Survey of Swedish Research Council memberships in international research infrastructure organisations

Swedish Research Council 2018

SURVEY OF SWEDISH RESEARCH COUNCIL MEMBERSHIPSIN INTERNATIONAL RESEARCH INFRASTRUCTURE ORGANISATIONS

SWEDISH RESEARCH COUNCIL

BOX 1035

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SWEDEN

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FÖRORD

Med få undantag har världsledande forskning blivit allt mer beroende av tillgång till avancerade verktyg för forskning, så kallad forskningsinfrastruktur – teleskop, acceleratorer, mikroskop, databaser, provsamlingar, automatiserade mätstationer och så vidare. Det finns två motsatta utvecklingstrender. Vissa verktyg blir billigare och enklare att använda medan andra blir större och mer komplicerade, så pass stora och komplicerade att flera länder måste gå samman för att bygga och driva dem. Antalet och komplexiteten för internationell samverkan kring storskalig forskningsinfrastruktur har under senare tid ökat kraftigt och därmed också kostnaderna.

Rådet för Forskningens Infrastrukturer (RFI) är ett vetenskapligt råd under Vetenskapsrådet med ansvar för att finansiera, prioritera och följa upp infrastruktur av nationellt intresse inom alla vetenskapsområden, nationellt och internationellt. För att svenska forskare ska få tillgång till de bästa verktygen för forskning är Vetenskapsrådet medlem i ett flertal internationella organisationer kring infrastruktur. Den här rapporten presenterar resultatet från en översyn av 37 av dessa. Översynen initierades av RFI under 2016 i syfte att kartlägga det svenska utbytet av vart och ett av medlemskapen som ett underlag till beslut om eventuella åtgärder. Begreppet ”utbyte” är här brett definierat och inkluderar bland annat användning, vetenskaplig produktion och ekonomisk retur i form av beställningar av utrustning och tjänster från svenska leverantörer.

En central del av översynen var konsultationer med svenska lärosäten och andra forskningsutförare samt de forskningsfinansierade ämnesråden och kommittéerna på Vetenskapsrådet med avseende på hur de prioriterade och stödde den forskning som stöds av infrastrukturen och i vilken utsträckning deras forskning var beroende av tillgång till den.

Baserat på översynen och RFI:s samlade överväganden om medlemskapen beslutade Vetenskapsrådet om den fortsatta hanteringen av de organisationer i vilka myndigheten är medlem. Vetenskapsrådet har också informerat Regeringskansliet om sin bedömning; i underlaget till Regeringskansliet har Vetenskapsrådet gett rekommendationer om konkreta åtgärder avseende medlemskapet i European University Institute och nationell hantering av EURO-Fusion (programmet forskning för utvecklingen av ITER).

Vetenskapsrådet vill tacka alla som bidragit till översynen – företrädare vid de internationella organisationerna, lärosäten och forskande myndigheter samt ledamöter i forskningsstödjande ämnesråd och kommittéer.

Stockholm 2018-02-28

Björn Halleröd
Huvudsekreterare, Rådet för Forskningens Infrastrukturer

INNEHÅLL

SAMMANFATTNING

Efter begäran från Rådet för Forskningens Infrastruktur (RFI) genomförde Vetenskapsrådet en översyn av 37 av de internationella medlemskap som finansieras via RFI:s budget. Syftet var att mäta och analysera svenskt utbyte av medlemskapen i form av användning, vetenskaplig produktion, svenska lärosätens involvering i drift och utveckling samt engagemang från företag verksamma i Sverige.

Underlag för översynen samlades in i två steg: Först begärdes ett dataunderlag in från infrastrukturorganisationerna. Sedan ombads viktiga intressenter (lärosäten, myndigheter med forskningsuppdrag och ämnesråd, kommittéer och rådgivande grupper vid Vetenskapsrådet) att yttra sig om vikten av medlemskapen.

Baserat på underlaget beslutade Vetenskapsrådet bland annat att lämna European Polar Board, minska bidraget till European Consortium for Ocean Drilling, samt bli fullvärdiga medlemmar i European Infrastructure for Translational Medicine. Ett antal medlemskap kommer utredas närmare med avseende på användning och ansvarsfördelning; framförallt kommer stödet till synkrotronanläggningar utvärderas för att få en helhetsbild över området.

Vetenskapsrådet har också rekommenderat den svenska regeringen att lämna European University Institute samt att föra över ansvaret för EURO-Fusion (forskning för utvecklingen av ITER) till Energimyndigheten.

Under översynen identifierades ett antal hinder för uppföljning av internationella medlemskap. Det stora antalet medlemskap gjorde arbetet omfattande och det borde därför om möjligt samordnas med andra finansiärer. Vidare finns det ofta brister i användarstatstiken hos internationella organisationer. Vissa organisationer var dessutom ovilliga att dela med sig av den information som fanns.

Till sist vill vi framhålla vikten av att konsultera forskningsutförare och forskningsfinansiärer för att bedöma nyttan medlemskap i internationella organisationer framför att enbart förlita sig på utlåtande från expertpaneler. I den här översynen gav konsultationerna ett robust svar på vilka organisationer som ansågs nationellt viktiga samtidigt som det gav en förankring av de beslut som togs.

SUMMARY

At the request of the Council for Research Infrastructures (RFI), Vetenskapsrådet performed a survey of 37 of the international memberships funded under the research infrastructures budget. The objective was to measure and analyse the Swedish benefits of the memberships, in terms of usage, scientific output, involvement in development and operation by Swedish research institutions and financial return for industry.

The survey was conducted in two stages: First, a comprehensive data set was requested from the organisations, after which relevant stakeholders (research institutions, government agencies with research assignments, and councils, committees and advisory panels at Vetenskapsrådet) were asked to assess the importance of each membership.

Based on the outcome of the survey, Vetenskapsrådet decided, among other things, to withdraw from European Polar Board, reduce its contribution to the European Consortium for Ocean Drilling, and become full members of the European Infrastructure for Translational Medicine. A number of memberships with be scrutinised in greater detail, in terms of usage and responsibilities; the support for synchrotron facilities will be evaluated further to get a more complete picture of the field.

Furthermore, Vetenskapsrådet recommended to the Swedish government to withdraw from the European University Institute and to transfer the responsibility for EURO-Fusion (research for the development of ITER) to the Swedish Energy Agency.

The survey identified a number of obstacles for assessing international memberships. The large quantity of memberships made the work extensive, hence, the possibility to coordinate with other funding agencies should be explored. Other obstacles were the lack of comprehensive user statistics at some of the organisations and the unwillingness by some of the organisation to share information.

Finally, we would like to stress the importance of consulting research performers and funding agencies to determine the relevance of the memberships in international organisations, as opposed to only relying on the assessments of expert panels. In this survey, the consultations gave a clear indication of which organisations were important in a national context, and provided support for the decisions taken by Vetenskapsrådet based on the outcome of the survey.

THE AUTHORS

The work presented in this report is the result of collaborative project within Vetenskapsrådet. Each of the project participant contributed with their special skills and knowledge.

Research infrastructures: Magnus Friberg (project leader), Catarina Sahlberg and Per Karlsson
Questionnaire design: Maria Bergström
Bibliometrics: Andreas Augustsson and Staffan Karlsson
Communications: Lotta Bäcklin and Magdalena Marklund

Background information were provided by the responsible officers and Vetenskapsrådets representatives for each of the evaluated organisations.

Compilation of responses from Swedish research performing organisations was done by a dedicated task group: Per Karlsson (task leader) Björn Halleröd, Sofie Björling, Catarina Sahlberg and Magnus Friberg.

REPORT

The Challenge

The Council for Research Infrastructures (RFI) at the Swedish Research Council (Vetenskapsrådet) has the responsibility to support, oversee and prioritize Swedish participation in research infrastructures (RIs) of national interest within all fields of science. This includes both national and international infrastructures. The international RI memberships supported by Vetenskapsrådet are either direct memberships in international organisations or agreements with a hosting organisation, but Vetenskapsrådet also funds and manages memberships signed by the Swedish government on a ministerial level.

In order to fulfil its responsibility to prioritise research infrastructures, RFI needs to have access to relevant metrics regarding the RIs, such as usage by Swedish researches, Swedish proposal pressure, publications etc. Concerning national infrastructures, metrics are included in annual reports, whereas metrics reported by international RI's differs between organisations.

Furthermore, it must be noted that Vetenskapsrådet is managing RI memberships on behalf of the Swedish research community, hence RFI's priorities must be related to the research priorities of the Swedish research institutions. As far as national research infrastructures are concerned, this takes the form of co-funding for construction and operation from the interested research performing organisations. However, a similar co-funding is not generally available for the Swedish participation in international organisations.

The challenge for Vetenskapsrådet/RFI has been to ensure that the metrics from all the different RIs are as coherent as possible, in order to evaluate if the funds are spent in a manner that best meets the needs of the Swedish research community.

