



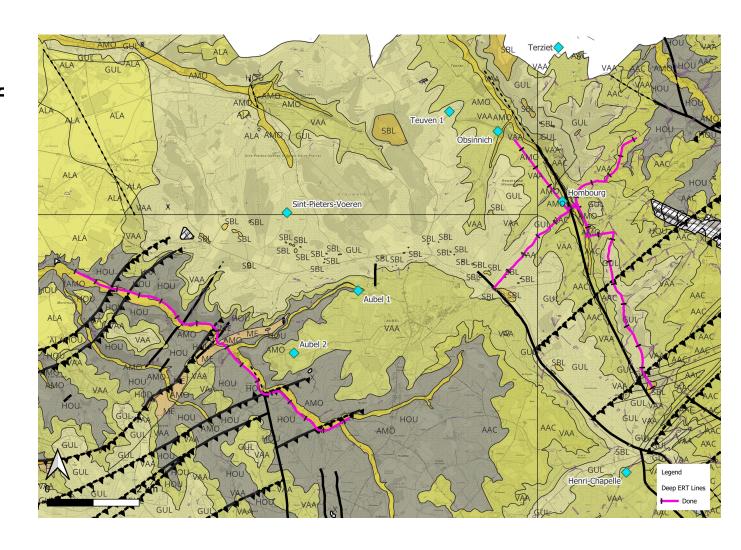
Integrated analysis of the electrical resistivity measurement at the EMR-site, insight from structural analysis, borehole logs and microgravimetry

Yannick Forth, Hadrien Michel, David Caterina, Yves Vanbrabant, Frédéric Nguyen XV ET Symposium – 28.05.25 Bologna



Intro

- Integrated interpretation of Val-dieu survey
- First Interpretation of Hombourg survey
- 3. Next survey: Julémont

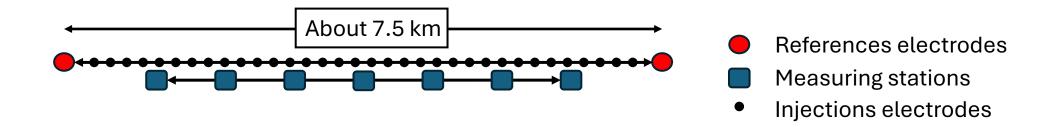






Quick recap on methodology

- ERT at a (very) large scale
- Measuring the propagation of electrical current in the subsurface
- Able to image the subsurface electrical properties

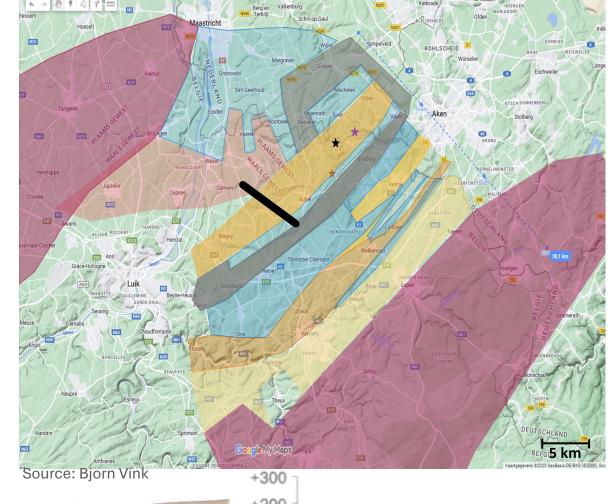


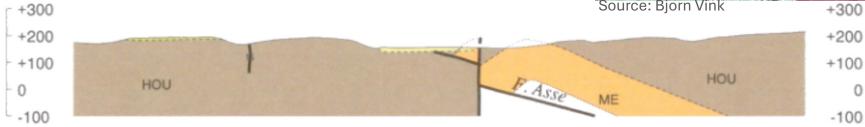




Geologic hypothesis

- Largely folded and faulted geology
- Search for optimal position in competent rock
- Target: Booze-Val-Dieu Block
 - mainly sandstone formation



