

Aerial Image Specifications in NMCAs - Results of a Short eMail-Survey

 Federal Office
of Metrology and
Surveying

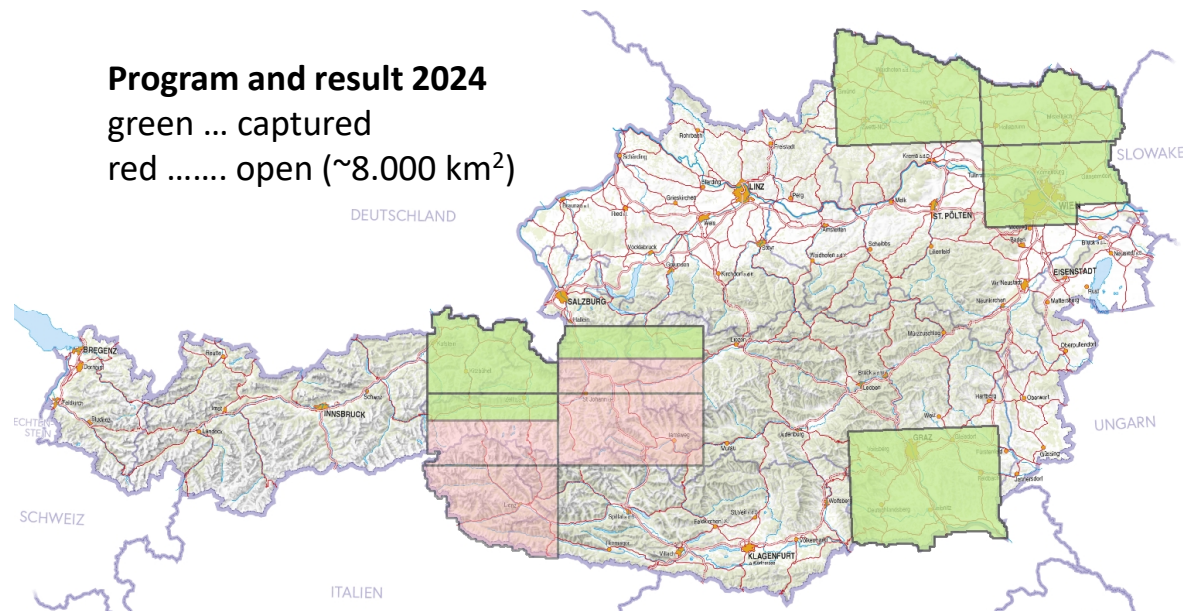
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Why „Short eMail-Survey“?

Austrian Program for data acquisition of aerial images:
countrywide coverage in 3-years cycles -> ~30.000 km² per year

Flight result 2024 was extraordinary behind the expectations!

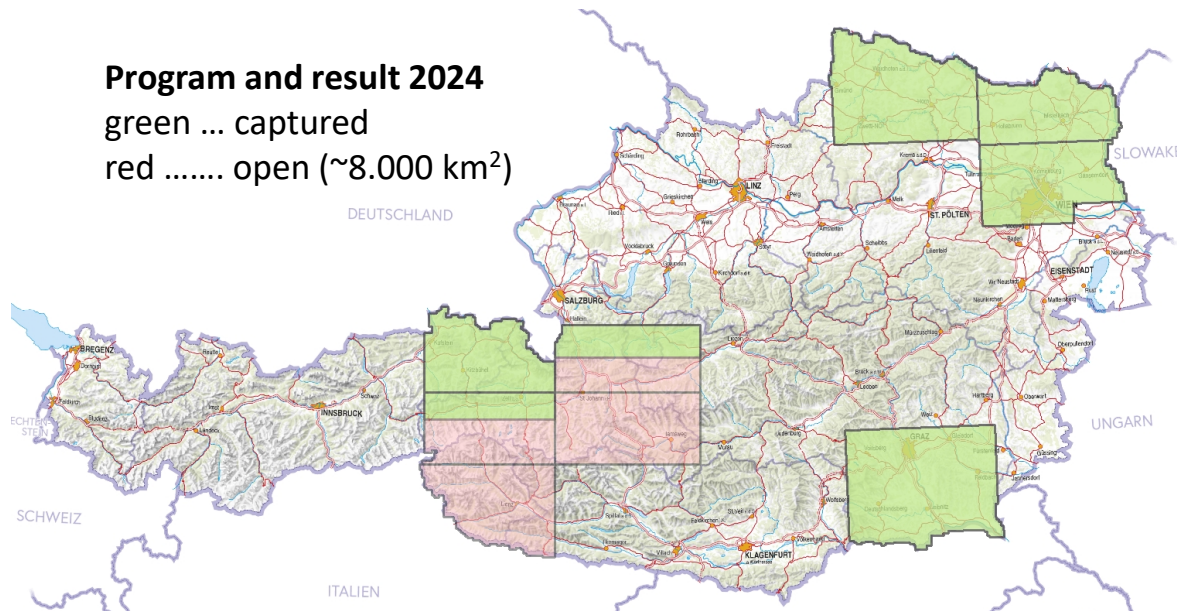


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Program and result 2024
green ... captured
red open (~8.000 km²)



„Short eMail-Survey“ – How?

