

**Faculty of Science**

# **National Committee for Research Infrastructure**

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# National Committee for Research Infrastructure

2013: Danish Ministry of Higher Education and Science established NUFI to promote national research infrastructures and strengthen Danish participation in international research infrastructures.

NUFI: All fields of science (science, engineering, health, humanities and social sciences)

The committee advises the ministry. NUFI serve as a forum for preparing the basis for decisions and agreements on prioritization, establishment, continuation and financing of national and international research infrastructures as well as research support activities in connection with the use of research infrastructures.

**Members:** One dean/pro-rector from each of the 8 universities and 5 members from research councils (one from each council within Independent Research Fund Denmark (DFF)). The Danish National Research Foundation participates in meetings as an observer.

3-4 meetings annually.

## Universities

AAU, dean Mogens Rysholt Poulsen

AU, dean Kristian Pedersen

CBS, dean of research Søren Hvidkjær

DTU, provost Rasmus Larsen

ITU, pro-rector Jens Chr. Godskesen

UCPH, dean Katrine Krogh Andersen (chair)

RUC, Head of department Susanne Sørensen

SDU, dean Henrik Bindslev (vice chair)

## Independent Research Fund Denmark (DFF)

Humanities, professor MSO Jens Seeberg (AU)

Natural Sciences, Professor Karsten Flensberg (UCPH NBI)

Social Sciences, professor Christian Borch (CBS)

Medical Sciences, professor Anders Fink-Jensen (Capital Region)

Technology & Production Sciences, professor Thomas Bak (AAU)

Danish National Research Foundation, Søren-Peter Olesen (observer)

# Ministry for Higher Education and Science and Research Infrastructure (RI)

- Danish Membership of European and international organisations: ESO, CERN, ILL, ESRF, ESS, EMBL, XFEL and ITER (Approximately 57 mio €/430 million DKK) plus funding for ESA 17 mio €/130 mio DKK)
- ESFRI and EU framework program Horizon Europe
- National Danish roadmap for RI (10-11 mio. € annually)
- Other RI-related initiatives (Separate funding line)
  - ESS Lighthouses (capacity building - Danish European Spallation Source strategy)
  - DeiC Danish e-infrastructure Cooperation - umbrella for the eight Danish universities to ensure delivery of computing, storage and network infrastructure to Danish research, teaching and innovation
  - Research-supporting activities ("Følgeforskningscentre"): Nationally anchored, support overall Danish interests and promote utilization of RI.

# Work in NUFI is supported by mappings and surveys



## Danske forskeres anvendelse af EMBO og EMBL

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Denne analyse af det danske EMBO/EMBL-brugermiljø er udarbejdet af Uddannelses- og Forskningsstyrelsen (UFS) i samarbejde med Nationalt Udvalg for Forskningsinfrastruktur (NUFI).

[Hent publikation \(pdf\)](#)



Uddannelses- og Forskningsstyrelsen  
Ministeriet for Forskning og Uddannelse

## Kortlægning af de danske brugermiljøer af internationale forskningsfaciliteter

Januar 2021



## Strategi for nationalt samarbejde om digital forskningsinfrastruktur

Anbefalinger fra strategigruppen

December 2018

# 2018-study: Effects and benefits from Danish membership of major international research infrastructures

**Methods:** International panel + dialogue with scientists, industry and universities + bibliometrics

## Conclusions:

- It makes sense for a small country like Denmark to be member of large international infrastructures (resources or capacity to build and operate).
- All the international facilities of which Denmark is a member are high-ranking and in most cases unique facilities with good experimental and research opportunities. Danish groups are among the best at exploiting these opportunities.
- There are very large differences in how and how much the international facilities are utilized by Danish users, as well as how much benefit they create for Danish research, education and business.
- Some of the differences in utilization can be explained by the diversity of the facilities and different membership conditions. But that does not justify all the differences in Danish utilization and utility.
- The utilization of the Danish memberships for active research groups is tied to research with a 3-5 year perspective. These are seen in this short perspective relatively focused. The total utilization seen in a longer perspective of up to 40 years.
- Overall goals and success criteria for the memberships are either unclear or non-existent. There is a general lack of strategies and action plans for the use of memberships.



	Impact all journal articles	Impact journal articles with Danish co-authors	Denmark country ranking
CERN	1,99	3,54	In top 3
ESO	1,29	2,29	In top 3
EMBL	4,06	11,97	In top 1
ESFR	1,34	1,62	In top 3
ILL	1,02	1,49	In top 3

Source: Bibliometric analysis performed by the Danish Agency for Research & Innovation based on data from SCOPUS.

# 2021-2022 process (series of workshops) where Danish stakeholders discuss, define and agree on goals and targets for membership

- Goals and targets for Danish membership of nine international research facilities: ESS, ILL, ESRF, ESO, ESA, EMBL/EMBO, CERN, ITER & EU XFEL. On one hand:
  - Difficult to identify and define clear, measurable objectives fitting a long-term perspective (life cycle of infrastructure: design, establishment, operation, upgrade/decommission)
  - How to ensure that we collectively stick to / reach Danish targets (ministry, various number of universities / departments / groups and industry)?
- On the other hand:
  - Helpful for Danish delegates (civil servants and scientists) in governing councils and committees of the international research infrastructures
  - Basis for *dialogue* between scientist, universities, ministry and industry (carrot not stick)

