

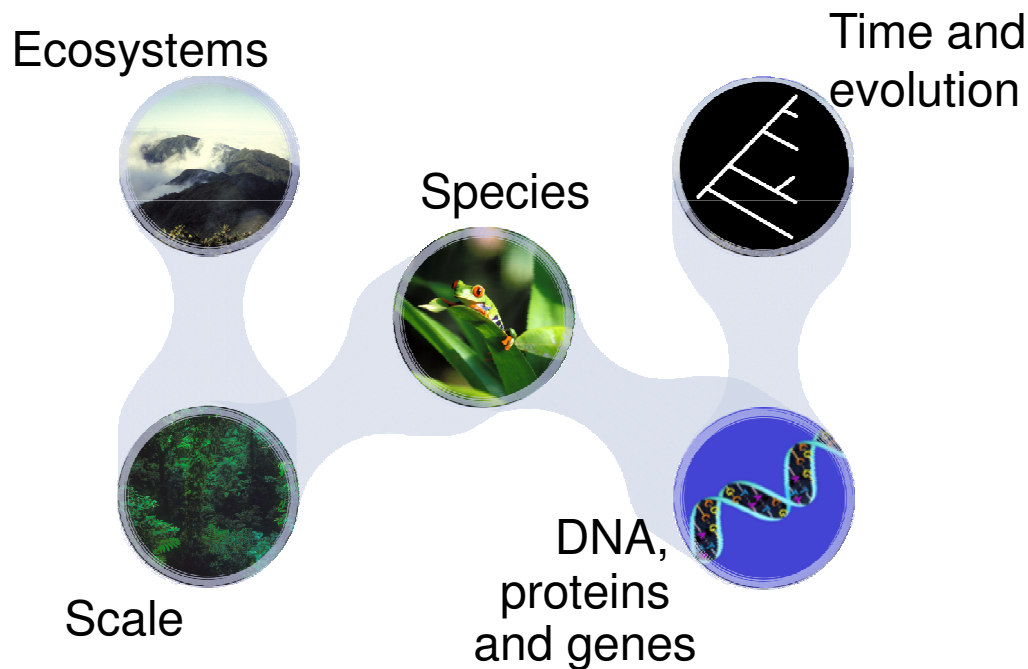
LifeWatch

Axel Poigné
LifeWatch ICT construction group
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Biodiversity Research

Aspects



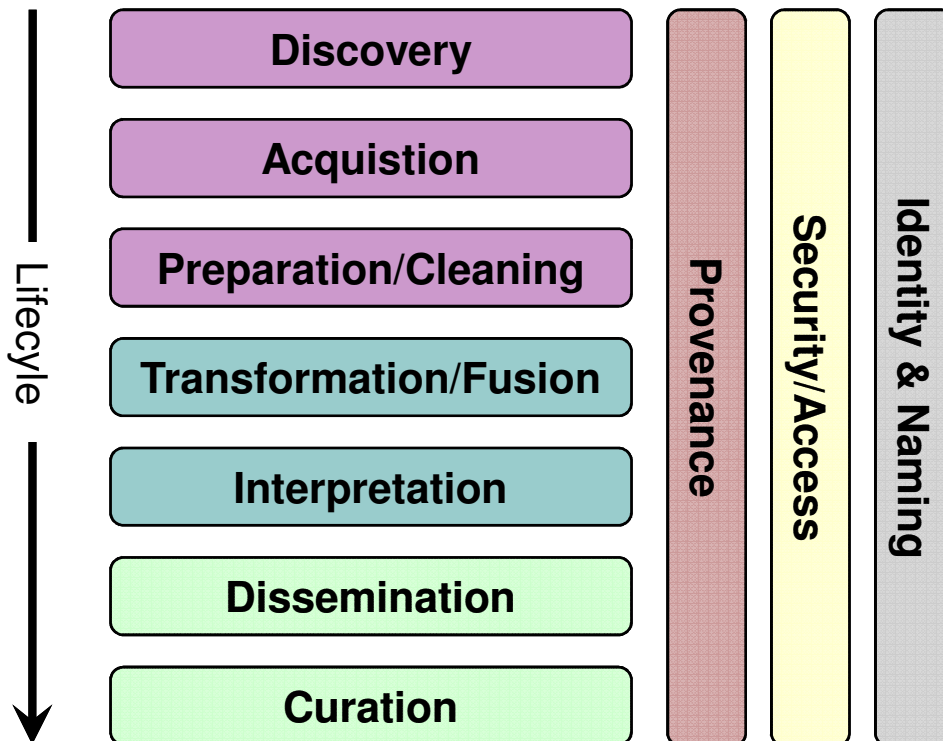
Functions

- Data acquisition
- Modelling
 - Niche modelling
 - Habitat modelling
 - Behaviour modelling
- Prediction
 - Plants and animal migration
 - Biodiversity loss
 - impact of changes in climate, pollution, and land/sea-use
 - thresholds in ecosystem structures and functions

