FAIR Data and Open Science skills on the research factory floor

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EOSC Symposium 2022, session "Talkers, Thinkers, Doers: Stakeholder Engagement and EOSC synergies through Skills4EOSC", 2022-11-14
Chalmers e-Commons at a Glance…

Chalmers Researchers, Research Groups, Departments, Research Infrastructures

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

Chalmers e-Commons
- e-infra @Chalmers
  - Computing centre + part of IT Services
- Digital Research Engineers
  - Advanced support
- Chalmers Data Office (CDO) – mainly at the library

National and international digital RIs
- SNIC/NAIS, SND, EOSC, EuroHPC, …

Selected national and international Research Infrastructures
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
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-focused) 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