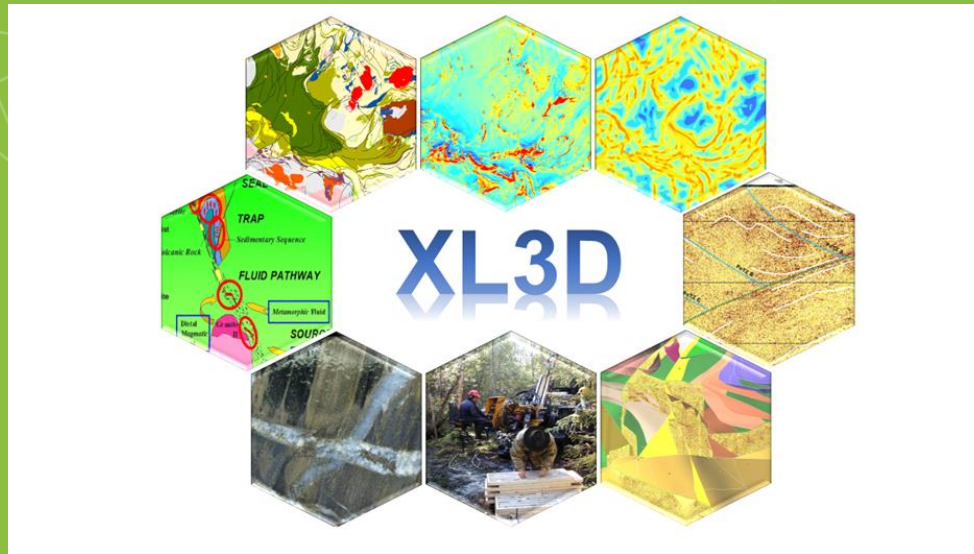


Exploration Lapland (XL3D)

2018-2020



Vesa Nykänen

17.6.2020



Programme for Sustainable Growth and Jobs

Leverage from
the EU
2014–2020



Partners & funding



Project web pages: <http://projects.gtk.fi/XL3D>



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Background

- Vast digital geoscientific data sets exist in districts with prolonged history in geological research and exploration history.
- Exploration and mining industry uses these data sets for defining locations of mineral deposits
- Large and constantly accumulating data sets necessitate development of new, more efficient data mining and modelling techniques
- XL3D-project aims to provide solutions for these problems

Aims

- To create scalable data mining and integration concept that can become an export service product for GTK and private enterprises providing mineral exploration services.
- Concept is tested by using it in generating new geological 3D model of the Central Lapland area
 - The model will provide key geological criteria for **gold** and **Ni-Cu** mineral systems
- The modeling results will be utilized in generating new prospectivity maps for Ni-Cu and Au deposits in the test area
- The resulting 3D model, data integration concept, and prospectivity models generated will be made publicly available for industry, SME's and geoscientists.



XL3D funding and project management

- Project is funded by Business Finland ERDF Sustainable Growth and Jobs 2014-2020 program and private companies
- Total funding 504 000 € of which Business Finland covers 88% and companies 12%
- The project is carried out solely by GTK researchers
- Accountable project leader: Research professor Vesa Nykänen
- Project manager: Senior Scientist Tero Niiranen

