

Swiss Institute of  
Bioinformatics

# SIB Swiss Institute of Bioinformatics

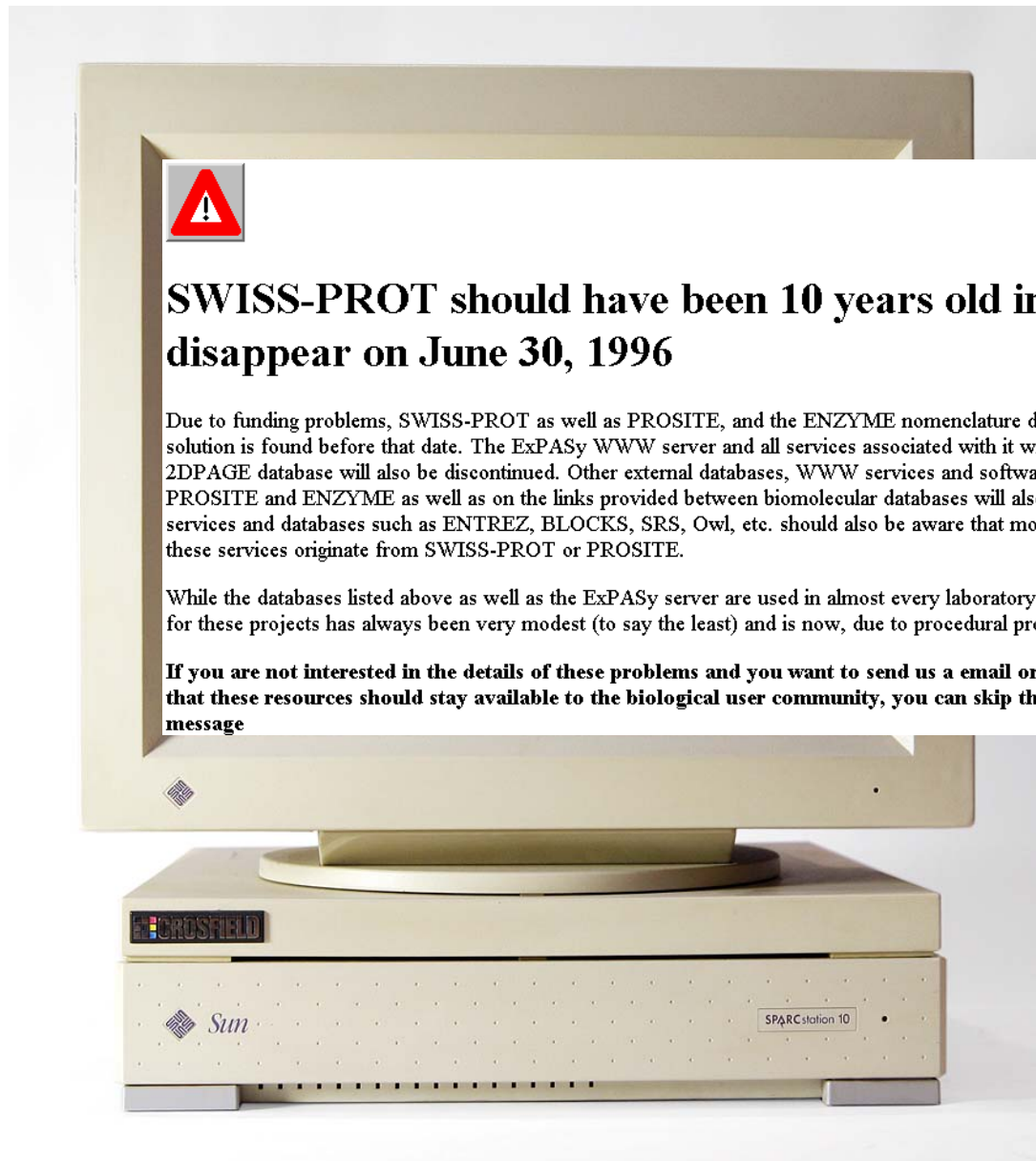
## Empowering advances in life sciences and health

