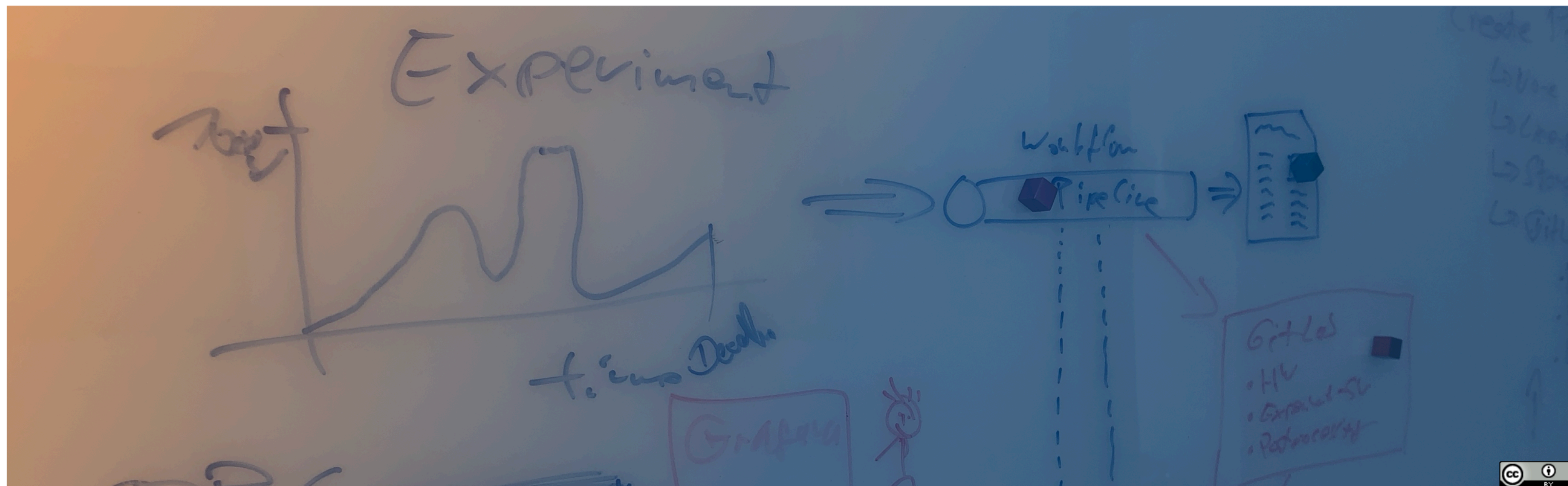




Overarching Data Management Ecosystem HELIPORT

From Small Experiments to Large-Scale Research Facilities

MT-DMA ST1 Synergy Workshop 2023

Oliver Knodel, Thomas Gruber, Martin Voigt, Jeffrey Kelling, Mani Lokamani, Stefan E. Müller, David Pape and Guido Juckeland // contact: o.knodel@hzdr.de