The Task

To meet this challenge RFI commissioned a project in February 2016 to survey the benefits in each of the international RI organisations. Benefit was defined by several different components: scientific output, usage, engagement of Swedish industry and academia in construction and operations, employment, as well as scientific collaborations related to the RIs. The aim was not to produce a ranked list of the organisations, but to evaluate each engagement on its own merits.

Since engagements in international RIs are on behalf of the Swedish research community, it was important to consult Swedish research institutions and research funding entities on the importance of having access to the different RIs.

The task was thus to first collect data that reflected the Swedish benefits of the international engagements, then to use the data as a basis for consultations with the Swedish research performing and research supporting entities, and lastly to present the outcomes in comprehensive way so that RFI could evaluate the memberships.

The Project

Appendix 1 presents a list of the 37 engagements that were surveyed in the project. Note that two of the infrastructure organisations funded under the infrastructure budget were not surveyed; The European Spallation Source and the Nordic Optical Telescope. The former due to this project is under construction and we concluded survey would have little impact on its priority, the latter due to Vetenskapsrådet already has initiated its withdrawal of the membership.

Data collection

The first step of the project was to gather a comprehensive and structured data for each of the RI organisation. The data was acquired both in-house at Vetenskapsrådet and from the organisations themselves.

The in-house information gathered for each organisation included the Swedish membership fee, total turnover, organisational form, year of establishment, year Sweden joined, host organisations, host country, conditions of the Swedish engagement, Swedish nodes (if any), as well as a short description of the organisation.

The information gathering from the organisations was initiated by a letter sent to each of the organisations, explaining the background of the project and asking them to appoint a contact person (Appendix 2). The contact persons were then sent a link to an on-line questionnaire (see below for details). They were asked to answer only those questions relevant to their organization. Where needed, Vetenskapsrådet staff was available for consultation in order to avoid misunderstandings, but it was always the responsibility of the organisation to provide the requested information.

The questionnaire covered a 5-year time period from 2011 to 2015. For each question, the organisation should give both the total amount for each year and the Swedish share. Were relevant, we also asked for gender statistics, however, only a few organisations were able to provide this information other than for their own employees.

Questionnaires was not sent to EPOS and EURO-fusion. EPOS due to that the project was still in the planning phase and EURO-fusion because the Vetenskapsrådets funding is allocated to national entities for participation in a consortium for technical development and not as membership fee in an international organisation. Therefore, for these organisations only in-house information is presented.

The questionnaire, which can be found in its entirety in Appendix 3, included questions on:

- Number of employees
- Number of individual users (head count) – This is different from granted applications since one application can include multiple participants and a single user can also be granted access more than once.
- Number of applications, as well as number of granted applications, where access to facilities, sample requests and data requests were reported separately.
- Financial information – In-kind contributions (i.e. contributions other than the cash contributions agreed as Swedish membership contribution), procurement of goods and services, user fees.
- List of publications
- Their main competitors and their own competitive edge.

The opportunity was given to the organisations to explain the provided data (e.g. how a user was defined) and to give other information that was considered relevant for the evaluation.

The responses were quality checked. If there were ambiguities, inconsistencies or possible typos, the organisations where contacted for clarification. In cases where obvious data were missing, a second request for information was sent, along with a letter emphasising the importance of the project to Vetenskapsrådet.

All contacted organisations responded to the questionnaire. In the end all, but one, provided information that could be considered adequate. The data collection process, from sending the first request of information letter, supporting the respondents and finally persuading all but the final laggard to provide the information, took seven months from April to November 2016.

Data compilation and analysis

Data for each organisation, from in-house and the questionnaire, were compiled into one report for each of the 37 organisations. The reports were divided into the following sections:

- The first section contains general information on the organisation and the specifics of Vetenskapsrådet's engagement. This information is derived mostly from Vetenskapsrådet's in-house records.
- The second section addresses the Swedish return in terms of usage of facilities, data and samples. This part of the report is from the questionnaires to the international organisations.
- The third section addresses the Swedish return as share of technical development and in economic terms, e.g. contracts awarded to Swedish academic institutions and companies.

- The fourth section contains the organisations replies to open questions on added value, competitors and other information the organisations wanted to convey to Vetenskapsrådet.
- The last section is based on a bibliometric analysis of the publication lists provided by the organisations, including information on Swedish publications and their impact, as well as a complimentary overview of Swedish usage of the organisation.

The bibliometric analysis of usage was important for two reasons. Firstly, not all users of a research infrastructure are direct users, instead many are hidden in the user statistics as co-workers not listed in submitted proposals for access. This is often true for large infrastructures where research is conducted in wide collaborations, or in infrastructures providing access to data, where the users are often not identified. Secondly, it gives an overview of the level of national interest in the organisation. By mapping the home institutions of Swedish authors, we get information on how many Swedish research institutions that were utilizing the research infrastructure and to what extent. Appendix 4 describes how the publication data were analysed.

All compiled reports can be found at: **https://vr.box.com/s/ok27iqpqrsemol5i087lfnbdd3w6ud9i**

See appendix 5 for an example (EISCAT).

Consultations

Vetenskapsrådet's membership in international research infrastructures and research coordinating organizations is for the benefit of the Swedish research community. Hence, the most important step in this survey was to consult the Swedish research community. We chose to do this by consulting with research institutions (universities, research institutes and other government agencies with research duties), Vetenskapsrådet's Scientific Councils, Committees and standing advisory panels for research infrastructure. The consulted entities, which are listed in appendix 6, were sent the compiled reports along with questions in a reply form (see below for details). Though given access to the material for all organisations, they were asked to only respond to questions for organisations relevant to their own activities.

Out of the 64 consulted entities, 30 responded, including the majority of large Swedish research institutions, the most concerned of Vetenskapsrådet's Scientific Councils and Committees, as well as all five of RFI's advisory panels.

The research institutions were asked two questions for every relevant organisation: to describe their research activities in areas relevant to the organisation and to describe how dependent their researchers are on access to the infrastructure.

The Scientific Councils and Committees and RFI's panels were asked how the organisations fit in their strategies, the value for Swedish research of having access to the facilities, how the Swedish membership contributes to the research area, how dependant the research community is of having access to the specific infrastructure. Finally, they were asked to give their view on the importance of Swedish membership given the answers to the four first questions.

The full questions sent to the consulted entities are given in appendices 7 and 8 (in Swedish)

Replies from the consulted entities sorted by international organisation can be found at (in Swedish):
https://vr.box.com/s/fsvbbxkhyckw8syrz31gy4wqjgxj8qj4

Analysis of the responses

The task to sort, structure and analyse the responses from the consultations was given to a six-person group at Vetenskapsrådet, chaired by the Secretary General for research infrastructures. The instructions were to combine the replies from the consulted entities into a brief statement on each of the memberships, identify those memberships that had weak support from the Swedish research community and to give recommendation to the Research Infrastructures Council on how to proceed. The recommendations were in four broad categories: Leave the organisation, change level of contribution, evaluate/monitor the Swedish usage and revisit the membership and finally no recommended direct action at this stage.

The findings were reported to RFI in May 2017 who then gave instructions on which actions should be taken and which memberships needed to be further evaluated before any concrete actions could be decided upon.

Vetenskapsrådets actions and recommendations concerning memberships in international research infrastructure and research coordinating organisations were reported to the Ministry of research and education in December 2017. See below for details.

Actions by Vetenskapsrådet

After the conclusion of the project, Vetenskapsrådet decided to take a number of actions, as listed below. Existing memberships not listed below were found to give adequate return for the Swedish research community and will be supported on the same terms as before.

- European Polar Board: End our membership due to low engagement from the research community.
- Instruct: Not become member (Vetenskapsrådet was an observer) due to low engagement from the research community and that Vetenskapsrådet already are members of the organisations to which Instruct provides access.
- PRACE: Continue as member, but transfer the responsibility for prioritization and implementation of activities to the Swedish Network of Integrated Computing, the national RI responsible for high-performance computing and storage.
- NEIC: Continue as member and focus on NeIC as a platform for Nordic coordination in relation to, for example, European Open Science Cloud.
- Nordsim: End status as Nordic research infrastructure. Continued support will depend on a successful proposal as a national infrastructure.
- ECORD/IODP: Continue membership at a lower funding level that better reflects the engagement from the Swedish research community.
- EATRIS: Previously Vetenskapsrådet was participating as observers but it was decided to join as full members due to increased interest from industry. However, there is a need to closely monitor the development and the decision to become full members will be revisited in the future.
- EMBC/EMBO, EMBL, IARC, IASC, SCAR and NuPECC: Since these organisations are not research infrastructures per se, but rather research performing and/or research coordinating organisation a transfer/partly transfer of responsibility to relevant scientific councils within Vetenskapsrådet will be initiated.
- ESRF, Petra III and XFEL: Given that the MAX IV synchrotron facility now is on-line there is a need for an in-depth analysis of the level of engagement in other synchrotron facilities.
- ILL and ISIS: Vetenskapsrådet has initiated an analysis of the Swedish usage of the facilities. Any further actions need to be based on the national strategy for strengthening the Swedish neutron research community to utilize the European Spallation Source.
- BBMRI-ERIC, CESSDA, EPOS, FAIR and SHARE-ERIC: It was noted that the current engagement by the Swedish research community was low, which in some cases was due to the fact that they were under construction or in the early operational phase. It was decided to continue the Swedish memberships under the current terms but also to revisit its decisions in the near future.

