



## Helmholtz IT Services for Science

January 2022

PUNCH4NFDI Management Board

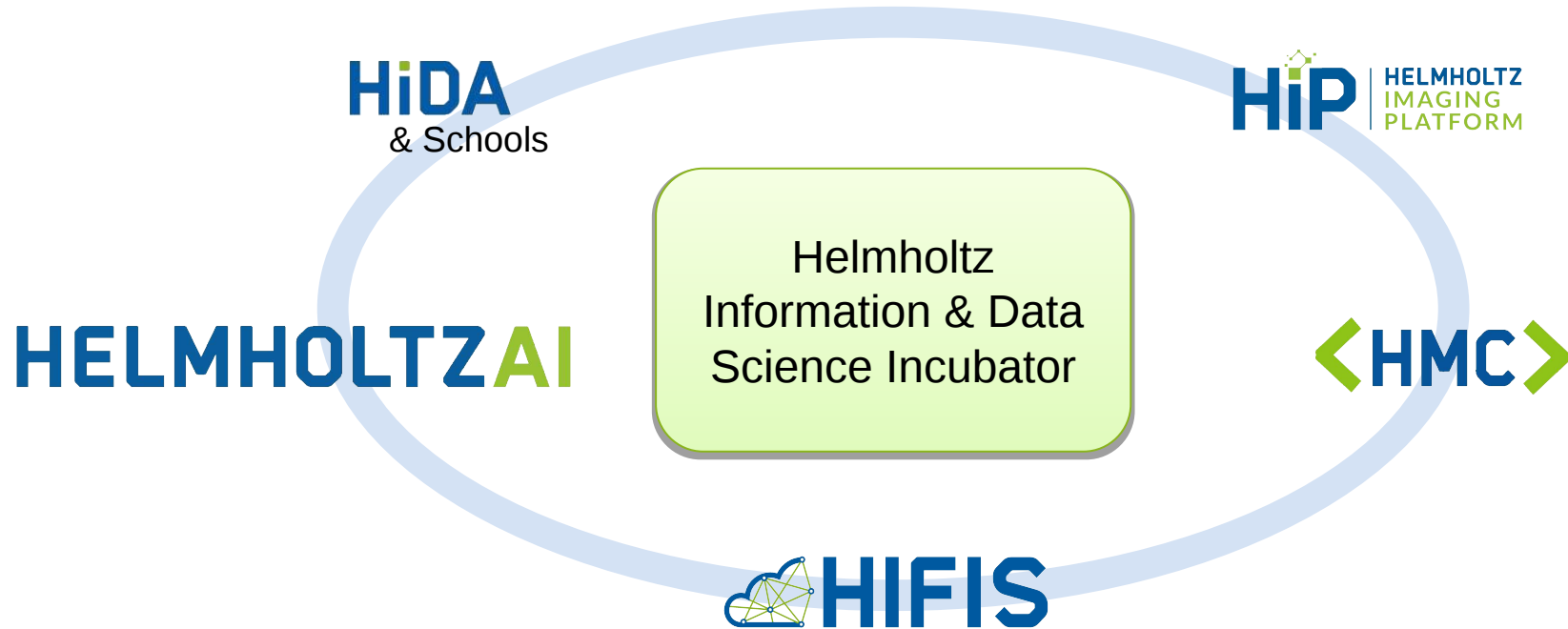
➤ <https://hifis.net>

Uwe Jandt (DESY / HIFIS Coordination)

# Why HIFIS?

Helmholtz aims for **joint research & information environment** for all Research Fields:

- Cross-centre platforms for Education, interdisciplinary science and IT infrastructure.



## I. Helmholtz Cloud + Backbone

- Provide high performance **collaboration and community services**
- **Connect all centres** and their world-wide collaboration partners!
- **Secure, simple access** and **easy-to-use**

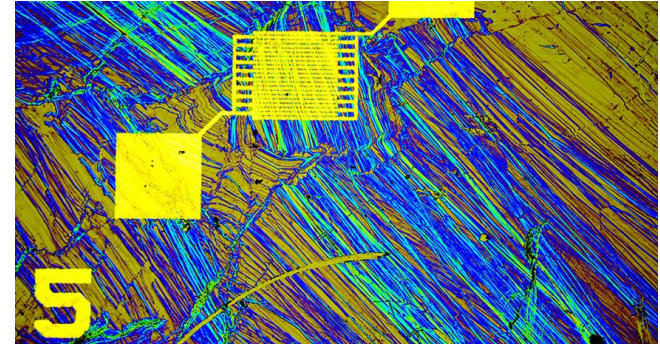


Bild 1: Strukturen aus organischen Halbleiter-Polymeren/ Himani Arora/HZDR

Bild 2: Mosaic Expedition/Stefan Hendricks/AWI

## I. Helmholtz Cloud + Backbone

- Provide high performance **collaboration and community services**
- **Connect all centres** and their world-wide collaboration partners!
- **Secure, simple access** and **easy-to-use**

## II. Establish **best-practices** for **Research Software Engineering**:

- High level of knowledge, quality, visibility and sustainability
- State-of the-art SW development infrastructures

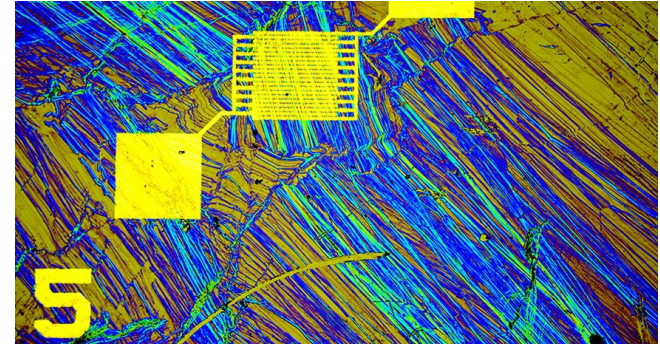


Bild 1: Strukturen aus organischen Halbleiter-Polymeren/ Himani Arora/HZDR  
Bild 2: Mosaic Expedition/Stefan Hendricks/AWI



Free of charge!  
(in Helmholtz)

## I. Helmholtz Cloud + Backbone

- Provide high performance **collaboration and community services**
- **Connect all centres** and their world-wide collaboration partners!
- **Secure, simple access** and **easy-to-use**

## II. Establish **best-practices** for **Research Software Engineering**:

- High level of knowledge, quality, visibility and sustainability
- State-of the-art SW development infrastructures

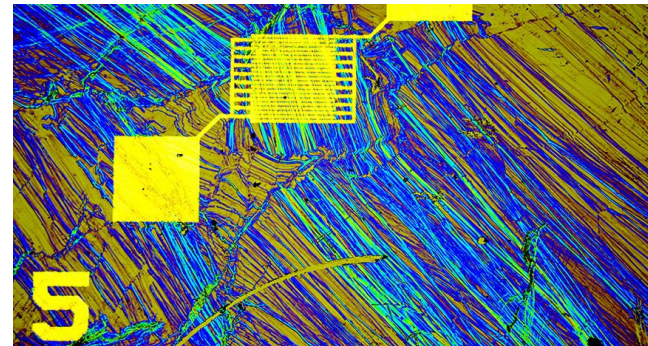
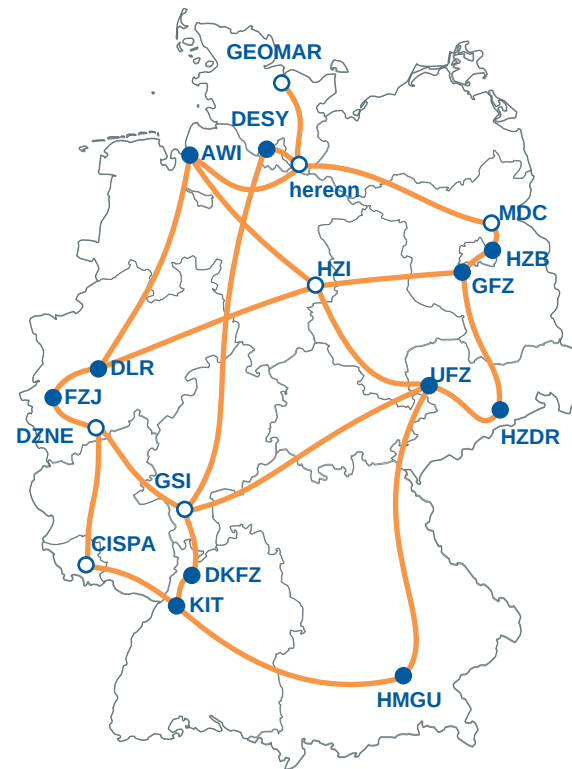