Christine Durinx, Associate Director



# 10 May 1996

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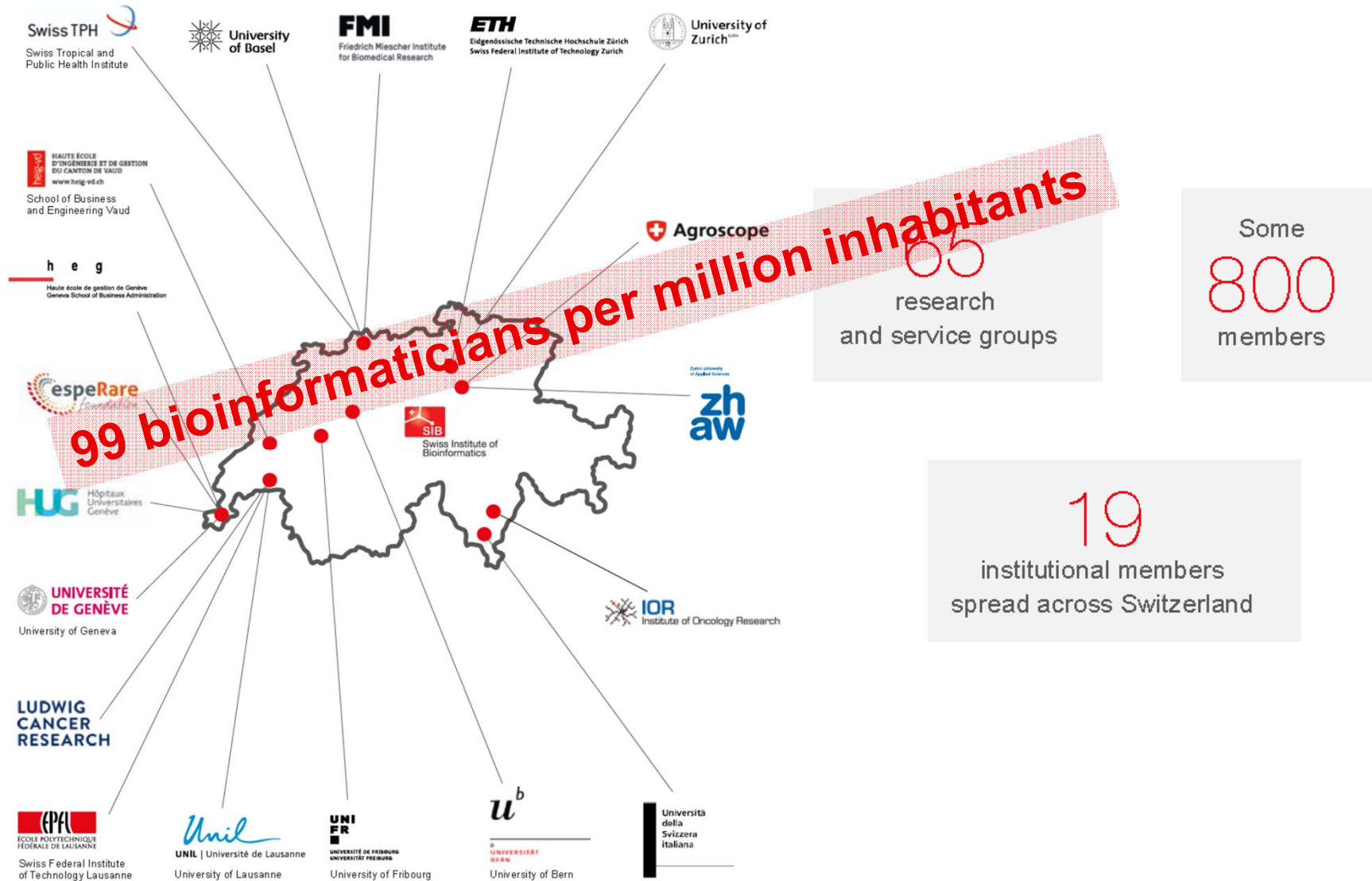


