

# Urban Air Mobility – Social Acceptability

Think Research

# Presentation contents

1. Problem Statement
2. Study Methodology
3. Key Findings

4. Social Acceptability Framework
5. Conclusions and Further Considerations

# Problem statement

## Context:

- Fast-paced developments in Urban Air Mobility
- Well-established blueprints (i.e. Airbus, DLR, Embraer, etc.)
- UAM Roadmaps (e.g. NASA, Volocopter, Hyundai, etc.)

## Research questions:

- What is the current public opinion of UAM integration?
- How can Social Acceptability be assessed within the context of UAM?
- How can Social Acceptability of UAM be achieved for different use cases?

## Study Objectives/aims:

- Understand current Social Acceptability factors (Where are we now?);
- Identify current frameworks and acceptability models and refine for UAM;
- Build on findings to inform UAM tailored Social Acceptability framework.

# Study Methodology – A Human Centred Approach

1

## Immerse and discover

1. Desk research
2. HCD workshop
3. Social Acceptability Framework - Draft 1

## Build and create

6. Data driven insights
7. UAM Social Acceptability Framework – Draft 2

3

## Explore and connect

4. Social Acceptability public survey
5. Expert Interviews - Round 1

4

## Assess and Deliver

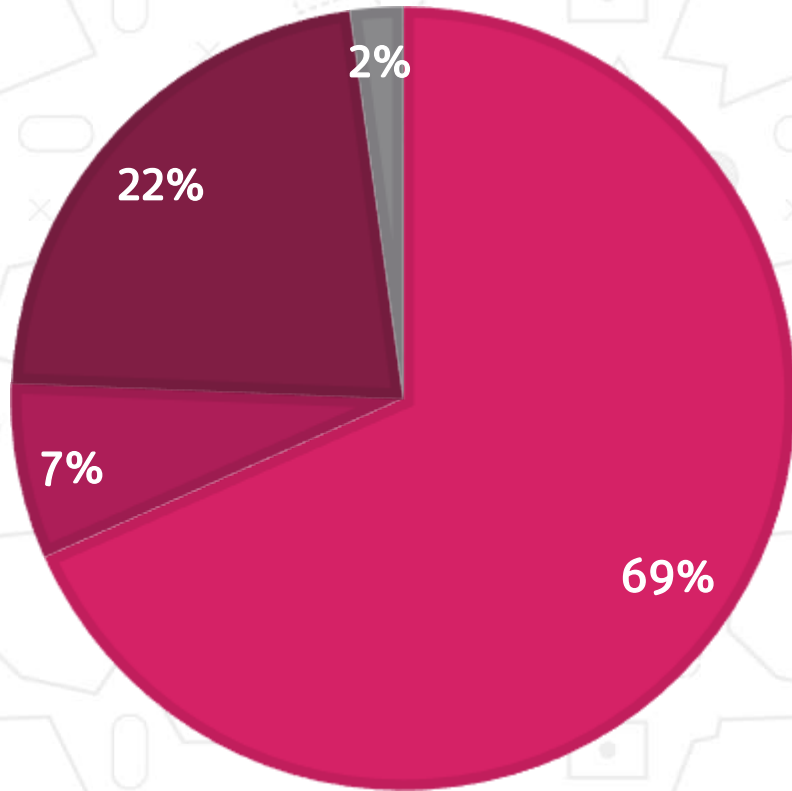
8. Expert Interviews - Round 2
9. UAM Social Acceptability Framework - Final



# Key Findings

WERE YOU SATISFIED WITH YOUR OPTIONS FOR GETTING TO AND FROM YOUR NORMAL PLACE OF WORK/STUDY BEFORE COVID-19 PANDEMIC?