Recommendations by Vetenskapsrådet to the Swedish Government

Memberships in international research infrastructure organisations based on inter-governmental agreements are managed by Vetenskapsrådet and funded from its research infrastructures budget, but the legal party is the Swedish government. Based on the outcomes of the project, Vetenskapsrådet gave the following recommendations to the government:

- EUI: Initiate a Swedish withdrawal from the European University Institute (EUI). The statements from the research performing institutions and the Council for Humanities and Social Sciences only showed minor interest (only one university gave EUI high priority).
- EURO-fusion: Transfer the responsibility for Swedish participation in EURO-fusion (Research in support of ITER) from Vetenskapsrådet to the Swedish Energy Agency. ITER is a test facility for energy production. Other energy test facilities are managed by the Energy Agency. Note that the support for Swedish participation in EURO-fusion was high from the relevant research performing organisations.

Some conclusions

- Though most organisations where forthcoming in sharing information, some were reluctant to provide more detailed information. The reasons given ranged from unwillingness to put in the effort needed to respond to the query, to unwillingness to share data that were perceived as sensitive, such as publication records and financial information.
- The consultations with the research institutions and the Scientific Councils and Committees provided the most valuable input to the evaluation of the membership. The responses were mostly of very high quality and seemingly based on the data in the reports.
- The chosen approach was time consuming for all parties involved, both for the Vetenskapsrådet staff, the consulted entities, and the organisations themselves. In particular this is true for organisations without an existing system for reporting quantitative information. Vetenskapsrådet therefore strongly recommends the international organisations to more diligently collect and report key indicators, showing funding entities and other stakeholders the return of their investment.
- The project provided new and important insights into the value for Swedish research of the memberships of the surveyed international organisations, not only into those where a decision has been taken to re-address our membership. However, the information quickly becomes outdated and it is therefore important to make regular updates. Given the increased interest from several funding bodies across Europe (activities similar to Vetenskapsrådet's has also recently been conducted in Denmark and Finland), it ought to be possible to coordinate any future survey with international partners. This will ease the burden, both for the funding bodies and for the international organisations responding to the queries.

APPENDICES

1. List of surveyed organisations
2. Request for information letter
3. Survey Form
4. Bibliometric analysis methodology
5. Report example – EISCAT
6. List of consulted entities
7. Questions to research institutions
8. Questions to scientific councils, committees and infrastructure panels.

Appendix 1

List of surveyed organisations. (X) marks those organisations for which no questionnaires were sent.

Organisations operated under an international convention – membership decided by the Swedish government
CERN - l'Organisation européenne pour la recherche nucléaire
ESO - European Organisation for Astronomical Research in the Southern Hemisphere
FAIR - Facility for Antiproton and Ion Research in Europe GmbH
Petra III/RÅC - PETRA III@Deutsches Elektronen-Synchrotron DESY
XFEL - European X-ray Free Electron Laser
ESRF - European Synchrotron Radiation Facility
EMBL - European Molecular Biology Laboratory
EMBO/EMBC - European Molecular Biology Organisation/Conference
IARC - International Agency for Research on Cancer
EUI - European University Institute

ERIC or similar – decided by parliment with delegation to Vetenskapsrådet
BBMRI-ERIC - Biobanking and Biomolecular Resources Research Infrastructure
CESSDA (AS) - Consortium of European Social Science Data Archives
CLARIN-ERIC - Common Language Resources and Technology Infrastructure
EATRIS-ERIC - European Infrastructure for Translational medicine
ELIXIR - European infrastructure for bioinformatics
ESS-ERIC - European Social Survey
ICOS-ERIC - Integrated Carbon Observatory System
JIV-ERIC - Joint Institute for Very long base line inferometry
SHARE-ERIC - Survey of Health Ageing and Retirement in Europe
INSTRUCT-ERIC - European Infrastructure for Structural biology
EPOS[x] (Under negotiation) - European Plate Observing System

Other research infrastructures – membership decided by Vetenskapsrådet
ECORD/IODP - European Consortium for Ocean Drilling/International Ocean Discovery Program
ICDP - International Continental Scientific Drilling Program
EISCAT - European Incoherent Scattering Facility
GBIF - Global Biodiversity Information Facility
ILL - Institute Laue Langevin
ISIS - UK Neutron and Muon Source
NordSIM - Nordic Secondary Ion Masspectrometer
IceCube - IceCube Neutrino Observatory

e-infrastruktures
PRACE - Partnership for Advanced Computing in Europe
NEIC - Nordic e-infrastructure Collaboration

Coordinating organisations – Vetenskapsrådets membership funded from the infrastructure budget
ApPEC - Astroparticle Physics European Consortium
NuPECC - Nuclear Physics European Collaboration Committee -
Polarforskning: IASC, SCAR, EPB -
International Arctic Science Committee, Scientific Council for Antarctic Research, European Polar Board

EURO-fusion *och Fusionsforskning*[x] – Funding for developement of ITER*

*ITER mebership is regulated in EU/Euroatom treaty and funded by the govenrment. Not evaluted in this study.
ESS - European Spallation Source is under construction, hence not evaluted in this study .
NOT - Nordic Optical Telescope is under de-commission and not evalutad in this study.

Appendix 2

Request for information letter sent to director or corresponding at the organisations included in this study.

Vetenskapsrådet

Datum
2016-04-22

Diarienummer
5.3-2016-81

Handläggare
Magnus Friberg

ORG
Att: NN

Request for information

Dear NN,

I am writing to you to ask for your assistance in providing us with data on the return for Sweden from our participation in your organization.

The Swedish Research Council (VR) is performing a review of all our international engagements funded under our research infrastructure programme. This programme provides funding for construction and operation of large scale research infrastructures, as well as for memberships in international organizations that coordinate infrastructure dependent research fields.

The review will form the basis for further strategic discussions on the VR engagements in research infrastructures, with a focus on the benefits for the Swedish research community. The review will not include any scientific evaluation of the organizations themselves, nor evaluate the operation of them.

We are mainly interested in getting information on Swedish usage, publications and industrial return from your facility/RI. We would like to stress the importance for us to receive this information from you, as this will be a central input to our future decisions on VR engagement in international research infrastructures and coordinating organizations.

We ask you to identify an individual at your organization that can be dedicated to respond to an online version of the attached questionnaire. He/she will receive a dedicated link to fill in the information.

Please send us name and contact information of the named individual to intinfra@vr.se as soon as possible, but no later than **Wednesday 27 April 2016.**

Please do not hesitate to contact us if you have any questions regarding this survey.

Best regards,

Magnus Friberg
Research Officer
Research Infrastructures
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Appendix 3

Survey form

Vetenskapsrådet

0%

Request for information about the Swedish return from your Research Infrastructure (RI).

This questionnaire is on the Swedish benefit and return from our membership in your organisation.

Please state the following information.

Organisation

Country

Address

Respondent

Phone number

E-mail

Next

Survey Software powered by FluidSurveys.

25%

1. Please specify number of employees at your facility/RI (in terms of FTE:s).

Please specify number of employees, divided by gender, involved in the operations and development of the facility/RI (in terms of FTE:s). If gender divided statistics is not available, state total number.

	Female	Male	Other	Total	
Total for RI					○ N/A ○ Don't know
Swedish					○ N/A ○ Don't know

2. Please, specify number of individual external users to your facility/RI

Please specify the number of individuals using your facility for each year, i.e. only count each individual once in a calender year. Where possible, specify number divided by gender, otherwise state total number.

	Female	Male	Other	Total	
2011 (Total for RI)					○ N/A ○ Don't know
2012 (Total for RI)					○ N/A ○ Don't know

	Female	Male	Other	Total	
2013 (Total for RI)					○ N/A ○ Don't know
2014 (Total for RI)					○ N/A ○ Don't know
2015 (Total for RI)					○ N/A ○ Don't know
2011 (Swedish)					○ N/A ○ Don't know
2012 (Swedish)					○ N/A ○ Don't know
2013 (Swedish)					○ N/A ○ Don't know
2014 (Swedish)					○ N/A ○ Don't know
2015 (Swedish)					○ N/A

	Female	Male	Other	Total	
					Don't know

3. Please, specify number of applications to your facility/RI.

Please specify the number of applications, divided by gender of the main applicant, for each year. If gender divided statistics is not available, state total number.