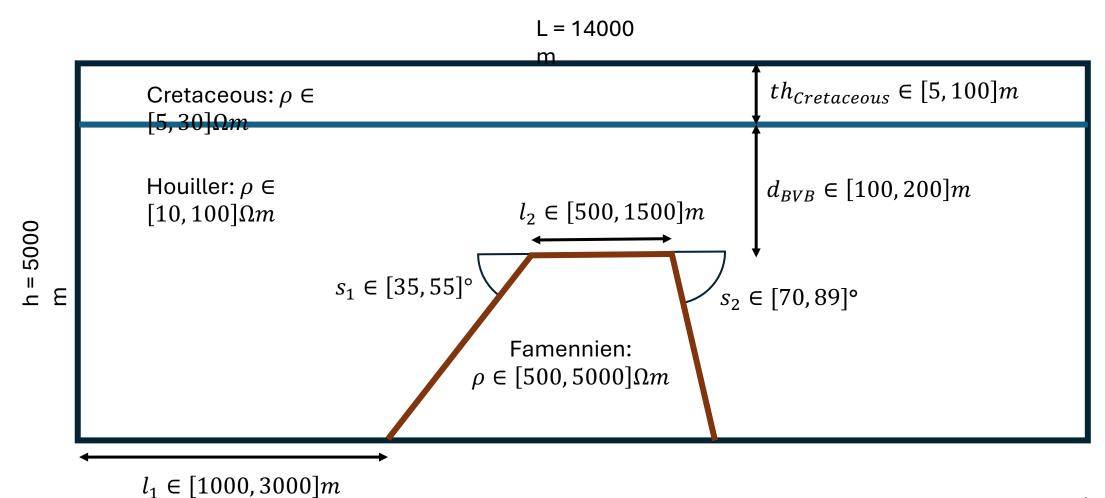


Source: Geological map of Wallonia





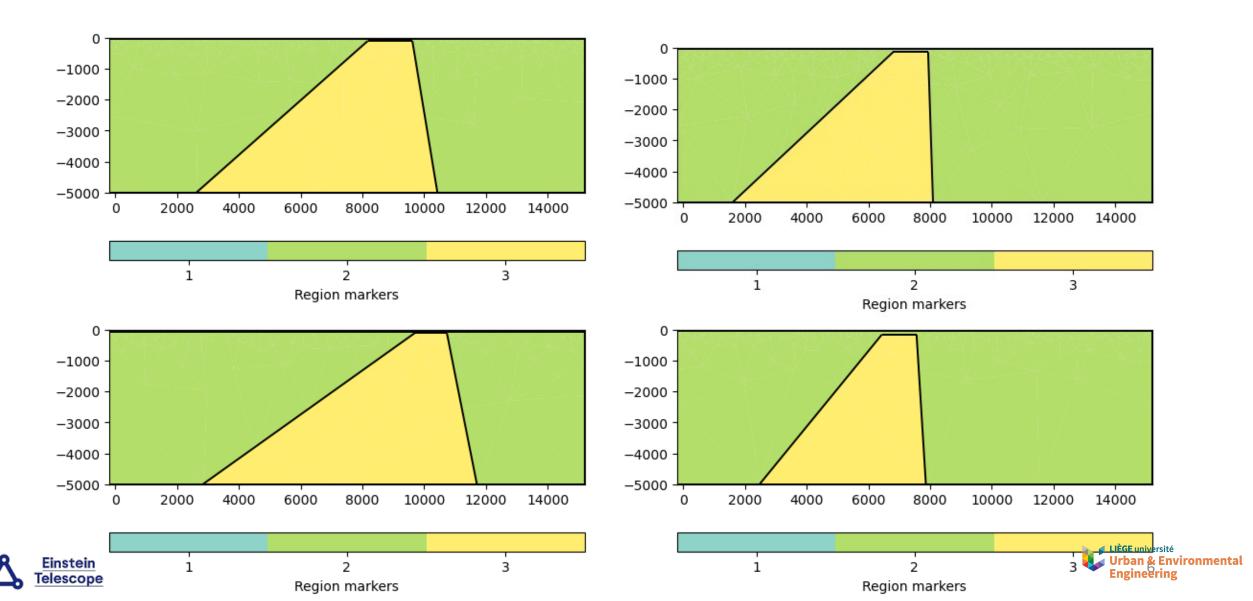
Modelling to optimize survey design



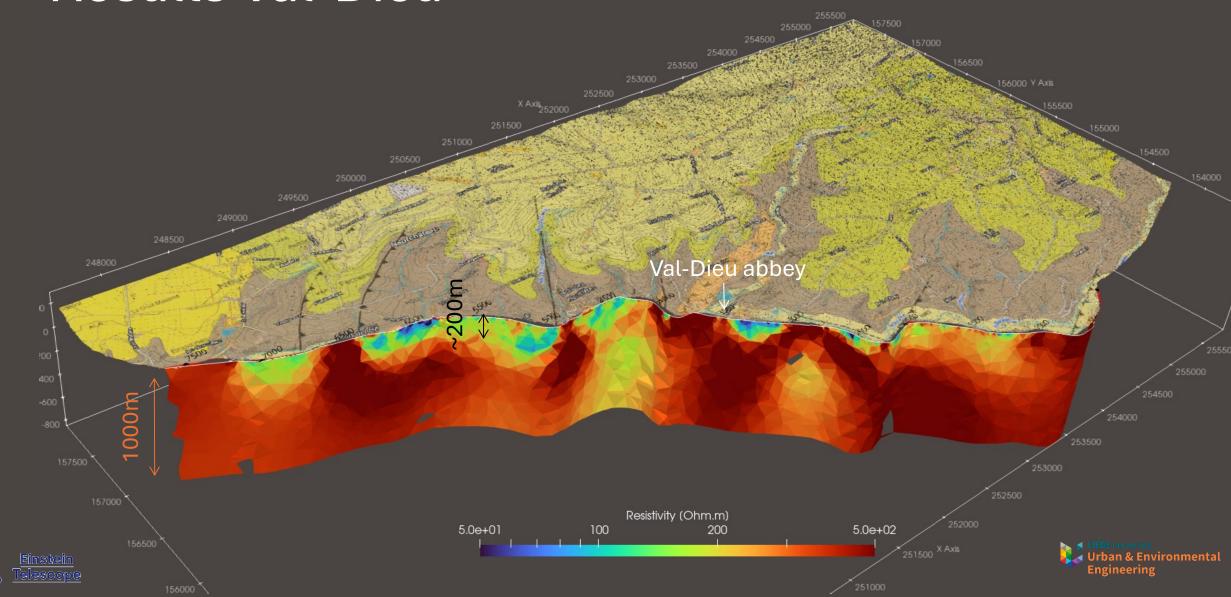




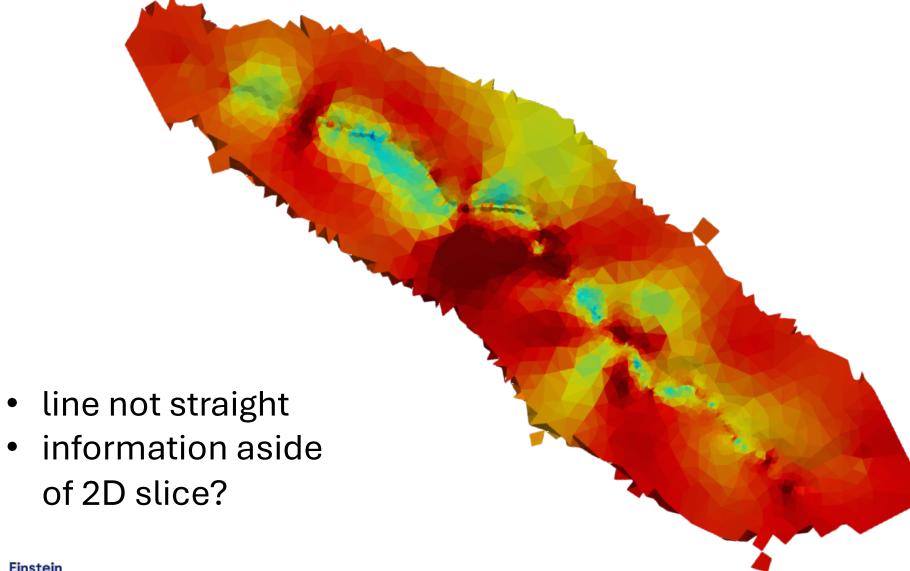
Synthetic model generation

