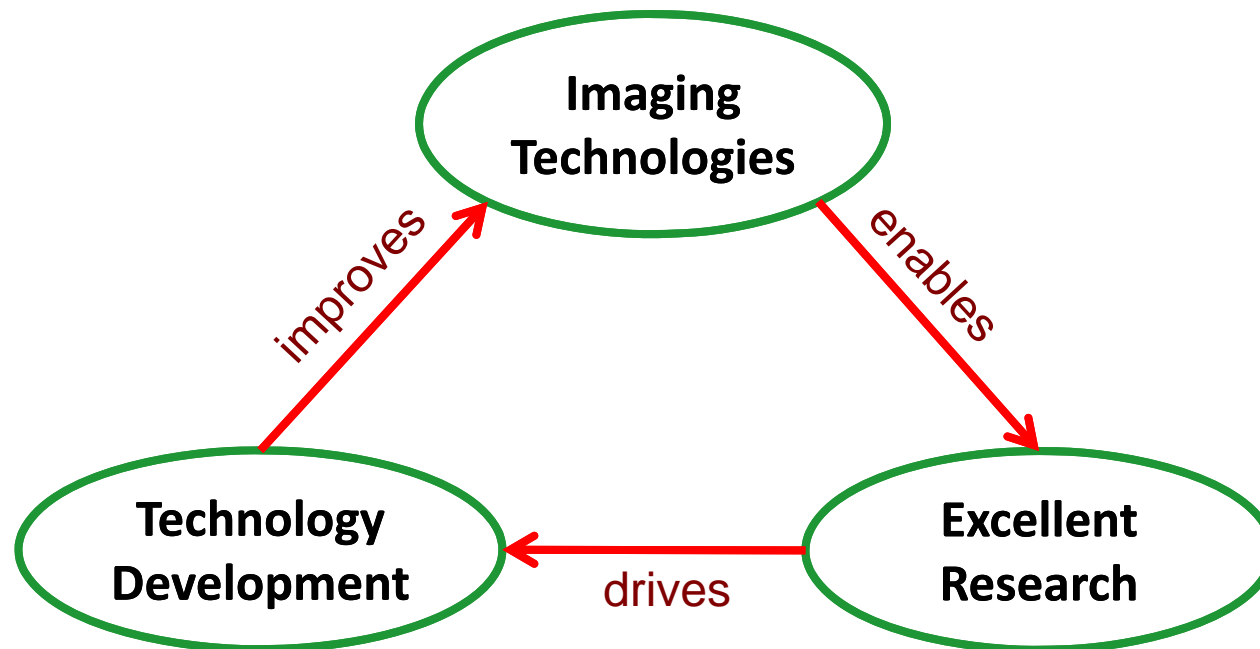
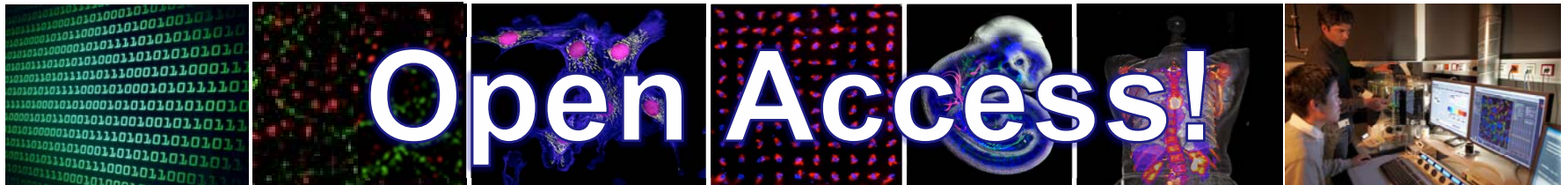
