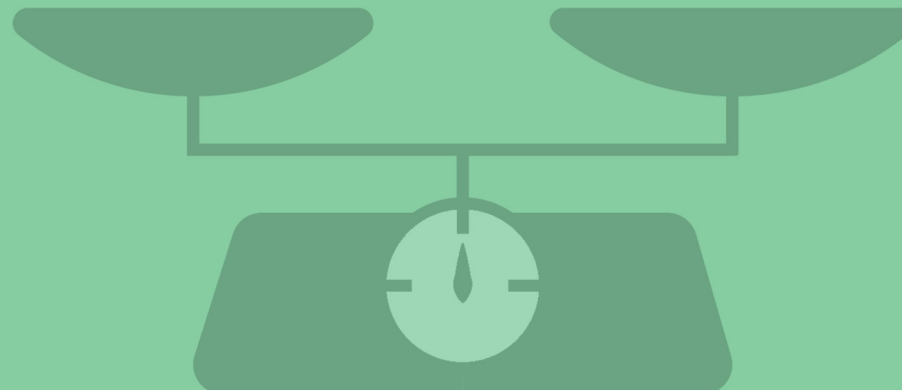




Drones and Drone Operations – Citizen's perspective

Representative population survey on the acceptance of drones and the social impact of drone operations in urban areas



Background

The development of a drone traffic management is aiming to support a large-scale demand for commercial operations in urban environments. However, the emergence of high-density operations in low-level airspaces challenges traditional notions of safety, noise emissions and privacy. The U-space exploratory research project DACUS explores new mechanisms to enable the balancing of demand and capacity, while maintaining safety levels and taking into account the social impact of drone operations (DACUS Project 2021). Therefore, one of the key objectives in DACUS is to integrate the considerations of the society in the distribution of drone traffic.

Survey Introduction

This survey was composed of **14 questions** and was available in three different languages (English, German, and French) between October 2020 and January 2021. The objective of the survey was to gain a better understanding of:

- the general perception citizens have on drone operations;
- and what could possibly slow down unmanned operations over urban environment.

Dataset:

- 165 participants
- Half of the participants are less than 30 years old and **88%** are less than 60 years old.
- **69%** live in an urbanized area with more than 20000 inhabitants.

How much would you agree with the following statements?

I am well informed about new technologies.



- **45%** of the participants consider that they are well informed about new technologies.

I am interested in drones.



- **35%** are interested in drones.

I have gained my own experience with drones so far.



- **80%** have no experience with drones or responded neutral.

■ Not at all ■ Trend to disagree ■ Neutral
■ Trend to agree ■ Totally agree

It is appropriate to use drones in public areas.



- **33%** agree with drone operations in urban environment, **32%** disagree but **35%** are neutral.

The use of drones can make life easier.



- Nevertheless **56%** think drones will make their life easier and **62%** say they will use services provided by drones.

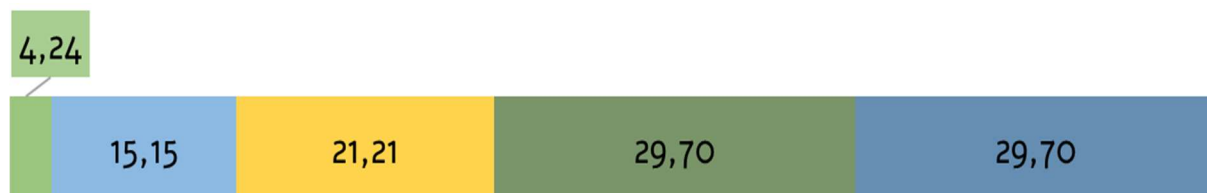
I personally would use the services of drones.



■ Not at all ■ Trend to disagree ■ Neutral
■ Trend to agree ■ Totally agree

More communication around the high value that drones can bring could outweigh the neutral groups in favor of public acceptance of drone operations.

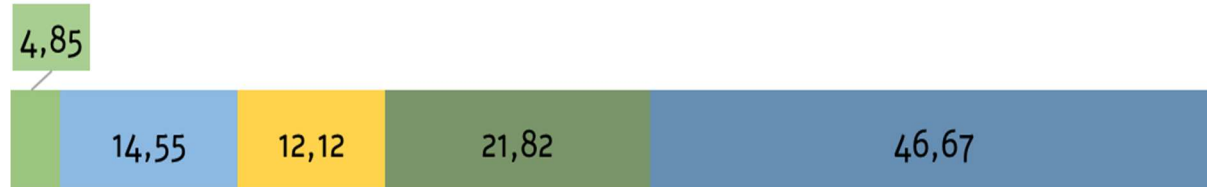
I feel observed or uncomfortable in the vicinity of drones.



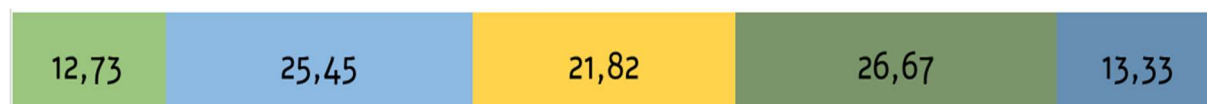
I do not feel safe in the vicinity of drones.



I do not want foreign drones to fly over my house or garden.



