





Short Summary of Infrastructure Voucher Programme



Human Brain Project

Co-funded by
the European Union 

Infrastructure Voucher Programme Call

Scope

Apply for a voucher to get free access to the Platform's services and engineering/ development support. Each voucher is estimated to provide you with 6-12 months of HBP engineering/development time.

The call is open to non-HBP researchers worldwide, from academic and non-academic organisations, including hospitals, industry and pharma.

Neither the applicants nor the associated groups are currently funded by HBP.

Benefits for voucher winners

Receive tailor-made solutions developed by the HBP Platform engineering teams and advance your research.

Collaborate and exchange with the HBP scientific and technical network (there is travel budget reserved for you).

Lay the ground for longer-term successful partnerships, especially if you are a researcher or an expert from industry or pharma.

Gain visibility as voucher winner via the HBP network and dissemination activities.

Consult the HBP Innovation Team which offers expertise in the crossover area of ICT, neuroscience and the biomedical sector.

Please note


While benefiting from tailor-made developments and solutions, voucher winners do not receive any direct funding from the HBP.

The vouchers fund the work of the HBP Platform engineering teams to implement your feature requests in the HBP Platform Infrastructure.

Next steps

Please get in contact with the HBP and discuss your feature request, before the submission deadline. Contacts are provided in the "Guide for Applicants".

Note: Your HBP developer contact will contribute to the proposal after the external submission deadline of 25 Oct of 2018.



Application process

Before Applying:

ELIGIBILITY CHECK


I have a suggestion for a useful HBP Platform feature


I am a researcher, academic, non-academic or from hospitals, industry or pharma

Neither myself nor my group is funded by HBP

Contact the HBP and discuss your feature request


1






Upload the completed proposal to the online system by 25 Oct 2018, 17:00 Brussels time


2






HBP Platform contacts complete their part of the proposal and upload it to the online system by 15 Nov 2018, 17:00 Brussels time


3






Selection committee decision & start of technical implementation

4





Links

Call site with "Guide for Applicants" and "Proposal Template"

Call summary on HBP Website

Online Submission System login

Contact & Feedback:
vouchers@humanbrainproject.eu




Figure 1: Digital flyer to announce the 2018 Infrastructure Voucher Call



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Description in GA:	Infrastructure Vouchers calls closed; vouchers assigned to the selected users; budget distribution made; short evaluation summary report		
Abstract:	This Deliverable describes the initial HBP Infrastructure Voucher Programme Call and its results. Applications were received from 32 Proposals, of which 15 were awarded an Infrastructure Voucher. The Vouchers awarded cover all six of the current HBP Platforms.		
Keywords:	Infrastructure Vouchers, Open Call, Openness measure		
Target Users/Readers:	Scientists and Public interested in the HBP and its areas of activity.		

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1. Purpose of this document

This document describes the results of the HBP's SGA2 Infrastructure Voucher Programme Call. The Call involved the following principal steps:

- Development of call concept and preparation of basic call documentation
- Internal validation of call concept and documentation
- Opening the call and dissemination to prospective applicants
- Receipt of proposals and implementation of selection procedure
- Confirmation of call results and voucher distribution.

2. The Infrastructure Voucher Programme

The Infrastructure Voucher Programme contributes to HBP Key Result KR11.11 “Support the definition and development of the Research Infrastructure and its user-base”, in that it contributes to an increase in the number of co-designed Research Infrastructure (RI) features and harnesses external users to test the maturity of RI services.

The infrastructure vouchers are designed to enable non-HBP researchers to secure HBP engineering solutions for their challenging scientific and technical problems via co-development of new research infrastructure capabilities.

The vouchers fund work undertaken by HBP platform engineering teams to implement research infrastructure features requested by voucher recipients. An individual voucher is worth between 4-12 Person-Months PM of HBP software engineering or development time and includes a travel budget to allow in-person interaction between HBP engineers and scientists in receipt of vouchers. The total budget the infrastructure voucher programme for SGA2 was EUR 1.23 million.

The vouchers are an incentive for the scientific community to co-design the HBP's research infrastructure and collaborate with the Project. The HBP aims to help voucher winners to evolve their activities into new Partnering Projects and thereby expand the overall HBP FET Flagship. The voucher programme therefore helps to make the HBP more open and responsive to the needs of the broader scientific community.

The researchers in the projects to which vouchers have been allocated are seen as senior users, capable of providing valuable feedback on the expectations and needs of different scientific communities, in neuroscience, brain simulation, brain-inspired and high-performance computing, neurorobotics and medical informatics. The new users will not only drive the creation of new RI features, applications and services, but also help ensure their usability, accessibility and performance, by serving as the initial testers of these new additions to the infrastructure.

