

Helmholtz Federated IT Services

Empowering scientists with digital services

Uwe Jandt (HIFIS Coordinator)
for the HIFIS-Team

Our Vision & Offers

Empowering scientists with digital services

Vision / Mission



Our Vision & Offers

Empowering scientists with digital services

Vision / Mission



We provide

- **Helmholtz Cloud** and **Helmholtz ID** -
 - Single login, cross-organisational access and groups
 - Numerous Cloud Services for Science and beyond

Our Vision & Offers

Empowering scientists with digital services

Vision / Mission



We provide

- **Helmholtz Cloud** and **Helmholtz ID** -
 - Single login, cross-organisational access and groups
 - Numerous Cloud Services for Science and beyond
- **Support for good Research Software** -
 - Know-how: Training, Consulting, Tutorials, Community Building
 - Codebase: Technical Infrastructure for Software Engineering

Helmholtz Cloud

<https://helmholtz.cloud/services> -->



Helmholtz Cloud

<https://helmholtz.cloud/services> -->



B2SHARE, based on Invenio

B2Share

Research Data (+ corresponding Metadata) Publishing service.

FZJ Storage



Nextcloud

bwSync&Share

File Sync and Share, Groupware-Functionalities: Files, Fotos, Calendar, etc.

KIT Collaboration

OnlyOffice Sync & Share



Overleaf

Collabtex

Collaborative document writing with LaTeX

HZDR Collaboration

Information



OpenStack

OpenStack (HDF Cloud)

The Service allows provisioning of user-controlled VMs with Linux OS

FZJ Infrastructure

Storage Supercompute



Apptainer

Container Runtime on HAICORE

Container runtime environment on KIT HAICORE HPC systems.

KIT Infrastructure



LimeSurvey CE

LimeSurvey

An online survey tool offered by DKFZ to everyone within Helmholtz Association.

DKFZ Collaboration

Survey



Mattermost

A hosted chat service for everyone within Helmholtz based on Mattermost.

HZDR Chat

Collaboration



dCache

dCache InfiniteSpace

Store large-scale scientific data and access it through different protocols.

DESY Infrastructure

Storage



FileSender

FileSender by DKFZ for Helmholtz.Cloud is a secure way to share large files with anyone!

DKFZ Collaboration

Science



Jupyter

GPU compute Service

Jupyter Notebooks on GPU Nodes containing Nvidia A100 GPUs

HZDR Infrastructure

Supercompute



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FZJ Storage



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An online survey tool offered by DKFZ to everyone within Helmholtz Association.

DKFZ Collaboration

Survey

- More than 30 Services, provided by Helmholtz centers for others
- **Collaborative** document editing & sharing, project management, surveys, chat,...
- **Compute** (interactive, supercompute), large-scale **storage** and data orchestration
- **Specialized** community services
- Easy access (e.g., common login)
- Corresponding procedural / legal issues taken care of



HZDR Chat

Collaboration

DESY Infrastructure

Storage

DKFZ Collaboration

Science

HZDR Infrastructure

Supercompute

Helmholtz Software: Supporting good Software Engineering Education, Mentoring & Community Building

<https://hifis.net/courses> -->

HIDA HELMHOLTZ
Information & Data Science Academy

New Horizons Learn & Connect Research Discover HIDA Jobs

COURSE CATALOG

Browse data science related trainings throughout the Helmholtz Association and add your own Helmholtz events

TAGS

- HIDA (27)
- Programming (18)
- Programming Languages (14)
- Software (9)
- Methods (6)
- AI (5)
- Data Visualization (5)
- Open Science (5)
- Reproducibility (5)
- ML (4)
- Processing (4)
- Regression (4)
- Statistics (4)
- Data Analytics (3)
- FAIR (3)
- Helmholtz AI (3)
- Open Research Software (3)
- Big Data (2)
- Deep Learning (2)
- HMC (2)
- Helmholtz Imaging (2)
- Imaging (2)
- MarDATA (2)
- Modelling (2)
- Sustainability (2)
- Testing (2)
- Applications (1)
- Classification (1)
- Clustering (1)
- Correlation (1)
- Data Cleansing (1)
- Decision Trees (1)

HELMHOLTZ CENTERS

GEOMAR, DESY, HGF, HZB, HZDR, KIT, HelmholtzMunich, etc.

