

European Brain ReseArch INfrastructures EBRAINS

Scientific area: Life Sciences
Host country: Belgium
Infrastructure type: Distributed
Legal Entity AISBL
Dutch node or similar: Ebrains Dutch Node
Established: 2019
The Netherlands member since: 2022
Phase: Preparatory

Duration of agreement

n/a

Terms of withdrawal

n/a

Access to facilities

n/a

Access to data

Open Access

User definition

n/a

Description

The European Brain ReseArch INfrastructures (EBRAINS) is a distributed Digital Infrastructure at the interface of neuroscience, computing and technology. It is a one-stop-shop offering scientists and technology developers the most advanced tools and services for brain research, including FAIR data services, next-generation brain atlasing, simulation platforms and AI-based analysis of big data. EBRAINS catalyses new findings in science, and innovative brain-inspired technologies and computing to help reach a deeper understanding of the human brain. Beyond neuroscience, it will empower a broad spectrum of biomedicine and other research, including work on Covid-19. It should also enable forward-looking, digital applications for industrial and medical use, for the benefit of patients and society. Entered in the ESFRI Roadmap in 2021, EBRAINS is a major outcome of the Human Brain Project EU FET Flagship and will provide the coordination nucleus of the post-FET structure. It is powered by the Federated Exascale Network for data Integration and eXchange (Fenix) Infrastructure as a Service (IaaS), itself a blueprint for other research communities. Since 2019, EBRAINS is an International non-profit Association under Belgian law (AISBL), whose members currently represent seven European countries. EBRAINS AISBL acts as a Central Hub for RI and support services spread across the participating Member States that are currently forming the National Nodes of EBRAINS with the aim to integrate 'best-in-class' resources, creating synergy and building upon national scientific developments and efforts.

Financial details

Mean Dutch membership over 5 year period (k€)

We have two Dutch Members that have recently joined the EBRAINS AISBL

Type of Membership	Name of the Institution	Accession date
Full	Stichting Radboud Universiteit	01/09/2022
Associate	Delft University of Technology	09/01/2023

Radboud University paid an invoice for the pro-rata period of 2022 (€33.333,33) and the Full Membership amount of 2023 (€100.000). Delft University has paid its Associate Membership invoice for 2023 (€ 10.000)

Mean Dutch share of contribution over 5 year period (%)

n/a

Financial details between 2016-2020

n/a

Dutch membership fee as a percentage of total membership fees:

Country	Percentage of membership contributions
Austria	1%
Belgium	12%
Denmark	7%
France	12%
Germany	10%
Greece	1%
Ireland	1%
Italy	11%
Lithuania	1%
Norway	7%
Portugal	1%
Spain	14%
Sweden	9%
Switzerland	7%
The Netherlands	7%

Employee statistics

For 2019-2021, the official numbers can be found in this link
<http://cdn.staatsbladmonitor.be/2022pdf/2022-20181032.pdf>

Use of the infrastructure**Number of users**

We have 25 000 visitors of the website and 7671 registered EBRAINS users and can use the digital tools available on EBRAINS

Dutch share of users and type of users

305 users are from NL of 7671 total users with an account; of those 305, 5 are from companies, 20 from hospitals, 34 from research centers, and the rest from universities.

Application information**Number of applications/requests to use the RI**

From the 7671 users registered only applications for Super Compute are requested and tracked are via FENIX. 78 proposals have been received by the end of September 2022, which were all positively evaluated and accepted for resource allocation. The projects were submitted by 49 unique PIs of which 17% are women.

Number of approved applications/requests to use the RI

n/a

Percentage of approved applications/requests to use the RI

n/a

Sample request information**Number of sample requests to the RI**

n/a

Number of approved sample requests to the RI

n/a

Percentage of approved sample requests

n/a

Data request information**Number of requests for data to the RI**

The 7671 registered users can make use of the Data & Knowledge services

Number of approved requests for data to the RI

n/a

Percentage of approved requests for data

n/a

Contributions provided by organisations or companies in the participating countries

The contributions are made via the membership to the Association. The Full Members pay €100.000/year and the Associate Members €10 000/year. In 2022, there are 10 full members organisation and 48 associated member organisations

Country	Total # of members	# Full Members	# Associate members
Austria	1	0	1
Belgium	9	1	8
Denmark	1	1	0
France	9	1	8
Germany	6	1	5
Greece	1	0	1
Ireland	1	0	1
Italy	7	1	6
Lithuania	1	0	1
Norway	1	1	0
Portugal	1	0	1
Spain	12	1	11
Sweden	5	1	4
Switzerland	1	1	0
The Netherlands	2	1	1

Dutch percentage out of contributions provided by organisations or companies

n/a

Total sum spent on other deliveries such as equipment, services and consumables

n/a

Dutch percentage out of total sum spent on other deliveries such as equipment, services and consumables

n/a

Income from user fees

n/a

Dutch percentage out of RI's income from user fee

n/a

Additional questions to the RI**What is the Dutch contribution to the RI?**

The Dutch contribution to the RI comes as Membership fees of the two Dutch institutions, in total 110 000 EUR/year that is the sum of one Full Member (100 000 EUR/year) + one Associate Member (10 000 EUR/year)

Currently, are there any RI's that provide similar kinds of research infrastructure and services as yours in the world?

As an infrastructure like EBRAINS, we are aware that there are several global initiatives attempting to advance neuroscience research through the establishment of comprehensive research infrastructures. These may include the Allen Institute for Brain Science, based in the US, the China Brain Project, and the Japan Brain/MINDS project. Each of these projects has its unique strengths and focus areas. For instance, the Allen Institute has made substantial contributions to the generation of publicly available datasets, particularly regarding gene expression and connectivity. The China Brain Project and Japan Brain/MINDS are country-specific initiatives with comprehensive research agendas that overlap with ours, including an emphasis on brain diseases and technological development. However, what sets EBRAINS apart is our robust and integrative European approach. Our aim is not only to advance neuroscience, medicine, and computing but also to create a sustainable research infrastructure that supports collaboration and shared use of resources. This is in line with our underlying philosophy that the complex challenges of understanding the human brain require collective, multidisciplinary effort.

What are the overlaps and what are the main differences? To which extent do you cooperate or compete?

In terms of cooperation and competition, it's important to note that science is inherently cooperative. We are all working toward a common goal of advancing our understanding of the brain. While there is a certain level of competition inherent in any scientific endeavor, cooperation—especially through sharing data, tools, and methods—is fundamental to our mission and indeed the mission of all neuroscience initiatives worldwide. We actively seek to establish partnerships and synergies with other research infrastructures where possible. For example, we could potentially collaborate on shared challenges, such as data standardization or ethical, legal, and social implications of neuroscience research. A recent activity of this kind was performed on Ebrains-EuroBioimaging workshop 31 May 2023 with Euro-BioImaging ERIC, where both infrastructures are paving the way our respective fields and actively seeking cooperation.

What are the RI's major educational and outreach activities?

The RIs major Education and Outreach activities are reported in the [EBRAINS website](#) and in the [HBP website](#).