



City of
Stavanger

AiRMOUR

SMART
CITY
STAVANGER



European
Commission

Horizon 2020
European Union funding
for Research & Innovation





AiRMOUR's groundwork



CITIZENS & COMPANIES

Public acceptance research;
New UAM EMS business models.



CITIES & REGIONS

Increased knowledge & competence; better policies & services



AIR TRAFFIC CONTROL

Risk assessments for UAM concepts; Impact on global safety policymaking



RESEARCH & SCIENCE

Inspire students; New algorithms; Translate research outcomes to practical city tools.



TRAFFIC & MOBILITY

Tools to integrate UAM in urban design and mobility planning



ENVIRONMENTAL FOOTPRINT

Comparing eVTOL to ambulance & mediheli; Visual & noise pollution



EMERGENCY MEDICAL SERVICES

New EMS concepts; Complete chain of medical stakeholders

UAM = Urban air mobility

EMS = Emergency medical services

eVTOL = Electric vertical take-off & landing

Public acceptance

End-to-end service development

Risk assessments

Simulations of use-cases

Digital planning tools

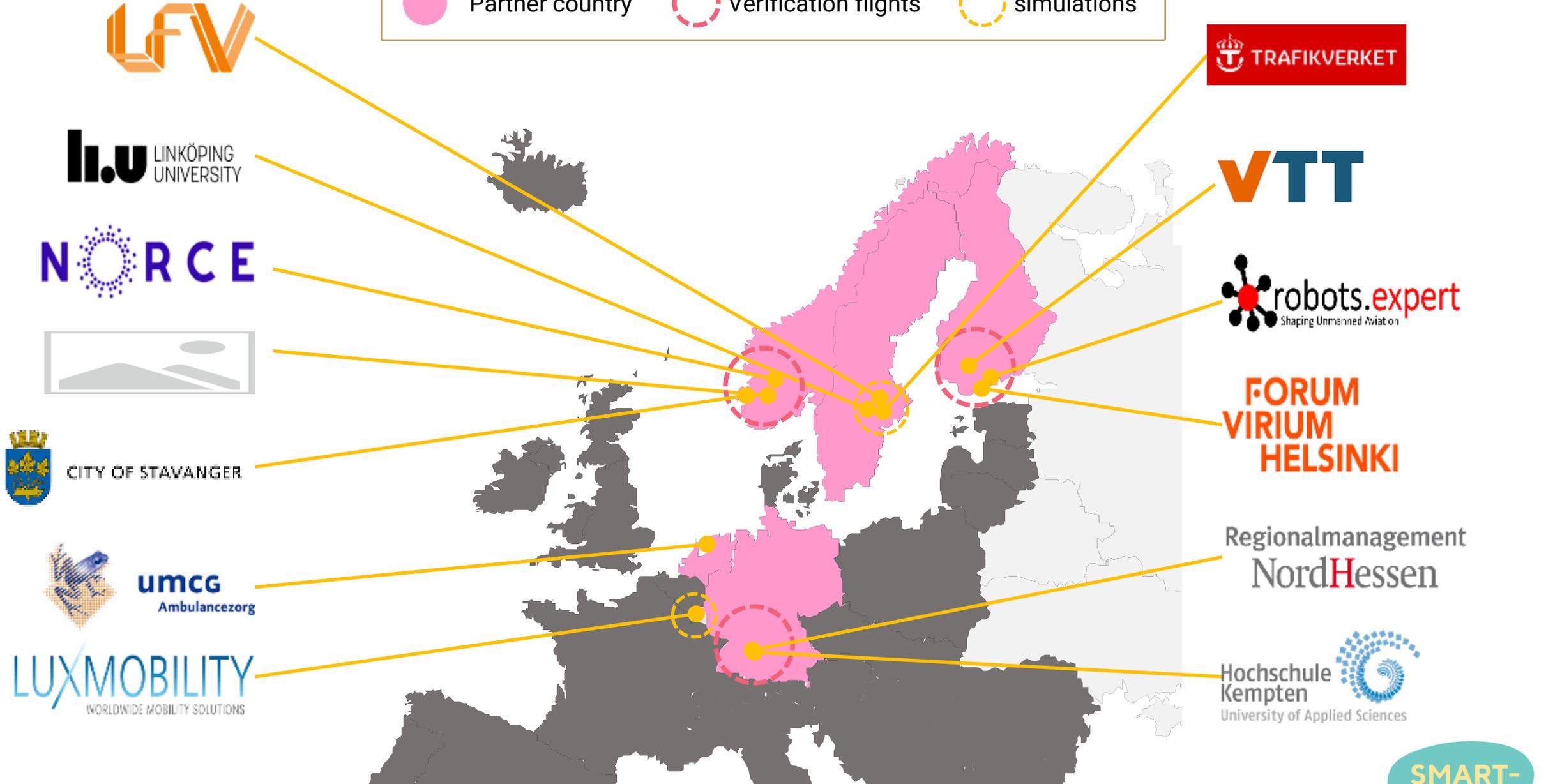
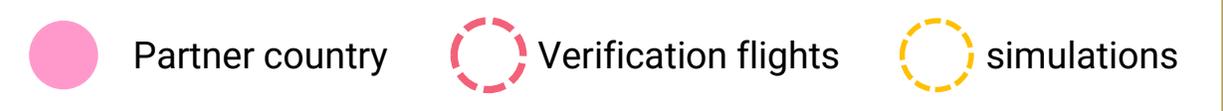
Verification flights

