

## ESS & MAX IV: Cross Border Science and Society

Project Summary, 24-02-2017

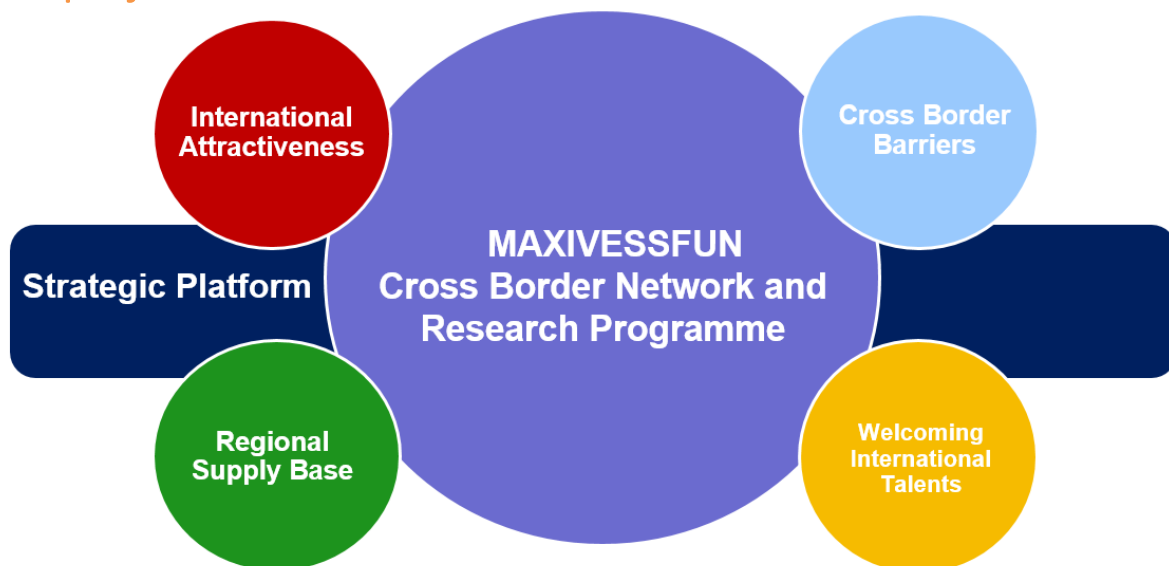
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**ESS & MAX IV: Cross Border Science and Society** is an EU project led by Region Skåne (Lead Partner) and Region Hovedstaden/The Capital Region of Denmark (Co-Lead Partner) in collaboration with 25 partner organisations in Sweden, Denmark and Norway during September 2015 to August 2018. The project has a total budget of nearly 19 million EUR, half of which comes from the EU programme Interreg Öresund-Kattegat-Skagerrak (ÖKS). It's the biggest project to be approved in the programme so far.

The long-term purpose of the project is to develop the region's strengths, such as material science and life science, with the opportunities that come with the establishment of the two world-leading research facilities ESS and MAX IV as a starting point. Synchrotron X-ray facility MAX IV was opened in June, 2016, and completion of the neutron facility ESS is expected at the end of 2019. Thereafter, ESS is to go through a period of three years, and is expected to be up and running around year 2023. ESS and MAX IV offer unique opportunities to study materials on a micro-level by using advanced techniques in a number of research fields. The two research facilities are strategically located next to each other in Lund, with the ESS Data Management and Software Centre (DMSC) in Copenhagen.

The main goal with the project is to increase the share of young researchers in the region who can use the facilities in the future. The project has identified several fields where there is great potential for working across borders. The fields have been divided into five subprojects that are held together by a *Strategic Platform*/overall project management. Altogether, the project has a wide scope for increased benefits to society through ESS and MAX IV. The broad partnership creates opportunities for dynamic learning between different organisations and across country borders.

