



CEPLAS

Cluster of Excellence on Plant Sciences

Annotated Research Contexts (ARCs)

A FAIR RDM journey along a (mutable) data life cycle

Tag der Forschungsdaten in NRW 2023

November 14th, 2023

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Data Stewardship between DataPLANT and the community

Community

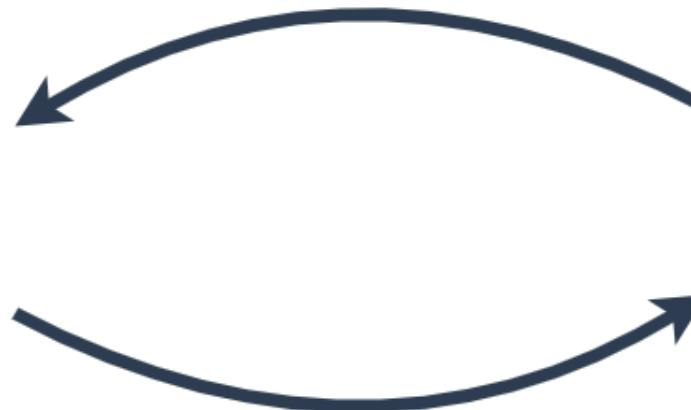


Domain experts
User experience
Training

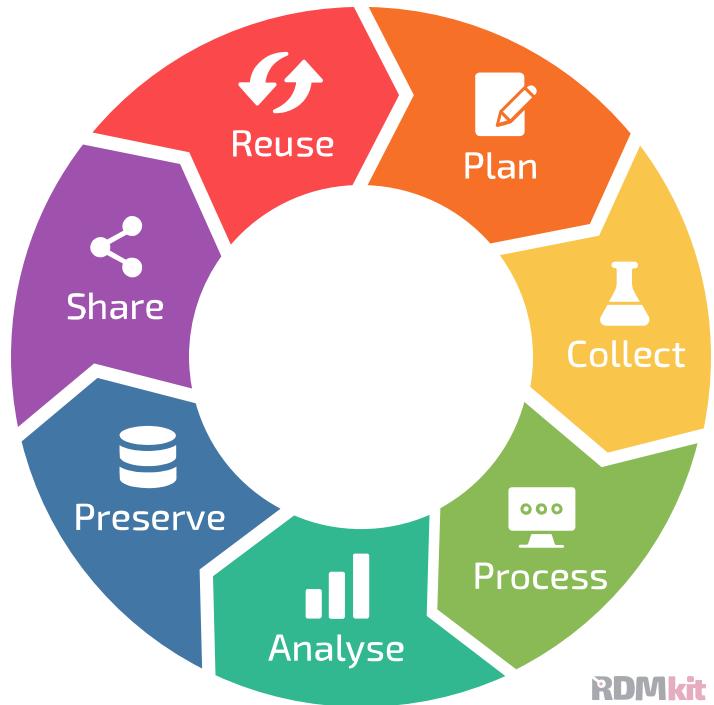
nfdi4plants



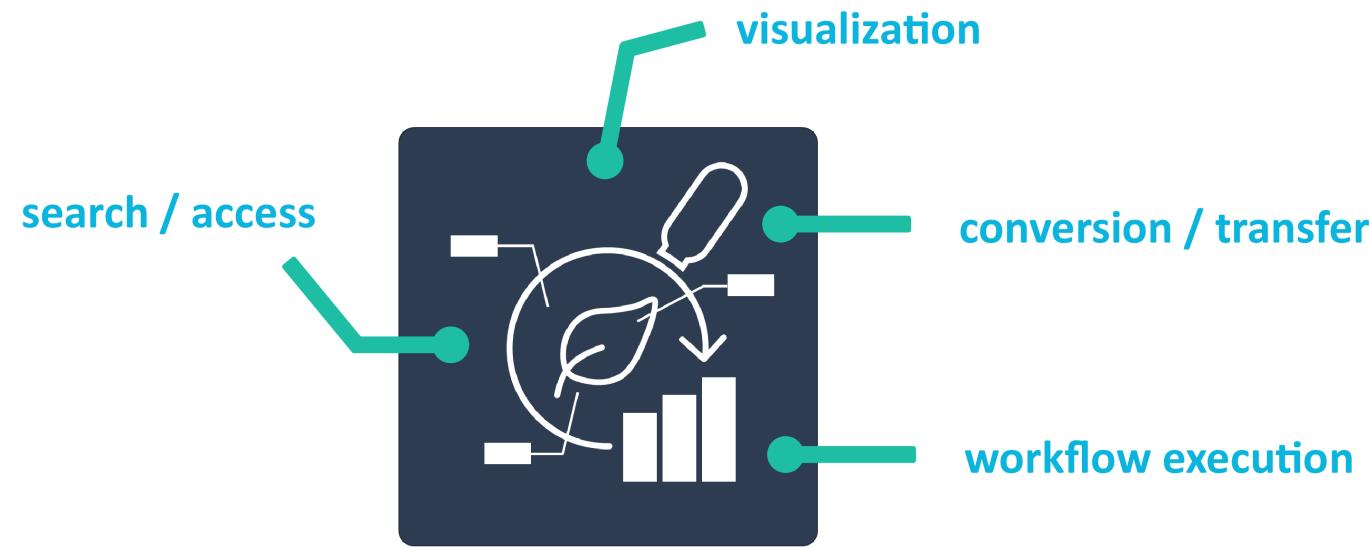
Service provider
Developers
Tech experts