	Female	Male	Other	Total	
2011 (Total for RI)					N/A Don't know
2012 (Total for RI)					N/A Don't know
2013 (Total for RI)					N/A Don't know
2014 (Total for RI)					N/A Don't know
2015 (Total for RI)					N/A Don't know
2011 (Swedish)					N/A Don't know

	Female	Male	Other	Total	
2012 (Swedish)					○ N/A ○ Don't know
2013 (Swedish)					○ N/A ○ Don't know
2014 (Swedish)					○ N/A ○ Don't know
2015 (Swedish)					○ N/A ○ Don't know

4. Please, specify number of approved applications to your facility/RI.

Please specify the number of approved applications, divided by gender of the main applicant, for each year. If gender divided statistics is not available, state total number.

	Female	Male	Other	Total	
2011 (Total for RI)					○ N/A ○ Don't know
2012 (Total for RI)					○ N/A ○ Don't know
2013 (Total for RI)					○ N/A

	Female	Male	Other	Total	
2014 (Total for RI)					Don't know N/A Don't know
2015 (Total for RI)					N/A Don't know
2011 (Swedish)					N/A Don't know
2012 (Swedish)					N/A Don't know
2013 (Swedish)					N/A Don't know
2014 (Swedish)					N/A Don't know
2015 (Swedish)					N/A Don't know

5. Please, specify number of sample requests to your facility/RI.

Please specify the number of sample requests, divided by gender of the researcher, for each year. If gender divided statistics is not available, state total number.

	Female	Male	Other	Total	
2011 (Total for RI)					○ N/A ○ Don't know
2012 (Total for RI)					○ N/A ○ Don't know
2013 (Total for RI)					○ N/A ○ Don't know
2014 (Total for RI)					○ N/A ○ Don't know
2015 (Total for RI)					○ N/A ○ Don't know
2011 (Swedish)					○ N/A ○ Don't know
2012 (Swedish)					○ N/A ○ Don't know

	Female	Male	Other	Total	
2013 (Swedish)					○ N/A ○ Don't know
2014 (Swedish)					○ N/A ○ Don't know
2015 (Swedish)					○ N/A ○ Don't know

6. Please, specify number of approved sample requests to your facility/RI.

Please specify the number of approved sample requests, divided by gender of the researcher, for each year. If gender divided statistics is not available, state total number.

	Female	Male	Other	Total	
2011 (Total for RI)					○ N/A ○ Don't know
2012 (Total for RI)					○ N/A ○ Don't know
2013 (Total for RI)					○ N/A ○ Don't know
2014 (Total for RI)					○ N/A

	Female	Male	Other	Total	
2015 (Total for RI)					○ Don't know ○ N/A ○ Don't know
2011 (Swedish)					○ N/A ○ Don't know
2012 (Swedish)					○ N/A ○ Don't know
2013 (Swedish)					○ N/A ○ Don't know
2014 (Swedish)					○ N/A ○ Don't know
2015 (Swedish)					○ N/A ○ Don't know

7. Please, specify number of requests to your facility/RI for data sets.

Please specify the number of data requests, divided by gender of the researcher, for each year. If gender divided statistics is not available, state total number.

	Female	Male	Other	Total	

	Female	Male	Other	Total	
2011 (Total for RI)					○ N/A ○ Don't know
2012 (Total for RI)					○ N/A ○ Don't know
2013 (Total for RI)					○ N/A ○ Don't know
2014 (Total for RI)					○ N/A ○ Don't know
2015 (Total for RI)					○ N/A ○ Don't know
2011 (Swedish)					○ N/A ○ Don't know
2012 (Swedish)					○ N/A ○ Don't know
2013 (Swedish)					○ N/A

	Female	Male	Other	Total	
2014 (Swedish)					○ Don't know ○ N/A ○ Don't know
2015 (Swedish)					○ N/A ○ Don't know

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50%

8. Please, specify the value of in-kind contributions provided by member organizations to your facility/RI (in Euro).

Please specify the total value of all in-kind contributions for each year. The year of a specific contribution is the year of approval by your organization.
In-kind contributions are defined as non fincial resources made available for use by your organization from another organization – either outside regular membership contributions, or as a substitute for regular membership contributions. If your organization uses a cost-book, please use the estimated values therein.

	Total (Euro)	
2011 (Total for RI)		N/A Don't know
2012 (Total for RI)		N/A Don't know
2013 (Total for RI)		N/A Don't know
2014 (Total for RI)		N/A Don't know
2015 (Total for RI)		N/A Don't know
2011 (Swedish)		N/A Don't know
2012 (Swedish)		N/A Don't know
2013 (Swedish)		N/A Don't know
2014 (Swedish)		N/A Don't know
2015 (Swedish)		N/A Don't know

9. Please, specify the total value that your facility/RI spend on equipment, services and consumerables purchased from academic/non-profit organizations from 2011 to present (in Euro).

Please specify the total value of spending for each year. This would not include user fees or the equivalent.

	Total (Euro)	
2011 (Total for RI)		N/A Don't know
2012 (Total for RI)		N/A Don't know
2013 (Total for RI)		N/A Don't know
2014 (Total for RI)		N/A Don't know
2015 (Total for RI)		N/A Don't know
2011 (Swedish academic equipment/services)		N/A Don't know
2012 (Swedish academic equipment/services)		N/A Don't know
2013 (Swedish academic equipment/services)		N/A Don't know
2014 (Swedish academic equipment/services)		N/A Don't know
2015 (Swedish academic equipment/services)		N/A Don't know

10. Please, specify the total value that your facility/RI spend on equipment, services and consumerables purchased from industrial/commercial companies from 2011 to present (in Euro).

Please specify the total value of spending for each year. This would not include user fees or the equivalent.

	Total (Euro)	
2011 (Total for RI)		N/A Don't know
2012 (Total for RI)		N/A Don't know
2013 (Total for RI)		N/A Don't know
2014 (Total for RI)		N/A Don't know
2015 (Total for RI)		N/A Don't know
2011 (Swedish industry equipment/services)		N/A Don't know

	Total (Euro)	
2012 (Swedish industry equipment/services)		N/A Don't know
2013 (Swedish industry equipment/services)		N/A Don't know
2014 (Swedish industry equipment/services)		N/A Don't know
2015 (Swedish industry equipment/services)		N/A Don't know

11. Please, specify the value of user fees paid per year to your facilitiy/RI (in Euro) .

Please, state the total value for the period divided on academic and non academic users.

	Academic users (Euro)	Non academic users (Euro)	
2011 (Total for RI)			N/A Don't know
2012 (Total for RI)			N/A Don't know
2013 (Total for RI)			N/A Don't know
2014 (Total for RI)			N/A Don't know
2015 (Total for RI)			N/A Don't know
2011 (Swedish academic users)			N/A Don't know
2012 (Swedish academic users)			N/A Don't know

	Academic users (Euro)	Non academic users (Euro)	
2013 (Swedish academic users)			N/A Don't know
2014 (Swedish academic users)			N/A Don't know
2015 (Swedish academic users)			N/A Don't know

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Vetenskapsrådet

75%

12. What added value does the Swedish users of your facility bring to your organization?

Please describe, in general terms, if and how Swedish researchers contribute in significant and unique ways to the operation and development of your facility/RI.

13. Currently, which are the three main competitors to your RI in the world?

With competitors, we mean facilities that provide similar kinds of research infrastructure and services.

14. What is the advantage of your organization/ RI in relation to your main competitors?

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Appendix 4

Bibliometric analysis methodology

The bibliometric analysis for each organisation were made using the publication lists that the organisations submitted along with their questionnaire. The lists include the total number of publications derived from the each organisation for the years 2011 to 2015. The bibliometric analysis can be viewed as an additional way of measuring the usage of the research infrastructure. We propose to use the number of Swedish authors as an indication of the wider Swedish usage, i.e. researchers directly or indirectly utilising the Swedish membership, either as primary users of the facility or through cooperation with other Swedish or international researchers.

For the analyses, all publication lists were matched to the existing publication database at the Swedish Research Council. The underlying data in this database are bought from Clarivate Analytics (previously Thomson Reuters) and roughly correspond to the content of Web of Science (WoS) . Thus, the analyses only include publications indexed in WoS.

The research profile of the users was assumed based on the subject area classification in WoS (journal classification with about 250 defined subjects). The number of individual users is assumed to be identical to the number of individual authors, which was established by finding each unique combination of author name and affiliation.

Research output were calculated both as full counts, i.e. number of papers having Swedish authors and as fractional counting, i.e the Swedish contribution defined as the ratio between number of Swedish authors and the total number of authors. Calculations of mean citation rate were based on field normalized impact analysis, i.e. impact is given as fraction of average citation in the subject area defined above. Above one means higher impact than average publications and below one means lower impact than average in any given area. Similarly, percentage highly cited papers (Top 10%) relates to publications in the same subject areas.

Network maps

The publication data were also used to generate networks maps, which is a way to visualise the scientific networks that Swedish researchers connect to through our memberships. The network maps provide an estimate of how central the Swedish research community is to the international community of users.

