Updates on site characterization at the proposed Lausitz, Saxony, ET candidate site

Current Timeline Lausitz

Subsurface activities

Q1-24	Q2-24	Q3-24	Q4-24	Q1-25	Q2-25	Q3-25	Q4-25	Q1-26	Q2-26	Q3-26	Q4-26

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1st campaign 5 boreholes

2nd campaign 3-4 boreholes

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Environmental Noise (surface and downhole) Newtonian noise, Windfarms? , Quarries?, Agriculture?, open pit mining?

Developing a digital twin for seismic (newtonian nosie) budget

Infrastructure and construction – cost and schedule evaluation

ET-PP & SCB deliverables

- Official candiate site ✓
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- Complete quantitative performance impact
- Cost/schedule update (7/26)

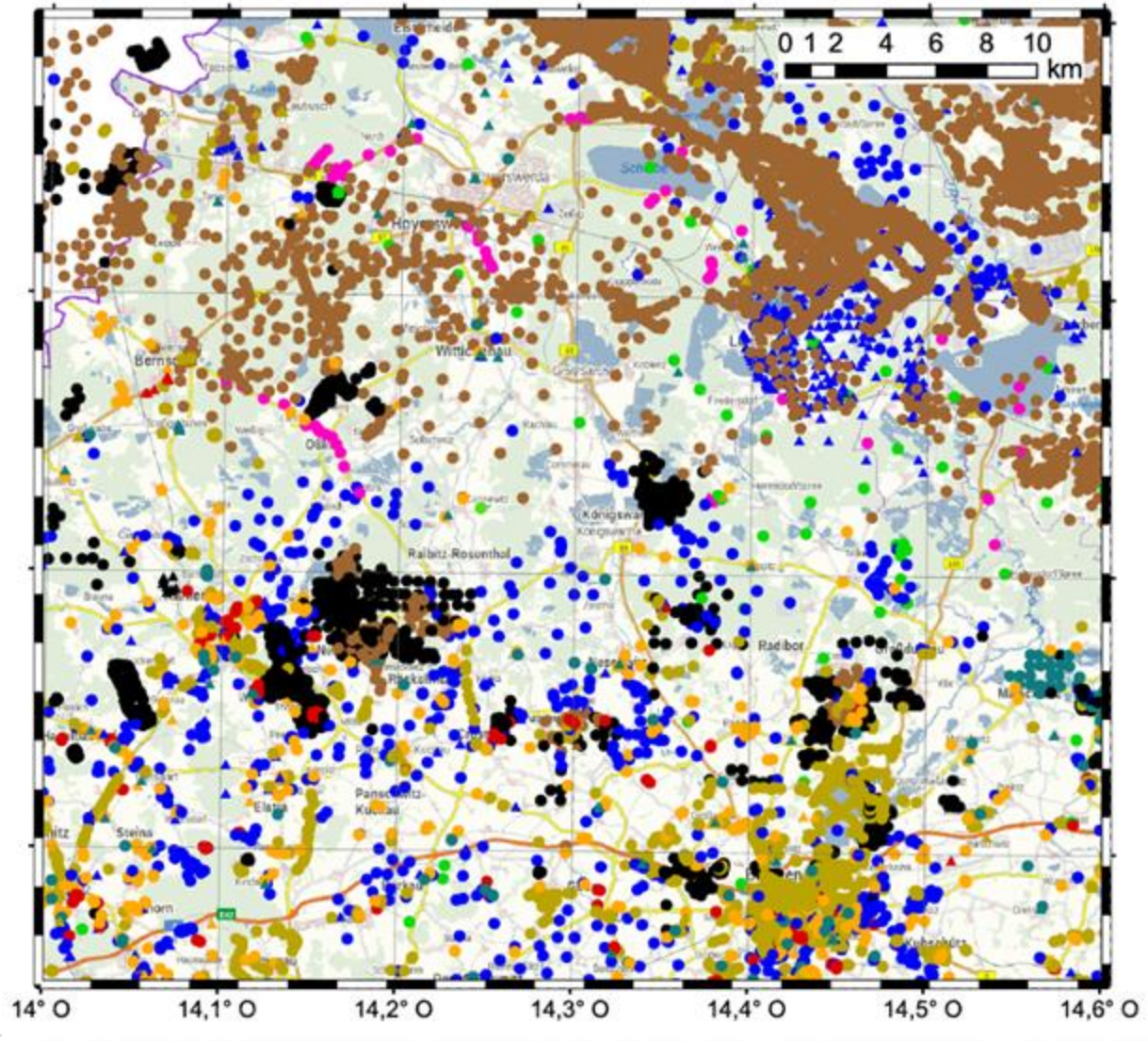
now

Critical milestones

- Structural geology model ✓
- Rockmechanics and permeability ✓
- Baseline cost estimate for tunneling ✓
- Continue, unless Noise model Evaluation
- Continue, unless Cost estimate
- Bidbook subsurface text & data