Guide book

Training programme

Environmental benefits

31st December 2023



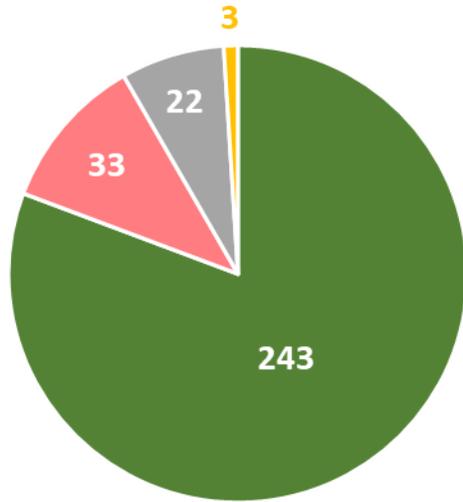
Global followers



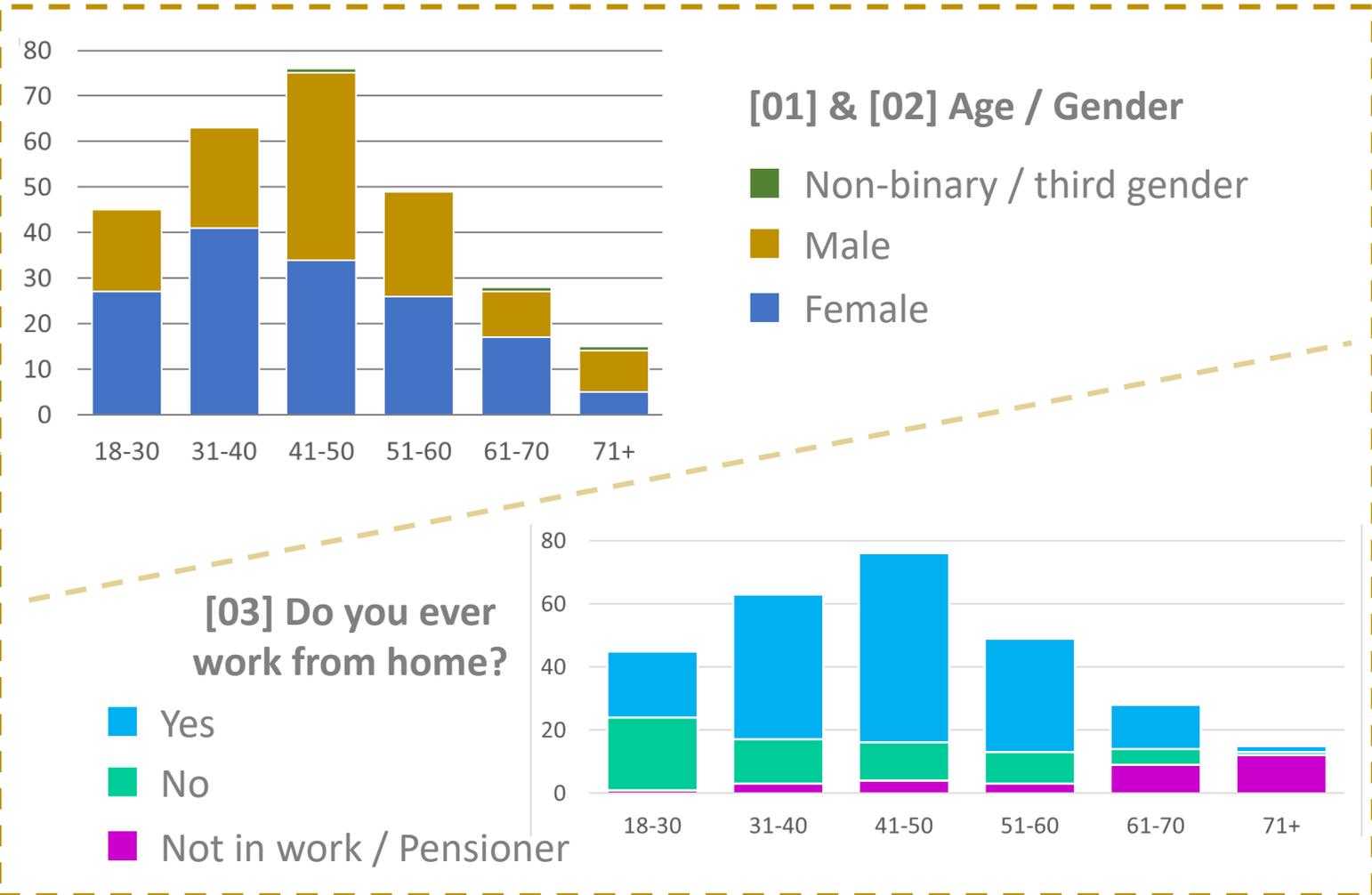
Citizen engagement (demographics)

(questionnaire 1st-31st March '22)

