HIFIS HELMHOLTZ FEDERATED IT SERVICES

HELMHOLTZ
RESEARCH FOR GRAND CHALLENGES

The Research Software Directory in Helmholtz

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Research Software Directory Launch Event

Online, 22. November 2022

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2) Helmholtz-Zentrum Dresden-Rossendorf (HZDR)

HELMHOLTZ RESEARCH FOR GRAND CHALLENGES

18

Research Centres

43.000

Employees

Sustainability

Viewpoints

Open Science

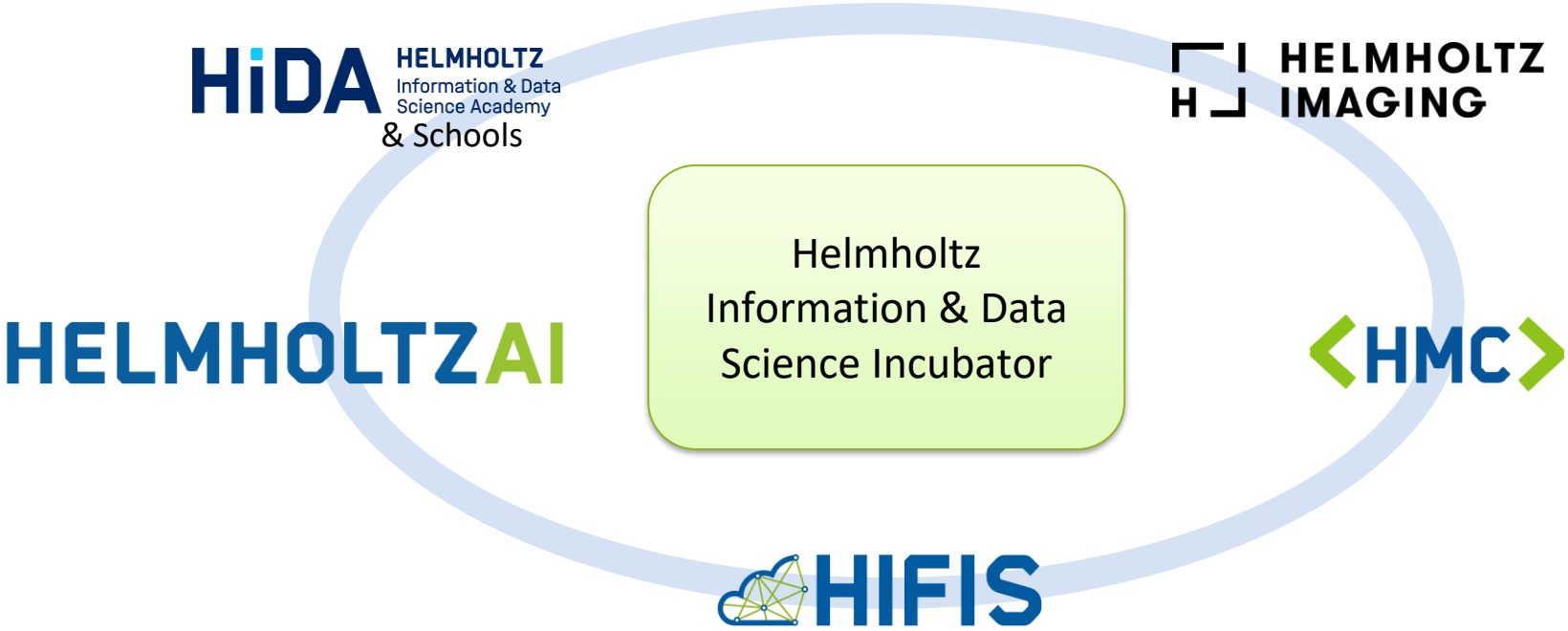
Data privacy in research

Good Scientific Practice

Funded initiatives

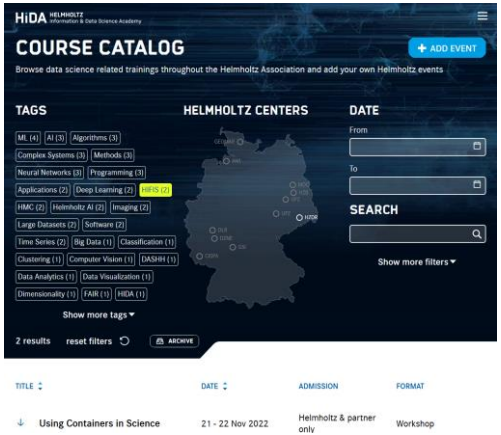
The Helmholtz Incubator

- Helmholtz strives towards a **unified environment** for research and information technology
- Incubator consists of five platforms to accelerate for the digital transformation in Helmholtz



HIFIS | HELMHOLTZ FEDERATED IT SERVICES

- HIFIS Mission
  - Provide a seamless, high performance IT infrastructure
- HIFIS competence clusters
  - Cloud Services Cluster
  - Backbone Services Cluster