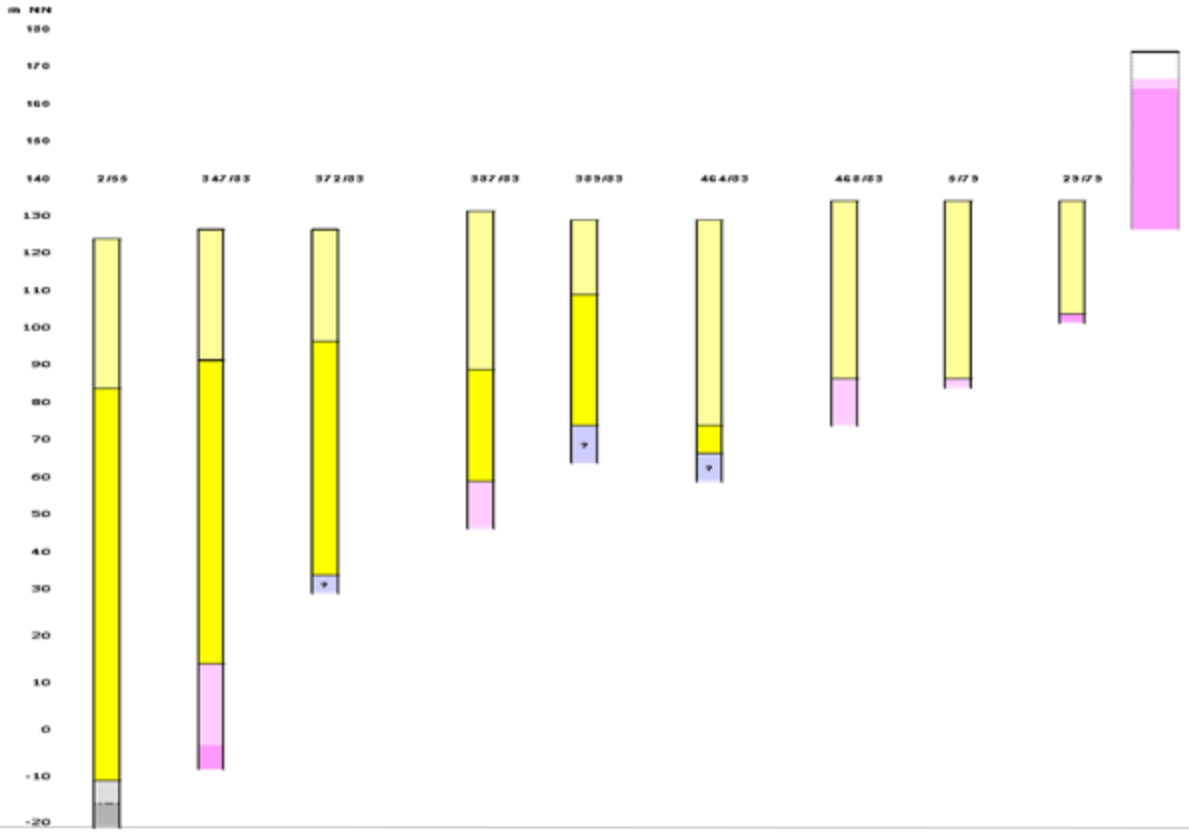
EINSTEIN TELESCOPE

Developing a digital twin: historic boreholes

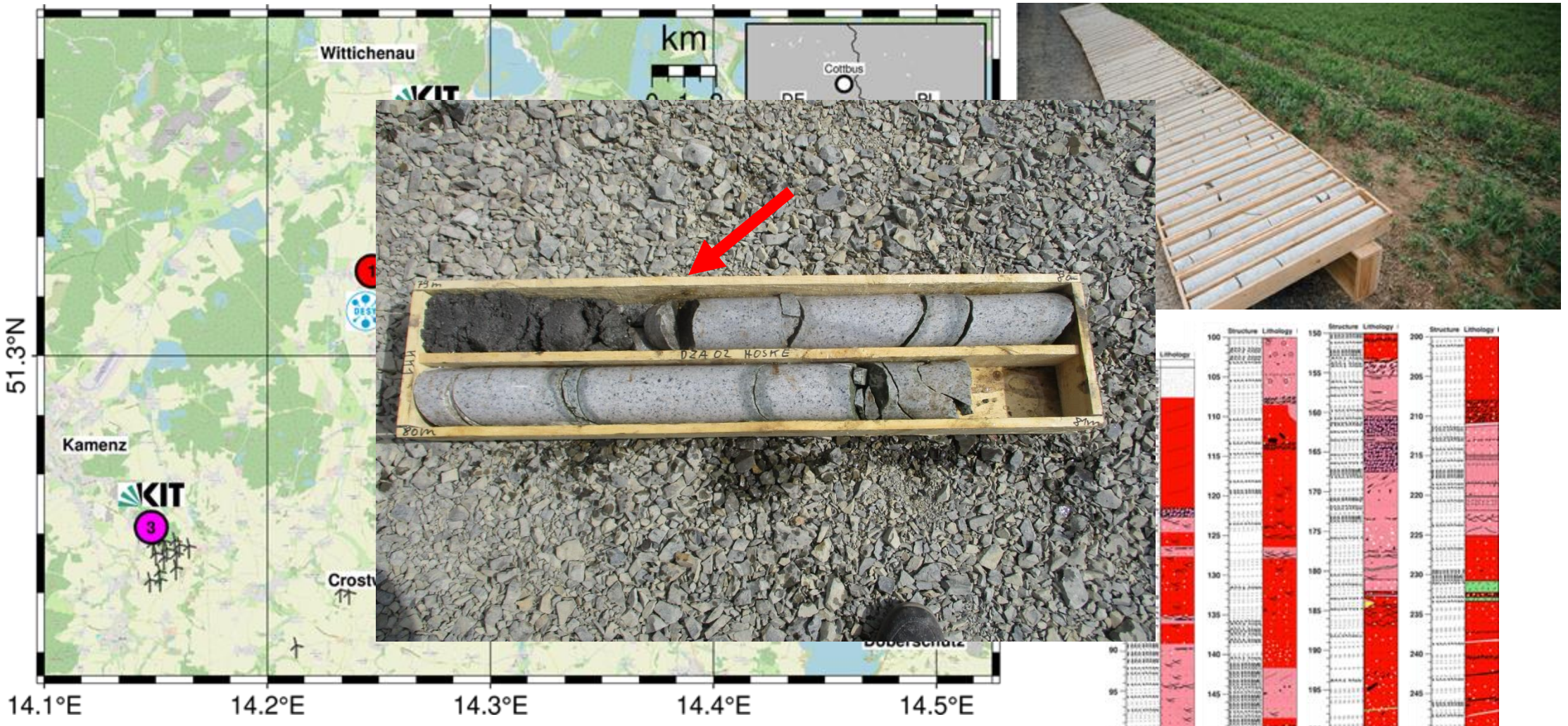


~ Boreholes

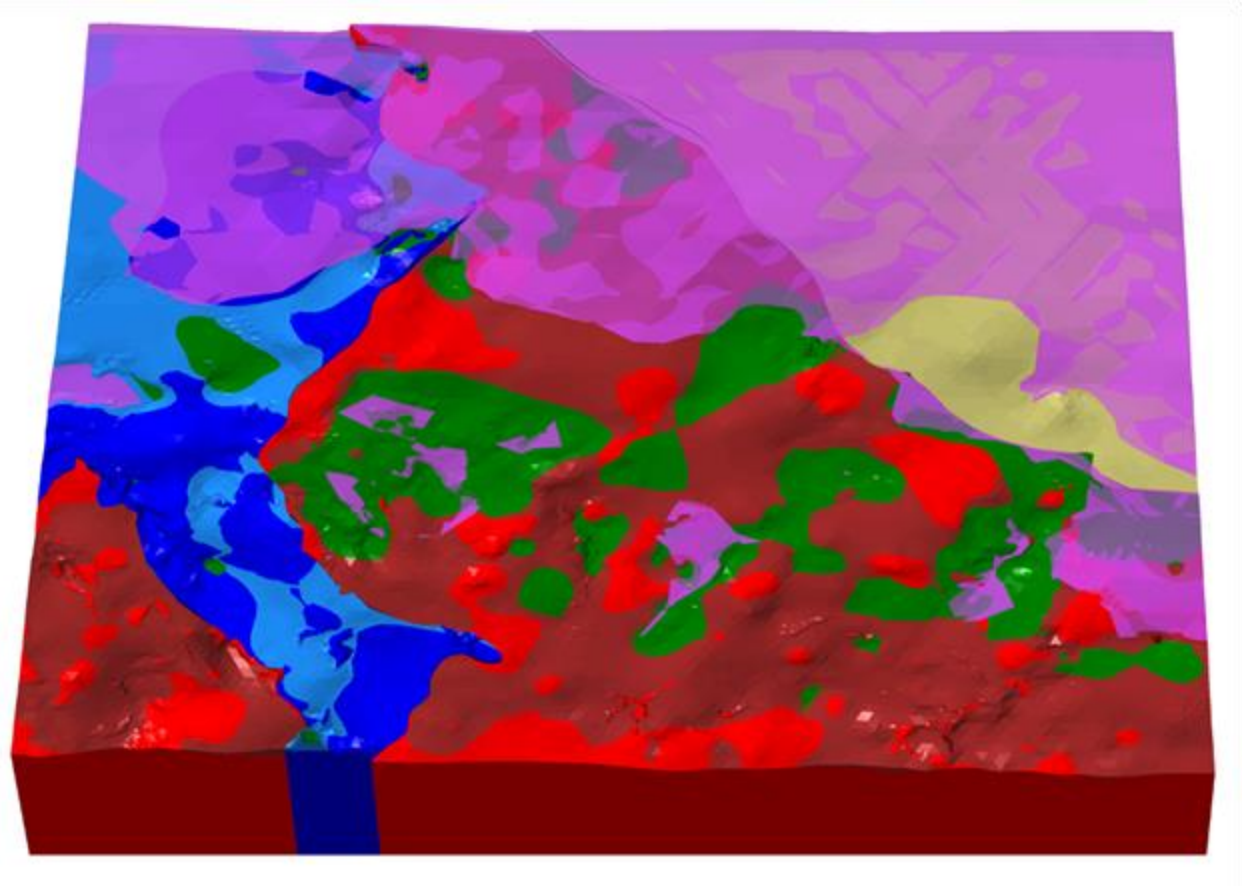
geological mapping (green), exploration of lignite (brown), building and industrial raw materials (black), metal ores (U, Cu, purple), groundwater (blue), geothermal energy (orange)

