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Airborne LiDAR Scanning for Forest Biomass Estimation


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*"FreshLIFE - Demonstrating Remote Sensing Integration in
sustainable forest management" <https://freshlifeproject.net/>*






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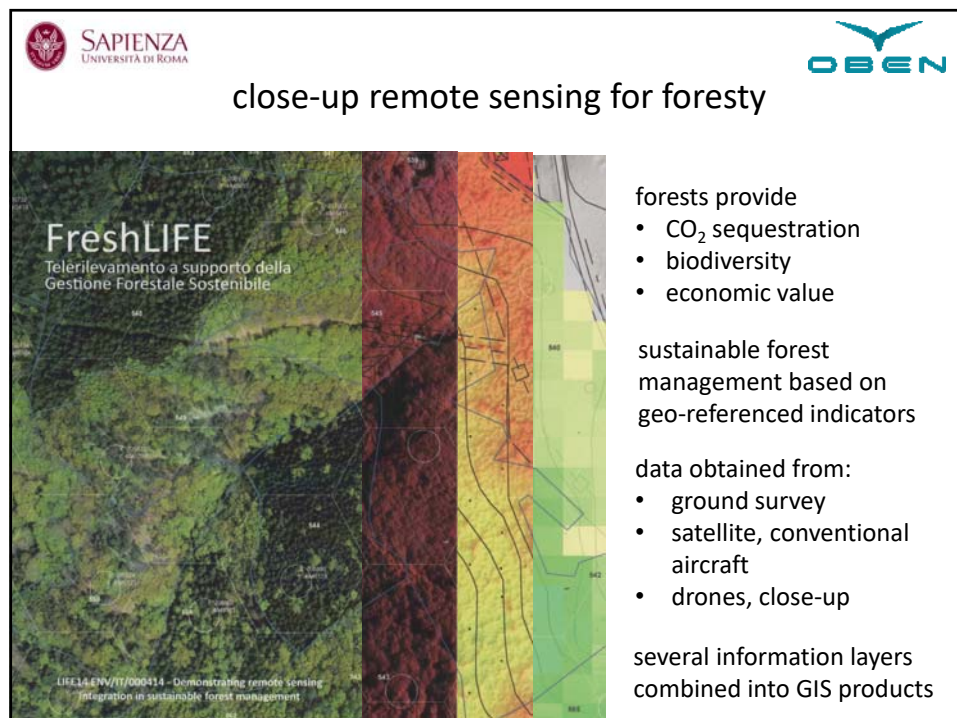
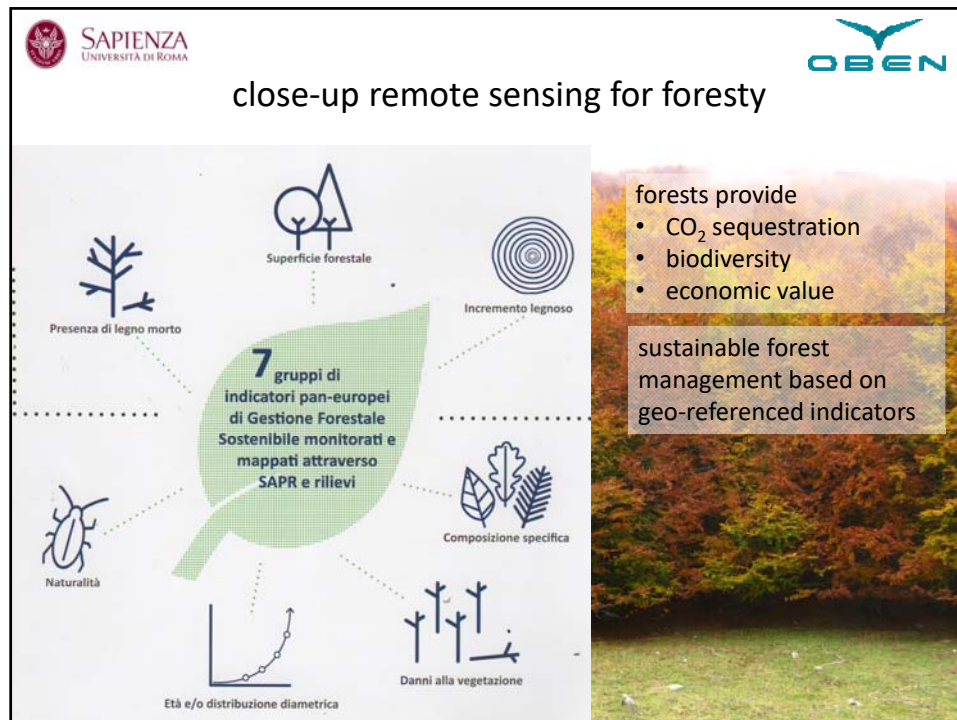



close-up remote sensing for forestry




forests provide

- CO₂ sequestration
- biodiversity
- economic value

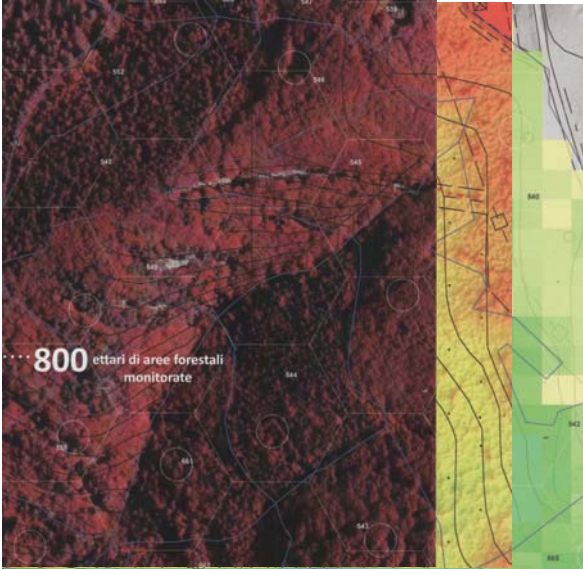




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sustainable forest management based on geo-referenced indicators


data obtained from:

- ground survey
- satellite, conventional aircraft
- drones, close-up

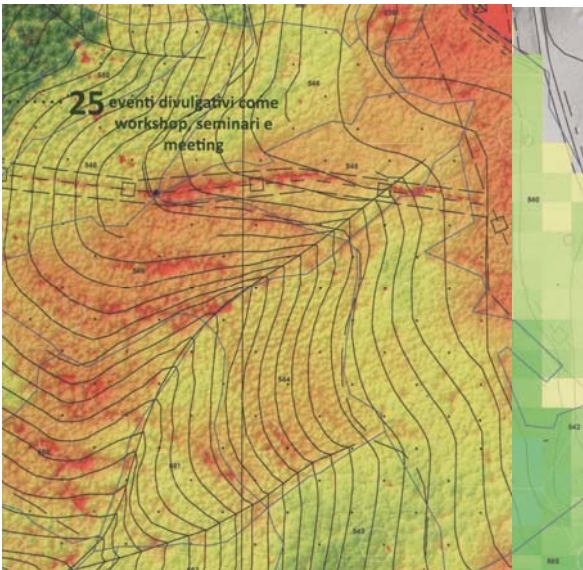
several information layers combined into GIS products