  - Software Services Cluster



https://www.helmholtz-hida.de/course-catalog

https://helmholtz.cloud

HELMHOLTZ AAI

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HIFIS Software Services Cluster

Education & Training	Community	Consulting	Technology
• **Courses, material** and **workshops** for getting you started or boosting your software engineering practice.	• Build and foster communities to support the **cultural change** when dealing with research software. • Maintain a SW Directory	• **Contact points** for researchers for questions and problems in the context of RSE.	• Provide a sustainable, well integrated and easy to use **technology infrastructure** for research software development.

An example to start with

"We did this and that using the software Someproduct (Author et al. 2011, 2019)."

A peer-reviewed publication about *Someproduct* und it's algorithm

A conference talk about some more features of *Someproduct*

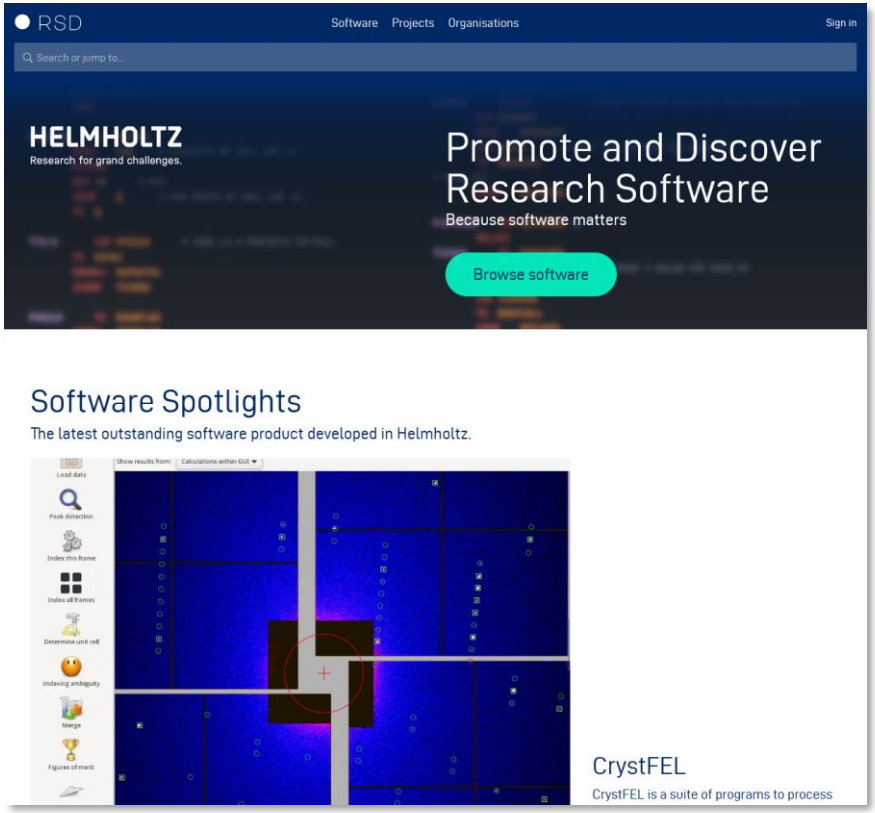
Research Software in the scientific community

