SNIC
SWEDISH NATIONAL INFRASTRUCTURE FOR COMPUTING

PER-OLOV HAMMARGREN

SNIC COORDINATOR

PER-OLOV.HAMMARGREN@IT.UU.SE

SNIC

Swedish National Infrastructure for Computing SNIC

The Swedish National Infrastructure for Computing is a science enabling e-infrastructure for Swedish research.

SNIC supports research of the highest quality in all areas of research that have needs of large-scale computing and/or large-scale data storage/management of active data sets.

SNIC services are such that they can only be provided at a national level, or such that they provide the best and most cost-efficient support to researchers – from the perspective of the full Swedish research system

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Swedish National Infrastructure for Computing
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- SNIC was founded in 2003 as a collaboration between six computing centres with funding from the Swedish Research Council (SRC) and participating Universities.
- In 2012 Uppsala University became the host for SNIC.
- From 2018 SNIC is organized as a consortium of ten Universities.
- SNIC is the second largest national research infrastructure.

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The SNIC consortium

- Umeå University
- Swedish University of Agricultural Sciences
- Uppsala University
- KTH
- Stockholm University
- Karolinska Institute
- Linköping University
- Chalmers
- Gothenburg University
- Lund University

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SNIC funding 2018-2022

100 MSEK/year from the Swedish Research Council.

The SNIC consortium members co-funds with 64 MSEK/year in-cash and 30 MSEK/year in-kind.

The in-kind contribution is in the form of provisioning of advanced user support for the general SNIC national services.

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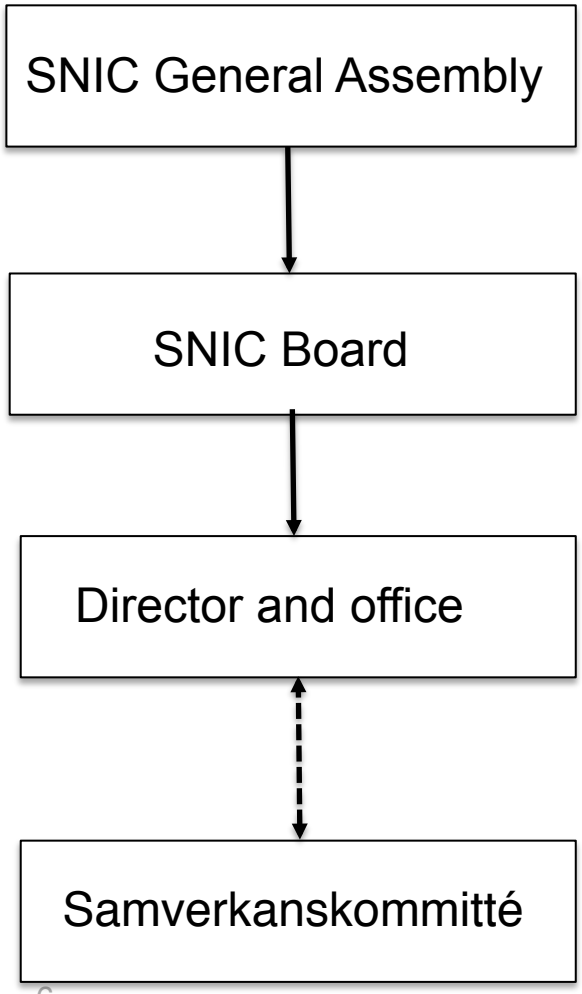
SNIC Governance



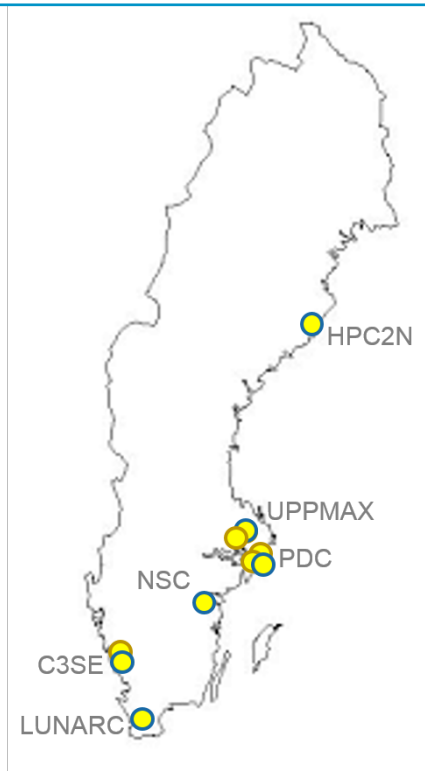
One representative for each partner.
Chairman from UU as host for SNIC.

Executive board consisting of 7-9 members

Implements the decisions made by the Board.
Coordinates the SNIC activities.