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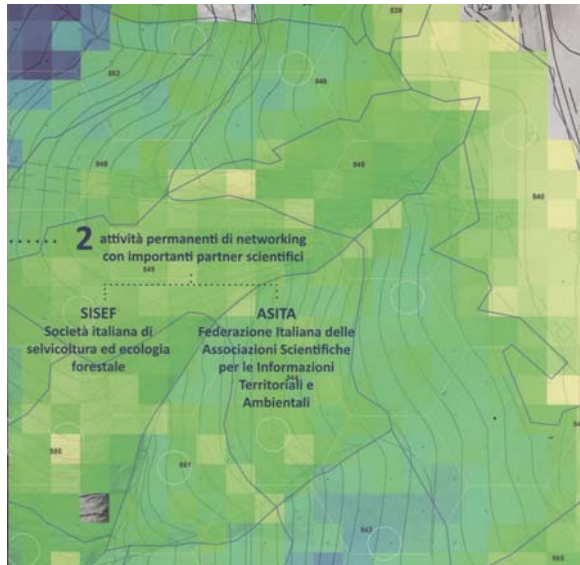
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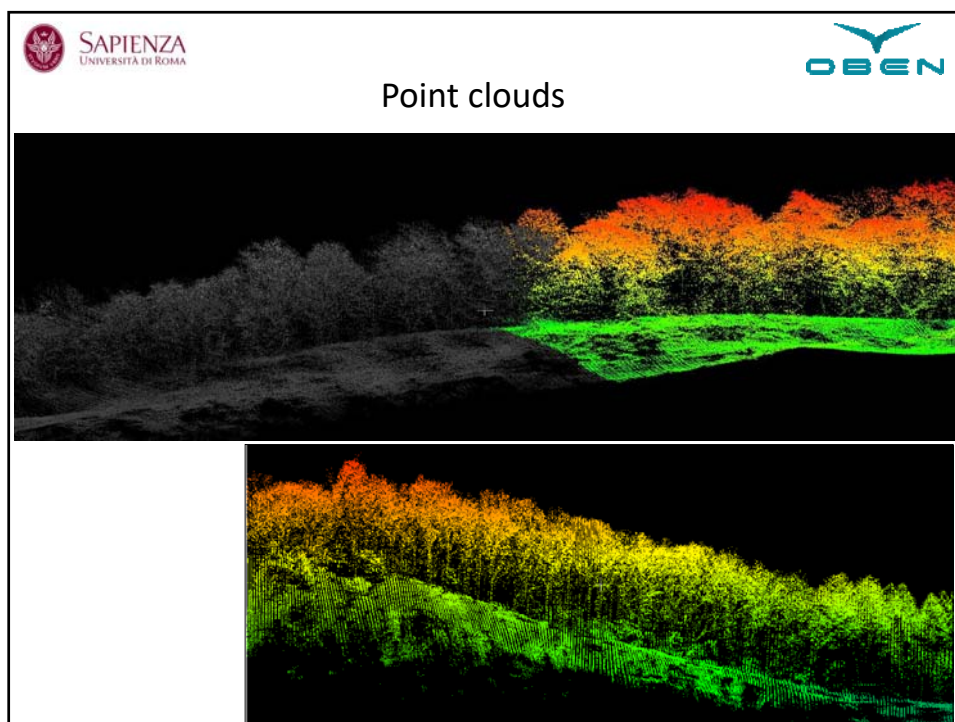
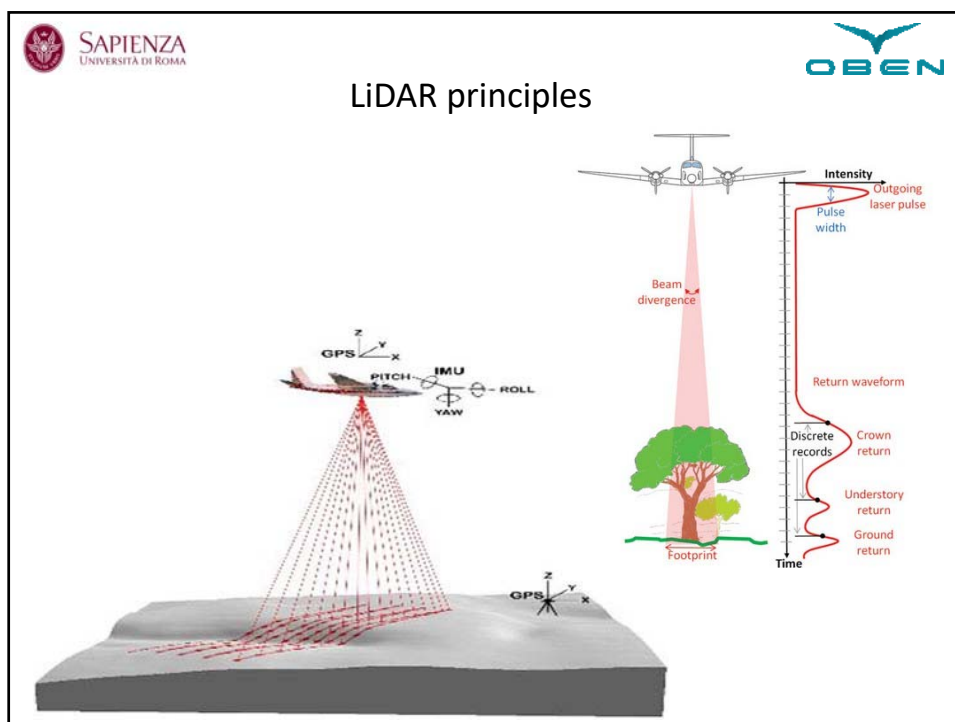
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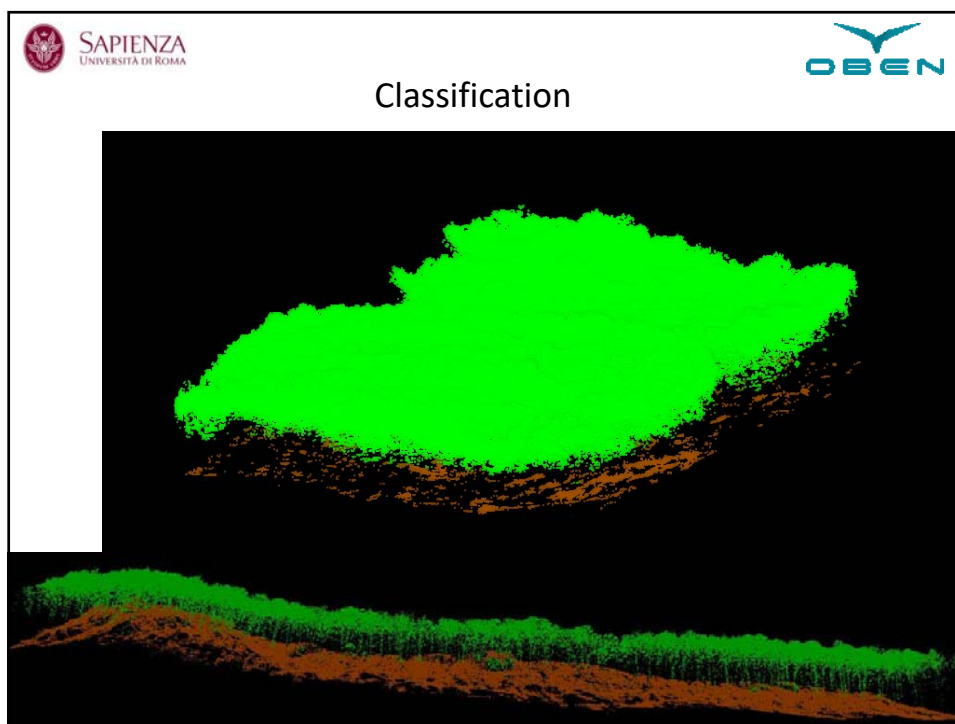
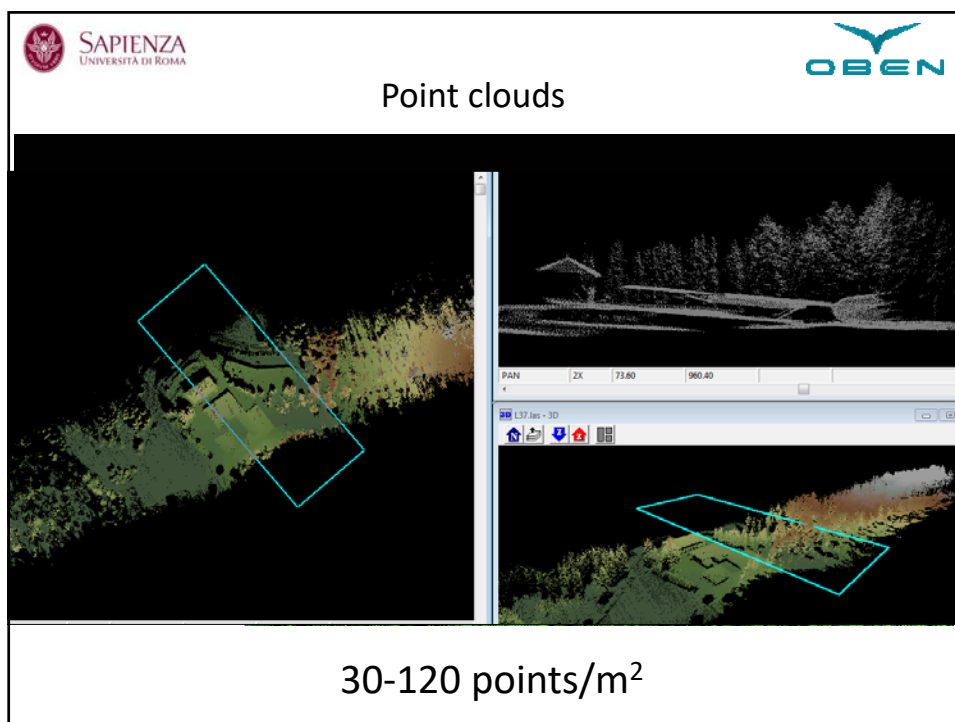
LiDAR on RPAS