Figur 1.1  
Livscyklus for de forskellige forskningsinfrastrukturer

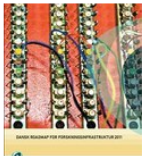


# Inspiration from ESFRI roadmap → National Danish roadmaps for research infrastructures (RI)

## Research infrastruktur in Denmark - Roadmap process

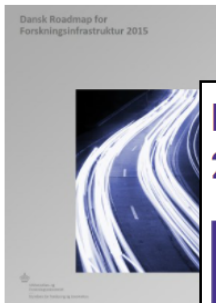
- Prior to each roadmap - extensive dialogue between scientists and universities – ideas and visions shared and developed
- Roadmap proposals:
  - Open call – rectors/host institutions submit.
  - Evaluated in international peer review + NUFI (added value on national level)
- The ministry publish roadmap (16 proposals in the current and 22 in the previous)
- Many but not all will obtain funding within 4-5 years.
- NUFI gives advice to the minister on priority of proposals in the roadmap on an annual basis. But ultimately the minister decides.
- With 70-80 DKK (10-11 million Euros) ministerial funding (projects can receive 50% of budget) is sufficient for 1-2-3 proposals per year (SSH proposals typically less costly)

### Dansk roadmap for forskningsinfrastruktur 2011



Den danske roadmap for forskningsinfrastruktur præsenterer

### Dansk Roadmap for Forskningsinfrastruktur 2015



"Dansk Roadmap for Forskningsinfrastruktur 2015", præsenterer Uddannelses- og

### Roadmap for forskningsinfrastruktur 2020



Dansk Roadmap for Forskningsinfrastruktur 2020 præsenterer 16 konkrete forslag til nye nationale forskningsinfrastrukturer og indeholder Uddannelses- og Forskningsministeriets sigtelinjer for forskningsinfrastrukturuområdet.

[Hent publikation \(pdf\)](#)



# Research-supporting activities

## “UFM følgeforskningscentre”

### Research infrastructure

- Danish Roadmap for Research Infrastructures 2015
- Denmark's memberships of international research infrastructures
- Allocations for proposals in the catalogue of Danish Roadmap for Research Infrastructures 2015
- National collaborations on research infrastructure
- ESFRI and the European roadmap for research infrastructures
- Danish participation in research infrastructures on the European roadmap
- **Research-supporting activities**

### Research-supporting activities

The three national centres for research-supporting activities aim to strengthen and exploit the Danish research potential associated with the memberships of international research infrastructures. They are funded by the Ministry of Higher Education and Science.

In 2012, a work committee prepared a report mapping research-supporting activities and researchers' access to and utilisation of major international research infrastructures. Based on the recommendations in the report, the Ministry of Higher Education and Science has since financed three instrument centers - DANSCATT, IDA and NICE. In 2017, a new model for organising and funding the centres was launched and the centres are now aligned with this.

The centres are nationally anchored to support the overall Danish interests within their respective academic areas in relation to the international memberships.

- **DANSCATT** (Instrument center for use of x-ray, synchrotron and neutron sources, and free-electron x-ray lenses): Main objective is to ensure Danish users' access to international neutron and x-ray scattering facilities such as the European Synchrotron Facility (ESRF), the the European X-Ray Free-Electron Laser Facility (European XFEL), Institute Laue-Langevin (ILL) and Paul Scherrer Institute (PSI). In the future, DANSCATT will also have an important role to play in relation to the European Spallation Source (ESS) and MAX IV.

**IDA** (Instrument Center for Danish Astrophysics): Main objective is to support and secure Danish astrophysical research in relation to the use of the Danish memberships of the European Southern Observatory (ESO), the European Space Agency (ESA) and the Nordic Optical Telescope (NOT).

**NICE** (National Instrument Center for CERN Experiments): main objective is to ensure Danish access to the European Organization for Nuclear Research (CERN).

### Two new in 2021

- **DANfusion** supports and coordinates R&D for fusion energy across Danish universities. The aim for DANfusion is to strengthen a Danish scientific community dedicated to the development of fusion energy. Ultimately, DANfusion hopes to support the Danish research and development for ITER, DEMO and EUROfusion.
- **DANEMO** is the Danish research support center and communication platform with the mission to increase attention to the numerous opportunities at the European Molecular Biology Laboratory (EMBL) and the European Molecular Biology Organization (EMBO)



**NICE****National Instrument Center for CERN  
Experiments**

- In Denmark (one of the founders of CERN) targeted funding has been provided to ensure optimal usage and exploitation of the Danish CERN membership.
- About 125 Danish researchers and graduate students use CERN, either directly as members of the experiments or work on theory related to CERN physics. NICE operates on the basis of a grant from the Ministry of Higher Education and Science
- Terms of reference for the NICE Board of Directors:
  - administer the grant for CERN experimental follow-up research
  - actively promote Danish utilization of national membership and of CERN's infrastructure
  - gather all potential users of CERN
  - develop strategies for Danish researchers 'and others' use of CERN
  - act as contact point and advisor to the ministry, universities, etc.
  - nominate Danish members to relevant committees and commissions
  - disseminate knowledge of CERN (incl. basic research and technology)
  - strengthen education in the relevant areas

[NICE](#) > About Nice

## About Nice

**NICE is the National Instrument Center for CERN in Denmark. The purpose of NICE is to support and promote the utilization of CERN and its accelerator, technical and scientific infrastructures by Danish researchers, students and others and make possible their participation in experiments and R&D at CERN.**

**Thank you for listening**