DATE

From: [] To: []

SEARCH

[]

TYPE

☐ online

RESEARCH FIELDS

- ☐ Earth & Environment
- ☐ Health
- ☐ Information & Data Science
- ☐ Energy
- ☐ Matter
- ☐ Aeronautics, Space & Transport

13 results reset filters ARCHIVE

... on python, programming, software development,

↓ First Steps with Python	21 - 23 May 2024
↓ Foundations of Research Software Publication	23 - 24 May 2024
↓ Introduction to Git and GitLab	29 - 30 May 2024
↓ Data processing with Pandas & Data plotting with Matplotlib	12 - 14 Jun 2024
↓ Continuous Integration (CI)	19 - 21 Jun 2024
↓ Object-Oriented Programming (OOP)	26 - 28 Jun 2024
↓ Object-Oriented Programming (OOP)	7 - 9 Aug 2024
↓ Data processing with Pandas & Data plotting with Matplotlib	16 - 18 Oct 2024
↓ Introduction to Git and GitLab	24 - 25 Oct 2024

See also:
Workshop Materials

Helmholtz Software: Supporting good Software Engineering Education, Mentoring & Community Building

<https://hifis.net>

TEACH
Explore
Exchange
Excel

HIDA HELMHOLTZ
Information & Data Science Academy

COURSE CATALOG
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Programming Languages (14) HIFIS (12)

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Open Research Software (3) Big Data (2)

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Show more tags ▼

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Excel



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Software 23 - 24 May 2024

Lab 29 - 30 May 2024

Statistics & Data 12 - 14 Jun 2024

21 - 23 Jun 2024

Programming (OOP) 26 - 28 Jun 2024

Programming (OOP) 7 - 9 Aug 2024

Statistics & Data 16 - 18 Oct 2024

Lab 24 - 25 Oct 2024

Summer Academy › Next Level Data Science

<HMC> HELMHOLTZ
Information & Data Science Academy

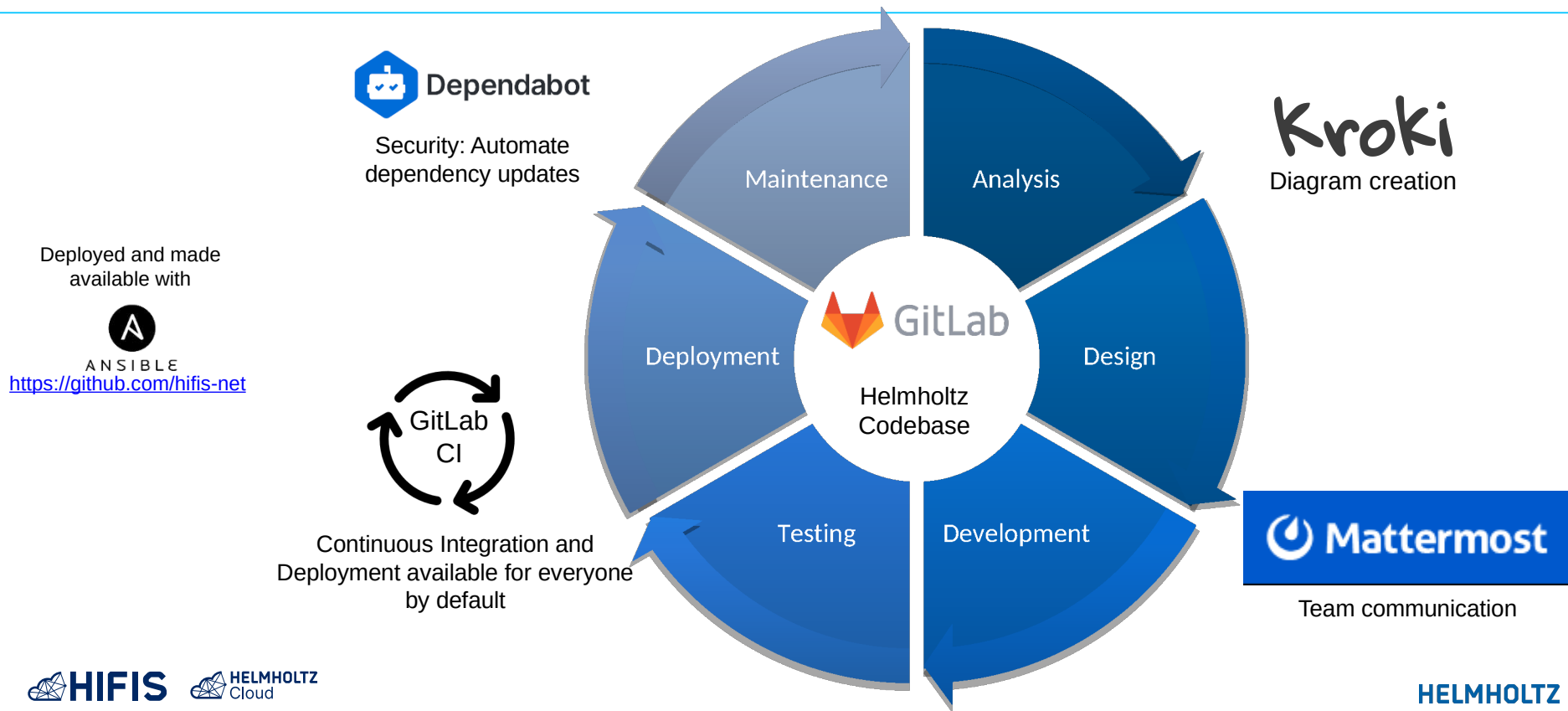
HELMHOLTZAI | ARTIFICIAL INTELLIGENCE
COOPERATION UNIT

