

FAIR Data and Open Science skills on the research factory floor



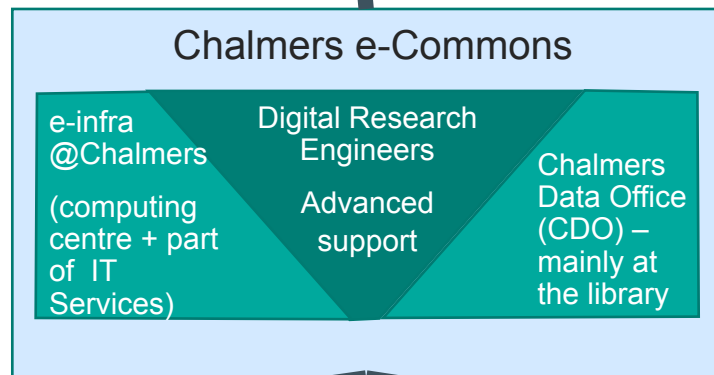
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Chalmers e-Commons at a Glance...



Chalmers Researchers, Research Groups, Departments, Research Infrastructures



Other support functions and central resources at Chalmers

• Areas of Interest – Digital Research Engineers:

- AI/ML
- High Performance Computing
- Research Data Management
- Visualization (InfraVis - national)
- Radio Astronomy (SKA - global)
- Life Science (DDLs - national)

• Chalmers Data Office

- Support for the full data life cycle
 - Active data, sharing and analysing in projects, documentation, preservation, publication, ...

• Access to e-infrastructure

- Computing and storage
- Tools for data management, analysis, ...
- Local, national, international

Why?



Digitalization changes the *modus operandi* of research!

New classes of research paradigms, results and resources:

- new methods (e.g. “AI”), models, software, data, ...
- remote and “virtual” access to resources and expertise
- new opportunities for collaboration and sharing – e.g. **FAIR data and Open Science**

The “traditional” digital support landscape is fragmented, not coordinated, and lacks agility.

Observation: Future competitiveness of research builds on access to a “complete” integrated digital support landscape, including both expertise and e-infrastructure

- ⇒ Researchers and research need to take **ownership and responsibility** for the digital support landscape (this is standard for “traditional RIs”; instruments and facilities)
- ⇒ The ownership and governance should be within research. But a broad set of support functions (IT Services, Library, Archive, Grants Office,) are essential to build and develop the integrated digital support landscape.

What training/upskilling needs do we

see?

For the individual researchers – old and young at all levels - at Chalmers

- Short (0,5 – 1 hour) events with a concrete focus, e.g. Digital Publishing, Data Management Plans, Data Documentation (FAIR), Data Sharing and Publication, Analysis of Data (several versions and methods, incl. "AI"), Using Large-Scale Resources, Funders Requirements, ...

For PhD students at Chalmers (and potentially also PostDocs and others interested):

- A three-day module in the *General Transferable Skills* package on *Research in the Digital Age*, building on (extending) the short events above

For our contact persons at the Departments and Research Infrastructures at Chalmers:

- Deeper upskilling events, some "horizontal" and some "vertical/topical". Including also future perspectives and predicted developments, national and international

For the Chalmers leadership:

- Seminars on the policy development in a broad sense (nationally, internationally)
- Presentations of best practices and success stories in Chalmers research activities

For the Chalmers e-Commons/Chalmers Data Office staff:

- Academic programs/courses (e.g. MSc in Data Management)
- Participation in national and international activities/projects



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The Chalmers Setting



- Guidelines for publications (articles, conference contributions etc)
- Mandate for *Proper Data Management*
 - All research activities should have (an up-to-date) Data Management Plan
 - As far as possible, data should be stored under the control of Chalmers
 - Data that should be preserved to document research activities and/or for publication should be as FAIR as possible
- Availability of suitable and efficient e-infrastructure, tools and support functions
- Chalmers and Chalmers e-Commons takes an active role in e.g. the Swedish National Data Service (SND) and EOSC

Swedish National Data Service (SND) Consortium

An important vehicle for not only *to support the accessibility, preservation, and reuse of research data and related materials* but also to coordinate training/upskilling efforts nationally and reach out internationally

- Consortium: Nine main (research-focussed) universities in Sweden
- Hosted by Gothenburg University (GU)
- Participation in Skills4EOSC: SND/GU + Chalmers + Karolinska Institutet + Umeå University
- Specific target from 2023: Create a [national] framework for user training resources to match researcher demands with new tools and services





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