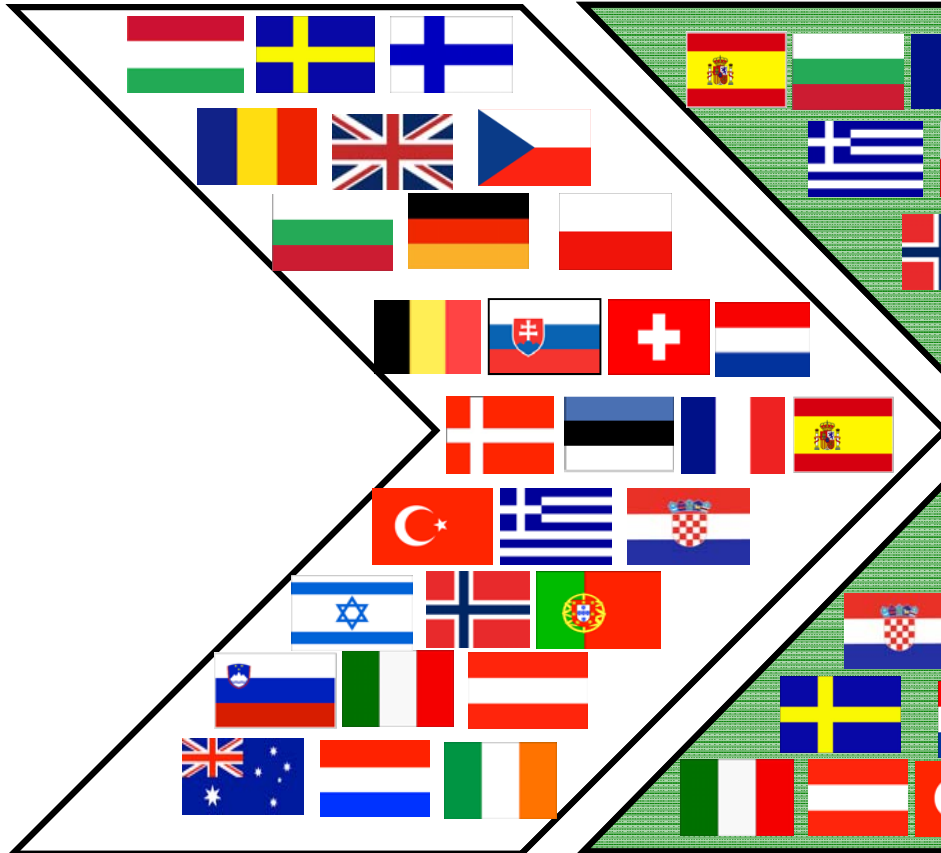