HELMHOLTZ
IMAGING

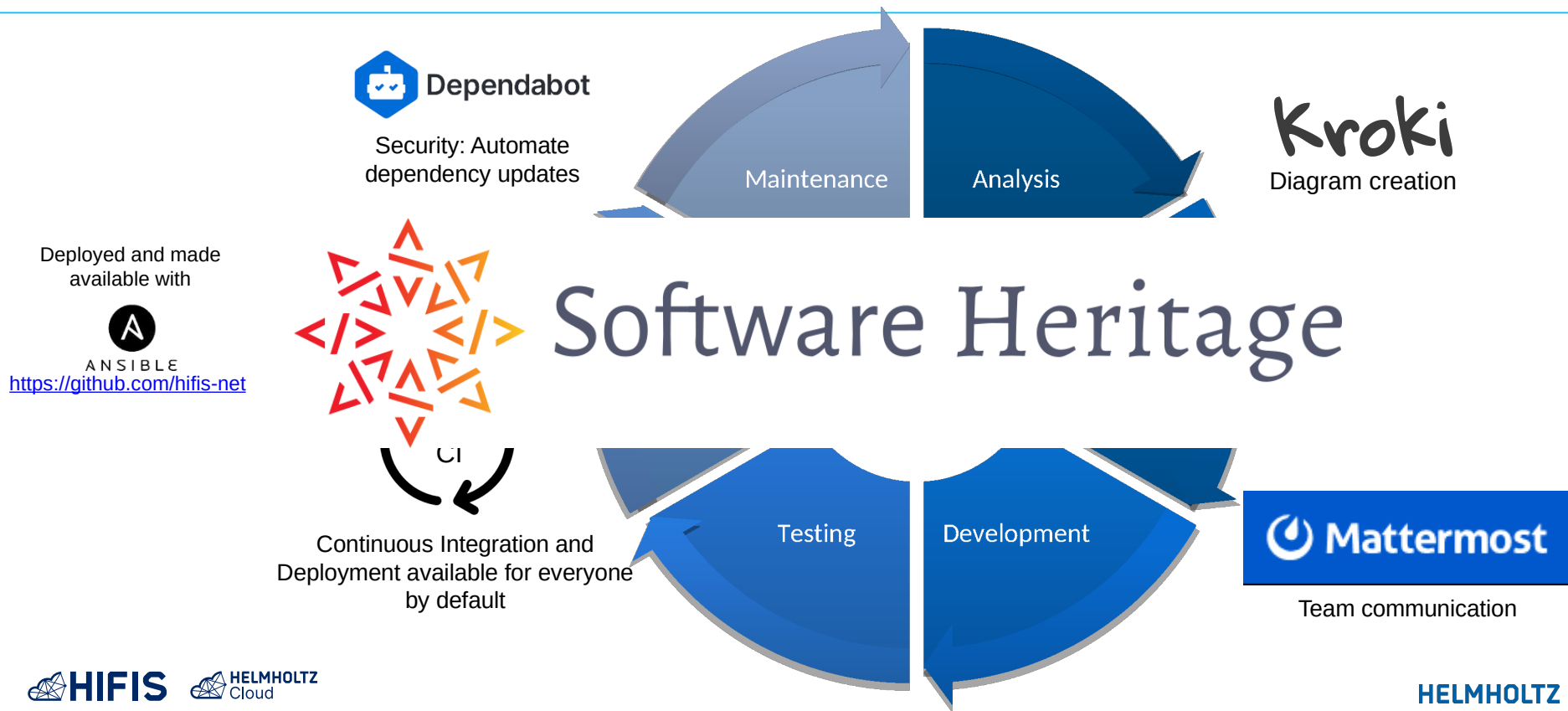
HIFIS

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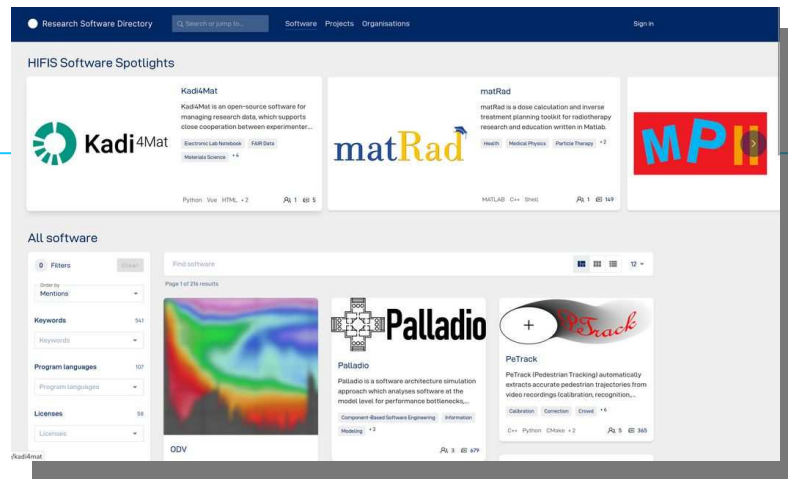
Helmholtz Software: Supporting good Software Engineering Technology & Infrastructure