301 responses, 276 in zones A&B



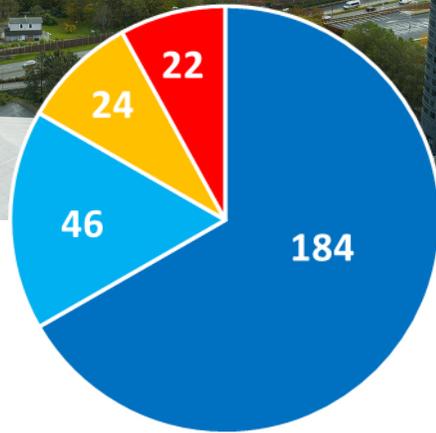
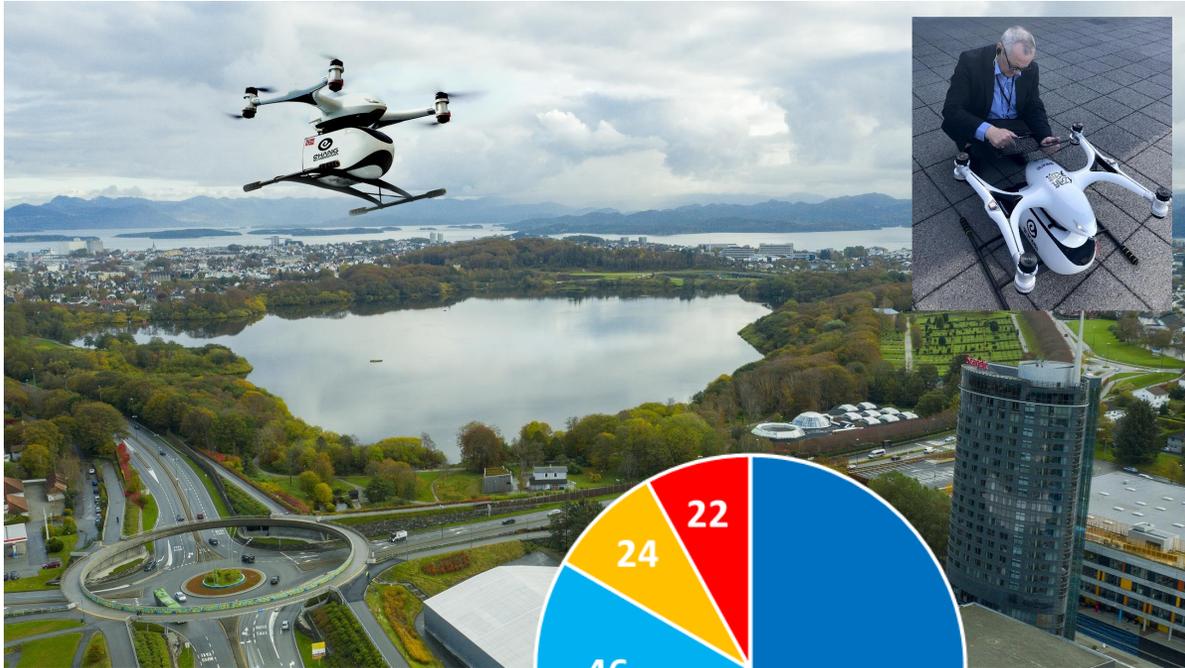
- Zone A: Stavanger
- Zone B: Surrounding municipalities
- Zone C: Rest of Norway