# **Euro-BioImaging Update**

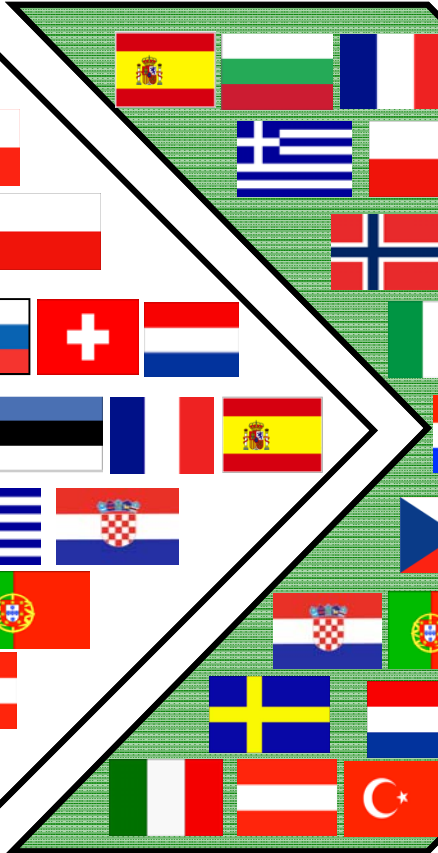
**Jason Swedlow  
WP6 & WP11**



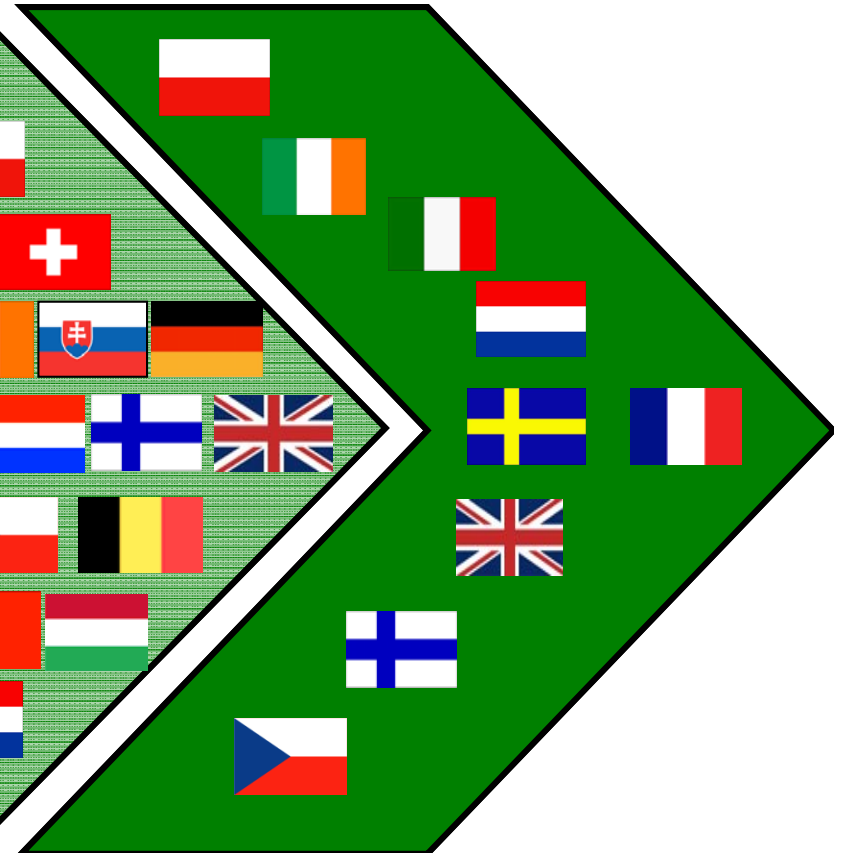
250 Euro-BioImaging Partners from 29 countries



National BioImaging Chapters in 23 countries

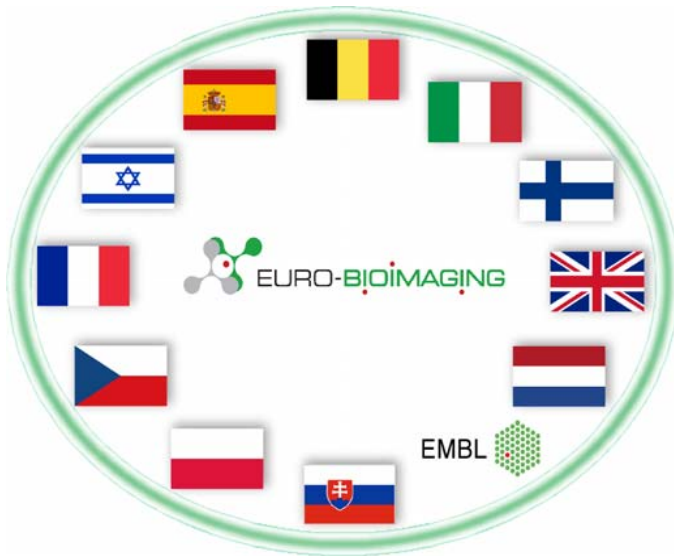


Prioritized, on the roadmap of 9 countries (plus ongoing evaluations in BE, ES, HU, GR, PT, AT)



38 Legal Partners, 250 Associated Partners from 29 Countries, > 270 Letters of Intent, > 2500 Stakeholders

## Memorandum of Understanding starts implementation phase



Belgium, Italy, Finland, United Kingdom, the Netherlands, Slovakia, Poland, Czech Republic, France, Israel, Spain, Norway, and EMBL have signed the MoU.