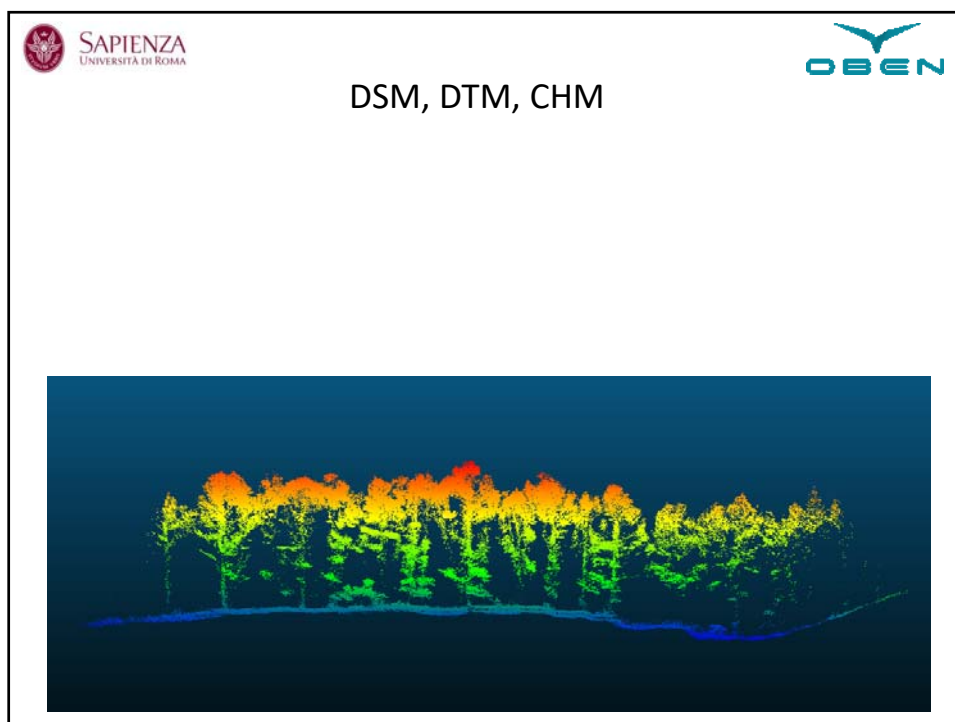
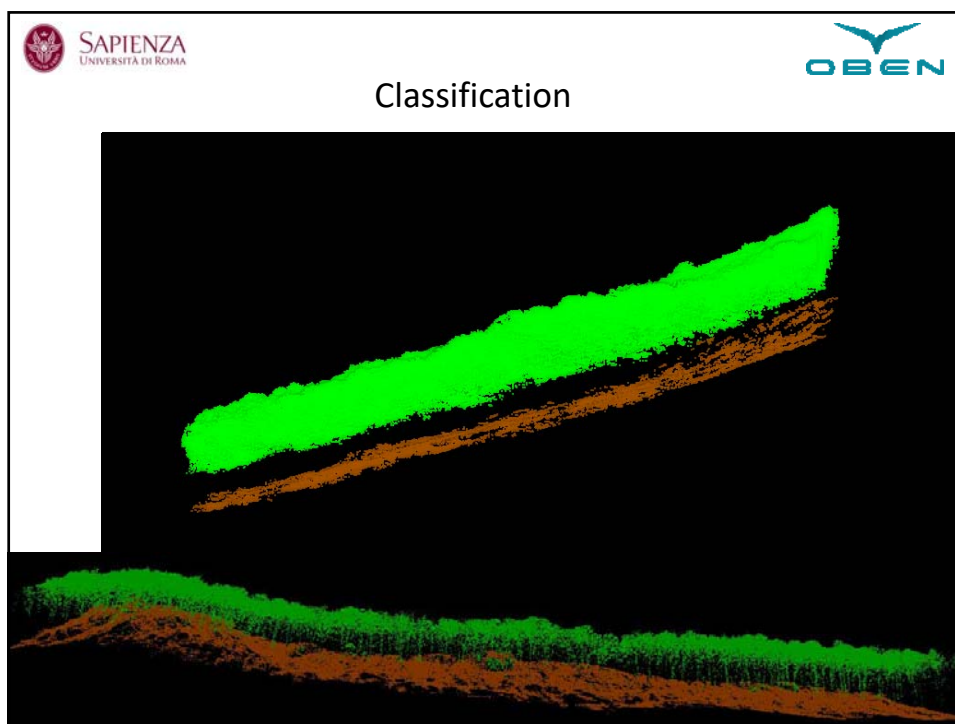
Oben's RPAS