Each network map shows the patterns of cooperation for each organisation, based on publications. Countries that are dominating the publications are usually depicted with large circles towards the centre of the map, and conversely, the more minor countries are usually depicted with smaller circles towards the periphery.

Countries that are located close to one another tend to collaborate more often. The size of the circles, as well as the font size of the country name, indicate the number of collaboration links each country has. The colours illustrate the result from a cluster analysis, where groups of countries that often collaborate are depicted using the same colour. The thickness of the collaboration lines indicates the intensity of the collaboration. The country names will not always appear if some countries are depicted too close together.

For some networks, the legibility of the maps have been increased by removing countries with few publications.

For general properties of the publication database, how data is prepared and indicators are calculated, see:
The bibliometric database at the Swedish Research Council 113-2010-6148 (2017)

The maps were made using VOSviewer (www.vosviewer.com)

For a more detailed description of the methodology:

Van Eck, N.J., & Waltman, L. (2010). Software survey: VOSviewer, a computer program for bibliometric mapping. Scientometrics, 84(2), 523–538.
Van Eck, N.J., & Waltman, L. (2011). Text mining and visualization using VOSviewer. ISSI Newsletter, 7(3), 50–54.

Appendix 5
Report example – EISCAT

Factsheet: Membership in international organisations Compiled: 2016-09-28

EISCAT Scientific Association

Scientific area:	Space and atmospheric physics		
Host country:	Sweden		
Organisation type:	Centralised multi site infrastructure	**Swedish node or similar:**	N/A
Established:	1981	**Sweden member since:**	1981
Phase:	Operation/Upgrade		
Organisational form:	Swedish nonprofit organisation		
Duration of agreement:	Ongoing		
Terms for withdrawal:	5 years		

Expenditures 2015:	29 711 000 SEK	**Swedish contribution 2015:**	5 670 000 SEK
Membership fees 2015:	23 080 000 SEK	**Swedish share:**	24,57%

Access policy: Scientific prioritization within a country's quota, which is based on the size of its financial contribution.

Definition of user: Number of PIs/hours/instrument

User fees: Yes - externally

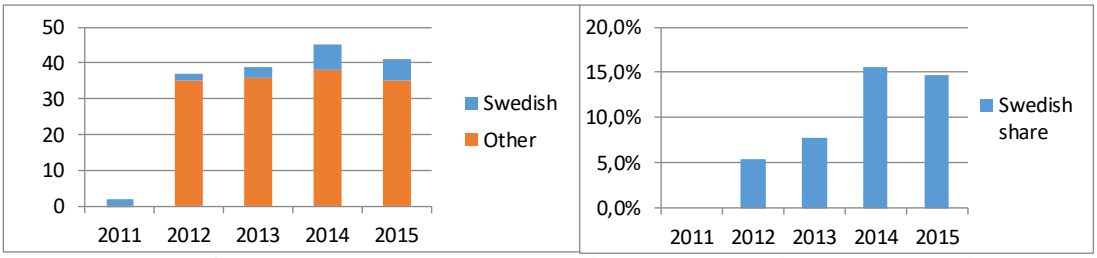
Description: EISCAT Scientific Association is a Swedish registered organisation with 6 associate and 4 affiliate members that operates incoherent scattering radars and complementary systems for observations and experiments in the upper atmosphere and near space in the Arctic region. The systems are located in Northern Scandinavia and on Svalbard. EISACT provides data to all members from common observation programs and runs dedicated experiments for individual research groups. EISCAT has initiated the replacement of the tri-static radar system in Northern Scandinavia with a 3D volume observation system based on phased array radars to be placed in Sweden, Norway and Finland.

Empolyee Statistics (Full Time Equivalents):

	Total	Whereof Swedish
Women:	3,0	2
Men:	18,0	8

User information This information has been provided by the organisation.
Note that the definiton of user may differ between different organisations.

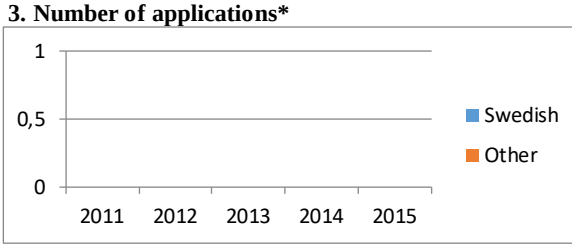
2. Individual users*



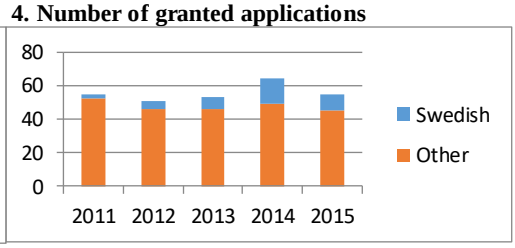
*An "individual user" is defined as as unique individual which has used the facility in a given year. If a person has used the facility during more than one year, he/she will be counted as an individual user for each of the years.

* Eiscat only PIs - wider group not known to Eiscat.

3. Number of applications*

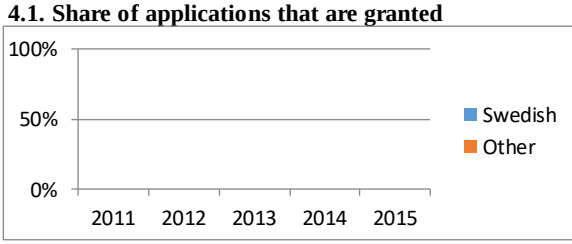


4. Number of granted applications

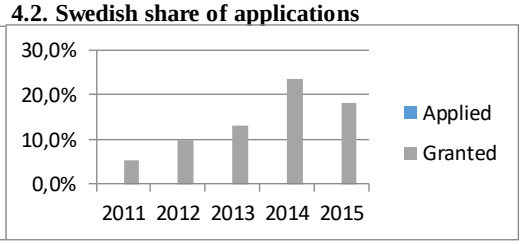


* Applications are sent to EISCAT partners and only approved projects are forwarded to EISCAT

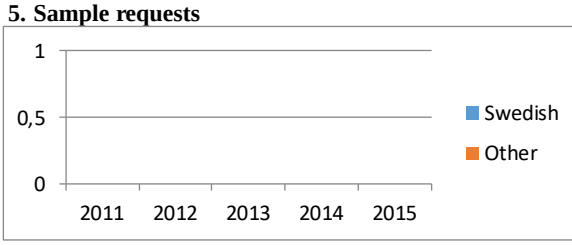
4.1. Share of applications that are granted



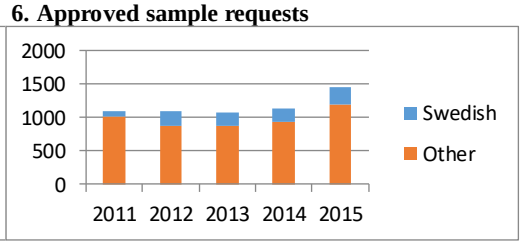
4.2. Swedish share of applications



5. Sample requests

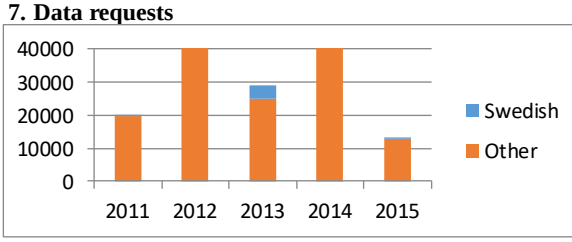


6. Approved sample requests

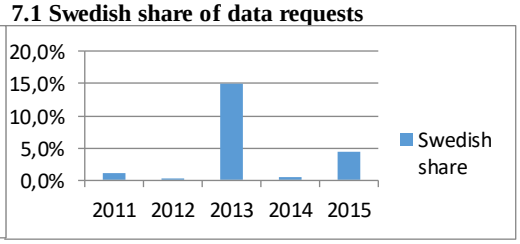


* Sample requests is here defined as hours for experimental research projects

7. Data requests



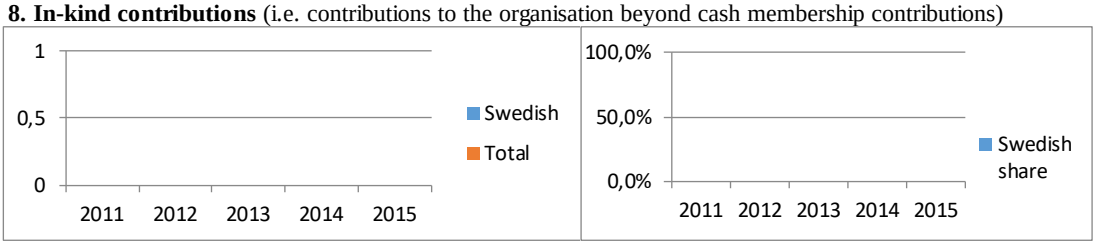
7.1 Swedish share of data requests



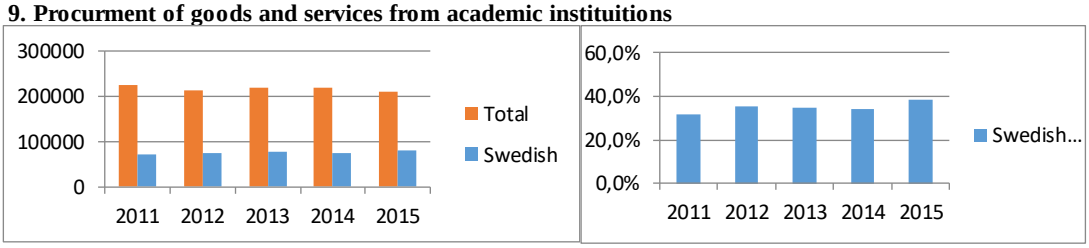
Financial information - given in Euros using 2016 08 01 exchange rate