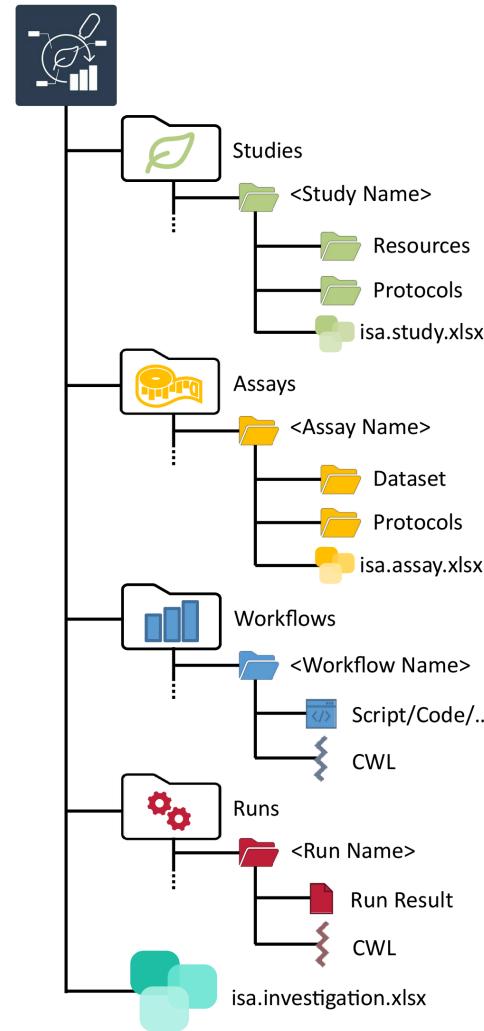
The research data life cycle



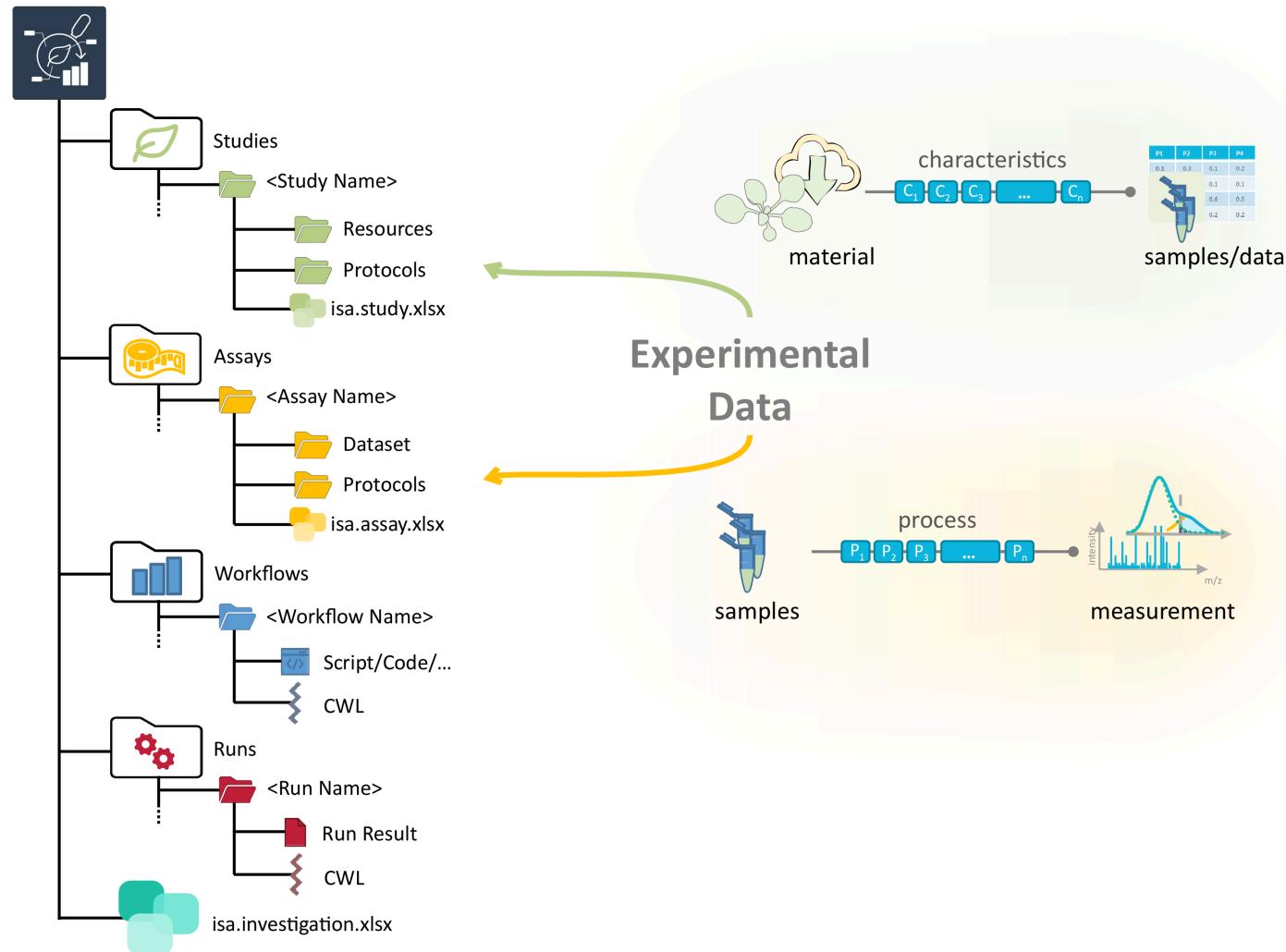
Annotated Research Context (ARC)



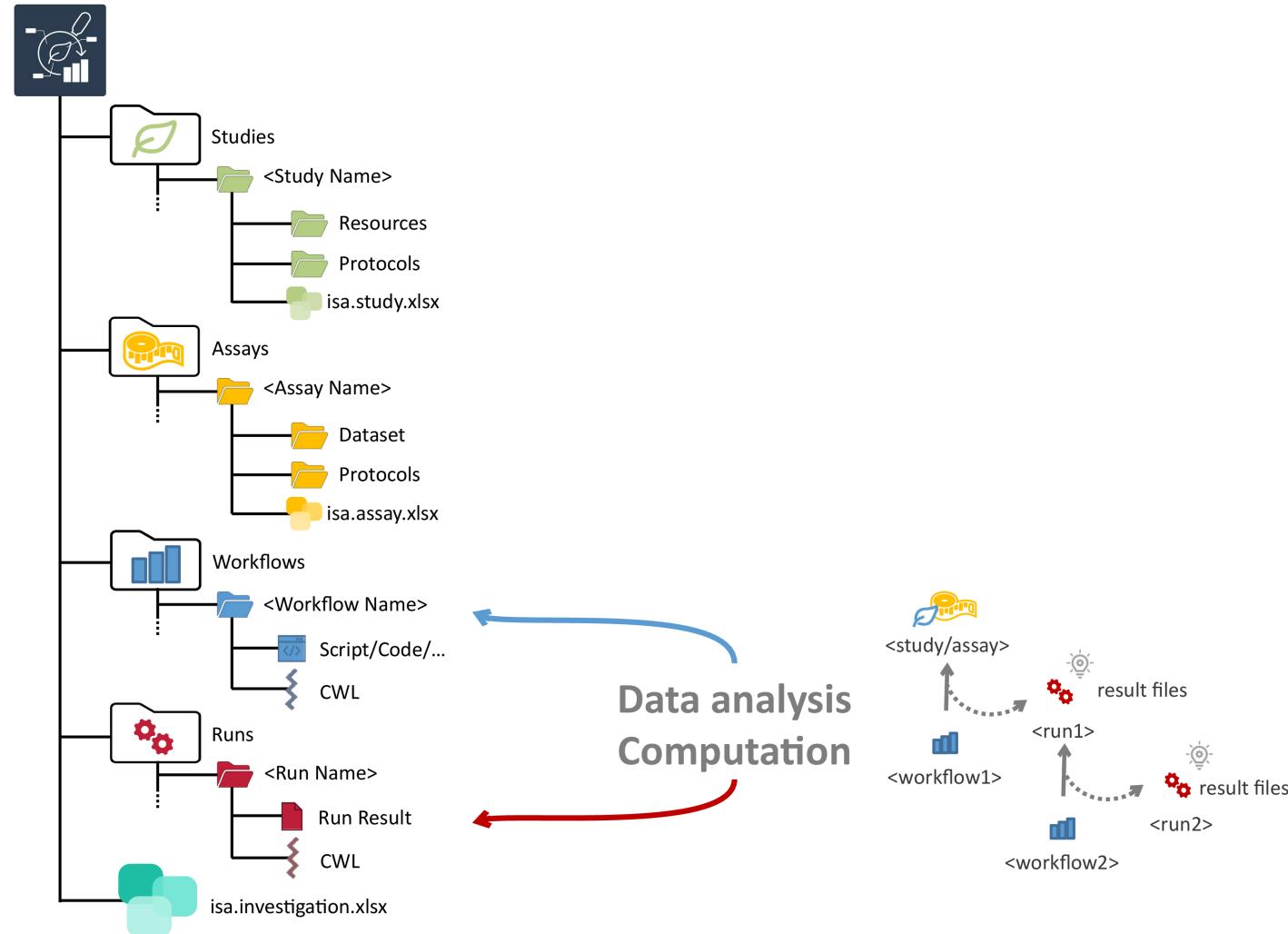
What does an ARC look like?