HELIPORT HELMholtz Scientific Project WOrkflow PlaTform

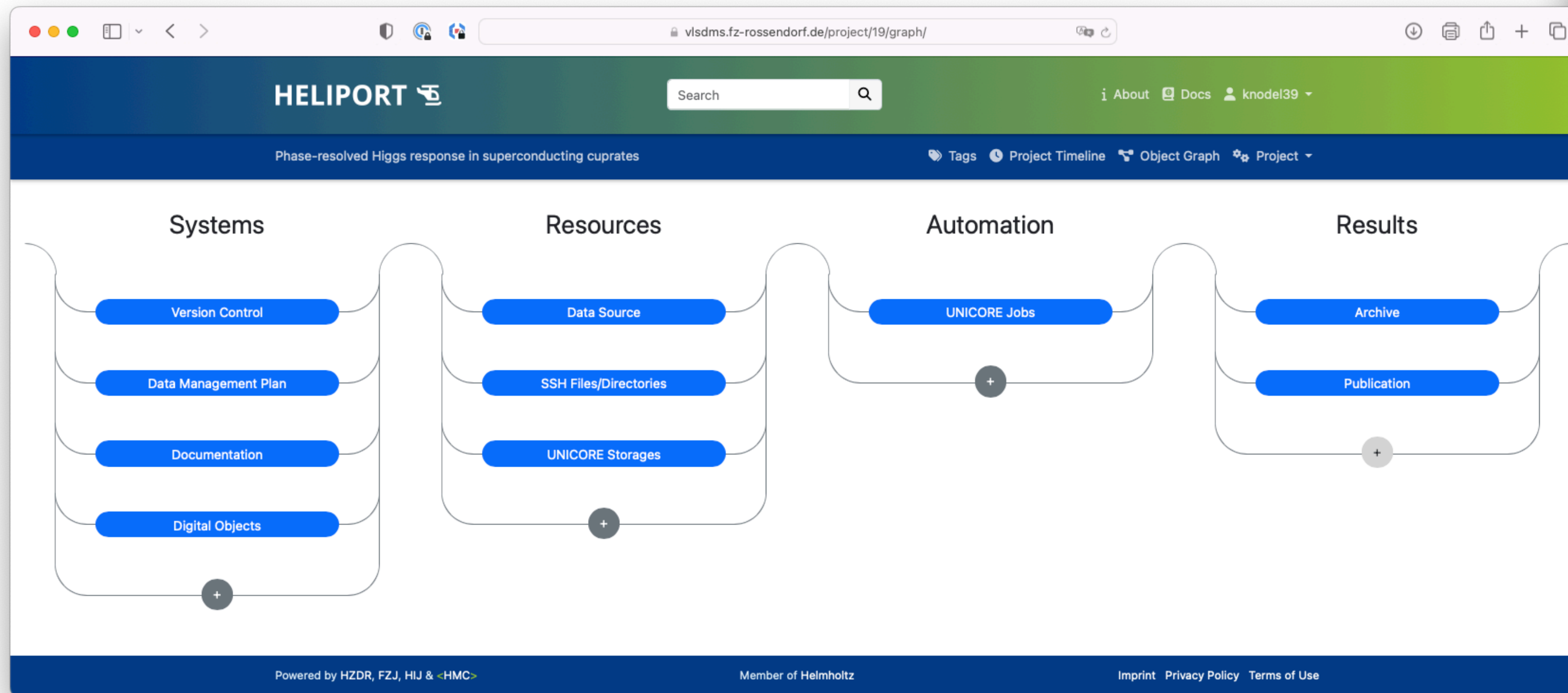


“ The HELIPORT project aims at developing a platform which accommodates the **complete life cycle** of a scientific project and links all corresponding programs, systems and workflows to create a more **FAIR** and comprehensible project description.

Project Members:



Funded by:

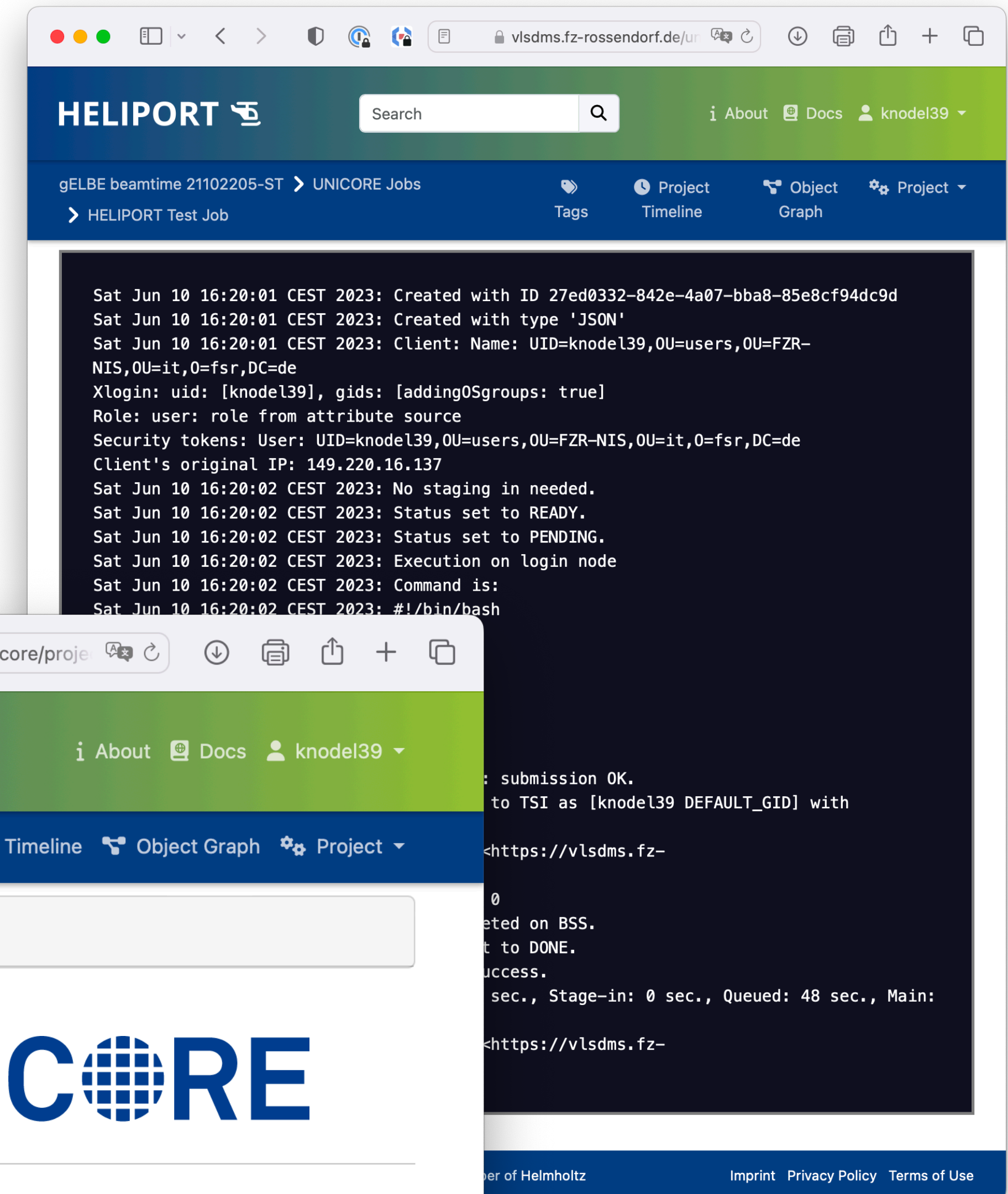
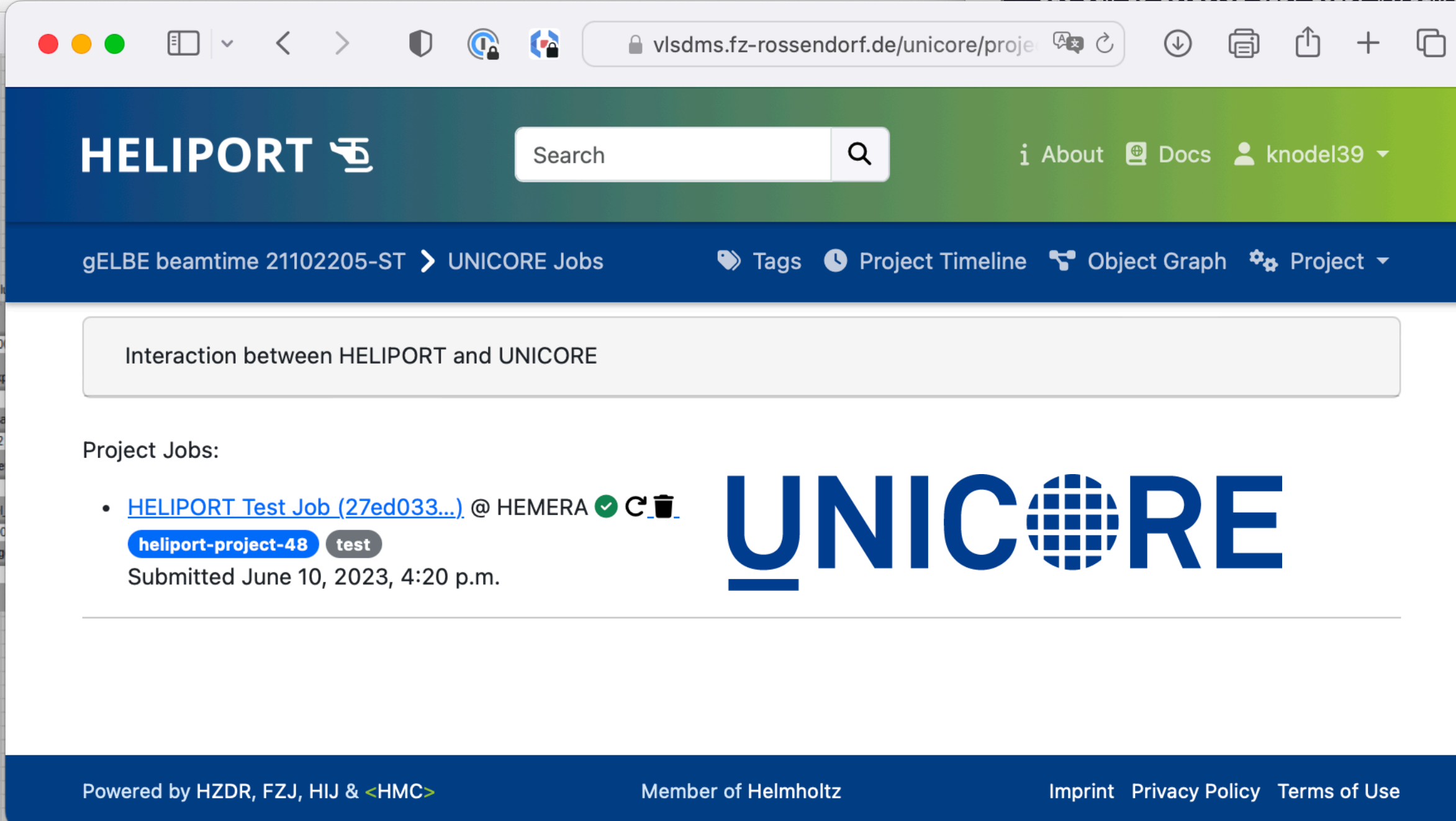
