LTER partnering with EUDAT

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Topics / Agenda

- About LTER
- LTER research infrastructure
- LTER joining EUDAT CDI
- Requirements, EUDAT should meet
- Best Model for regulating access
- Why EUDAT should be a legal body

About LTER

The European Long-term Ecosystem Research Network in a nutshell

A Network of

- **~ 400 LTER Sites**
- **~ 35 LTSER Platforms**
- **metadata and data**
- **21 national networks**
- **~100 institutions**
- **>> 1000 scientists** (community)
- Part of a Network of **European Networks**
  (ALTER-Net, EXPEER, LifeWatch)... and part of a global network

www.lter-europe.net

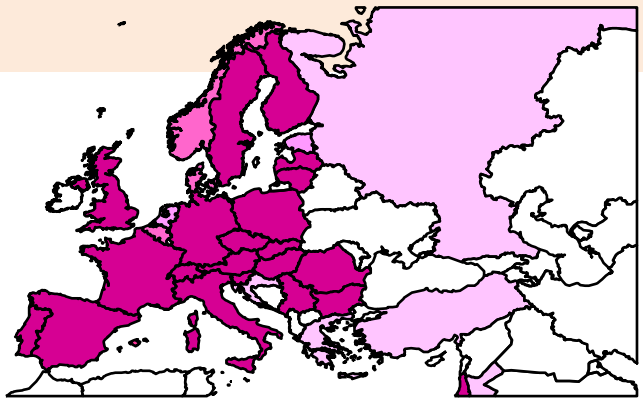
Big Questions:

→ What drives the major European ecosystems and socio-ecological systems?

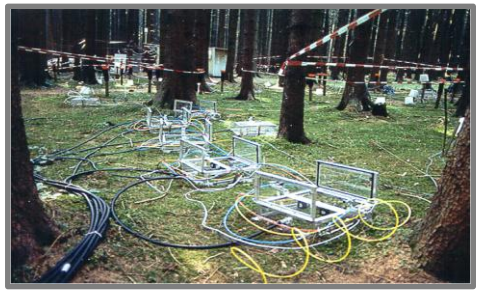
→ How do changes affect ecosystem functions, biodiversity and ecosystem services?

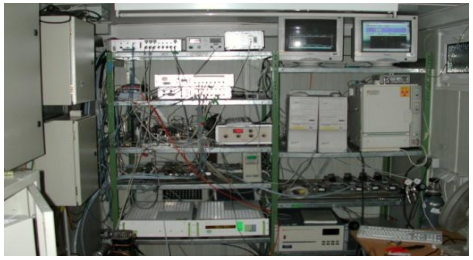
Information of policy and management:

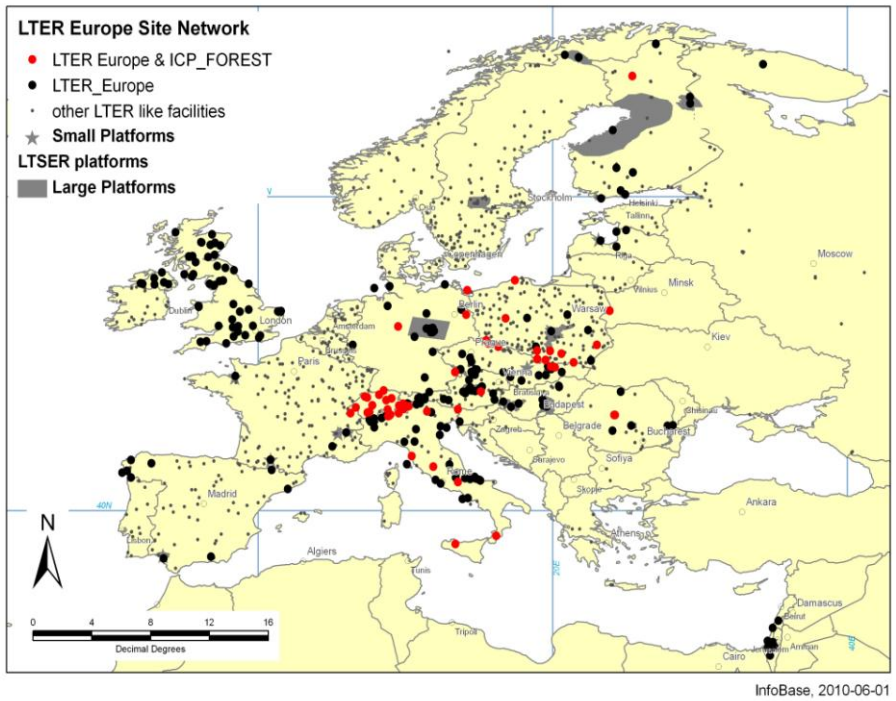
→ How can Ecosystem Services be sustainably secured?



