OSCARS
Open Science Clusters' Action for Research & Society

Funded Project

Creating a FAIR open Science Pipeline for high-resolution LOFAR imaging (COPLI)

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Implemented by

Universiteit Leiden The Netherlands

Sterrewacht Leiden

SURF

ASTRON Netherlands Institute for Radio Astronomy

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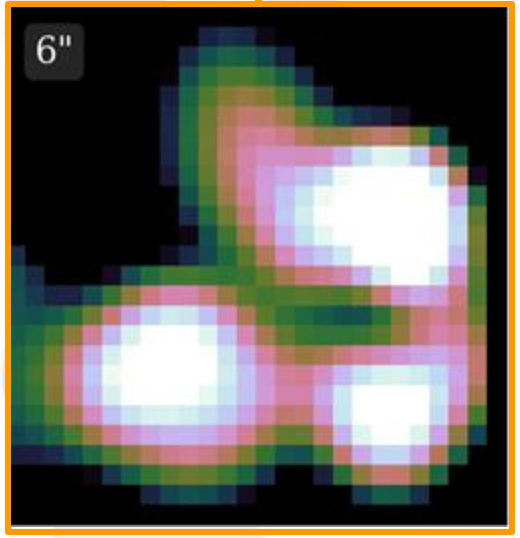
CHALLENGE ADDRESSED



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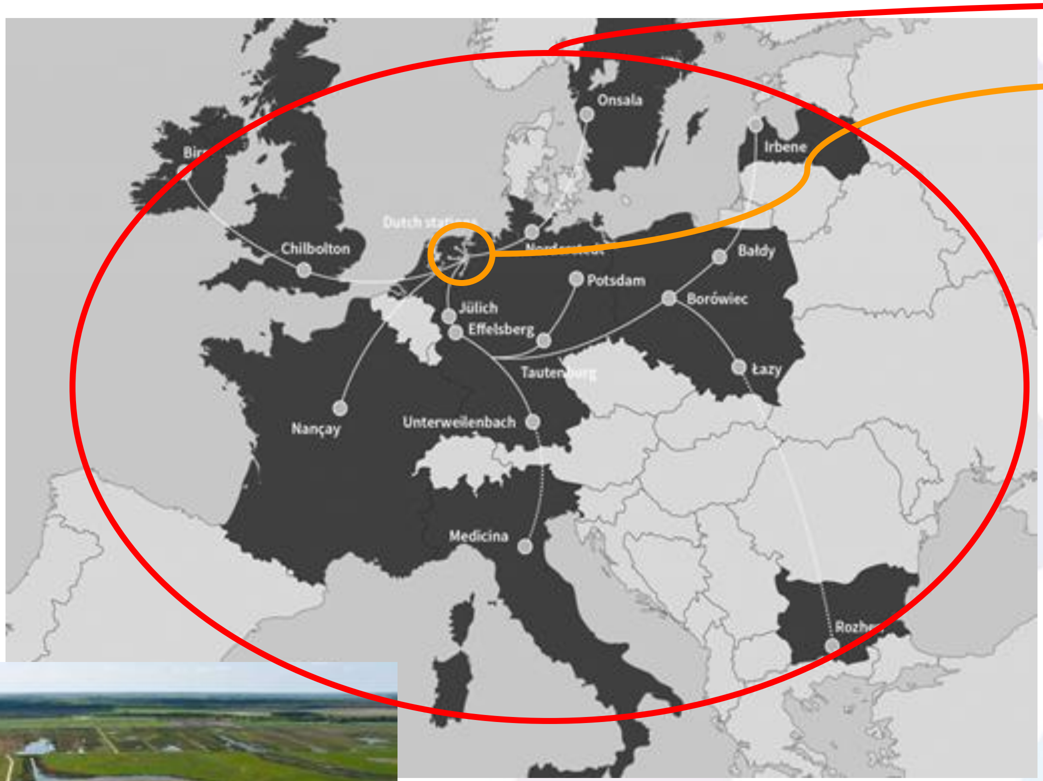