Contact point between the SNIC office and the partners regarding the daily SNIC activities

SNIC Computing Resources



SNIC computing resources (Centre, HEI)

- *Kebnekaise* (HPC2N, UmU)
- *Rackham* (UPPMAX,UU)
- *Snowy* (UPPMAX,UU)
- *Beskow* (PDC,KTH)
- *Tetralith* (NSC,LiU)
- *Hebbe* (C3SE,Chalmers)
- *Aurora* (LUNARC,LU)

Specialized resources (Centre)

- SNIC Science Cloud (UPPMAX, C3SE, HPC2N)
- SNIC Sens (UPPMAX, PDC)
- Life sciences (UPPMAX)
- WLCG (HPC2N, NSC, LUNARC)

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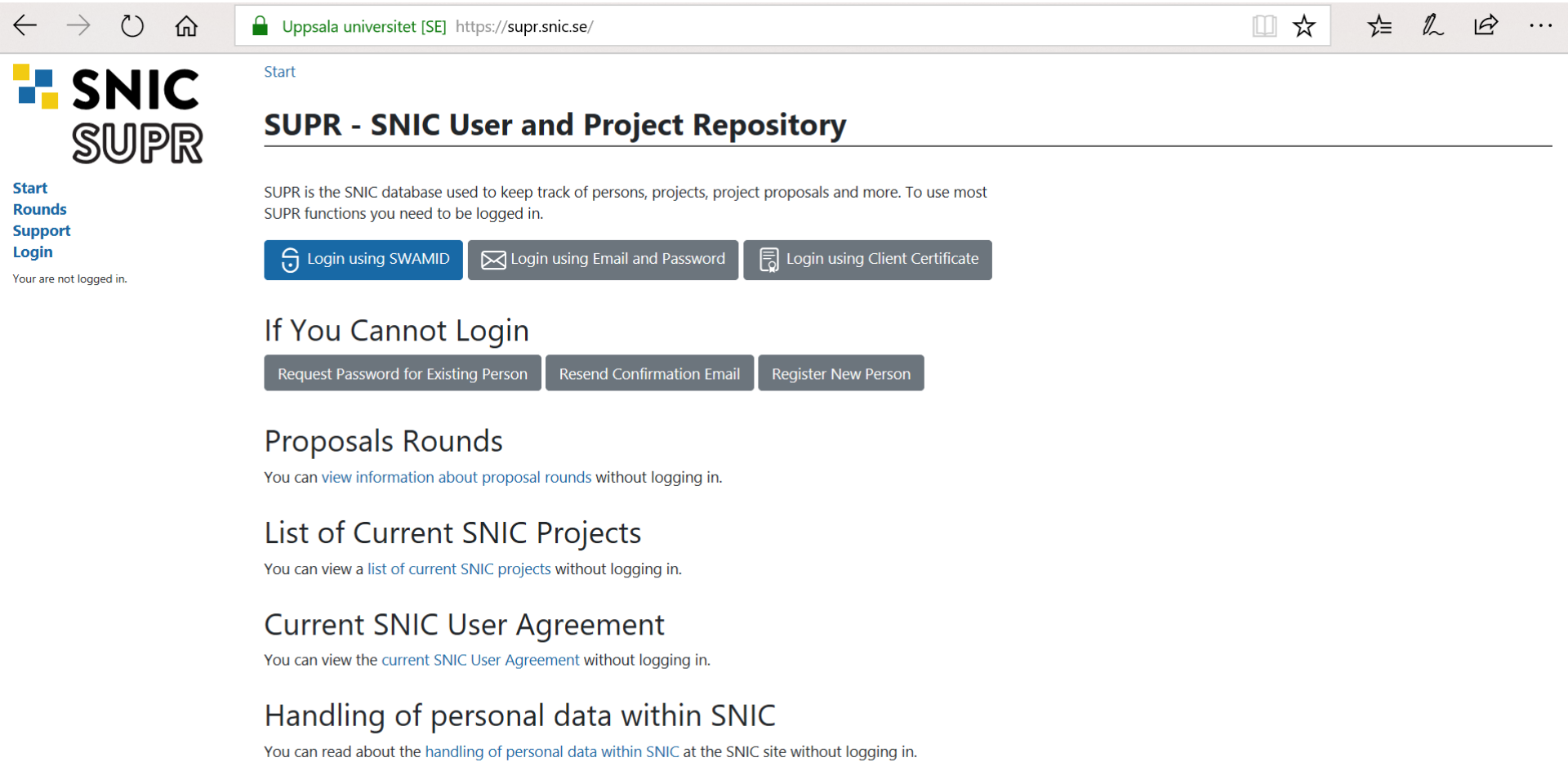
SUPR - SNIC User and Project Repository



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SNIC + SUNET

SNIC relies on SUNET services.

- SUNET 100Ge Network to all our centres and resources.
- SWAMID for authentication.
- Certificates via TCS.
- Tools such as zoom.