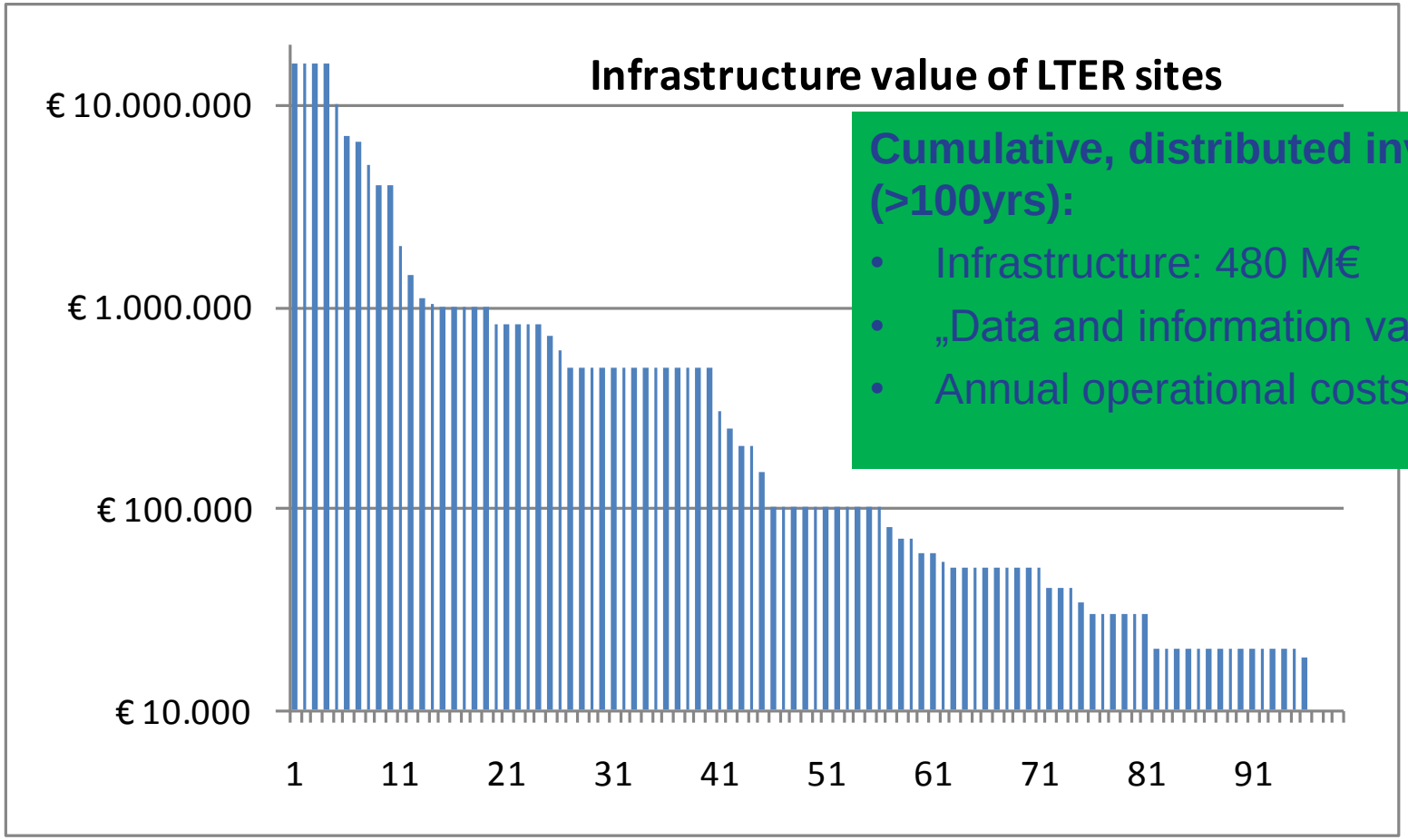
Provided resources 1: Physical infrastructure of distributed in-natura research sites