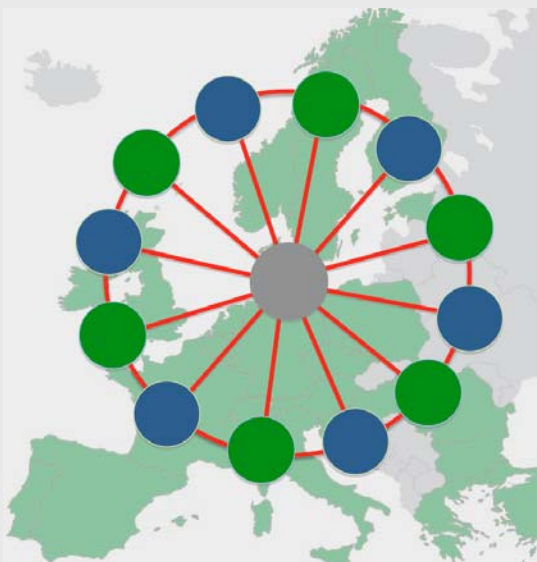
Additional countries can continuously join.

- The MoU to formally bring countries and EMBL together to establish Euro-Bioimaging.
- The MoU came into effect on January 27<sup>th</sup>, 2014. The Signatories will establish the Euro-Bioimaging Interim Board on March 31<sup>st</sup>, 2014.

## Services to be provided

- Access to cutting-edge biological & medical imaging technologies with high-level user support by expert technical staff
- Image data repositories and analysis tools
- Advanced training for users and providers of imaging technologies

## by Hub and Nodes



### Euro-BioImaging HUB

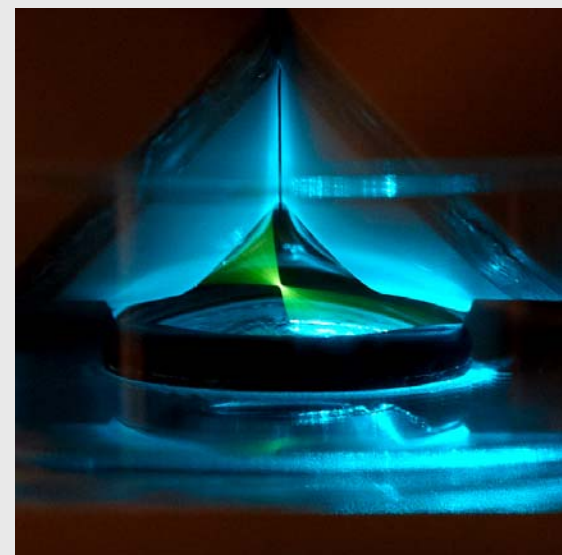
Coordination & support of access, data, training  
European infrastructure management