### Subprojects



## MAX4ESSFUN Cross Border Network and Researcher Programme

**Partners:** University of Copenhagen, Lund University, Technical University of Denmark, Malmö University, Aarhus University, Chalmers University of Technology, University of Gothenburg, University of Oslo, ESS, MAX IV

**Budget:** 13,607,293 EUR

The goal of *MAX4ESSFUN* is to increase the share of young researchers who can perform experiments at ESS and MAX IV. The ambition is for 176 experiment projects of six months each to be completed, with the purpose of strengthening doctoral/PhD and postdoc students' user competence. The experiments are mostly performed in European, operational facilities. The experiments have a clear cross border dimension, as the students get access to an assistant instructor from a partner university in a different country, ESS or MAX IV. In total, the subproject includes over 1,000 months of training for the young researchers, and 500 months of instructor time, which involves senior researchers. In addition to the experiments, activities such as international workshops and summer courses are included. The activities will contribute to a closer network and collaboration between relevant neutron and synchrotron environments at the eight participating universities.

### Expected results

- Researcher network with 150 existing and new users from academia and industry
- 176 cross border experiments/research projects with neutrons and synchrotron X-rays
- 200 young researchers with high user competence in neutrons and synchrotron X-rays
- 300 – 400 researchers who have participated in activities for improved user competence
- Compilation of the universities' courses and strengths
- Joint summer/winter courses and international workshops (some of them in collaboration with industry)

At its launch in October 2015, *MAX4ESSFUN* arranged a researcher kick-off at the University of Copenhagen, which attracted around 100 participants. At the event, the parties presented their respective strong points in neutrons and synchrotron X-rays. A second researcher meetup took place in Lund on October 6<sup>th</sup> – 7<sup>th</sup>, 2016 with about 150 participants. The steering committee, which is the deciding body of the experiment, had, by January, 2016, granted 75 experiment projects. The kick-off and the second research gathering both included poster sessions and network opportunities.

In 2016, *MAX4ESSFUN* developed a new web portal with an overview of all scientists working with neutrons and X-rays at the universities. The web portal will make it easier for researchers to find collaboration partners in the ÖKS-area. An electronic in-depth compilation of the universities' courses in neutrons and synchrotron X-rays will be developed during 2017. The web portal can be found at [www.max4essfun.ku.dk](http://www.max4essfun.ku.dk).

In October 26<sup>th</sup> – 28<sup>th</sup>, 2016, Malmö University arranged an international workshop, "*Synchrotron and Neutron Scattering in Biomaterials and Soft Matter*", in collaboration with the University of Oslo. The workshop gathered 170 participants and consisted of seminars and poster sessions for young researchers.

## International Attractiveness

**Partners:** Invest in Skåne, Copenhagen Capacity, ESS, MAX IV, Science Village Scandinavia, Medicon Village, Copenhagen Municipality, Lund Municipality, City of Helsingborg, City of Malmö

**Associated Partner:** Lund University

**Budget:** 1,822,000 EUR

*International Attractiveness* takes cohesive action concerning global marketing of the region's joint research infrastructure in material science and Life science. ESS and MAX IV are catalysts for work with marketing and sales performed within the subproject. By participating in strategically chosen global conferences and fairs around the world, the subproject is working to attract investments, businesses and researchers to the Öresund region.

### Expected results

- Cohesive message concerning the region's strengths in material science and life science
- Value propositions (concrete offers to businesses)
- 50 good ambassadors spreading the region's message internationally
- Development of a "tool kit" which can be used by multiple parties in the Öresund region

Initially, the focus of the project has been on making a benchmark analysis of the region's collective strengths and opportunities to attract operations globally. The analysis was completed before the summer of 2016, and is the basis for ongoing work which now aims to develop cogent value propositions that can be used in work with international marketing. The subproject has identified and started to contact ambassadors who can spread the region's message and strengths internationally. Copenhagen Capacity's Goodwill ambassador network, with representatives from industry, will be used for this matter.

The subproject has participated in a number of large, international conferences, such as *BioEurope Munich*, *BioJapan* and *Science Technology and Innovations Days* in Hanoi. The subproject has also been successful in attracting international conferences to the region, f. ex. BIO-Europe 2018 will be held in Copenhagen with some sessions located in Malmö and Lund.

A Value Proposition with focus on "*Hydrogen for Fuel Cells within Green Transportation*" was evolved during 2016. In 2017, Value Propositions will be developed within oncology, diabetes, nanotechnology and functional food.