With HBP engineering support, projects selected for voucher funding are expected to generate unique results that have the potential to lead to innovative new products, services and processes of mutual long-term benefit for European researchers.

3. Voucher Concept and Call

3.1 Refinement

It was decided that the Call should be open worldwide and target researchers in academic and non-academic organisations, as well as hospitals and industry, including the pharmaceutical sector. Potential applicants would be asked to discuss their ideas for new infrastructure features with HBP experts during the proposal preparation phase, before submission of any formal proposal. This would

allow HBP engineers and potential applicants to discuss the feasibility and relevance of the infrastructure capabilities being sought. This would help to raise the quality of proposals and stimulate interaction between the HBP and the broader scientific community. It was also decided that the HBP Platforms would reserve part of the Voucher funding to pay for travel to attend face-to-face meetings with the voucher beneficiaries and to allow the latter to attend HBP events.

The concept for the Infrastructure Voucher Programme and related Call was explained to the Subprojects, mainly via the schedules meetings between SP11 and the SP Managers. The latter were asked to circulate draft Call documentation to researchers in their SPs and to funnel any resulting comments back to T11.3.4. The assistance of the SPs was also sought in dissemination Call documentation to target audiences outside the HBP. All-in-all, the SP Managers made an important contribution to the success of this Call.

3.2 Risks

The main risk anticipated when planning the Infrastructure Voucher Programme Call was that the target scientific community might not be interested in exploiting this opportunity, due to the fact that voucher winners would not receive any funding directly, only in-kind benefits (new platform capabilities and the engineering and development services needed to create them). It was clear that effective communication of the call would be a key factor in mitigating this risk. When the call was closed, 32 proposals had been submitted. This showed that the initiative was well received by the community and that the expected risk did not materialise.

3.3 Dissemination

The Call went “live” on 21 August 2018 on the HBP’s Open Call Platform site¹, which was used to manage the whole Call process.

The announcement of the Voucher Call on the HBP website was accompanied by a feature article (<https://www.humanbrainproject.eu/en/follow-hbp/news/the-human-brain-project-launches-voucher-programme/>) on the site and an e-mail campaign which sent a digital flyer (see Figure 1 above) to some 1,300 registered HBP Collaboratory users. In addition, the Call Text was distributed to the list of the National Contact Points (NCP) for Health and Information and Communications Technology. The Call was also disseminated via the HBP External Newsletter (managed by JUELICH) and the Education Programme Newsletter (MUI). Furthermore, the Call announcement was distributed via the HBP Innovation Team (UPM), the Partnering Project networks (SCOPE) and the HBP Twitter and LinkedIn accounts, maintained by PCO/EPFL and local SP communicators: e.g. <https://twitter.com/HumanBrainProj> and <https://twitter.com/HBPBrainSim>.

The programme call was disseminated by the HBP Education and Outreach Team (MUI) at:

- The Life Science Baltics Conference 2018 in Vilnius:
 - <https://www.humanbrainproject.eu/en/follow-hbp/news/hbp-at-life-sciences-baltics-2018/>
- The FENS Forum 2018 in Vienna:
 - <https://www.fens.org/News-Activities/News/20181/08/Human-Brain-Project-HBP---Infrastructure-Voucher-Programme-Call/>
- The HBP Open Day 2018 in Maastricht:

¹ The Open Call Platform (<https://www.humanbrainproject.eu/en/collaborate/open-calls/>) contains procedural documentation for calls which are currently open and provides an overview of past HBP calls. The Infrastructure Voucher Programme Call described in this Deliverable is closed.

- <https://www.humanbrainproject.eu/en/follow-hbp/news/join-us-for-the-hbp-open-day-in-maastricht/>

