The HBP Research Infrastructure Voucher Programme Call 2019 Guide for Applicants

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Target Users/Readers:	HBP external communities (including academic and medical research, hospitals, industry and pharma (SMEs and larger companies)

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1. The Human Brain Project

The Human Brain Project (HBP, https://www.humanbrainproject.eu/) is an ambitious 10-year scientific research and infrastructure initiative, part of the EU Future and Emerging Technology (FET) Flagship programme.[1] The HBP is developing an innovative ICT[2] infrastructure, that helps neuroscientists and clinical researchers integrate data and knowledge about the brain across all levels of its spatial and temporal organisation. Using detailed digital representations, reconstructions, and simulations it aims to give tools to thousands of researchers to advance and accelerate our understanding of the functioning of the human brain and its diseases.

The Research Infrastructure Voucher Call is an openness measure to adjust and develop the HBP platform infrastructure to meet the needs of the user community in a dynamic and interactive way.

2. Scope and target groups

> The Research Infrastructure Voucher Call invites non-HBP researchers to apply for a voucher to secure HBP engineering solutions for their challenging research problems. The vouchers fund the work of the HBP research infrastructure engineering teams to implement feature requests of the voucher winners. While benefiting from tailor-made developments and solutions, voucher winners will not receive any direct funding for their work from the HBP. The vouchers do not fund the work of the external voucher winners.

Non-HBP researchers worldwide are invited to apply for HBP research infrastructure vouchers that allow the implementation of their project ideas in the HBP digital infrastructure.

The target groups are from academic and medical research, including hospitals, or from industry and pharma (SMEs and larger companies) in the fields of future computing, neuromorphic computing or high-performance analytics and computing, neurorobotics, neuroscience, brain simulation and medical informatics.

HBP explicitly welcomes project ideas with commercial potential. It also welcomes project ideas that involve more than one research infrastructure platform (for example, neuromorphic computing AND neurorobotics). The voucher programme aims to establish successful win-win collaborations and pursues technology innovation and engineering solutions of mutual interest. Voucher groups will be expected to develop into formal HBP Partnering Projects, unless the voucher partners explicitly decline (for more information, see https://www.humanbrainproject.eu/en/about/project-structure/partnering-projects/).

The aim is that projects selected for voucher funding will, by combining HBP and external community expertise, generate unique results that have the potential to lead to innovative opportunities for new products, services and processes of mutual benefit.

Voucher applicants should contact with the HBP research infrastructure services as soon as possible to discuss the feasibility and practicability of their project idea _before_ the proposal submission deadline. To be considered, a proposal will need to include a section that has to be completed by an appropriate HBP infrastructure contact; this can only be achieved within the required timeframe if the necessary discussions between the proposer and representatives of the HBP RI have taken place before the submission deadline.

Applicants should initiate contact with the HBP via an RI Platform Subproject Manager (see "Use of vouchers and contacts"). The SP Manager will direct applicants to the appropriate HBP infrastructure contact/engineering team if the applicant is not already in contact with the HBP.

After the voucher proposal submission deadline is passed, the HBP infrastructure contact will complete the HBP internal part of the proposal. This step ensures that the HBP infrastructure

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[1] https://ec.europa.eu/programmes/horizon2020/en/h2020-section/fet-flagships
[2] ICT, Information and Communication Technology

contact and the engineering team can implement the project, should the project be selected for funding.

The maximum project duration is restricted to 12 months. The size of each voucher will depend on the personnel costs required to realize the projects. A voucher is restricted to range between 4 and 12 Person Months of engineering/development time in total. The travel budget can be up to 4 % of the requested personnel costs. The travel costs will be primarily reserved to cover expenses of the voucher winners to participate in HBP meetings and events. The voucher costs table in the proposal template will be completed by the HBP platform contact. The vouchers fund the work of the HBP research infrastructure engineering teams to implement the feature requests of the voucher winners.

Projects receiving these vouchers have to start in SGA3 (planned start date on 1 April 2020) and will have to be completed within 12 months. Please take the time and resources constraints (maximum 12 months duration and maximum 12 PM) into consideration when writing the proposal.

The IP principles are established on the framework of the HBP Consortium Agreement. However, the programme aims to be flexible, pragmatic and practical in its IP approach to IP matters, and does not want to hinder exchanges because of restrictive IP terms. Details may be worked out and negotiated on a case-by-case basis, if necessary.

In order to check out the current HBP research infrastructure functionalities, please register for an HBP account to access the infrastructure services under https://services.humanbrainproject.eu/oidc/account/request.