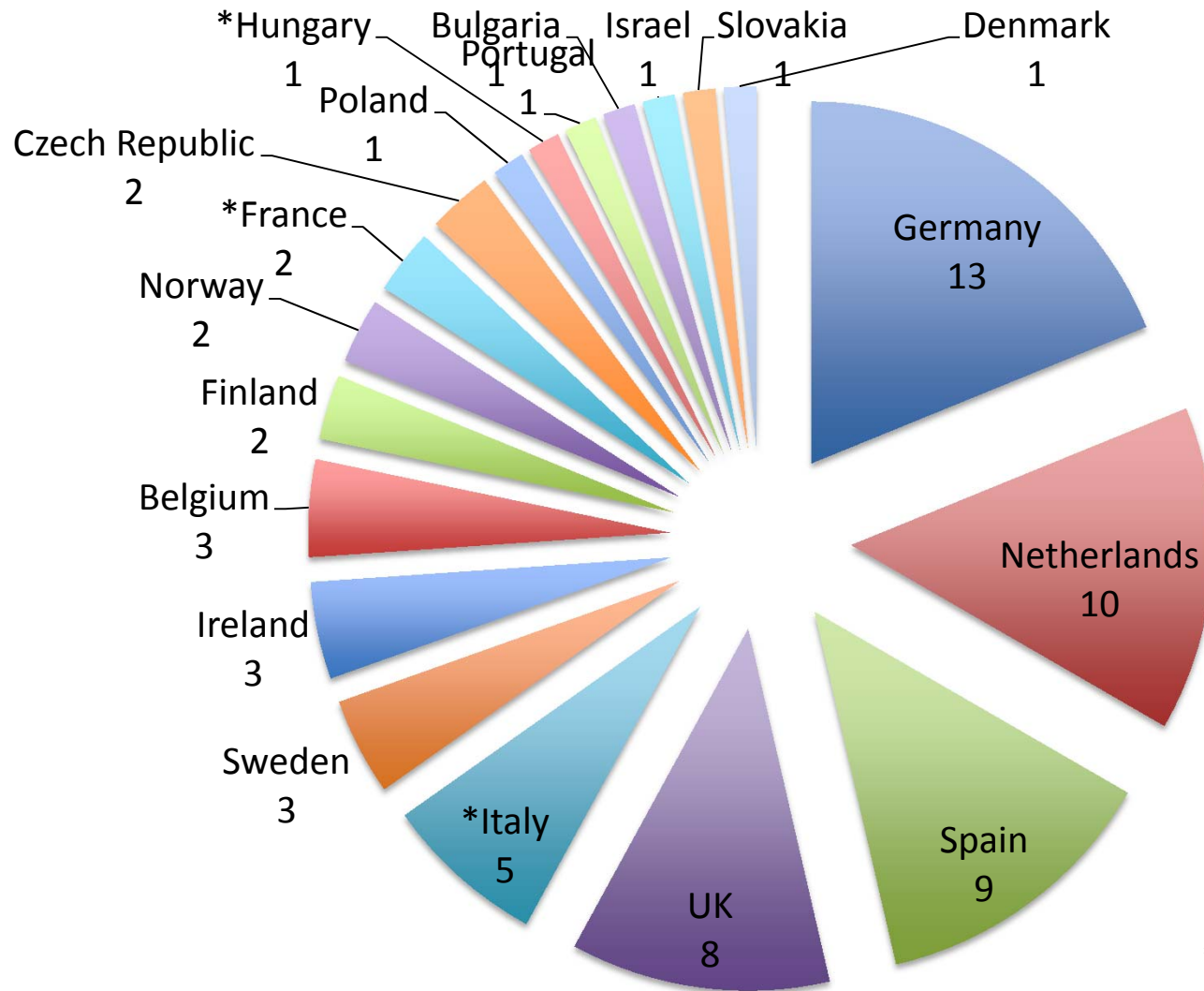
### Flagship Technology NODES

Access to unique imaging technology in Europe

### Multimodal Technology NODES

Integrated access to multiple imaging technologies