■ Positive ■ Neutral ■ Negative ■ None of the above



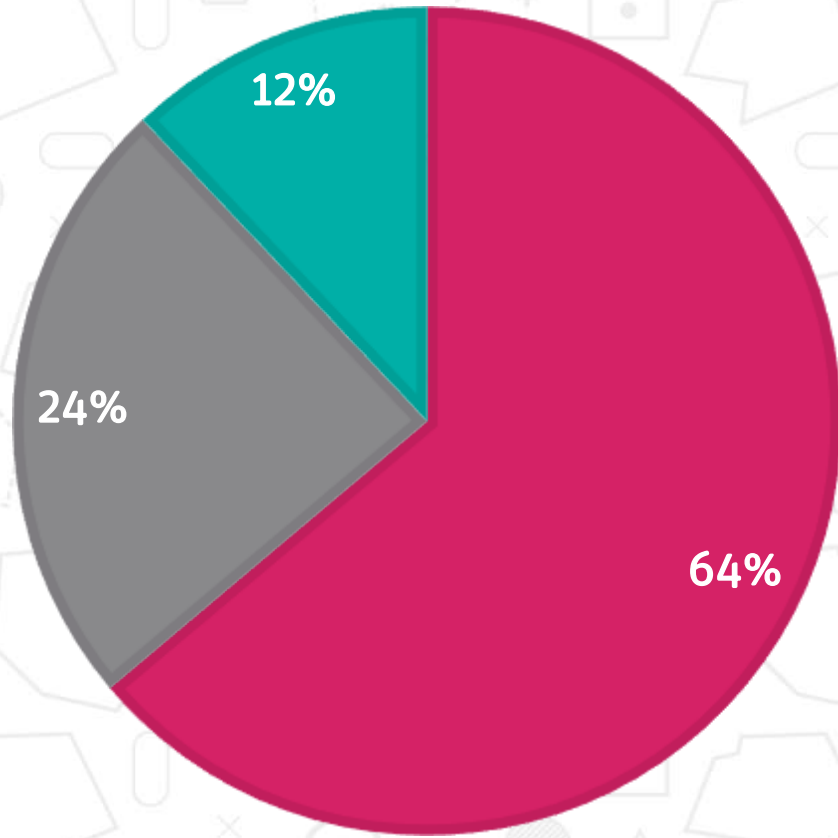
Yet...



# Key Findings

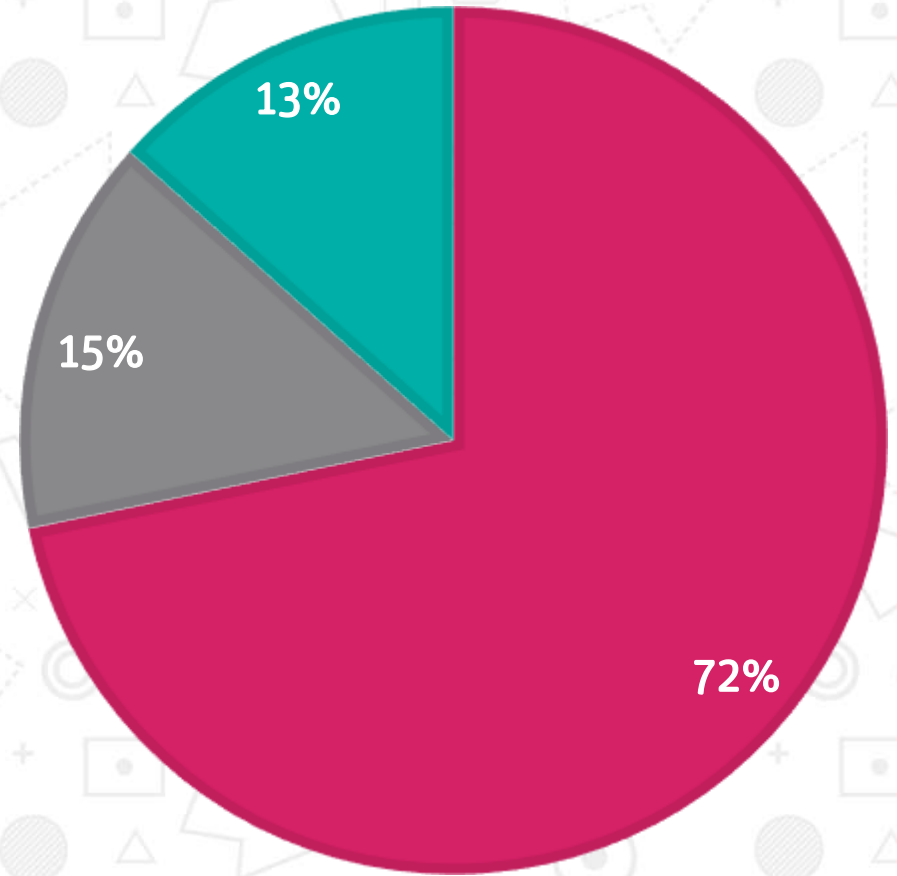
WOULD UAM BE AN USEFUL ADDITION TO EXISTING CITY COMMUTING SERVICES?

■ Positive ■ Neutral ■ Negative



WOULD YOU BE WILLING TO RIDE ON AN AIR-TAXI (EVTOL) IF IT WOULD BE OFFERED TODAY?

■ Positive ■ Neutral ■ Negative



And...



