

Outline plan for Stockholm University's participation in the framework programme Horizon Europe 2021-2027

The President has approved the Outline plan for Stockholm University's participation in the framework programme Horizon Europe 2021-2027 (ref. no. SU FV-2405-21). Date of approval 2021-06-24. The decision enters into force 2021-06-24.

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Description

The purpose of the outline plan for Stockholm University's participation in Horizon Europe is to indicate the direction of Stockholm University's participation in the new European framework programme for research and innovation. The plan presents ambitious objectives set by the national strategy. It presents opportunities and challenges linked to the participation so that staff, researchers and external stakeholders can form an opinion about the objective of the University's participation in Horizon Europe.

1 Introduction

Through Horizon Europe (HEU), the European framework programme for research and innovation 2021-2027, Europe's competitiveness is to be strengthened, while the EU vision of a green and digital transformation is to be realised. The goal is to achieve a healthy, fair and sustainable society. For Stockholm University, the framework programme constitutes an attractive source of financing and it creates new opportunities for knowledge and innovation. This outline plan aims to maximise the effect of participation in the framework programme in order to raise the quality of the activities and to strengthen the University's research, education and collaboration.

Here follows a brief presentation of the structure of the new framework programme and the proposal of a national strategy for the Swedish participation in HEU, which has been drafted by six Swedish funding agencies on the initiative of the government (1). The ambitious goal of the University for participating in HEU constitutes a guideline for the strategic work and is based on the proposal for a national strategy and on the Strategies for Stockholm University 2019-2022 (2). The end of the plan contains possibilities and challenges posed by participating in the framework programme.

2 Background of the framework programme Horizon Europe

2.1 Structure of Horizon Europe

The EU framework programme for research and innovation for the years 2021-2027- Horizon Europe (HEU) – has a total budget of €95.5 billion. Although HEU is considered to be the world’s largest research programme, the budget is considerably smaller than the €120 billion originally proposed by the EU Parliament. Like other EU funding programmes, HEU is a political programme. Consequently, the EU’s overarching objectives for the framework programme are reflected in the structure and focus of HEU.

HEU builds on the experiences and successes of the previous framework programme, Horizon 2020 (H2020). Like H2020, HEU is based on three pillars (see Figure 1 below).



Figure 1: Structure of Horizon Europe.

Pillar I – Excellent Science – comprises the European Research Council (ERC), Marie Skłodowska-Curie Actions (MSCA) and Research infrastructure. Compared with H2020, co-operative research in new, promising areas, Future and Emerging Technologies (FET) is no longer in pillar I. Similar initiatives can now be found under Pathfinder in pillar III.

Pillar II - Global Challenges and European Industrial Competitiveness – consists of six different clusters of combined themes which require broader co-operation. These clusters can be said to combine H2020’s societal challenges and industrial leadership. In pillar II are also the new, revised partnership programmes, and one of the major new additions in HEU: EU Missions.

The goal of these missions is to establish a stronger link between EU research and innovation and the needs of society and the public; with high visibility and high impact. Five thematic areas have been defined for the missions:

- Adaptation to climate change, including societal transformation
- Cancer
- Climate-neutral and smart cities
- Healthy oceans, seas, coastal and inland waters
- Soil health and food

Pillar III – Innovative Europe – intends to strengthen and pool ground-breaking innovation. The European Innovations Council (EIC) is the most important initiative within pillar III. The EIC instrument of greatest interest for higher education institutions is Pathfinder which will support projects in the phase from early technology to pre-commercial technology. Within pillar III is also a boost for the European Institute of Innovation and Technology (EIT). Outside the pillars, a part of the HEU budget has been allocated to the support of widening participation, spreading excellence, and to reforming and strengthening the European Research Area (ERA).

The new framework programme also puts more emphasis on strengthening international cooperation and open science. Free access to publications and research data aims at achieving better dissemination and exploitation of results from research and innovation, thus supporting active participation of society.

2.2 National strategy for Swedish participation in Horizon Europe

In preparation for HEU, Vinnova along with Formas (a Swedish research council for sustainable development), Forte (Swedish Research Council for Health, Working Life and Welfare), the Swedish Energy Agency, the Swedish National Space Agency and the Swedish Research Council were commissioned by the government to propose a strategy for Swedish participation in the programme. During this process, feedback was collected from Swedish research and innovation actors including Stockholm University. A strategy draft was presented at a hearing in late September 2020, and the final strategy proposal was presented to the Ministry of Education and Research in October (3). In the strategy proposal Gathering power for Horizon Europe, ten national strategic objectives are recommended (4). In the government bill (2020/21:60), Research, freedom, future - knowledge and innovation for Sweden, the national strategy and the importance of European research collaboration are both mentioned (5).