30 March 1998



Swiss Institute of  
Bioinformatics

# SIB Swiss Institute of Bioinformatics 2016





# SIB - Empowering advances in life sciences and health

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Providing life scientists with a state-of-the-art bioinformatics infrastructure, including resources, expertise and services

Federating world-class researchers



Delivering training in bioinformatics

# Resources for the international community

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More than

**150**

high-quality databases and software tools

available through [www.ExPASy.org](http://www.ExPASy.org)

# Long-term sustainability of its Core Resources is a priority for SIB

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## **SIB CORE RESOURCES**

9 Databases, software tools,  
and core facilities

Funded **long-term** as long as  
**impact** is high (SAB)

**Encourage innovation** through  
limited competitive funds  
for new resources

# Cases



1 -

UniprotKB/Swiss-Prot



# UniProtKB/Swiss-Prot knowledgebase



World-renowned encyclopedia of protein sequences and functional information

[www.uniprot.org](http://www.uniprot.org)

- Part of Uniprot (consortium of EBI/SIB/PIR)
- **550,000** manually annotated protein sequences
- **340,000** curated literature references
- A team of over **50** biocurators, developers, IT & support staff in Geneva
- More than **900,000** requests per month on the website

A screenshot of the UniProt website homepage. The page features a navigation bar with "UniProt" and a search box. Below the navigation bar, there is a mission statement: "The mission of UniProt is to provide the scientific community with a comprehensive, high-quality and freely accessible resource of protein sequence and functional information." The main content area is divided into several sections: "UniProtKB" (Swiss-Prot with 550,299 manually annotated and reviewed records, and TrEMBL with 59,718,159 automatically annotated and not reviewed records), "UniRef" (UniProt Reference Clusters), "UniParc" (a comprehensive and non-redundant database), and "Proteomes" (a set of proteins thought to be expressed by an organism). Below these are "Supporting data" links for literature citations, cross-ref. databases, taxonomy, diseases, subcellular locations, and keywords. At the bottom, there are sections for "Getting started" (text search, BLAST, sequence alignments, retrieve/ID mapping) and "UniProt data" (download latest release, statistics, how to cite us, submit your data, SPARQL).