3.3.1 Material Disseminated to Prospective Applicants

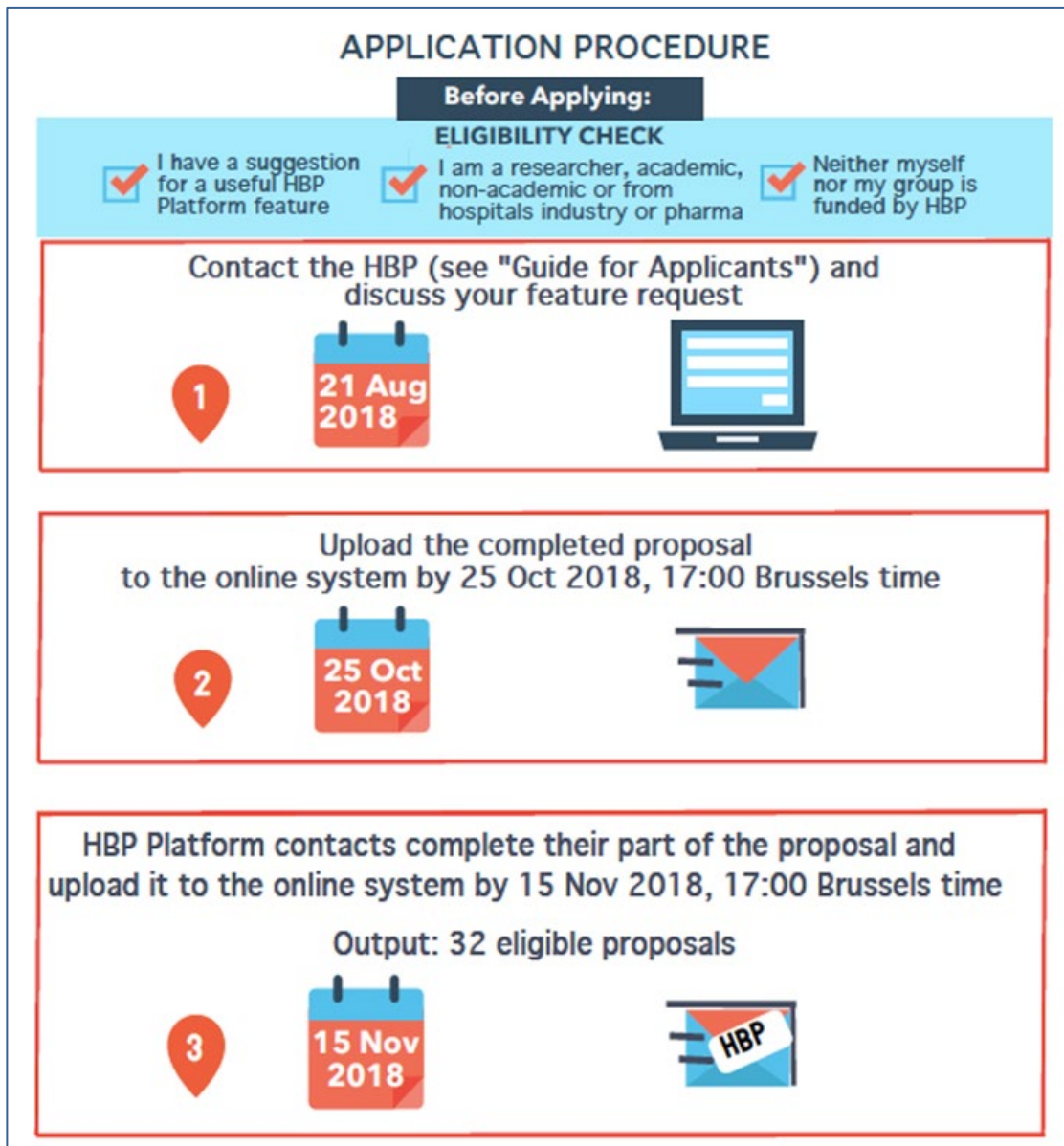


Figure 2: Infrastructure Voucher Programme Call - Application Procedure schematic

