SciWIn



Boosting Scientific Reusability:

A Concept for a FAIR Scientific Workflow Infrastructure

<u>Jens Krumsieck</u>¹, Antonia Leidel², Patrick König², Harald von Waldow¹, Florian Hoedt¹

¹Johann Heinrich von Thünen-Institut – ² Leibniz-Institut für Pflanzengenetik und Kulturpflanzenforschung (IPK)







In cooperation with





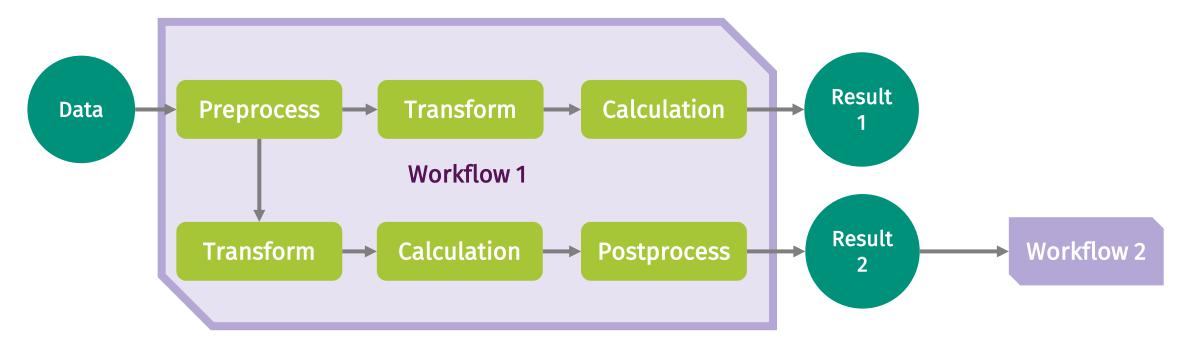
Introduction - Measure 4.4

- → Scientific Workflow Infrastructure (SciWIn)
- Support scientists in creating and recording computational workflows with full provenance
- Provides infrastructure for workflow execution
- Enables collaboration between researchers
- FAIR publication of research objects



Workflow

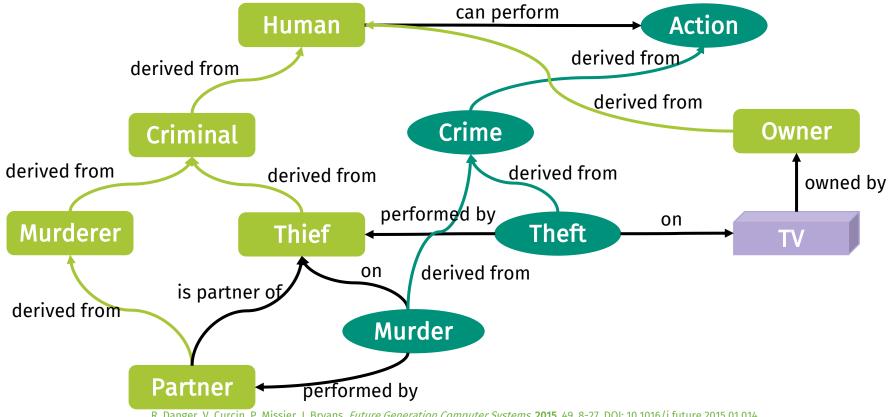
"Computational workflows describe the complex **multi-step methods** that are used for data collection, data preparation, analytics, predictive modelling, and simulation that **lead to new data products**." (Goble et al.)





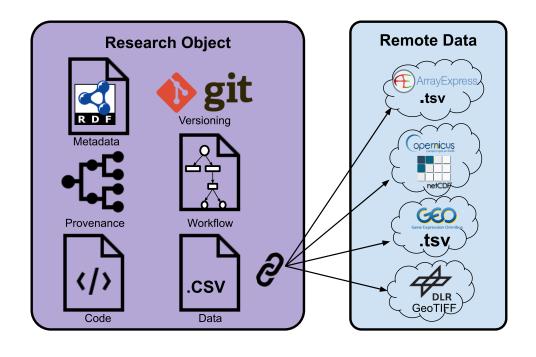
Provenance

"Data provenance refers to the knowledge about data sources and operations carried out to obtain some piece of data." (DANGER et al.)





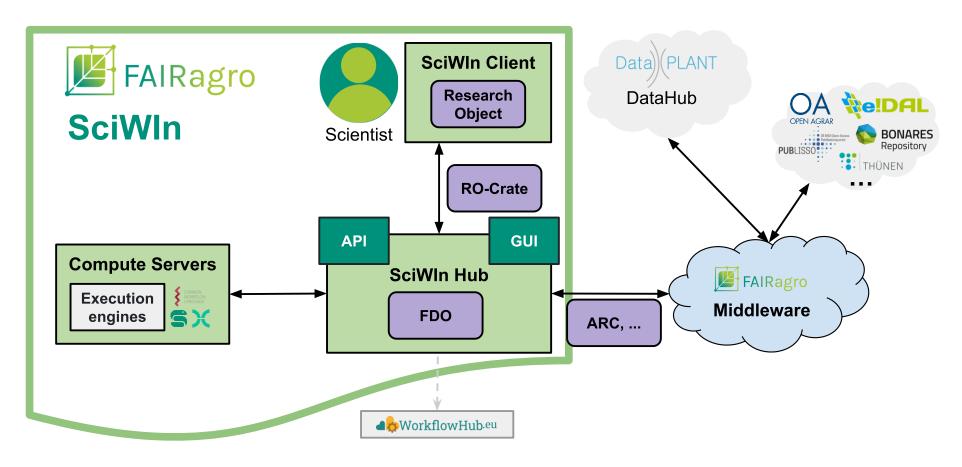
Research Objects



- Multiple Profiles:
- Research Objects <-> RO-Crate
 <-> ARC <-> FAIR Digital Object
- RO-Crate -> packed RO
- ARC -> special structure (ISA)
- FAIR DO -> has PID



Early Concept





Outlook / Roadmap

Concept Phase		Evaluation Phase				Development Phase			
Q2 2024	Q4 2024	Q1 2025	Q2 2025	Q3 2025	Q4 2025	Q2 2026	Q4 2026	Q2 2027	Q4 2027
Kickoff Meeting	Concept of SciWin	Evaluation of Compute Instances	Evaluation of Storage Instances	Evaluation of Workflow hub and models	Publish SciWIn Development Roadmap	SciWIn components are ready to use	On-premise and cloud pilots of SciWIn	Workshop on reproducible science with SciWIn	SciWIn evaluation report
	<u>-</u>	Compute	Storage	Workflow hub	SciWIn Development	components are ready to	and cloud pilots of	reproducible science with	

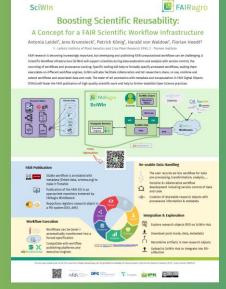


Thank you for your attention!

More Information

Measure 4.4

- Harald von Waldow (Lead)
- Patrick König (Co-Lead)
- Antonia Leidel
- Jens Krumsieck



Poster



Background Text