3 Stockholm University's participation in Horizon Europe

3.1 Stockholm University's ambition in European research and innovation collaboration and the outcome in previous framework programmes

In Gathering power for Horizon Europe, Swedish actors are recommended to develop strategies for their own participation. At Stockholm University, internationally competitive research and research collaborations are central and an integral part of the pursuit of excellence. The strategies for Stockholm University present a clearly stated ambition: "The University should actively support larger research applications to, for example, various EU programmes or foundations such as the Knut and Alice Wallenberg Foundation" (6).

Stockholm University is the only major higher education institution in Sweden which has participated in more H2020 projects compared to the previous framework programme FP7. This is despite the fact that the University does not have a medical or a technology faculty. Above all, it must be stressed that the total sum of grants awarded increased by €39 million (Annex 1). Nearly 62% of Stockholm University's H2020 projects are within the pillar for "Excellent Science", as compared to a little over 33% of the projects in the pillar for societal challenges (Annex 1). The final accounts of H2020 will be ready only in late 2021.

The goal of the University is to continue the positive trend also under HEU. International recognition of its research, collaborations with other outstanding research groups and partners both inside and outside academia, bringing new knowledge back to the University, as well as access to international research infrastructure ensures and strengthens research quality at the University. This will also contribute to making it easier to recruit excellent researchers to the University. Additional reasons for having high ambitions for participating in HEU are due to the fact that grants from the EU framework programme for research and innovation constitute a measure of the University's international competitiveness. The national strategic objectives for HEU have been taken into account when drawing up the plan for the overarching goals of the University's participation in HEU. In the next section follows a description of the overarching objectives which are characterised by high ambitions for the University.

3.2 Overarching objectives for Stockholm University's participation in Horizon Europe

Ambition: Strategic and ambitious participation by Stockholm University

Strategic objectives:

- The University is among the top universities in Sweden in terms of accepted applications.
- The University considerably increases the total funding granted compared to H2020.
- The University is internationally competitive and an attractive partner.

A high level of ambition is synonymous with a goal of a substantially higher number of applications where the University is either partner or coordinator, and the approval number of such projects must also increase considerably. To achieve competitive applications on a European level, it is important to inspire participation from the University's most outstanding researchers. Continued and strengthened participation should be encouraged within ERC and MSCA, since the University has a strong profile in basic research. The big potential for improvement, however, lies in collaborative projects where Stockholm University has strong research environments.

Efforts must be made in these areas of strength, where there is the best chance of coordinating projects, e.g. environment/climate/sustainability/democracy and societal transformation. Targeted actions for social sciences and humanities (SSH) are particularly important, in order to increase the awareness of and interest in these calls, as well as how SSH can contribute in interdisciplinary cluster projects.

The possibilities for researchers at Stockholm University to participate in collaborative projects within the EU Missions are good as four of the missions are linked to environment and sustainability, and the fifth mission, cancer, also offers potential for participation by the University's researchers. Since the projects within the missions are to be interdisciplinary, there are favourable conditions for participation by researchers from both science and human science. The Green Deal, the EU Commission's strategy for a climate- neutral EU in 2050, has strongly influenced HEU and up to 35% of the budget will be allocated to climate actions. The strength of Stockholm University in the climate area indicates good prospects for increased participation in HEU.

Compared to FP7, the sum of grants awarded to Stockholm University increased by over 70% under H2020. A further increase under HEU is a goal which is ambitious but fully realistic. Stockholm University ranks sixth among Swedish higher education institutions in terms of EU research funding. A considerable increase of funding under HEU would enable Stockholm University to strengthen its position as one of Sweden's top universities.

Ambition: Developed participation in European partnership programmes

Strategic objectives:

- Stockholm University benefits from the European partnerships in order to strengthen and influence research and innovation in Europe.
- Stockholm University exerts influence so that Sweden participates in partnership programmes which coincide with the University's areas of strength.

Since nearly half of the budget in pillar II is allocated to partnership initiatives, efforts are needed to increase Stockholm University's participation in different partnerships. To achieve these objectives, there is need for better and targeted information to researchers. Such information should focus on partnership programmes which coincide with the University's areas of strength.

Ambition: Increased valorisation of knowledge and results

- Stockholm University is a leading research university with a basic research profile. When research and innovation generated in Horizon Europe is disseminated, made available and valorised it also increases possibilities to meet societal challenges.

The results from HEU projects are to be disseminated in order to be valorised outside of the project in question. It is vital that the excellence and information which are obtained should contribute to societal development, both nationally and internationally. Collaboration plays an important role in making the results available for different actors in the surrounding society. Improved follow-up of projects is desirable to identify results which may be valorised in a broader perspective.

Ambition: Increased valorisation of research infrastructure and strong research and innovation environments

Strategic objective:

- Stockholm University benefits from and contributes to research infrastructure, strong environments as well as testing and demonstration facilities in Europe.