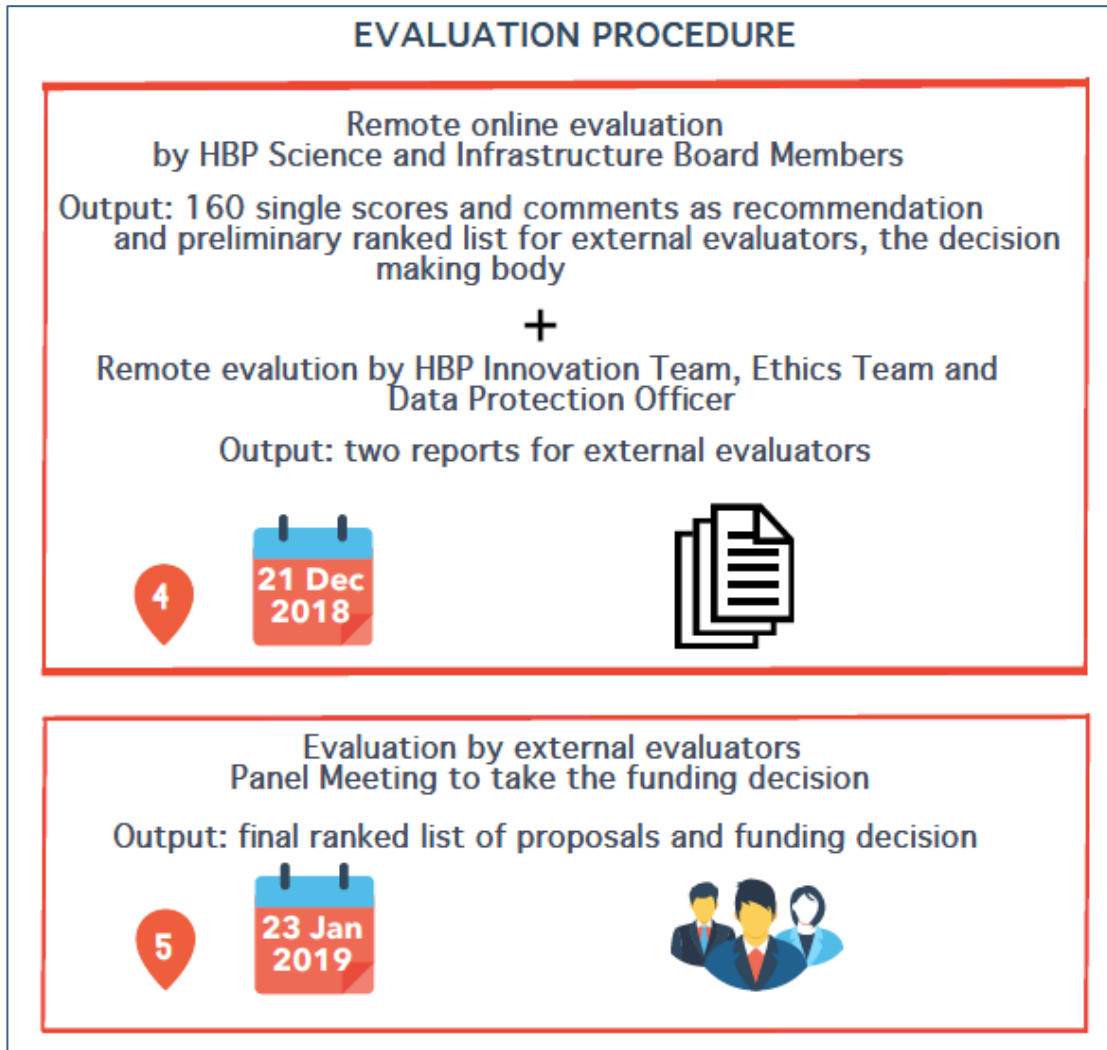


Figure 3: Infrastructure Voucher Programme Call - Evaluation Procedure schematic

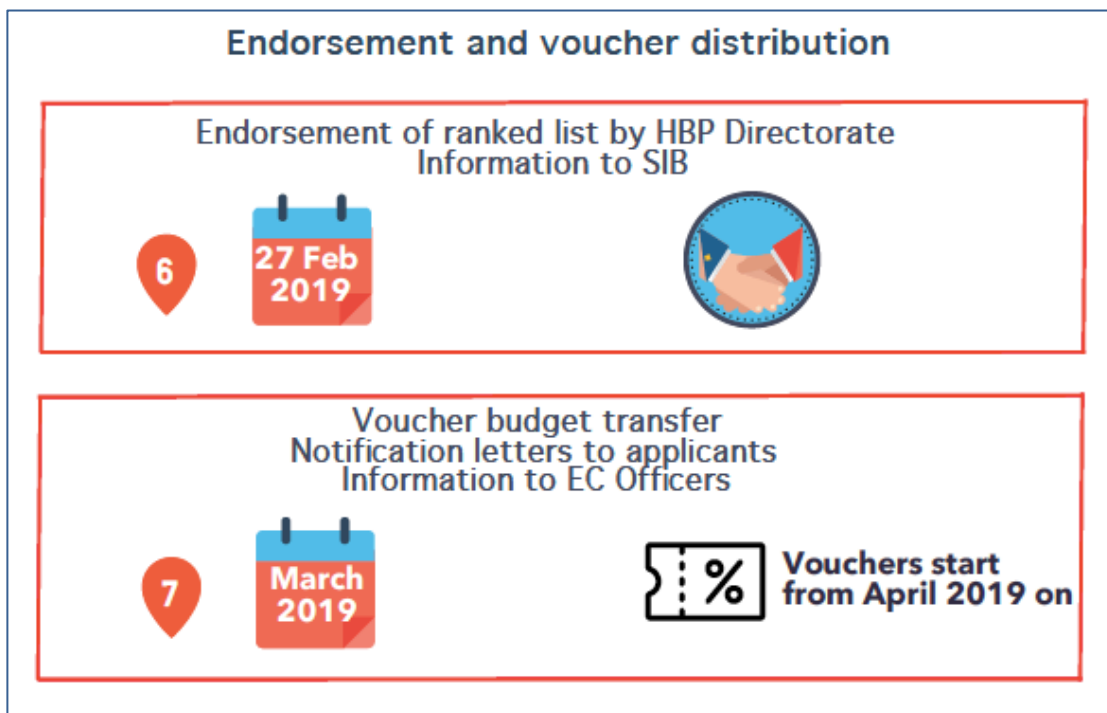


Figure 4: Infrastructure Voucher Programme Call - Endorsement & Budget Transfers schematic

4. Results of the Call

The deadline for submission of proposals was 25 October 2018. By that date, the call had received 32 eligible proposals. After evaluation, 15 of these proposals were awarded an Infrastructure Voucher.