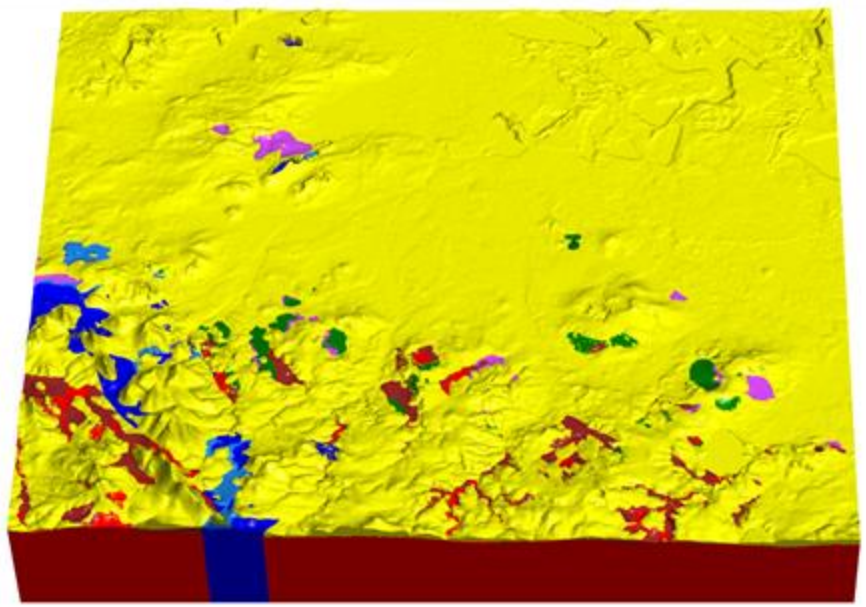


Developing a digital twin: new boreholes



Developing a digital twin: Geological model

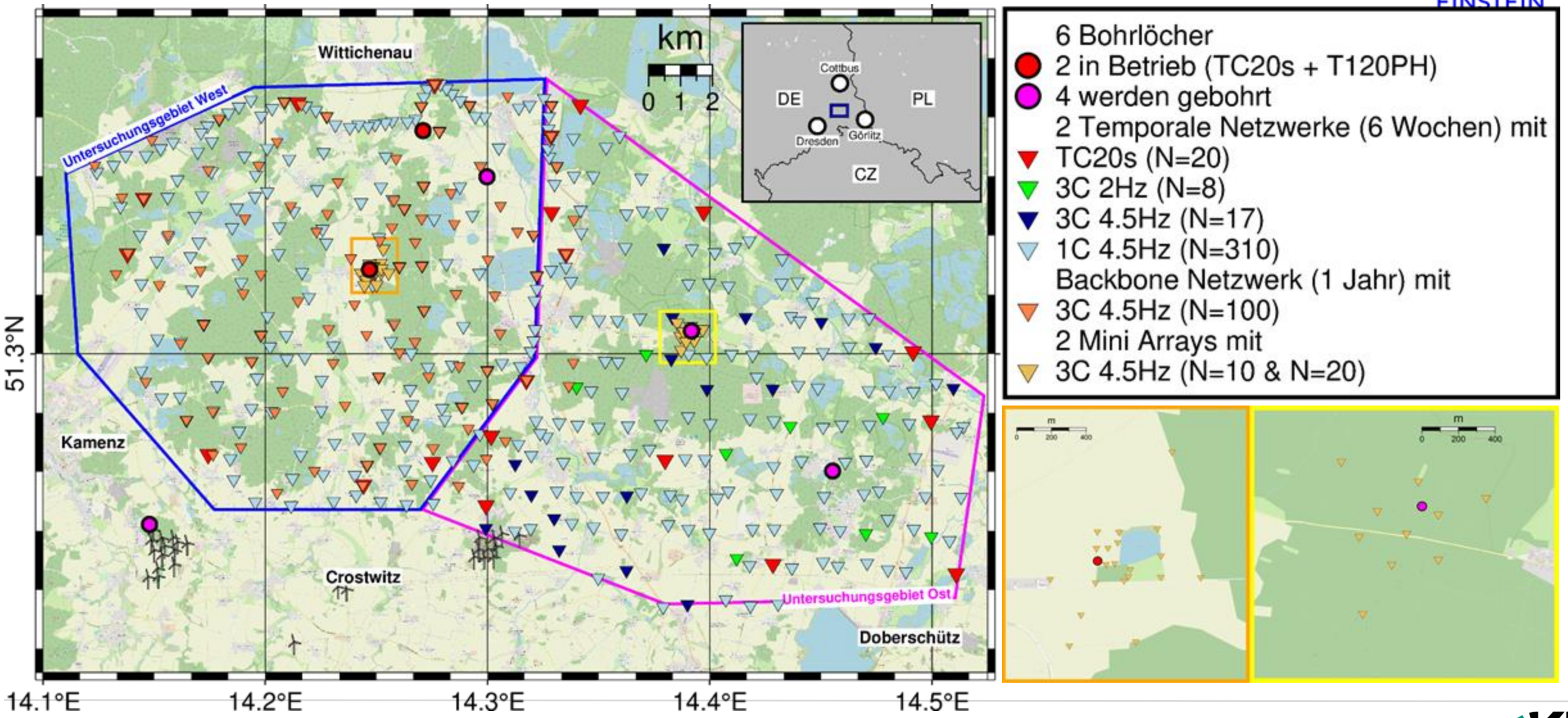




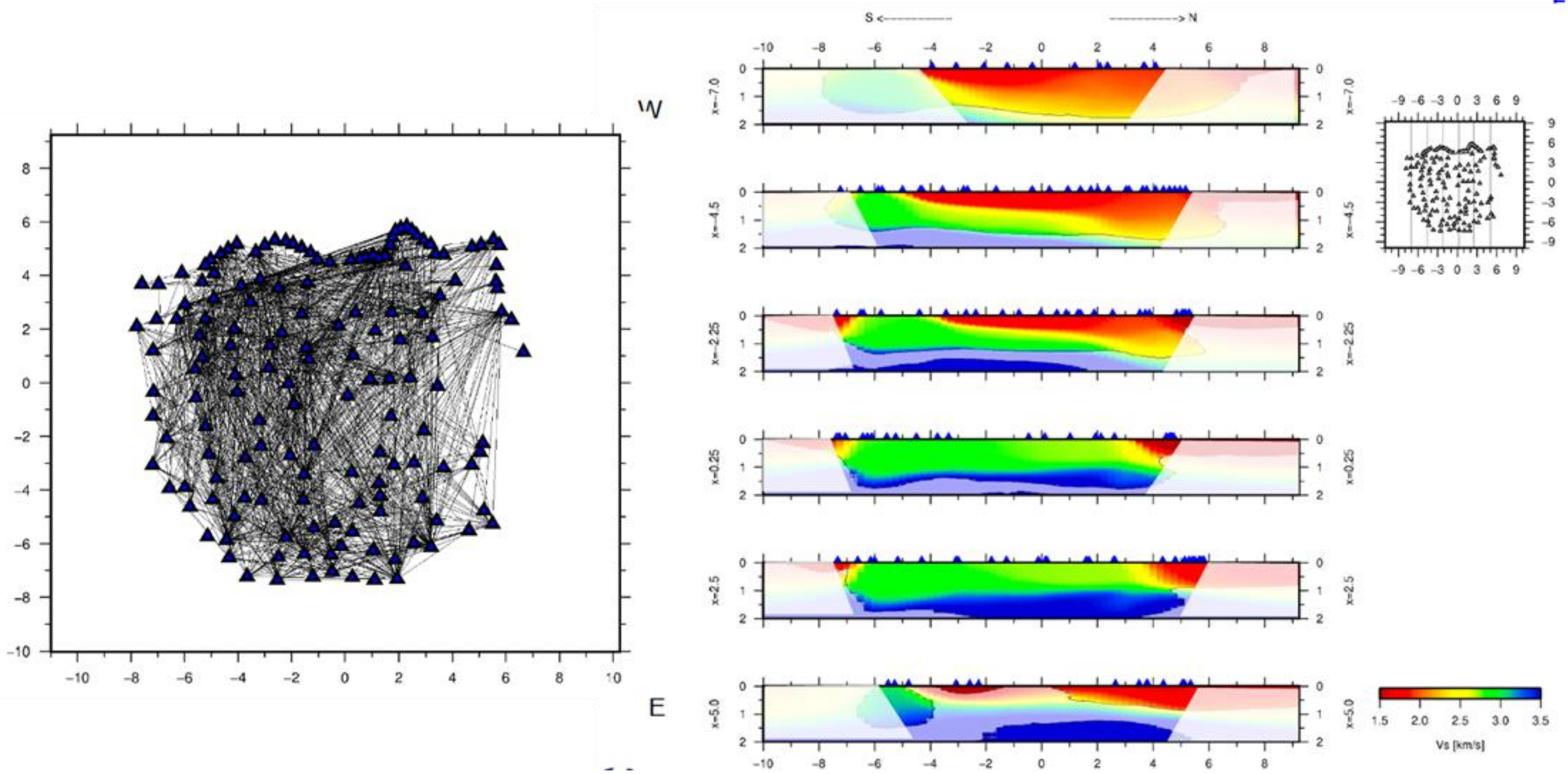
Cap rock	Quaternary		
	Tertiary		
	Kaolin		