# Can we do without (expensive) expert curation?

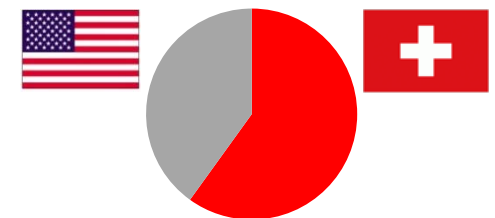
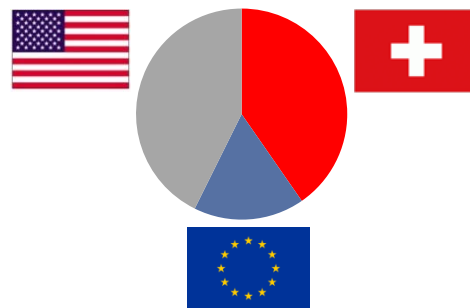
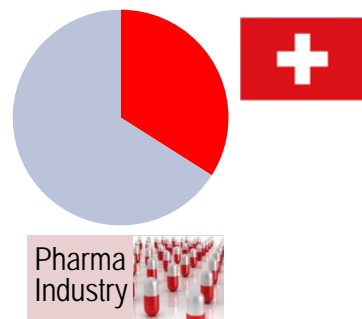
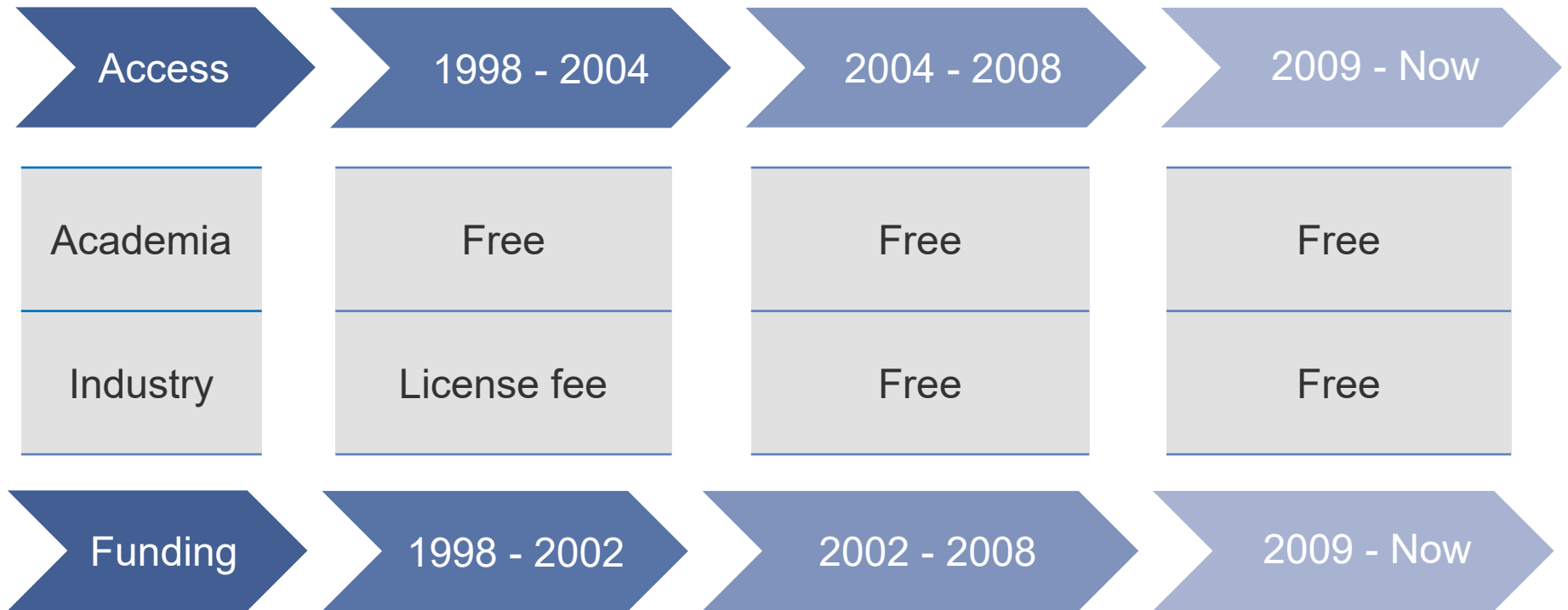
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Imbalance between funds for data generation versus data management

→ Valuable data from expensive research projects is not findable and reusable; research is repeated unnecessarily.

# Funding Swiss-Prot: History



# Upcoming Challenges

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- **Short-term duration of grants** reflect the lifetime of research projects
- **Competition for grants against (exciting) research proposals**
- **Agencies fund creation but not maintenance/renewal of resources**

Even a temporary loss of funding would result in losing experienced staff and lead to cuts in several important activities