Table 1: Overview of the Proposals for the Infrastructure Voucher Call

	Applied	Awarded	Awarded/Applied %
Number of Proposals	32	15	47%
HBP Person Months applied for vs number awarded	286	148	51.7%
Number of institutions	67	36	55%
Number of companies (including SMEs)	8	2	25%
Number countries	27	22	81%
Female participation (female PIs as % of all PIs)	20%	30%	150%

4.1 Results vs. Key Performance Indicators for Call

Table 2: Overview of Performance against Key Performance Indicator targets for the Call

1) Oversubscription		2) SME Applications		3) SME Awards		4) Female Scientists	
Target	Achieved	Target	Achieved	Target	Achieved	Target	Achieved
>20%	47%	30%	12%	20%	3%	50%	20%

When the Call was set up, Key Performance Indicators (KPIs) were chosen to help monitor the results of the Call in aspects that were deemed to be of particular importance:

- 1) **Oversubscription:** this measured the extent to which the number of Proposals applying to the call outnumbered the number of Proposals which were awarded a Voucher. The aim was to have a significantly larger number of applicants than vouchers, as this would help to ensure that vouchers were awarded to high-quality proposals.
- 2) **SME Applications:** this measures the number of Proposals involving a Small or Medium-scale Enterprise (SME) partner, as a proportion of total Proposals. The HBP was keen to use the call to increase industry involvement in the Project, particularly by SMEs. This required that the applications included a significant proportion which involved at least one SME. See also Figure 5 below.
- 3) **SME Awards:** this measured the number of Proposals involving an SME partner which received a Voucher, as a proportion of the total number of Proposals receiving a Voucher. See also Figure 5 below.
- 4) **Female Scientists:** Improving gender balance within the HBP is an imperative for the Project. To help achieve this goal, we set ourselves a target of having women scientists account for half the PIs involved in the Proposals for the Call. See also Figure 6 below.