- Zone D: Rest of the world



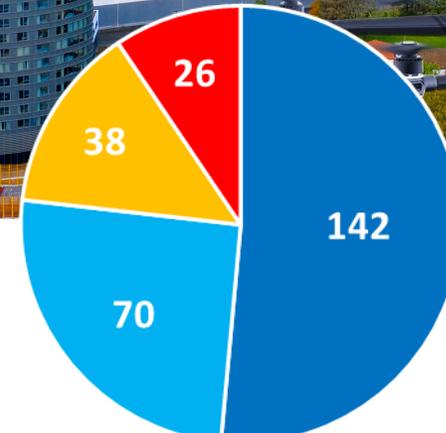
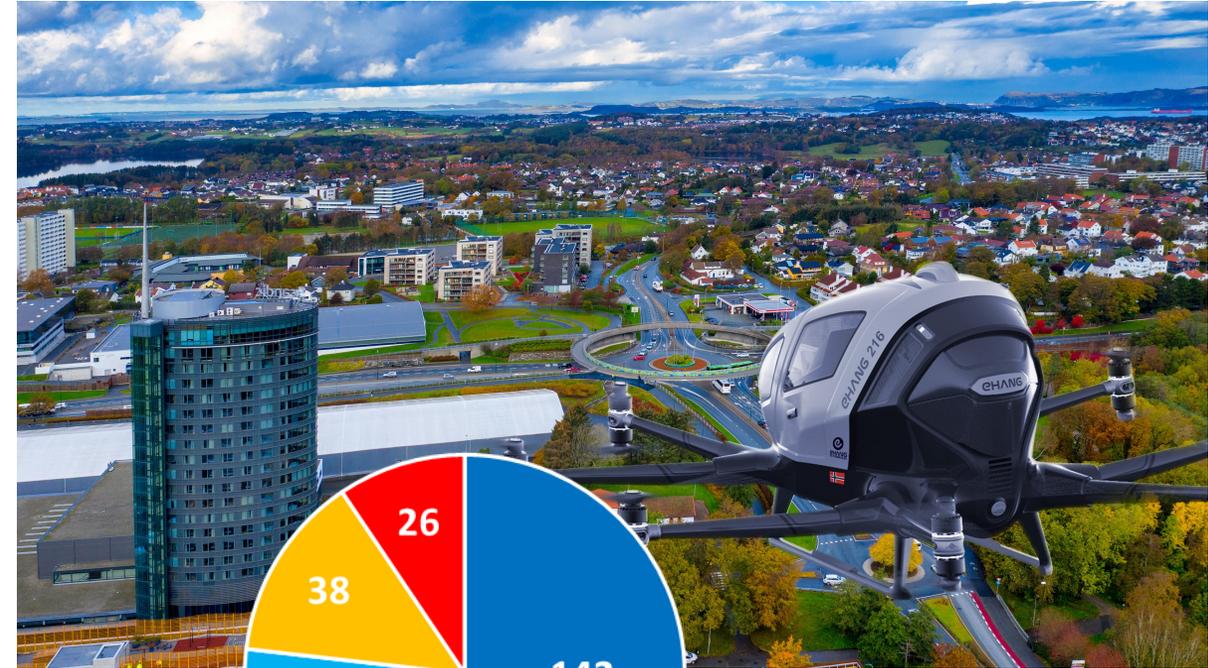
Reactions: «How much do you like the idea of the medical drone illustrated?»