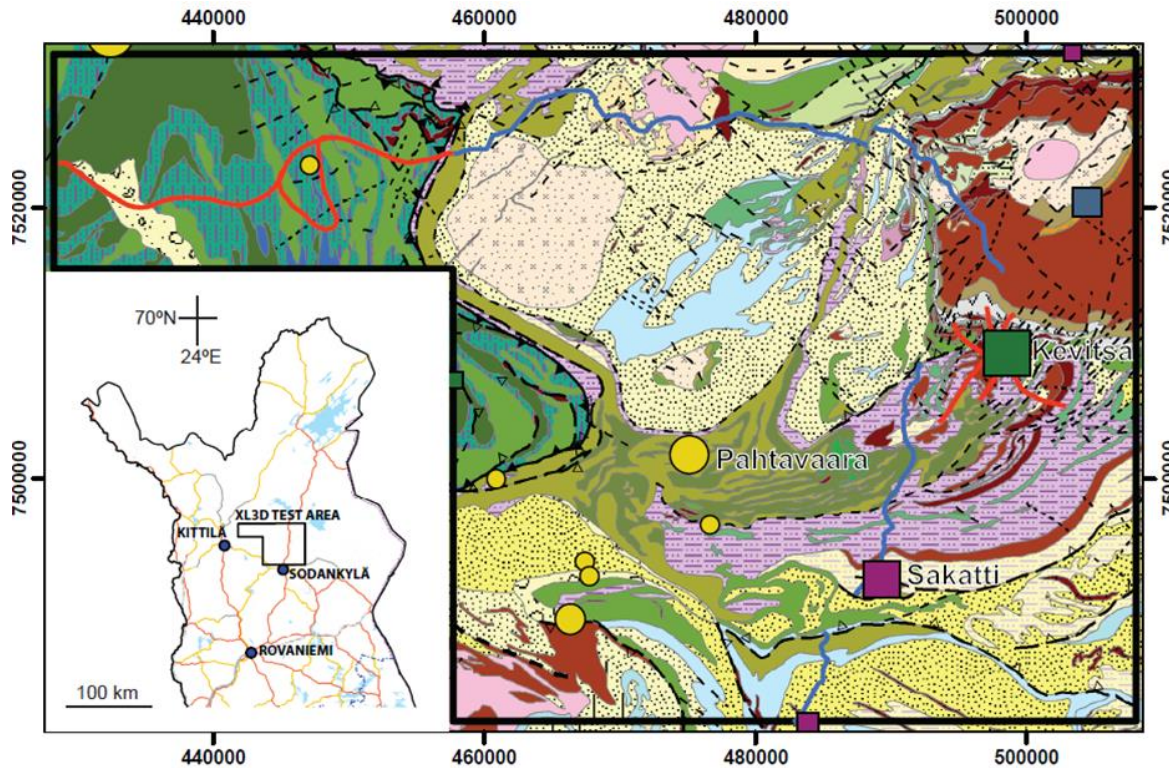


XL3D project team

- Research professor Vesa Nykänen (accountable project leader)
- Senior Scientist Dr. Tero Niiranen (project manager)
- Senior Scientist Dr. Tuomo Karinen (geology, 3D modeling)
- Geophysicist Hanna Leväniemi (potential field inversions)
- Senior Scientist Dr. Suvi Heinonen (reflection seismic)
- Team leader Ilkka Lahti (AMT soundings)
- Senior Scientist Dr. Jaakko Madetoja (data mining)



Test area & Data



- Reflection seismics (HIRE & SoDEex)
- AMT
- Airborne geophysics
- Gravity data
- Till geochemistry
- All relevant geological data sets

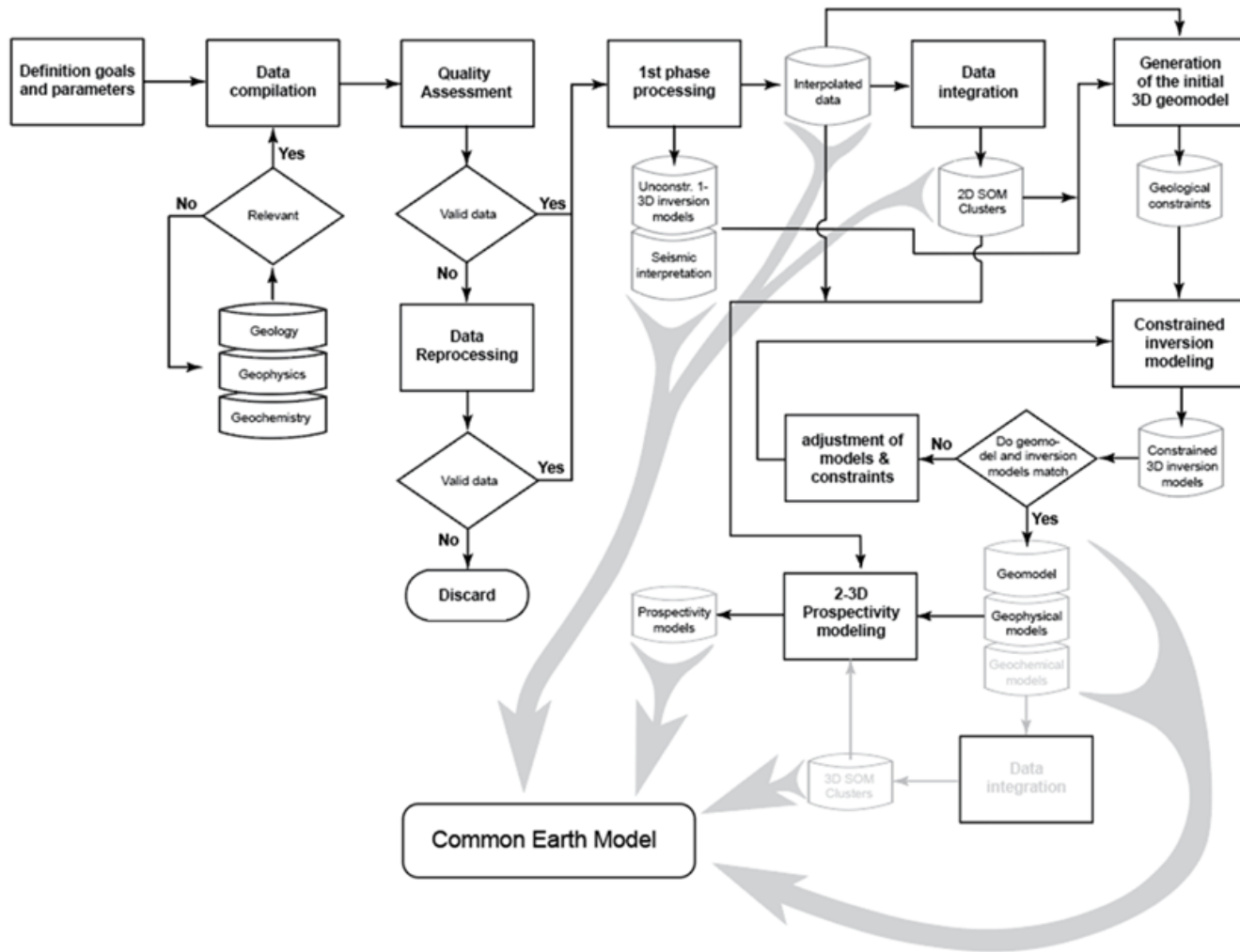


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Workflow



Thank You!



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