3. Eligibility

The initiative is open to non-HBP researchers or non-HBP groups worldwide.

The terms "non-HBP researchers" or "non-HBP groups" imply that the individuals do not receive any HBP funding or do not currently work under a PI who receives HBP funding. Please note that the vouchers will be awarded only to non-HBP groups, but will be used to fund supporting activities by HBP groups.

A non-HBP researcher who is part of a university or organisation which is already a Partner in the HBP is eligible to participate in this call. While HBP members are not eligible, they can be an "HBP platform contact partner" of a proposed project.

Where a group or consortium applies for a voucher, it should be represented by a project leader who acts as a main contact person for the HBP. Vice-versa, each selected voucher project will have a responsible platform contact on the HBP side.

The HBP is an equal opportunity employer. As such, we explicitly encourage applications from women and groups of applicants who have considered gender equality aspects in their group of applicants.

The proposal is eligible if the submitted proposal is complete and correctly filled in. The proposal is only complete when the HBP platform contact(s) is (are) named. This confirms that the project idea has been discussed with the HBP before the submission deadline.

An application requesting funding for a non-HBP group or researcher is not eligible.

The proposal is only eligible if the original template is used.

An applicant should not send more than one voucher proposal.

Voucher projects that were rejected in the 2018 voucher call can be re-submitted in agreement with the HBP contact. Please make sure that the evaluators' comments have been addressed in the revised proposal and the voucher rules are met. Re-submission of a rejected proposal that has not been modified to address previous review comments will not be accepted.

4. Application & selection

4.1 Step 1: HBP contact phase

An important aspect to ensure the realization of the project is that the proposed use case and the technical solution have been discussed **with the respective** HBP infrastructure contacts <u>before</u> proposal submission.

Please get in contact with the HBP researchers as soon as possible to discuss your idea, its feasibility and relevance (see "Use of vouchers and contacts").

4.2 Step 2: Proposal submission deadline

Please complete the proposal template as soon as possible in collaboration with your HBP infrastructure contact and upload the form (as PDF) to the Open Calls Platform (https://opencalls.humanbrainproject.eu/all_calls) **by no later than 27 September 2019 17:00 Brussels time (CET).**

4.3 Step 3: HBP proposal contribution (HBP internal)

After the proposal submission deadline, the HBP infrastructure contacts will complete the HBP specific part of the proposal template and will upload the form (as a PDF) to the Open Calls Platform (https://opencalls.humanbrainproject.eu/all_calls) by no later than **31 October 2019 17:00 Brussels time (CET).**

If there is more than one HBP research infrastructure platform involved (in the implementation of the project), please provide all the required information in a single proposal template.

The HBP partner will enter the person months and personnel cost rate for the HBP platform developer(s) and the travel costs.

Please note: The maximum funding is the personnel costs for 12 PM, plus 4 % for travel.

The purpose of step 3 is to avoid any duplication with existing HBP activities and make sure that feasibility and relevance in respect of the HBP infrastructure development can be properly assessed by the evaluation committee.

4.4 Step 4: Evaluation phase

The evaluation committee will evaluate all proposals according to the evaluation criteria (see "Evaluation criteria"). In the event of a delay in the planned timeline (see „Timeline"), you will be informed by the voucher team.

Once projects selected for funding can be disclosed, the voucher team will inform the applicants and instruct for the next steps.

5. Timeline

- Call opens: 16 July 2019.
- Submission Deadline: 27 September 2019 17:00 Brussels time (CET).
- Internal Deadline – Contribution of HBP infrastructure contact: 31 October 2019 17:00 Brussels time (CET).
- The announcement of the winners is expected at the beginning of February 2020.

- The practical work of the platform developers will have to start in SGA3 (planned start date on 1 April 2020).

- The voucher projects have a maximum duration of 12 months.

6. Proposal submission

The proposal is submitted to the Open Calls Platform (https://opencalls.humanbrainproject.eu/all_calls). The applicants are required to enter the requested information and submit the proposal document as a PDF.

The applicants can edit the proposal before the deadline (e.g. submit revised versions); only the last version will be considered for evaluation.

Shortly after the submission of the proposal, an acknowledgement of receipt will be sent to the e-mail address of the proposal's main contact person, named in the submitted proposal. Sending of an acknowledgement of receipt does not imply that a proposal has been accepted as eligible for evaluation.

For any given proposal, the proposal lead will act as the main point of contact between the proposal partners and the HBP.

It is the responsibility of the applicants to ensure timely submission; proposals submitted after the deadline will not be considered. Failure of the proposal to arrive in time for any reason, including communications delays, will automatically lead to rejection of the proposal. The time of receipt of the message as recorded by the submission system will be authoritative.