Research Software Directory

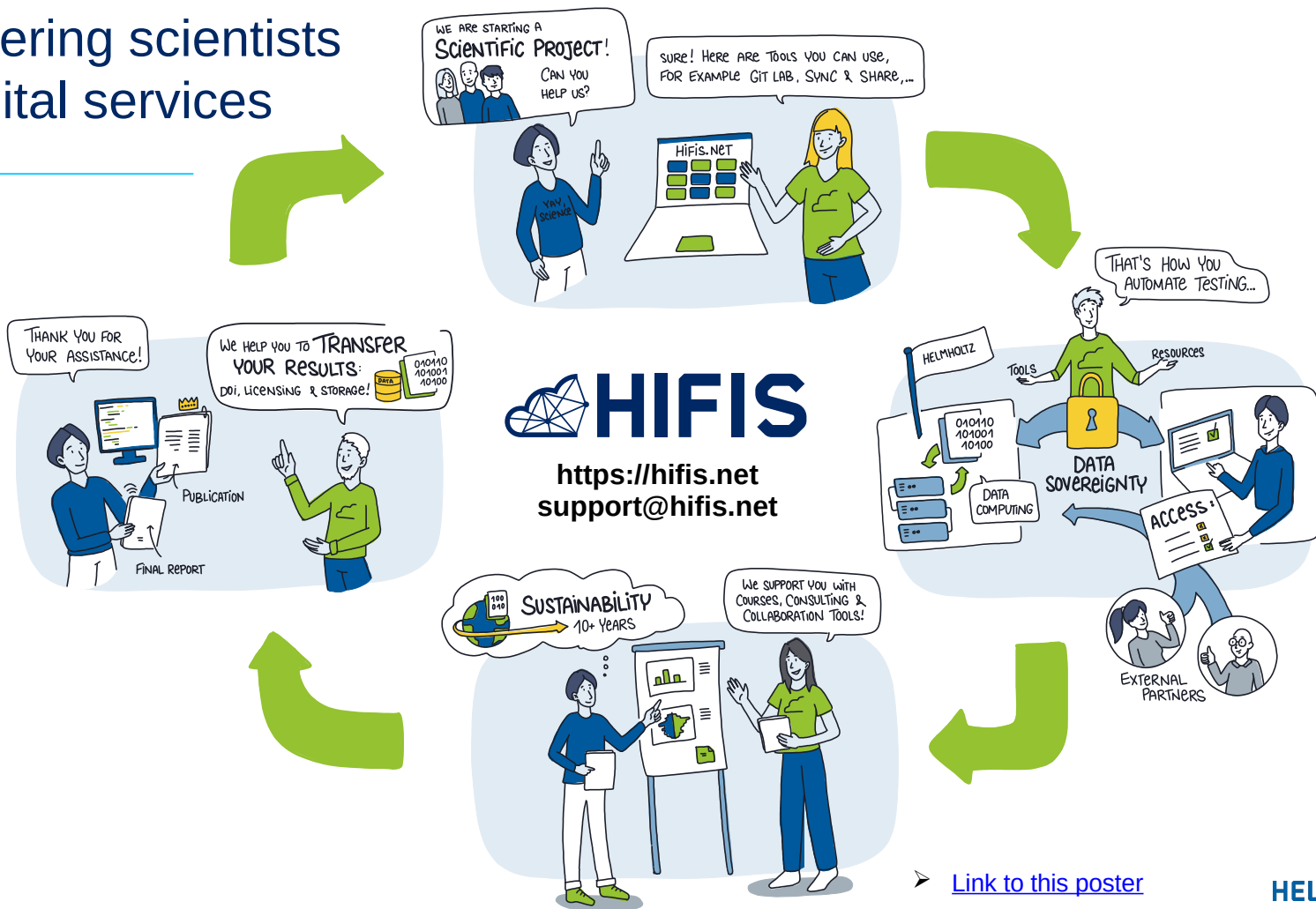
Incubator Software Award

- Advertise in:
<https://helmholtz.software>
- Promote the development of
professional and high-quality research software
- Recognize the commitment to software as the
Basis of modern Data Science
- 1st round finished. 2nd round upcoming (July)
- So far three categories:
 - Scientific Originality
 - Sustainability
 - Newcomer



HELMHOLTZ Open Science