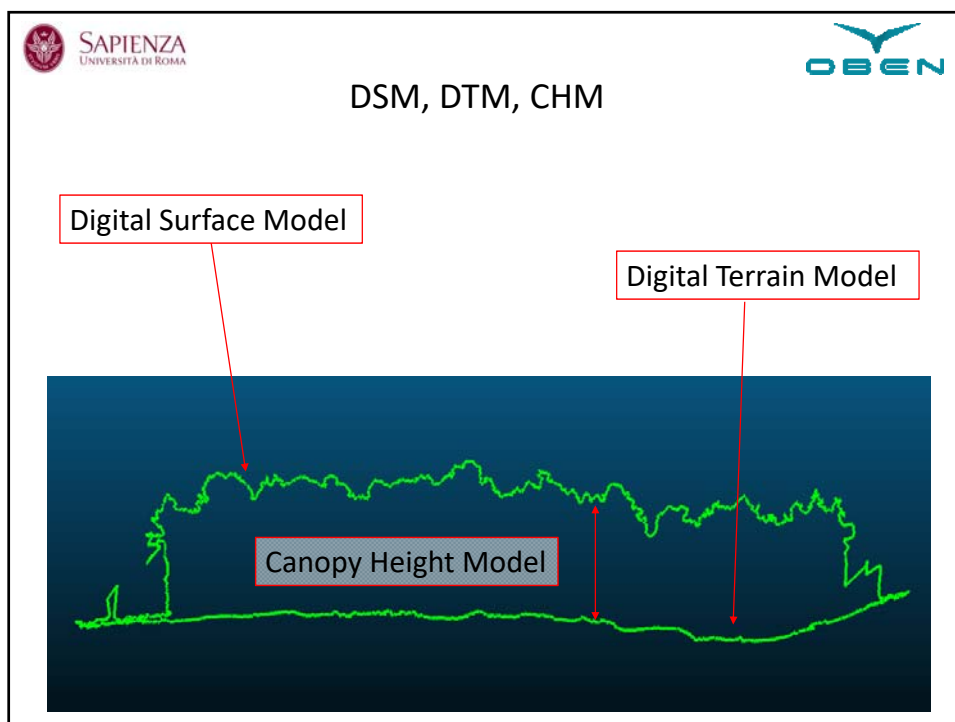
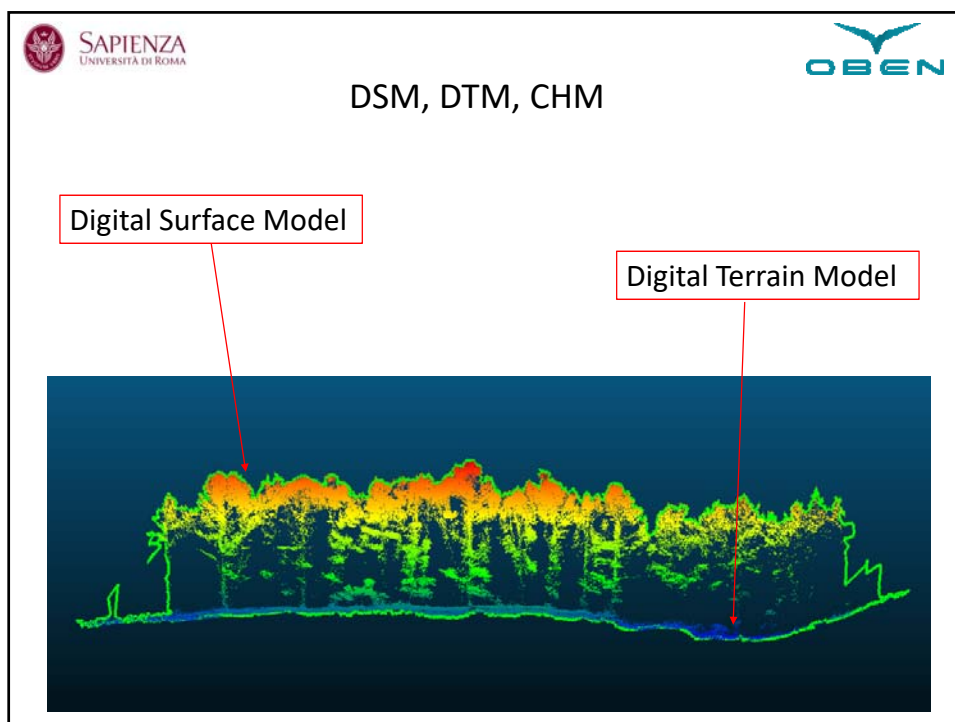
- 16kg
- 20' autonomy
- automatic flight
- RTK georeferencing