Bild 1: Strukturen aus organischen Halbleiter-Polymeren/ Himani Arora/HZDR  
Bild 2: Mosaic Expedition/Stefan Hendricks/AWI


# Who is HIFIS?

- **Team: 11 (out of 18) Helmholtz centres**
- Main Coordination: DESY
- Three Clusters:
  - **Backbone Cluster** (head: DESY)  
Core Services for Authentication, Authorisation, Large Data Transfer, etc.
  - **Cloud Cluster** (head: HZB)  
Helmholtz Cloud Platform
  - **Software Cluster** (head: HZDR)  
Platform, Training, Support for high quality, sustainable Research Software Engineering





# I. Cloud Services + Portal



## ► [cloud.helmholtz.de](https://cloud.helmholtz.de)



 **HELMHOLTZ CLOUD**



Team News Helpdesk About Sign in



Search Services:  Provider: -- select an option -- Sort by: Service Software Reset all filters



**B2Share**  
Research Data (+ corresponding Metadata) Publishing service.  
by:  → Go to service



**GitLab**  
A web-based DevOps lifecycle tool that provides a Git-repository manager.  
by:  → Go to service



**HAICORE@KIT**  
Dedicated Computing REsources for the Helmholtz AI community.  
by:  → Go to service



**HAICORE@FZJ**  
Dedicated Computing REsources for the Helmholtz AI community.  
by:  → Go to service



**Jupyter-JSC**  
Interactive supercomputing in a browser.  
by:  → Go to service



**LimeSurvey@DKFZ**  
LimeSurvey Community Edition  
An online survey tool offered by DKFZ to everyone within Helmholtz group.  
by:  → Go to service



**LimeSurvey@HMGU**  
LimeSurvey Community Edition  
An Open source on-line statistical survey web application.  
by:  → Go to service



**Mattermost**  
A hosted chat service for everyone within Helmholtz based on Mattermost.  
by:  → Go to service

**nubes**  
Nextcloud  
Sync&Share based on Nextcloud with OnlyOffice and Calendar function.  
by:  → Go to service

**bwSync&Share**  
Nextcloud  
File Sync and Share, Groupware-Functionalities: Files, Fotos, Calendar, etc.  
by:  → Go to service

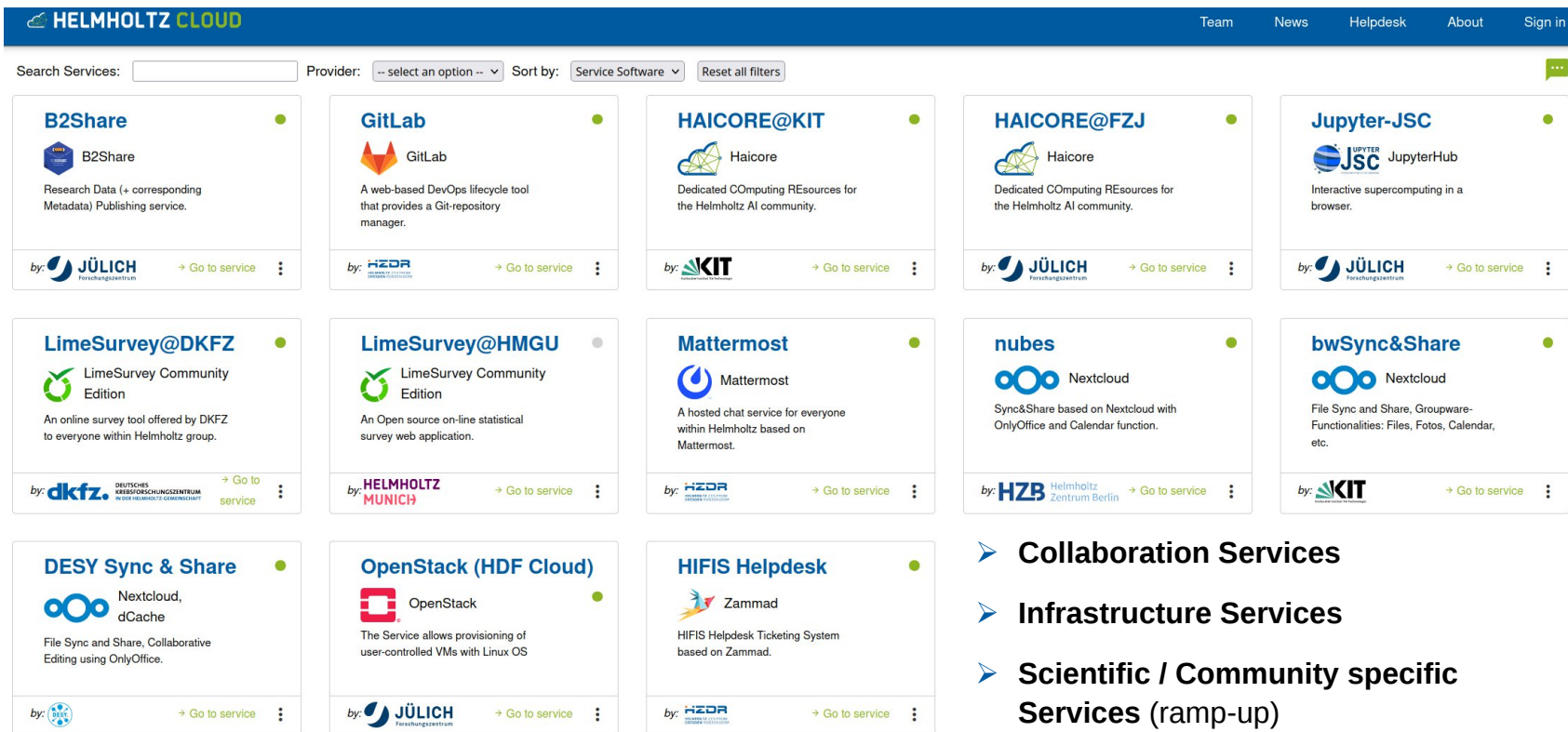
**DESY Sync & Share**  
Nextcloud, dCache  
File Sync and Share, Collaborative Editing using OnlyOffice.  
by:  → Go to service

**OpenStack (HDF Cloud)**  
OpenStack  
The Service allows provisioning of user-controlled VMs with Linux OS  
by:  → Go to service

**HIFIS Helpdesk**  
Zammad  
HIFIS Helpdesk Ticketing System based on Zammad.  
by:  → Go to service

# I. Cloud Services + Portal

## ► [cloud.helmholtz.de](https://cloud.helmholtz.de)



The screenshot shows the HELMHOLTZ CLOUD portal interface. At the top, there is a navigation bar with links for Team, News, Helpdesk, About, and Sign in. Below the navigation bar, there is a search bar and filters for Provider (select an option) and Sort by (Service Software). The main content area displays a grid of service cards, each representing a different cloud service available on the platform. Each card includes the service name, a brief description, and a 'Go to service' button. The services are categorized by provider, indicated by the 'by:' label and logo at the bottom of each card.