To achieve this objective, it is essential to create good conditions for participation and coordinating in applications within research infrastructure. Possibilities for the use of European research infrastructure need to be promoted. Better and targeted information lead to increased awareness among the researchers of the possibilities and of how participation can raise the quality of their own research.

Ambition: Successful advocacy and expert support

Strategic objectives:

- Stockholm University actively and successfully exerts influence on Horizon Europe in terms of focus, content and implementation.
- Participation in the EU Commission's expert forum has increased both in terms of scope and significance, and it is attractive for researchers at Stockholm University.

The Stockholm Trio's joint Brussels Office which was launched recently constitutes a resource which provides better opportunities to influence the structure of HEU. There needs to be a mapping of both obstacles and requirements to convince more researchers to become evaluators and to sit on expert groups.

3.3 Challenges/possibilities to achieve the objectives

Stockholm University's leadership, scientific areas and faculties

The University shall actively stimulate and support researchers to apply for funding in the EU research programmes, to collaborate in EU funded projects, to participate in EU committees, etc. This is done in several ways, including by identifying specific areas of potential and by initiating a dialogue with relevant parts of the core activities. The recently established Brussels Office will be a resource of key importance for the development of EU's strategic work (see more about the Brussels Office below).

Support for applying for and running EU projects

An important part of the work to get more researchers at Stockholm University to participate in HEU lies in well-designed support from the Office for Research, Engagement and Innovation Services (REIS), but also from other parts of the University administration. This comprises information about upcoming calls, support during the application process (on matters such as ethics and gender equality), when negotiating contracts and during the course of the project. In addition to increasing the awareness of HEU and strengthening the application itself, it is about removing barriers which prevent researchers from applying. Even though the process is seen as complicated, it is important to know that there is available support. Complicated and confusing administration is the major obstacle for researchers to apply for EU funding. One way of increasing the number of HEU applications can be to reduce administrative friction. This can be achieved by support and facilitation to the departments when it comes to EU projects. The support needs to be developed and there must be a follow-up. While experienced researchers shall venture to coordinate/lead major collaborative projects, less experienced researchers shall be encouraged to take the step and participate in collaborative projects. Proactive work and advance information about calls can be considerably improved through the Brussels Office. For major applications within clusters and missions, REIS provides collaborative support and can assist by involving the University's collaborative partners in the Stockholm region. The office is also at hand when there are synergies between HEU and the European Regional Development Fund (ERDF).

Co-funding

EU projects do not cover all indirect costs. The necessary co-funding can constitute problems and obstacles for participation in HEU, in cases where departments feel unable to afford the co-funding. Stockholm University's principles for co-funding place a basic responsibility at

the departmental level which may be complemented by contributions from the faculty or scientific area level, and in some cases from the central level. Discussions are being held about providing support for co-funding of HEU projects also at the national level.

The university alliances Stockholm Trio, CIVIS/RIS4CIVIS and strategic partners

Teachers and researchers at Stockholm University are involved in a large number of strong and well-established international collaborations. In addition, the University has, in recent years, actively strengthened collaborations and networks through partnerships in the university alliances Stockholm Trio and CIVIS. These partnerships enable increased networking and increased mobility as well as providing platforms to find partners for collaborative projects. One good example is the CIVIS initiative which successfully matched supervisors and researchers for MSCA, and this in turn led to an increased number of applications. With the addition of the H2020 project RIS4CIVIS, which is more research oriented than CIVIS, further possibilities of research exchanges are created. Stockholm Trio can be of benefit to organise larger, joint, ambitious activities, to interpret regulations, to cooperate on ethics matters, and to establish European research infrastructure, to collaborate with the City of Stockholm and the Stockholm Regional Council, and to make common templates. It should be possible to use the added research activity of the Stockholm Trio universities to find suitable HEU collaborations. The Trio also has a collaboration with University College London (UCL), a collaboration which may be developed to find collaborative projects. Among the partner universities, there is, above all, potential for increased collaboration with the University of Helsinki within HEU, e.g. related to the Baltic Sea. As for the University of Tokyo, it is important to pay attention to such parts of HEU where collaboration may be possible.

The Brussels Office

Now that Stockholm Trio's joint Brussels Office is in place, the University is better equipped to tackle HEU than was the case with the previous framework programme H2020. Gathering information, including information which has not been spread through established channels, and creating relations with key persons in the EU research ecosystem has a positive influence on participation in HEU. Stockholm Trio and Stockholm University can brand themselves in Brussels and contribute to a European policy for research and innovation, e.g. the structure of the European Research Area (ERA). After Brexit, Stockholm Trio stands good chances to successfully exert influence, since it becomes the biggest actor in terms of research grants in the EU. Specific opportunities will open when Sweden takes over the presidency of the EU in 2023. The Brussels Office working group consists of the Brussels representative and one representative respectively from each higher education institution. The work is led by the Brussels representative.

