



Chalmers e-Infrastructure Commons

An IOSC (!?)

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Chalmers University of Technology



- In Gothenburg, Sweden. Founded 1829. One of the two “old” Universities of Technology in Sweden.
- www.chalmers.se/en
- 3100 employees, 10000 students in engineering, science, shipping and architecture. A focus both on basic research and industrial collaboration (a large share of publications are co-authored with industry)
- Hosts e.g. the European Graphene Flagship and the development of a Swedish quantum computer

Vision

Chalmers – for a sustainable future



For a sustainable future?



Yes, Chalmers indeed seeks to meet the need for ecological, social and economic sustainability in a committed, innovative and pioneering way.

Digitalization of research is a fundamental enabler:

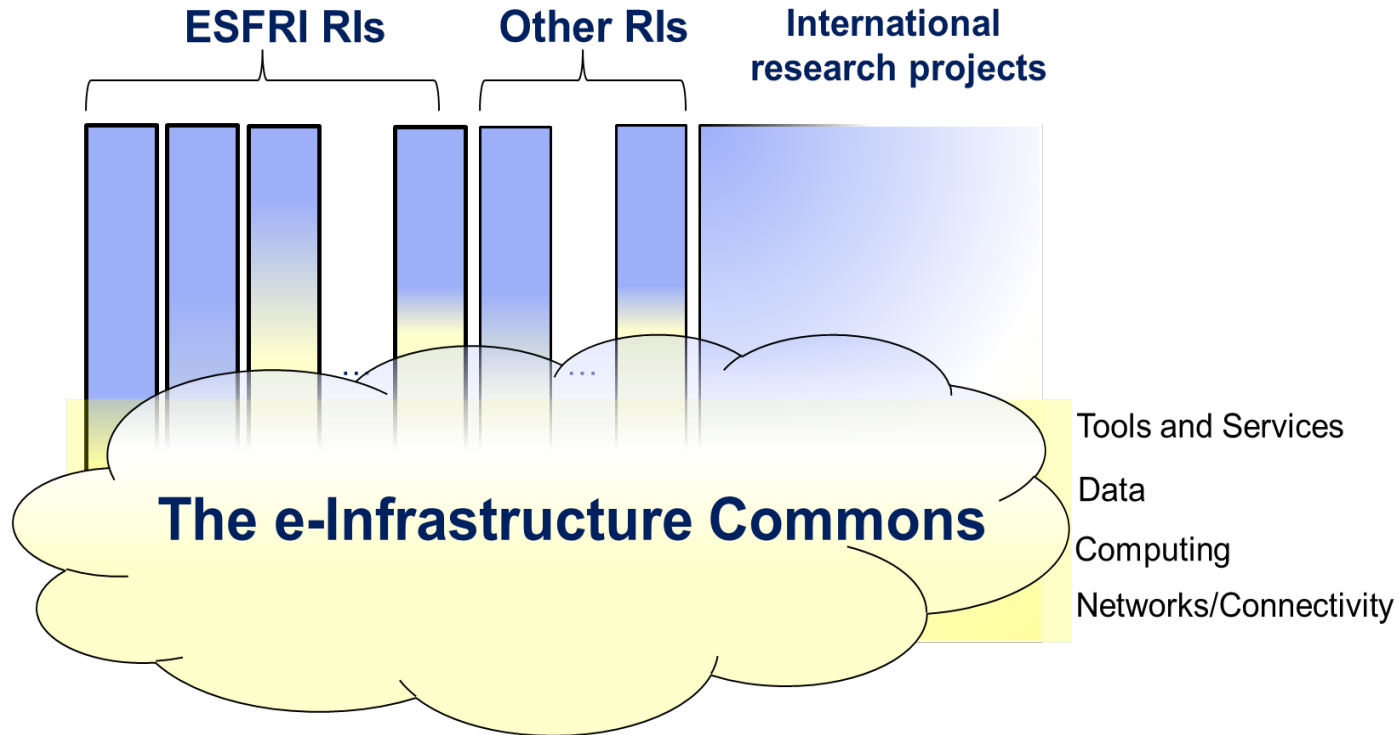
- **New types of research results and resources emerges, new modes of collaboration are enabled, and new types of expertise are needed.**
- **Competitive research requires a holistic vision, strategy and implementation of a supporting digital research infrastructure, including expertise.**

The Swedish Context



- Ten main research universities, Chalmers is one of these
- National research infrastructures, **including e-infrastructures**, are owned by university consortia, co-funded 50-50 by the Swedish Research Council (SRC)
 - **SNIC, Swedish National Infrastructure for Computing** - Large-scale computing and data storage
 - **SND, Swedish National Data Service** -. Finding, describing and sharing research data
 - **SUNET** (anomaly: owned by the Swedish Research Council) – Connectivity
- Universities, the SRC and the National Library have Open Science mandates from the government – **full transition to an Open Science research system by 2026**
- EOSC AISBL: Five universities (hosts of SNIC, SND, the “Swedish Rector’s Conference” + Chalmers, Karolinska Institutet). SRC is mandated organization
- Sweden is a member of the EuroHPC LUMI consortium, access via SNIC