The sound of a big quadcopter drone at 100m height would be disturbing.

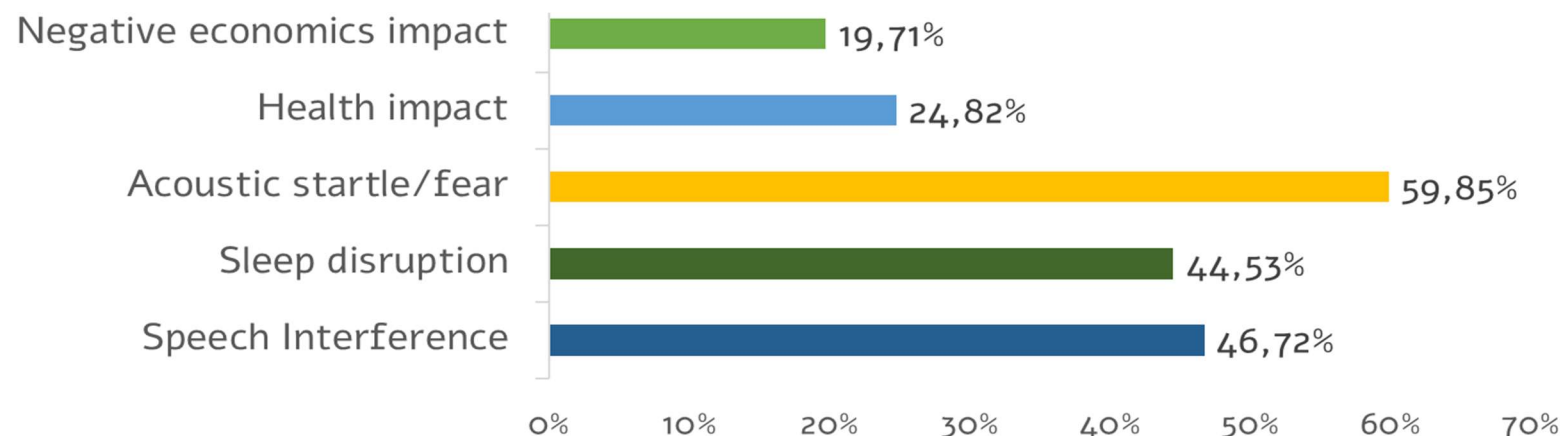


■ Not at all ■ Trend to disagree ■ Neutral
■ Trend to agree ■ Totally agree

- **60%** do not feel well near a drone operation, **36%** because of safety consideration.
- **69%** do not want drones to fly over their property.
- **40%** are disturbed by noise emissions of a drone flying at 100m height, likely because they are surprised at first; or they think it could disturb a conversation or have an impact on their sleep.

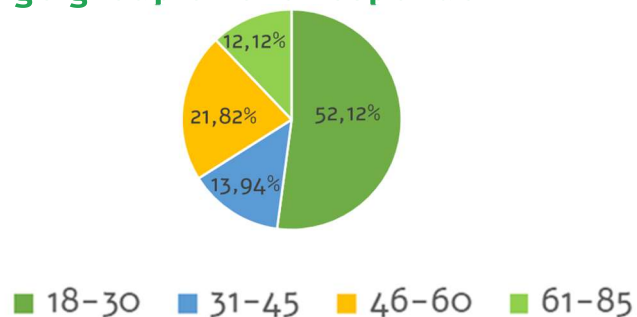
Which general impact do you expect from noise emission of regular drone traffic?

(Multiple answers possible)

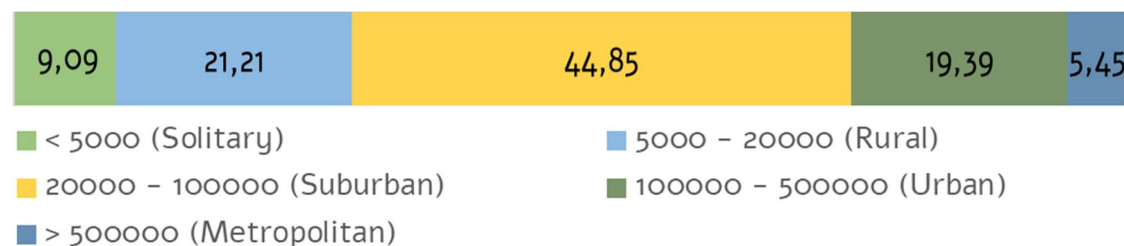


Data on the representative population:

Age group of the responder:



Living environment:



Conclusions and Outlook

The survey results revealed a slightly positive attitude towards drone operations and recognized the benefits in having services provided by drones in their everyday life. However, there is a considerable percentage of persons that feel disturbed by noise emissions and do not feel comfortable in the vicinity of a drone operations, mostly due to safety and privacy considerations. These impressions match with similar studies performed at the time of this survey (Sky Limits Project 2020), (EASA 2021).

With this feedback, the DACUS project will define performance indicators that allow to monitor the social impact of drone operations in urban areas, and will use them as decision-making criteria in the application of strategies to balance the drone traffic.

Contact

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Visit our website: <https://dacus-research.eu/>

References

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Sky Limits Project (2020): <https://skylimits.info/>

EASA (2021): Study on the societal acceptance of Urban Air Mobility in Europe