# **Social Acceptability Framework**

A 5 Step Methodology

# Framework: Step 1 - Define public benefits and concerns

| Benefits |   |
|----------|---|
| B1       | Time efficiency/Timesaving/ Quicker commute |
| B2       | Environmental sustainability                |
| B3       | Technology advances                         |

| Concerns |          |
|----------|----------|
| C1       | Safety   |
| C2       | Security |
| C3       | Noise    |



# Framework: Step 2 - Find key factors influencing each benefit/ concern

## B1 - Time Efficiency/Timesaving

- General benefits to non-users
- Societal/ community contribution
- Streamlined user experience
- Reduced commute time
- Quality of life (Lifestyle)
- Ease of use
- Facilitation of quick access

## B2 - Environmental Sustainability

- CO2 footprint offload (Macro)
- Individual CO<sup>2</sup> footprint (Micro)
- Visibility of effects
- Ecological Habitat Integration

## B3 - Technology Advances

- Achievement of a “Jetsons” lifestyle
- Aspiration to a better life
- Improvement of daily life
- Current people needs
- General public attitudes

## C1 - Safety

- UAS flying altitude
- Vertiport proximity to residential areas
- Influence of demographics on perceived safety
- Trust
- Brand confidence
- Lack of control

## C2 - Security

- Personal data management
- Vertiports security process
- Trust
- Brand confidence
- Lack of control

## C3 - Noise

- Density of the operations
- Frequency of operations
- Loudness of operations
- Duration of noise
- Timetables
- Routes proximity to residential areas

# Framework: Step 3 – Define solutions based on factors

S1 Communicating research results and existing implementations by reliable brands

S2 Public Consultation

S3 Simulation

S4 Build vertiports and adjacent routes based on evaluation of Social Acceptability Factors.

S5 Large Scale Demonstration

S6 Early use cases for public services

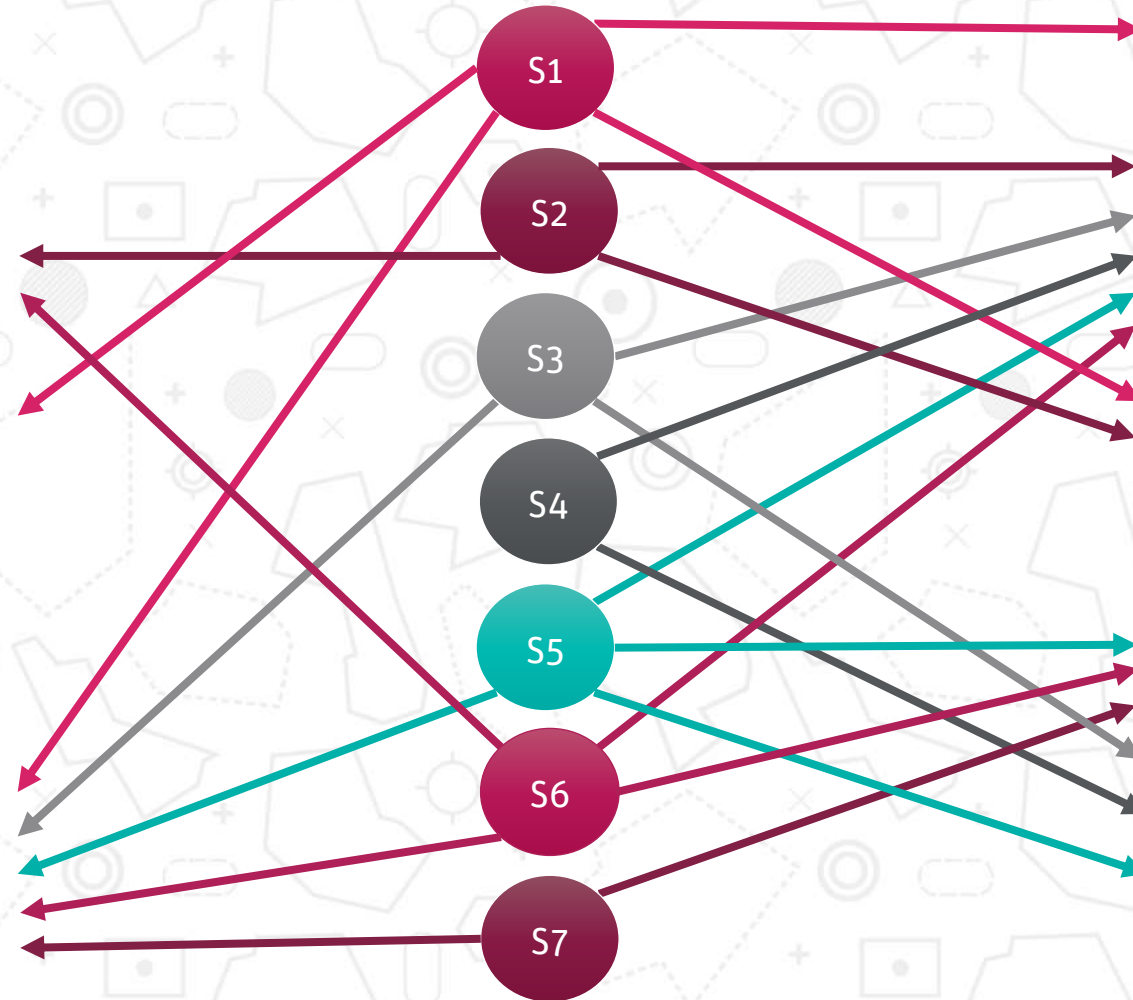
S7 Transparency – Allow tracking of eVTOL by general public