The e-Infrastructure Commons



The e-Infrastructure Commons

Three distinct core functions:

1. **Community building, high level strategy and coordination:** a coherent governance model with a central role for user communities
2. **Service provisioning:** a flexible, open, and competitive approach to national, European, and global service provision; with advanced collaboration among the interested public and commercial service providers.
3. **Innovation:** Implementation of major innovation projects through the best consortia including e-Infrastructure suppliers, industry, users and academia.

What has happened after 2016?



- The European e-Infrastructure Commons idea was taken up and further developed towards the EOSC
- e-IRG presented further recommendations on the need of integrated national digital/data-infrastructures
- The “Rectors Conference” and the Swedish Research Council has proposed that existing national e-infrastructures (SNIC, SND, SUNET, ++) should be integrated – input to an investigation by the Ministry
- The “Rectors Conference” has recently adopted a National Roadmap for Open Science (with a focus on research data)

Meanwhile at Chalmers...



A Work Group was mandated to propose a **new model for digital research infrastructure**

- Survey, hearing, extensive discussions/anchoring among researchers, centers and research infrastructures, heads of departments, university leadership,...

Late 2019: Decision by the Rector – **Initiate Chalmers e-Infrastructure Commons**

Spring 2020: Hiring of Director, appointment of Steering Board and Advisory Board etc

Autumn 2020: Initial implementation, establishment of internal structures etc

Spring 2021: Adoption of Strategic Plan 2021-2025, hiring of *Digital Research Engineers* etc

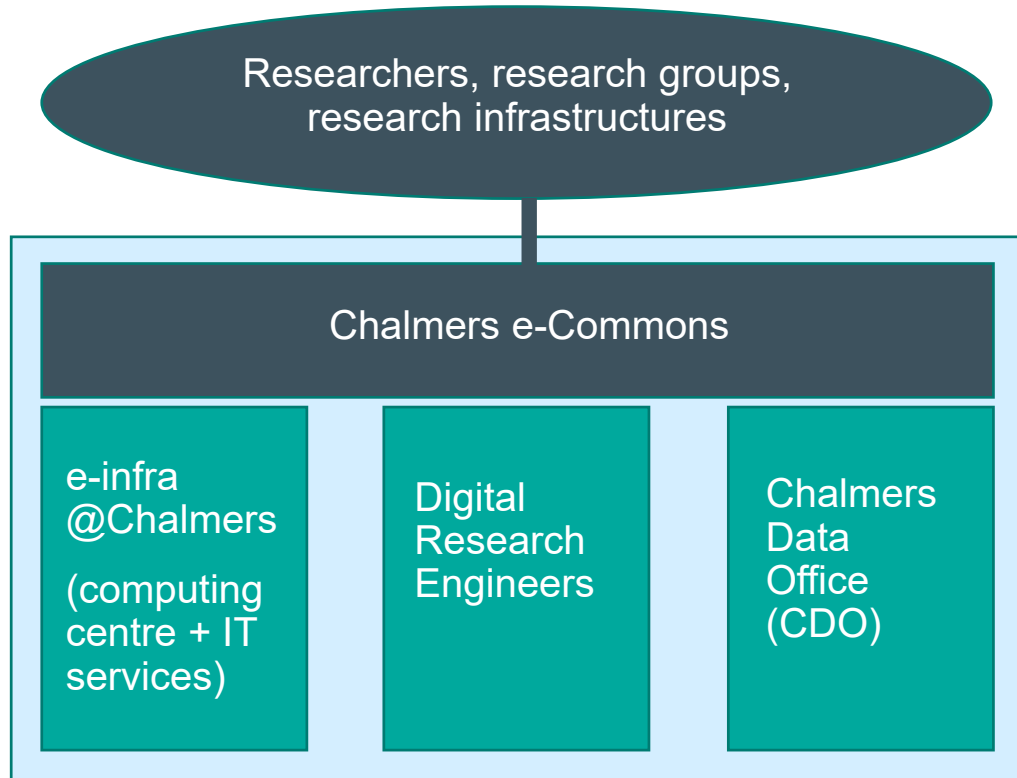
Chalmers e-Commons – Mandate

- Chalmers e-Infrastructure Commons (e-Commons) is a *Chalmers Research Infrastructure* that should deliver digital support for research to Chalmers researchers. **Based on data-centric workflows, including e.g. support for data collection, data management, computing including HPC, data storage, visualisation, sharing and publishing of data, and long-term preservation/archiving.**
- E-Commons should provide the **entry point for researchers where they get access to qualified advise** from experts in relevant areas and **find relevant tools/resources/services for their research, at Chalmers, nationally and internationally.**