Service	Provider	Description
B2Share	JÜLICH Forschungszentrum	Research Data (+ corresponding Metadata) Publishing service.
GitLab	HZDR	A web-based DevOps lifecycle tool that provides a Git-repository manager.
HAICORE@KIT	KIT	Dedicated Computing REsources for the Helmholtz AI community.
HAICORE@FZJ	JÜLICH Forschungszentrum	Dedicated Computing REsources for the Helmholtz AI community.
Jupyter-JSC	JÜLICH Forschungszentrum	Interactive supercomputing in a browser.
LimeSurvey@DKFZ	dkfz. DEUTSCHES KREBSFORSCHUNGSZENTRUM	An online survey tool offered by DKFZ to everyone within Helmholtz group.
LimeSurvey@HMGU	HELMHOLTZ MUNICH	An Open source on-line statistical survey web application.
Mattermost	HZDR	A hosted chat service for everyone within Helmholtz based on Mattermost.
nubes	HZB Helmholtz Zentrum Berlin	Sync&Share based on Nextcloud with OnlyOffice and Calendar function.
bwSync&Share	KIT	File Sync and Share, Groupware-Functionalities: Files, Fotos, Calendar, etc.
DESY Sync & Share	DESY	File Sync and Share, Collaborative Editing using OnlyOffice.
OpenStack (HDF Cloud)	JÜLICH Forschungszentrum	The Service allows provisioning of user-controlled VMs with Linux OS
HIFIS Helpdesk	HZDR	HIFIS Helpdesk Ticketing System based on Zammad.

- Collaboration Services
- Infrastructure Services
- Scientific / Community specific Services (ramp-up)



# I. Cloud Services + Portal



➤ [cloud.helmholtz.de](https://cloud.helmholtz.de)

The screenshot displays the HELMHOLTZ CLOUD portal. At the top, there is a navigation bar with links for Team, News, Helpdesk (highlighted with a green dashed arrow), About, and Sign in. Below the navigation bar, a search bar and filters are visible. The main content area is a grid of service cards, each representing a different cloud service. The cards are arranged in three rows and five columns. The first row includes B2Share, GitLab, HAICORE@KIT, HAICORE@FZJ, and Jupyter-JSC. The second row includes LimeSurvey@DKFZ, LimeSurvey@HMGU, Mattermost, nubes, and bwSync&Share. The third row includes DESY Sync & Share, OpenStack (HDF Cloud), and HIFIS Helpdesk. Each card features the service logo, name, a brief description, and a 'Go to service' button. The providers for these services are listed at the bottom of each card, including JÜLICH, HZDR, KIT, and DESY. A large blue question mark is overlaid on the Mattermost card, and two cartoon characters are standing next to it. A green dashed arrow points from the top right towards the Jupyter-JSC card. Another green dashed arrow points from the top right towards the bwSync&Share card. The HIFIS logo is visible in the bottom right corner of the screenshot.

**HELMHOLTZ CLOUD**

Team News **Helpdesk** About Sign in

Search Services:  Provider: -- select an option -- Sort by: Service Software Reset all filters

**B2Share** B2Share  
Research Data (+ corresponding Metadata) Publishing service.  
by: **JÜLICH** Forschungszentrum → Go to service

**GitLab** GitLab  
A web-based DevOps lifecycle tool that provides a Git-repository manager.  
by: **HZDR** Helmholtz-Zentrum für Materialforschung und -technologie → Go to service

**HAICORE@KIT** Haicore  
Dedicated Computing Resources for the Helmholtz AI community.  
by: **KIT** Karlsruher Institut für Technologie → Go to service

**HAICORE@FZJ** Haicore  
Dedicated Computing Resources for the Helmholtz AI community.  
by: **JÜLICH** Forschungszentrum → Go to service

**Jupyter-JSC** JupyterHub  
Interactive supercomputing in a browser.  
by: **JÜLICH** Forschungszentrum → Go to service

**LimeSurvey@DKFZ** LimeSurvey Community Edition  
An online survey tool offered by DKFZ to everyone within Helmholtz group.  
by: **dkfz** DEUTSCHES KREBSFORSCHUNGSZENTRUM HEIDELBERG → Go to service

**LimeSurvey@HMGU** LimeSurvey Community Edition  
An Open source on-line statistical survey web application.  
by: **HELMHOLTZ MUNICH** → Go to service

**Mattermost** Mattermost  
A secure, self-hosted, open source team collaboration tool.  
by: **HELMHOLTZ MUNICH** → Go to service

**nubes** Nextcloud  
Sync&Share based on Nextcloud with OnlyOffice and Calendar function.  
by: **HZB** Helmholtz Zentrum Berlin → Go to service

**bwSync&Share** Nextcloud  
File Sync and Share, Groupware functionalities: Files, Fotos, Calendar,  
by: **HZB** Helmholtz Zentrum Berlin → Go to service

**DESY Sync & Share** Nextcloud, dCache  
File Sync and Share, Collaborative Editing using OnlyOffice.  
by: **DESY** → Go to service

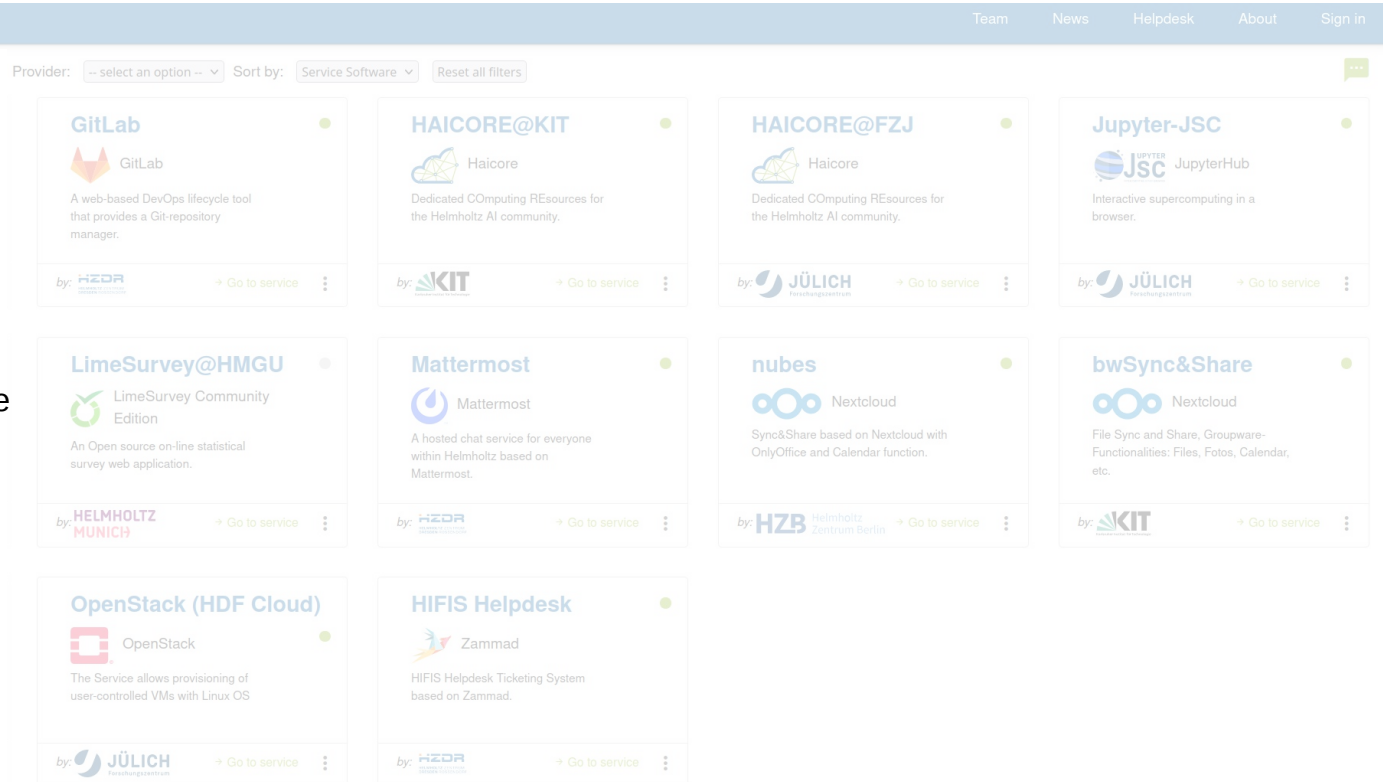
**OpenStack (HDF Cloud)** OpenStack  
The Service allows provisioning of user-controlled VMs with Linux OS  
by: **JÜLICH** Forschungszentrum → Go to service

**HIFIS Helpdesk** Zammad  
HIFIS Helpdesk Ticketing System based on Zammad.  
by: **HZDR** Helmholtz-Zentrum für Materialforschung und -technologie → Go to service

