



DESY Site Report

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HEPiX Spring 2023 in Taipei
2023-03-27

Activities for Ukrainian scientists, students and civilians

Fellowships for two Guest Scientists

- EU funded special fellowships to continue their work while the Russian invasion of their home country continues.

Winter School for students

- 22 students enrolled at Ukrainian universities have been working on DESY research projects for six weeks at the Hamburg and Zeuthen campuses
- intensive course for students of any nationality who were enrolled at a Ukrainian university and who had at least completed two years of bachelor studies

Humanitarian aid both in Ukraine and Germany

- among others, families that have fled the war are helped with accomodation on campus, until more permanent housing can be found

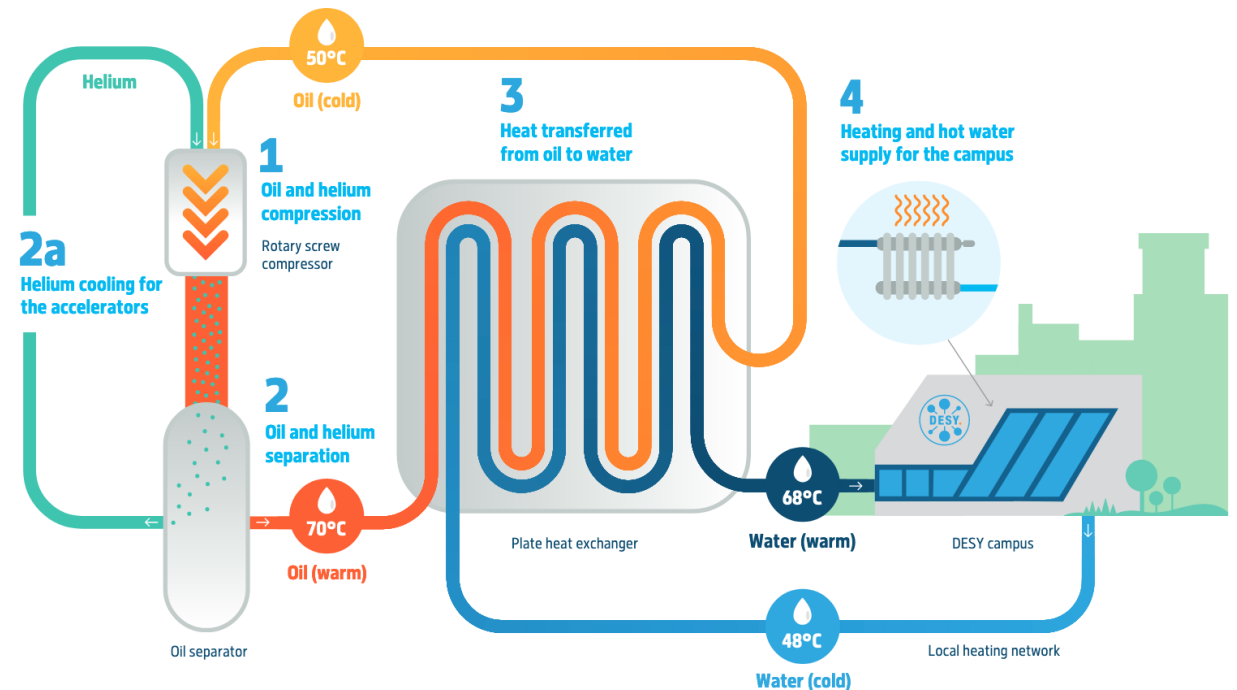
... and further DESY and private initiatives



IT computing center and sustainability projects

Funding for re-use of waste heat on campus

- DESY has been recycling waste heat from the helium liquefaction plant for many years already
- new funding has been secured to also use waste heat from the computing centers and also from other parts of the accelerator complex
- the recycled heat will be fed into a low-temperature campus heating network
 - and new buildings will be designed and built to be able to use these temperature levels for space heating



Download: [first DESY sustainability report](#)

Interlab cooperation and beyond

Helmholtz Federated IT Services (HIFIS) Program has been reviewed and very well received

see <https://hifis.net> for further information

Further activities between research organisations and universities for various scientific communities in Germany have been created and in operation