SNIC Inter/national Collaboration

Common resources
Nationally available storage
Common resource allocation (SNAC)
Advanced user support
Shared competencies

International collaborations
PRACE, EUDAT, NeIC, EOSC, EuroHPC

Collaboration with other national RI
Max IV, SciLifeLab, Onsala, WLCG…

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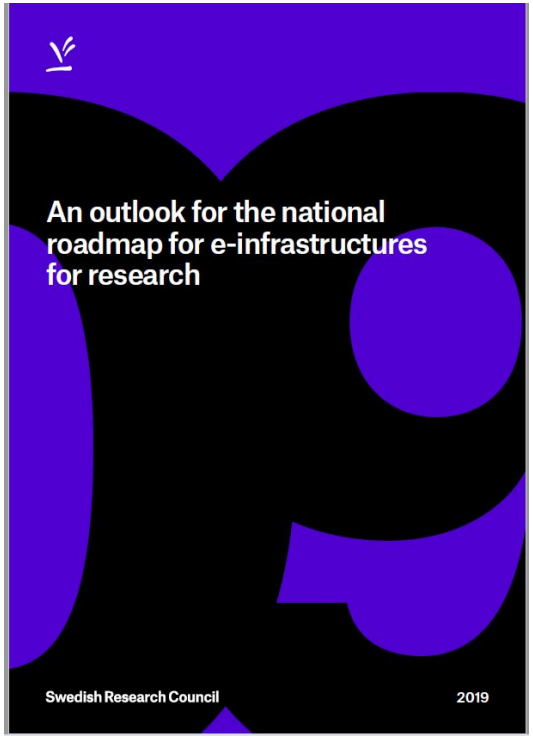
Increased national collabortion



An analysis of the Swedish e-infrastructure landscape for research was compiled during 2018 by a review group appointed by URFI and VR.

The group presented recommendations to improve the Swedish e-infrastructure landscape.

One of the recommendations was to establish a closer relationship between SNIC, SUNET, SND and RUT.

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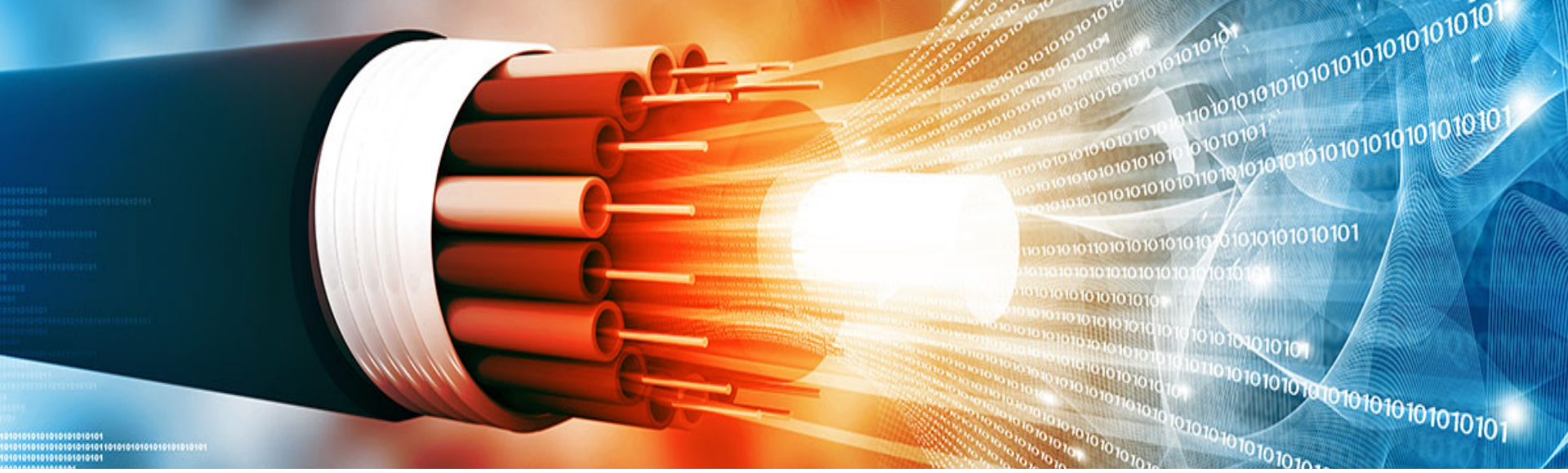


EOSC NORDIC

Call: INFRAEOSC-05-2018-2019
Partners: 24
Budget: 5.9M€
Coordinator: Gudmund Høst, NeIC Director

Project period: Sep, 2019 – Aug, 2022
Kick off mtg: Sep 2-3, 2019 (CSC, FI)

