

# EuroSDR Questionnaire on Research Needs of NMAs in Data Acquisition

Eija Honkavaara

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Questionnaire conducted on June-September 2025

## Topics

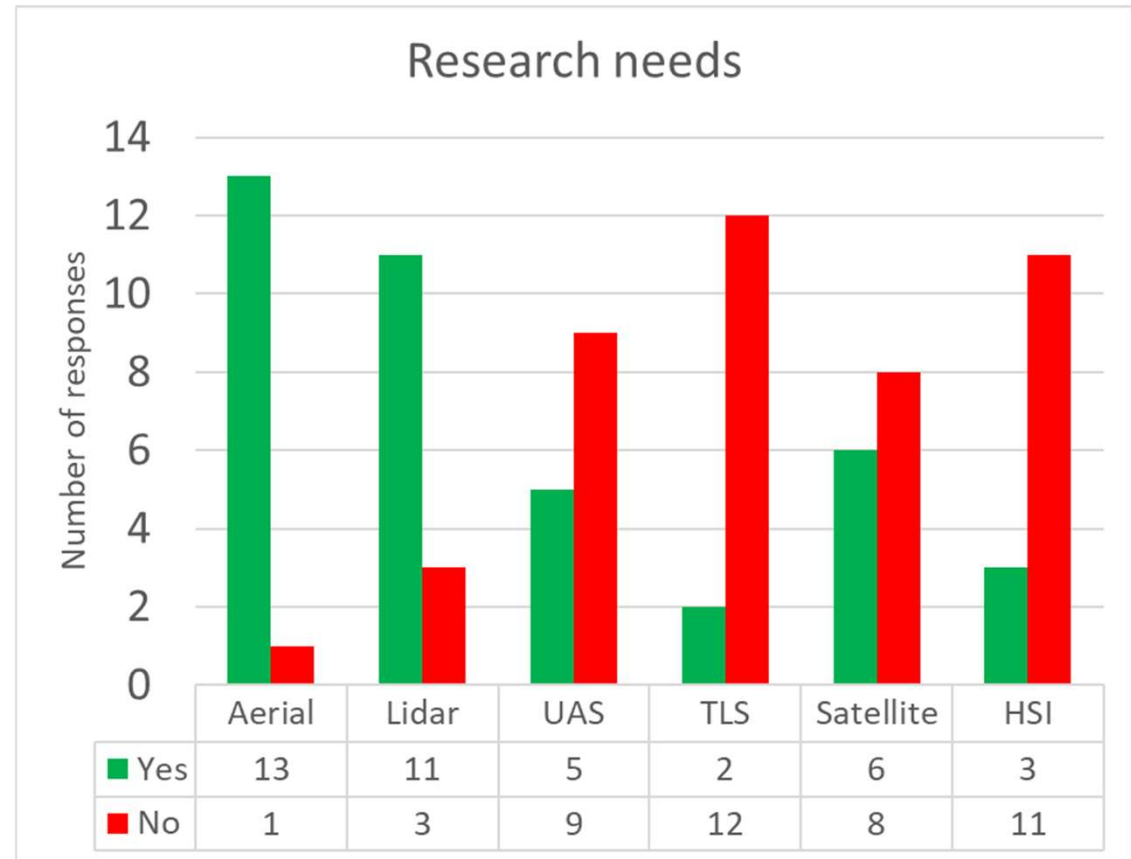
- 1. Aerial image acquisition
- 2. Aerial laser scanning
- 3. Uncrewed aerial vehicles (UAVs)
- 4. Terrestrial Mobile Mapping
- 5. Satellite data acquisition
- 6. Hyperspectral imaging
- 7. Other perspectives in data acquisition by NMAs

## Questions for each technique

- Do you have R&D needs related to XXX acquisition?
- What are R&D needs related to data collection?
- What are R&D needs related to data processing?
- What are R&D needs related to data subcontracting?
- What are R&D needs related to standardization?
- Are there other R&D needs?