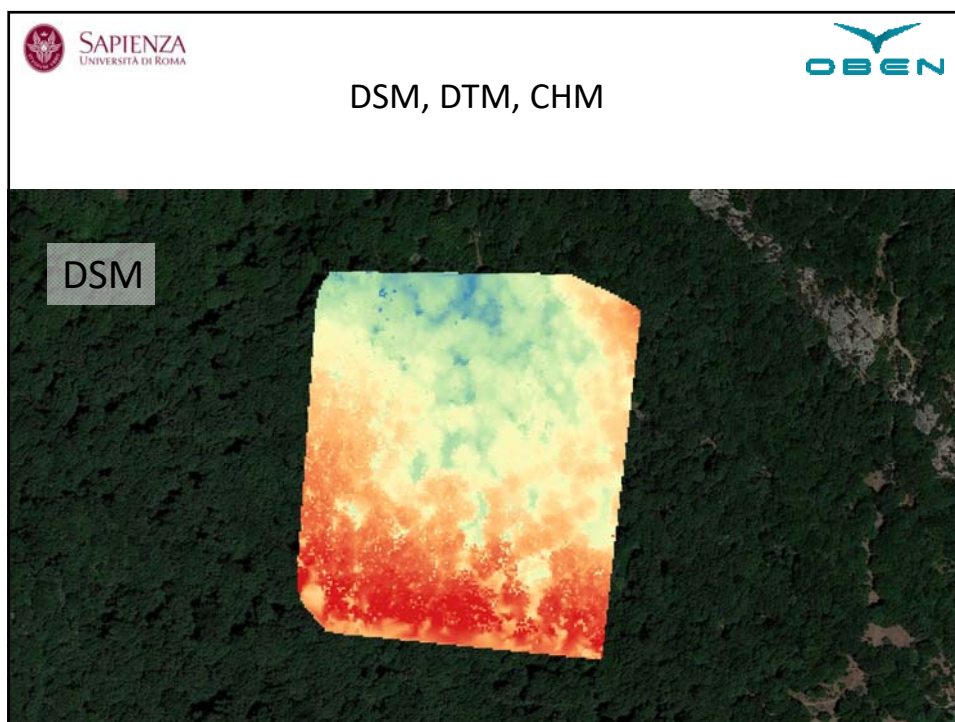
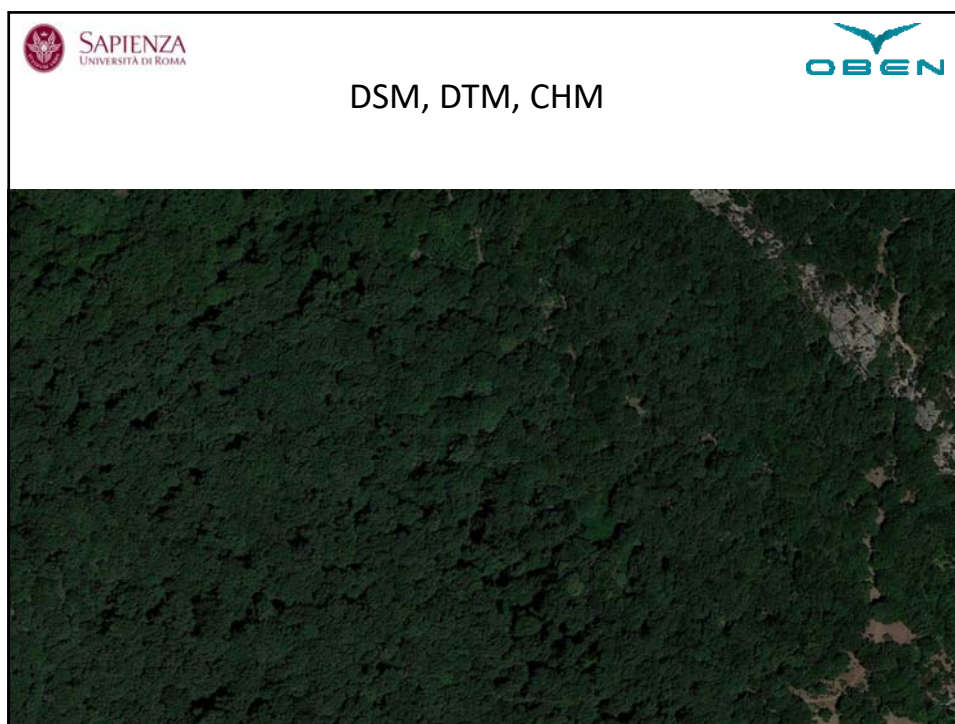


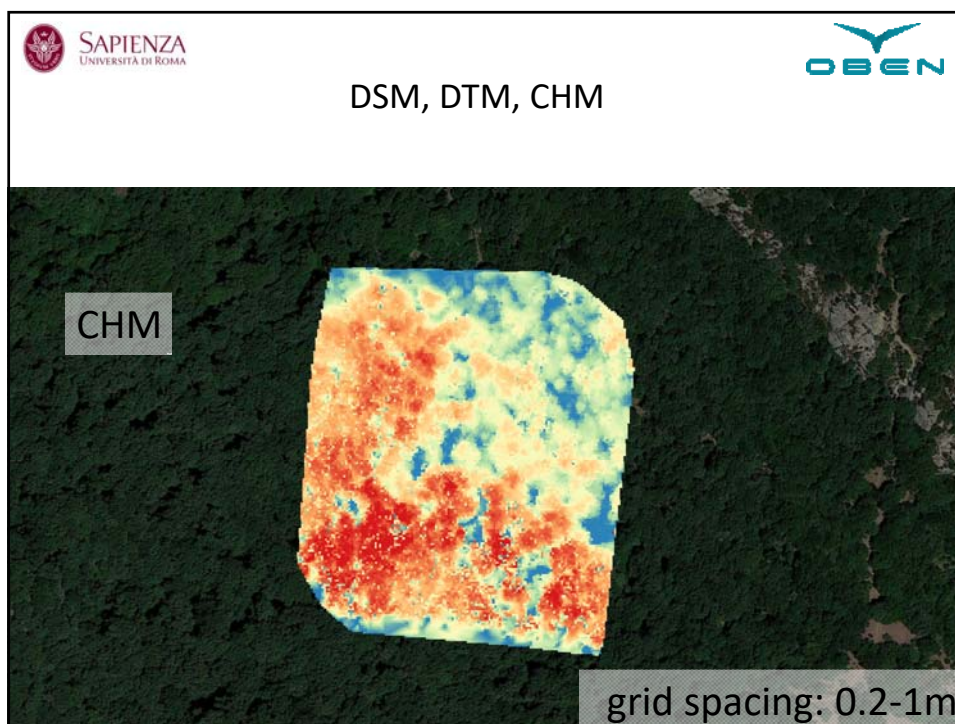
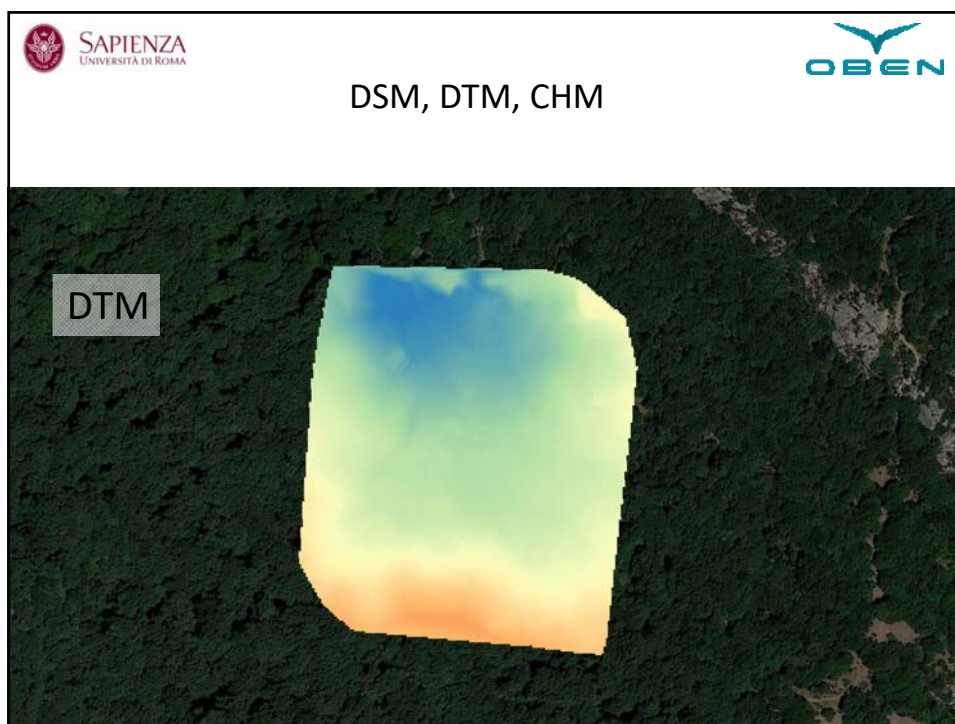