Expenditures 2015:	3 094 896	EUR	**Swedish contribution 2015:**	590 625	EUR
Membership fees 2015:	2 404 167	EUR	**Swedish share:**	24,57%	

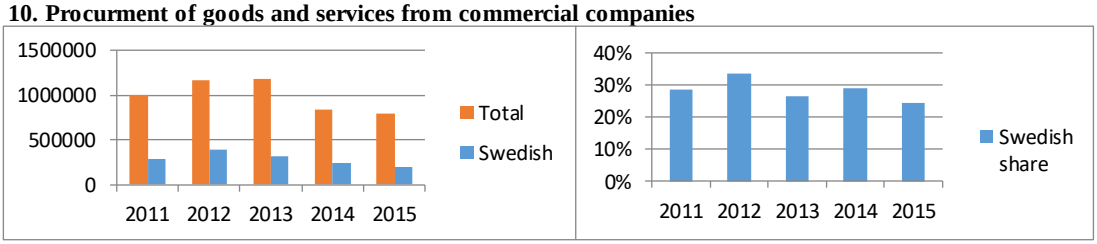
8. In-kind contributions (i.e. contributions to the organisation beyond cash membership contributions)



9. Procurment of goods and services from academic instituitions

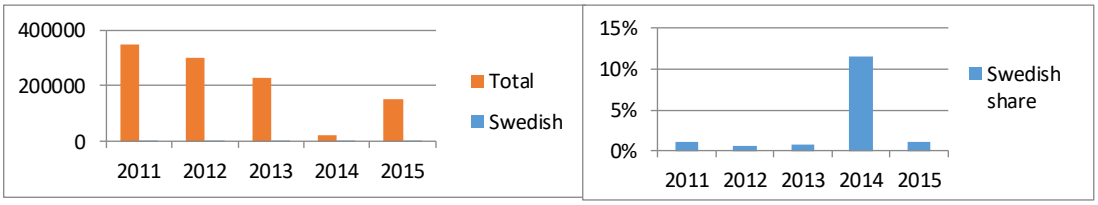


10. Procurment of goods and services from commercial companies

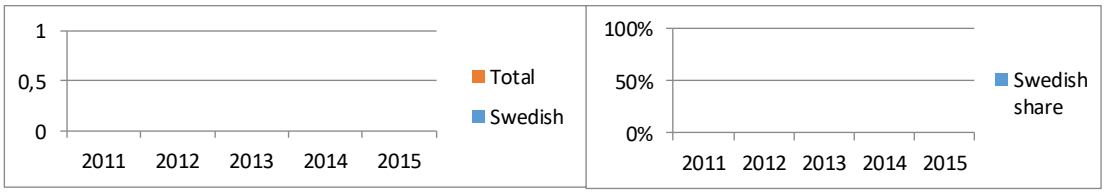


11. User fees

Academic Users



Non-Academic Users



Other information

12. What added value does the Swedish users of your facility bring to your organization?

Please describe, in general terms, if and how Swedish researchers contribute in significant and unique ways to the operation and development of your facility/RI.

The Swedish users act as drivers for some specific types of specialised measurements and for the development of new observation techniques to provide these measurements. The Swedish user community also provides a solid connection to other areas of both space and atmospheric science.

13. Currently, which are the three main competitors to your RI in the World?

With competitors, we mean facilities that provide similar kind of research infrastructures and services.

There are no true competitors in our field of research. Instead there are collaborations between the RIs globally to provide a full global view of large scale phenomena in the Earth's ionosphere. Our main collaborators are the US operated RIs AMISR, Millstone Hill and Arecibo.

14. What is the advantage of your organisation/RI in relation to your main competitors?

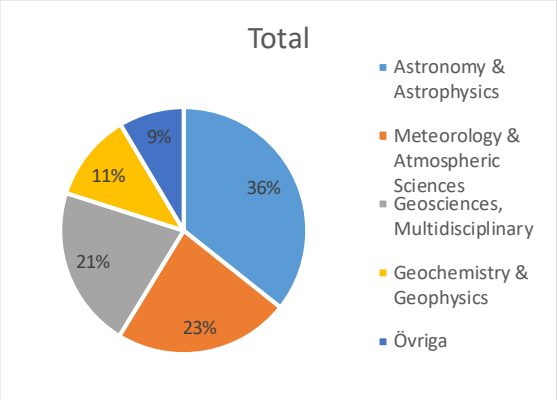
The main advantage of the EISCAT RIs over our collaborators are the access to complementary instrumentation such as auroral cameras and an ionospheric heating facility, and two rocket launching facilities in the relative vicinity. As an organisation, the multi-national nature of EISCAT Scientific Association provide a bit more stability in the funding than would be the case for an organisation funded by a single nation.

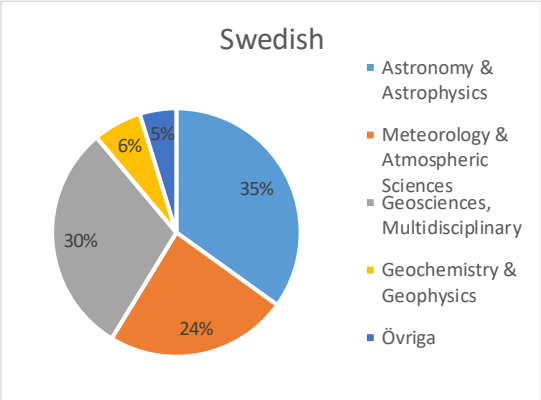
15. If you have any further comments, please write them here.

Some explanations are needed for our numbers: Applications are first approved by scientific contacts in the individual member countries. Thus EISCAT has no statistics on the total number of applications, only on the number of approved applications. With "approved sample requests" we mean the total actual number of observation hours. The numbers for the data requests are downloads of raw data. The numbers for the processed data downloads (physical parameters) are not directly available. The statistics for data requests are also skewed by some member countries downloading in principle all data in an organised fashion to have their own local database, while in Sweden it is in principle only the researchers downloading their own data for further analysis. Question 9: services provided by hosts (really only HQ rented offices and services related to that) plus overhead costs
Question 10: Operations and Administration costs (so no staff costs)
Question 11: Russia, Ukraine, France, S. Korea and LTU-Sweden (kurs: R7003R Optik och radarbaserad ohservationsteknik) – includes some hours actual radar runs)

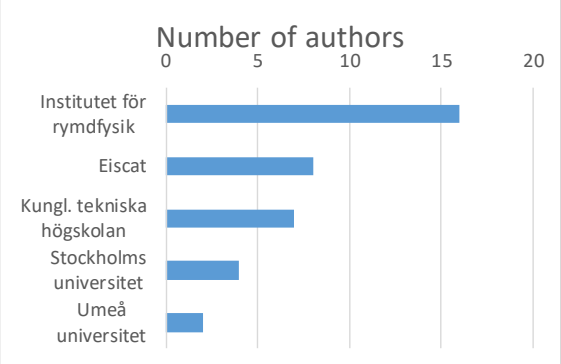
User statistics derived from publications
These statistics are based on publication lists provided by the RI

Research profile of RI users according to ISI classifications, derived from publications (2011-2015)

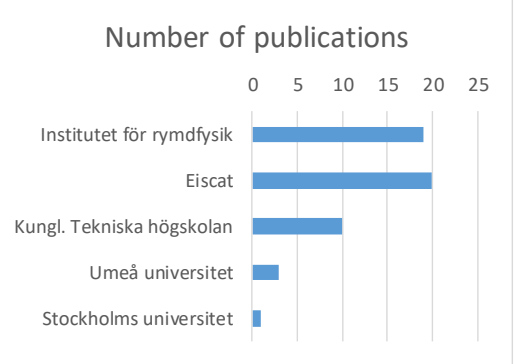




Individual Swedish users/authors (2011-2015)*



Number of publications (2011-2015)



* An individual user is identified using its unique combination of name and affiliation in the publication lists. E.g. J. Doe, Uppsala University will be counted as one individual user, irrespective of the number of publications.