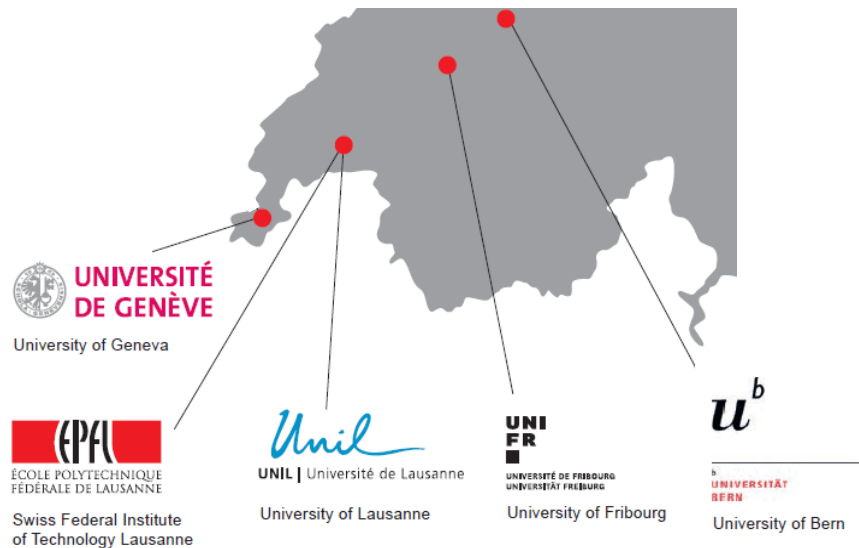


# Cases



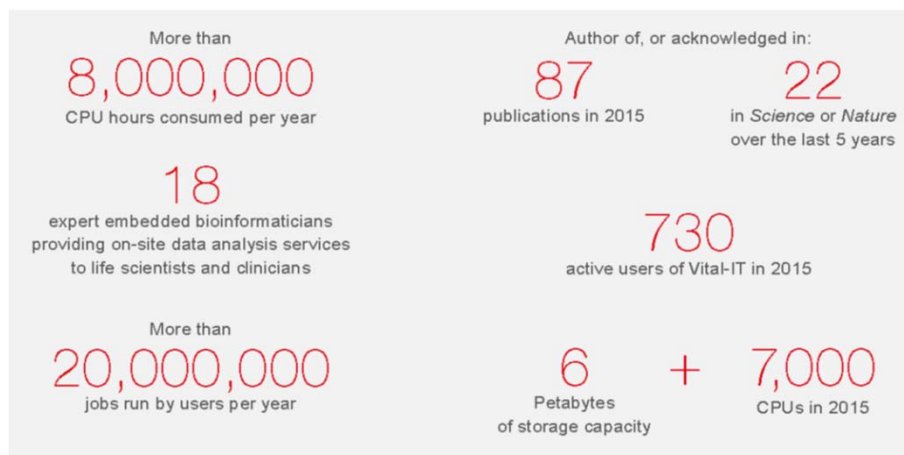
2 -  
Vital-IT

# Vital-IT – Bioinformatics Competence Centre



## Vital-IT provides

- competence centre to support research in areas ranging from sequence analysis, over molecular modelling, to image processing
- expertise in data management, biological data analysis, software development, web technology and trans-disciplinary research.