Base rock	Weathered granodiorite	Weathered greywacke	Görlitz Slate Mountains
	Granodiorite	Greywacke	

Preliminary model is available in 0.3, 1.0 and 1.5 km resolution. First hydrological modell accomplished.

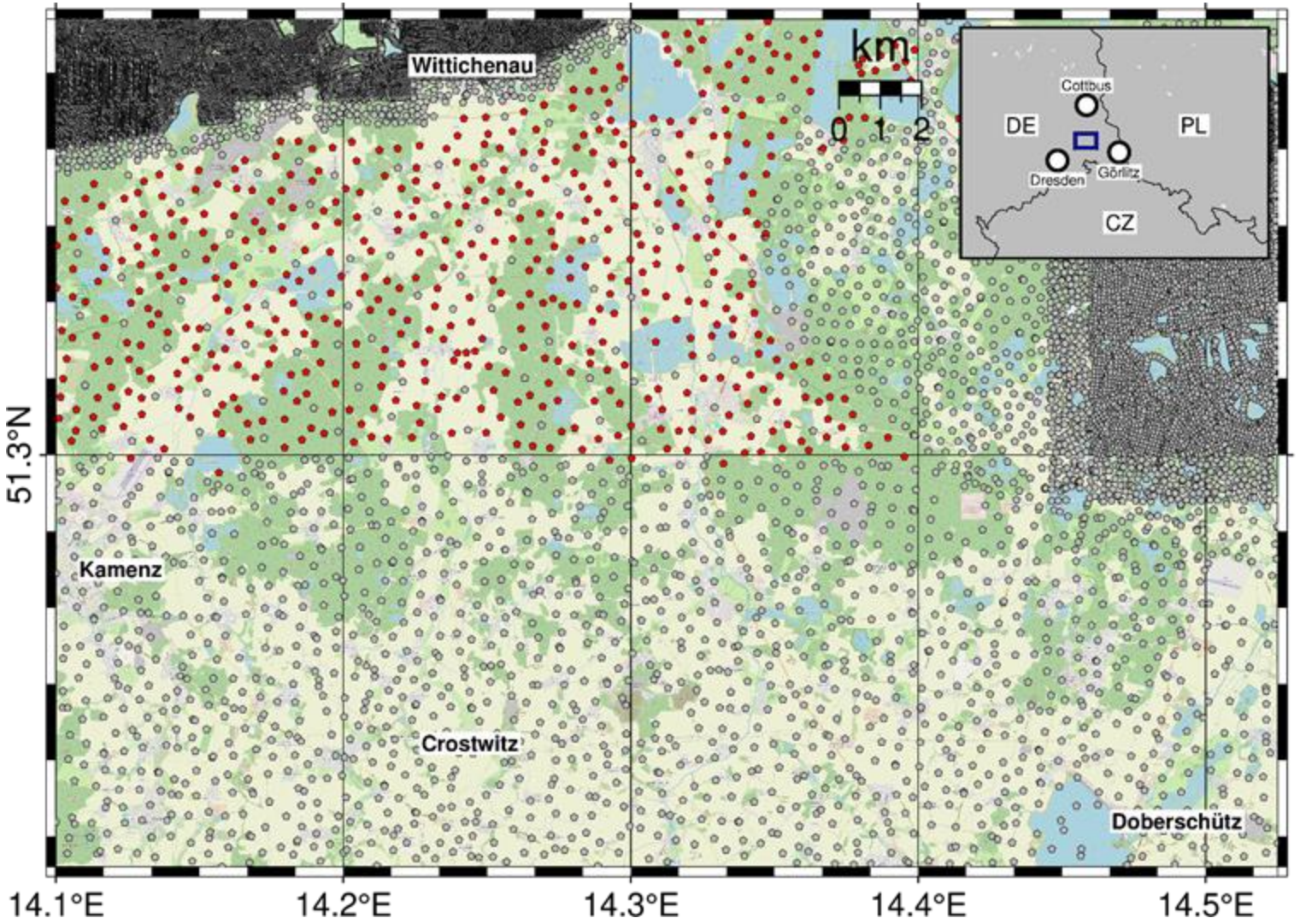
Developing a digital twin: seismics (400+ stations)