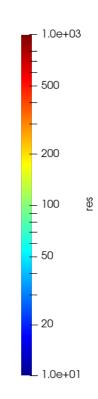


Results Val-Dieu



Val-dieu - top view

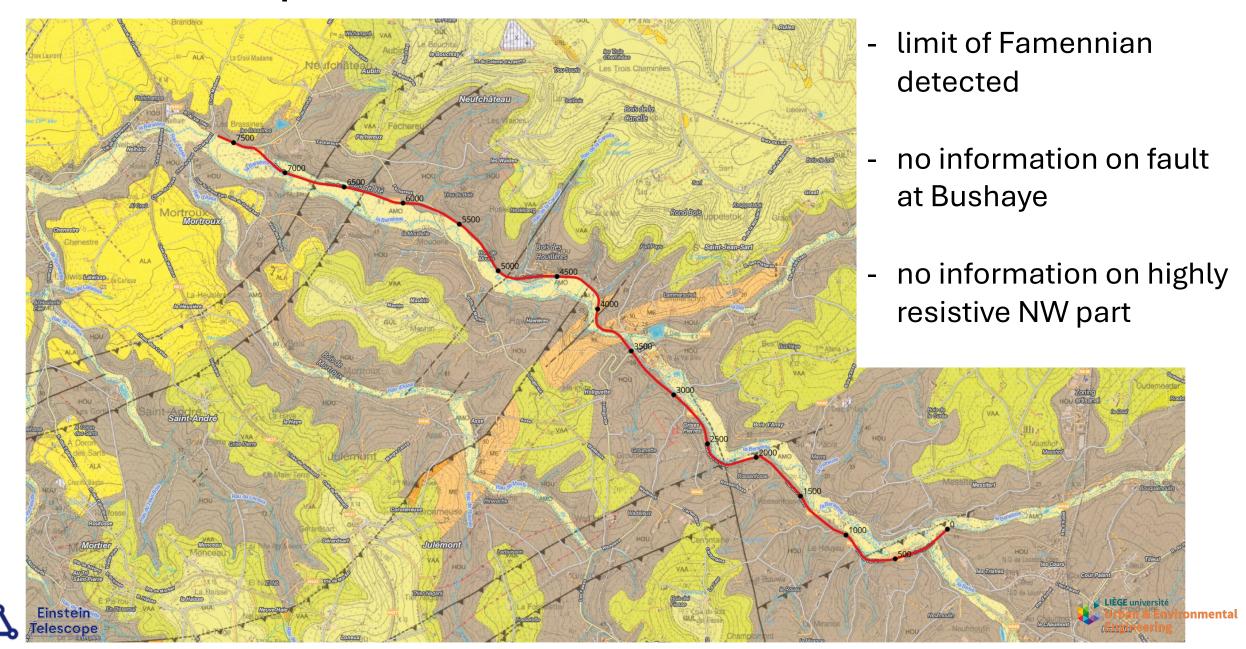




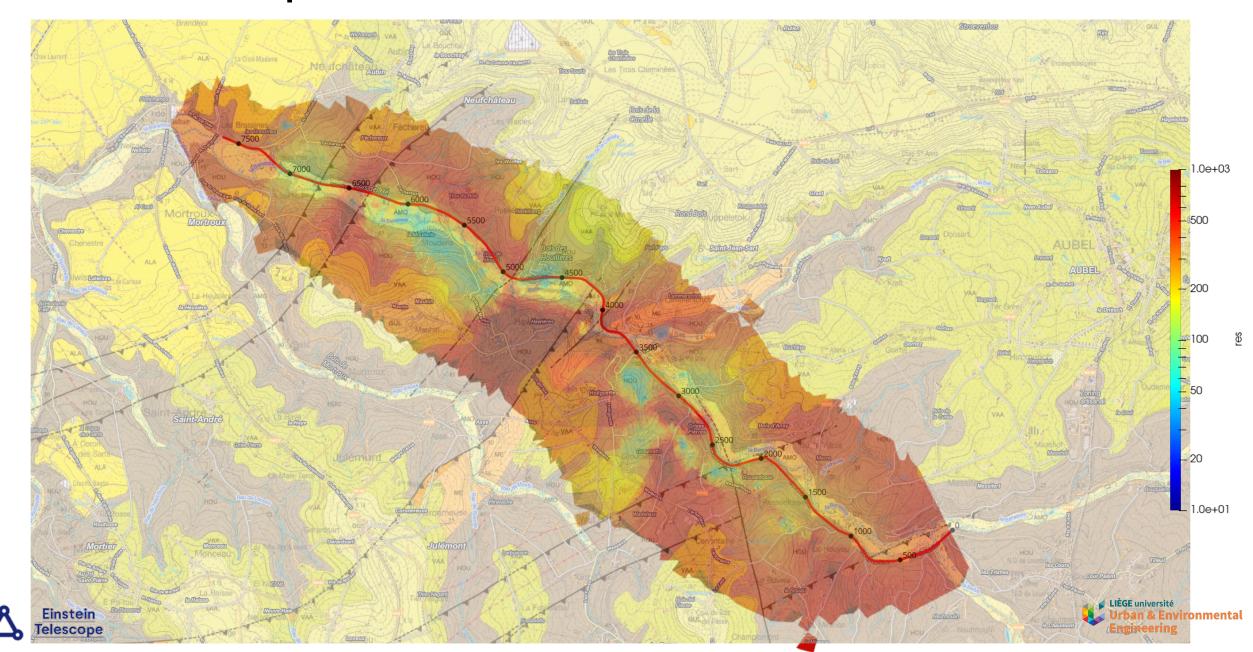




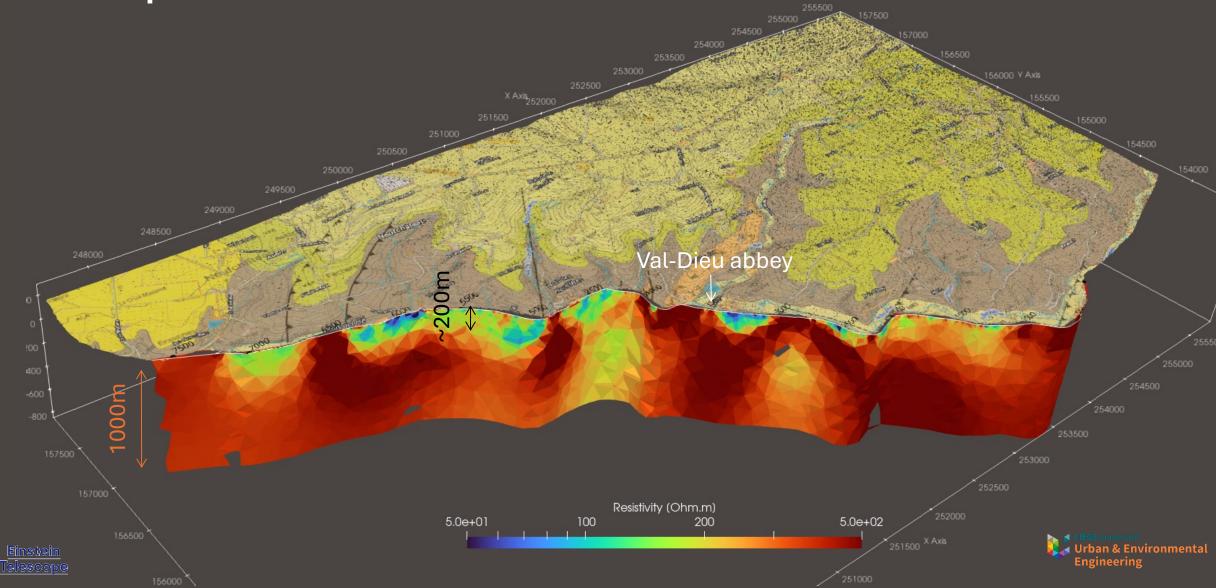
Val-dieu - top view



Val-dieu - top view

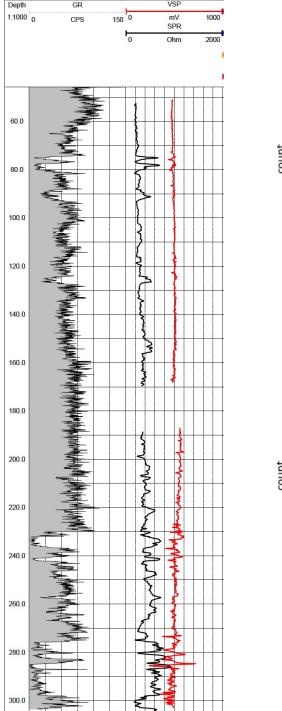


