
“Horizon 2030 - Visions and Challenges in GI”

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European Umbrella Organisation for Geographic Information

Main challenges at the moment

● Increase of Copernicus market uptake

- End-User applications (e.g. Copernicus master challenge):
 - Agriculture monitoring (crops)
 - Hydrological areas monitoring
 - Infrastructure monitoring (buildings, roads, railways, oil & gas, electricity)
 - Forest monitoring
 - Etc.



Image source: copernicus.eu

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Image source: copernicus.eu

☉ More accurate **digitalization** with 3D GIS

- ☉ Large-scale 3D landscape modelling & spatial planning

The main challenges of GI sector for the next five years

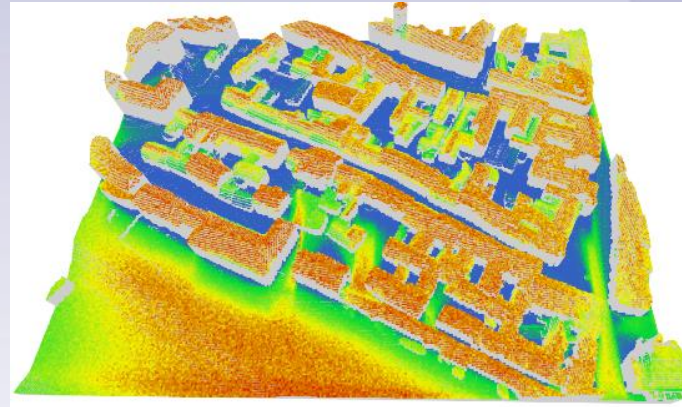


- 3D GIS upscale: large-scale and high-resolution
 - Better fusion of heterogeneous geolocated data
 - EO data: use of Copernicus, Landsat, EUMETSAT etc.
 - LiDAR and stereo (**drone sensing**) data
 - Geo-crowdsourced data (e.g. LiDAR in cars, **indoor navigation**)
- GI as a horizontal domain

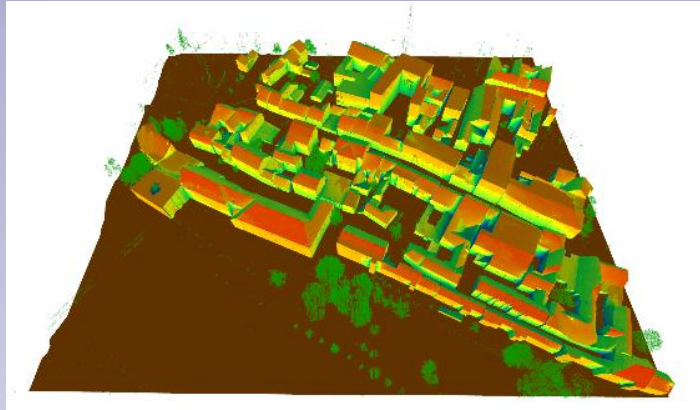


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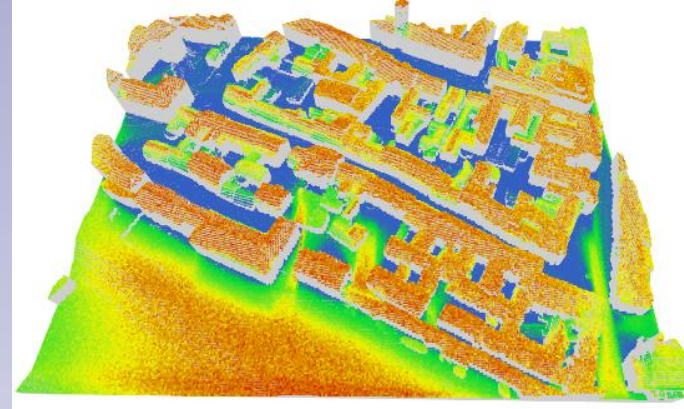
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 - Better prediction models for risk assessment
 - Bridging the **information gaps** using Geospatial Artificial Intelligence (deep learning and environmental simulations)
 - E.g. wind around obstacles?



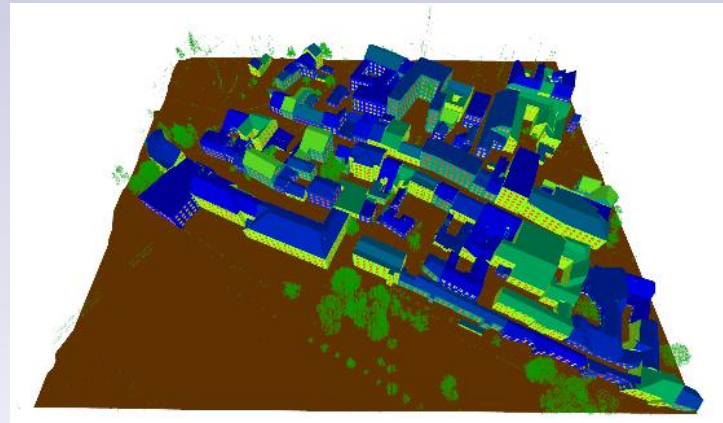
The main challenges of GI sector for the next five years



Solar potential:
EUMETSAT,
sentinel 2
and 3,
LiDAR



Wind potential:
Wundermap
(crowsourcing),
LiDAR, sentinel 2



Thermal potential

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- Optimization of Geospatial Artificial Intelligence
 - E.g. spatial infrastructure planning
- Support to better decision making



Opportunities for the GI sector in the next five years



- Raising awareness for 3D GIS & Copernicus applications
 - Lectures, workshops, conferences, webinars,
 - Hackathons
 - Incubators
- Raising awareness of GI in other domains



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 - Hackathons
 - Incubators
- Transnational cooperation to develop better solutions
 - Digital innovation hubs
 - Addressing UN and EC **innovative challenges** regarding 3D digitalization, disaster prediction, spatial planning etc.
 - Developing new algorithms for prediction and data-fusion models for 3D GIS

