

EuroSDR Commission 1: Benchmark Proposal

Single Photon and Geiger Mode Lidar Workshop

Barcelona, Spain

6th March 2019

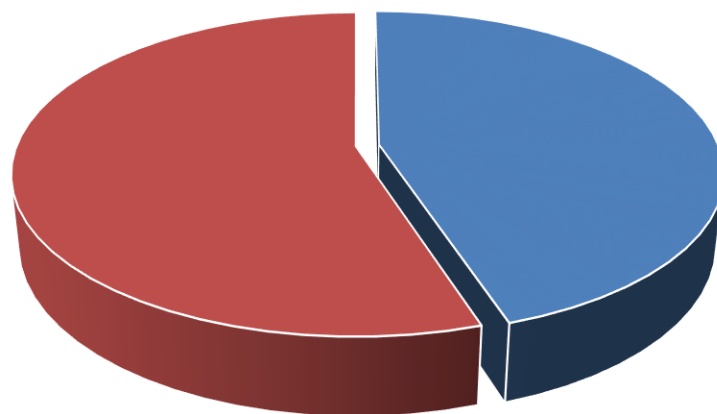
Jon Mills, Fabio Remondino

EuroSDR activity in SP / GM Lidar

- 2018
 - Questionnaire
 - Preliminary investigation
 - ...
- 2019 - 2020
 - Workshop
 - Benchmark (proposed)

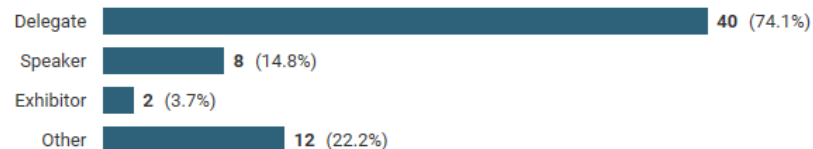
Workshop participation

- Would you participate?



■ Yes ■ No

- How would you participate?

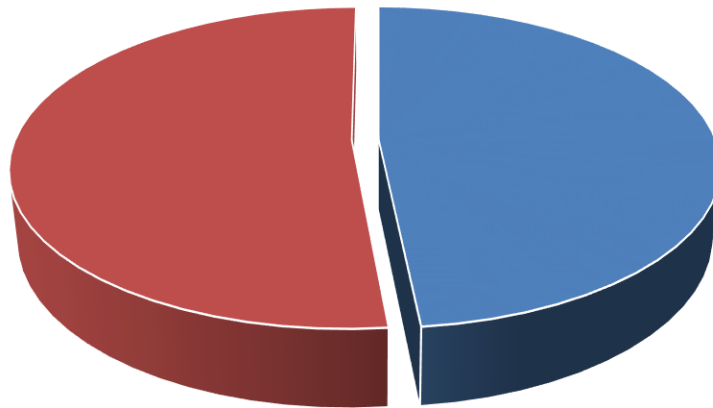


Multi answer: Percentage of respondents who selected each answer option (e.g. 100% would represent that all this question's respondents chose that option)

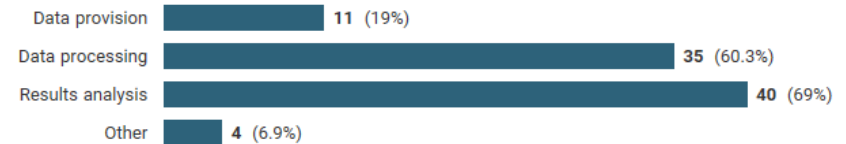
Benchmark participation

- Would you participate?

How would you participate?



■ Yes ■ No



Multi answer: Percentage of respondents who selected each answer option (e.g. 100% would represent that all this question's respondents chose that option)

Proposal: “Open” benchmarking project

- Initiate at Barcelona workshop
- Run for two years, 2019-20
Preliminary results in 2020
Final results in 2021
- EuroSDR agreed initial financial support: €10k
Data acquisition / ground truthing
Data processing and analysis
Reporting and hosting of end workshop

Defining a benchmark in SP / GM Lidar

- Some potential questions (NMCA focus) to be answered:
 - SP / GM for what specification of topographic mapping?
 - What is “quality” in comparison to linear mode?
 - Terminology: what is point density, point spacing, illuminated footprint... ?
 - What potential for different applications (forestry, city, flooding,...)?
 - What potential for application of ML/DL?

Defining a benchmark in SP / GM Lidar

- Ideal dataset:
 - Comparable (defined by point density, strip overlap...) SP and GM lidar data of common location and time
 - Different land cover types (forest, city, coast...)
 - “Raw” data available
 - Ground truth available
 - Comparison to other sensor data (imagery, linear lidar)
- Processing and analysis
 - Open participation, common framework for reporting (terminology)

Comments, questions, ideas, discussion

?

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Thanks...

- Julià, David, and the ICGC team
- Speakers
- GeoConnexion
- Hexagon / Leica Geosystems for sponsoring dinner



GeoConnexion



2) Take underground L3 (green) direction Trinitat Nova until Diagonal (7 stops)



3) 3' walk to Casa Milà (La Pedrera)



Thank you for participating

- Enjoy dinner (19:30)!