Katerina Limpitsouni via undraw.co

# I. Cloud Services + Portal

## ➤ [cloud.helmholtz.de](https://cloud.helmholtz.de)



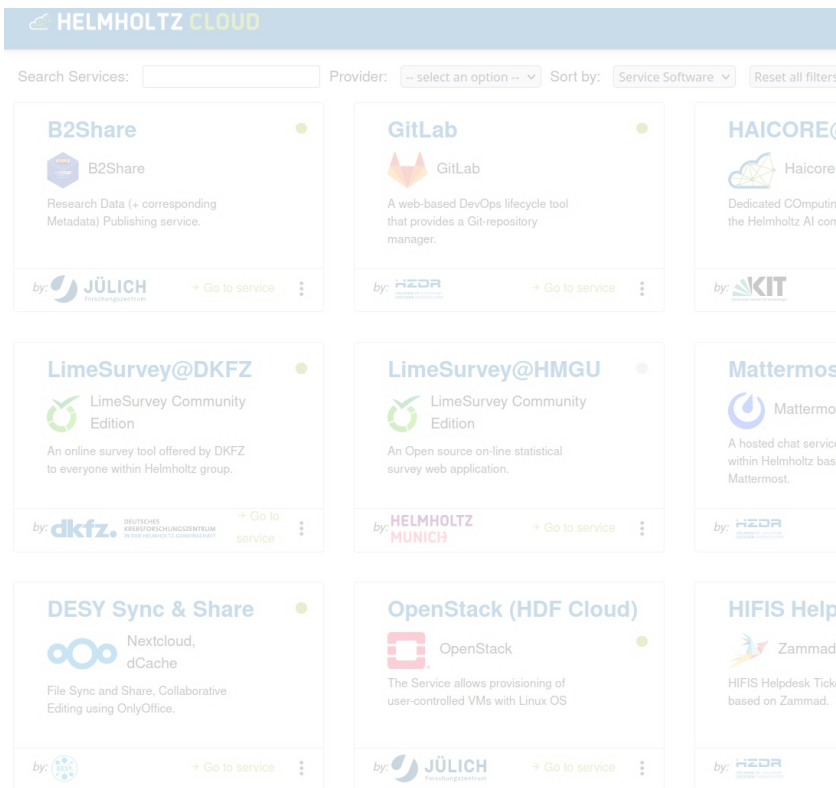
The screenshot displays the HELMHOLTZ CLOUD portal. At the top, there is a navigation bar with links for Team, News, Helpdesk, About, and Sign in. Below the navigation bar, a search and filter section includes a 'Provider' dropdown (set to 'select an option'), a 'Sort by' dropdown (set to 'Service Software'), and a 'Reset all filters' button. The main content area is a grid of service cards, each featuring a logo, title, description, and provider information. The services listed are:

- GitLab**: A web-based DevOps lifecycle tool that provides a Git-repository manager. Provider: HZDR.
- HAICORE@KIT**: Dedicated Computing REsources for the Helmholtz AI community. Provider: KIT.
- HAICORE@FZJ**: Dedicated Computing REsources for the Helmholtz AI community. Provider: JÜLICH Forschungszentrum.
- Jupyter-JSC**: Interactive supercomputing in a browser. Provider: JÜLICH Forschungszentrum.
- LimeSurvey@HMGU**: LimeSurvey Community Edition. An Open source on-line statistical survey web application. Provider: HELMHOLTZ MUNICH.
- Mattermost**: A hosted chat service for everyone within Helmholtz based on Mattermost. Provider: HZDR.
- nubes**: Sync&Share based on Nextcloud with OnlyOffice and Calendar function. Provider: HZB Helmholtz Zentrum Berlin.
- bwSync&Share**: File Sync and Share, Groupware-Functionalities: Files, Fotos, Calendar, etc. Provider: KIT.
- OpenStack (HDF Cloud)**: The Service allows provisioning of user-controlled VMs with Linux OS. Provider: JÜLICH Forschungszentrum.
- HIFIS Helpdesk**: HIFIS Helpdesk Ticketing System based on Zammad. Provider: HZDR.

- De-centrally provided by multiple centres for all-Helmholtz
- User self-enablement, Group Management
- Usage Details / Service Descriptions / Further Links
- Orchestrated Services to come!

# I. Cloud Services + Portal

## ➤ [cloud.helmholtz.de](https://cloud.helmholtz.de)



The screenshot shows the HELMHOLTZ CLOUD portal interface. At the top, there's a header with the logo and navigation links. Below the header, there's a search bar and filters for Provider and Sort by. The main content area displays a grid of service cards. Each card includes the service name, logo, a brief description, and a 'Go to service' button. The services shown include B2Share, GitLab, HAICORE, LimeSurvey@DKFZ, LimeSurvey@HMGU, Mattermost, DESY Sync & Share, OpenStack (HDF Cloud), and HIFIS Helpdesk.

need help with GitLab ?

## GitLab

### Description

GitLab is a complete DevOps platform supporting Development, Security, and Ops teams to collaborate and build software. This GitLab service is running the Open Source version of GitLab. It allows you to:

- Host code in repositories with Git version control
- Implement project management with an Issue Tracker, Merge Requests or Issue Boards
- Use the provided shared runners for built-in Continuous Integration
- Host your Docker images using the Container Registry
- Share your documentation or static websites with Pages
- Share private or public software packages for a variety of common package managers, e.g. Conan (C++) or PyPI (Python).

### HIFIS helps you to efficiently use Gitlab:

HIFIS provides multiple level of assistance on efficient usage of the mighty functionality of Gitlab. Please have a look at:

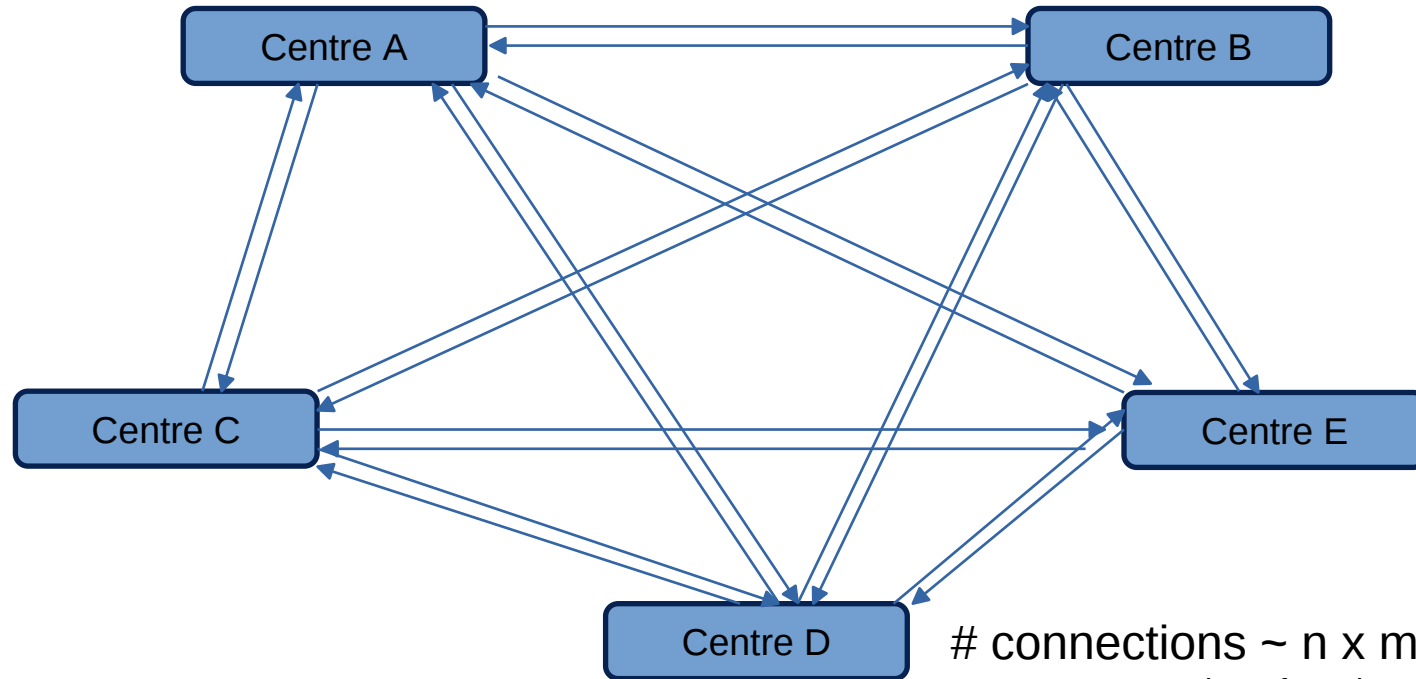
- [Tutorials](#),
- [Courses & Trainings](#),
- [Consulting](#) on complex questions.