Upon the call deadline, the proposals have to fulfil the eligibility criteria in order to be retained for evaluation. In addition, the proposals have to strictly adhere to the template provided via the HBP open call platform, which defines sections and the overall length. Evaluators will be instructed not to consider extra material in the evaluation. The HBP offers an email-based helpdesk system for applicants at info@opencalls.humanbrainproject.eu.

With the upload of the proposal template and the completion of the contact information, the applicants agree that contact names, affiliations and proposal titles of the winning proposals (only) will be announced on the HBP website.

The applicants agree that the HBP Partnering Project coordinator will have access to the contact information to get in touch with the applicants to discuss the options to become a Partnering Project once the voucher results are announced to the public.

7. Use of vouchers and contacts

The proposal should describe a concrete scientific question and a defined use case to understand what should be implemented into the HBP infrastructure services. Projects can have, but are not limited to, the following broader goals:

- new software application

- new product or process development

- new customer interface

- new service development

Please see the following information on HBP infrastructure and respective contacts.

Table 1: HBP infrastructure and respective contacts

What we do, key people, highlight publications – You could also request an HBP Collaboratory Account, if you haven´t done so yet. Please also see the Service Categories that the HBP Infrastructure will provide with the start of the new funding phase in 2020 (https://opencalls.humanbrainproject.eu/all_calls)	First contacts for voucher applicants are the SP managers
Neuroinformatics Platform (SP5): Overview and contacts (public description) Platform access: HBP Collaboratory Account	Sofia Anderholm Strand (UIO) s.a.strand@medisin.uio.no
Brain Simulation Platform (SP6): Overview & contacts (public) Platform access: HBP Collaboratory Account	Katrien Van Look (EPFL) katrien.vanlook@epfl.ch Daniel Vare (KTH) vare@kth.se Suat Sevencan (KTH) sevencan@kth.se
High Performance Analytics and Computing Platform (SP7): Overview & contacts (public) Platform access: HBP Collaboratory Account	Anna Lührs (JUELICH) hbp-sp7-coord@fz-juelich.de
Medical Informatics Platform (SP8): Overview & contacts (public) Platform access: HBP Collaboratory Account	Sandra Schweighauser (CHUV) Sandra.Schweighauser@chuv.ch Erika Borcel (CHUV) Erika.Borcel@chuv.ch
Neuromorphic Computing Platform (SP9): Overview & contacts (public) Platform access: HBP Collaboratory Account	Björn Kindler (UHEI) bjoern.kindler@kip.uni-heidelberg.de
Neurorobotics Platform (SP10): Overview & contacts (public) Platform access: HBP Collaboratory Account	Fabrice Morin (TUM) morinf@in.tum.de

8. Ethical issues

Research activities in Horizon 2020, and particularly in the HBP, must respect fundamental ethical principles, outlined in the Horizon20202_Ethics_Guidance.pdf http://ec.europa.eu/research/participants/data/ref/h2020/grants_manual/hi/ethics/h2020_hi_ethics-self-assess_en.pdf.

If ethical issues apply to an experiment (please see the ethical issue table in the Horizon2020_Ethics_Guidance.pdf above), before and during the runtime of the research activities within the HBP, you must submit an ethics self-assessment and include the documents that you need under national law (e.g. proof of approval by the competent authority).

An ethics self-assessment describes how the proposal meets the national legal and ethical requirements of the country or countries where the tasks raising ethical issues are to be carried out; and explains in detail how you address the issues in the ethical issues table, in particular with regard to research objectives (dual use, etc.), methodology (protection of collected data, etc.) and potential impact of the research (dual use issues, benefit-sharing, misuse, etc.).

Applications, especially from non-European countries, must make sure to comply with the above Horizon2020 Ethics Guidelines and clarify ethical issues before the proposal submission.

Proposers have to demonstrate that they are mindful of the fact that the citizens of Europe trust the public R&D endeavour to produce tangible results benefiting society by advancing health, economic growth, and quality of life across all communities.

The applicants are responsible for ethical compliance. They will work with the HBP platform contact, the respective HBP ethics rapporteur and ethics support team to ensure compliance. Their ethics compliance will be included in the HBP ethics compliance management processes.

9. Proposal evaluation & collaboration principles

All submitted proposals will be evaluated by acknowledged external experts from relevant research fields, as well as from the broader scientific community. The experts are independent of the HBP Consortium and of the applicants, to ensure no conflict of interest exists. The conflict of interest rules for this call are set out here.