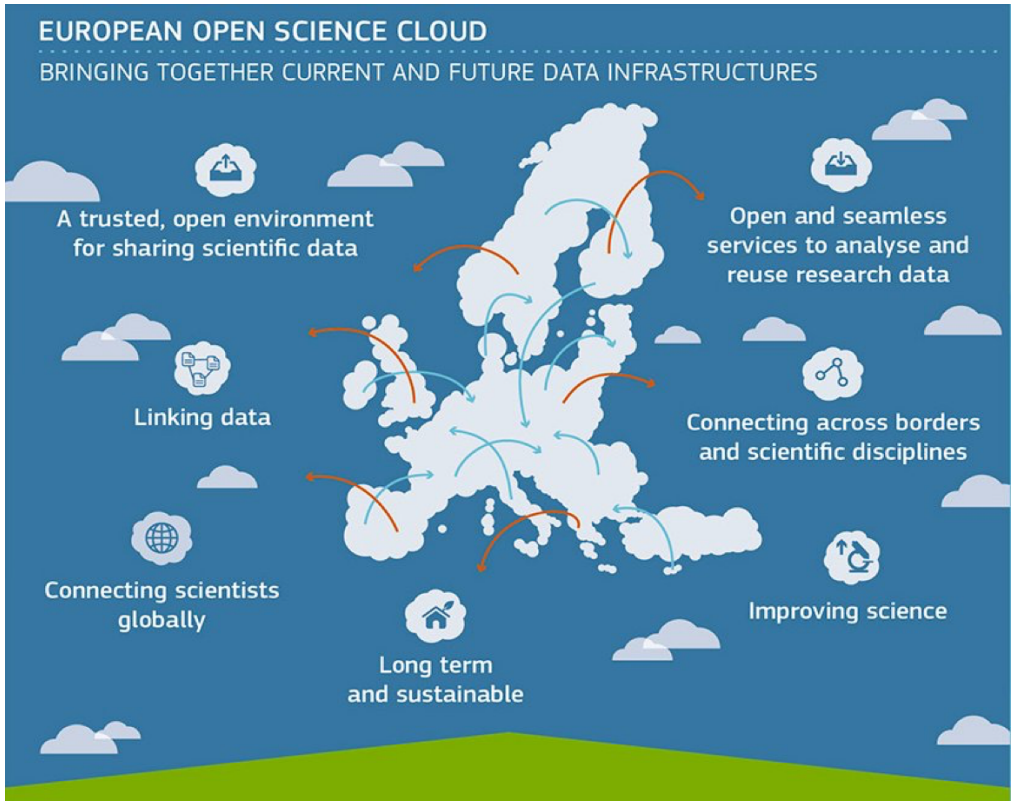
EOSC-Nordic project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 857652

NeIC
NORDIC E-INFRASTRUCTURE COLLABORATION

EOSC - European Commission's vision for Federating Data Infrastructures

- Vision for the European Open Science Cloud (EOSC) presented in the Commission communication on the 'European Cloud Initiative', as a part of the Digital Single Market Strategy [April 2016]
- "A seamless environment enabling interdisciplinary research, an environment to foster data-intensive innovation. The EOSC will allow for universal access to data and a new level playing field for EU researchers." [EOSC Strategic Implementation Roadmap 2018-2020]