Conventional approach - 1:1 connection

- 2 partners (1 service provider, 1 service user):
- separate contract for each service

# I. IAM&AAI - Access to distributed resources



# connections ~  $n \times m \times s$

n: number of service providing centres

(>10)

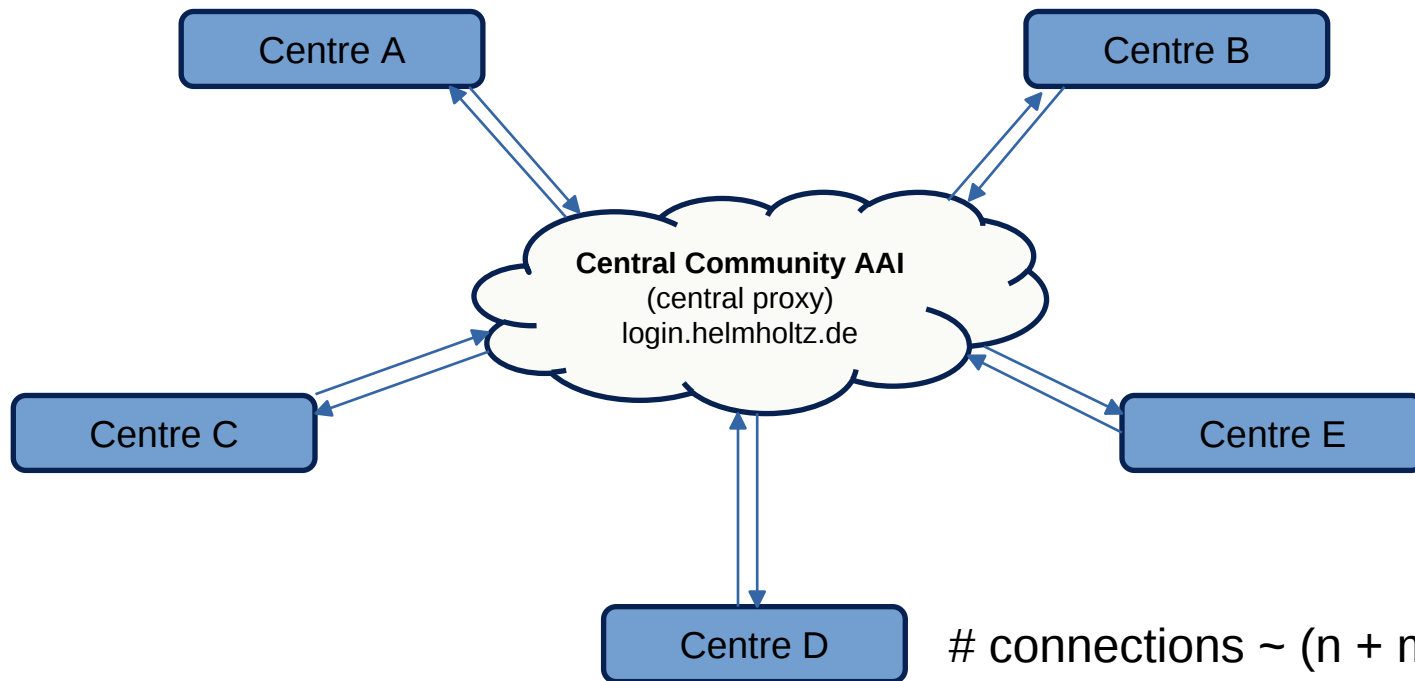
m: numbers of using centres (19)

s: number of services

- <https://aai.helmholtz.de/howto>
- <https://aai.helmholtz.de/concept>



# I. IAM&AAI - Solution, following AARC Blueprint



- <https://aarc-project.eu/architecture/>
- <https://aai.helmholtz.de/howto>
- <https://aai.helmholtz.de/concept>

# connections  $\sim (n + m)$

n: number of service providing centres  
( $>10$ )  
m: numbers of using centres (19)  
s: number of services

## II. Software Services

Best-practices for sustainable Research Software Engineering on multiple levels:

### Education & Training

- **Courses, material and workshops** for getting you started or boosting your software engineering practice.

### Community

- Build and foster communities to support the necessary **cultural change** when dealing with research software.


### Consulting

- **Contact points** for researchers for questions and problems in the context of RSE.

### Technology

- Provide a sustainable, well integrated and easy to use **technology infrastructure** for research software development.

...It's even easier than one, two ...

**UPCOMING EVENTS** 

**PROJECT MANAGEMENT WITH GITLAB**

This workshop will focus on project management with the GitLab platform. A primer for the prerequisite version control system Git will be offered to those not yet familiar with it.

more...


**TIME:**

Fri, 15. Oct. 2021 –  
Mon, 18. Oct. 2021


**LOCATION:**

*Online*

**ORGANIZERS:**

 ERXLEBEN, FREDO

**LECTURERS:**

 ERXLEBEN, FREDO

**TEST AUTOMATION WITH PYTHON**

Learn to test your Python code effectively.

more...


**TIME:**

Tue, 09. Nov. 2021, 09:00 –  
Wed, 10. Nov. 2021, 13:00

**LOCATION:**

*Online*

**ORGANIZERS:**

 SCHLAUCH, TOBIAS

➤ <https://hifis.net/events>

## II. Software Services


...It's even easier than one, two, three!


**UPCOMING EVENTS**

**PROJECT MANAGEMENT WITH GITLAB**  
This workshop will focus on project management with the GitLab platform. A primer for the prerequisite version control system Git will be offered to those not yet familiar with it.  
[more...](#)

**TIME:**  
Fri, 15. Oct. 2021 –  
Mon, 18. Oct. 2021

**LOCATION:**  
*Online*


**ORGANIZERS:**  
 ERXLEBEN, FREDO

**LECTURERS:**  
 ERXLEBEN, FREDO

**TEST AUTOMATION WITH PYTHON**  
Learn to test your Python code effectively.  
[more...](#)

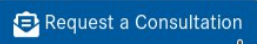

**TIME:**  
Tue, 09. Nov. 2021, 09:00 –  
Wed, 10. Nov. 2021, 13:00

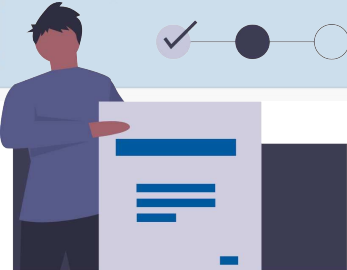
**LOCATION:**  
*Online*

**ORGANIZERS:**  
 SCHLAUCH, TOBIAS

**CONSULTING**

**TL;DR: ANSWER A FEW QUESTIONS TO REQUEST A CONSULTATION**  
In order to reduce the amount of emails we need to send forth and back, we kindly ask you to fill out a few questions to request a consultation.



Katerina Limpitsouni via  
undraw.co

- <https://hifis.net/events>
- <https://hifis.net/consulting>

## HELMHOLTZ IT FOR SCIENCE

▶ HIFIS builds and sustains an excellent IT infrastructure connecting all Helmholtz research fields and centres.