(Zones A&B = 276 people, per 23:59, Thursday 31.03.2022)

[07] Delivery drone



[08] Passenger drone



Responses: “Can you approve?”

(276 responses in Zones A&B, per 23:59, Thursday 31.03.2022)

Near...

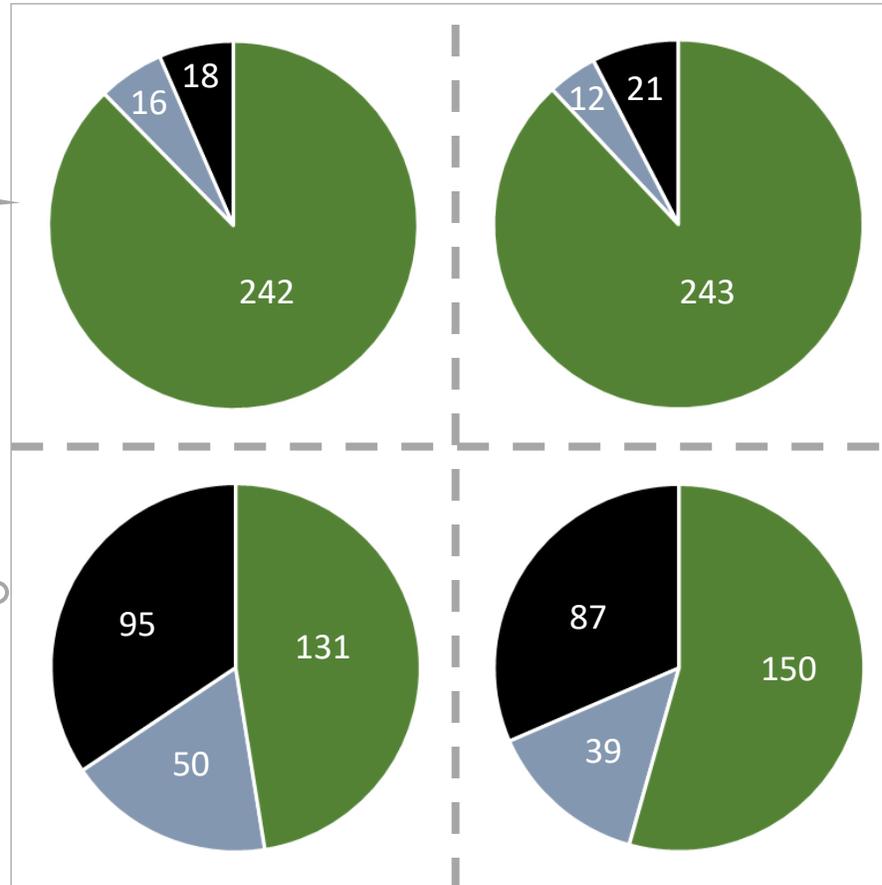
[09] home?