National Research Data Infrastructure has launched discipline oriented projects to increase exchange and sharing of knowledge, infrastructure and services

At DESY the Photon Science community is involved in DATA from PHoton and Neutron Experiments (DAPHNE - <https://www.daphne4nfdi.de>)

The High Energy Physics community is involved in Particles, Universe NuClei and Hadrons (PUNCH - <https://www.punch4nfdi.de/>)

The screenshot shows the HELMHOLTZ CLOUD service catalog interface. The header includes the logo and navigation links for Services, Team, News, Helpdesk, About, and Sign in. A search bar is present, along with filters for Keywords, Providers, Software, and Sort Services. The current provider is set to 'Deutsches Elektronen-Synchrotron'. The main content area displays a grid of service cards:

- HIFIS Events**: Indico. An Events Management service for everyone within Helmholtz and their partners, based on Indico. Category: Collaboration.
- Jupyter**: Jupyter. Open-source software and service for interactive computing. Category: Collaboration.
- Notes**: HedgeDoc. A collaborative platform to write and share markdown based documents. Category: Collaboration.
- Rancher managed Kubernetes**: Rancher. Container orchestration on Rancher managed Kubernetes Cluster. Category: Infrastructure.
- Sync & Share**: Nextcloud, dCache. File Sync and Share, Collaborative Editing using OnlyOffice. Categories: Storage, Collaboration, Sync & Share.

Each card includes a 'Description' link and a 'Go to service' link.

IT – Security

- Cybersecurity
 - Scans of accessible services have shown that assumptions of being secure by relying on Linux distros is false
 - not all flaws in products inside the distros are addressed by companies
 - not all releases get the same amount of love
 - we are contemplating how to get better control
- Security incidents in academic institutions in Germany in the last months have led to an increased focus on reviewing our own measures and procedures
 - real breaches have downed several (large) organisations
 - upper management is now very interested in the subject
 - we are reviewing our procedures and adapting where necessary
 - and accelerating some of the projects that we had on the board already

IT – Security, AAI and MFA

- Activities on multi factor authentication intensified/accelerated
- Plan is to have all interactive remote access handled first (VPNs, SSH)
- In parallel take care of email web interface
- and consecutively gather other services that allow for external access (web apps, secured web pages)

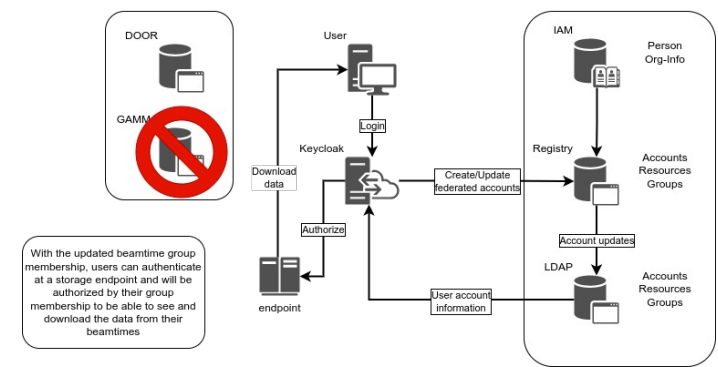
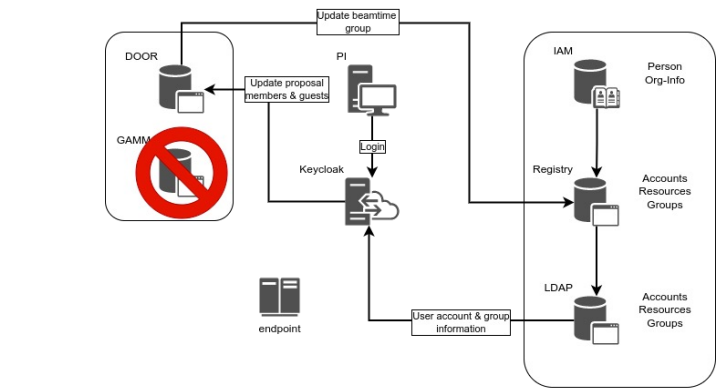
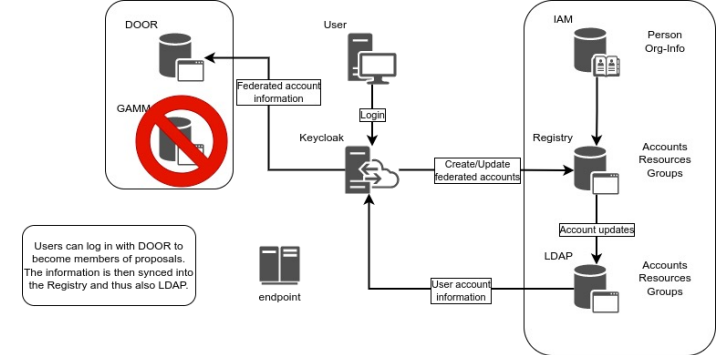
- using the technology that we already have deployed for handling federated identities (Keycloak)
- and adding a MFA service that communicates with Keycloak, so not all applications and services have to implement the MFA hook individually