# Framework: Step 4 – Map Solutions to Benefits/ Concerns

**B1**   
Time Efficiency/  
Timesaving

**B2**   
Environmental  
Sustainability

**B3**   
Technology  
Advances



**C1**  
Safety

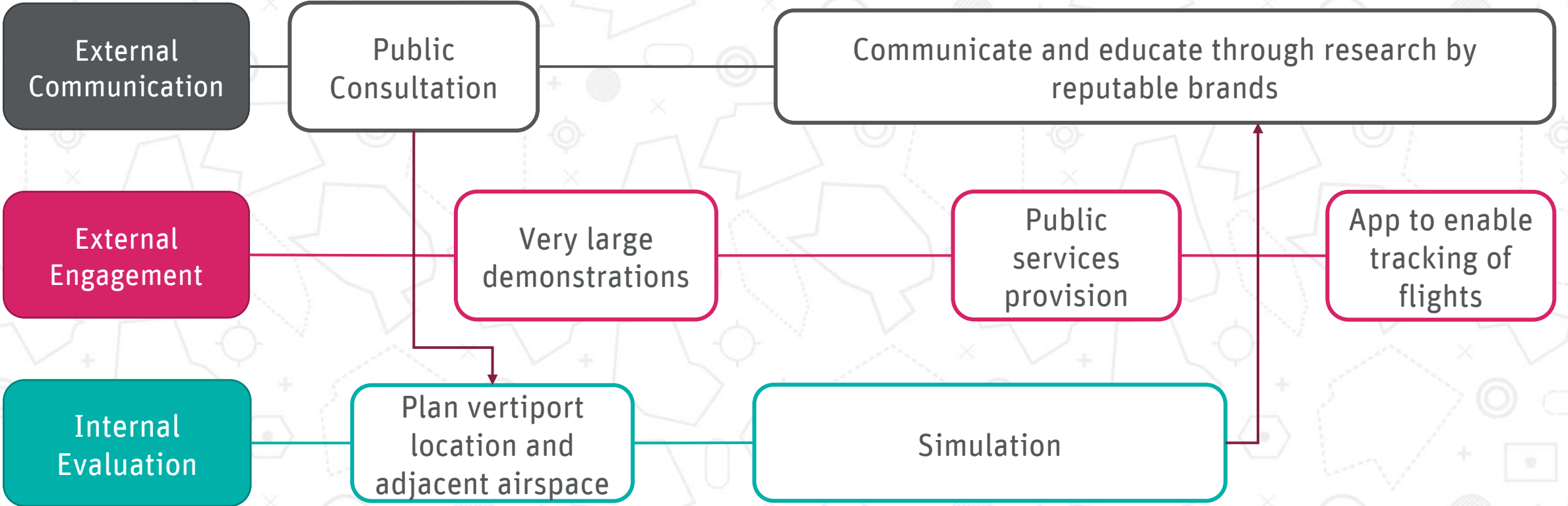
**C2**  
Security

**C3**  
Noise

# Framework: Step 5 – Build a Roadmap to achieve UAM Social Acceptance

Planning

Implementation



# Conclusions and further considerations

Social Acceptability plays a key role in UAM integration

Keep in mind that Social Acceptance is referring to the general public, and user acceptance is just a small part

Initial deployment of the most acceptable use cases (emergency services first, transport of medical goods, etc.)

There is an urgent need for coordination between stakeholders representing commercial, governmental, regulatory areas and municipalities

General public has a positive attitude towards UAM and this should be further leveraged.





Trajectory Based  
Operations



Remote and Digital  
Tower



Wake and Time  
Based Separation



Airport CDM



Performance Based  
Navigation



Flexible Use of  
Airspace



Unmanned Aerial  
Systems



Runway  
Optimisation



Virtual Centre



Enterprise and Airspace  
Architecture



Airspace Change



ATCO Team  
Organisation & Training