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# Virtual Laser Scanning (VLS) with HELIOS++

3D Geospatial Data Processing (3DGeo) Research Group

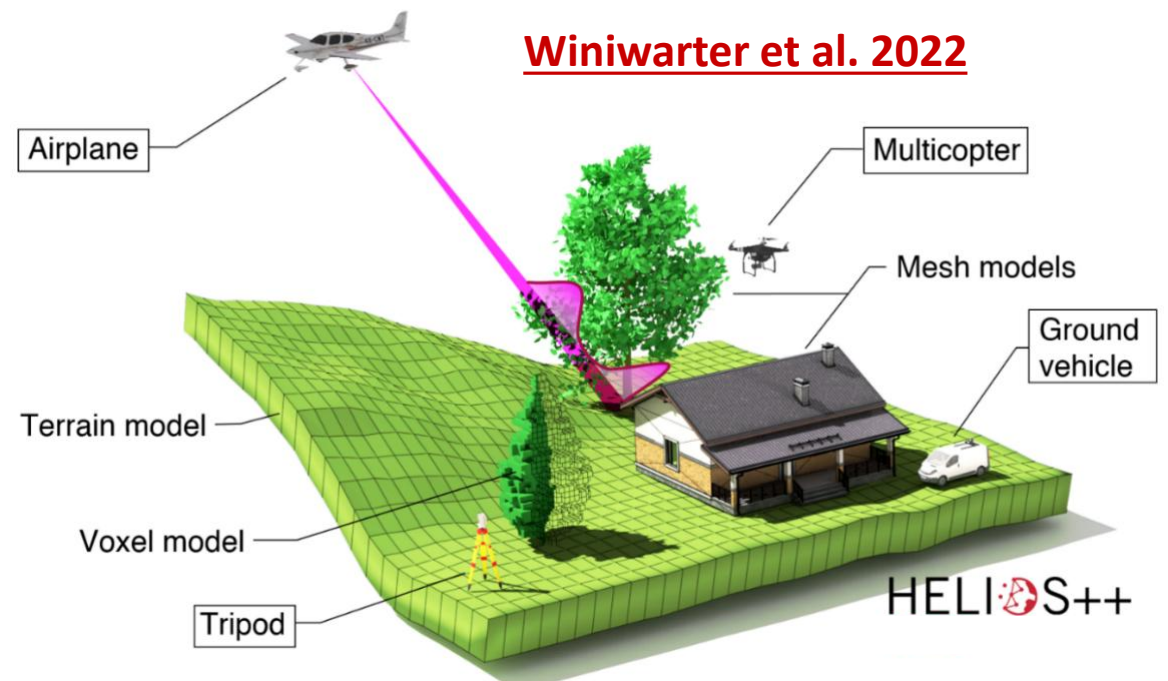
Institute of Geography

Heidelberg University

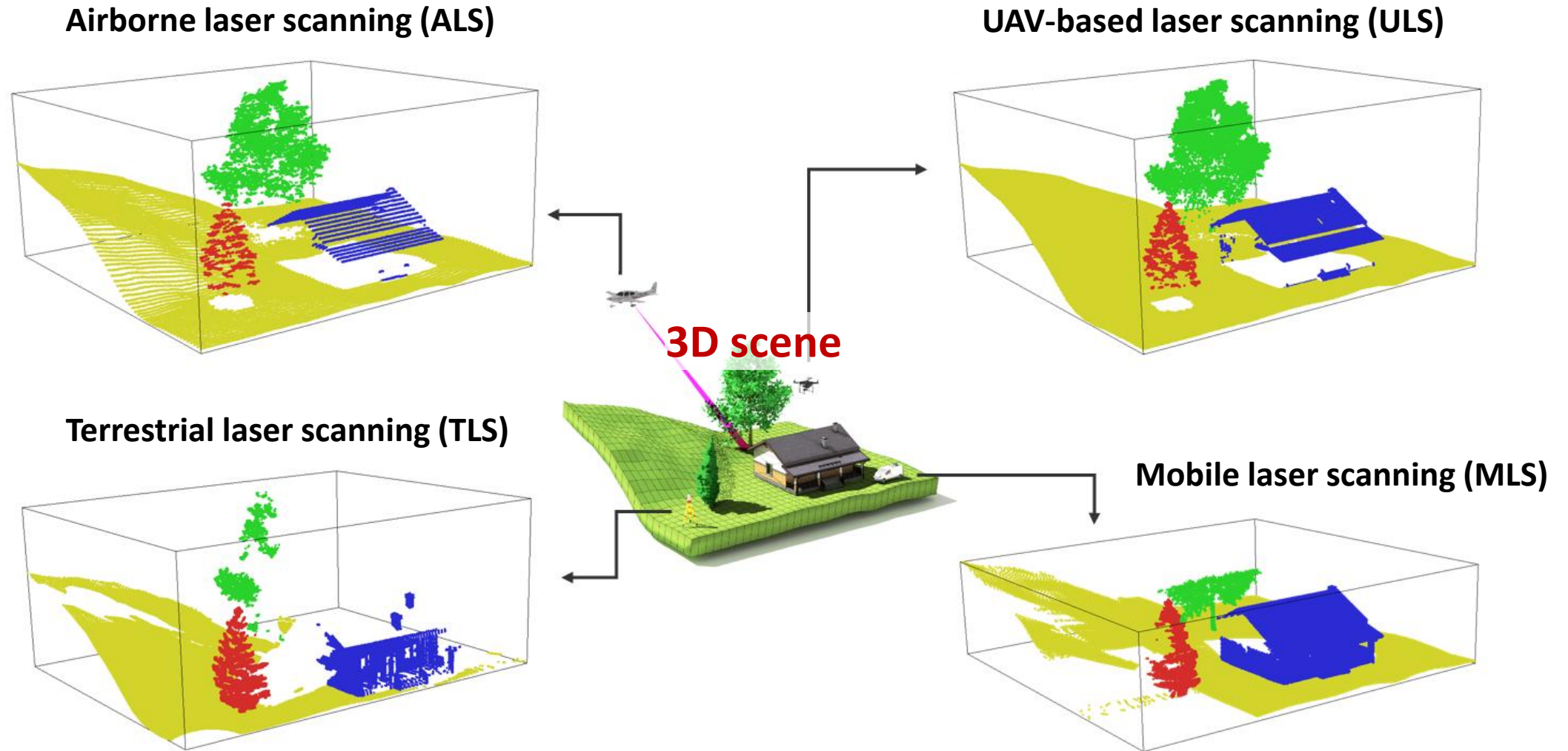
Presenter: Hannah Weiser, PI: Prof. Bernhard Höfle

# Virtual Laser Scanning (VLS)

- **Simulation** of laser scanning in a computer environment
- VLS to **complement** real data acquisition, e.g.
  - Survey planning
  - Sensitivity analyses
  - Algorithm and sensor development
  - Generation of training and test data
- **Annotations** and **known reference**
- **Open-source software HELIOS++:**
  - Supports multiple platforms, scanners, and scene types
  - Full-waveform simulation and reflectance modelling



# Virtual Laser Scanning for Synthetic Point Clouds



# HELIOS++ Heidelberg LiDAR Operations Simulator