  
Helmholtz Cloud  
Helmholtz AAI  
Consulting  
Education & Training

### EVENTS

 12. Nov. 21  Workshop

First steps in Python-  
Programming

 25. Oct. 21  Workshop

Programming with R

 23. Nov. 21  Workshop

Test Automation with  
Python (rescheduled)

[All Events](#)[Events Feed](#) 



### NEWS & BLOG POSTS

 20. Oct. 21 Use case

HIFIS Transfer  
Service (updated)

 18. Oct. 21  News

Helmholtz Resonator  
Podcast on HIFIS

 09. Sep. 21  News


DESY Sync & Share  
service available to  
Helmholtz

[All HIFIS News](#)[Subscribe](#) [News Feed](#) 



# HIFIS Services in a nutshell





## HELMHOLTZ

HIFIS builds and s

### SOFTWARE

The service portfolio of HIFIS Software is structured into 4 different components that seamlessly interoperate with each other: Education & Training, Technology, Consulting and Community Services.

#### COMMUNITIES

We build and foster communities to support the necessary cultural change in science when dealing with research software.

#### CONSULTING

We offer free-of-charge consulting in software engineering as a service to research groups under the Helmholtz umbrella.

#### HELMHOLTZ GITLAB / TECHNOLOGY

We provide a sustainable, well integrated and easy to use technology infrastructure for scientific software.

#### EDUCATION & TRAINING

We offer courses, materials or workshops to help you in getting started or in boosting your software engineering practice.

### CLOUD

Helmholtz Cloud is a federated scientific community cloud and offers IT services to all Helmholtz centres and the entire scientific community and partners.

#### HELMHOLTZ CLOUD

The Helmholtz Cloud offers IT services to all Helmholtz centres and the entire scientific community and partners.

#### CLOUD SERVICES & PORTFOLIO

More information about Helmholtz Cloud and its portfolio.

#### SERVICE LOGIN & ACCESS

Login and access to Helmholtz Cloud services.

#### HELMHOLTZ CLOUD SERVICE PROVIDER

How to hand in new service to be offered in Helmholtz Cloud.

### BACKBONE

High-performance trusted network infrastructure with unified basic services.

#### HELMHOLTZ AAI

Seamless Access to Cloud Services for Helmholtz & Friends.

#### HELMHOLTZ BACKBONE (VPN)

A trusted Helmholtz network to securely route scientific data transfer between centres.

#### HIFIS TRANSFER SERVICE

An FTS based large data transfer service connecting Helmholtz research.

### EVENTS

### SERVICES

### FAQ

### ROADMAP

### TEAM

### CONTACT

### JOBS

### NEWS & BLOG POSTS

#### Helmholtz Cloud

#### Helmholtz AAI

#### Consulting

#### Education & Training

### NEWS & BLOG POSTS

#### 12. Nov. 21

#### First steps in F Program

#### 20. Oct. 21

#### HIFIS Transfer service (updated)

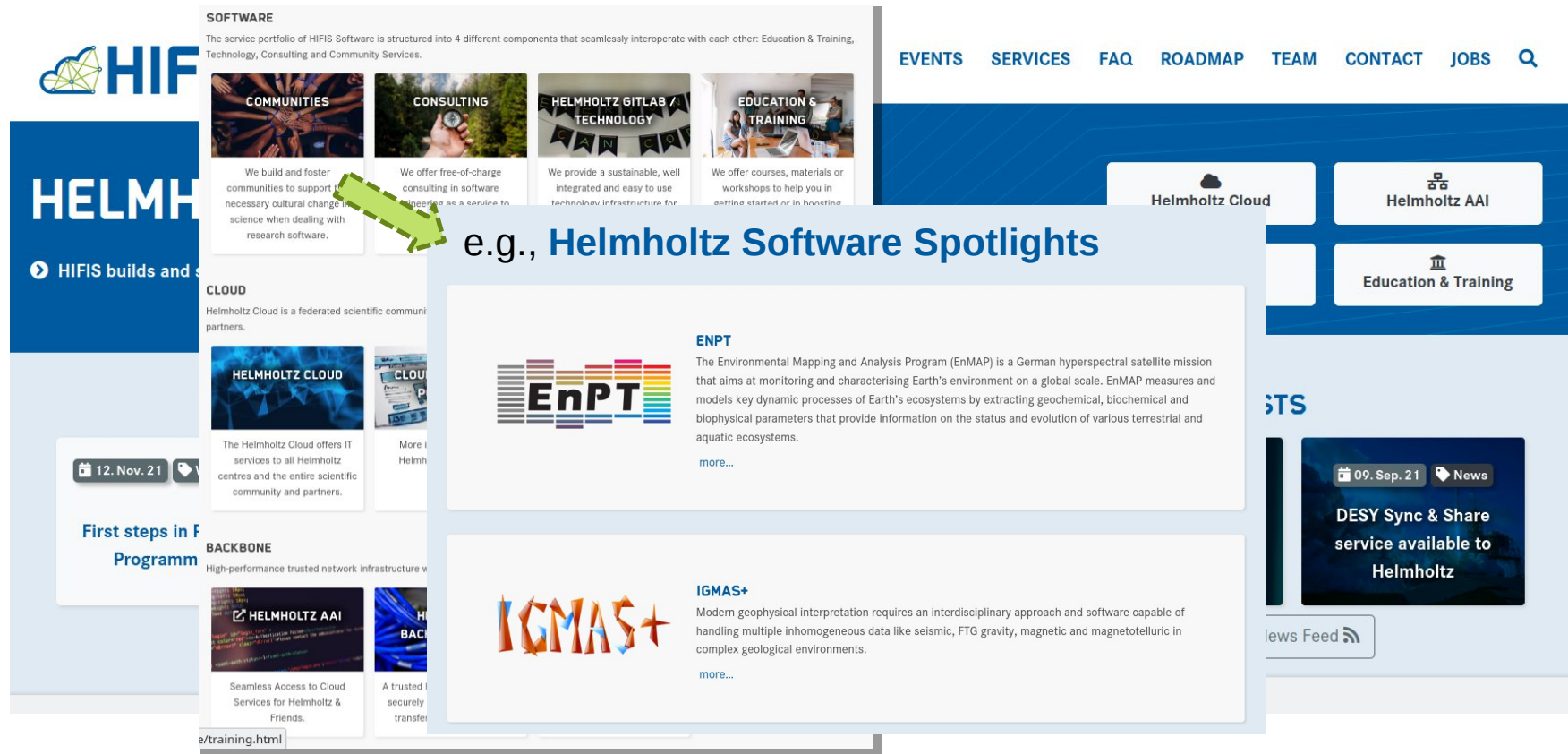
#### 18. Oct. 21

#### Helmholtz Resonator Podcast on HIFIS

#### 09. Sep. 21

#### DESY Sync & Share service available to Helmholtz

[All HIFIS News](#)[Subscribe](#)[News Feed](#)



**SOFTWARE**  
The service portfolio of HIFIS Software is structured into 4 different components that seamlessly interoperate with each other: Education & Training, Technology, Consulting and Community Services.

- COMMUNITIES**  
We build and foster communities to support necessary cultural change in science when dealing with research software.
- CONSULTING**  
We offer free-of-charge consulting in software services as a service to...
- HELMHOLTZ GITLAB / TECHNOLOGY**  
We provide a sustainable, well integrated and easy to use technology infrastructure for...
- EDUCATION & TRAINING**  
We offer courses, materials or workshops to help you in getting started or in boosting...