3.4 Responsibility and follow-up

Horizon Europe runs until 2027. The University's Outline plan for participation in the framework programme needs continuous follow-up and regular updating. Half way through HEU, major evaluation and possible revision of the plan should be carried out by REIS to ensure that there is a development towards increased participation. By that time, the new framework programme has been active for a few years and a new strategy document for Stockholm University should also be in place.

Annex 1

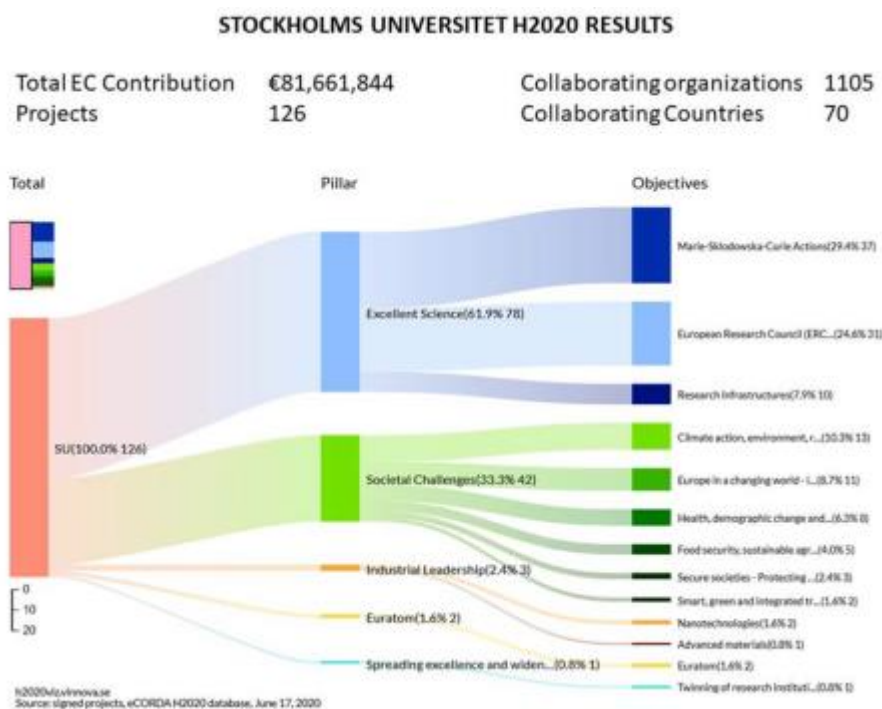


Figure A: Outcome for Stockholm University in H2020 until 200617.

University/Research institute	No of projects FP7	Funding granted FP7 (Euro)	Proportion of funding % (Sweden)	No of projects H2020	Funding granted H2020 (Euro)	Proportion of funding % (Sweden)	Comparison funding FP7/H2020 (Euro)
Karolinska Institutet	335	204 207 428	11,69	273	185 850 108	8,74	-18 357 320
Lund University	319	152 949 156	8,75	272	173 608 896	8,16	20 659 739
KTH Royal Institute of technology	320	145 671 575	8,34	319	162 805 094	7,66	17 133 519
Chalmers	275	117 655 243	6,73	245	152 565 317	7,17	34 910 074
Uppsala University	260	154 356 242	8,83	251	150 739 250	7,09	-3 616 992
Stockholm University	144	53 657 597	3,07	146	92 675 276	4,36	39 017 679
University of Gothenburg	182	80 854 771	4,63	150	74 041 815	3,48	-6 812 957
RISE	77	26 099 077	1,49	140	57 261 361	2,69	31 162 283
Linköping University	121	52 407 576	3	108	49 851 989	2,34	-2 555 587
SLU	94	24 175 436	1,38	87	40 429 790	1,9	16 254 355

Table 1: Comparison of the outcome in the framework programmes FP7 and H2020 for the major Swedish higher education institutions. Data from Horizon Dashboard 210209.

Footnotes and references

- <https://www.vinnova.se/en/publikationer/gathering-power-for-horizont-europa/>
- <https://www.su.se/staff/organisation-governance/governing-documents-rules-and-regulations/goals-operations/strategies-for-stockholm-university-2019-2022-1.417508>
- <https://www.vinnova.se/en/publikationer/gathering-power-for-horizont-europa/>
- The strategy proposal mentions eleven strategic objectives, but only ten of them are named and recommended.
- <https://www.government.se/press-releases/2020/12/considerable-boost-for-swedish-research/>
- <https://www.su.se/staff/organisation-governance/governing-documents-rules-and-regulations/goals-operations/strategies-for-stockholm-university-2019-2022-1.417508>