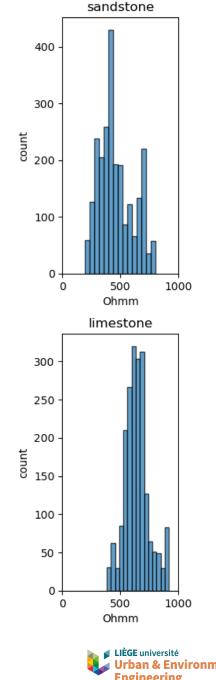
Interpretation Val-Dieu



Borehole logging - resistivity

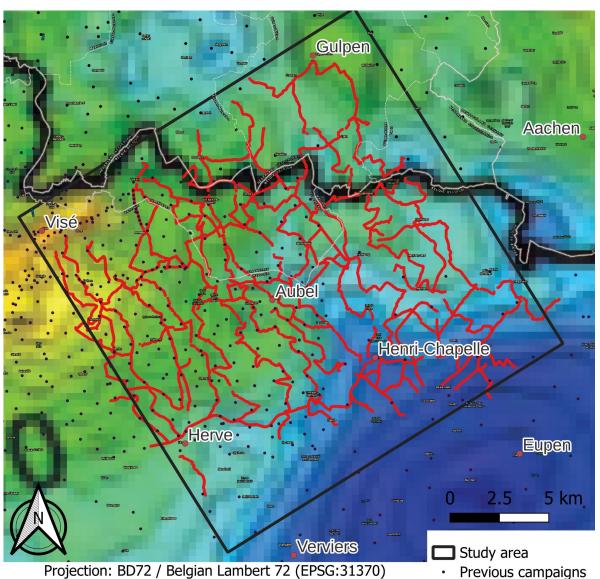
- Data analyzed per lithology from core interpretation
- Data will serve probabilistic approach for Deep ERT analysis
- Correlation of seismic velocities