**EVENTS SERVICES FAQ ROADMAP TEAM CONTACT JOBS**

**HELMHOLTZ CLOUD**  
Helmholtz Cloud is a federated scientific community of partners.

**HELMHOLTZ AAI**  
Seamless Access to Cloud Services for Helmholtz & Friends.

**Education & Training**

**e.g., Helmholtz Software Spotlights**

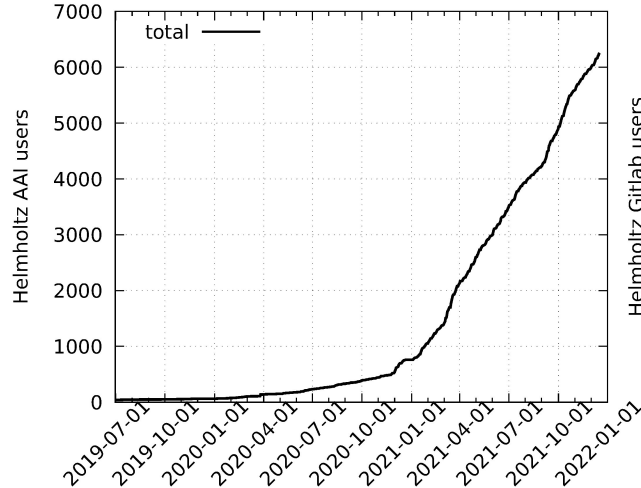
**ENPT**  
The Environmental Mapping and Analysis Program (EnMAP) is a German hyperspectral satellite mission that aims at monitoring and characterising Earth's environment on a global scale. EnMAP measures and models key dynamic processes of Earth's ecosystems by extracting geochemical, biochemical and biophysical parameters that provide information on the status and evolution of various terrestrial and aquatic ecosystems.  
[more...](#)

**IGMAS+**  
Modern geophysical interpretation requires an interdisciplinary approach and software capable of handling multiple inhomogeneous data like seismic, FTG gravity, magnetic and magnetotelluric in complex geological environments.  
[more...](#)

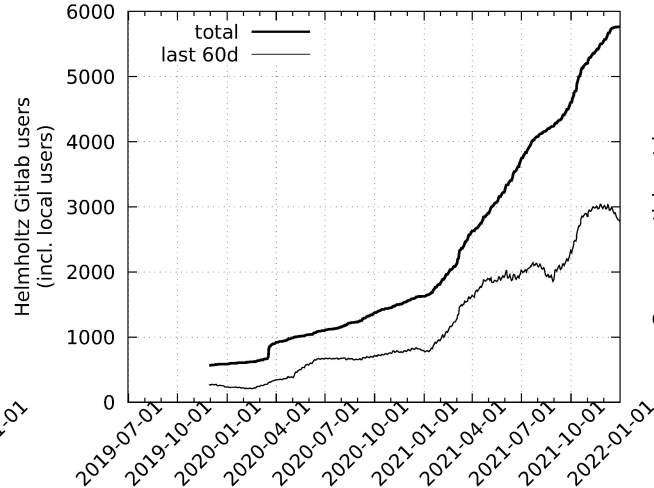
**DESY Sync & Share service available to Helmholtz**

**News Feed**

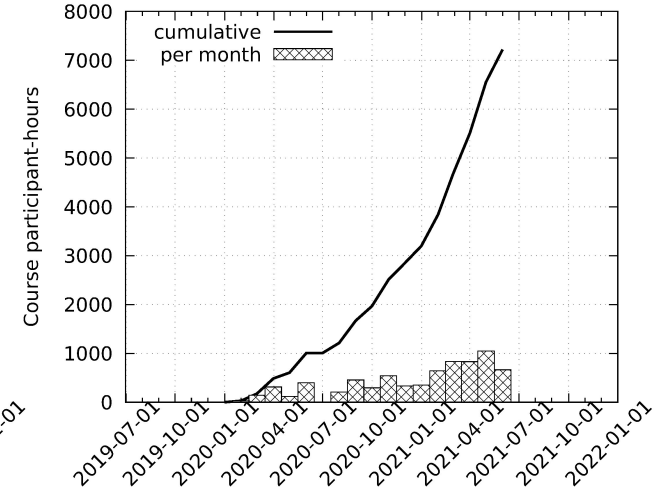
## Temporal development of selected KPI



AAI  
--> Cloud Services



Gitlab HZDR



Course participant hours

## I. Helmholtz & Friends: Try&Use anytime, anywhere!

- All software and most cloud services readily available.

## **I. Helmholtz & Friends: Try&Use anytime, anywhere!**

- All software and most cloud services readily available.

## **II. Helmholtz IT for Science: Blueprint & Collaboration**

- Blueprint for Community based AAI + Federated / distributed cloud services
- Helmholtz Cloud (Portal) as potential broker for external services → Vision: Cross-federation  
Service Onboarding procedures
- Consulting on RSE for facilitated transfer



## I. Helmholtz & Friends: Try&Use anytime, anywhere!

- All software and most cloud services readily available.

## II. Helmholtz IT for Science: Blueprint & Collaboration

- Blueprint for Community based AAI + Federated / distributed cloud services
- Helmholtz Cloud (Portal) as potential broker for external services → Vision: Cross-federation Service Onboarding procedures
- Consulting on RSE for facilitated transfer

## III. Consult us:

- <https://hifis.net>
- [support@hifis.net](mailto:support@hifis.net)
- [Resonator Podcast](#)



Podcast



Poster

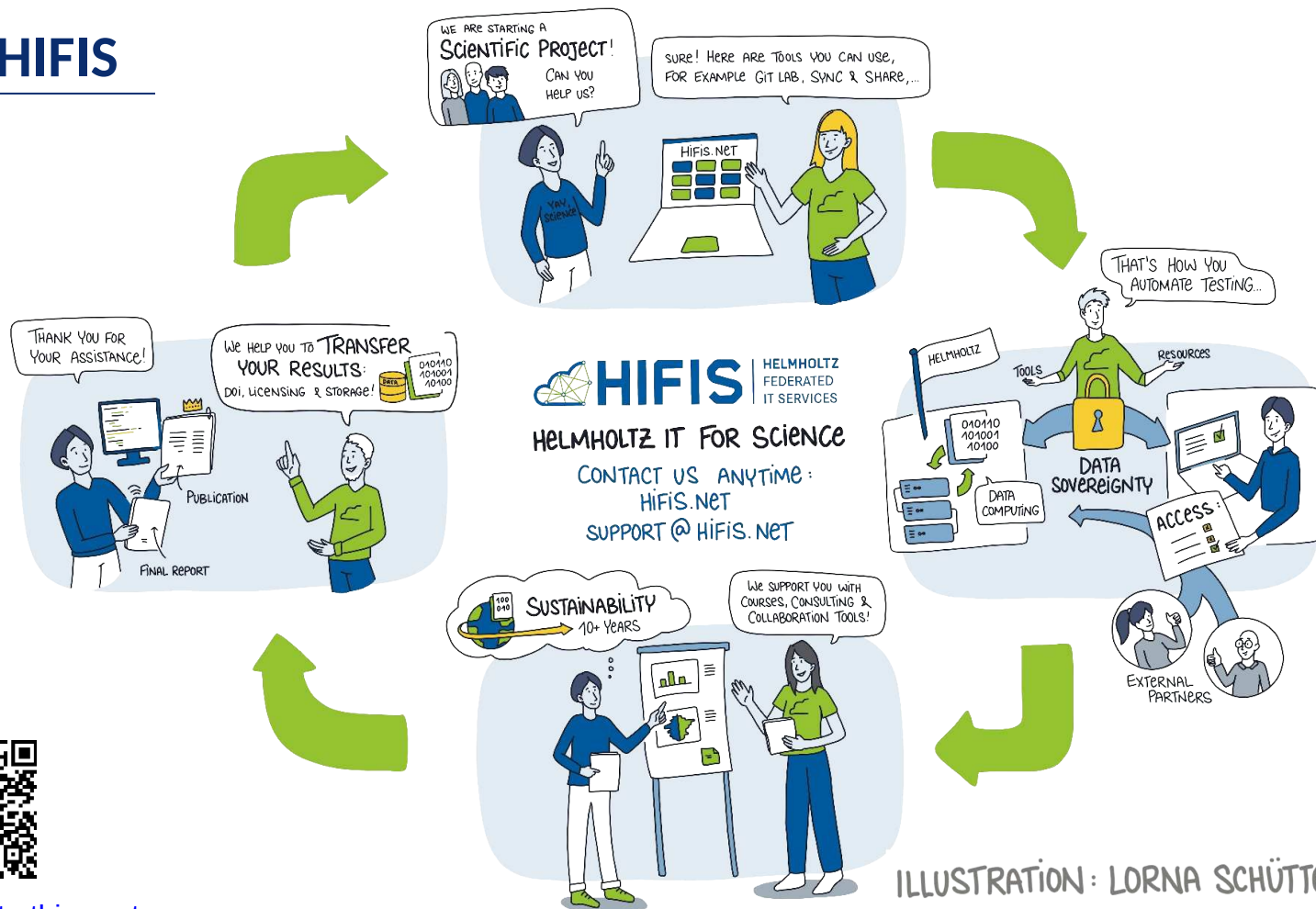
QUESTIONS?