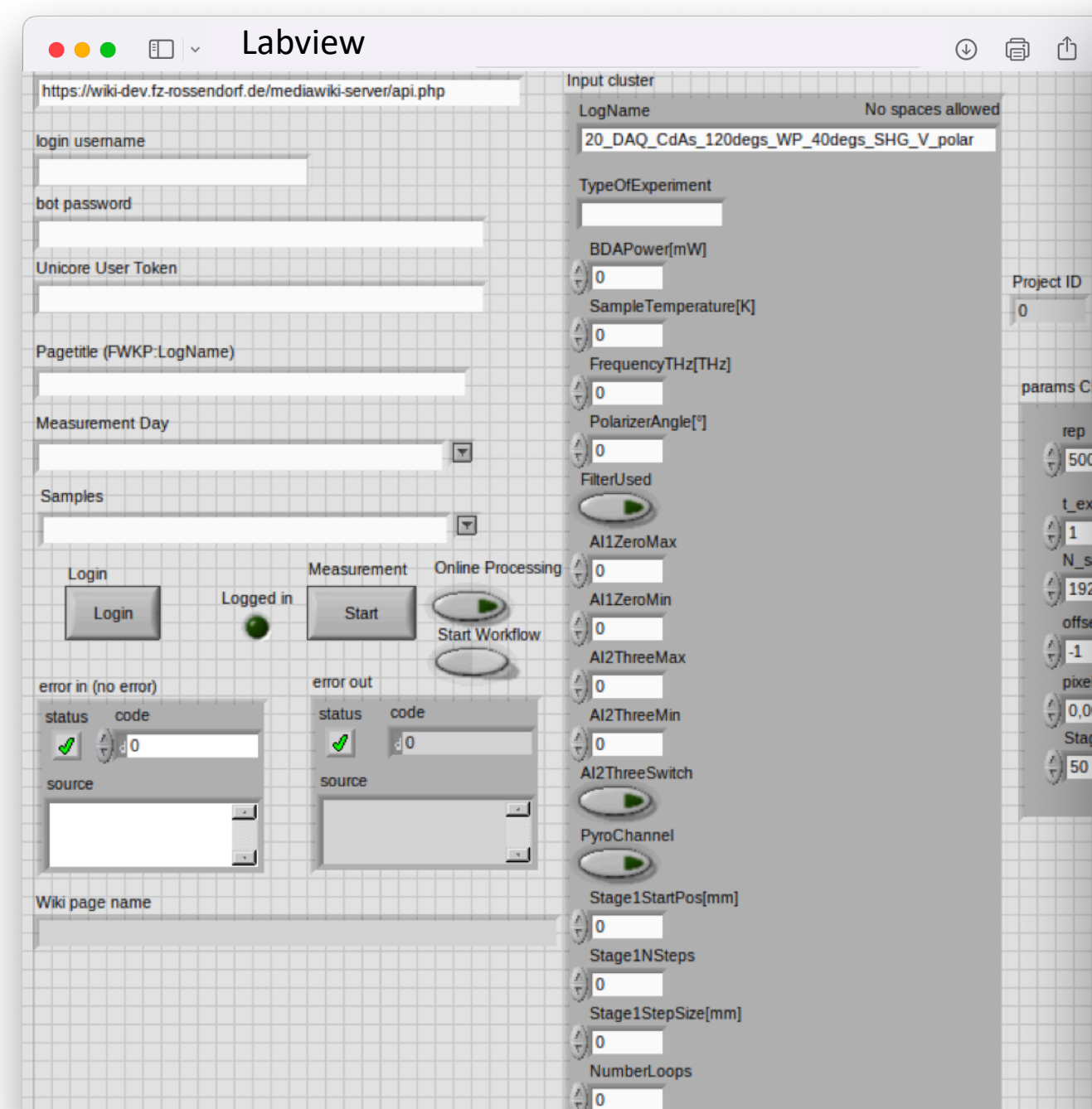