Developing a digital twin: seismic velocity structure



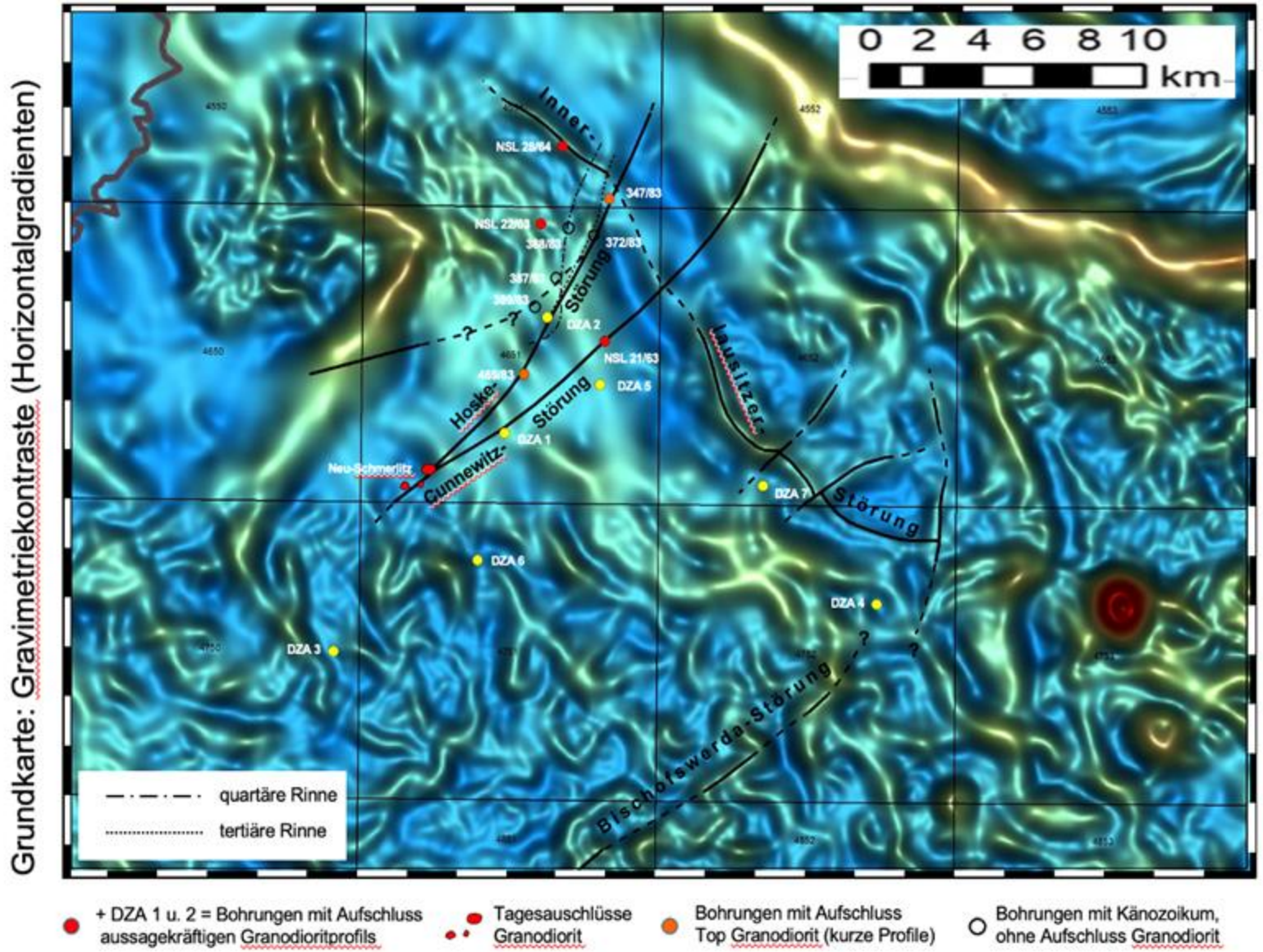
Developing a digital twin: healed fault structures