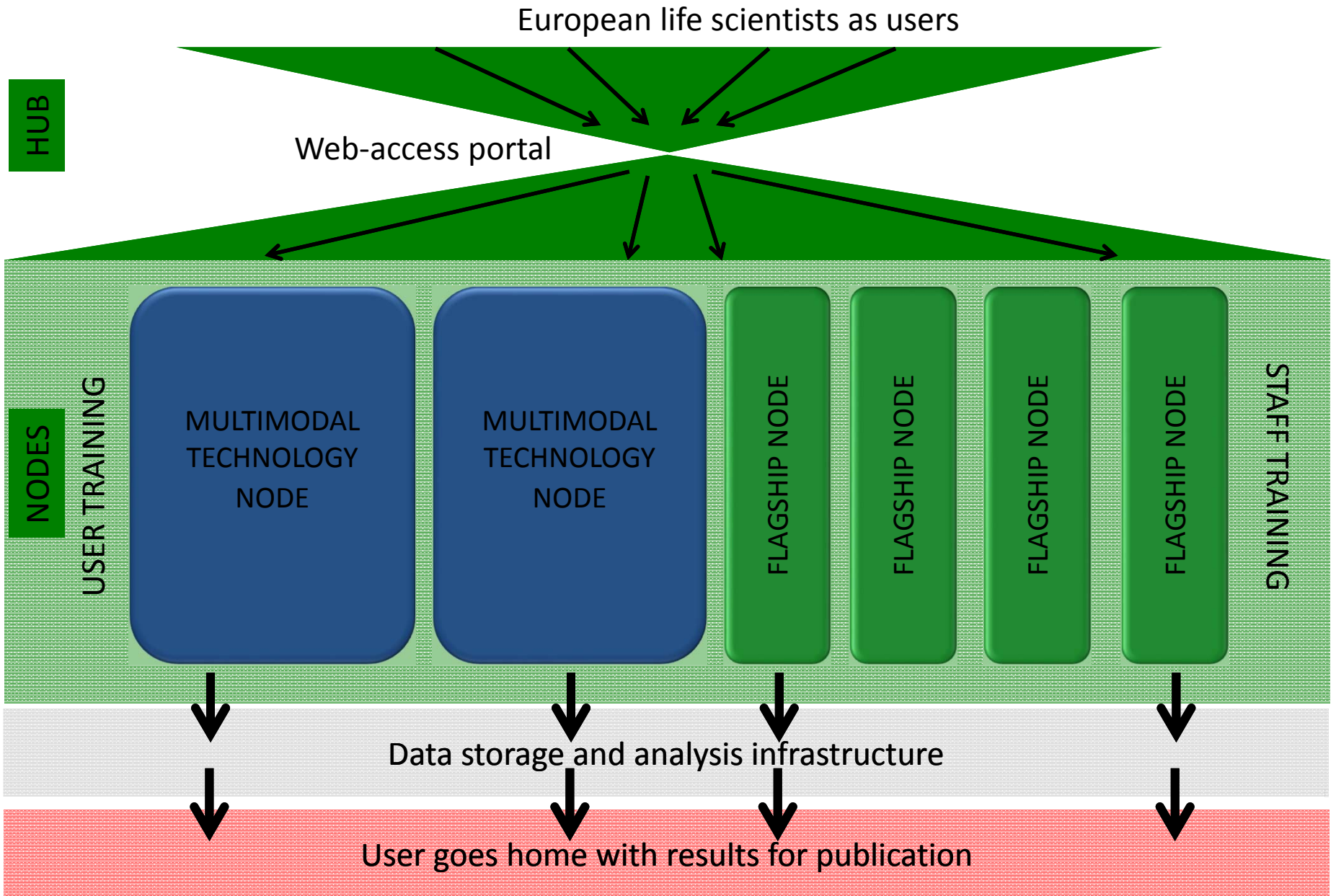




Independent Evaluation	# Eols
Highly Recommended	25
Recommended	20
Minor improvements	9
Major improvements	13
Not suitable	4