- as a by-product we gain SSO for all services connected

Enhanced data management

inclusion of metadata catalogues for Photon Science

- Jointly with the Photon Science Division, IT is developing a service for metadata collection and search
- based on SciCat – <https://scicatproject.github.io/>
 - originated from Paul Scherrer Institute in Switzerland, now development in an international team at PSI, ESS, RFI, ALS
 - individual adaptations at sites reflecting local infrastructure and processes
- development at DESY includes:
 - automated setup of metadata collections from various sources of information in Photon Science and IT
 - automated ingest of metadata from experiments at Petra III and FLASH light sources
 - integration in the DESY Online Office for Research with Photons (DOOR) and the IT user & group management



Sync&Share services

- DESY operates two Sync & Share installations (for DESY and EuXFEL respectively)
 - based on Nextcloud and dCache
 - serving users from all over Helmholtz Association
- Functionality is steadily enhanced – as needed by user communities
 - Evaluation of useful plugins for Sync&Share (Nextcloud), also in HIFIS context
 - Connected to Helmholtz AAI (effectively including all of GÉANT federation), Umbrella and more as needed
- Development of infrastructure
 - Disaster Recovery in place based on dCache base functionality and data keeping in orthogonal data storage based on IBM Spectrum Protect
 - allowing multi protocol access (NFSv4) by using event driven actions that notify Nextcloud databases
 - connection to Keycloak and local user & group management



Goodbye ATASSIAN

Continuing our exit path from ATASSIAN tools

- Users have been and are migrating from Bitbucket and Bamboo to the DESY gitlab service
 - we also have ways of migrating Jira software issues to gitlab
 - goal is to have completed these migrations by end of summer 2023
 - IT provides consulting for groups on how to migrate. Groups do work themselves
- PoC with Xwiki.com to replace Confluence ongoing
 - verification of on-premises infrastructure setup, tuning of instance, HA measures
 - structure of Wikis jungle
 - pilot migration of representative spaces until start of summer break
- Jira functionality for Project Management and esp. Resource Management is still an issue
 - we are interested in experience from other sites to the latter
 - project management will be included in larger DESY effort to unify tool set

OS and energy saving

- Deployment of AlmaLinux 9 has started
 - server installations first
 - waiting for official EGI/WLCG middleware
- Deployment of Windows 11 with pilot user groups
 - large deployment later in the year
- Activities around energy conservation in computing centers
 - measures in place to automatically shut down worker nodes when energy supply becomes critical
 - and to turn machines back on automatically, when the situation allows
- Zeuthen site was hit harder by rise of energy cost
 - decision was taken shut down all Compute Systems (Grid+HPC+Batch) older than 5 years
 - resulting in ~40% less cores in operation on Zeuthen site
- more info in dedicated presentation later this week



Further DESY presentations

Kubernetes cluster for Helmholtz users – Tim Wetzel

(28 Mar 2023, 10:50)

Towards energy efficient compute clusters at DESY – Thomas Hartmann et al.

(30 Mar 2023, 15:50)

Thanks for your attention

Job opportunities at DESY

complete overview at https://v22.desy.de/index_eng.html

- Data Scientist for the Rock IT Project
- Senior Storage Scientist – CEPH and new technologies (come and talk to me)
- Developer (M.Sc.) for IT services for science (under publication, come and talk to me)
- Admin for Databases and Application Servers