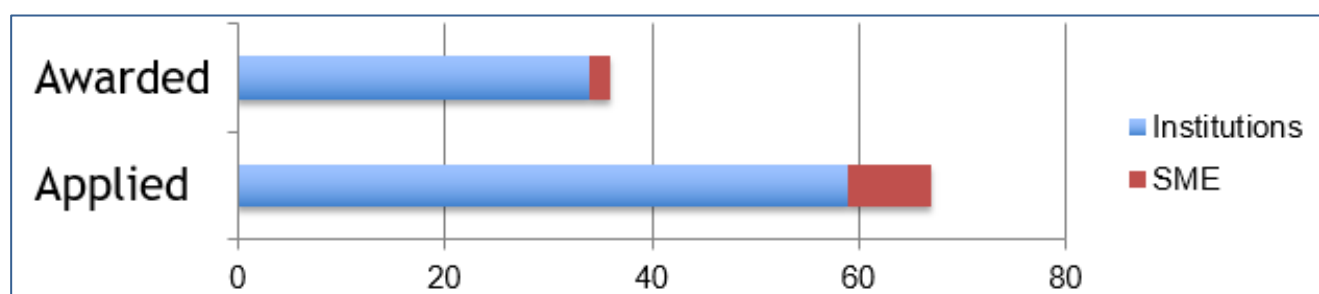


Figure 5: SMEs vs other Institutions in the Call, Applied & Awarded

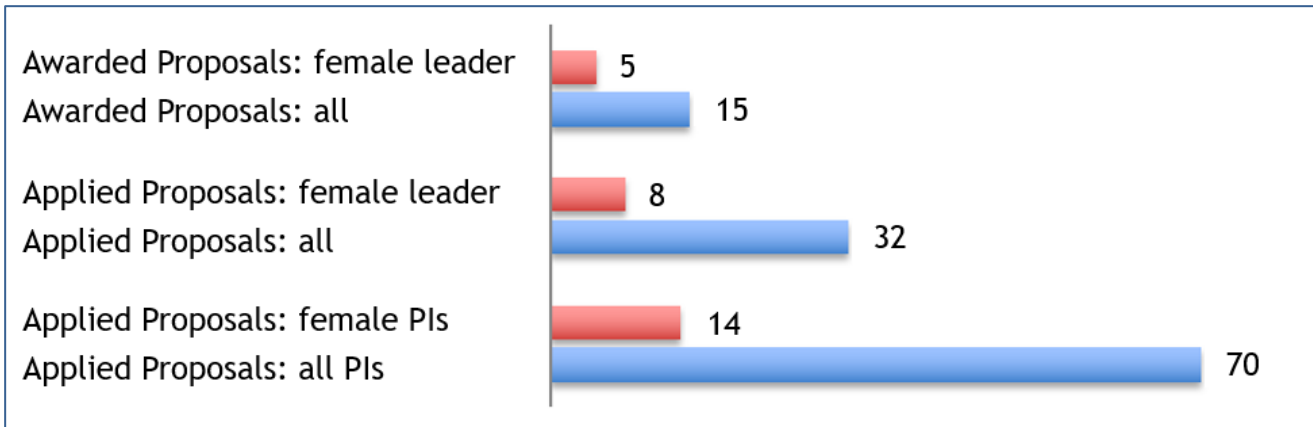


Figure 6: Representation of female scientists in the Call

4.2 Which Platforms were the Proposals interested in?

Scientists putting forward Proposals for the Call were required to specify which HBP Platform(s) they were interested in working with. Figure 7 below shows for each Platform, the number of Proposals received and the number of Proposals which were awarded a Voucher.

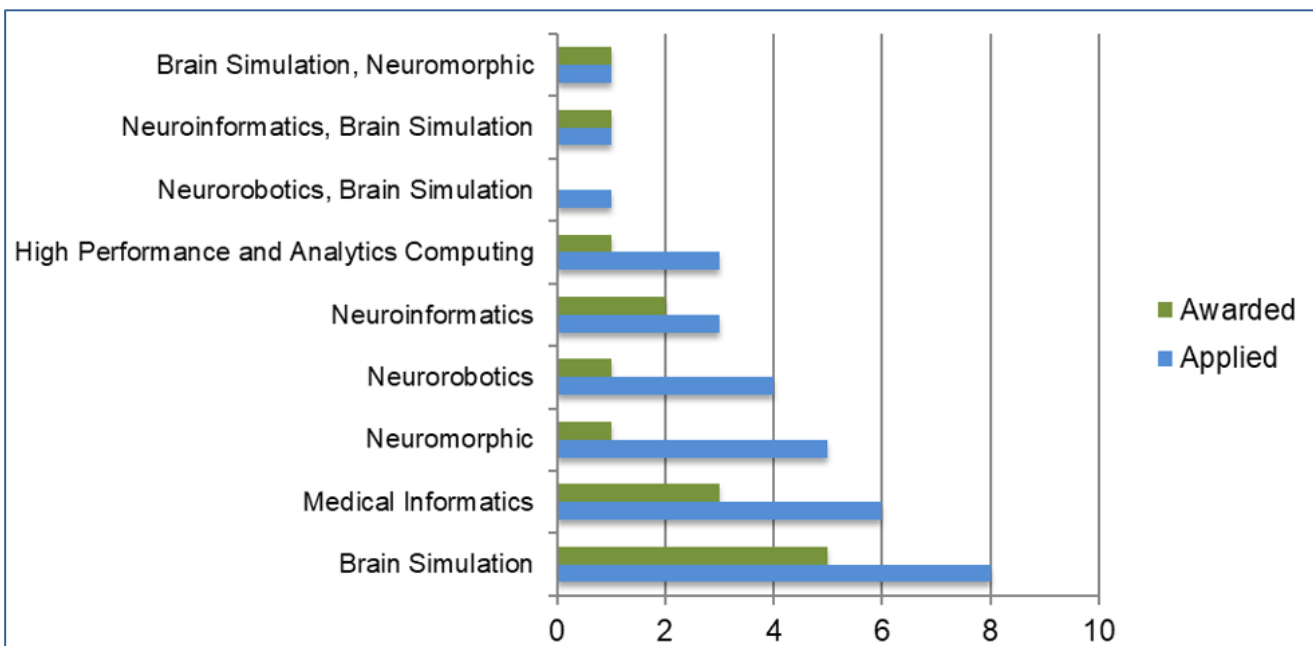


Figure 7: Number of Call Proposals per Platform or combination of Platforms, Applied & Awarded

4.3 Geographical Distribution of Partners in Proposals

The Proposals received involved Partners coming from 27 countries, including the following from outside the European Union: Australia, Canada, China, Cuba, Israel, Japan, Norway, Mexico, Taiwan and the United States. The HBP is concerned to increase participation by EU Member States in Eastern Europe, so it was gratifying to receive Proposals involving Partners in the following countries: Czech Republic, Lithuania, Poland, Romania, Slovakia and Slovenia. Vouchers were awarded to Proposals involving Partners from 22 countries. National involvement in the Call is summarised in Figure 8 below.