Experts will maintain strict confidentiality with respect to the entire evaluation process. Experts perform evaluations in their private capacity, not as representatives of their employer, their country or any other entity. Under no circumstance may an expert attempt to contact an applicant directly, either during the evaluation or afterwards. Experts cannot submit a proposal for the voucher call.

Proposal evaluation will be performed in two steps. In the **first step**, external experts will review individually each proposal assigned and give a score for each criterion, with explanatory comments ("Proposal evaluation criteria and scores").

In the **second step**, the experts discuss and compare all the proposals in the panel meeting and decide on the final ranking. The Panel is composed of the group of experts who participated in the first step of the evaluation.

The experts establish the final ranking of the proposals which will be presented to the HBP Science and Infrastructure Board (SIB) and the Directorate (DIR) for endorsement.

To ensure transparency, the results of the evaluations will be made available to the European Commission.

After the call is complete, applicants will receive the report on the final ranking of their proposal. If their proposal is accepted, applicants will also receive a recommendation to become an HBP Partnering Project.

For each voucher-recipient project, the HBP infrastructure contact (lead contact on the proposal) will compile an HBP work plan. The work plan will include scope and output of the planned work and describe how the HBP developer(s) plan to communicate with the voucher winners. Both parties will agree on the work plan and communication measures, and undertake to comply with them.

The work funded by the voucher programme will be subject to the same reporting and review conditions, including ethics issues, as all other HBP activities. HBP will share the progress report on the voucher work with the external voucher groups.

Voucher winners' contributions and input will be properly acknowledged on the HBP website and all dissemination material.

10. Proposal evaluation criteria and scores

Table 2: Proposal evaluation criteria and scores

1. Feasibility	Weight: 30 %
• Feasibility of the implementation work in regard of resources, time and available technology	*Sore: ?/10*
1. Excellence and novelty of the research idea and scientific question	**Weight: 20 %**
• HBP as spearhead in neuroscience, future computing, robotics and medicine • Value of expected results/outcome/publications • In research activities where human beings are involved as subjects or end-users, gender differences or other diversity factors may exist. Is in these cases the gender dimension and relevance of scientific question to gender or other diversity factors (e.g. age) in the research content addressed as an integral part of the proposal to ensure the highest level of scientific quality?	*Sore: ?/10*
3. Quality and composition of applicant(s) and team(s)	**Weight: 20 %**
• Quality and relevant experience of the individual partners • Option to synchronize efforts with other European, national or international consortia for higher efficiency and reinforcement of grant value • In case of teams, is the gender and diversity aspect taken into consideration/ are there any measures in place?	*Sore: ?/10*
4. Innovation potential, cutting edge technology in regard of HBP infrastructure development	**Weight: 15 %**
• Attractiveness of the technology development for new user communities (quality and quantity)[3] • Right distance to end-users and markets, maturity level[4] • Scientific and/or industrial value of the IPR strategy[5] • Exploitation potential[6]	*Sore: ?/10*
5. Relevance to objectives of the HBP infrastructure	**Weight: 15 %**
• Contribution to design and development of the HBP Infrastructure • How much is this project "desired" internally?	*Sore: ?/10*
Remarks	
• Ethical implications and compliance with applicable international, EU and national law • Ensure that the study proposed will not promote indications that raise ethical issues	*No Score*
OVERALL SCORE	*Sore: ?/10*

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[3] Attractiveness refers to the capacity of the technology to target and address users' important needs. This importance is given by a) the competitive advantages the technology has in relation to existing solutions, and b) the impact the technology will eventually have in user communities.

[4] Operational validation and integration of the technology in a relevant real-world environment will be achieved within the voucher period. The solution will be well integrated with other operational hardware/software systems and processes, and be able to demonstrate its operational feasibility.

[5] There are specific plans on the commercial or non-commercial exploitation of the property rights associated to the future utilization of the technology. These plans may include, among others, open and free access and utilization of the solution, licensing of rights, cross-licensing, and patents.

[6] To be exploited, the technology development must be not only technically feasible but also have a commercial and/or non-commercial clear potential. The number of users that will eventually benefit of the technology as well as their industrial and/or scientific relevance are examples of aspects to be analyzed.

Table 3: Scores and their meaning

0	The proposal fails to address the criterion	The proposal fails to address the criterion under examination or cannot be judged due to missing or incomplete information.
1-2	Poor	The criterion is addressed in an inadequate manner, or there are serious inherent weaknesses.
3-4	Fair	While the proposal broadly addresses the criterion, there are significant weaknesses.
5-6	Good	The proposal addresses the criterion well, although improvements would be necessary.
7-8	Very good	The proposal addresses the criterion very well, although certain improvements are still possible.
9-10	Excellent	The proposal successfully addresses all relevant aspects of the criterion in question. Any shortcomings are minor.