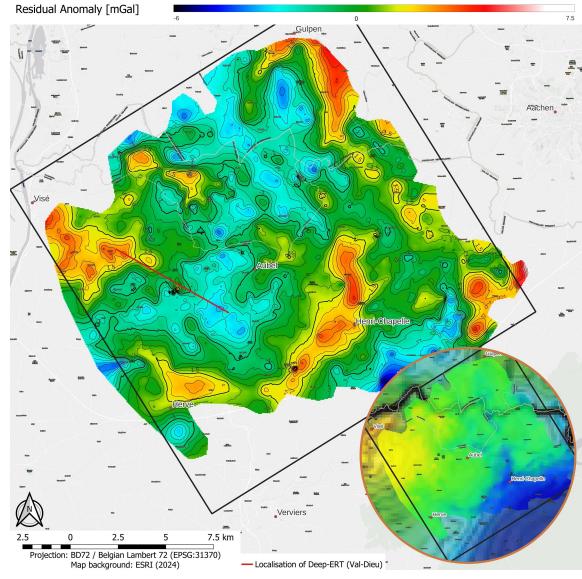


Gravimetry



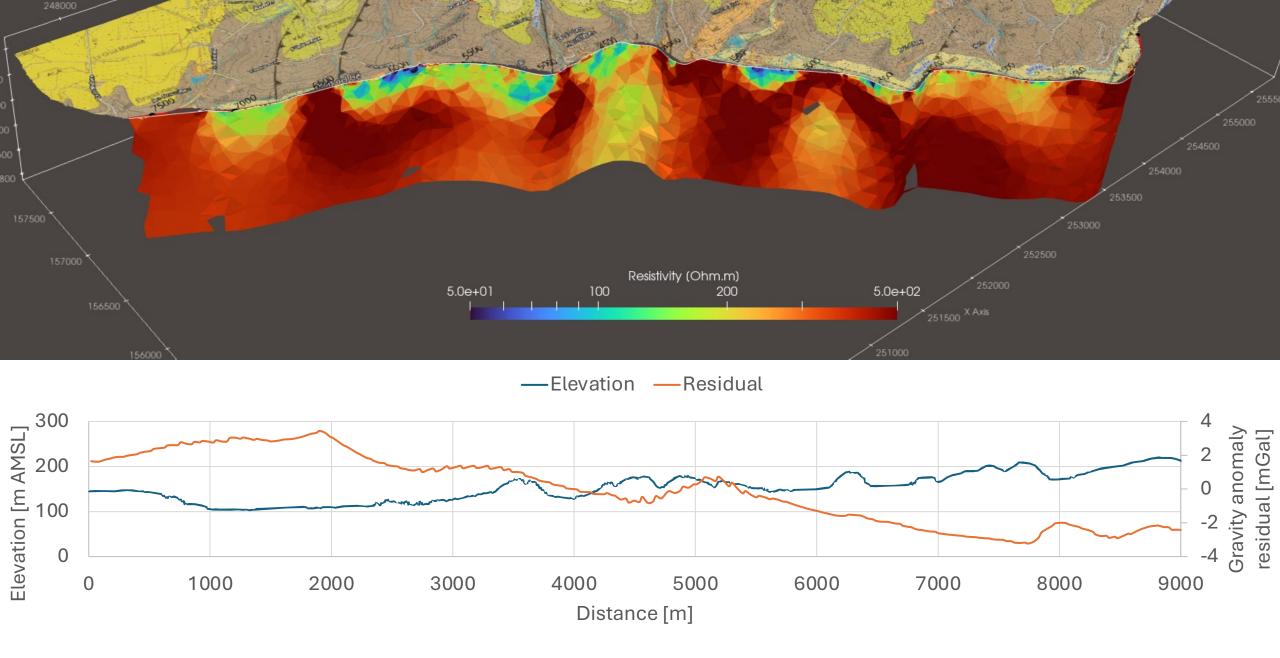
Map background: ESRI (2024)