Houston, we have a problem

- Proper citation
- Licencing issues
- Incomplete or non-uniform metadata at DOI providers
- Poor discoverability outside of scientific literature
- Impact measurement
- Acknowledgement in academia

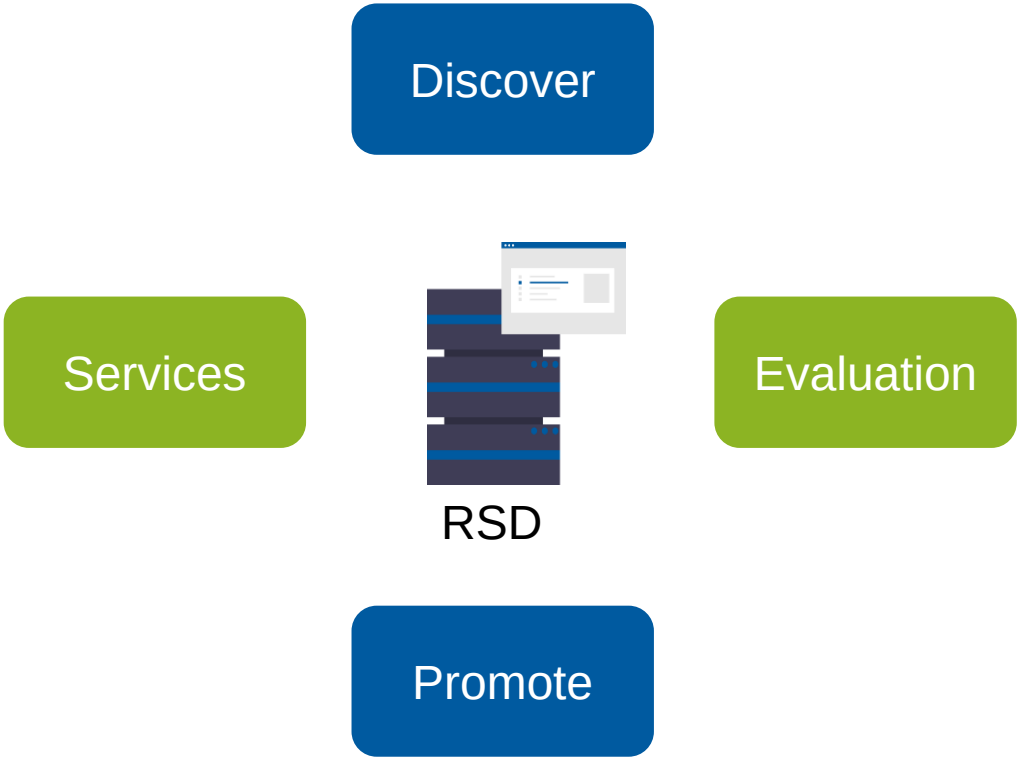
Addressing the issues

Research Software Directory



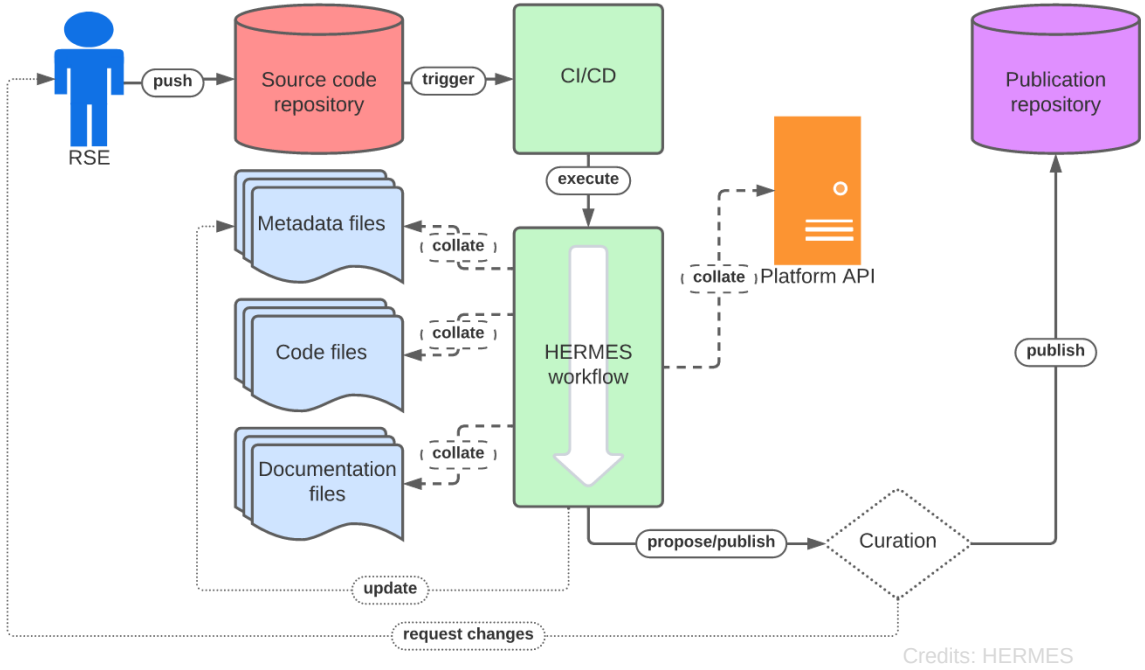
- Upstream development supported by HIFIS Software
- Helmholtz fork for corporate adjustments
- Currently in pilot stage https://helmholtz.software