## Regional Supply Base

**Partners:** Big Science Secretariat, Industrial Platform in Skåne, IUC Syd

**Budget:** 488,310 EUR

The purpose of *Regional Supply Base* is to increase Swedish and Danish companies' business opportunities in the big science industry. Two analyses will be developed within the subproject. The first analysis will give an overview of the facilities' non-technical requirements and operationally crucial events. A number of study visits have been made to other research facilities as part of this analysis, e.g. ISIS and Diamond Light Sources near Oxford. The second analysis focusses on clarifying the competence requirements that businesses in the region need to meet to be able to act as suppliers to ESS and MAX IV. The subproject also includes measures focusing on strengthening the businesses' networks on the other side of the strait.

### Expected results

- Analysis of non-technical requirements and operationally crucial events at ESS and MAX IV
- Analysis of what businesses require in terms of competence development to enable them to supply services and products to ESS, MAX IV and other large-scale research facilities
- Information and competence development measures, such as within public procurement (supply)
- Cross border business network
- Technology workshops

The first analysis was completed in 2016, but will be revised continuously during the whole project period. As part of the analysis, the subproject management group made a study visit to ISIS and Diamond Light Source in February, 2016. The facilities were considered especially interesting as they are co-localised, just like ESS and MAX IV, and constitute one neutron and one synchrotron X-ray facility. In November 2016, the project team made a second visit to ISIS and Diamond Light Source, this time together with companies from Sweden and Denmark to get increased knowledge about the business opportunities within Big Science.

The subproject has started the second analysis and been in contact with more than 100 companies to get an overview of their competence needs. The analysis includes discussions of Higher Vocational Education (Yrkeshögskola) connected to production of advanced technology, public procurement, enhanced skills in 3D printing in metal and a list of the companies' expertise in the region.

In order to strengthen the companies' expertise the subproject arranged a technology workshop in Lund, in September 2016. The workshop gathered 140 participants and put focus on seven priority areas for ESS and MAX IV. This customized workshop generated new knowledge in both technical and administrative challenges. The workshop was attended by representatives from industry, academia and the research facilities. More technology workshops will be arranged as a way of strengthen the companies' expertise.

## Cross Border Barriers

**Partners:** The Greater Copenhagen and Skåne Committee, the Swedish Public Employment Service, the Swedish Social Insurance Agency, the Swedish Tax Agency, the Skåne County Administrative Board, Öresunddirekt DK, DK Skat, ESS.

**Associated Partners:** The Danish Agency for Labour Market and Recruitment (STAR), the Nordic Council of Ministers, the Swedish Migration Agency

**Budget:** 340,505 EUR

This subproject finished in December in 2016 with a stakeholder conference in Copenhagen. At the conference, a brochure with identified cross border obstacles was presented. The brochure can be downloaded from the projects website [www.scienceandsociety.eu](http://www.scienceandsociety.eu). During the project period a number of Swedish and Danish authorities have analysed cross border obstacles facing third country and EU citizens wanting to commute between Sweden and Denmark. The main obstacles have concerned taxes, social insurances and labour market.

### Expected results

- A report of identified border obstacles faced by EU and non-EU citizens
- Suggestions of solutions to be presented on a national level
- An influence strategy for long-term work
- Information dissemination of results on Öresunddirekt's website/English portal

In 2015, the subproject analysed what applies to work and residence permits in Denmark and Sweden respectively. Thereafter the authority experts continued to analyse selected cross border obstacles in depth. During the process, ESS has contributed with cases of cross border barriers experienced by their staff.

*Under 2016 skickade delprojektet ett notat till Skatteministeriet i Danmark i syfte att påverka reglerna gällande dansk forskarskatt för anställda vid DMSC i Köpenhamn, statistikcentralen kopplad till ESS. Lagförslaget, ibland kallat "Lex-ESS", som antogs i Folketinget 19 december 2016 innebar också lösningar på en annan av delprojektets upptagna gränshinder nämligen svårigheter för personer som kommer utanför EU att gränspendla i regionen. I den nya lagen medges undantag för personer knutna till ESS att gränspendla, det vill säga att det blir möjligt att bo i Köpenhamn när man arbetar för ESS i Lund. Den nya lagen trädde i kraft 1 januari 2017. Efter påtryckningar från delprojektet omfattar lagförändringen avseende forskarskatt även de ESS-anställda som anställdes tidigare än januari 2017.*

In 2016 the subproject sent an amendment to the Danish Ministry of Taxation in order to influence the "Tax scheme for foreign researchers and highly paid employees" (Forskerordningen) for employees at DMSC in Copenhagen. The new law, called "Lex-ESS", was successfully approved in the Danish parliament in December 19<sup>th</sup>. The new regulations also made it possible for employees at ESS to live in Copenhagen and work in Sweden. The new law was entered into effect on 1 of January 2017.