Empowering scientists with digital services



Thank you!



Thank you!



Want more?
See you in breakout
sessions!

Breakout Session(s)

Breakout Session(s)

- Open:
 - This presentation (incl spare slides)
 - <https://hifis.net>
 - <https://helmholtz.cloud/services>
 - <https://hifis.net/courses>

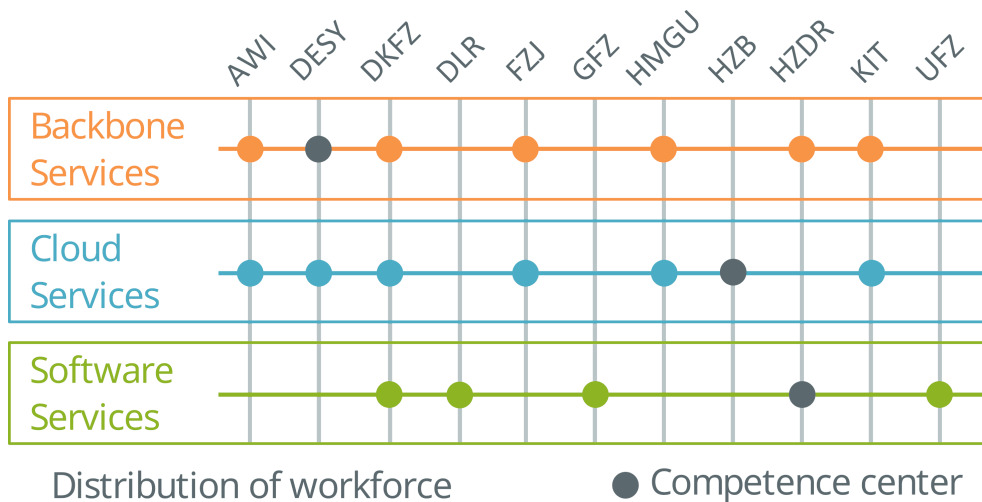
Spare Slides

HIFIS

Organization and Management

Organization

- 11 Centers for whole Helmholtz
- 3 competence clusters:



Management

- Coordinators:



HZB Helmholtz
Zentrum Berlin

HZDR
HELMHOLTZ ZENTRUM
DRESDEN ROSENDORF

Procedures & Legal Aspects

Processes

- Management of the service portfolio
- Brokering of (cloud) services
- Coordination and partial operation of User Support

Finance

- HIFIS funding by Helmholtz Association
- Use of services is free of charge
- Provision of services by the centres



Procedures & Legal Aspects

- Management
- Brokering
- Coordination of User Support

Finalized:

- Legal framework
- Joint controller agreement (login, helpdesk, etc)

Ongoing:

- Framework for service usage AVVs

- HIFIS funding by Helmholtz Association
- Use of services is free of charge
- Provision of services by the centres

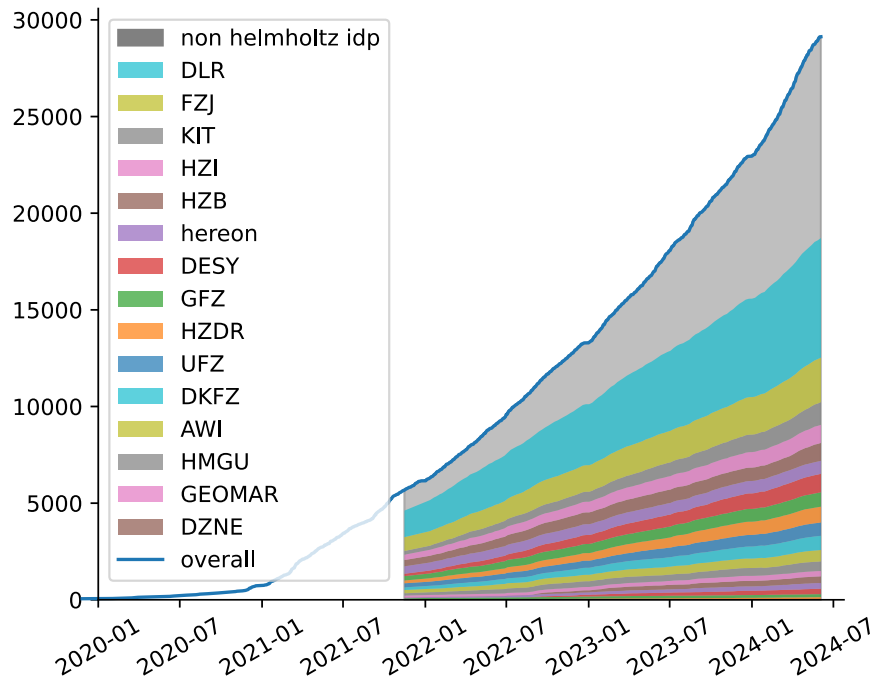
General Legal Aspects

EU VAT

HIFIS

Success in a nutshell

Helmholtz ID users



8.500

Active Cloud /
AAI users

1.900

Software Course
participants

250

Institutions with users
in AAI

1.100

Monthly active
projects in
Codebase

32

Helmholtz Cloud