➢ From 2021 fully operational



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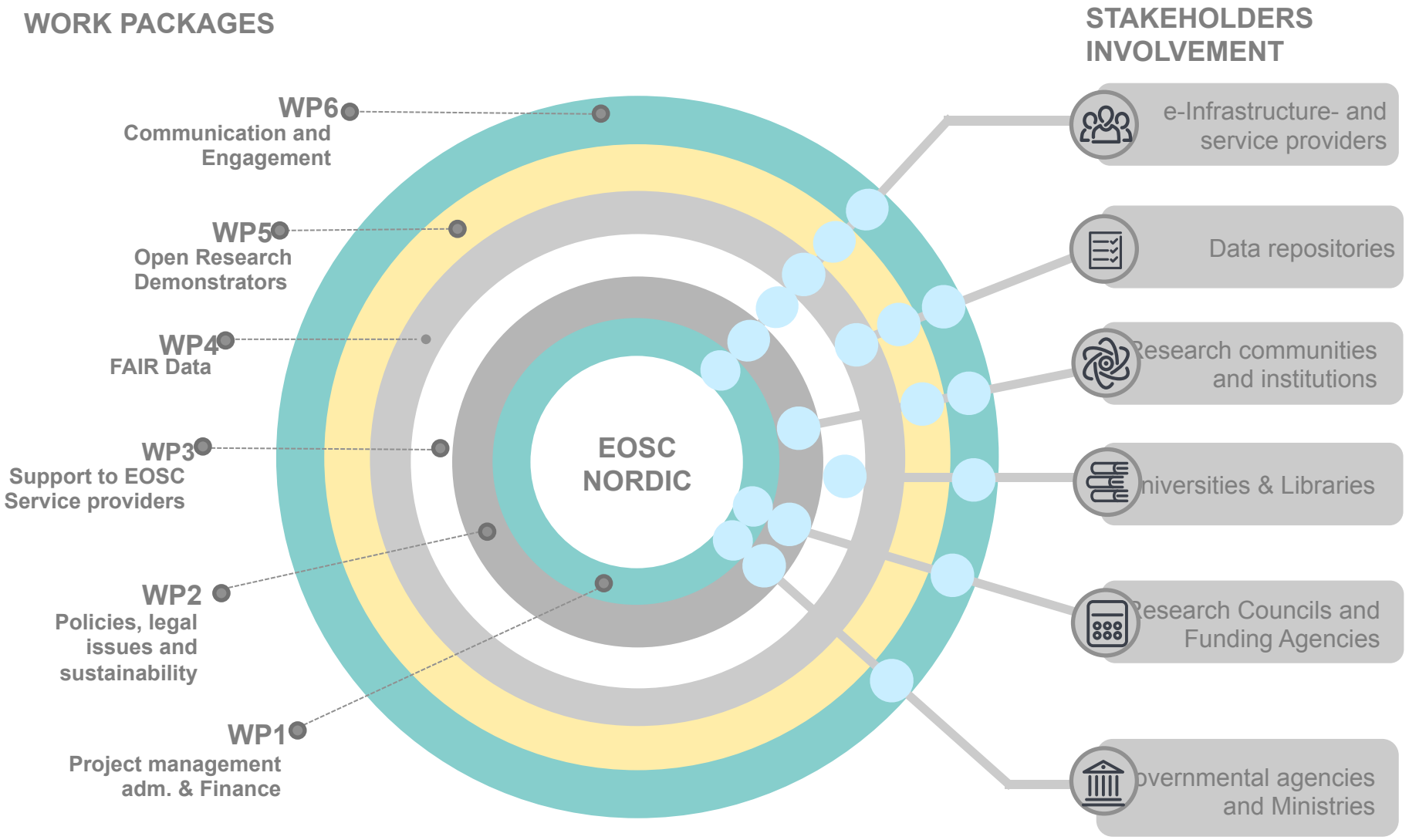
WORK PACKAGES
WP6
Communication and Engagement
WP5
Open Research Demonstrators
WP4
FAIR Data
WP3
Support to EOSC Service providers
WP2
Policies, legal issues and sustainability
WP1
Project management adm. & Finance
EOSC NORDIC
STAKEHOLDERS INVOLVEMENT
e-Infrastructure- and service providers
Data repositories
Research communities and institutions
niversities & Libraries
Research Councils and Funding Agencies
overnmental agencies and Ministries

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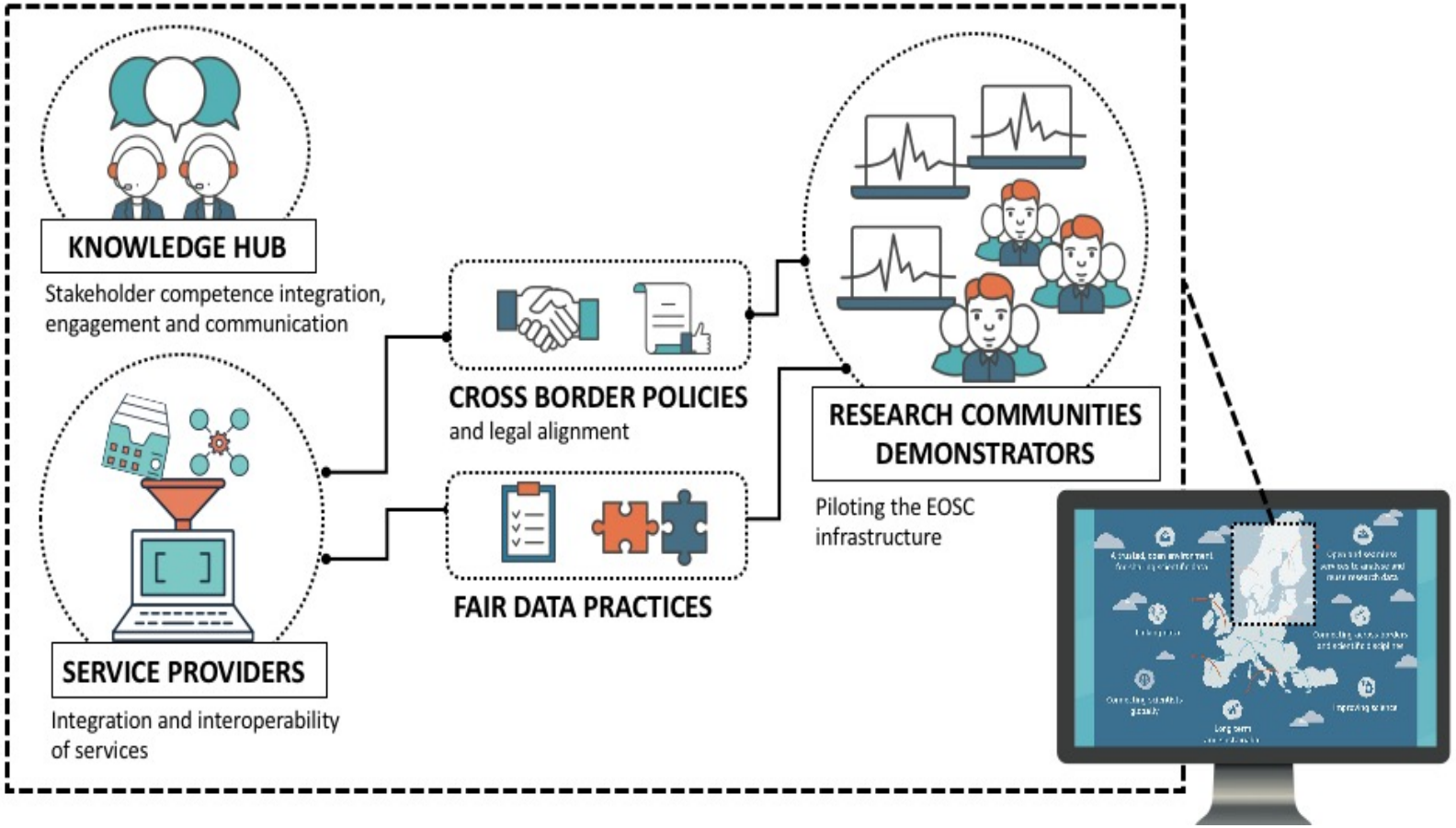
EOSC NORDIC