The cross border obstacles identified in the subproject will be registered in the Freedom of Movement database (Gränshindersdatabas) at the Nordic Council of Ministers, and will be included in the Council's regular work. The result will also be implemented in Greater Copenhagen and Skåne Committee, everyday work with cross border barriers.

## Welcoming International Talents

**Partners:** Copenhagen Municipality/International House, Invest in Skåne, Lund Municipality, City of Helsingborg, City of Malmö, Copenhagen Capacity

**Budget:** 952,000 EUR

*Welcoming International Talents* aims to improve services for international talents that move to the Öresund region/Greater Copenhagen. The aim is to build up a cross border network for different organisations in the region working with talent reception in order to share knowledge and best practise. Through the project new concepts and events for international talents and their spouses are being developed. The events that are coordinated are based on the target group's needs, and can be within areas such as labour market, culture, leisure or social activities. Another part of the subproject involves systematic mapping of talents' needs through an expat panel including people on both sides of the strait. The long-term purpose is to get more international talent to remain in the Öresund region.

### Expected results

- The creation of a cross border knowledge network for reception organisations
- Coordination of joint activities for international talents and those accompanying them
- Development of Talent Forum, Welcome Reception, Culture and Leisure Guides and a Step to Step Guide
- Better communication and marketing of events for talents arranged in the Öresund region

In Skåne, the experience exchange has contributed to the development of a new concept, the "kick-start program", which aims to make it easier for spouses to enter the labour market. The development of the concept takes place in collaboration with ESS' HR department, the Swedish Public Employment Agency, Öresunddirekt, businesses and other organisations.

In August, 2016, the subproject participated at the Welcome Reception in Copenhagen City Hall, which is a fair that attracts around 1,000 international participants. The fair showcases Copenhagen's culture and leisure offering, and also, thanks to the project, the opportunities offered in Skåne.

The electronic survey "International Talent Forum" has been developed during 2016 and the first part with questions on "Civic participation" has been sent to persons that recently have moved to Greater Copenhagen.

A cross border "Step to Step Guide" is also being developed, with information to foreigners moving to the region.

## Strategic Platform

**Partners:** Region Skåne, Region Hovedstaden

**Budget:** 1,766,200 EUR

The purpose of the *Strategic Platform* is to lead and coordinate the project. The platform shall ensure goal achievement, cross border added value, and synergies between the subprojects. A coordination group with representatives from all subprojects will support the project management group, and contribute to synergies between the working packages being ensured. The project management group will report the project's implementation to a steering group regularly. Another task of the *Strategic Platform* is to connect the project to the surrounding world. This will, for instance, be done with the help of an Advisory Board consisting of organisations and authorities on national and international levels, and by arranging strategic forums on various themes.

### Expected results

- Project management and synergies with a spillover effect for the subprojects.
- The surrounding world being kept track of and anchored with
- Financial reporting
- Meetings in the steering group and coordination group
- Organisation of the Advisory Board and strategic forums
- Communication and results dissemination

Initially, the project management group has put a lot of focus on getting processes going for steering, reporting, finances and communication. So far, two economic reports have been sent to the Interreg-secretariat including an overview of activities and results.

A coordination group with representatives from each subproject was formed shortly after the start of the project. This group meets once a month to discuss status, thematic areas, and results. The project's overall steering group, consisting of the project's 15 biggest financiers, have so far met three times. The first meeting in the Advisory Board took place in January 2017 with participants from national level in Denmark, Sweden and Norway, EU level and the industry. In May, 2016, the project management group arranged a strategic forum on the theme of horizontal criteria. In October, 2016, a second strategic forum was arranged focusing on Science Village Scandinavia from a cross border perspective.

The project management has focused on anchoring the project with external stakeholders, and, for example presented the project to DESY, XFEL, Region Midtjylland, Västra Götalandsregionen and Work in Denmark. June, 2016, the project was presented through an exhibition stand at the MAX IV open house. During the open house, the project reached out to around 500 people through individual conversations.

The project management uses monthly newsletters and social media to give information about the project and disseminate results. Several young researches was interview and highlighted in the newsletter as a way of showing the outcome from the project.

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