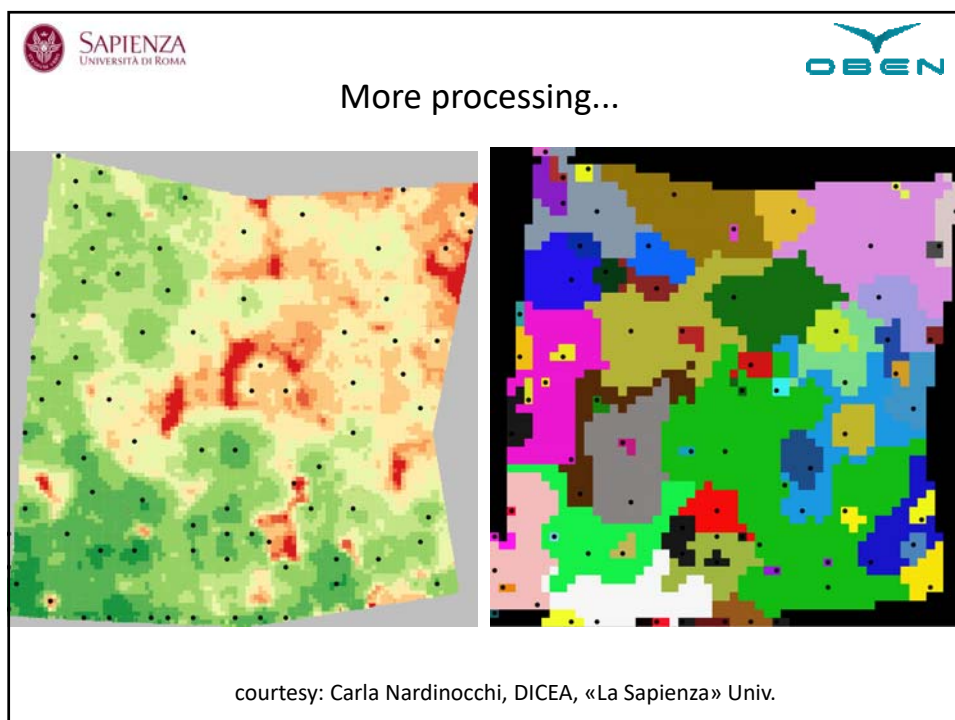
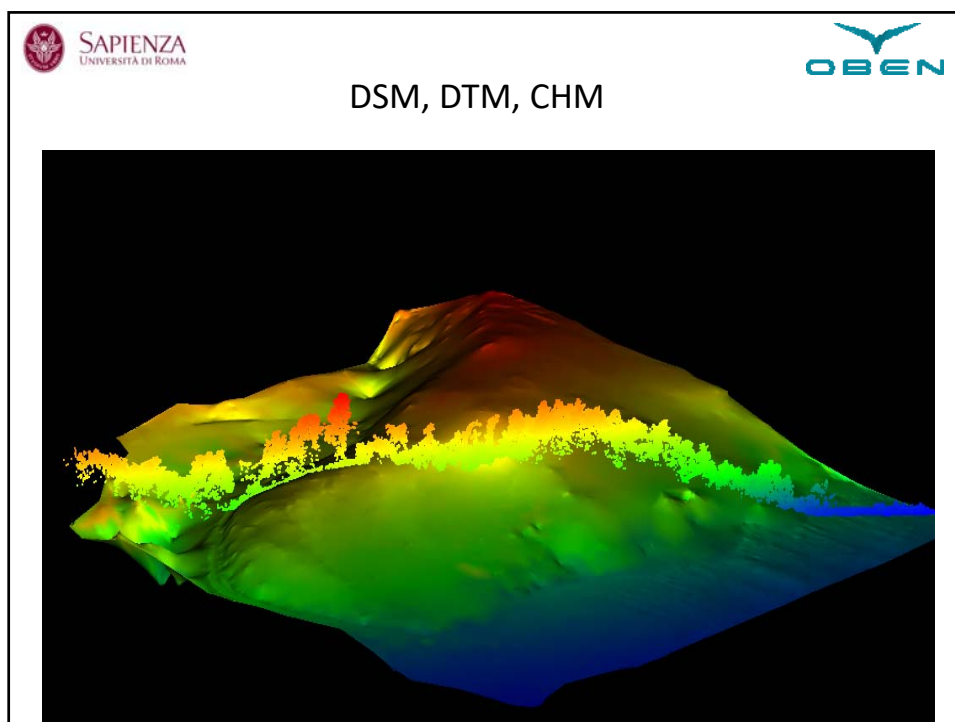