- This campaign







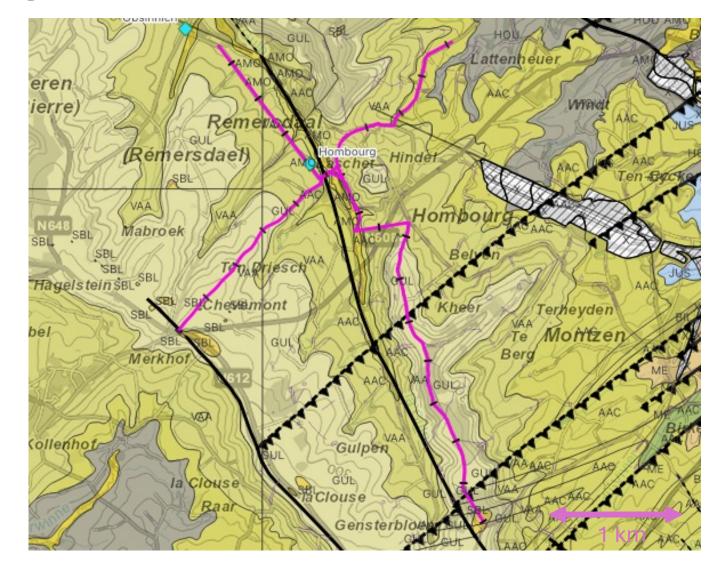




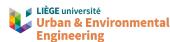


Deep ERT Hombourg

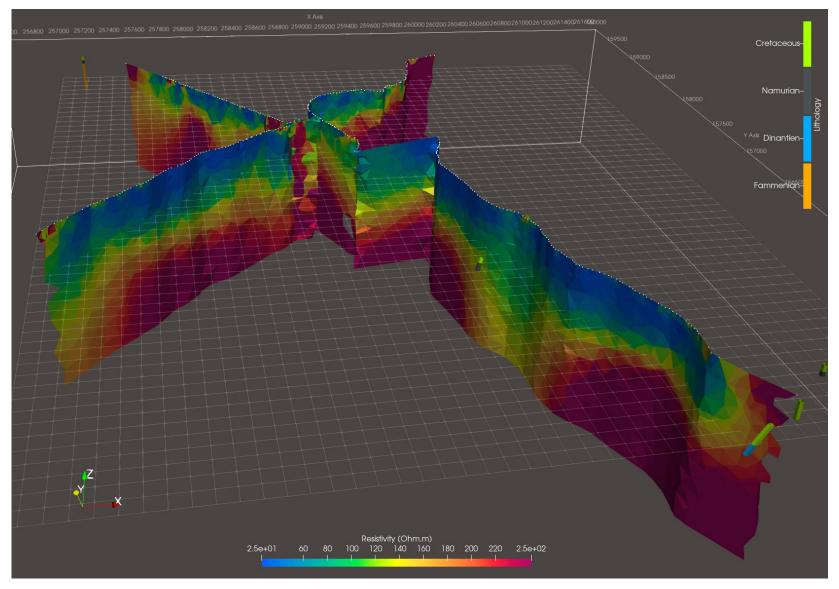
- 4 km and 6 km length, each 50 dipoles, 362 injections total
- Collocated in center with previous 3D
 Deep ERT
- Two weeks duration, team of 6-10 persons







