

## European Research Infrastructure for Imaging Technologies in Biological and Biomedical Sciences Euro-Biolmaging

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<b>Scientific area:</b>	Life Sciences (Biological and biomedical imaging)
<b>Host country:</b>	Finland
<b>Infrastructure type:</b>	Distributed
<b>Dutch node or similar:</b>	Multiple
<b>Legal entity</b>	ERIC
<b>Established:</b>	2019
<b>The Netherlands member since:</b>	2019
<b>Phase:</b>	Operational

### Duration of agreement

Ongoing

### Terms of withdrawal

Euro-Biolmaging ERIC Members may not withdraw within the first five years of their membership. After the five-year period, any Euro-Biolmaging ERIC Member may withdraw by giving a one-year notice of withdrawal in writing to the Chair of the Euro-Biolmaging Board. The withdrawal shall only become effective on 31<sup>st</sup> December following the end of the one-year notice period.

### Access to facilities

Based on the scientific merit and technical feasibility of the proposed user research project

### Access to data

Open access

### User definition

Euro-Biolmaging has different groups of “users” that can be defined in various ways. It is not clear what is meant by “user” here, since various numbers for different user groups are asked separately in questions 3-5, and also question 10 covers one group of users. As Euro-Biolmaging is a large scale imaging infrastructure providing open access services in technologies, training and data, and a very significant aspect of Euro-Biolmaging is its activities in organizing and coordinating the imaging community overall, developing its standards and practises in collaboration between the industry and academia, and as all Euro-Biolmaging activities are accessed through a central access point, the Euro-Biolmaging Web Portal, we define “user” here as a unique IP address visiting the portal. It is not possible to obtain gender distribution for these. During interim operation (see question 1), a simpler, temporary version of the then-upcoming “full” Web Portal was used, the “Interim Web Access Portal”. The numbers below are for the users of this interim portal only. See also questions 3, 5 and 10, as these all also cover what are considered “Euro-Biolmaging users”.

### Description

Euro-Biolmaging is the European landmark research infrastructure for biological and biomedical imaging. Through Euro-Biolmaging, life scientists can access imaging instruments, expertise, training opportunities, data management services and image analysis services that they might not find at their home institutions or among their collaboration partners. All scientists, regardless of their affiliation, area of expertise or field of activity can benefit from these pan-European open access services, which are provided with high quality standards by leading imaging facilities. The Euro-Biolmaging hub is located in Finland. There are 33 imaging facilities (nodes) located across 14 countries. Euro-Biolmaging consists of 17 members (16 countries and EMBL), and one observer.

### Financial details

**Mean Dutch membership over 5 year period (k€):** 70\*

**Mean Dutch share of contribution over 5 year period (%):** 7,19\*

*\*Only financial data of 2019-2020 are available.*

Year	NL membership (k€)	NL Contribution (% of total)	Total membership (k€)	Total expenditure (k€)	Turn-over (k€)
2016	n/a	n/a	n/a	n/a	n/a
2017	n/a	n/a	n/a	n/a	n/a
2018	n/a	n/a	n/a	n/a	n/a
2019	45	7.2	624	n/a	n/a
2020	94	7	1343	n/a	n/a

### Employee statistics

	Female	Male	Other	Total
<b>Total</b>	8	7	n.a.	15
<b>Of which Dutch</b>	n/a	n/a	n/a	n/a

(2019, FTE – Full Time Equivalents)

### Use of the infrastructure

Year	Number of users
2016	2200
2017	3100
2018	4700
2019	1300
2020	n/a

### **Dutch share of users**

n/a

### **Type of users**

n/a

### *Comments by the RI*

It should be noted the official establishment of Euro-BioImaging ERIC was delayed substantially, for reasons not related to Euro-BioImaging, and many activities of the interim operation (see also question 1) were winding down in 2019 in anticipation of the start of “actual” operations, reflected by the seemingly lower user numbers for 2019. During the reporting period, Euro-BioImaging did not yet officially exist and only underwent limited interim operation (see question 1 in the country-specific section). This meant that all activities were limited in scope and magnitude, not yet widely advertised and conducted with temporary procedures and tools. This information was not consistently recorded during interim operation for any of the user groups of Euro-BioImaging (see questions 2, 3, 5, 10). However, based on the limited information available, Euro-BioImaging users would seem to have a good representation from all the mentioned groups, with perhaps more users from researchers than technical personnel.

