HEFTIE – Handling Enormous Files from Tomographic Imaging Experiments

OSCARS
Open Science Clusters' Action for Research & Society

The HEFTIE project aims to significantly improve tools and educational resources for handling large 3D imaging datasets by creating a comprehensive digital textbook and new visualisation software. These advancements will accelerate the analysis of 3D organ scans and unlock discoveries in the life sciences, benefiting also other fields, such as neuroscience, archaeology, and the earth sciences.

LS RI
Life Sciences

PaNOSC
Photon and Neutron Science

Challenge

X-ray tomography produces extremely large datasets, often exceeding 1 TB, which are too large to fit into standard computer memory. Many researchers lack the tools and training to work with such massive data effectively, which slows down analysis and limits the scientific discoveries that could be made from this data.

Solution

HEFTIE will develop a comprehensive digital textbook and new software tools for working with chunked 3D imaging datasets. The textbook will provide clear guidance on setting up and running data analysis and visualisation pipelines, while the new tools and a visualisation software will make it easier to use these datasets.

Scientific Impact

HEFTIE will expand access to terabyte-scale data and foster open science collaboration across Europe. In particular, it will ensure accessibility to a wide range of users across the PaNOSC Science Cluster.

https://www.oscars-project.eu/projects/heftie-handling-enormous-files-tomographic-imaging-experiments

Partners

University College London, Scalable Minds