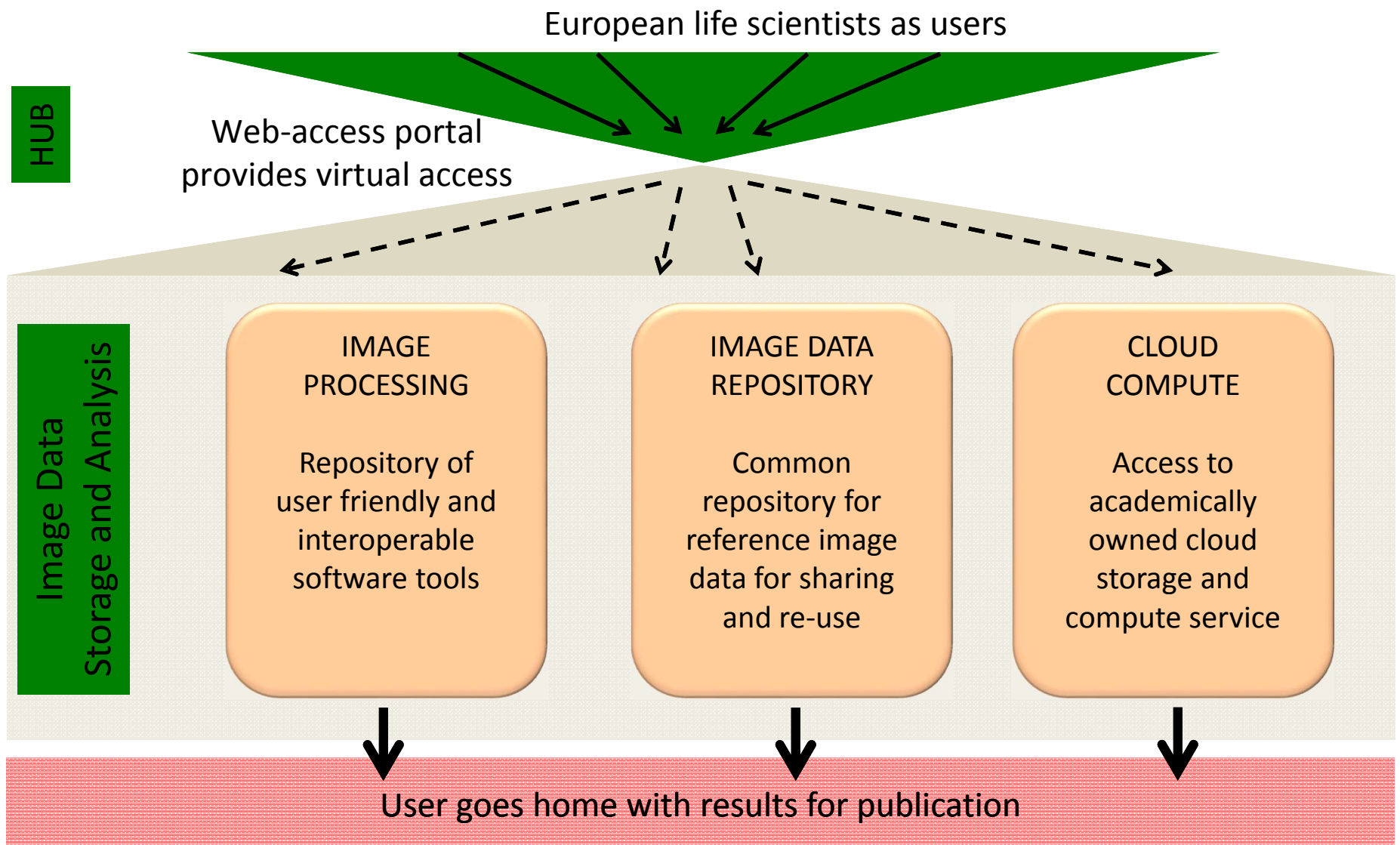
**Node Eols per country\***

\*Actual number of facilities varies.  
From some countries multi-sited Nodes/national networks Eols were received



# **Data Infrastructure Model: Design**





## **Community Demand:**

*Community-annotated repository of image processing & analysis tools*

## **Facilitated and coordinated access to:**

- Community-developed open source desktop image processing platforms (e.g. ImageJ, Fiji, Icy, BioImageXD, OME,...)
- Open access to commercial platforms (e.g. Zeiss, Bitplane, Leica, Nikon, ...)
- Community wiki-style annotations
- Proof of Concept: <http://biii.info>