CATALYSING THE TAKE-UP OF EOSC IN THE NORDIC REGION



EOSC NORDIC

OBJECTIVE 1

Support coordination, harmoni-sation and alignment of Nordic and Baltic national policies and practices related to the provision of horizontal research data services with EOSC

OBJECTIVE 2

Increase the discoverability of Nordic & Baltic services. Extend and expand their use by making them accessible through the EOSC portal

OBJECTIVE 3

Promote and support the uptake of FAIR data practices and certification schemas across the Nordics

OBJECTIVE 4

Accelerate the progress and attractiveness of EOSC by piloting & delivering innovative solutions developed and tested in a useful and functional cross-border environment

OBJECTIVE 5

Provide a Knowledge Hub to deliver training and technical support to new service providers and communities willing to engage with EOSC during and after the project lifetime

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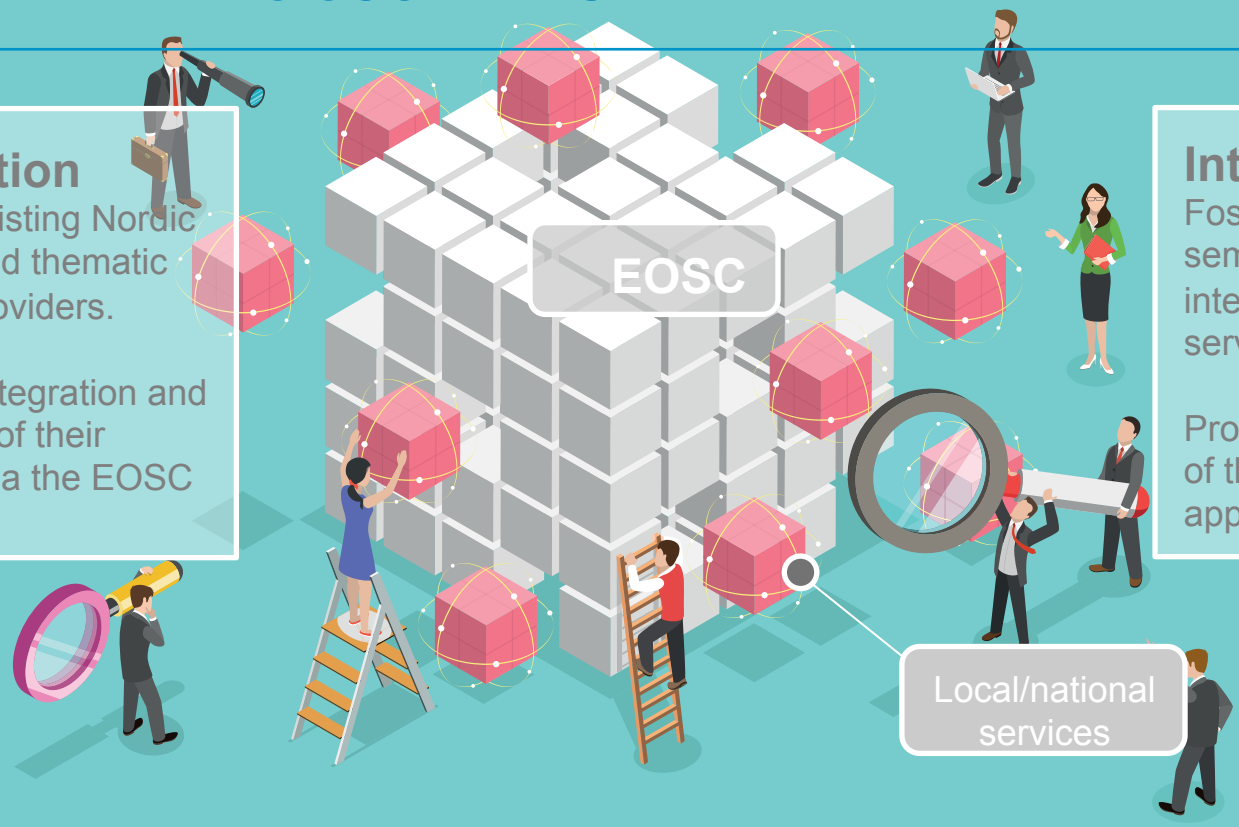
WP 3: INTEGRATION AND INTEROPERABILITY