EuroSDR Board of Delegates Meeting BoD145 in Nov. 2024

→ EuroSDR NMCA-Challenges – Austria / BEV:

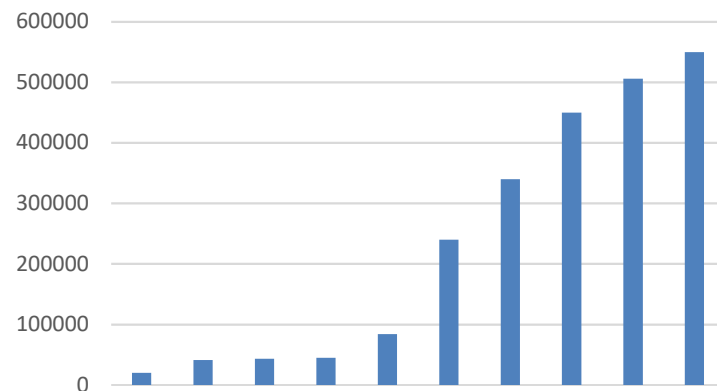
- BEV-questions about specifications and experience in other NMCAs in the field of aerial image acquisition
- **informal eMail-questionnaire** were sent out to EuroSDR-delegates
- **9 countries/delegates answered within very short time – Thank you!!!**
- in the following slides answers from the following countries are included: Austria, Denmark, Estonia, Finland, France, Romania, Sweden, Switzerland, Slovenia, Spain

Main Questions in eMail survey:

- What are the **core specifications** for aerial images in your country (GSD, overlap, minimum sun elevation angle, etc.)?
- What is the **average area per year (km²)** of your program regarding capturing aerial images?
- **How many aircraft** are available for fulfilling this program? Do you have own aircrafts or contracts with flight companies (how many) or a mixed approach?
- **additional remarks/typical issues** according your aerial image program?

Area of participating Countries

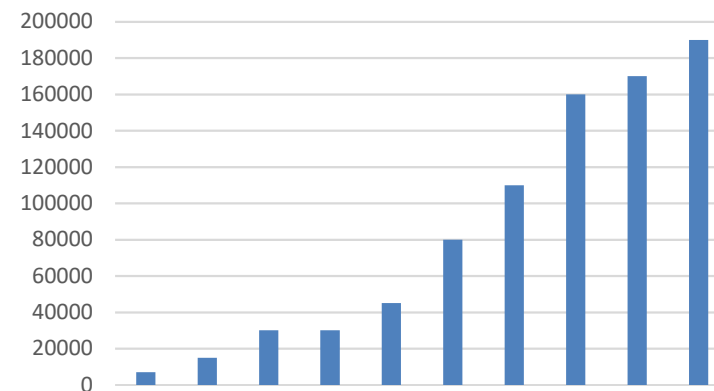
area of the country [km²]



(values for country areas were looked up in www; all values are visualized in individual bars in the chart and are sorted in ascending order)

Planned area for aerial image acquisition / year

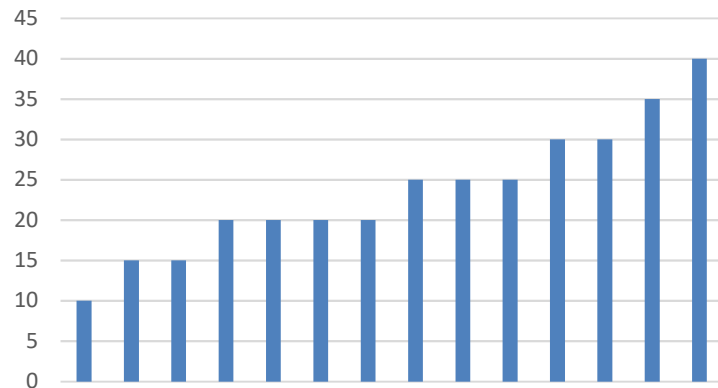
captured area / year [km²]



(all reported values are visualized in individual bars in the chart and are sorted in ascending order)

GSD (Ground Sample Distance)

GSD [cm]