## **Community annotation of Euro-BioImaging Software tools:**

- User-friendliness
- Use of standardised data access, formats, and APIs.
- Pluggable architecture, support and documentation, interoperability
- Platform-based and commercial software to have open interfaces

**Community Demand:** *Open, accessible image data management and repository*

## **Storage of User image data at producing Node (30 User/year, avg. ~20 TB)**

- Reqs based on PCS feedback: 80% of Users need <200 GB; 20% need 0.2-20 TB
- Data initially stored at Node for quality control and initial processing;
  - afterwards “data belongs to the user”.
- Data transfer methods determined by dataset size
  - e.g. web-based transfer, or shipment of external hard drives, ...)

## **Community Image Data Resource (~1000 TB in yrs 1-2)**

Open access to standardized, annotated data repositor(ies) of reference image data

- Phenotypic datasets linked to molecular resources (e.g., GW phenotypic screens)
  - close collaboration with ELIXIR
- Datasets with clear linkage to structural resources (e.g., super-resolution, correlative)
- Common annotation framework (with ELIXIR)
- Public resource for image data directly related to publication
- Benchmark datasets, for development, validation and training
- Resources for community reference (genome wide studies, atlases etc.)



228 User applications in four weeks

110 User visits in 14 countries in 6 months

22 publications, 20 manuscripts submitted

**71 interested Node / 2200 future Users**  
(IEB: 67 Nodes recommended for construction)

**Nodes are already being built**  
(€ 202 Million committed in 13 countries)



- Highly recommended Expression of Interest
- Recommended Expression of Interest



- Countries that committed investment into imaging facilities
- Countries involved in Euro-Bioimaging activities

2013

2014

END PPP

Nov

Dec

Jan

Feb

Mar

Apr

May

Jun

Jul

Aug

Sep

Oct

Nov


Dec

**Tasks:**

- Selection & Construction of Nodes (Countries)
- Legal framework for European Hub (Interim Board)
- Identification of Hub hosting country (Countries)

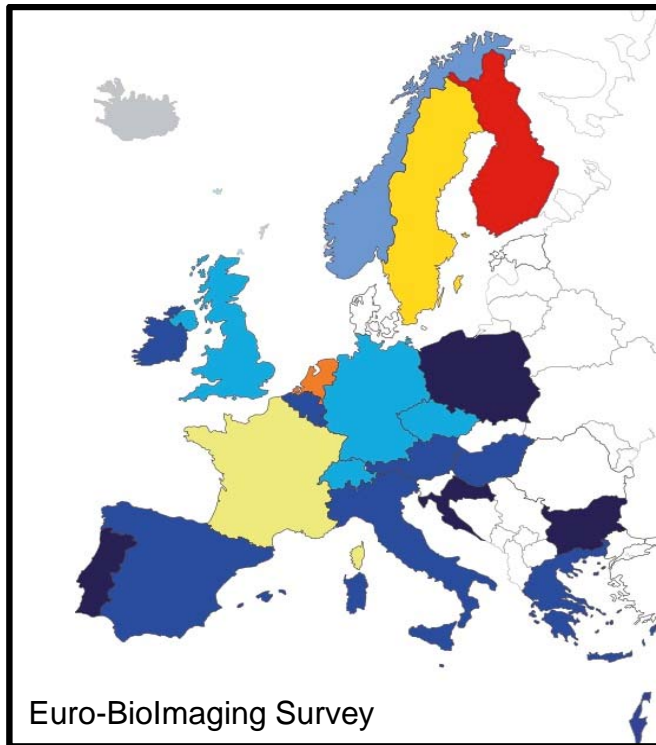
Prep P. ✓

Interim Phase



**Operation**

## Without Euro-BioImaging



## With Euro-BioImaging



- From closed national to open European imaging facilities
- From heterogenous national infrastructure capacity to European excellence