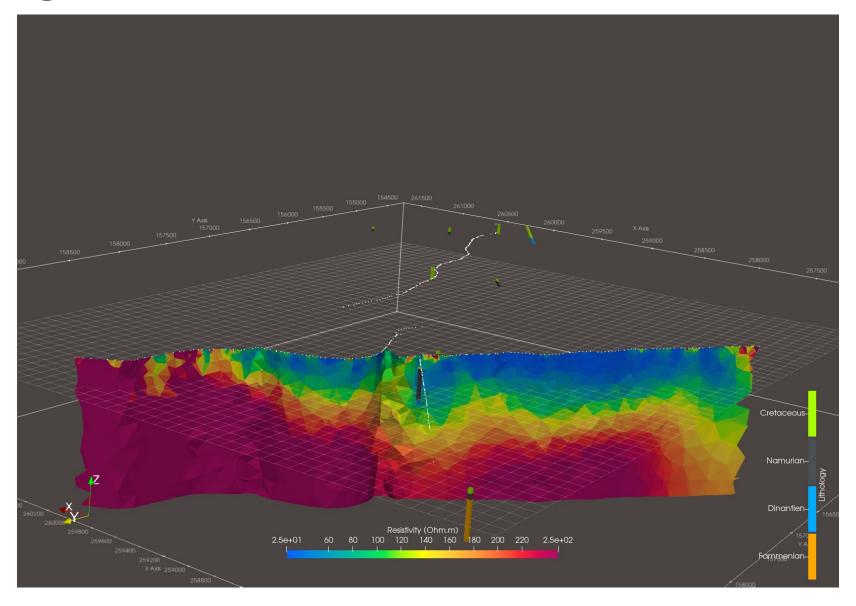
Deep ERT Hombourg







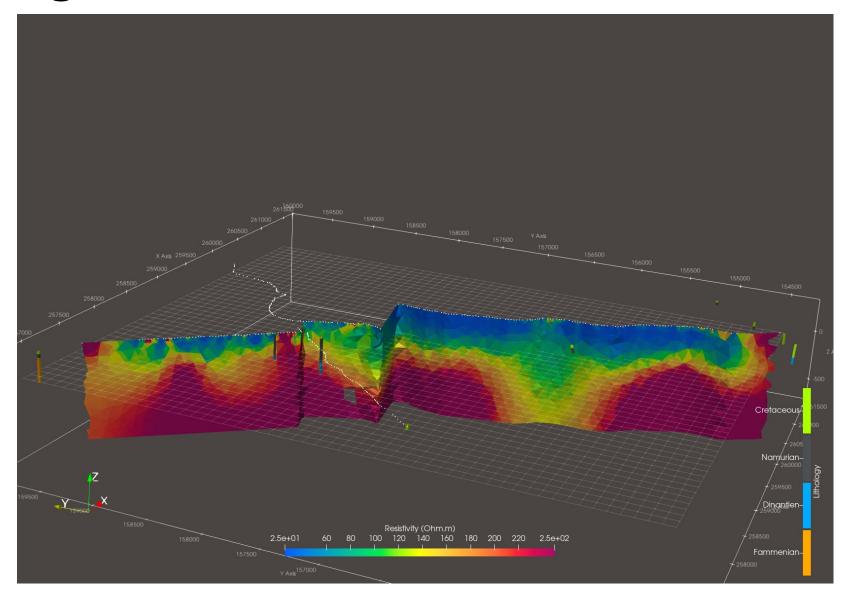
Hombourg 2 – East-West







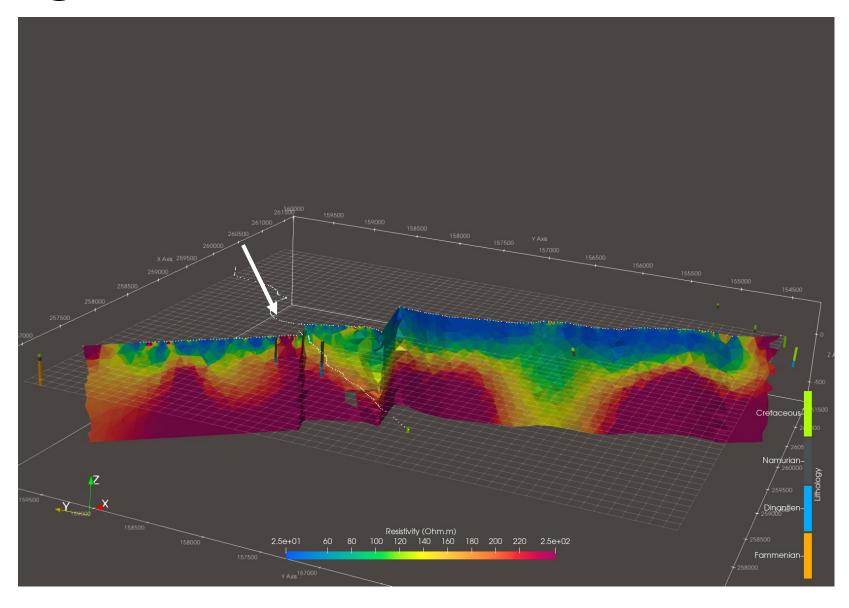
Hombourg 1 – North-South





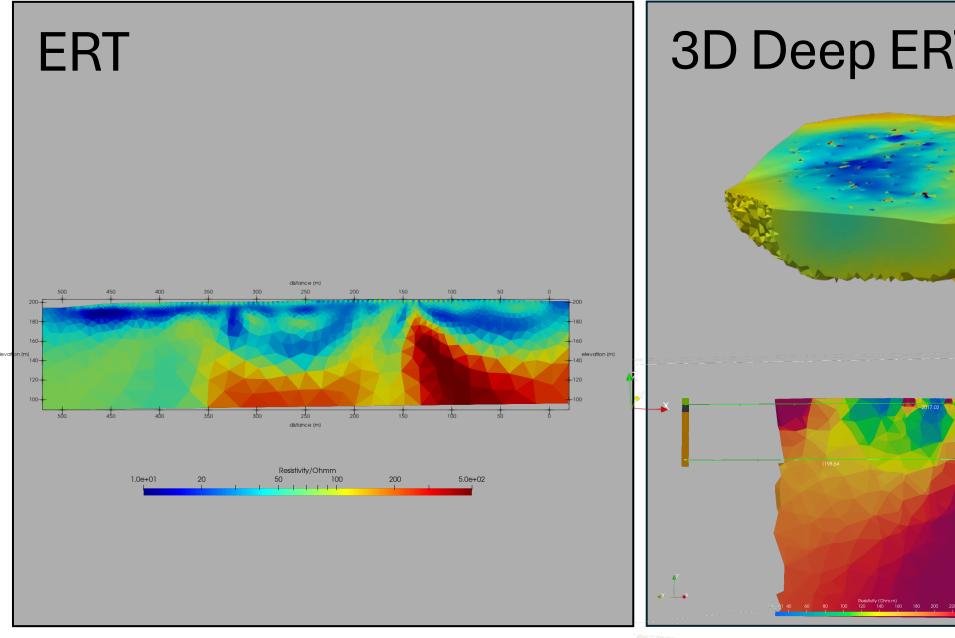


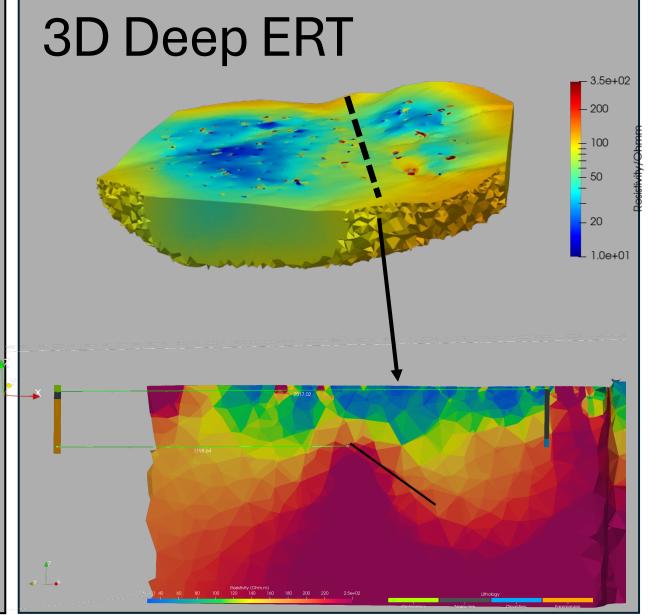