Provided resources 2: Value of infrastructure and DATA



Cumulative, distributed investments (>100yrs):

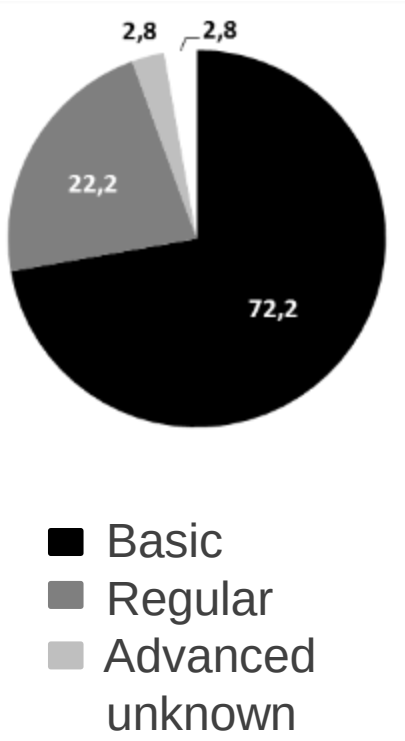
- Infrastructure: 480 M€
- „Data and information value“: 1200 M€
- Annual operational costs: 88 M€

Distribution of the infrastructure values of LTER-Europe sites (logarithmic y-axis, n=109). The sample covers about 25% of the entire network of LTER sites. (Mirtl et al. 2009)