Vision



The RSD as a service tool for RSEs

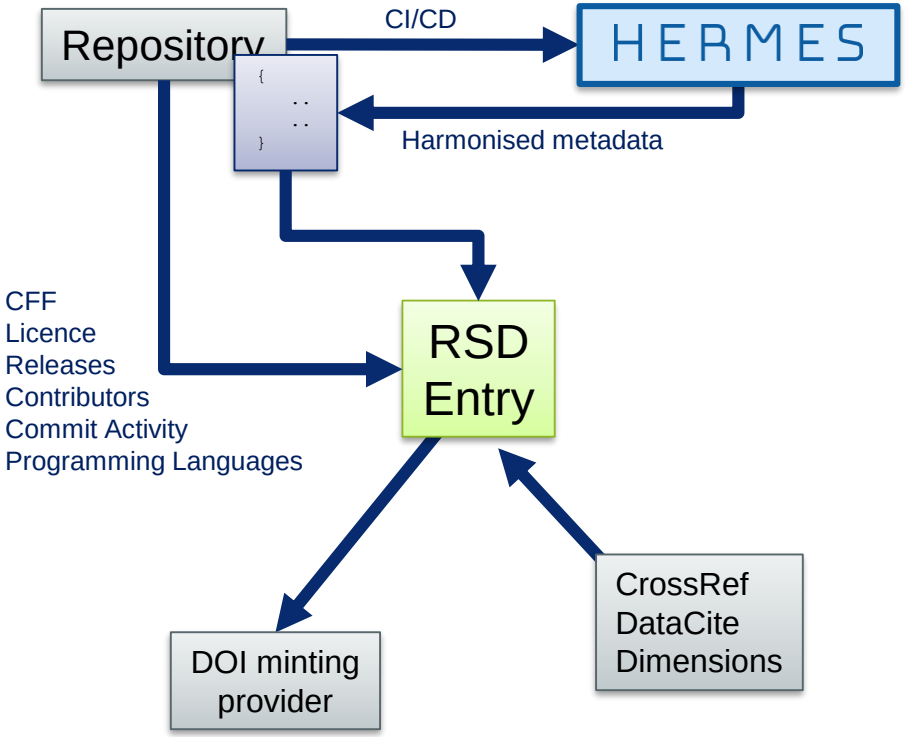
Automatic metadata aggregation: HERMES



For more info, please refer to: https://project.software-metadata.pub

The RSD as a service tool for RSEs

HERMES integration into the RSD



Goal

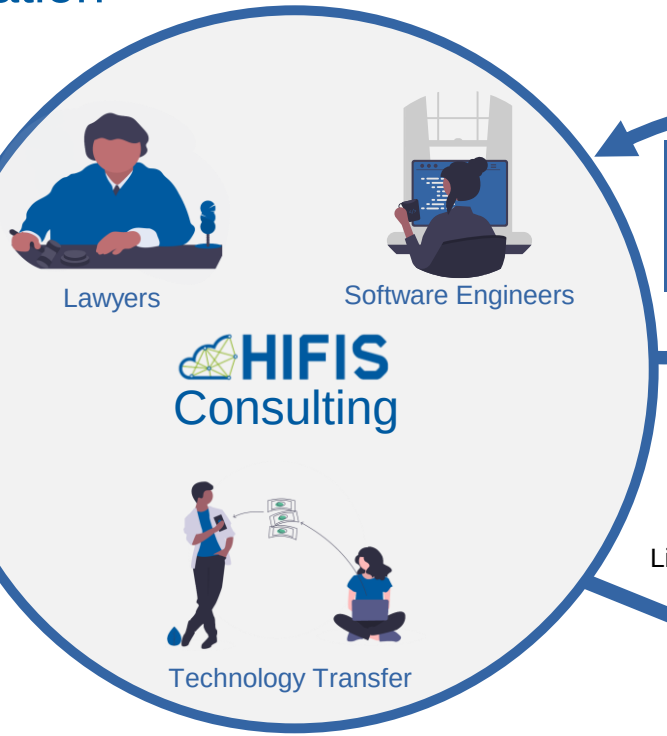
- Incorporate HERMES Pipeline
- Prepare and harmonize metadata
- Submission to DOI Minting Providers

After publication

- Foundation for impact analysis
- Auto scrape citations
- Software Heritage

The RSD as a service tool for RSEs

Licence consultation



RSE

Communicate
Improvements
Corrections
Additional Info

Access
Entry

Licence

DOI
Minting
Service

The RSD as a service tool for RSEs

Increasing FAIRness with Software Quality Indicators

- Possible evaluation criteria
  - FAIR aspects
    - Code quality
    - Test coverage
    - REUSE specification compatibility
    - Licence type