# Examples of R&D enabled through Vital-IT

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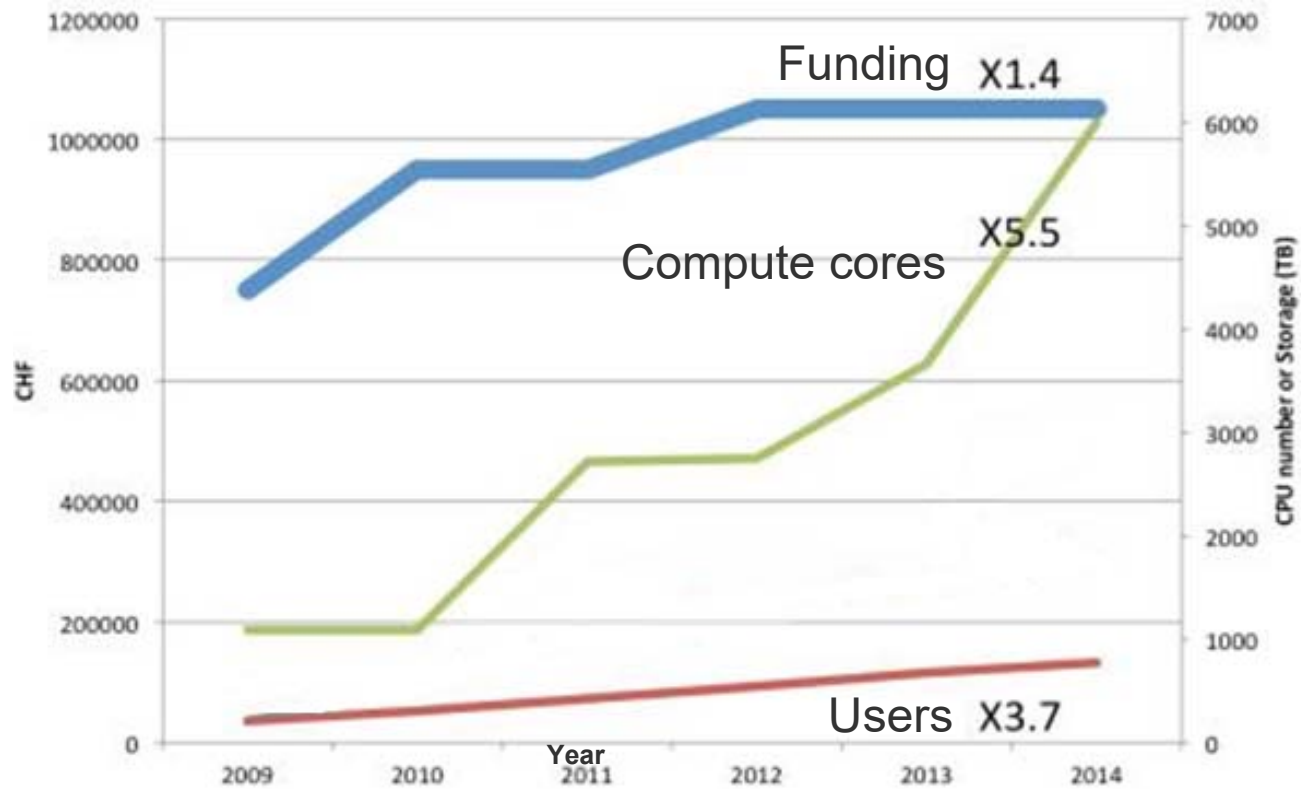
- Vital-IT supports the genomics and epidemiological surveillance of influenza through OpenFluDB and EMPRES-i for the FAO
- Training and education of reference laboratories in the world through e-learning.



- Vital-IT developed the algorithm behind the Non-Invasive Prenatal Diagnostic test for the detection of trisomy and chromosomal abnormalities by NGS in pregnant mothers.

# Funding Vital-IT – the comfort of a free lunch

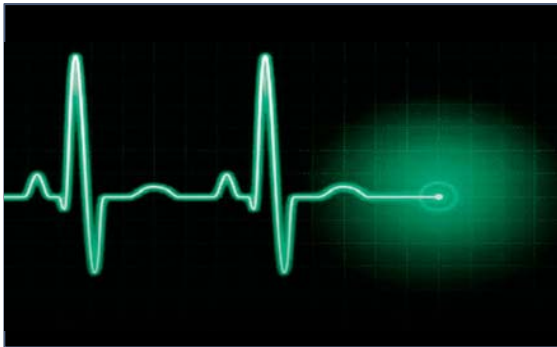
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# In Summary

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Long-term sustainability is part of SIB's genes



Sustaining our Core Resources requires a perpetual quest – a long-term solution MUST be found



Open Access does not mean Free Lunch – someone has to pay for it - Who ?



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Thank you for your attention

[www.sib.swiss](http://www.sib.swiss)

