PublicnEUro: a European platform to share neuroimaging datasets publicly

Dr Cyril Pernet, Dr Melanie Ganz & Prof Gitte Knudsen
Neurobiology Research Unit, Rigshospitalet, Denmark

https://public-neuro.eu
publicneudo@nru.dk

Background: Data sharing using a web platform is becoming integral to the *research life cycle*. Not only does data sharing allow reproducing analyses, a tenet of experimental research, it also allows deepening analysis of existing datasets, combining data, meta-analysing, and asking outright new questions. Because *brain imaging data (MRI, PET, EEG)* can be seen as personal data, this activity is challenging for EU-based researchers who must comply with the ***General Data Protection regulation***. Here we introduce PublicnEUro: a platform for EU-regulation-compliant data sharing.

Public not Open: We introduce the notion of public data, that is data which are publicly declared (open metadata, doi, etc) but not openly available (i.e. they are access controlled).

FAIR and GDPR compliant:

- Datasets are shared using the institution data user agreements ('share your way')
- Users must sign those to gain *access,* ensuring GDPR compliance at the national and institutional levels (Figure 1).
- Datasets are highly structured using the *Brain Imaging Data Structure*, the international standard for organising and naming, ensuring interoperability and reuse.

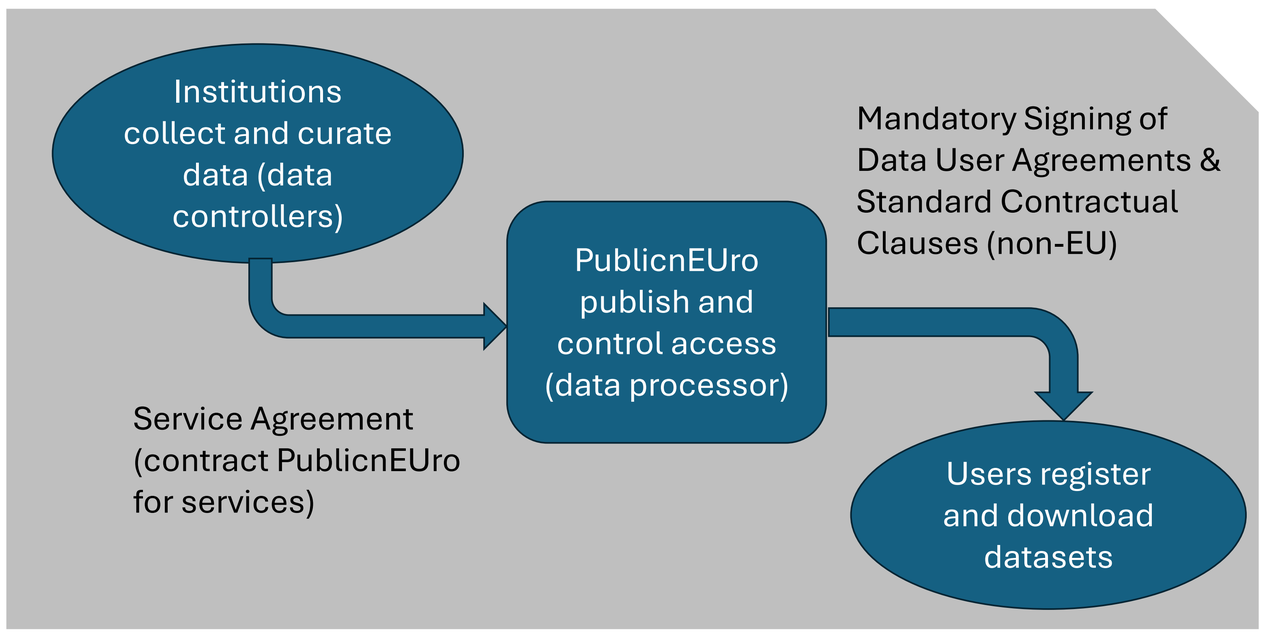

Figure 1: overview of the data workflow (boxes and arrows) and legal tools around it

Security at each data point:

- Dataset deposit is made into a sandbox by data controllers and curated by '*entrusted*' PublicnEuro collaborators.
- Datasets are stored on secured servers on Computerome Denmark (GDPR-compliant cloud and HPC platform).
- Fully identified users are given time-limited access tokens to datasets. Data access are recorded and available for audits.

By (i) allowing institution-specific data user agreements, (ii) verifying users' identities, and (iii) controlling data access, one *can bring data to users*.

Current work aims at increasing findability, re-usage, and integration, working with Datalad and the Datalad Catalogue, OpenNeuro , and Neurobaguel.

novo nordisk fonden
Benefiting people and society