[10] where you work or study?



No doubt

Be careful



Emergency-medical services
e.g. to transport a defibrillator

Non-urgent medical services
e.g. to transport a pharmacy product

Responses: “[11] How much do you agree?”

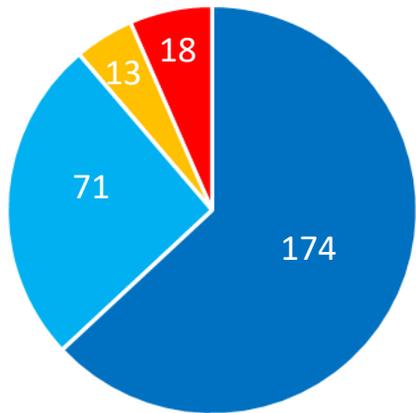
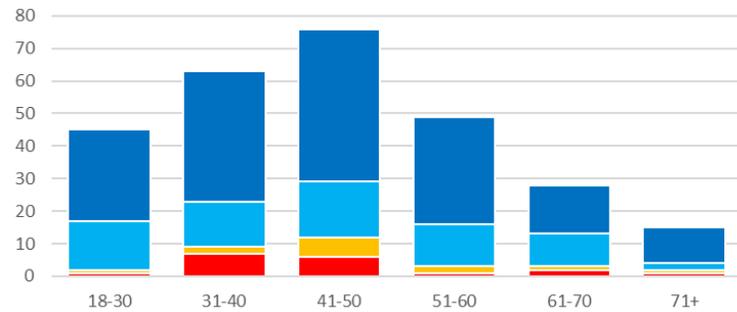
(276 responses in Zones A&B, per 23:59, Thursday 31.03.2022)



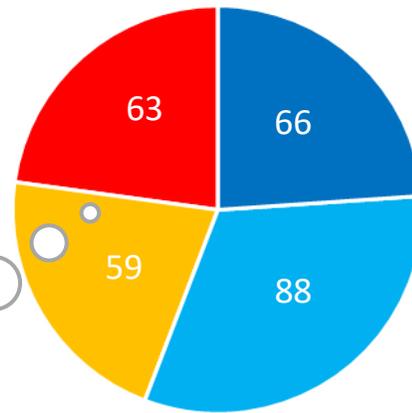
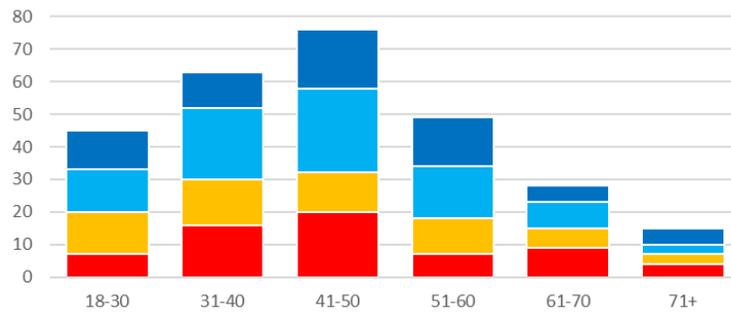
Completely agree

Strongly disagree

(a) Urgent medical products/ goods e.g., blood, tissue samples or organs?

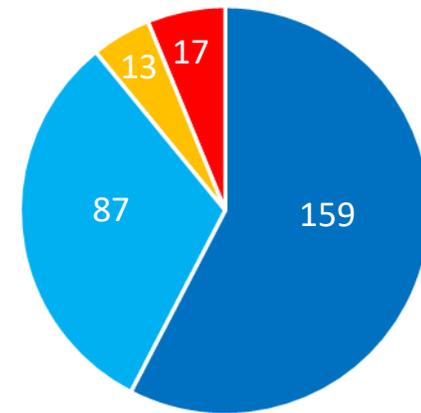
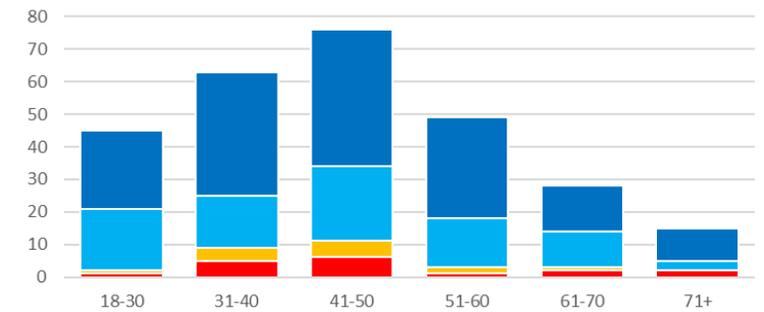