Chalmers e-Commons – Mandate

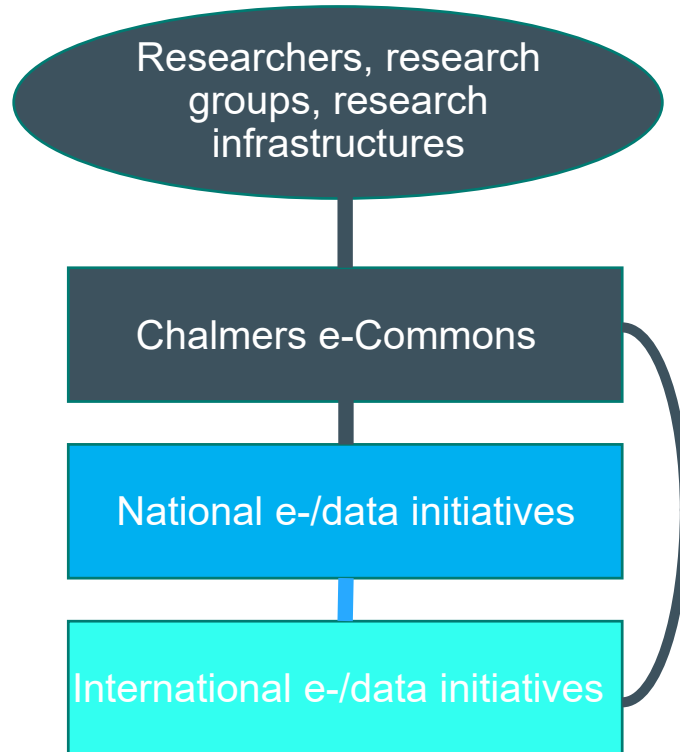
- E-Commons should work together with support functions at Chalmers that delivers services to researchers via e-Commons, e.g. IT support, Library, Archive, ...
- E-Commons is Chalmers interface to national and international e-infrastructures, including e.g. SNIC, SND, SUNET, [EOSC](#) and [EuroHPC](#)

Chalmers e-Commons – Operations



- Management Group
 - Director (Chair)
 - “Computing Centre”, “IT-Services”, “CDO/Library”
 - Two Digital Research Engineers
- Interest groups to stimulate further development of the e-infrastructure based on the needs of research
- “Formalised” (long-term) Work Groups
- Task Forces

Chalmers e-Commons – in the eco-system



- Choices: How to participate in international activities?
 - As Chalmers?
 - Via national initiatives like SNIC and SND?
- Chalmers e-Commons provides e-infrastructure support to local/national/international research infrastructures and collaborations (e.g. Data-Driven Life Science, SKA, ...)

Chalmers e-Commons – Governance



- As a *Chalmers Research Infrastructure*, e-Commons is part of the line organization for research (not a part of the “regular support functions”)
 - Steering Board with Heads of Departments, Heads of Strategic Initiatives etc
 - Advisory Board – wide span of research leaders/coordinators
 - International e-Infrastructure Advisory Board – under appointment

Chalmers e-Commons – Business Model



- Significant central funding from Chalmers: 0,5 + 0,6 + 0,5 MEUR/year + “in-kind” from support functions

Mandate:

- Deliver a basis set of e-infrastructure services and advice to researchers *free-at-the-point-of use*.
- Further, more extensive, services and resources provided *at cost*.
 - E-Commons should be the natural partner at Chalmers for delivering and providing access to services and resources to research infrastructures and research groups with special or larger needs of e-infrastructure.

Relation to e-IRG Commons...



Yes, Chalmers e-Commons is set up to be a *political, technological, and administrative framework for an easy and cost-effective shared use of distributed electronic resources and an integrated living ecosystem of resources and services that is open, user friendly and accessible to [Chalmers] researchers, and continuously adapts to the changing requirements of research.*

- **Community building, high level strategy and coordination:** Yes, a coherent governance model with a central role for user communities
- **Service provisioning:** Yes, a flexible, open, and “competitive” approach to local, national, European (and global) service provision.
- **Innovation:** Yes, implementation of innovation projects locally, within the national e-infrastructures, and in international projects. Governed by the needs of Chalmers researchers and research activities.

Relation to EOSC...



Yes, Chalmers e-Commons is set up to be an *environment with open and seamless services for storage, management, analysis and re-use of research data, across borders and scientific disciplines and will place research at the centre of the initiative and will thus prioritise engagement with research communities to understand their requirements, helping them and ensuring academic sovereignty of research data.*

- E-Commons will participate in the EOSC *federating of existing data infrastructures* with local resources and/or via e.g. the Swedish National Data Service
- Note: E-Commons integrates “digital expertise”, e-Infrastructure and data management/sharing in one organization (not a yin-yang model)



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