Gravimetriepunkte aus
Bestand am LfULG
Verdichtungsmessung 2025

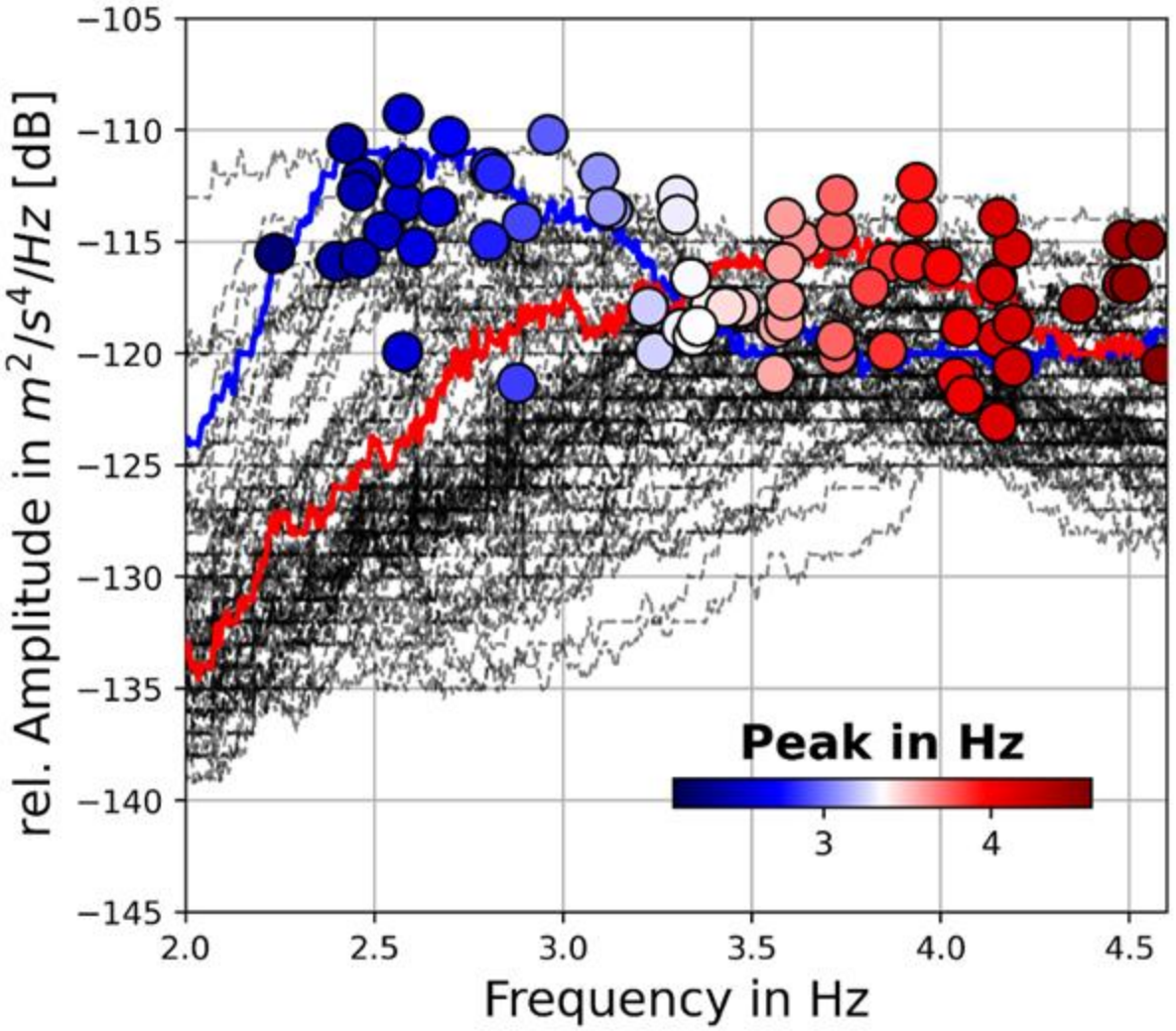
- historic ground gravity point measurements
- varying local point distance of 10 m to 2+ km
- DZA commissioned a re-measurement for increase -
- point density in north (red) about 1200 new points added

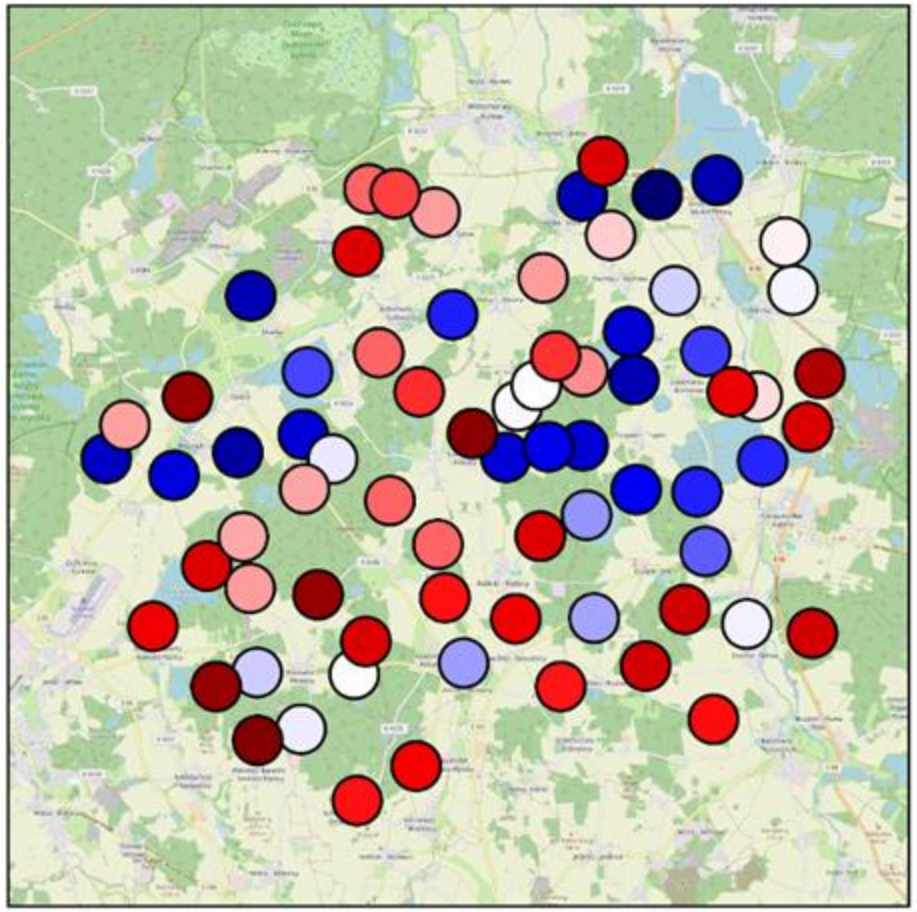
Developing a digital twin: identifying fault structures