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    "rdfs": "http://www.w3.org/2000/01/rdf-schema#",
    "heliport": "https://heliport/schema/",
    "time": "http://www.w3.org/2006/time#",
    "dc": "http://purl.org/dc/terms/"
  },
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  "heliport:uuid": "09779261-200c-48c4-be9c-f298369d6a1c",
  "datacite:handle": "https://hdl.handle.net/None",
  "heliport:project_name": "PaN Research Project",
  "time:hasBeginning": "2021-04-01 09:14:34.296524+00:00",
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  "heliport:owner": {
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}
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Metadata crosswalk to
schema.org
ResearchProject

Detector Control and Workflows

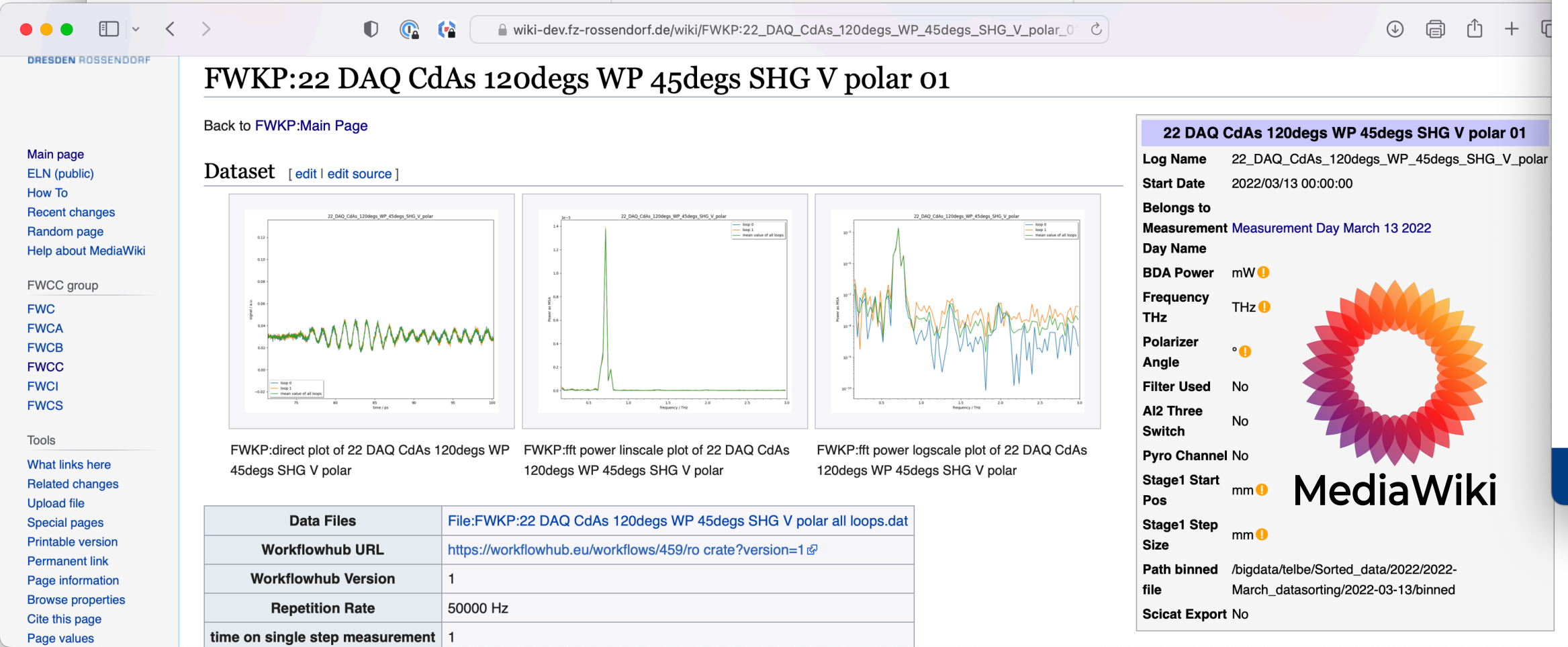
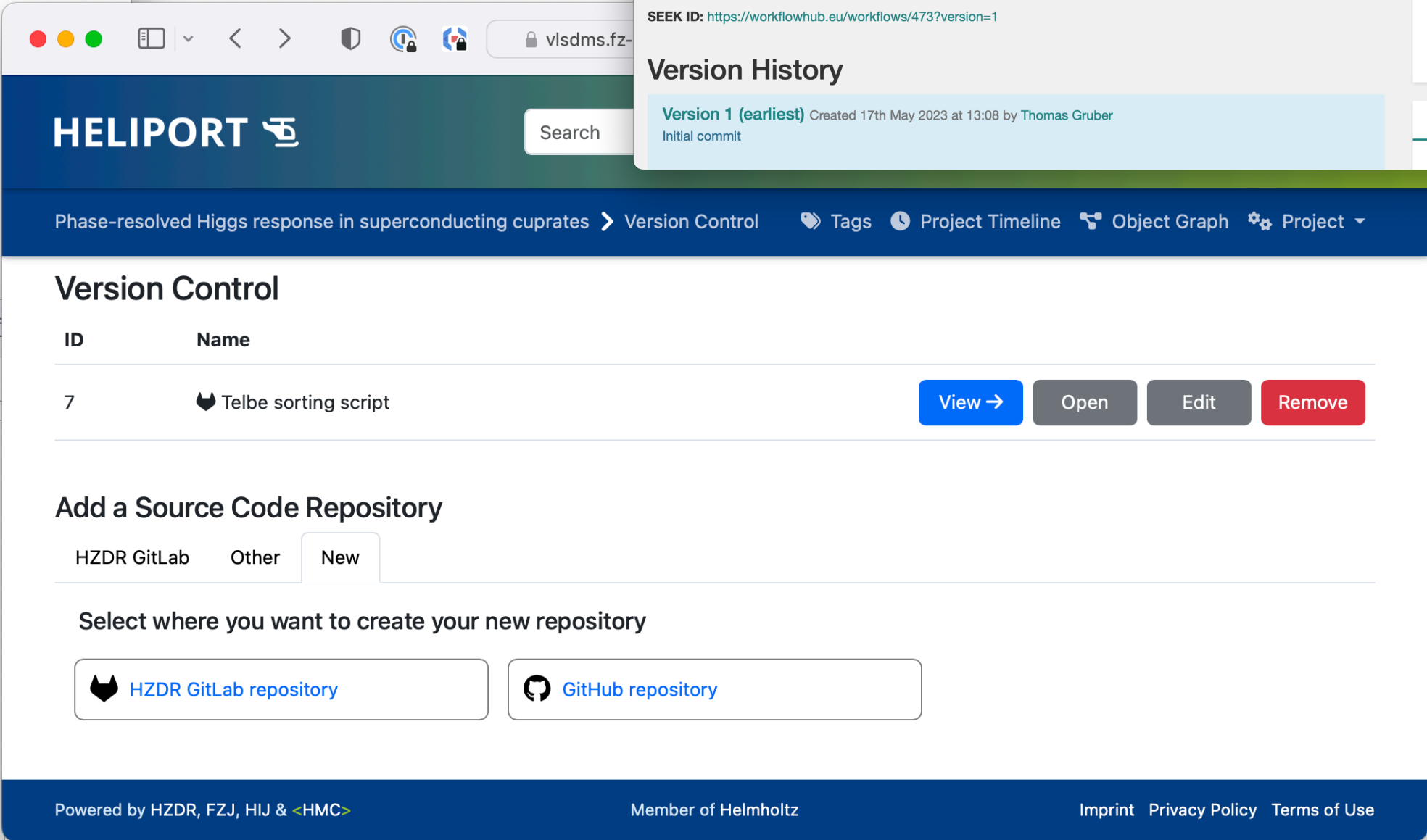
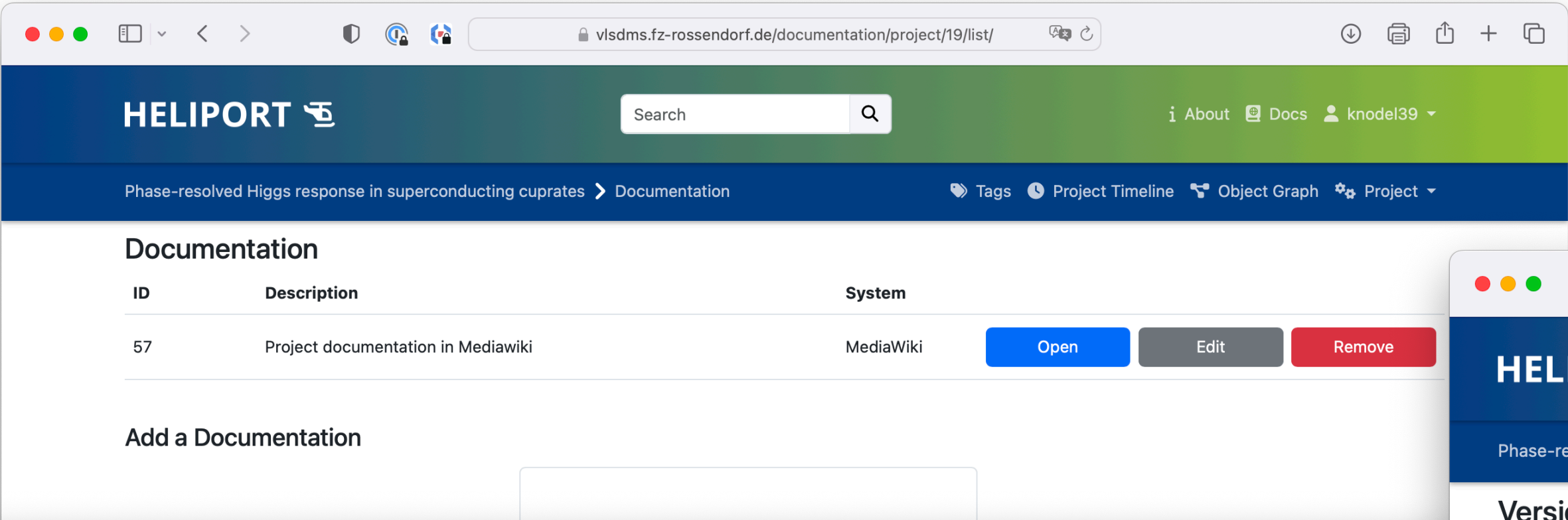