# Overview (1/10)

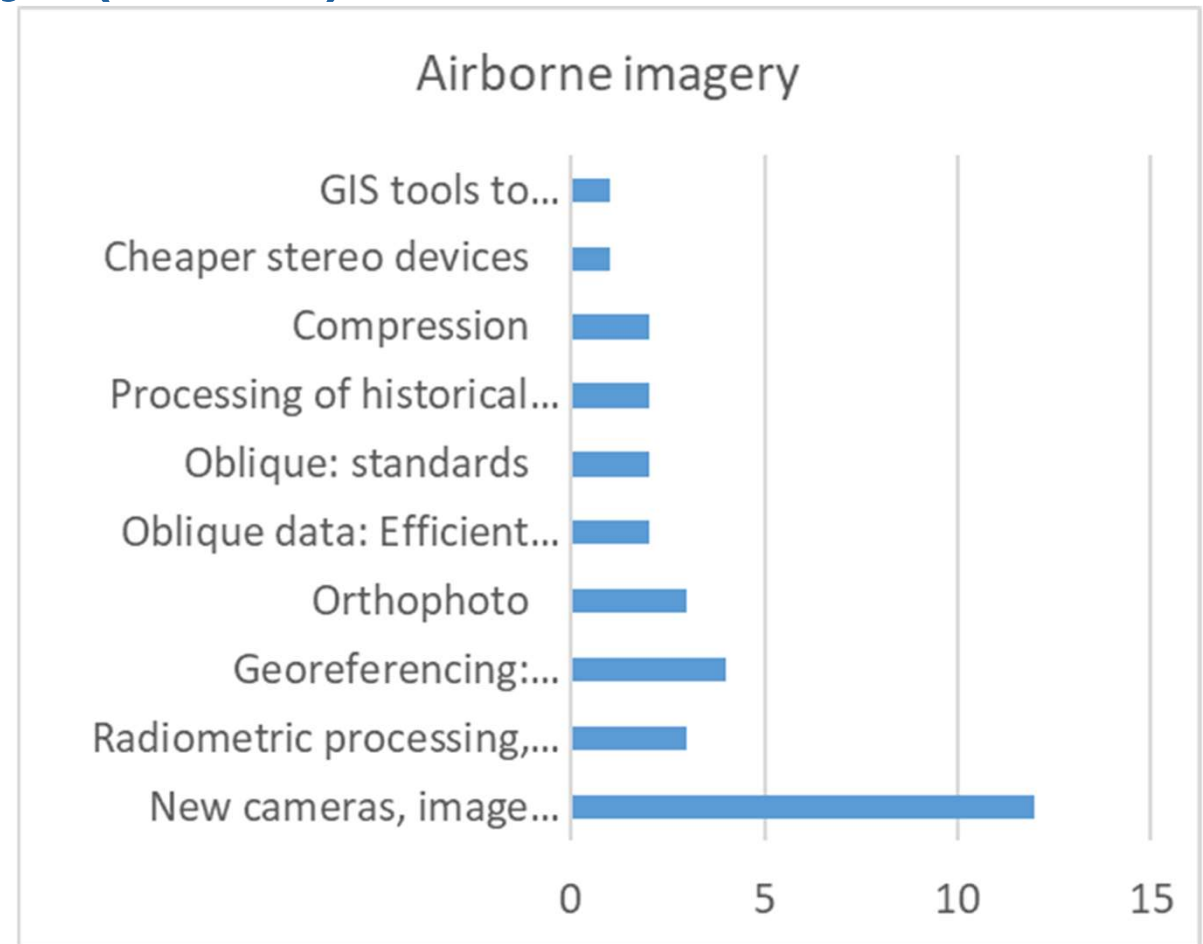
- 14 responses
- One did not have any questions