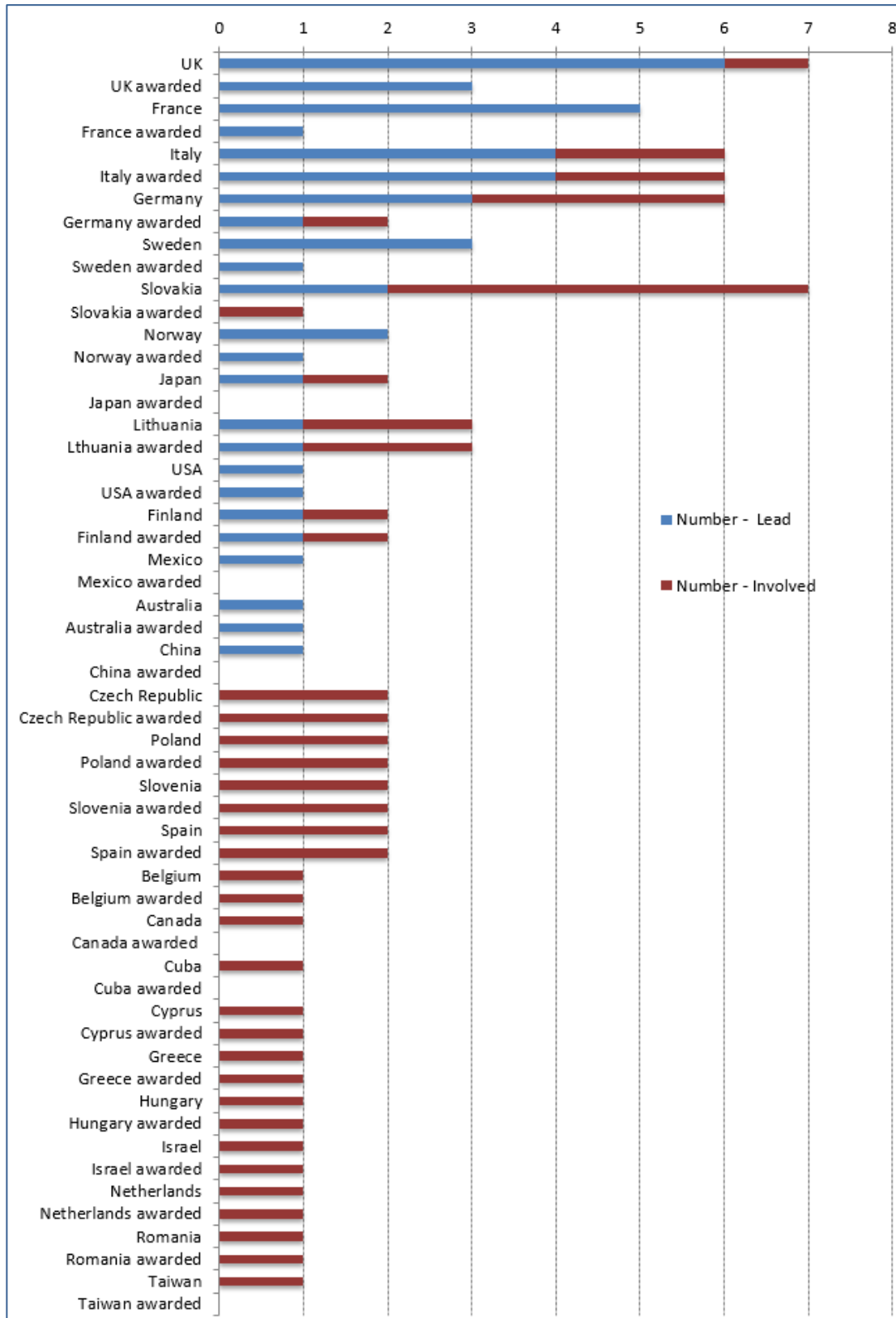


Figure 8: Number of Partners per Country, Applied and Awarded.

5. Proposals selected to receive Vouchers

Of the 32 Proposals received by the HBP as a result of this Infrastructure Voucher Programme Call, 15 were selected to receive a Voucher. Details of the Projects which were awarded a Voucher are given in Table 3 below. The official start of the voucher projects will be 1 April 2019.

Table 3: Details of Projects which were awarded an HBP Infrastructure Voucher

Formal Name of Project, Lead Partner's Country, HBP Platform(s) Project will work with, type of development work requested by Project, and estimate of TRL of developed Platform feature(s) to be reached by March 2020