Hombourg 1 – North-South







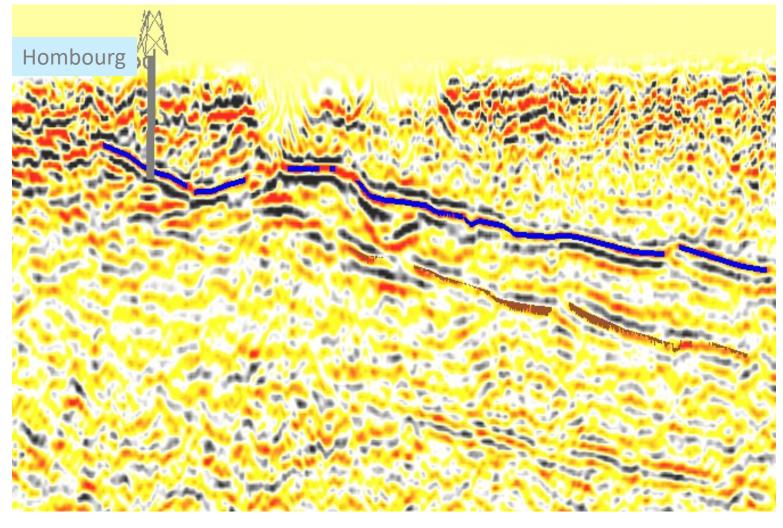








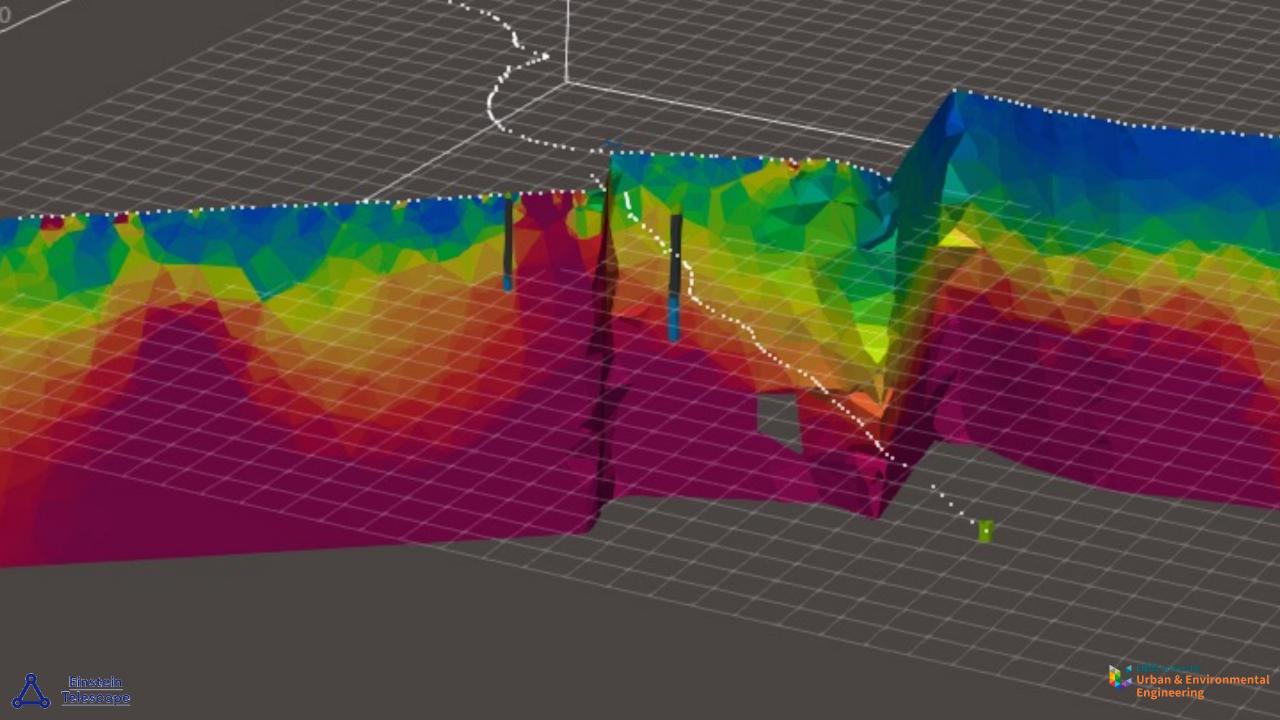
Seismic line: ET2025-002

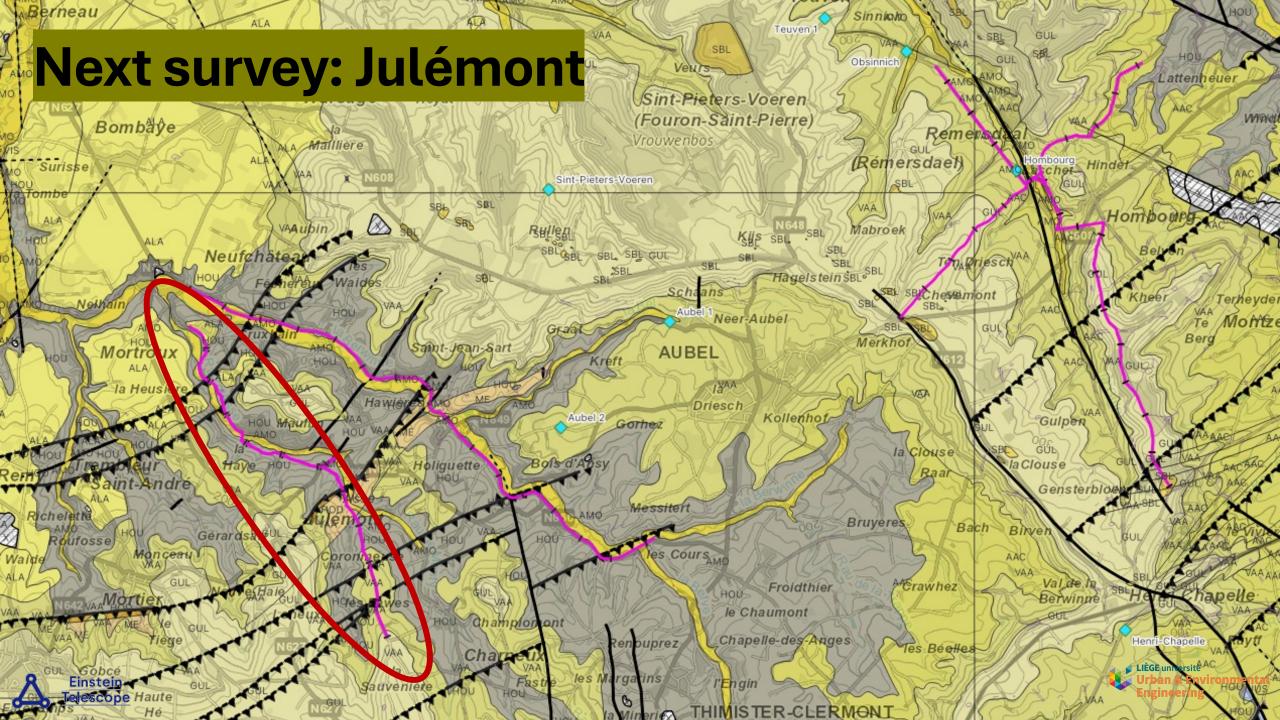


Jeff Deckers, VITO









Thanks to the team!



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