13 responses

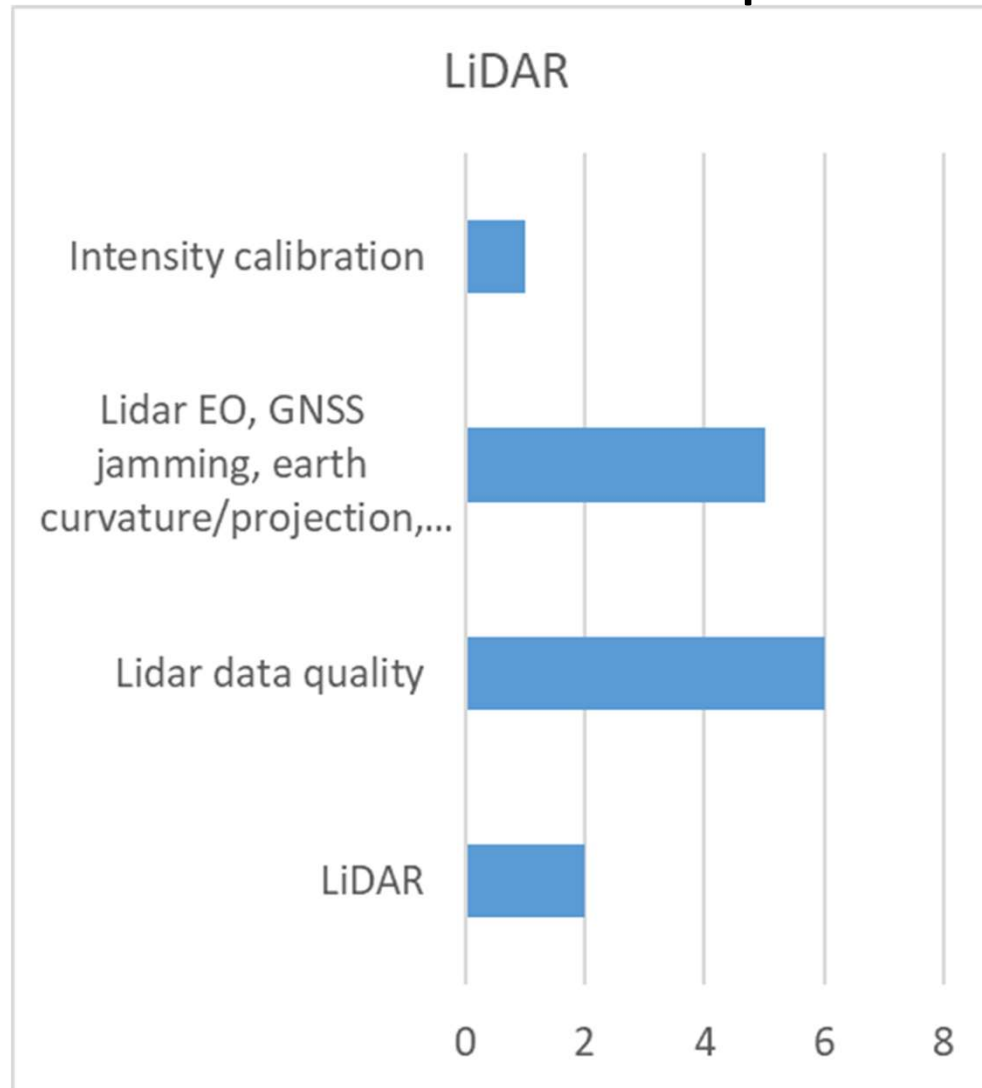
## Airborne imagery (2/10)

- New cameras, image quality, resolution, testing, standards, open software
- Georeferencing: jamming, earth curvature/projection
- Third
  - Radiometric processing, changing conditions, also cloudy weather, standard methods
  - Orthophoto production

