



Life Science Grid Applications in Switzerland – Position Talk

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Current situation in Switzerland

SwiNG is the Swiss NGI – SWITCH is repr. in EGI.org.

The Swiss Multi-Science Computing Grid operates a national Grid infrastructure for the Swiss research community

Almost all bioinformatics groups in Switzerland are members of the **SIB Swiss Institute of Bioinformatics**.

SystemsX.ch is a large national systems biology initiative

In the **medical community** there are few efforts for a common computing infrastructure, and groups are more scattered than in bioinformatics

Do we need a European structure for grid-related health and LS communities?

We need specific **models and use cases**

We need a European structure only **if the existing national and European structures are not sufficient**

We need a European structure if there is a **clear added value**

We need a **stable, supported and sustainable infrastructure and services** that we can use in large intern. collab. projects.

Currently, the **entry barrier** for Grid usage is **very high**.

Particularly, support for certain basic might be better on a European scale than on a local scale.

Exchange of experiences would be good on a European scale.

What would be its role?

Enable large intern. collab. to share data and infrastructures.

Hide the complexity that results from large scale European projects

Targeted user support: the Grid infrastructure needs to be operated in a way that it can be considered as a stable and easy-to-use infrastructure

Easy user interfaces

Carefully selected tools should be gridified and then maintained

The medical community has particular requirements for data protection both in terms of legislation and technology

Who would be the targeted user communities?

Bioinformatics

- **Most** of the bioinformatics applications are **more efficiently executed on small/medium scale HPC clusters**
- The number of applications is also limited due to limitations of the existing Grid infrastructure.

Medical domain

- Potentially have several applications on Grid infrastructures **if the entry burden would be lower**
- **Currently, we do not see Grid adaptation in the medical field in Switzerland**, as there is no culture of sharing data or algorithms at the moment. Hospitals have strong regulations
- In image retrieval it can make sense to use Grids, but job submission **needs to be stable over years**

What would be the supporting infrastructures?

EGI, ELIXIR when available

National Grid infrastructures in case they are not yet included in
EGI

Local infrastructures that are ultimately the building blocks of
the national and European infrastructures.

How would it be organized and how would it interact with the existing initiatives?

It needs to **interact with EGI** (possibly national Grids if not already part of EGI) and **complement it** where necessary again **hiding technical and administrative complexities** from both end-users and life-science resource providers

It needs to **interact with the ESFRI** initiatives for life sciences

It needs to **interact with the national initiatives**, both the infrastructure NGIs and life science organisations and initiatives like the SIB and SystemsX.ch

It also needs to **communicate with the end-users** stating **realistic advantages and obstacles** so the right applications are gridified