Services, 8
Candidates

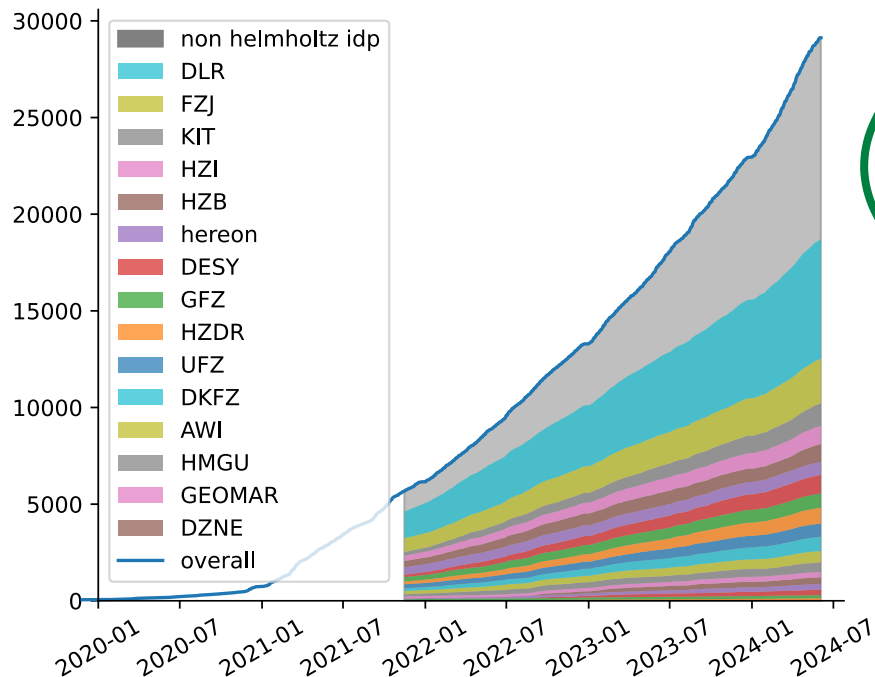
230

Entries in RS
Directory

HIFIS

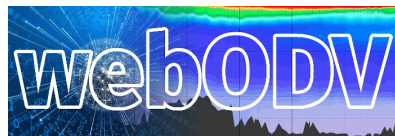
Success in a nutshell

Helmholtz ID users



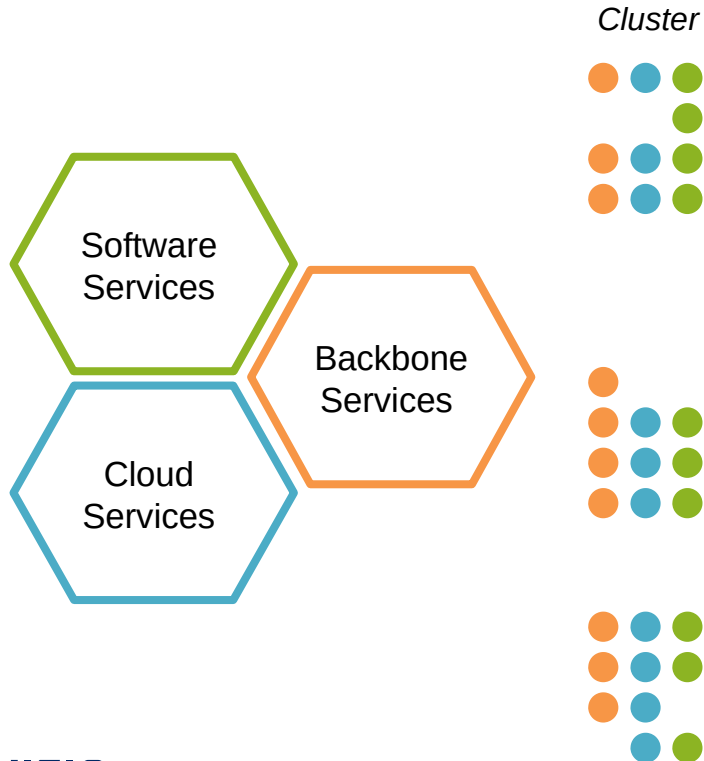
*“... we are planning to provide private **webODV instances as Helmholtz Cloud service**, [...]: Users can login via the Helmholtz AAI and will have a workspace to upload private data...”*

Ocean Data View (webODV) ([link](#))



HIFIS

Activities and Units



Added value for Science

- Facilitate scientific research
- Enable modern Research Software Engineering
- Intensify and expand partnerships
- Single Point of Contact for Helmholtz-wide Digital Services

Collaboration made easy

- Connecting Helmholtz: AAI, Backbone
- Trusted Collaboration Platform
- Consistent Expert Communication Forums
- Simple Access, minimal formalities

Sustainable Services

- Digital Sovereignty
- Resilience and Cyber Security by Redundancy
- Standards for Federated Services
- Synergy by Consolidation of Services