    - Documentation
  - Citations / Mentions
  - Project / community activity (e.g. feature requests, commits, issues, PRs)
- WIP: Software Quality Assurance Framework

Increasing the visibility of Research Software

Helmholtz Software Spotlights and Awards

- Outstanding software products are presented as Software Spotlights
- Currently available on https://hifis.net/spotlights
  - 30 online
  - About 70 on the waiting list
- Helmholtz RSD will become home of the Spotlights
- Yearly awards to development teams for outstanding software in several categories (currently in preparation for 2023)

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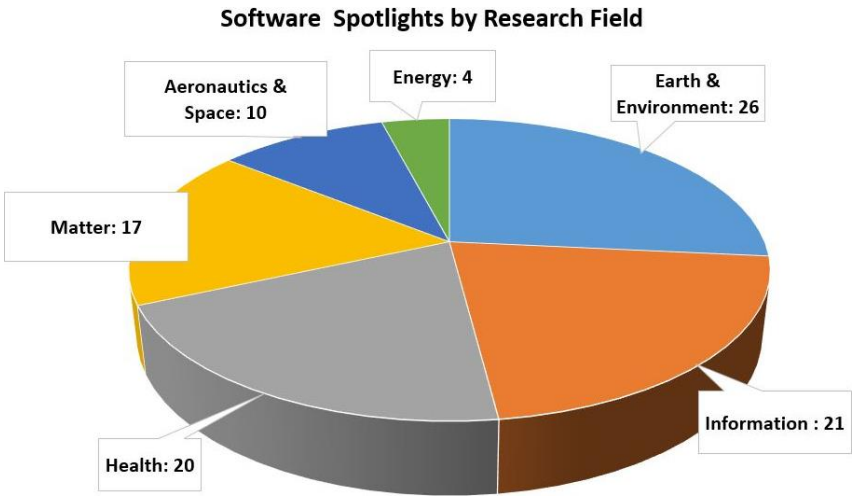

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Vision summarised

Discover

Quality assessment

Monitor

Services

Consultation

RSD

Evaluation

Impact assessment

Metadata preparation

Software awards

Promote