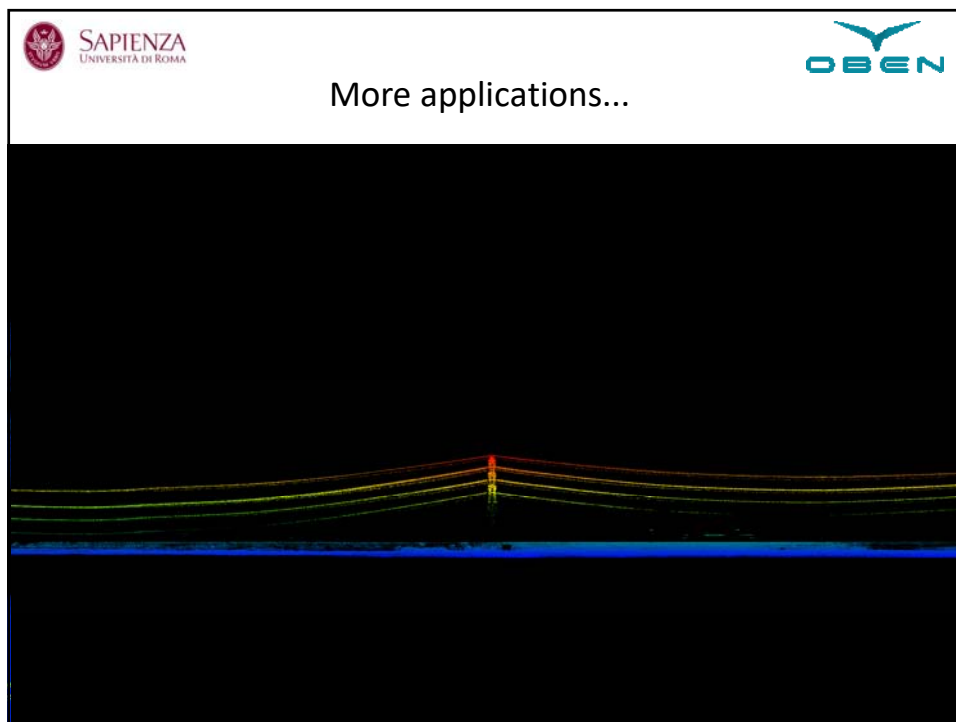
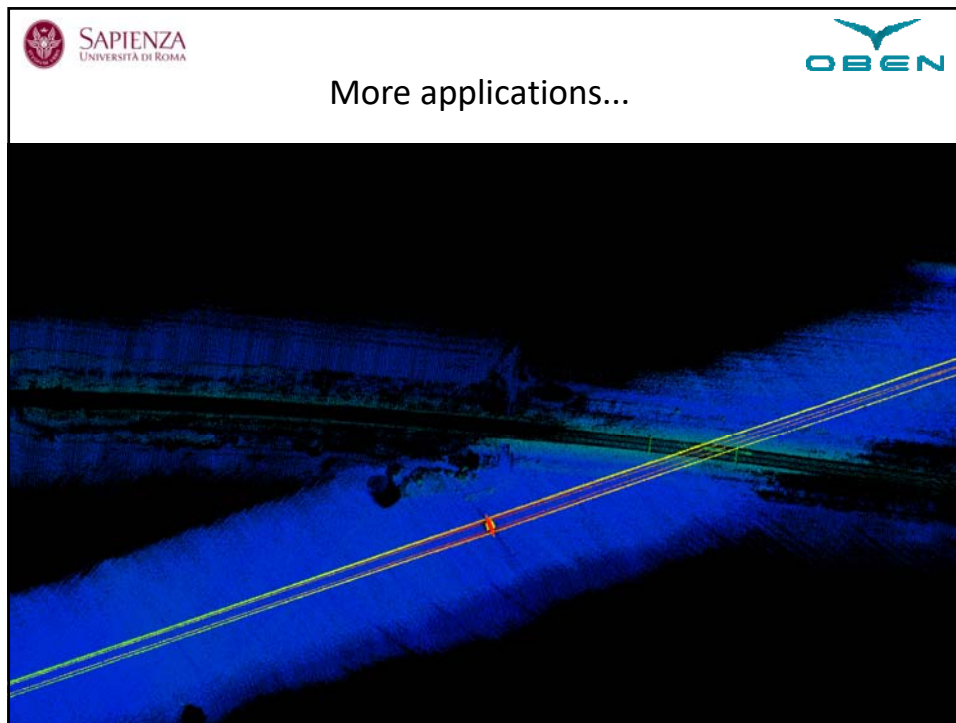


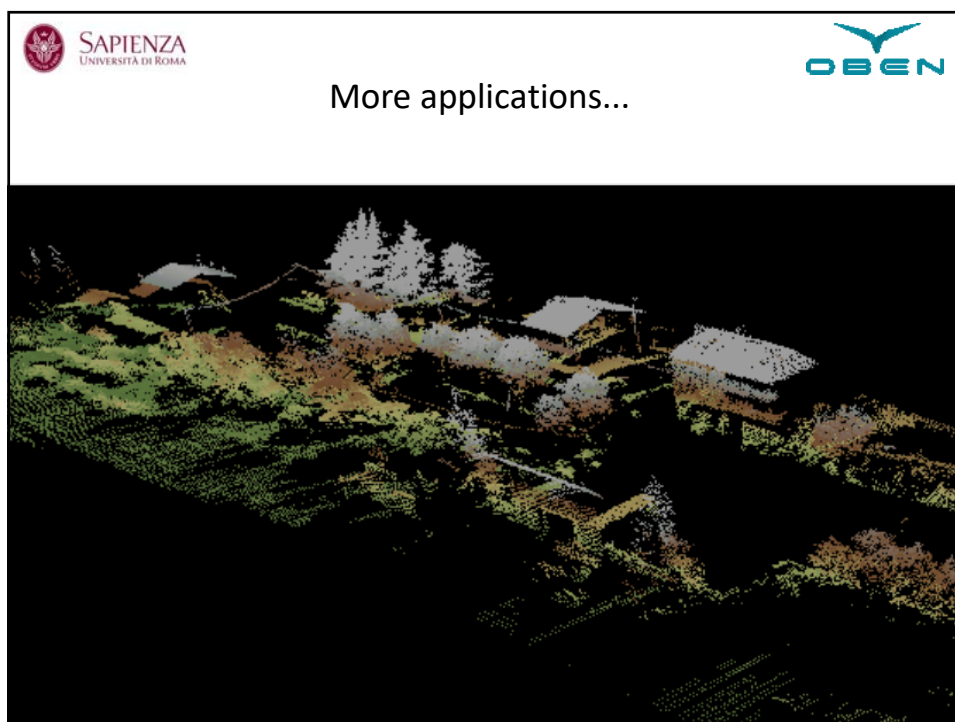
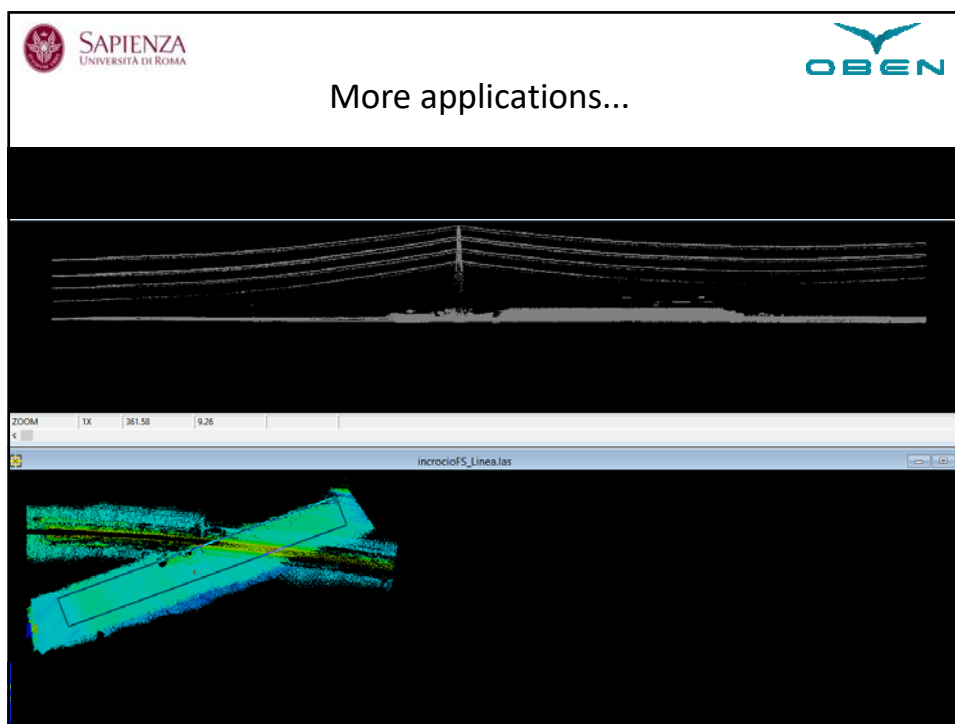