11. Equal opportunities

HBP is committed itself to improve equal opportunities, especially to balance the proportion of male and female scientists in leadership positions, as well as among PhD students and post doctoral students. HBP created the Gender Advisory Committee that provides advice and feedback on the Gender Action Plan of HBP on activities planned to improve equality in their respective areas of responsibility. The HBP will demonstrate how diversity drives scientific excellence, innovation, and collaboration and aims to become a European best practice example for fostering equal opportunities across different institutions, member states, disciplinary cultures and intellectual environments.

The applicants are invited to outline in their proposal which measures will be undertaken to foster equal opportunities and how sex, gender or other diversity issues are addressed as part of their research. The equal opportunities contribute to the evaluation criteria ("Proposal evaluation criteria and scores").

12. Intellectual property

For the purpose of this section:

"Data" means factual records which could consist of numerical scores, textual records, images, sounds, or other information, excluding personal data.

"Results" means any and all tangible or intangible outputs of the voucher programme such as software, hardware, services, data and information whatever their form or nature, whether or not they can be protected, which are generated through the voucher project as well as any rights attached to them, including intellectual property rights.

"Voucher programme winner's Contributions and Inputs" means data, information, know-how, whatever its form or nature (tangible or intangible), including any rights such as intellectual property rights which are held by the voucher programme winner prior to the start of the voucher project.

In light of the voucher projects being part of the HBP work plan (i.e. part of the Specific Grant Agreement 2 (SGA2)) and the related intellectual property rights and obligations under the HBP Framework Partnership Agreement (HBP FPA), SGA2 and the HBP Consortium Agreement, the following principles apply:

1) Software and other tools developed by the HBP to help voucher beneficiaries to achieve their research goals will be owned by the HBP Partner(s) responsible for developing them or adapting them from existing software or tools, where such software or tools are not open source, by virtue of incorporating open source modules or code. Data and/or research findings which are generated by voucher beneficiaries through their use of HBP-develop software and other tools will be owned by the voucher beneficiary or beneficiaries that generated them.

2) Where voucher programme winners do not own results generated through the voucher project, voucher programme winners may be granted a non-exclusive, free-of-charge, royalty-free license on such results for non -commercial purposes;

3) Voucher programme winners must provide a non-exclusive, irrevocable, free-of-charge, royalty-free license to all HBP partner organisations, with the right to sublicense to third parties, on all voucher programme winners' contributions and inputs which are needed to implement the proposed project and to use results generated with the voucher programme winners' contributions and inputs;

unless otherwise agreed in a written agreement with the involved HBP partner organisations.

In addition:

1) On a case-by-case basis, upon a written agreement with the involved HBP partner organisations, an embargo period of a few months may be offered to the voucher programme winner, upon their request. During that embargo period, the voucher programme winner may benefit exclusively from the result generated through the voucher programme, before such result is offered to the whole HBP internal and external community.

2) In case of a significant contribution by the voucher programme winner, which by law would qualify the voucher programme winner(s) as co-inventor, a fair compensation may be provided by the involved HBP partner organisation(s) to the voucher programme winner(s), on a case-by-case basis, if a patent covering that significant contribution is granted. Such compensation will be provided according to the involved HBP partner organisation(s)' rules, and needs to be agreed upon in writing prior to any collaboration between the involved HBP partner organisation(s) and the voucher programme winner.

In any case, intellectual property aspects (be it the above principles or other principles) must be agreed upon in a written collaboration agreement between the involved HBP partner organisations and the voucher programme winners. They must not prevent HBP partner organisations from complying with their obligations under HBP agreements (HBP FPA, SGA, HBP Consortium Agreement), nor prevent them from benefiting of their rights under such HBP agreements.

The HBP innovation team offers professional expertise and knowhow in technology transfer, especially in the cross-over area of IT/Robotics and the neuroscience, biomedical sector. The team is trained to detect emerging technologies and is available to support in case of potential commercialisation.

Data developed under the voucher programme are subject to the HBP data management policy (https://www.humanbrainproject.eu/en/social-ethical-reflective/dgwg/) which describes for each data set and product the owner(s), findability (location), accessibility (licence), interoperability and reproducibility (H2020 FAIR criteria). All data provided by the voucher programme winners and data generated with those data provided by the voucher programme winners are integrated into the HBP data repositories (e.g. the HBP Knowledge Graph) and atlases, where possible.