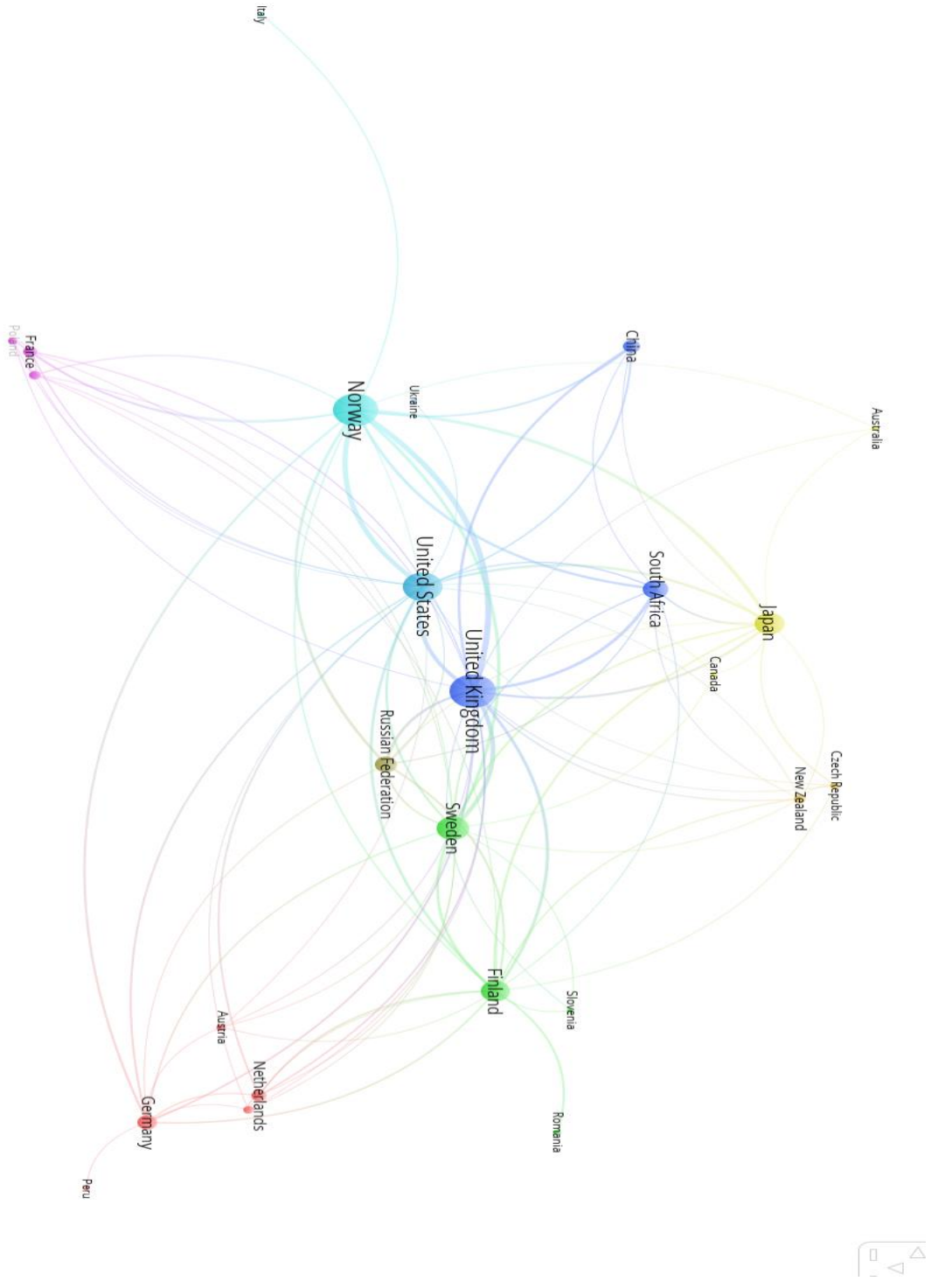
Research output:

	Full counts			Fractional counts, Sweden		
	No of papers	Mean citation rate*	Prop highly cited**	No of papers	Mean citation rate*	Prop highly cited**
RI	150	0,33	2%	-		-
Sweden	35	0,40	3%	16	0,47	3%

* Field normalised citation rate. World avereage citation in the field is one. Values above one are above world average and vice versa.
** Proportion papers belonging to topp 10% of world production in the field. Values above 10% are above world average and vice versa. Method from Waltman L., et al. 2012. J Am Soc Inform Sci and Technol 63(12): 2419–2432.

Network analysis

Size of dot correspond to number of publications. Color and width of lines are measurments of coopertion Based on adresses in the publication lists.



Appendix 6

Consulted entities. **(*)** Marks responding entities

Universities and university colleges	**Research institutes and other public agencies with a research mission**
Blekinge tekniska högskola	Energimyndigheten
Chalmers tekniska högskola*	FOI
Ersta Sköndal högskola	Havs- och vattenmyndigheten
Försvarshögskolan	Institutet för rymdfysik*
Gymnastik- och idrottshögskolan*	Institutet för språk och folkminnen
Göteborgs universitet*	Lantmäteriet
Handelshögskolan i Stockholm	MSB
Högskolan Dalarna	Naturhistoriska Riksmuseet*
Högskolan i Borås*	Riksantikvarieämbetet
Högskolan i Gävle	RISE
Högskolan i Halmstad	Rymdstyrelsen
Högskolan i Jönköping	SCB
Högskolan i Skövde	Skolforskningsinstitutet
Högskolan Kristianstad	SMHI
Högskolan Väst	Socialstyrelsen
Karlstads universitet	Strålsäkerhetsmyndigheten
Karolinska institutet*	Sveriges geologiska undersökning
Konstfack	
Kungl. Konsthögskolan	**Scientific Councils and panels (VR internal)**
Kungl. Tekniska högskolan*	Natural and engineering sciences*
Linköpings universitet*	Medicine and health*
Linnéuniversitetet*	Humanities and social science*
Luleå tekniska universitet	Educational sciences
Lunds universitet*	Development research
Malmö högskola	Artistic research
Mittuniversitetet*	Clinical therapy research*
Mälardalens högskola*	National Coordination of Clinical Studies
Röda Korsets Högskola	Research Infrastructures evaluation panels*
Sophiahemmet Högskola*	
Stockholms konstnärliga högskola*	
Stockholms universitet*	
Sveriges lantbruksuniversitet*	
Södertörns högskola*	
Umeå universitet*	
Kungl. Musikhögskolan i Stockholm*	
Uppsala universitet*	
Örebro universitet	

Appendix 7
Questions to research institutions

Vetenskapsrådet

Datum
2017-01-16

Diarienummer
dnr 5.3-2016-81

Handläggare
Magnus Friberg

Följebrev

Internationella Infrastrukturer
Konsultation med Lärosätena och andra forskningsutförande myndigheter

Bifogade underlag:
Svarsformulär

Som en del av projektet med att utvärdera VR/RFIs medlemskap i internationella organisationer ingår att ta in synpunkter från andra intressenter, framförallt från VRs ämnesråd och från svenska lärosäten. Insamlingen av information är nu avslutad då samtliga internationella organisationer (se Appendix 1) har svarat på en enkät om deras verksamhet och materialet har kompletterats med information om villkoren för VR/RFIs medlemskap.

Samtliga rapport finns tillgängliga i Box:
https://vr.box.com/s/ok27iqpqrsemol5i087lfnbdd3w6ud9i

I konsultation med URFI har vi tagit fram följande frågor som vi ber Lärosätena att svara på. Respektive Lärosäte bedömer själv vilka medlemskap ni bedömer att ni vill yttra er över och svara bara på frågorna för dem.

Då kartläggningen omfattar 37 medlemskap och vi förväntar oss svar från av de flesta svenska lärosätena och myndigheter med forskningsuppdrag ber vi er svara kortfattat på frågorna och använda bifogat svarsformulär.

Sista dag att svara är den 6 mars

Magnus Friberg
Forskningssekreterare, Infrastruktur

Frågor? Kontakta Magnus Friberg: mf@vr.se eller tfn: 08 546 44 122.
Mejla svar till: Eva Geijer Lilliehöök Eva.GeijerLilliehook@vr.se

1 (4)

Vetenskapsrådet

Frågor till Lärosätena

- Beskriv övergripande ert lärosätes forskningsverksamhet inom de områden (se beskrivning i respektive rapport) som infrastrukturen/organisationen tjänar.*.

  Ange också ett av följande:
  - Omfattande forskningsverksamhet inom relevanta områden
  - Viss forskningsverksamhet inom relevanta områden
  - Ingen forskningsverksamhet inom relevanta områden

- Om ert lärosäte bedriver forskningsverksamhet inom den specifika infrastrukturens område så beskriv i vilken utsträckning era forskare/forskargrupper är beroende av tillgång till den specifika infrastrukturen/organisationen*. Ange möjlighet att använda andra liknande infrastrukturer - nationellt eller internationellt.