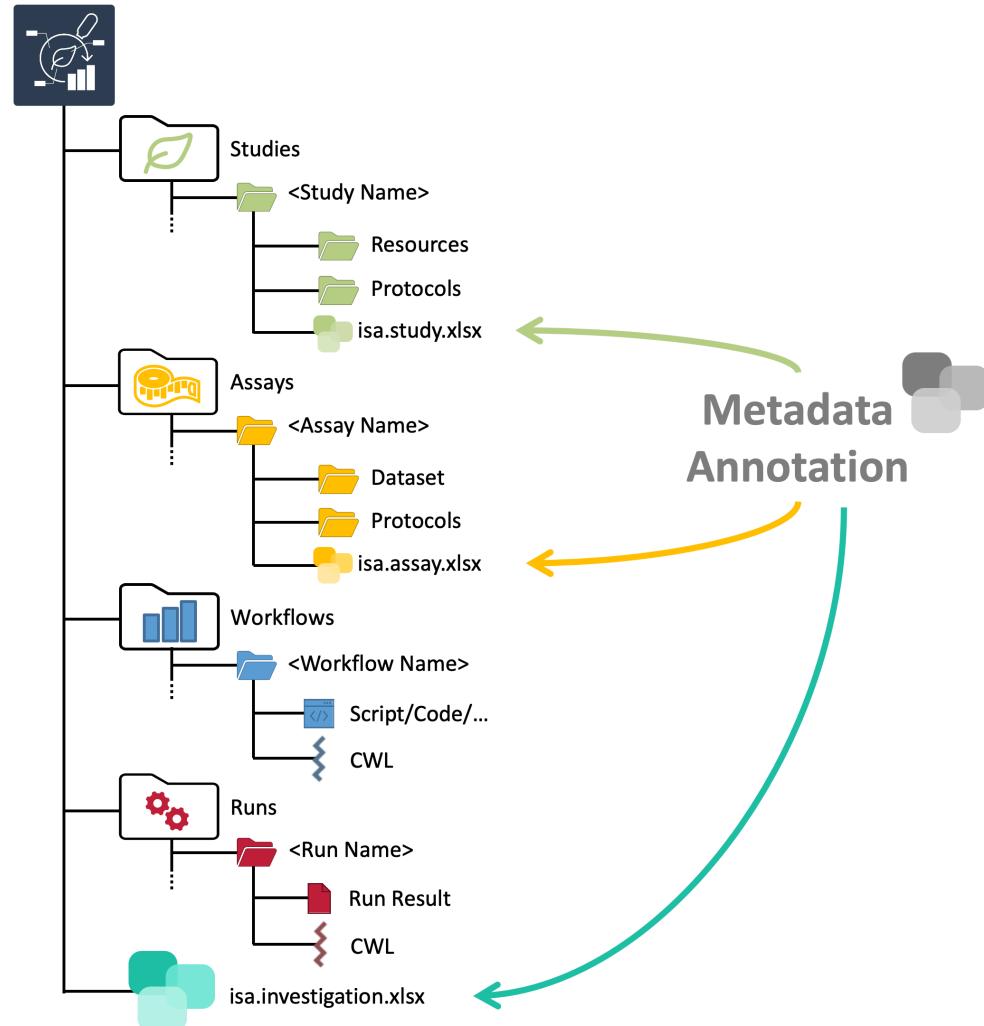
ARCs store experimental data



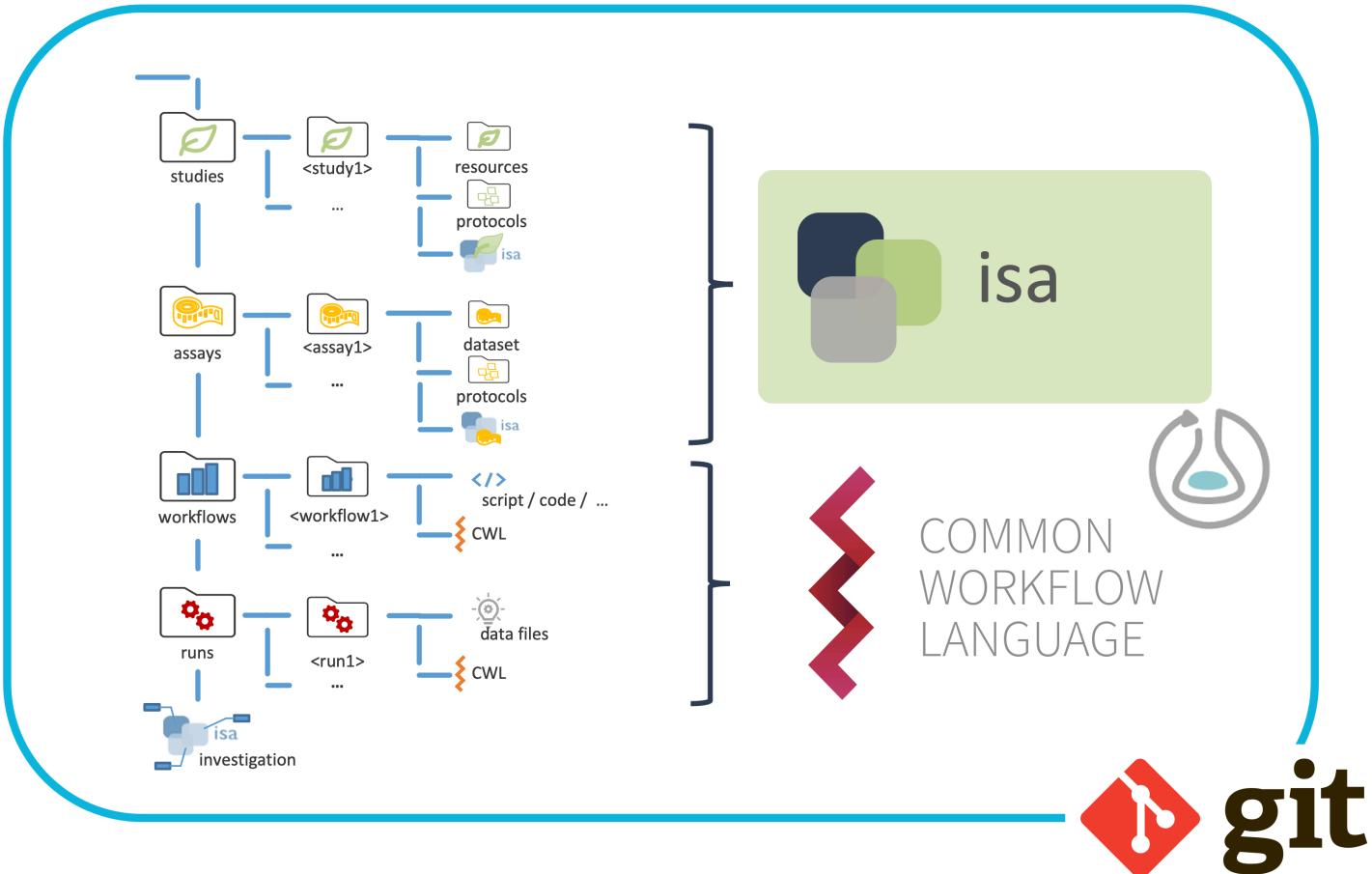
Computations can be run inside ARCs



ARCs come with comprehensive metadata



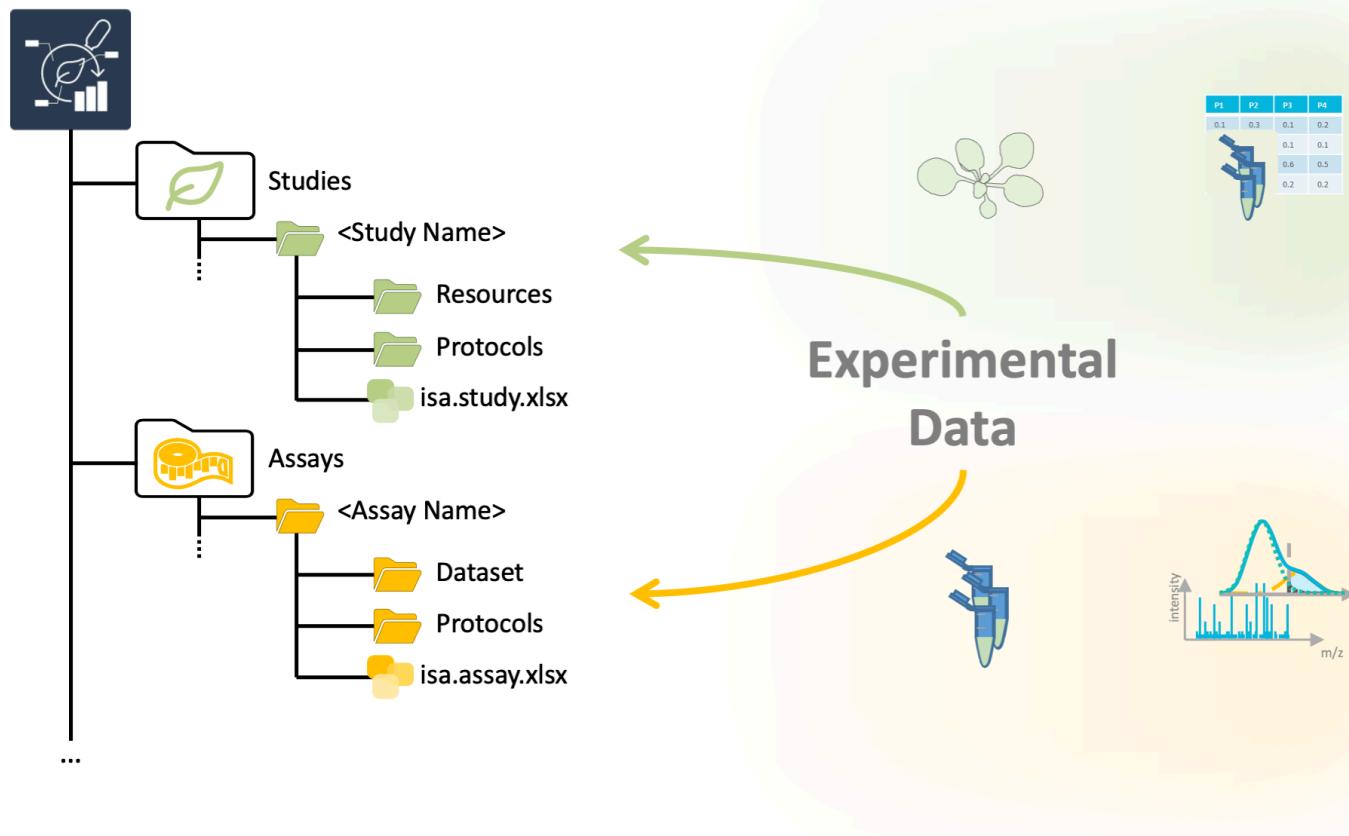
ARC builds on standards



<https://isa-tools.org/> | <https://www.commonwl.org/>
<https://www.researchobject.org/ro-crate/> | <https://git-scm.com>