OF PROSPECTIVE EOSC SERVICE PROVIDERS IN NORDIC AND BALTIC COUNTRIES

Integration

Identify existing Nordic generic and thematic service providers.

Support integration and discovery of their services via the EOSC portal



Interoperability

Foster organizational, semantic and technical interoperability of service providers.

Propose improvements of the interoperability approach within EOSC.

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Number	Deliverables	Month
D 3.1	**EOSC Service compliance checklist and maturity model**: This deliverable will present the service compliance checklist and the capacity maturity model that will be used to guide prospective service providers for complying with EOSC requirements. The checklist and maturity model will be a live document that will be updated according to EOSC developments.	M6
D 3.2	**First report on mapping of EOSC prospective service providers and candidate services**: This deliverable will provide a list of EOSC prospective service providers and candidate services coming from the Nordic and Baltic countries. Candidate services will be described in this deliverable according to the EOSC agreed template and assessed against the compliance checklist and maturity model developed in D3.1.	M12
D 3.3	**Service interoperability framework**: This deliverable will provide a set of recommendations for improving service interoperability across services providers. Organisational, semantic, technical and legal (leveraging work from WP2) will be in scope.	M14
D 3.4	**Programmatic access and resource provisioning of services**: This deliverable will report on the development of a programmatic access and resource provisioning interface for connecting services to a central catalogue.	M18
D 3.5	**Second report on mapping of EOSC prospective service providers and candidate services**. This deliverable will provide a list of additional EOSC prospective service providers and candidate services and will report on the work done to integrate the first set of services and the result of this integration.	M24
D 3.6	**Feasibility assessment of the implementation of X-Road for research data**. The deliverable will report on the analysis and initial proof-of-concept for connecting EOSC providers with data source over X-Road protocols in a cross-border setup.	M24

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D 3.7	**Report on the implementation of X-Road in the Nordics and recommendations to EOSC.** This deliverable will summarise the proof-of-concepts and lessons learnt when integrating data registries and EOSC-compliant service providers in a cross-border environment. The deliverable will also include recommendation for treating such scenarios on a wider scale.	M30
D 3.8	**Programmatic access and resource provisioning of Nordic services via EOSC Marketplace**: This deliverable will report on the results of connecting services to EOSC marketplace through the programmatic interface.	M36
D 3.9	**Final report on the integration of services into EOSC:** This deliverable will review the integration of services into EOSC and report on their uptake within EOSC.	M36