  Ange också ett av följande:
  - Forskningsverksamheten inom det aktuella området är helt beroende av tillgång till den specifika infrastrukturen/organisationen.
  - Forskningsverksamheten är delvis beroende av tillgång till den specifika infrastrukturen/organisationen och alternativa lösningar kan påverka forskningsverksamheten menligt.
  - Forskningen är endast i ringa omfattning beroende av tillgång till den specifika infrastrukturen/organisationen och/eller alternativa lösningar finns.

  *För infrastrukturer under uppbyggnad så ange om möjligt potentiell/framtida forskningsverksamhet

Appendix 8

Questions to scientific councils, committees and infrastructure panels.

Vetenskapsrådet

Datum
2017-01-13

Diarienummer
dnr 5.3-2016-81

Handläggare
Magnus Friberg

Följebrev

Internationella Infrastrukturer
Prioritering av ÄRK och RFIs Rådgivande grupper

Bifogade underlag:
Svarsformulär

Som en del av projektet med att utvärdera VR/RFIs medlemskap i internationella organisationer ingår att ta in synpunkter från andra intressenter, framförallt från VRs ämnesråd och från svenska lärosäten. Insamlingen av information är nu avslutad då samtliga internationella organisationer (se Appendix 1) har svarat på en enkät om deras verksamhet och materialet har kompletterats med information om villkoren för VR/RFIs medlemskap.

Samtliga rapport finns tillgängliga i Box:
https://vr.box.com/s/ok27iqpqrsemol5i087lfnbdd3w6ud9i

I konsultation med VRs Ledningsråd har vi tagit fram följande frågor som vi ber VRs ÄRK/RFI-RÅG att svara på. Respektive ÄRK/RFI-RÅG bedömer själv vilka medlemskap som stödjer forskning inom era ämnesområden och svara bara på frågorna för dem. Använd gärna de framtagna bedömningskriterier som stöd (Appendix 2).

Notera att ÄRK/RFI-RÅG ombeds basera svaren på vetenskapliga grunder och utan att ta hänsyn till politiska aspekter av VRs medlemskap.

Då kartläggningen omfattar 37 medlemskap och vi förväntar oss svar från samtliga ÄRK/RFI-RÅG och huvuddelen av de svenska lärosätena ber vi er svara kortfattat på frågorna och använda bifogat svarsformulär.

Sista dag att svara är den 6 mars

1 (6)

Vetenskapsrådet

Frågor till ÄRK/RFI-RÅG för varje medlemskap:

- Hur passar den forskning som organisationen stöder er strategiska plan och/eller ämnesöversikt? RFI RÅG svarar utifrån VRs Vägvisare till infrastrukturen (Guiden).

Ange också ett av följande:
- Passar väl in i den strategiska planen/ämnesöversikten/Guiden
- Passar delvis in i strategiska planen/ämnesöversikten/Guiden
- Området ingår inte i strategiska planen/ämnesöversikten/Guiden

- Beskriv värdet för svensk forskning av tillgången till infrastrukturen/organisationen (se bifogade kriterier).

Ange också ett av följande:
- Tillgången är kritiskt för svensk forskningen inom området
- Tillgången är viktigt för svensk forskningen inom området
- Tillgången är mindre viktig för svensk forskningen inom området

- Hur bidrar svensk medverkan i organisationen till den internationella forskningen inom området?

Ange också ett av följande:
- Svensk medverkan är kritisk för forskningen inom området
- Svensk medverkan är viktig för forskningen inom området
- Svensk medverkan är mindre viktig för forskningen inom området

- I vilken utsträckning är forskningen inom området beroende av tillgång till den specifika infrastrukturen/organisationen*. Ange möjlighet att använda andra liknande infrastrukturer - nationellt eller internationellt.

Ange också ett av följande:
- Forskningsverksamheten inom det aktuella området är helt beroende av tillgång till den specifika infrastrukturen/organisationen.
- Forskningsverksamheten är delvis beroende av tillgång till den specifika infrastrukturen/organisationen och alternativa lösningar kan påverka forskningsverksamheten menligt.
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*För infrastrukturer under uppbyggnad så ange om möjligt potentiell/framtida forskningsverksamhet

Vetenskapsrådet

- Bedöm det svenska forskarsamhällets intresse för respektive infrastruktur utifrån informationen ovan:

Ange också ett av följande:
- Stort intresse
- Visst intresse
- Ringa intresse

Frågor till lärosätena (för kännedom)

- Beskriv övergripande ert lärosätes forskningsverksamhet inom de områden (se beskrivning i respektive rapport) som infrastrukturen/organisationen tjänar.*.

  Ange också ett av följande:
  - Omfattande forskningsverksamhet inom relevanta områden
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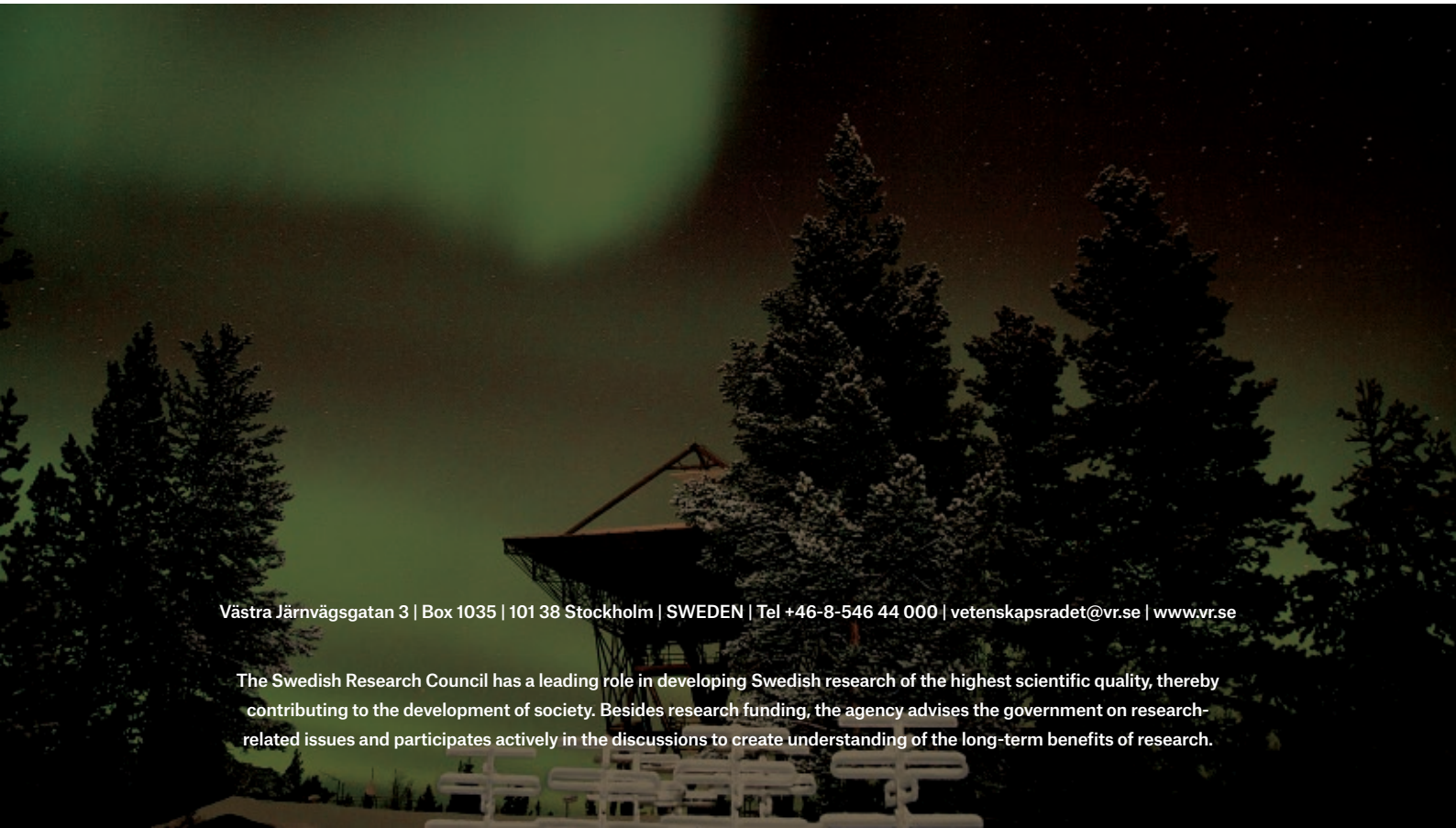
The Swedish Research Council is responsible for supporting research infrastructures of national interest within all fields of science. This report focuses on the benefits of memberships in international organisations funded under the infrastructure budget. It reports on the outcomes of a comprehensive survey of 37 memberships, including the level of usage, scientific output and economic return. It also summarizes the outcomes of the survey, gives lessons learned and outlines some recommendations for improvement to the methodology.



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