Horizontal gradient of the static magentic field

Developing a digital twin: ambient noise field





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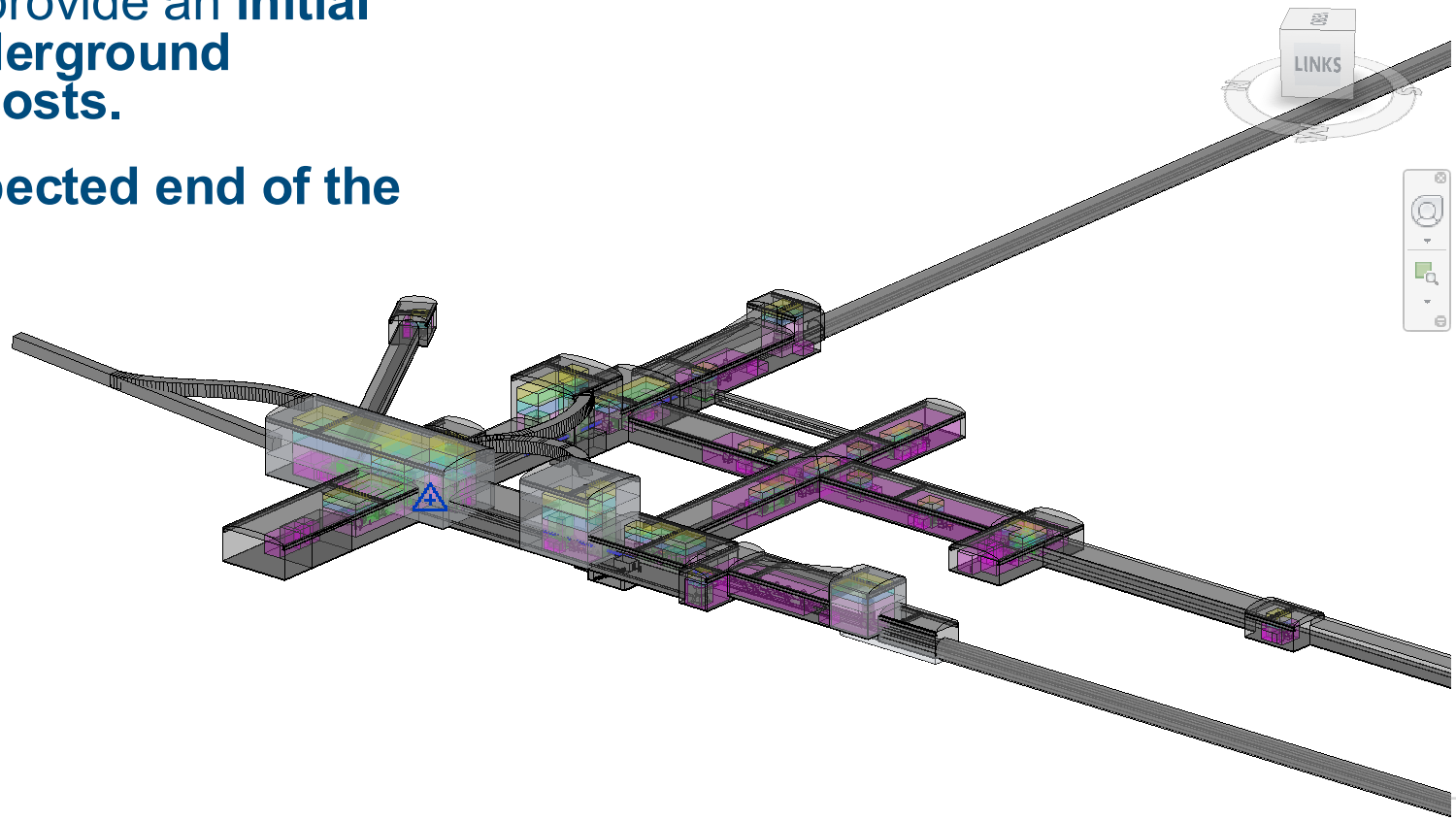
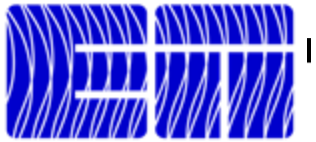
EINSTEIN TELESCOPE

Translate geological data into reliable cost estimate

- Based on current **regional data** and the **latest ET geometry with adaptation for the Lausitz**
- **The results will provide an initial estimate of underground infrastructure costs.**
- **Results are expected end of the year**



Feasibility study for ET at Lusatia (11M € approved)



WP1 PMC

- Communication
- Sozio-economic Study

WP2 GEO

- Geomechanics
- Ambient Noise
- Seismics
- 3-5 boreholes (instrumented)
- integration

WP3 UG

- Underground Buildings & Infrastructure
- Permitting procedures
- Legal aspects

WP4 OG

- Surface Buildings & Infrastructure
- Permitting procedures
- Legal aspects

Acceptance

Scientific feasibility

Timeline & cost estimate