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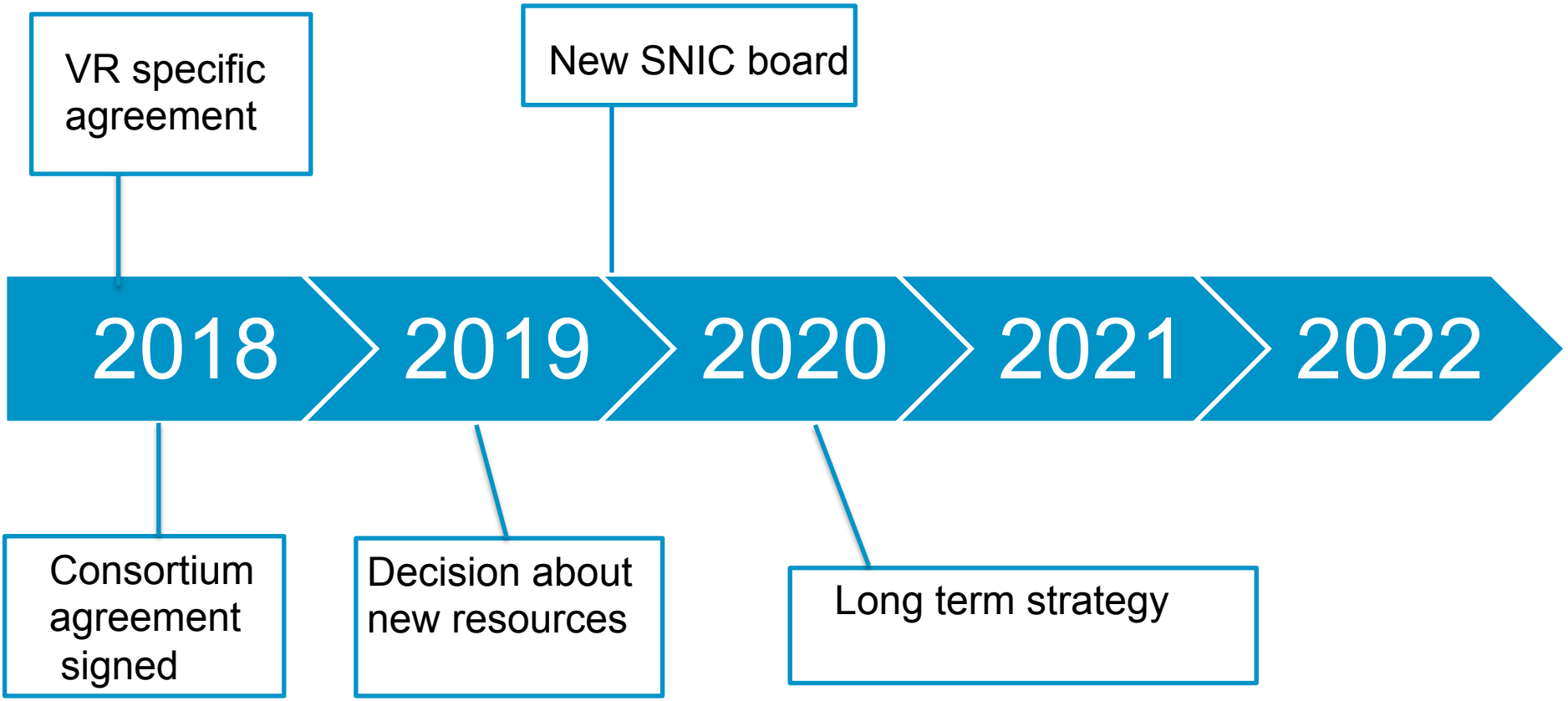
Timeline for SNIC 2.0



Challenges

- Increasingly complex demand of resources from a wider set of research fields
  - Meeting an increasing need from already established fields: physics, chemistry, fluid dynamics, climate,…
  - Meeting a fast growing need of resources from new research areas (“long tail of sciences”): life science,humanities, social sciences, …

- Need for increased collaboration
  - within SNIC
  - with other research infrastructures
  - With other infrastructures
  - Keep and share competencies

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Tack för er tid!

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EuroHPC

- VR funds the Swedish part of EuroHPC
- Sweden participates in the Finnish lead consortium LUMI providing a pre-exascale resource of 150 PFLOPS by December 2020.
- The consortium consist of Belgium (15,5 M€), Czech republic (5 M€), Denmark (6 M€), Finland (50 M€), Norway (4 M€), Poland (5 M€), Sweden (7 M€) and Schweiz (10 M€), all together 102,5 M€. Estonia and the Netherlands plan to join.
- EuroHPC JU contributes with 104 M€

The Swedish contribution corresponds to ca 3.5 % of the LUMI resource.

EuroHPC

Within EuroHPC there will be national competence centra HPC-CC, coordinated on the European level. Funding 1 M€/year.

The national HPC Competence Centres should provide HPC services to industry (including SMEs), academia and public administrations, delivering tailored /modular solutions for a wide variety of users, with an aim to ease and foster the transition towards wider uptake of HPC in Europe. It should be the focal point coordinating all national initiatives, facilitating access of national stakeholders to European HPC competence and opportunities in different industrial sectors and domains.

Writing group with representatives from SERC, eSSENCE, RISE and SNIC to formulate the Swedish part.

A collaboration between SNIC:s AE and HPC-CC activities will be beneficial.

EuroHPC

EuroHPC is an European initiative for

- acquiring and providing world-class petascale and pre-exascale supercomputing and data infrastructure for Europe's scientific, industrial and public users,
- supporting an ambitious research and innovation agenda to develop and maintain in the EU a world-class High Performance Computing ecosystem, exascale and beyond, covering all scientific and industrial value chain segments.

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