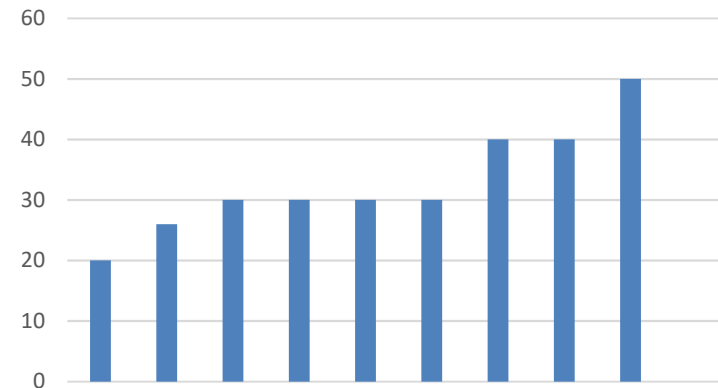


(reported values sorted in ascending order)

GSD countrywide or for big regions;
 sometimes GSD varies for defined areas,
 e.g. smaller GSD for flat or more populated regions
 and larger GSD for forest or mountainous areas.
 GSD only used for city-scale is not included in the
 diagram.

Side Overlap

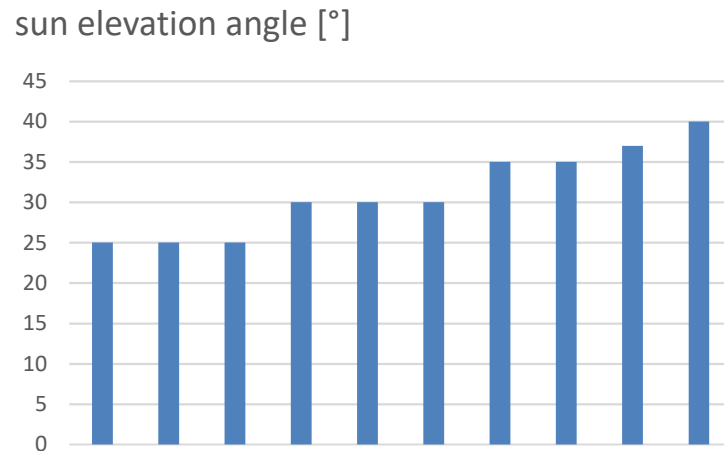
side-overlap [%]



(reported values sorted in ascending order)

side overlap countrywide;
 side overlap for small areas, e.g. larger
 side overlap in defined city areas
 is not included in the diagram.

minimum Sun Elevation Angle accepted for image capturing

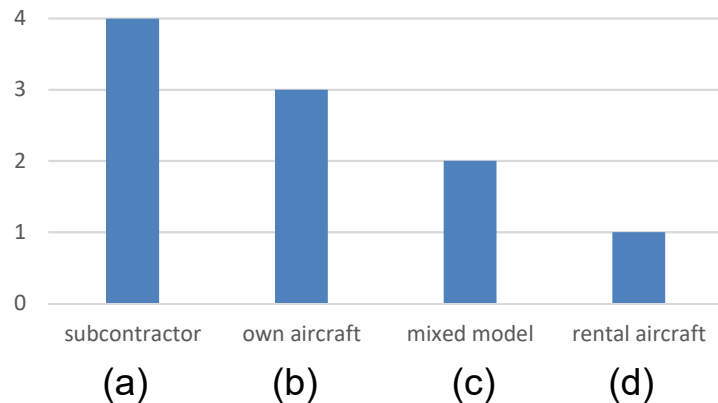


(reported values sorted in ascending order)

Data Acquisition Aspects

Number of NMCAs organizing data acquisition with

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(a) subcontractor

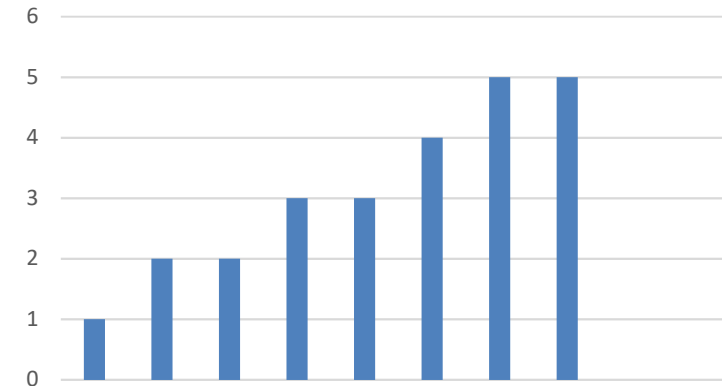
(b) own aircraft

(c) mixed model
(own + subcontractor)

(d) rental aircraft

Number of planes that are available for the data acquisition

Number of planes



(reported values sorted in ascending order)

Conclusions and Future Aspects

- Network of EuroSDR is very helpful and invaluable!
- short eMail-survey covered only some major issues
- the **same overall task** “aerial image (and orthophoto) acquisition”, but **many different and individual details**, aspects and solutions
- **Further sharing of expertise and experience between NMCAs** in a structured way and in more detail would be very interesting (differences in specifications, tendering experience, quality assurance, etc.)

→ **How to organize further exchange of experience?**