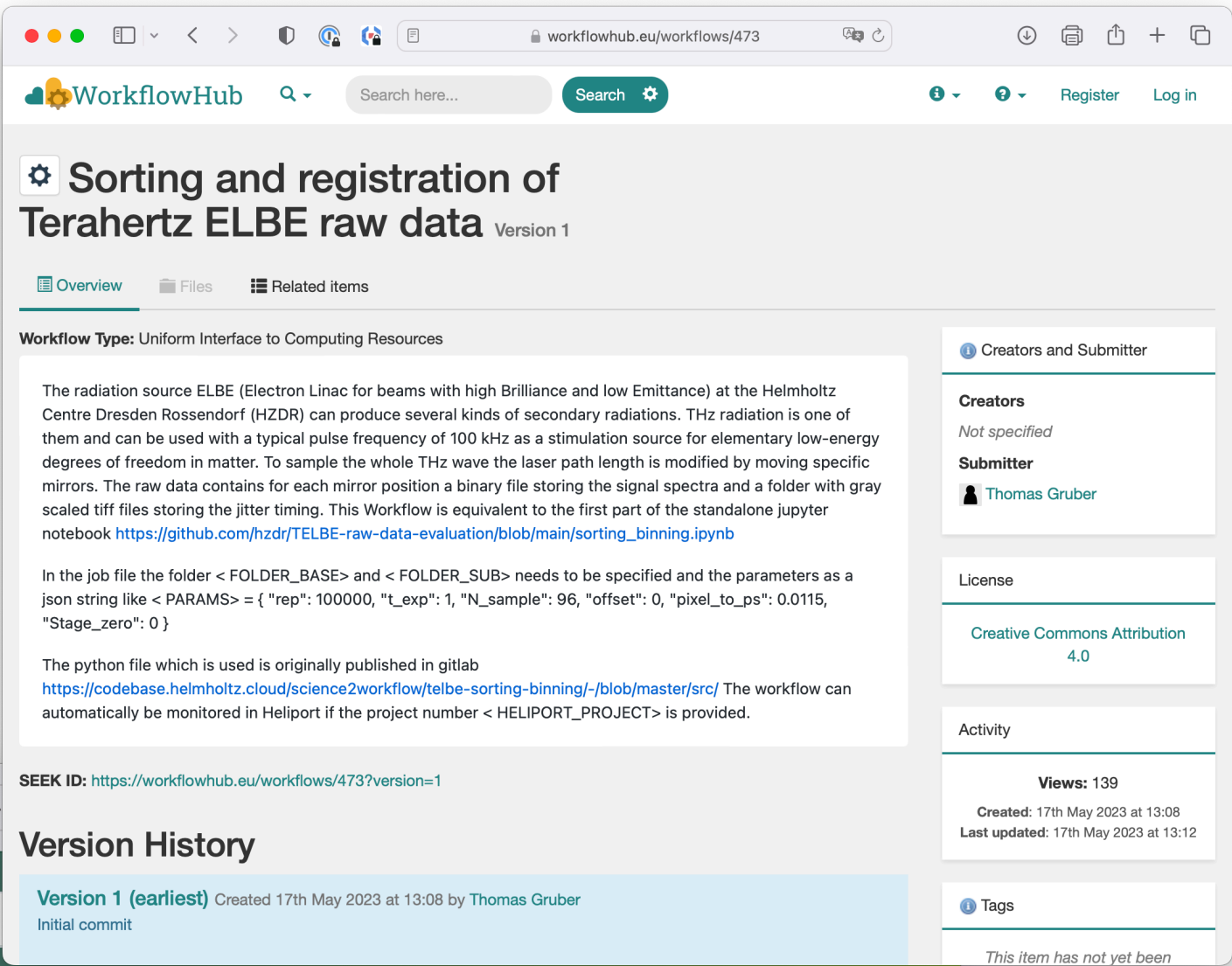
- The HELIPOINT REST-API enables the transfer of metadata between HELIPOINT and external systems (e.g. the detector control in LabView).
- Via the API, LabView can control the integrated workflow management (e.g. UNICORE), which provides metadata for provenance information.
- The output of workflows (on our HPC cluster) can be accessed by any project member directly in the HELIPOINT web frontend.



