Study “Social acceptance of UAM operations”

**Survey questionnaire SAB**

**Presentation**

The European Aviation Safety Agency (EASA) is currently conducting, with the support of the consulting firm McKinsey, a comprehensive study on the societal acceptance of Urban Air Mobility (UAM) across Europe, with the objective to measure EU citizens’ preparedness to accept this new mode of transport and collect their possible concerns and expectations, for instance related to safety, security, privacy and environmental impact. To this effect, the study includes research work as well as a survey with the residents of six European cities, identified as potential target-markets for the future deployment of urban air mobility (*Hamburg / Budapest / Milan  /Barcelona / Paris / Öresund cross-border region).* The results will be included in a publicly available study report expected by mid-2021. It will then be used by EASA to prepare an impact assessment and future regulatory proposal, but also serve at raising awareness across the EU, as a means of fostering public adoption.

The quantitative part of the survey has already been conducted in the six cities and the results are being analyzed. The Agency would like to complement the survey by interviews with key national and European stakeholders, through their representatives in the SAB.

You are therefore kindly invited to fill in the questionnaire below by 26 March 2021 and share the perspectives of your organisation on Urban Air Mobility, notably with regard to the expectations, points of attention, risks and concerns that should be addressed, as well as the possible ways to mitigate these risks or concerns. A short information session will be open by video-conference on 15 March 2021, which you are free to join in case of questions.

Your opinion is highly valued, and we thank you in advance for your contribution.

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QUESTIONNAIRE

Name of the replying organisation:

(*please indicate the name of your organisation*)

Point of contact:

(*please indicate a point of contact*)

I - Introduction questions

* How is your organisation involved in Urban Air Mobility matters, notably the societal acceptance aspects ? How closely is it following this subject ?
* What is the general position of your organisation vis-à- vis UAM ?

II - Benefits

* What are the benefits and positive implications of UAM you see (*please see also Appendix*)?
* For the citizens
* For the air transport industry
* For your members
* Which use cases would, in your view, bring the greatest benefits in the EU (*see indicative list in Appendix*)?
* Which ones are likely to be deployed first in the EU (*see indicative list in Appendix*)?

**III - Concerns**

* What are the concerns/reservations you have with respect to UAM (*see indicative list in Appendix*)?
* For the citizens
* For the cities
* For your members
* What do you see as the major challenges and risks for the development and deployment of UAM in the EU ?
* What are the prerequisites you see currently missing for the introduction of UAM in the EU?
* What could be done to overcome these concerns and challenges from your point of view?

**IV – Additional questions**

* What are you views on the EU position/ level of development on UAM vis-à-vis other regions of the world?
* How could the notions of ‘safety’ and ‘security’ be defined in the UAM context ?
* Do you consider that the level of information on UAM is sufficient for your organisation and in the EU in general ?

APPENDIX

List of possible use cases (non-exhaustive)

* Passenger transport (manned or unmanned)
  + Airport shuttle
  + Sightseeing
  + Fixed urban network
  + Fixed sub-urban network
  + Flexible urban point-to point transfer
  + Fixed regional network
  + Flexible regional transfer
  + Transport of first aiders
  + Medical transport of patients
* Drone delivery (unmanned)
  + Last mile delivery ((to fixed hubs, fixed routes)
  + Last mile delivery (door-to-door)
  + Long distance delivery (heavy cargo or delivery to rural areas)
  + Medical delivery (blood, organs)
  + Emergency supply (in case of disaster, or a buoy for rescue purposes)

List of possible benefits (non-exhaustive)

* Improved development of and access to remote areas (for instance, the countryside, regions outside of a metropolitan area)
* Reduction of traffic jams
* Reduction of local emissions and pollution (most of the vehicles will have battery electric propulsion)
* Creation of new jobs and growth opportunities for people in the EU (for instance, manufacturing, research and development, pilot projects, operation of drones and air taxis)
* Market-leading position and competitiveness of the EU industry in urban air mobility technology (such as drones, air taxis)
* Positive marketing for city of residence of interviewee
* The feeling of behaving in a modern way, being an early adopter
* Reduced response time for emergencies
* Less noise for inner-city residents due to emergency medical services taking an aerial route
* Faster delivery through delivery drones
* Exact time window for deliveries
* Higher reliability of deliveries
* Introduction of new delivery locations (e.g., walkway, garden, roof, balcony) that enable a more effective last mile logistics network
* Fewer interactions with other people through delivery drones (i.e. for better hygiene standards, especially during/after the pandemic)
* Less-congested streets due to fewer delivery vehicles parked on the street
* Less-congested city centres due to fewer people out shopping
* Significant time saving for passengers
* Comfortable continuation of travel after arrival at an airport to personal accommodation

List of possible concerns (non-exhaustive)

* Safety concerns, such as drones/air taxis crashing, especially for pedestrians that do not actively opt for using drones or air taxis, but who are put under threat
* Reservations about unmanned flying vehicles
* Security threats (non-cyber), e.g., from terrorists on board an air taxi taking other passengers as hostage and/or hijacking and/or crashing the air taxi, possibly over a crowd of people or cultural/political institutions
* Cybersecurity threats, for instance, criminal organizations (for ransom), hacktivists, or terrorists hacking into the control system and hijacking or misdirecting drones/air taxis
* Noise pollution, for example, regular exposure to elevated sound levels that potentially have adverse effects on humans or other living organisms *(Potentially play sound sample to interviewee, if interview is held in person.)*
* Noise related to the construction and/or operation of take-off stations
* Visual annoyance from air traffic
* Additional traffic from/to take-off stations
* Privacy concerns, for instance, a drone/air taxi flying close to my window or over my property
* Downwash, i.e. downward wind generated by the rotors of air taxis when flying or in hover mode
* High environmental and climate impact from UAM operation, including power generation (e.g. electricity)
* High environmental and climate impact from the manufacturing of flying vehicles, including battery production
* High environmental impact from disposal
* Air pollution
* Negative impact on bird life, insects, other flying animals, or biodiversity in general
* Sealed surfaces, for example, covering soil with materials like concrete and stone, e.g. for take-off and landing pads, potentially reducing natural soil and ecosystem function in the area concerned
* Job loss, for instance within last mile delivery companies (e.g., UPS, DHL, FedEx), or affecting taxi drivers
* Affordability, i.e. the services being affordable only for rich or privileged people
* Inappropriate inner-city space occupation due to infrastructure requirements (take-off and landing stations)
* Unfair operating model, such as take-off and landing stations potentially operated by only one provider (comparable to airports for a single airline or docks for a single ferry line) hampering competition
* Squandering of public money to finance new infrastructure and UAM technology, instead of improving existing public transport and infrastructure like roads and rail
* Public perception of UAM
* Flight shame (i.e. social reputation suffering as a result of using UAM services)
* Uncertain legal situation due to lack of regulation
* Premature introduction of UAM before feasibility studies and cost-benefit analyses have been conducted, just for the sake of it
* Lack of trust in European / national / regional or local authority