LifeWatch provides the ICT Infrastructure

ICT Vision

covers full eLab lifecycle



- Provision of Global Unique ID's
- **Provenance** information
- **Support of Workflows**
- Support of Data Integration
- **Semantic Mediation**
 - Data consistency
 - Data + Service access
 - Service connectivity
- Virtual Labs / Organisations

ICT Requirements

Data

- heterogenous distributed data sources

Computational

- workflow enactment
- computationally expensive,
 - e.g. phylogenetics
- potentially computationally expensive:
 - niche modelling: mobilisation of data needed

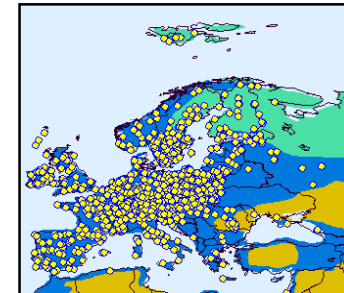
Administrative

- federated / distributed services
- AAA
- resource management
- virtual organisations
- etc.

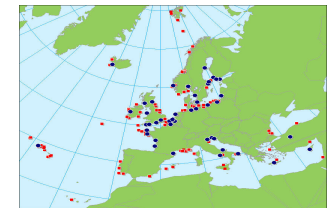
Natural Science Collections



Terrestrial LTER sites



Marine reference and focal sites



Other data Providers



ICT Architecture

- **Technical Framework and Architecture**

- ***LifeWatch Reference Model (SOA)***
- Processes to support compliance
 - Data Provider “admission” process
 - Tool integration process
 - Middleware development process

- **Core ICT infrastructure**

- **Service Centre(s)**

- For user community
- Operational support (data/tool discovery, access, training, helpdesk, etc.)
- Partnering (temporary collaborative networks, conferencing, etc.)

- **Technical operations support**

- For Data Providers and Tool Providers
- Project Office to oversee construction

- **Product Management Board**

- To manage the LifeWatch “product”



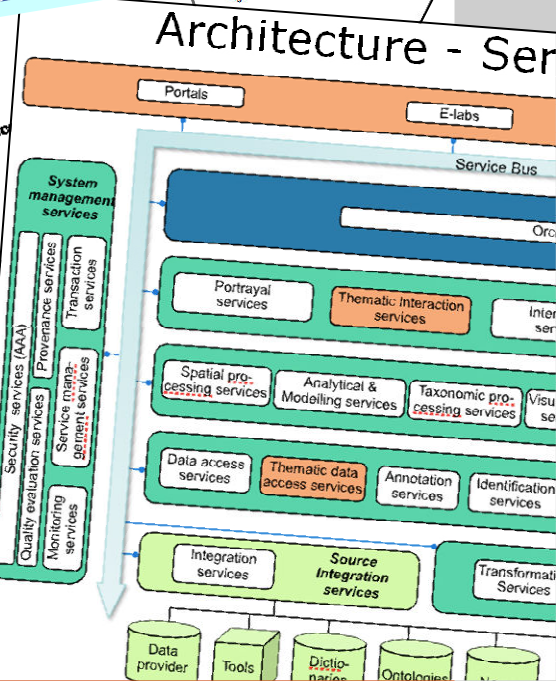
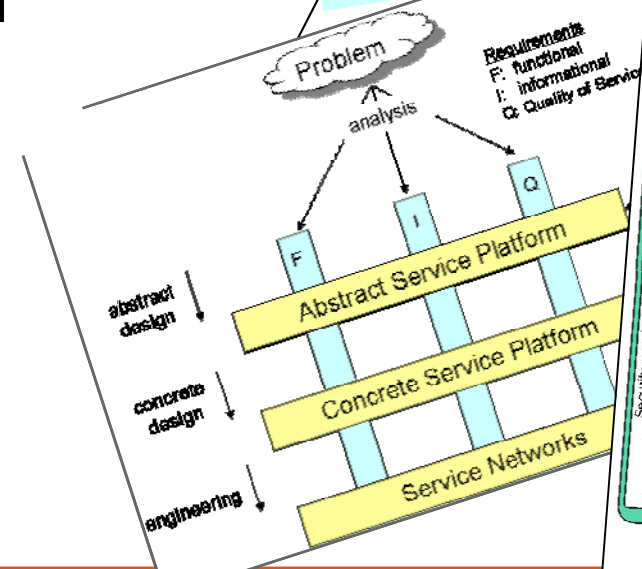
LifeWatch Reference Model