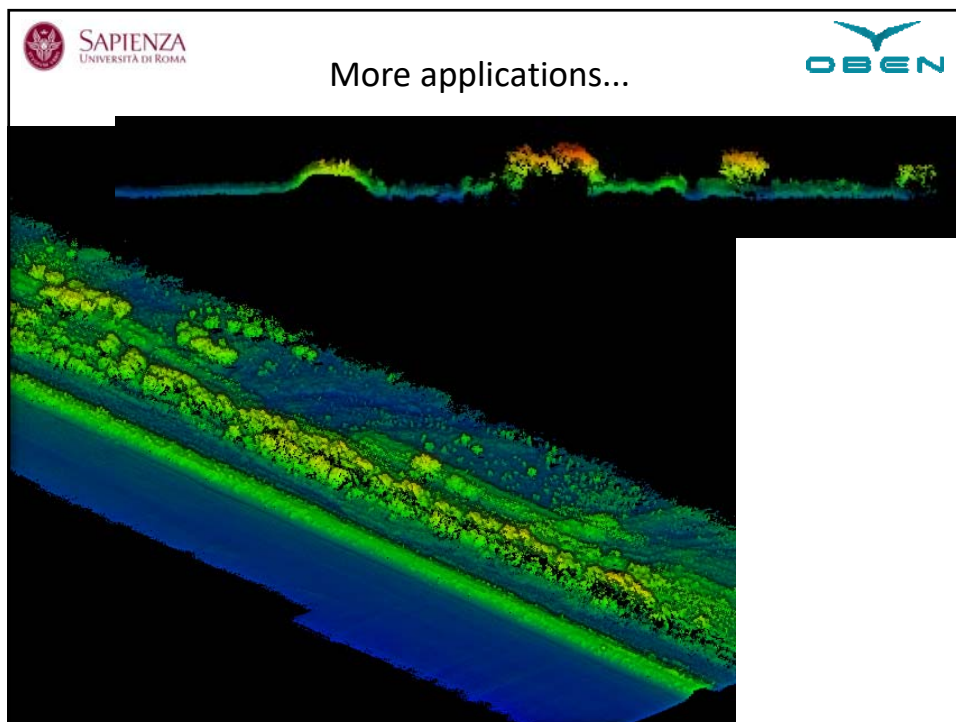
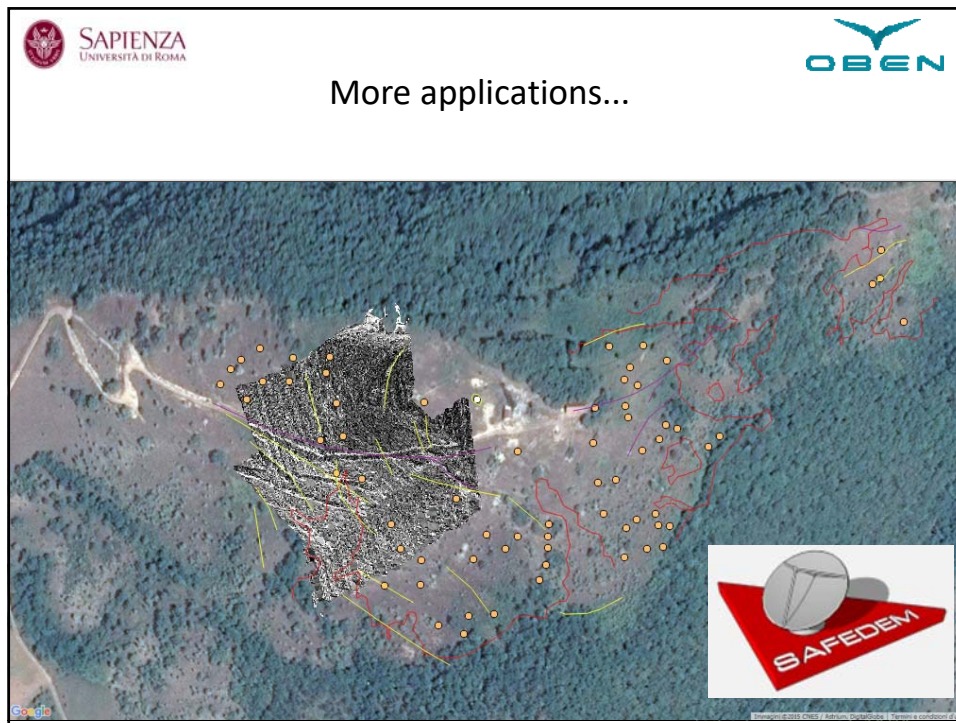














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Lessons learned

- aerial platforms
- air traffic regulations
- IMU/AHRS
- RTK, PPK
- LiDAR vs. photogrammetry
- public research and private enterprise



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SKYOPENER - establishing new foundations for the use of Remotely-Piloted Aircraft Systems for civilian applications.



EASA
European Aviation Safety Agency

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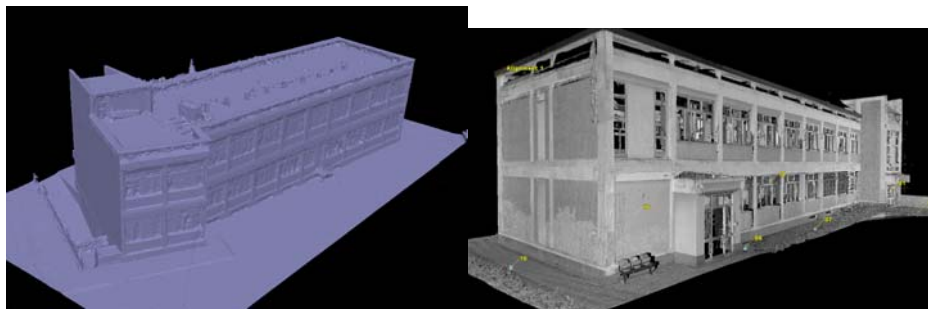
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Real Time Kinematic
Post Processed Kinematic

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