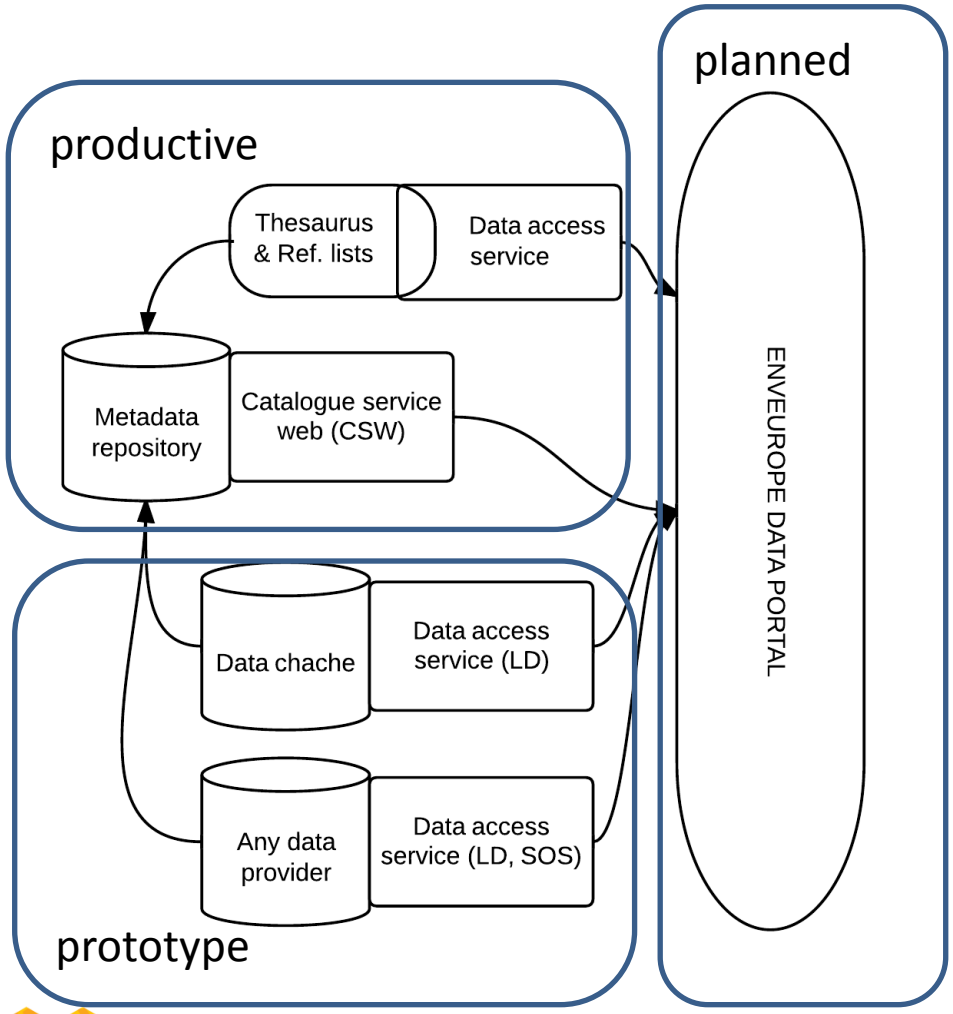
LTER research Infrastructure

LTER is a network of research institutes and sites with extremly heterogeneous data management capabilities and IT capacities:

- Basic capabilities: Doing very basic data management (e.g. based on EXCEL spreadsheets), with no major IT support and infrastructure.
- Regular capabilities: providing well structured data storages, (e.g. Databases) and related metadata. Ready to setup data services, but need support (e.g. tools and IT infrastructure)
- Advanced capabilities: Have already implemented a comprehensive data management system with services installed (e.g. WFS, WMS, SOS, linkedData)