- Technological independence
- Reliance on Standards
- Distinguish levels
 - meta model
 - platform-neutral level
 - platform-dependent level
 - network level
- Define policies
 - engineering viewpoint
 - technological viewpoint

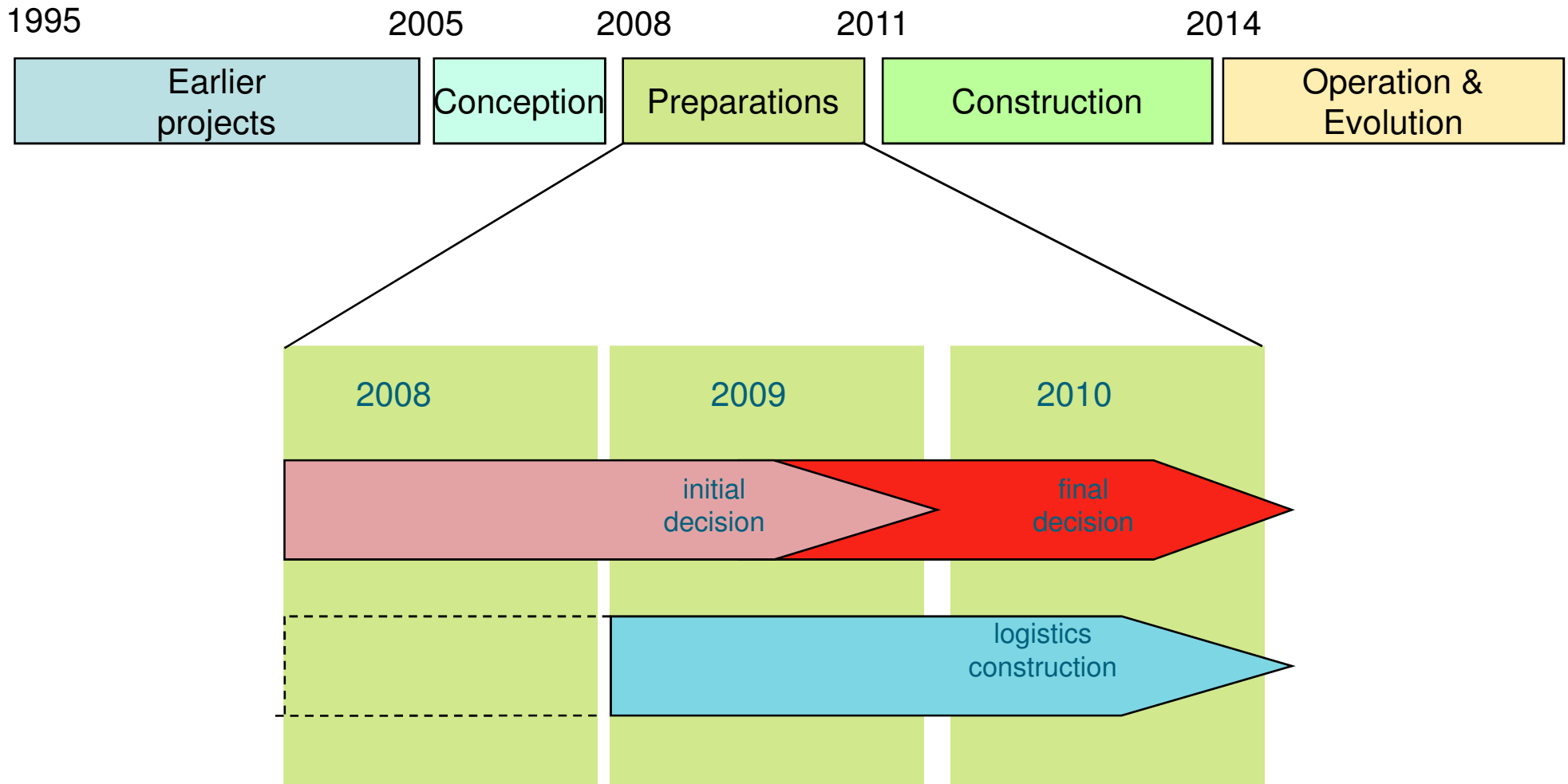


LIFEWATCH
evidence and technology infrastructure for biodiversity data and observatories

LifeWatch Reference Model
Version 0.2
Fraunhofer IAS
Cardiff University
March 2008



Timeline



Challenges and Suggestions

We see a lot of potentials for collaboration with EGEE / EGI

- D4Science
- DORII
- EGI
- enviroGRIDS
- g-Eclipse
- GENESI

but

we want to be prepared for all (the next) technologies