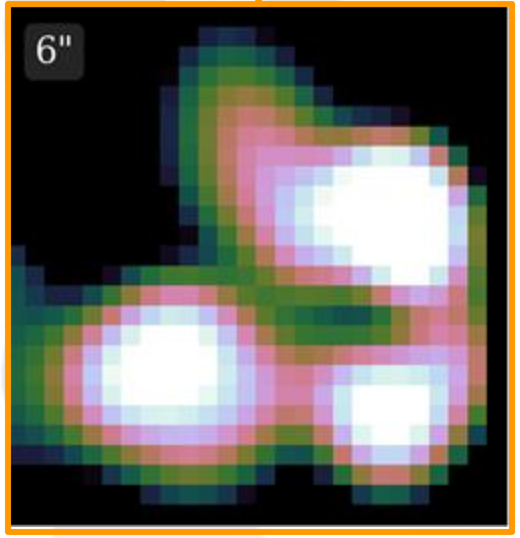

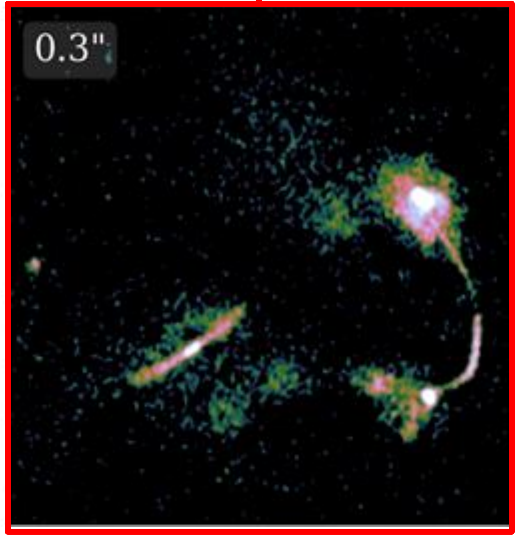

SOLUTION

01	**Improve data processing strategies**	• High-quality images • Reduce computational cost • Reduce data volume cost
02	**Develop automated open FAIR data processing pipeline**	• Findable → Output data traceable • Accessible → Open-source software • Interoperable → Running on various HPC systems • Reproducible → Proper logging of processing steps
03	**Generate science-ready products**	• Findable with DOIs, PIDs • Available in the VO • HIPs format

RESULTS

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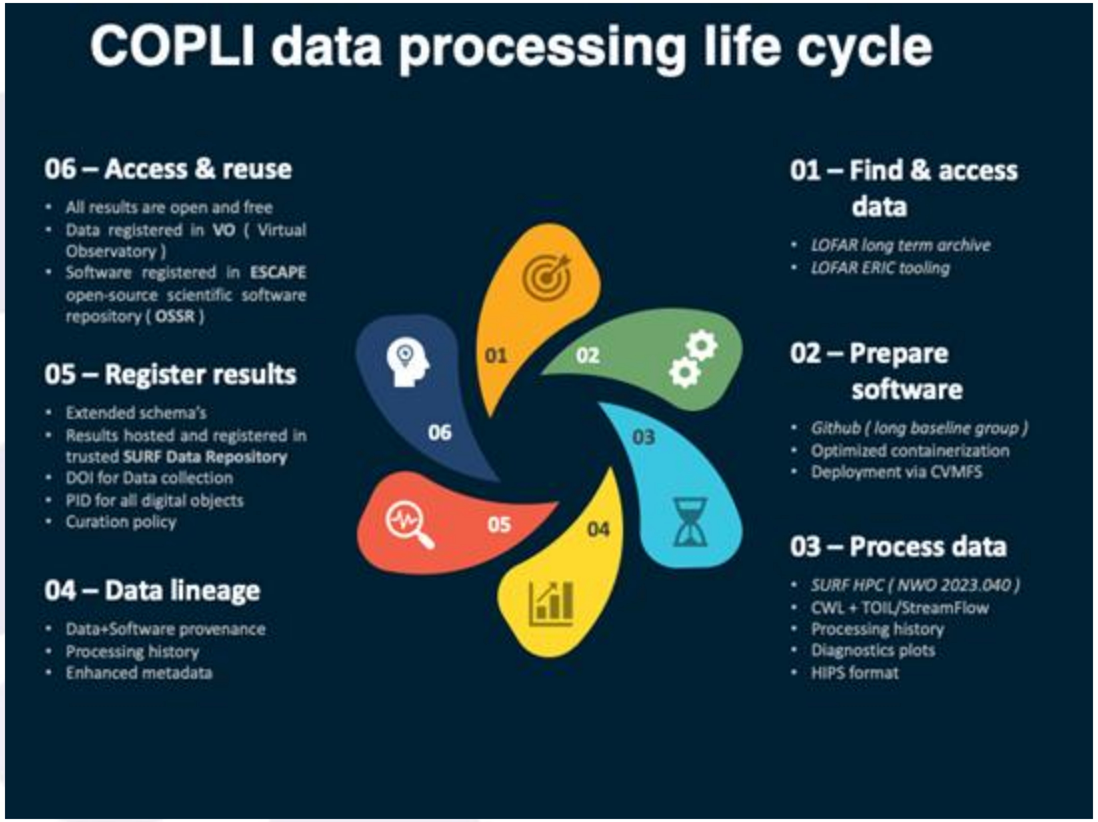
- Publicly available pipeline and software.
- Science products in an open accessible repository with associated metadata and data provenance (EOSC).



RISKS

1. Automation challenges → Organizing regular in-person and online meetings with world-wide experts to come to the best solution.

2. Data volume challenges → Develop techniques in collaboration with experts to compress data volumes originally in the order of 400TB (first results presented in de Jong et al. 2025).