#	ID	Proposal	Country	Institution	Platform	Type of development	TRL
1	23	Neuronal Dynamics Library and its integration with CxSystem	Finland	University of Helsinki	Brain Simulation	New software application	>TRL 7
2	25	NEST Desktop	Germany	Albert-Ludwigs-Universität, Freiburg	High Performance and Analytics Computing	New software application	TRL 6
3	28	Building Alzheimer Disease Neuron Model	France	Institut de Pharmacologie Moléculaire et Cellulaire, CNRS	Brain Simulation	New product (model)	>TRL 7
4	32	Mapping Brain Circuits in Spatial Navigation	Italy	Center for Research in Neurobiology (CRiN), "Sapienza" University of Rome	Brain Simulation	New process development (model circuit improvement)	TRL 7
5	33	"SuperSpike" Deep on-line learning in accelerated neuromorphic hardware systems	UK	University of Oxford	Neuromorphic	New software application, new product development	TRL 4-5
6	34	Collaborative REsearch on ACute Traumatic brain Injury in intensiVE care medicine in Europe	Italy	Mario Negri Pharmacological Research Institute	Medical Informatics	New software application, new product or process	TRL 4-5
			Hungary	Magyar Hnvedseg Egeszesgugyi Kozpont			
			Poland	Medical University, Warsaw			
			Slovenia	Splosna Bolnisnica Novo			
			Slovenia	University Clinical Center, Ljubljana			
			Cyprus	Nicosia General Hospital			
			Israel	University Medical Center, Ben Gurion University of the Negev			
			Greece	Panepistimiako Geniko Nosokomeio Irakleiou			
			Italy	Orobix SRL, SME			
Germany	Sony Stuttgart Technology Center						
7	38	Integration of Shadow Dexterous Hand with the HBP Neurorobotics Platform	UK	Shadow Robot Company, SME	Neurorobotics	Other: integration of models of commercial robotic products into the NRP library, new process development	TRL 7

#	ID	Proposal	Country	Institution	Platform	Type of development	TRL
8	40	Enhancing HBP Model Validation using SciUnit	USA	Arizona State University	Neuroinformatics, Brain Simulation	New software applications, new customer interface	TRL 6-7
9	41	Multiscale Hippocampal Models for Neuronal Plasticity: Integration in the Brain Simulation Platform	Lithuania	Lithuanian University of Health Sciences	Brain Simulation	New service development	TRL 6
			UK	University of Stirling			
			Germany	Justus Liebig University, Giessen			
			Lithuania	Vytautas Magnus University			
			Lithuania	Kaunas University of Technology			
			Slovakia	Comenius University Bratislava			
10	43	CENTER-TBI data integration with MIP (CTBI-MIP)	Sweden	INCF	Medical Informatics	New software application, new product or process development, new customer interface, new service development	TRL 4-5
11	45	Structural organisation of memory-related networks in the rat brain: a public repository of microscopic tract tracing data	Norway	Norwegian University of Science and Technology	Neuroinformatics	Non-linear registration of non-optimised serial tract tracing data to brain atlas, workflow for automated analysis	TRL 3-4
12	47	Neuromorphic hardware simulations of cerebrocortical-cerebellar loop	Italy	UNIPV	Brain Simulation, Neuromorphic	New software application, new hardware application	TRL 4
13	49	Virtual Mouse CerebNEST	Italy	Politecnico Milano	Brain Simulation	New software application	TRL 4
14	50	European Reference Network for rare and complex epilepsies	UK	University College London	Medical Informatics	New deployment, new service development	N / A ²
			Belgium	University Hospitals KU, Leuven			
			Czech Republic	Motol University Hospital			
			Czech Republic	Masaryk University, Brno			
			Finland	Kuopio University Hospital			

² Not applicable, as this does not involve product or software development. Overall, the date of MIP platform applies: March 2020



#	ID	Proposal	Country	Institution	Platform	Type of development	TRL
			Netherlands	Child Neurology Department, Rudolf Magnus Brain Center, University Medical Center, Utrecht			
			Poland	The Children's Memorial Health Institute, Warsaw			
			Romania	Paediatric Neurology Clinic, Alexandru Obregia Hospital, Bucharest			
			Spain	Epilepsy Unit Hospital Clinic, Barcelona			
			Spain	Hospital del Mar Medical Research Institute (IMIM)			
15	55	Interaction between Human Atlas Viewer and The Virtual Brain	Australia	QIMR Berghofer Medical Research Institute	Neuroinformatics	Extended customer interface, new API service, new functionality	TRL 5-6

6. Looking ahead

The experience gained through this initial Voucher Programme Call will hopefully prepare the way for further voucher calls, providing insights into the most appropriate themes to be funded, and the best mechanisms for doing so. The voucher programme has the potential to attract national funding bodies, which might find it cost-effective to co-fund projects already in benefitting from vouchers, to help accelerate their research undertaken with the assistance the HBP research infrastructure. Industries and companies benefitting from a voucher are potential customers for HBP infrastructure services when their voucher funding is exhausted, thereby contributing to a future revenue-generating business model to secure the long-term future of the HBP RI.

The HBP will follow closely the projects benefitting from a voucher, to understand the extent to which their expectations have been met, what they have managed to do with HBP RI assistance (in particular, any new products and services which may have emerged) and improvements which might usefully be made to the voucher programme.