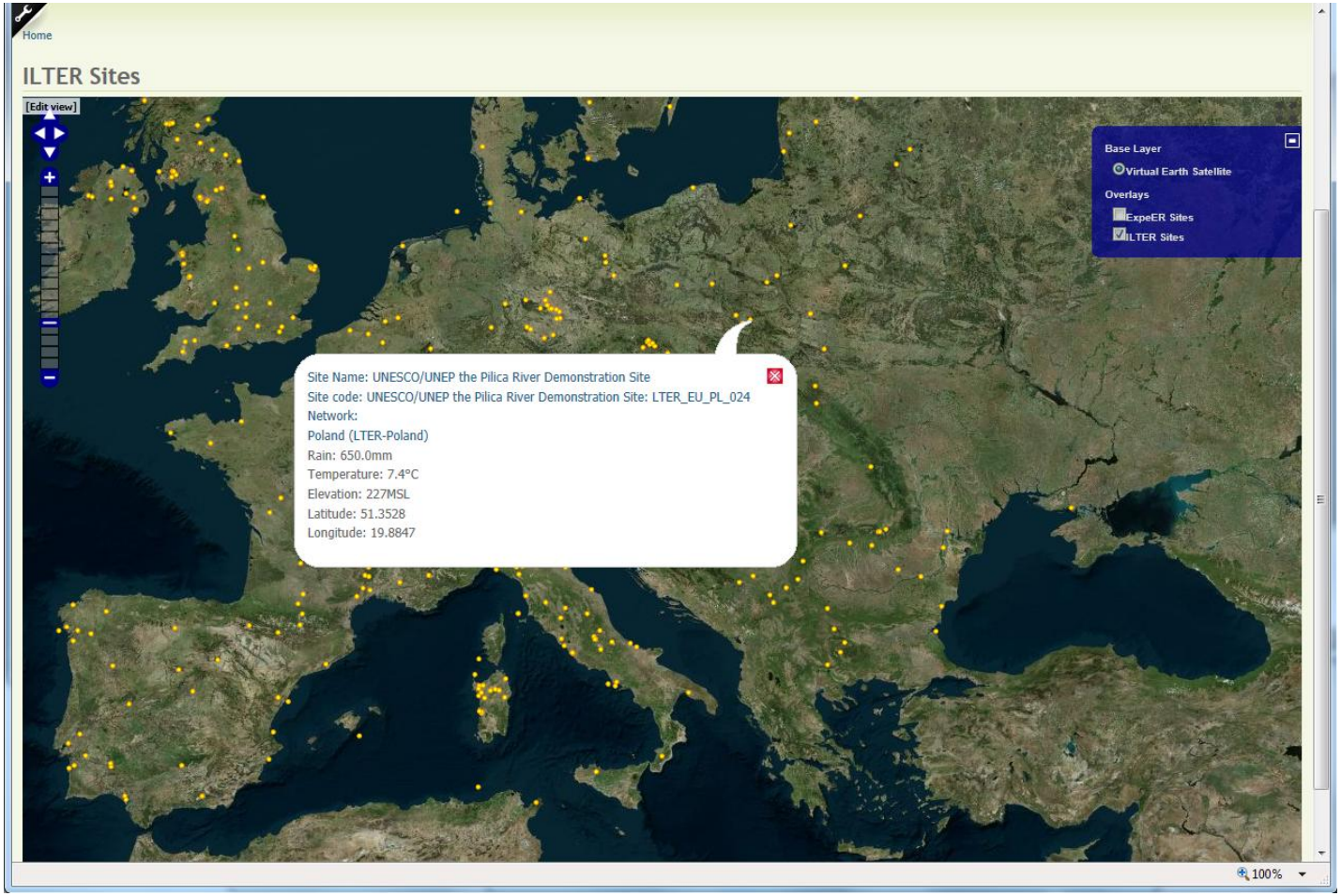
LTER RI services



- DEIMS **Drupal Ecological Information Management System :**
  - Management of Dataset- Site- and Person- Metadata (ISO 19115 and EML compliant)
  - Data upload system
- EnvThes **Thesaurus for LTER** (interlinked with GEMET, EUROVOC, AGROVOC and others)
- Data access services, LD and SOS

DEIMS metadata editor

DEIMS GeoViewer



Agreements regarding access and services

- Sites in principle open for multiple use
- Anchoring of short-term or small-scale projects in larger sites and their long-term observation programmes
- Multiple national use
- Many LTER sites form part of European projects offering „Transnational Access“ (TA)
- TA can be
  - physical (work at the sites)
  - remote (e.g. installation of equipment for cross-site measurements)
  - virtual: access to data

Data access policy

Network level data:

- In principle open access
- Consistent site metadata across all sites (web-based service DEIMS)
- Increasing number of data sets also available

Site level data:

- Varying policies
- BUT: policies and technical format known as part of the mentioned site metadata
- Increasing number of cross-site data use and access

Legal structures

Network level:

- The global ILTER network is a legal entity (association, registered in Costa Rica)
- The European national networks are formally adopted members of the global network (quality criteria such as data policies, site network...)
- Europe: decision pending, if LTER-Europe will aim at an ERIC (through ESFRI) or become a European scale association

National level:

- Several national networks are legal entities
- In most cases: scientific associations

Requirements of LTER-Europe

- Cost efficiency
- IT support for service uptake and integration
- Integration of existing data acces services (e.g. OGC-compliant SOS, linkedData service, SPARQL endpoint)
- Data user community within LTER, but no special support for data users.
- Response time should be acceptable but is not crucial.