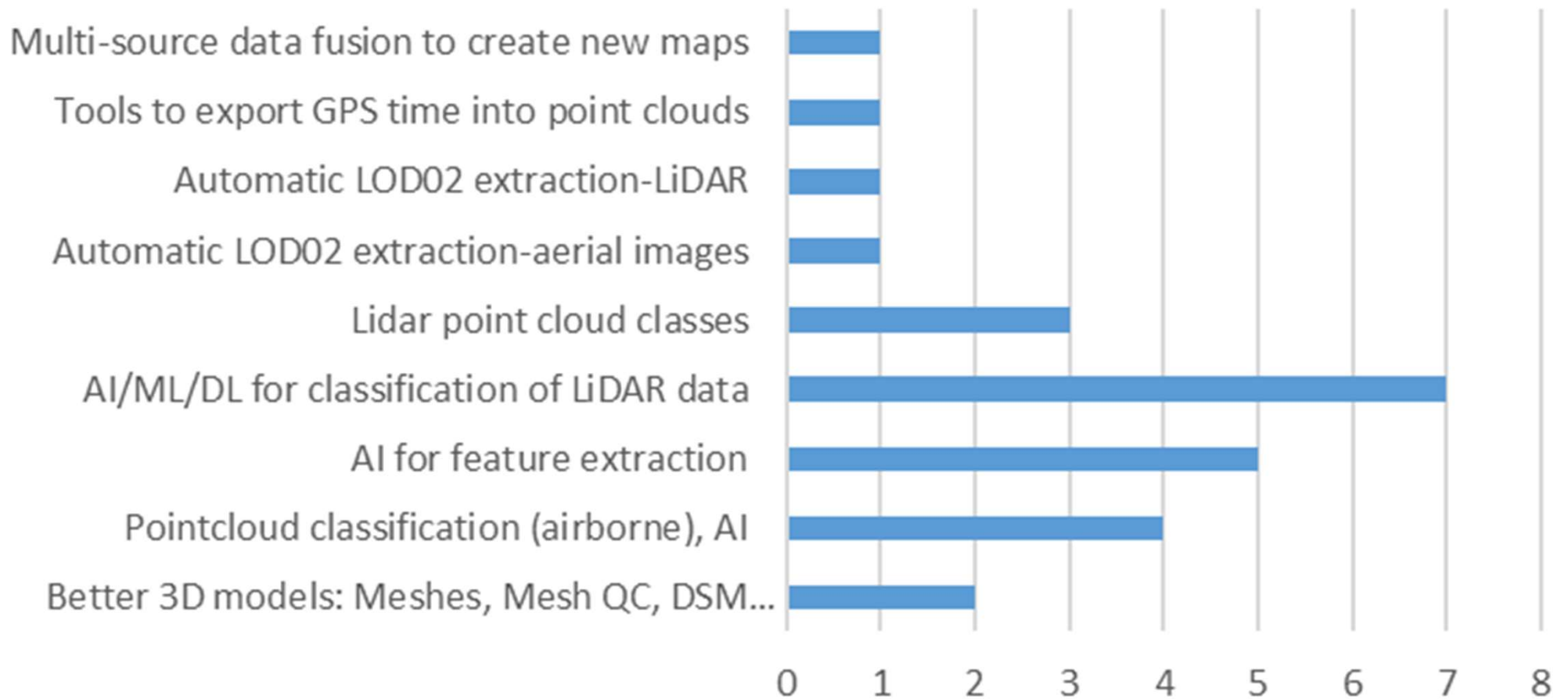


# LiDAR (3/10)

11 responses



## Point cloud classification, feature extraction, modelling



# General management (5/10)

- AI-based processing techniques for entire process
- Sharing large datasets
- The need to minimise the flight time and the processing time, streamlining the procedures
- Better management of image availability
- How to handle multiple nation-wide datasets (share only the newest, or all, or ...)
- Fusion of different datasets
- Security policy regarding data (image forbidden zones definition for any data collection independently of the source)

## Standards 6/10

- Industry standard for aerial image subcontracting
- Industry standard for Lidar data subcontracting
- Website with nationwide data acquisition initiatives and links to tender documents

“When subcontracting SDFI uses a lot of energy ensuring that subcontractors are able to live up to what is specified. For this an industry standard would help tremendously. This idea has already been raised for EAASI, but how far this has come is to us unknown.”

“Clearer specifications for different data sets. E.g. we are using mainly ASPRS specifications as EU are too complicated or do not exist.”

“Standardized specifications for acquisition (LiDAR, Nadir, Oblique) ”

“Automatic QC procedures.”

## Future 7/10

- Effect of dataprograms
- How do we keep the industry healthy? (Quite a few suppliers stopped their business over the past few years)
- Which European organizations are relevant for us? EuroSDR, EEASI, Euro geographics

5 responses

## UAV 8/10

- Use of UAVs
- UAV types
- UAV sensors
- UAV data QC
- UAVs for mapping
- UAV BVLOS experiences
- UAV data processing
- UAV standards for orthophotos
- UAV data subcontracting
- UAV data quality control

6 responses

## Satellite 9/10

- Satellite based change detection
- Satellite vs aerial images
- Superresolution
- Satellite Classification
- Satellite data quality
- Stitching satellite & airborne

# Identified topics in the Q3/2024 10/10

- Performance assessment of new aerial camera technologies, standardized procedures
- Radiometric processing and calibration of airborne images
- Intensity calibration of LiDAR data
- Point cloud classification, AI
- Georeferencing challenges: GNSS jamming/inference
- Integrated data acquisition of LiDAR and images
- Integrated processing of LiDAR and images
- Standardized processing technologies for oblique imaging
- UAVs for large area mapping
- Multisensor and -platform data fusion
- Application of AI in primary data processing, streamlining the processing
- Industry standards
- General data management issues
- Future of NMCA data acquisition

# Conclusion and further steps Q3/2024

(10/10)

- Potential research topics
  - E.g. Evaluations of Bayer pattern images/cameras, radiometric processing, feature extraction/point cloud classification
  - UAVs for NMCAAs
- Discussion topics for COM1-SIG
  - Best practices to selected challenges/topics
- Action items
  - e.g. Website with nationwide data acquisition initiatives and links to tender documents
- Will be further discussed by COM1-SIG

# Thank you