Resources: Documentation and Repositories

The documentation section is typically used to refer to all internal and external systems or services used:

- E-Labbook (Mediawiki),
- GitLab, Github, Workflowhub, ...



Resources

Website: heliport.hzdr.de

Repository: [codebase.helmholtz.cloud/heliport](https://codebase.helmholtz.cloud/heliport/heliport)

HELIPORT

About

Contact Privacy Policy Terms of Use Policies The HELIPORT Project The FAIR Principles (in HELIPORT)

HELIPORT

HELmholtz Science Project Workflow

The guidance system HELIPORT aims to make the entire life cycle of a project at the Helmholtz-Zentrum Dresden-Rossendorf interoperable and reusable according to the FAIR principles, mentioned below. In particular, it deals with the areas from the generation of the data to the publication of primary research data and the actual research results. For this purpose, a concept was developed which shows the various components and their connections. Descriptions of the individual components can be found in our HZDR Data Management Plan.

Intuitive and structured user interface

listProjects

Showing the most general HELIPORT project properties. Request more detailed information by appending urls/ to the url Go to a specific project by appending its id/ to the url For more information on how to authenticate look in HELIPORT (user > settings)

QUERY PARAMETERS

limit

integer

Number of results to return per page.

offset

integer

The initial index from which to return the results.

search

string

A search term.

group

string

group

owner

string

owner

Response samples

200

Content type application/json

Copy Expand all Collapse all

```
{  "count": 123,  "next": "http://api.example.org/accounts/?page=2",  "previous": "http://api.example.org/accounts/?page=1",  "results": [    {      }    ]  }
```

heliport

HELIPORT

Project ID: 1287

1,941 Commits 5 Branches 2 Tags 3.4 GiB Project Storage

version 0.6.0 pipeline passed coverage 61.00% lifecycle experimental python ^3.8 code style black license GPL-3.0-or-later DOI 10.14278/rodare.946

Bump django from 4.2.4 to 4.2.5 HIFIS Bot authored 40 minutes ago

master heliport / + History Find file Edit Clone

README GNU GPLv3 CHANGELOG CI/CD configuration Add Kubernetes cluster Add Wiki

3456287.3465477.pdf

Page 1 of 6

Workshop Presentation

DOI 10.1145/3456287.3465477

HELIPORT: A Portable Platform for FAIR {Workflow | Metadata | Scientific Project Lifecycle} Management and Everything

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ABSTRACT

Modern scientific collaborations and projects (MSCPs) employ various processing stages, starting with the proposal submission, continuing with data acquisition and concluding with final publications. The realization of such MSCPs poses a huge challenge due to (1) the complexity and diversity of the tools, (2) the heterogeneity of various involved computing and experimental platforms, (3) flexibility of analysis targets towards data acquisition and (4) data throughput. Another challenge for MSCPs is to provide additional metadata according to the FAIR principles for all processing stages for internal and external use. Consequently, the demand for a system, that assists the scientist in all project stages and archives all processes on the basis of metadata standards like DataCite to make really everything transparent, understandable and citable, has risen

1 INTRODUCTION

An essential objective of modern cutting-edge research should be to enable accessibility of the acquired research data and its re-usability across different research fields and their respective communities. The current generation of scientists is therefore faced with the challenging task of transferring experimental investigations into a data oriented research flow with strong focus on documenting every step closely following the FAIR [41] principles. The FAIR principles are well-established as standards in the field of research data management. The three pillars F (Findable), A (Accessible) and

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API Doc: heliport.hzdr.de/redoc/