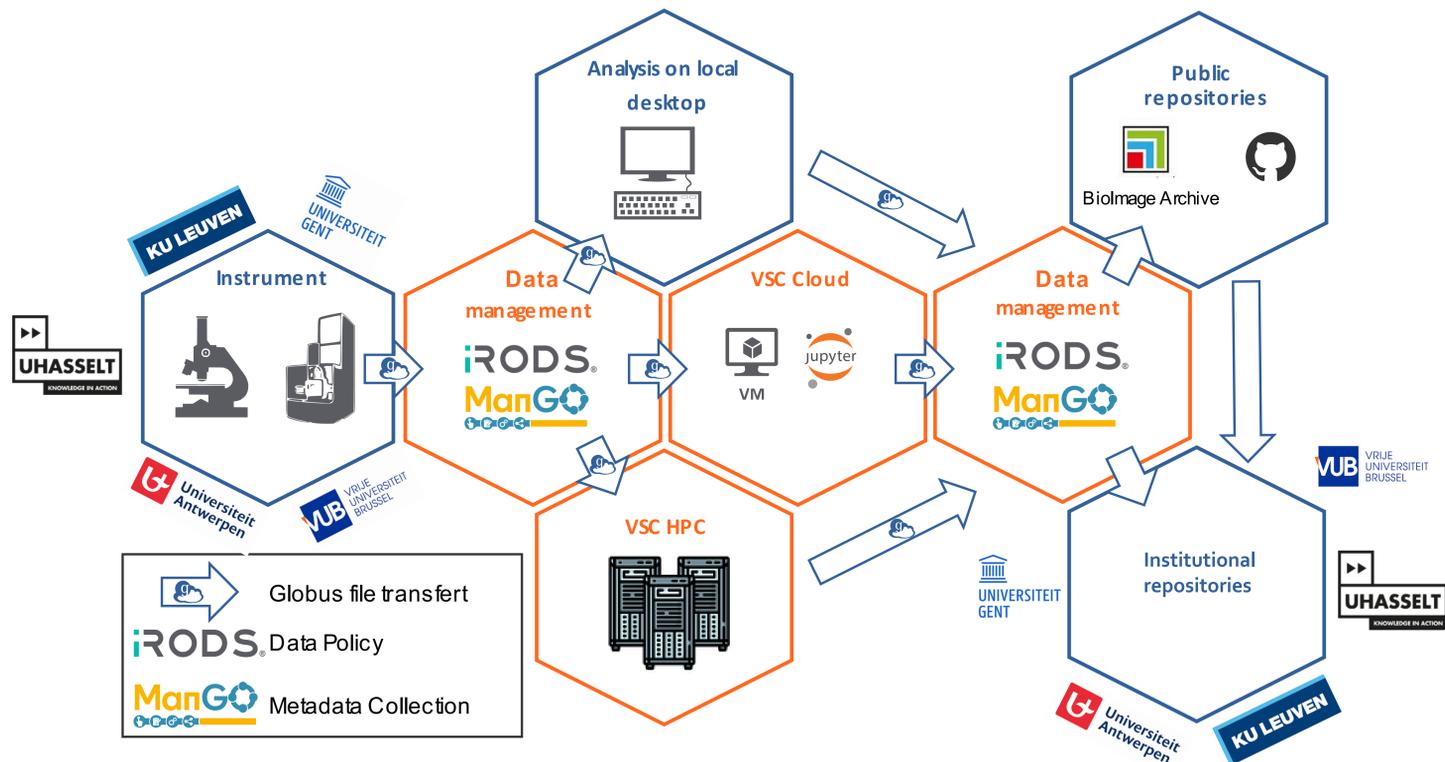


Flanders Bio Imaging – towards efficient centralized research data management and analysis of bioimaging data

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To make modern data management and analysis that is committed to FAIR principles and improved reproducibility a reality, Flanders BioImaging in a team effort with the Flemish supercomputing center (Vlaams Supercomputer Centrum, VSC) and KU Leuven's central IT infrastructure, is exploring new models for data management, metadata handling, and image analysis.



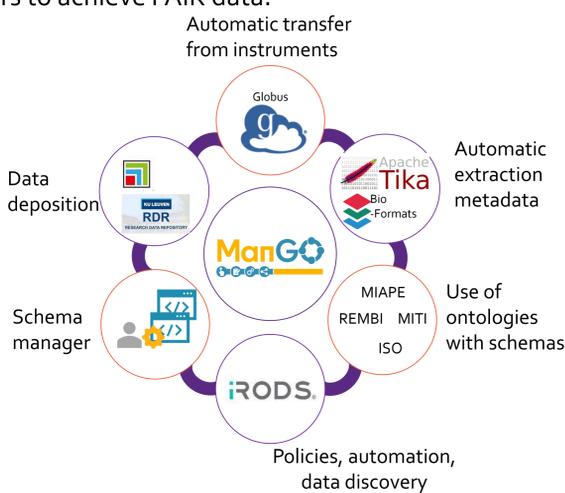
Research data management (RDM)

In general, RDM is often postponed until it becomes crucial. However, there is an increasing number of editors and funding agencies requiring open or findable accessible interoperable reusable (FAIR) data. While going through the data-lifecycle, we attempted to find a golden mean between FAIR data and the time invested by researchers to achieve FAIR data.

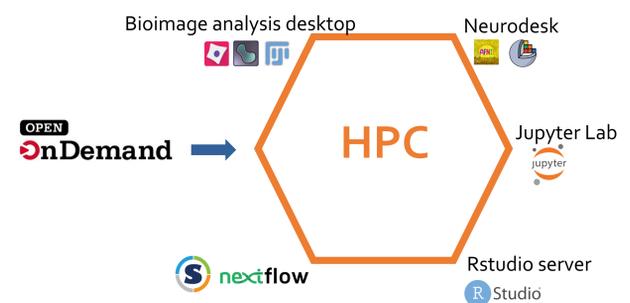
Hence, we automatized each step, where possible, of the data lifecycle.

With ManGO data is stored and annotated, with metadata to contextualize and make it findable. Data workflows are automated helping to reduce manual work and mistakes.

All this via different user interfaces making ManGO accessible for everybody and from everywhere.



Versatile HPC for users with distinct needs



Due to the diversity in microscopes, biological images are heterogenous, leading to a plethora of distinct analyses. Hence, image analysts require a flexible and powerful environment to carry out their work. In the OnDemand server at the VSC, users can select virtual desktops with dedicated software (Band, Neurodesk), cluster desktop or web-based interactive environments (Jupyter Lab, R Studio server)...

Conclusion and prospects

Thanks to this collaboration, we aim at:

1. FAIR RDM and analysis by design
2. Single point of access to enhance reproducible analysis
3. A platform for collaboration on bioimage analysis

Affiliations

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