(b) Non-urgent medical products/ goods e.g., routine samples?



Be careful

(c) Personnel transport in emergencies e.g., ambulance personnel or doctors to an accident-scene?



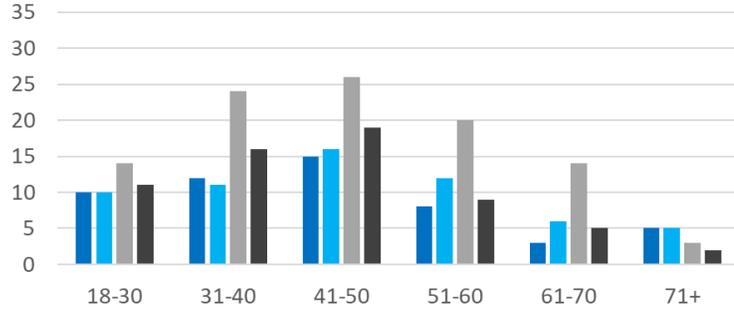
[13] How worried are you about?

- a) Noise pollution, like loud and/or annoying sound from flying drones?
- b) Visual pollution, like annoying or distracting air traffic?
- c) Safety, e.g. flying objects that can crash?
- d) Environmental, for example impact on wildlife?
- e) Privacy considerations, from a drone flying near my window or over my property?
- f) Dedicated take-off and landing sites that steal space that can be better used for other things?

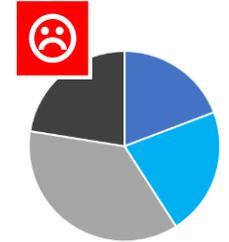
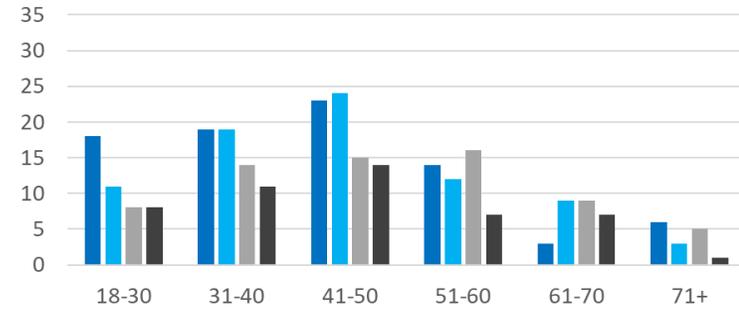
Summary of: [13] How worried are you about?

(276 responses in Zones A&B, per 23:59, Thu 31.03.2022)

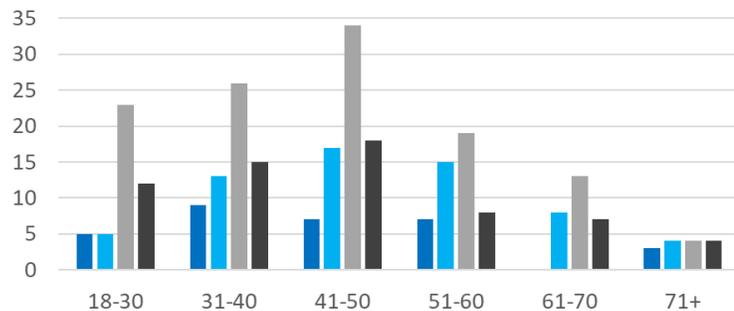
a) Noise pollution, like loud and/or annoying sound from flying drones?