### Application information

Year	Number of applications/requests		Number of approved applications/requests		Percentage of approved applications/requests to use (%)	
	NL	Other countries	NL	Other Countries	NL	Other Countries
2016	n/a	41	n/a	38	n/a	93
2017	n/a	42	n/a	38	n/a	91
2018	n/a	65	n/a	62	n/a	95
2019	n/a	41	n/a	39	n/a	95

#### *Comments by the RI*

We define this as meaning research projects that have sent a proposal to use Euro-Biolmaging imaging technologies (physical access) during interim operation, either directly through the Interim Web Access Portal (approx 87% of the total) or through the cluster projects Corbel and iNext. The total numbers are available, but the distribution of the numbers to different years is to some extent an estimate. Gender has not been consistently recorded, but the available limited records and estimates indicate a rather even distribution between male and female users. It should be noted that these numbers are not comparable to user numbers typically reported by individual imaging facilities, because Euro-Biolmaging projects are on average much larger and last several weeks or more, and because Euro-Biolmaging consists of both biological and medical imaging services and the two communities traditionally use somewhat different statistics due to the nature of the imaging conducted. See also questions 1, 2 and 5.

#### **Sample request information**

n/a

#### *Comments by the RI*

Euro-Biolmaging does not provide this type of service.

#### **Data request information**

Year	Number of data requests		Number of approved data requests		Rate of approval of data requests (%)	
	NL	Other countries	NL	Other Countries	NL	Other Countries
2016	n/a	n/a	n/a	n/a	n/a	n/a
2017	n/a	n/a	n/a	n/a	n/a	n/a
2018	n/a	44000	n/a	n/a	n/a	n/a
2019	n/a	45000	n/a	n/a	n/a	n/a

#### *Comments by the RI*

Euro-Biolmaging provides general data services that offer access to published original image data or curated image data that has additional metadata and value to the community, as for instance reference data or as a source for data mining. All data in these services is openly accessible to anyone - there is no access control or need to seek permission to access the data. During interim operation (and most of this reporting period), only one data service, the Image Data Resource (IDR), was running. IDR is a curated value-added database developed by the University of Dundee in collaboration with EMBL-EBI and Euro-Biolmaging, funded by UKRI and the Wellcome Trust, and Euro-Biolmaging endorses the use of IDR as part of its general data services. As there is no need to request access, there are no statistics available for the number of such requests. In stead, listed above are the approximate numbers of unique IP addresses that have visited IDR. It is not possible to obtain information on gender balance for these. The statistics have only been collected 2018 onwards. IDR currently holds 9,6 million multidimensional images, consisting of approx. 67 million 2D image planes.

#### **Contributions provided by organisations or companies in the participating countries**

n/a

#### **Income from user fees**

n/a

#### **Additional questions to the RI**

##### **What is the Dutch contribution to the RI?**

The Dutch Nodes provide access to national and international user via the webportal. The Dutch Nodes contribute to the educational and training program of the RI.

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

Euro-BioImaging is the leading provider of imaging infrastructure services in Europe and worldwide. There are no other infrastructures providing imaging services that would have even nearly the same scope or scale. Various national imaging infrastructures provide similar imaging services on smaller (national and regional) scales, but these do not compete with Euro-BioImaging, but rather go tightly hand-in-hand with it. This is because Euro-BioImaging by definition primarily consists of existing imaging service providers (called Nodes) that it links together, and does not involve the construction of new facilities. In other words, Euro-BioImaging services are provided typically by the best national service providers that have expanded upon their national activities the possibility and capacity to provide large-scale, quality controlled international services, i.e. Euro-BioImaging services. In addition, some other life science research infrastructures in Europe are in part related to imaging or provide some imaging-related services, such as INSTRUCT and INFRAFRONTIER. However, these services are not overlapping or competing with Euro-BioImaging services, as they are narrow in scope and tailored for the specific purposes of those infrastructures. Euro-BioImaging has very close collaboration with these infrastructures, and in fact practically with all major life science infrastructures in Europe, having signed collaboration agreements and working together and/or offering cross-infrastructure service packages in cluster projects such as Corbel, iNext and EOSC-Life. Globally, Euro-BioImaging is the founding member and coordinator of Global BioImaging.

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

Please see above.

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

Euro-BioImaging provides services in three major categories, training being one of them. Accordingly, Euro-BioImaging has mechanisms in place how its Nodes can register as training providers and advertise courses that fulfill Euro-BioImaging criteria, on the Euro-BioImaging Web Portal. The training activities are wide in scope, covering all aspects of imaging, ranging from theoretical to practical to online courses and being targeted for both researchers and facility staff. A full Euro-BioImaging training module is under construction for the Euro-BioImaging Web Portal, which will later on allow also precise statistics. Euro-BioImaging also has very active outreach and community-building activities, involving e.g. weekly Friday afternoon "Euro-BioImaging and Friends" online meetings where current topics are presented and discussed, organizing various annual satellite community meetings in the context of major biological and medical imaging-related conferences and having an active newsletter, online news, social media presence and dedicated PR and outreach staff. Euro-BioImaging training and outreach activities reach thousands of people annually already now, even though they are partly still under construction.