Katerina Limpitsouni via  
undraw.co

# SPARE SLIDES

# Why HIFIS



➤ [Link to this poster](#)

ILLUSTRATION: LORNA SCHÜTTE

# I. Helmholtz Services: Pipelines + Pilots

➤ [hifis.net/doc](https://hifis.net/doc)

➤ Click on  
**Cloud Services**

OR

➤ <https://hifis.net/doc/cloud-services/list-of-services/>

➤ <https://hifis.net/doc/service-portfolio/service-portfolio-management/current-services-in-portfolio/>

☰ List of Services 🔍
Pilot Services
<ul style="list-style-type: none"><li>• <b>dCache Storage Service</b>, provided by DESY. <a href="#">Instructions for gaining access are provided here.</a></li><li>• <b>RocketChat</b> Messaging System, provided by FZJ.</li><li>• <b>Rancher Managed Kubernetes Cluster</b>, provided by DESY. So far, manual authorisation needed.</li><li>• <b>LimeSurvey</b>, provided by DKFZ. <a href="#">Instructions for access can be found here.</a></li><li>• [...]</li><li>• <b>HedgeDog Notes</b> markdown writing and sharing platform. Open for All-Helmholtz and partners, provided by DESY.</li><li>• <b>HIFIS Events Management</b>, based on CERN's Indico. Open for All-Helmholtz and partners, provided by DESY.</li><li>• <b>Orpheus</b> OpenID Connect investigation service, provided by KIT.</li><li>• <b>SonarQube</b> platform for continuous inspection of code quality, provided by DESY.</li></ul>

Current Services in Service Portfolio	
Service Pipeline	Service Catalogue
OpenStack, Jülich (JuCloud) ; KIT ; DKFZ	OpenStack (HDF Cloud), Jülich
Storage (HDF), Jülich ; DESY	Mattermost, HZDR
GitLab, Jülich ; KIT ; GEOMAR	GitLab (HIFIS Software), HZDR
JupyterHub, DESY ; DKFZ ; HMGU	JupyterHub, Jülich
HAICORE (HAICU, HIP), KIT ; Jülich	B2Share (Invenio), Jülich
Singularity, Jülich ; KIT	Zammad (HIFIS Helpdesk), HZDR
Docker, DESY	bwSync&share (NextCloud), KIT
Nextcloud (OnlyOffice), DESY	Nextcloud (OnlyOffice), HZB
AWI Marketplace, AWI	
GPU compute Service, HZDR ; Jülich	
JupyterHub notebooks on HPC, KIT	
LimeSurvey, DKFZ ; HMGU	
Ocean & climate Sensor Management, AWI	

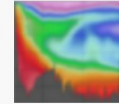
## II. Helmholtz Software Spotlights



### ENPT

The Environmental Mapping and Analysis Program (EnMAP) is a German hyperspectral satellite mission that aims at monitoring and characterising Earth's environment on a global scale. EnMAP measures and models key dynamic processes of Earth's ecosystems by extracting geochemical, biochemical and biophysical parameters that provide information on the status and evolution of various terrestrial and aquatic ecosystems.

[more...](#)



### ODV

Ocean Data View (ODV) is a software package for the interactive exploration, analysis and visualization of oceanographic and other geo-referenced environmental data. ODV runs on Windows, MacOS, and Linux. ODV data and view files are platform-independent and can be exchanged between different systems.

[more...](#)



### IGMAS+

Modern geophysical interpretation requires an interdisciplinary approach and software capable of handling multiple inhomogeneous data like seismic, FTG gravity, magnetic and magnetotelluric in complex geological environments.

[more...](#)



### RCE

RCE is a distributed integration environment for scientists and engineers to analyze, optimize, and design complex systems like aircraft, ships, or satellites.

[more...](#)

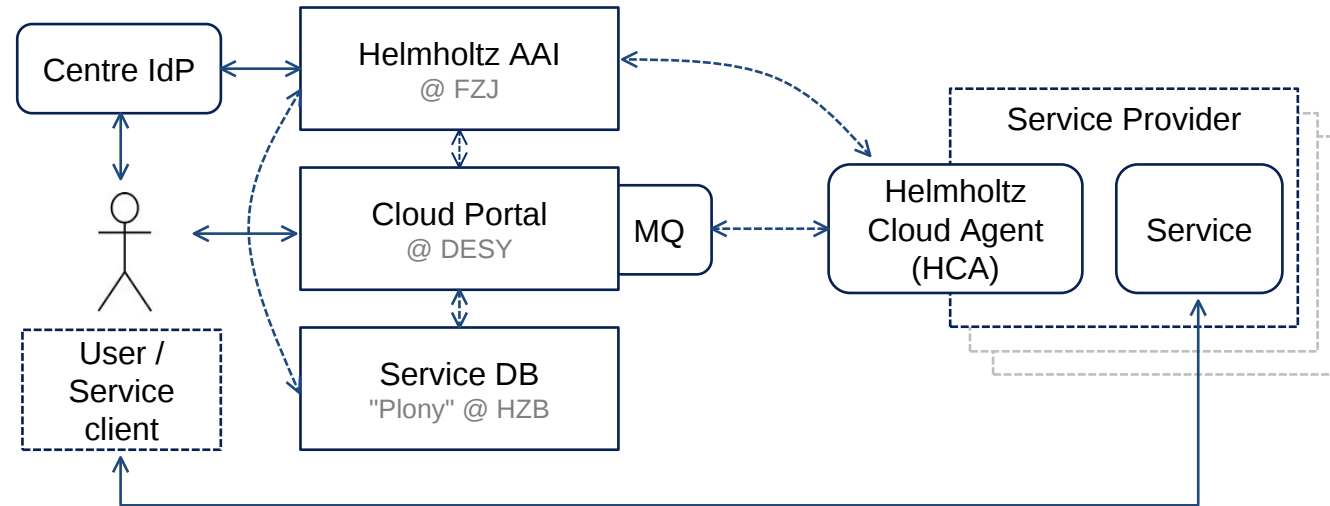
- Present & Promote top success stories of Research Software Engineering in Helmholtz
- from all Helmholtz Research Communities
- approx. **90 Proposals** so far, to be presented in: <https://hifis.net/spotlights>
- ... more to come. Stay tuned!



## Ib. Architecture (under development)

- [hifis.net/doc/service-integration/](https://hifis.net/doc/service-integration/)
- [hifis.net/doc/service-integration/hca/](https://hifis.net/doc/service-integration/hca/)

- Modularity / Flexibility
- Different levels of integration possible
- Open



# Cloud Services (including Pipeline)

Service	Pilot users	Service Providers	Service Category
<b>OpenStack</b>		Jülich (inkl. HDF), KIT, DKFZ DESY	Infrastructure Services
<b>Storage</b> (HDF)	AWI, DESY, DKFZ, GSI, HMGU	Jülich, DESY, KIT	
<b>HAICORE</b>	H.AI, HIP, HPC User	KIT, Jülich	
Singularity		KIT, Jülich	
Kubernetes		DESY	
GPU Compute Service		Jülich, HZDR, DESY	
AWI Marketplace		AWI	
<b>GitLab</b>	HIP, HMC, H.AI, HZB, DLR, FZJ, UFZ, GFZ	HZDR, KIT, Jülich, GEOMAR	Science / Community Services
<b>JupyterHub</b>	FZJ, DESY, DKFZ, HMGU, KIT	Jülich, DESY, DKFZ, HMGU, HZDR	
<b>B2Share</b> (Invenio)		Jülich	
JupyterHub Notebooks on HPC		KIT	
ODV (Ocean Data View)		AWI	
RODARE		HZDR	
➤ <b>&gt;12 Services available (green):</b> (+associated services) Ocean and Climate Sensor Mgmt.		<a href="https://cloud.helmholtz.de/#/services">https://cloud.helmholtz.de/#/services</a> <a href="https://hifis.net/doc/service-integration/pilot-services/pilot-services/">https://hifis.net/doc/service-integration/pilot-services/pilot-services/</a> AWI	Helmholtz Federated IT 30