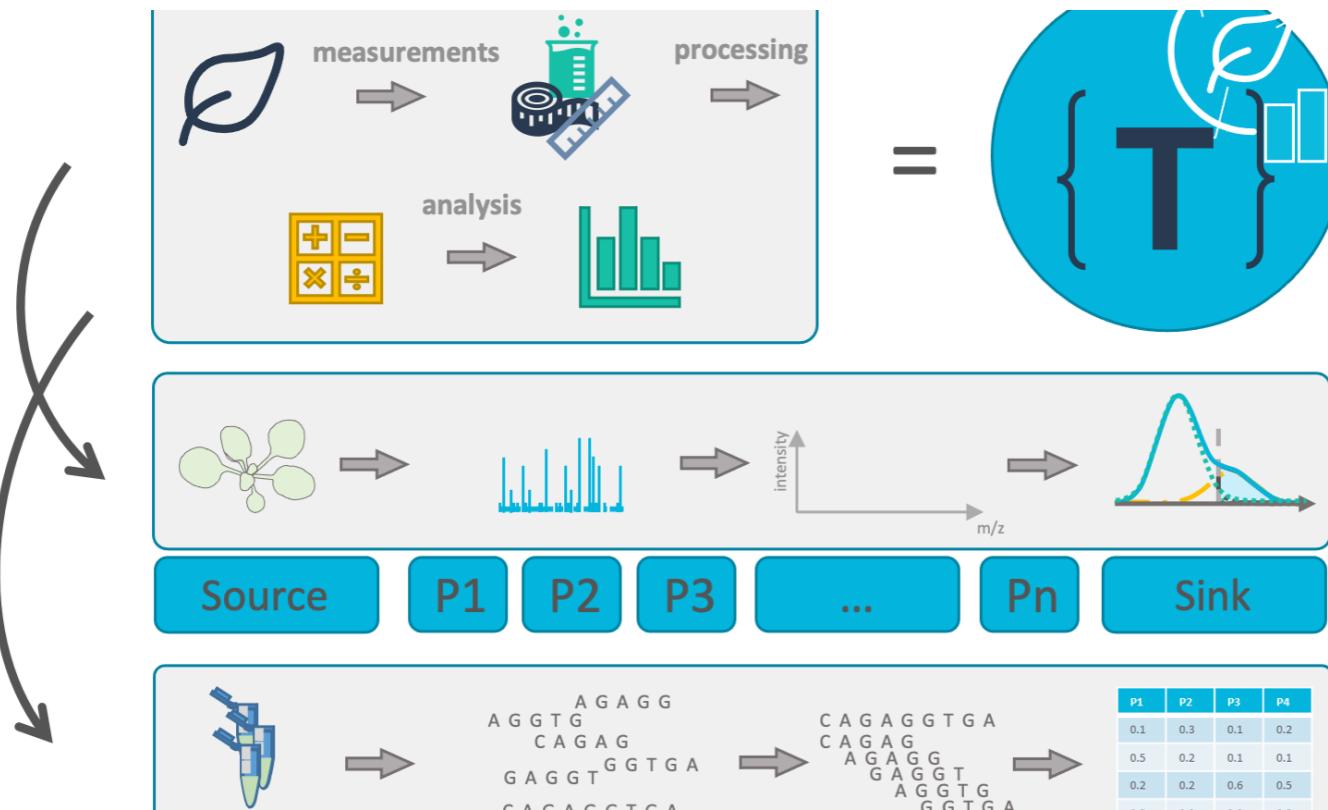


Collect



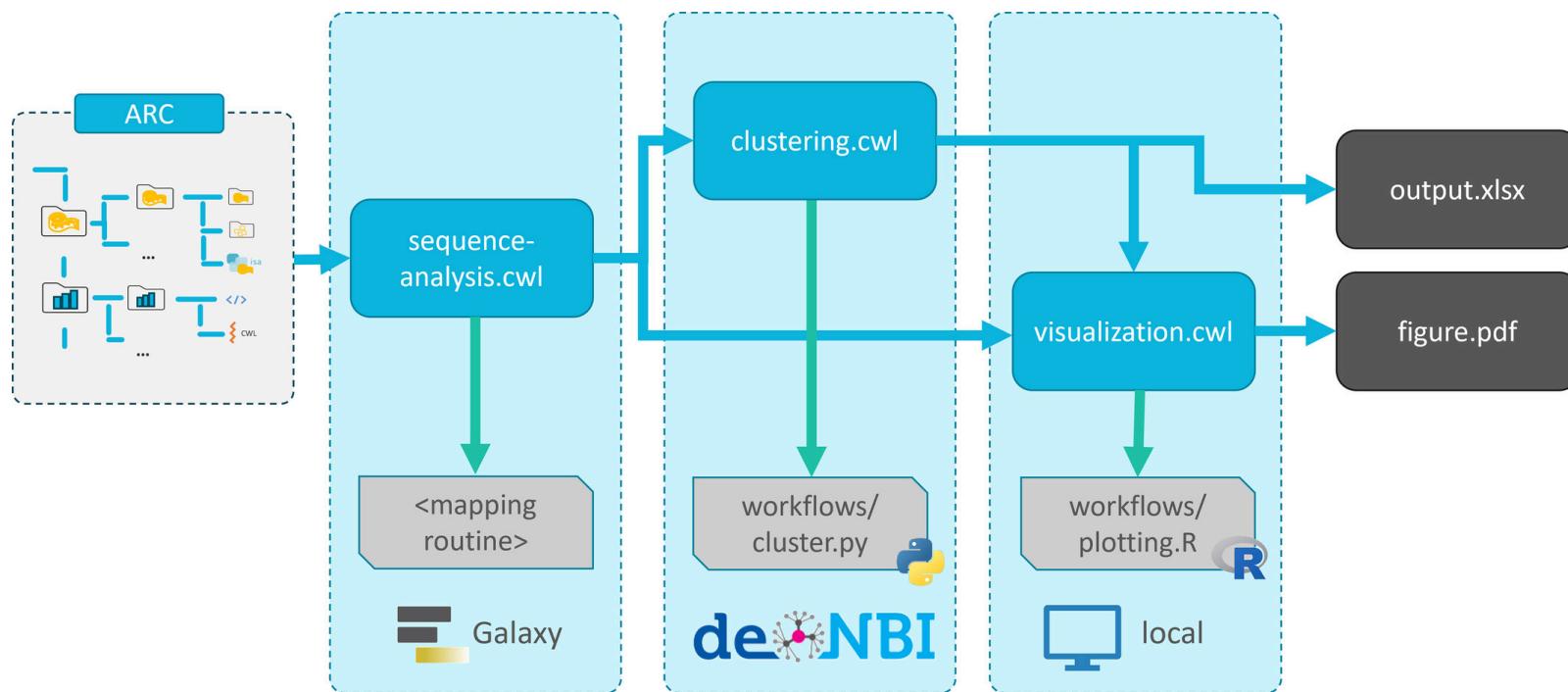


Process (e.g. annotate)



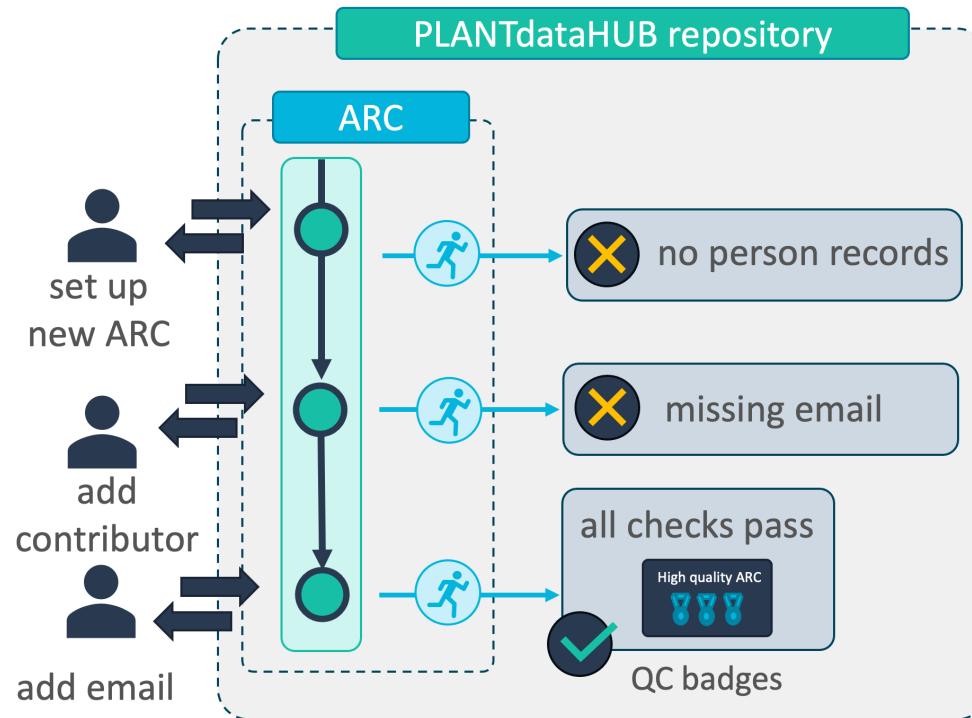


Analyse





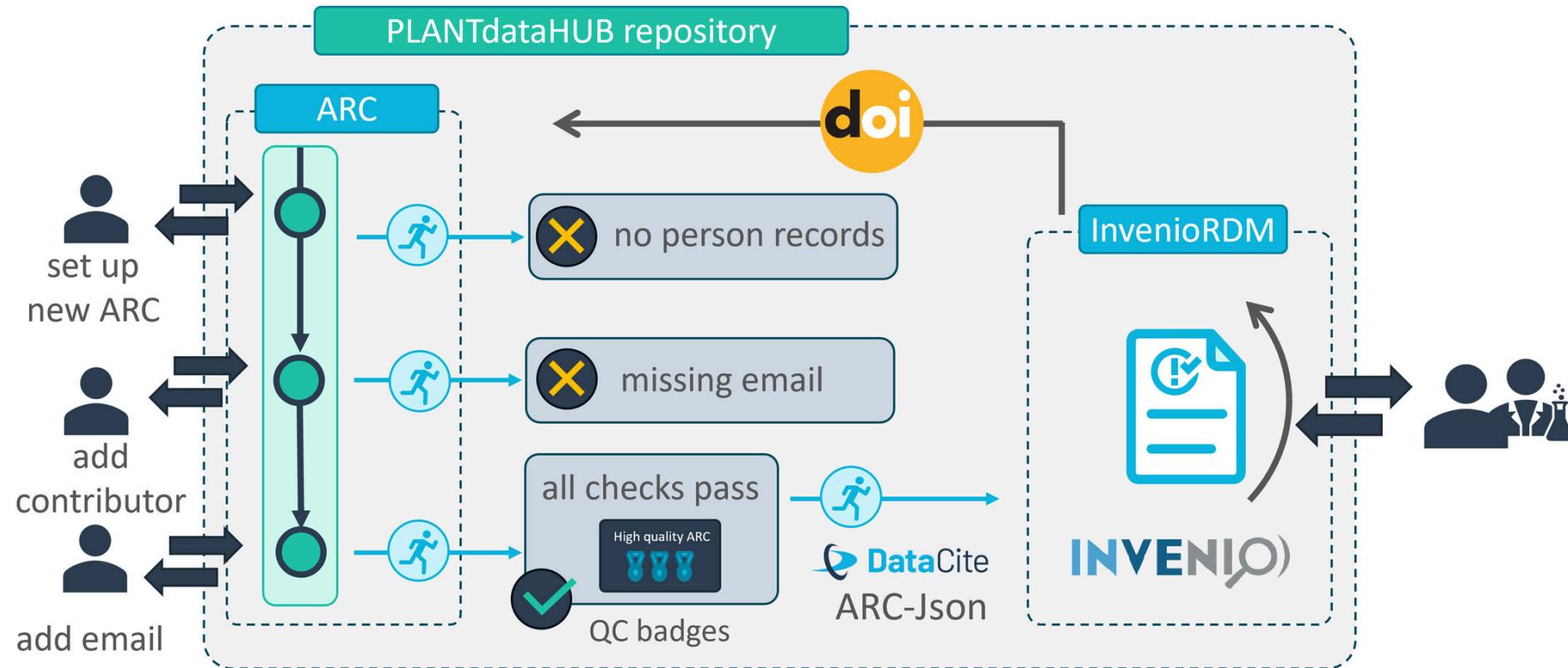
Preserve



adapted from Weil, H.L., Schneider, K., et al. (2023), PLANTdataHUB: a collaborative platform for continuous FAIR data sharing in plant research. Plant J. <https://doi.org/10.1111/tpj.16474>