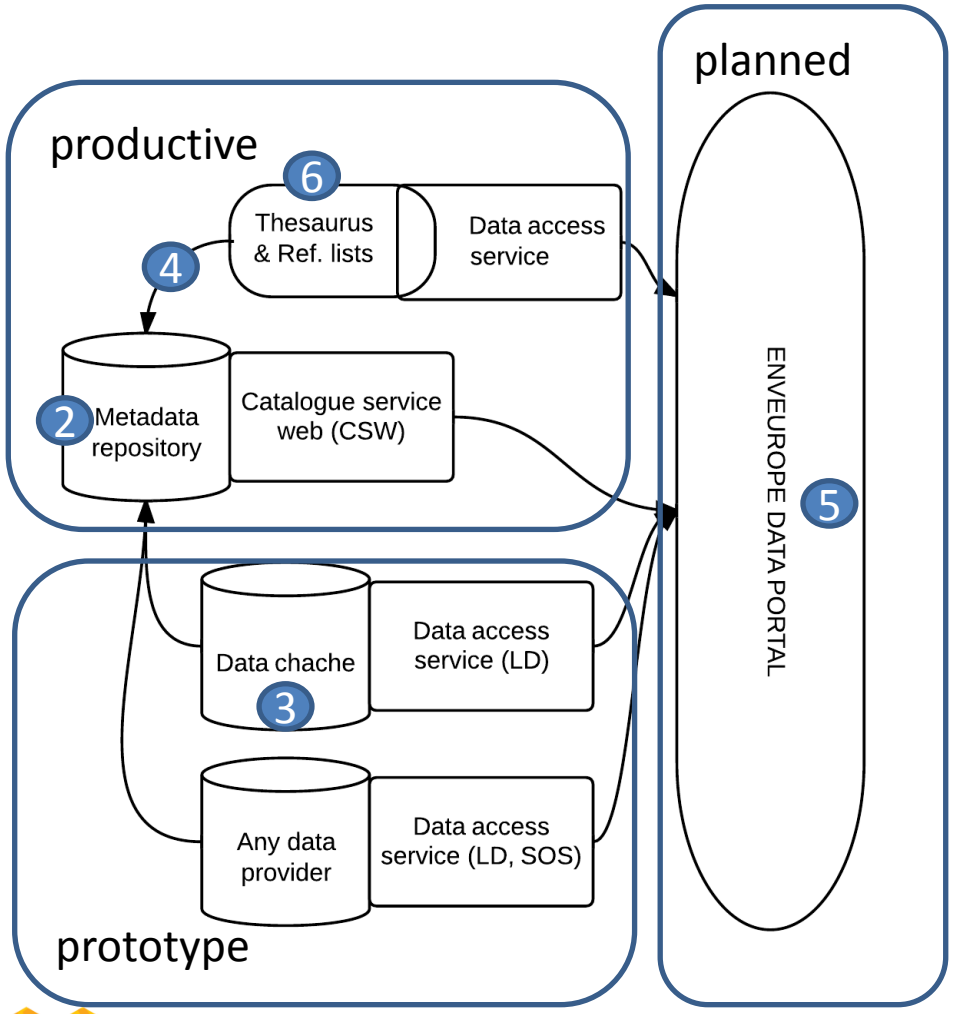
LTER using EUDAT CDI

- EUDAT as ONE network/partner
- Precondition for using services of the EUDAT CDI:

  The EUDAT CDI services must

  - **be capable of being integrated into the data management of the LTER RI and nearly invisible for the end user, offering a usability sufficient for non IT scientists**.
  - Provide long term availability and support for the data infrastructure components.
  - Be offered at reasonable costs.

LTER data infrastructure and EUDAT CDI



Long Term availability of the CDI is crucial.

1 PID server

2 B2SAFE

3 B2STAGE

4 B2NOTE

5 B2FIND

6 B2SHARE

Best model for regulating access

Prioritized options

- Free access and use
- Access against a very small fee (comparable to smartphone apps)
- Agreements/payments at the network level and access according to network membership
  - European scale (preferred)
  - National scale (hampering pan-European structures, but more probable)

→ Remark: Membership dues (even small) have prooved to be VERY difficult to realize

Why EUDAT should be a legal body

- LTER-Europe would strongly support a legal entitiy „EUDAT“
- Splitting into multiple centers would complicate any formal agreements at the network level