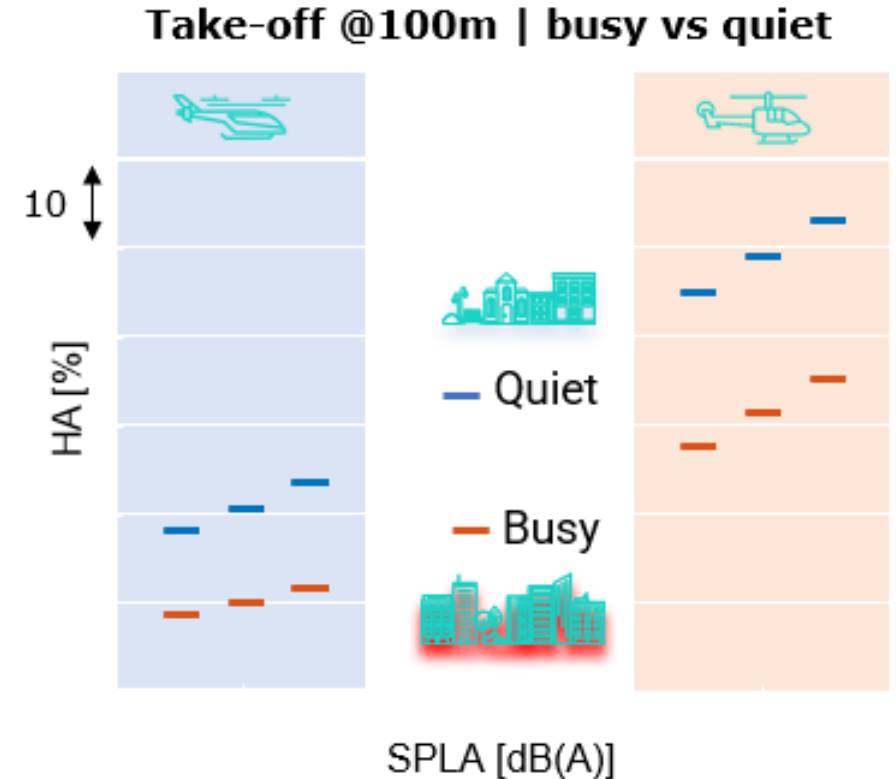
### INSIGHTS

- Exposure-response curves
- Environment and visual effect on annoyance



# Study Results

- An 11-point Likert scale was used to determine if participants were “Highly Annoyed” by the aviation sights and sounds in the study.
- At take-off, a difference was found between similar flights in quieter and louder environments. Operations in a louder background presented a trend of lower annoyance scores.



## Limitations

- Study is limited to short-term exposure (since we've prioritized an immersive technology)
- eVTOL audio samples might differ from the future vehicle - vehicle data, trajectory, RPMs
- Statistical sampling: limited number of participants

## Next Steps

- Publish results of visual and sound perception study before the end of 2024.
- Incorporate study results and audio/visual demonstrations into Community Engagement activities.

# eVTOL Sound Policy and Other Recommendations

## Federal Actions

1. Continue monitoring FAA Noise Policy Review updates and policy recommendations when published in the Federal Register.
2. Engage with the FAA Office of Environment and Energy, Noise Division and NASA.

## Local Policy Recommendations and Actions

1. Pilot program for eVTOL operations with limited constraints on noise to collect data and understand environmental impact of eVTOLs on the community.
2. Local eVTOL sound policies could require an LOA to be executed with community input on operations.
3. Current FAA regulations for commercial aviation with adjustments made to account for vertiport vs. airport
  - Sizing for a vertiport
  - Streamline the environmental review and assessment process
4. Ensure local policies do not use single event metrics since it does not cover cumulative effect or complete eVTOL sound profile.
5. Community education and engagement is critical for community acceptance.

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Thank You!