Preserve and publish



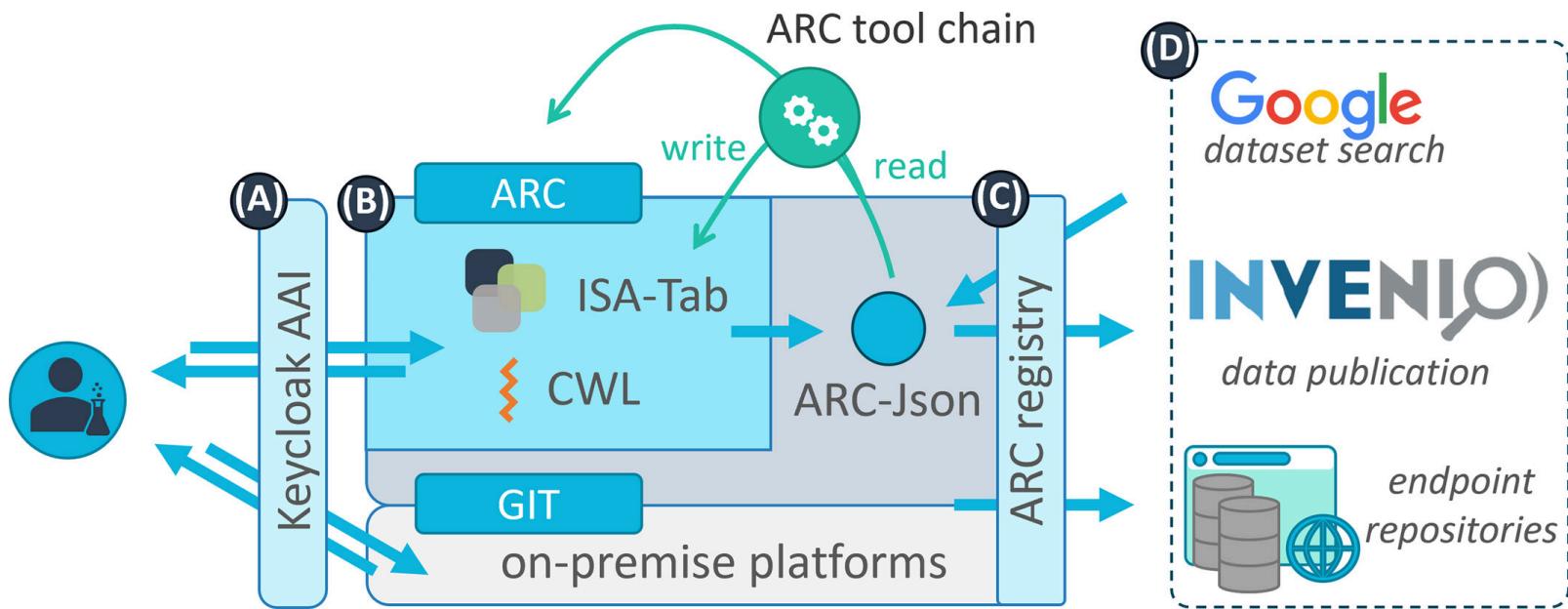


Share and collaborate

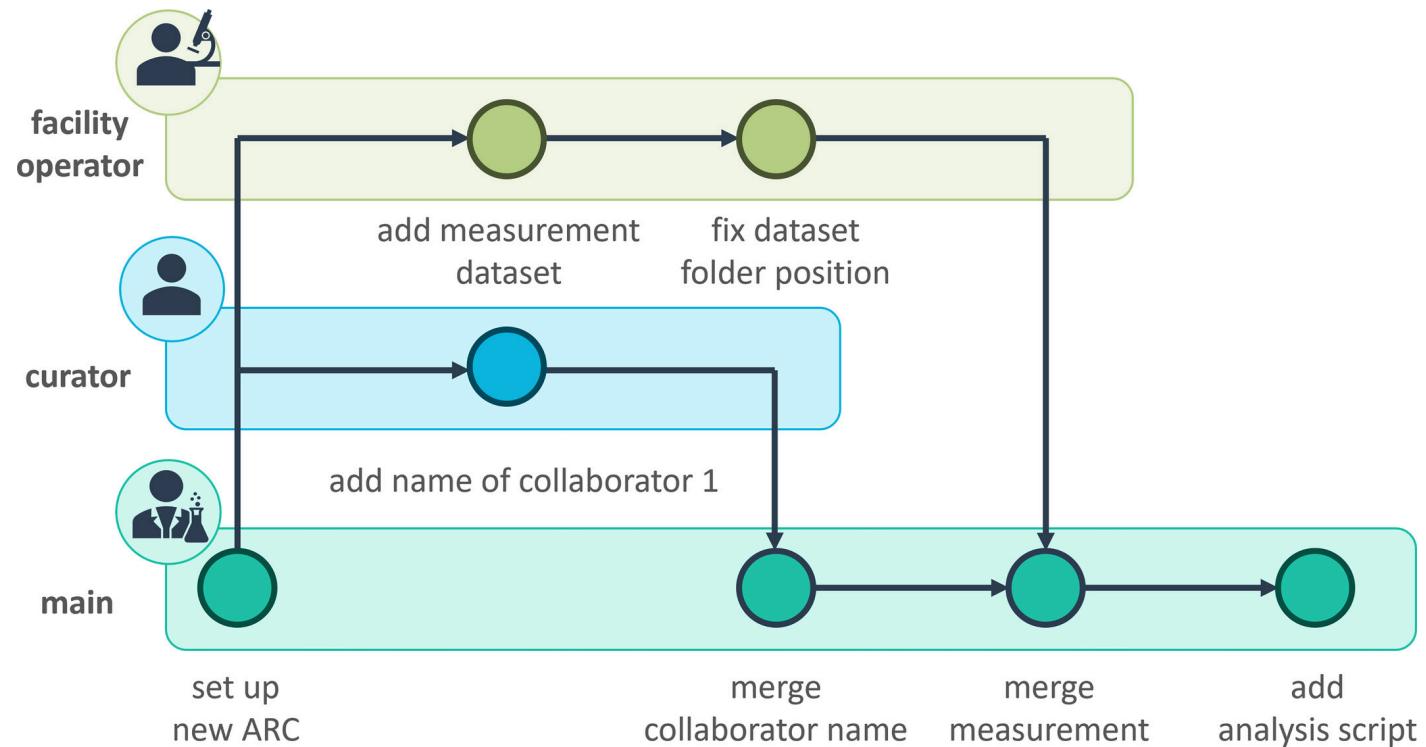




Reuse

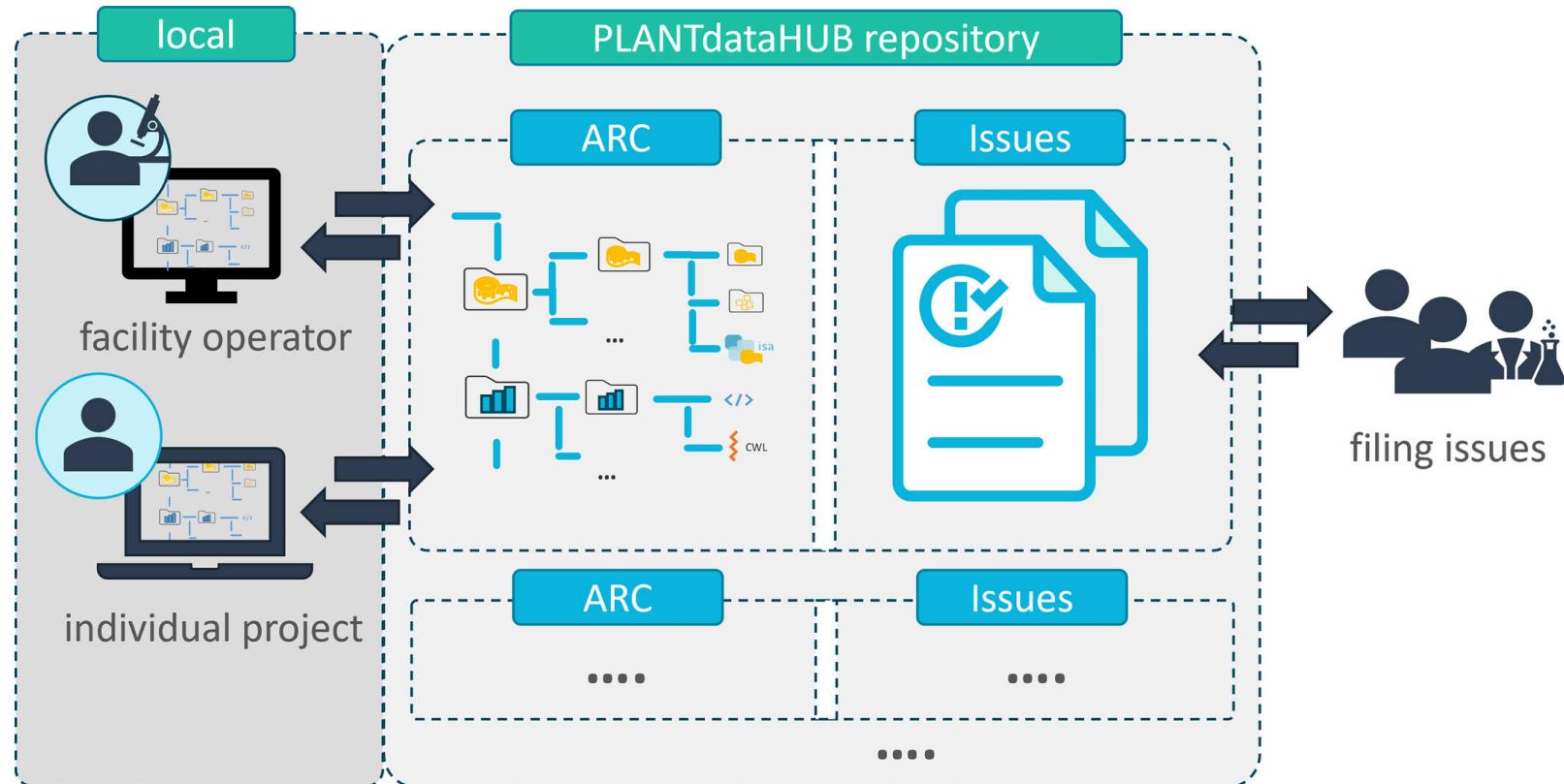


Mutable data life cycle





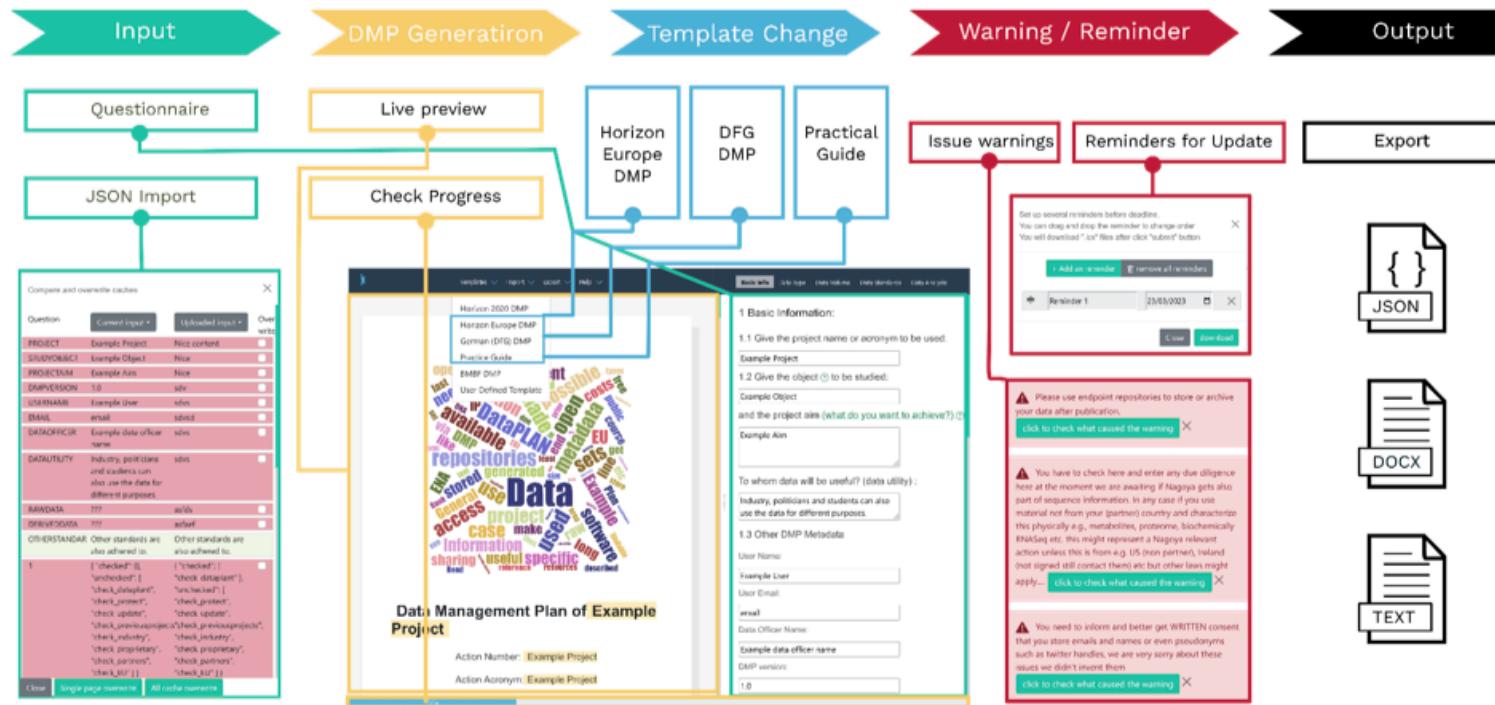
Plan – ARC scale





Plan – proposal scale

<https://dmpg.nfdi4plants.org>



Zhou et al. (2023), DataPLAN: a web-based data management plan generator for the plant sciences, bioRxiv 2023.07.07.548147; doi: <https://doi.org/10.1101/2023.07.07.548147>

The ARC ecosystem

Metadata Registry

Search ARCs by metadata

ARChigator

Publish & Archive

DataHUB

Share & Collaborate
Validate
(Hub to additional services)