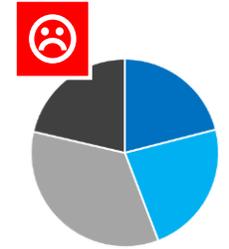
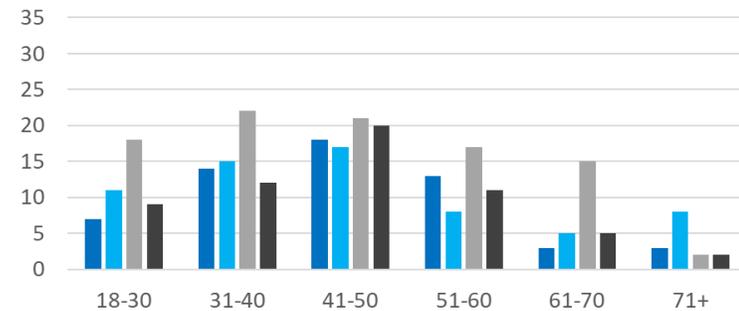
b) Visual pollution, like annoying or distracting air traffic?



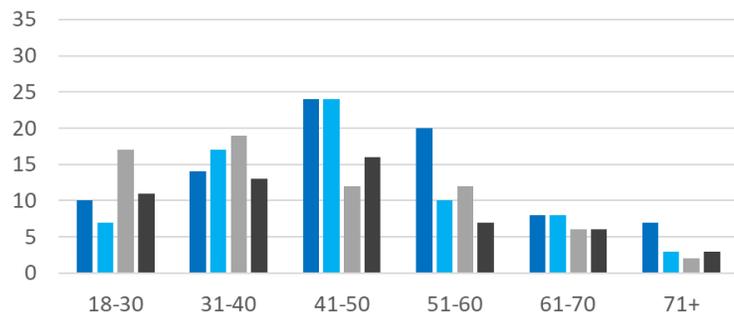
c) Safety e.g., flying objects that can crash?



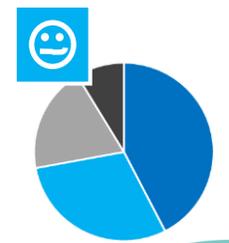
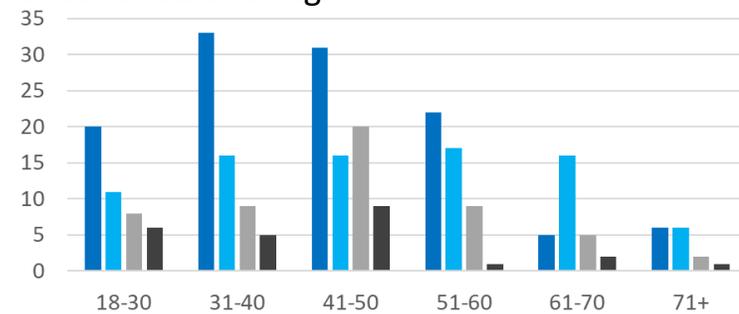
d) Environmental, for example impact on wildlife?



e) Privacy considerations, from a drone flying near my window or over my property?



f) Dedicated take-off and landing sites that steal space that can be better used for other things?



KEY: {1} Not at all worried {3} A little worried ☺ Be cautiously optimistic ☹ Be cautiously pessimistic ☹ Proceed with caution
 {2} More not worried than worried {4} Very worried



Our Goals





Delivery drone verification, Autumn 2022

Planned verification flight - delivery drone - Autumn 2022



- Vertical take-off/ landing) areas:
 1. The new fire station in Stavanger
 2. Simulated accident location at Mosvannsparken
- Here the drone ascends/ descends vertically to/ from 120m above ground and flies across the lake

Passenger drone verification, 2023





Thank you

Philip Durnford, Stavanger kommune
philip.durnford@stavanger.kommune.no