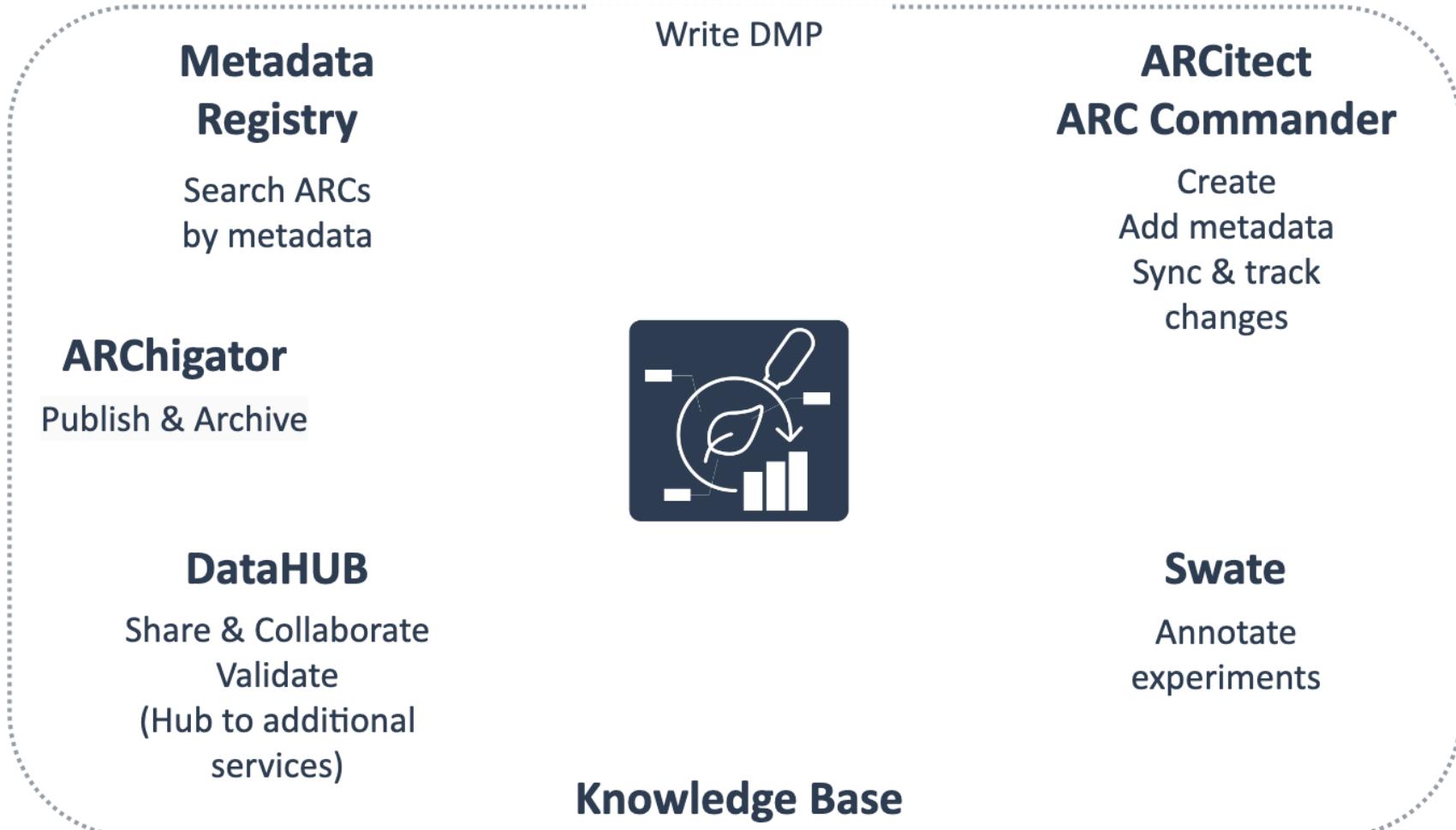
ARCitect ARC Commander

Create
Add metadata
Sync & track changes

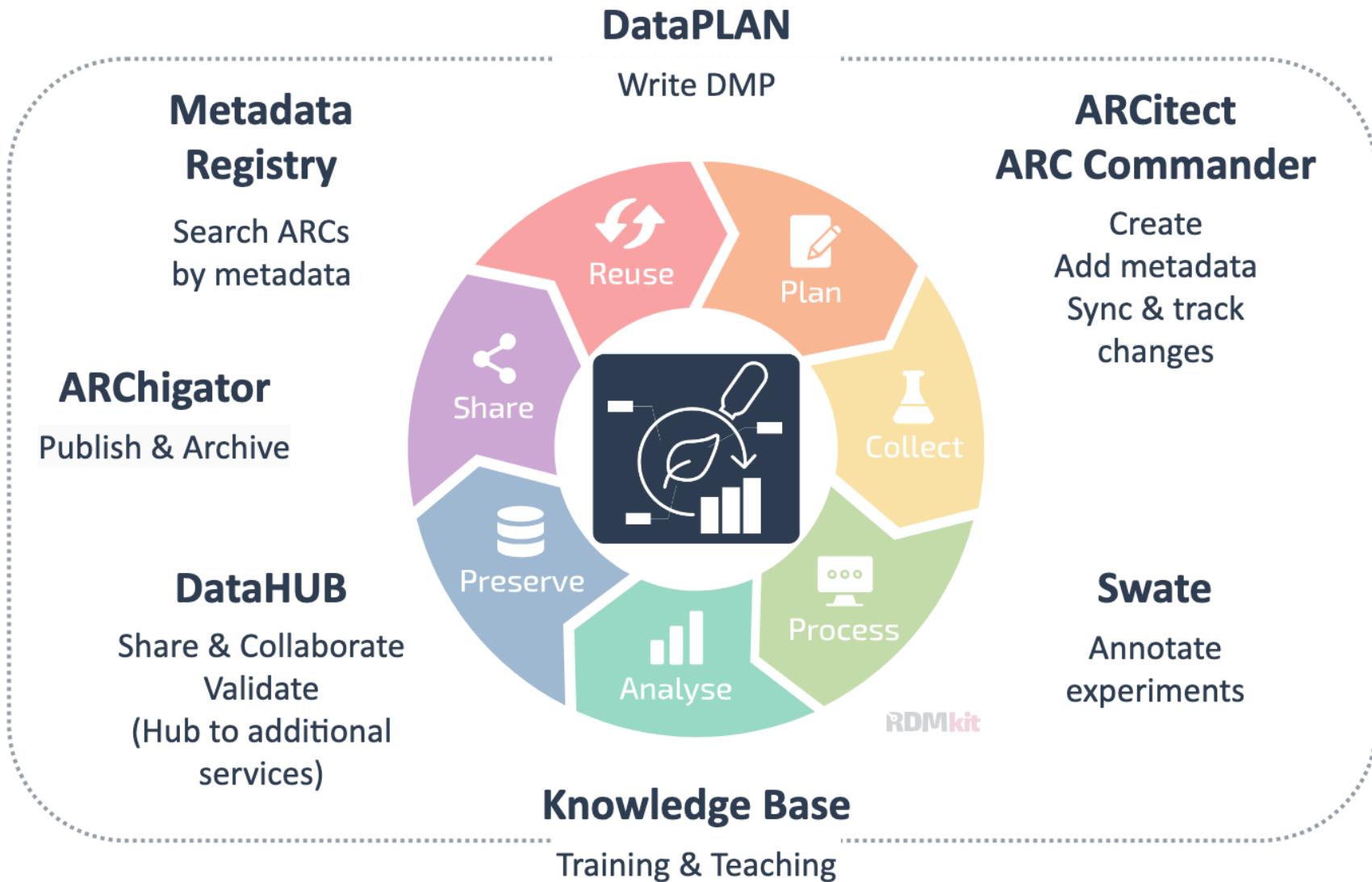
Swate

Annotate experiments

The ARC ecosystem



The ARC ecosystem



Contributors

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