



The de.NBI network – a dynamic and distributed infrastructure for bioinformatics in Germany

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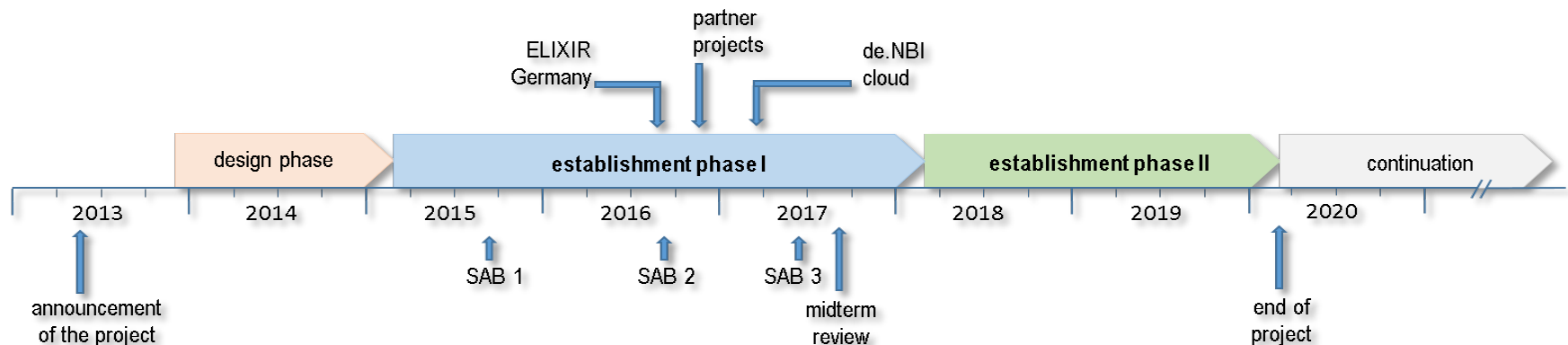
Kolloquium der Universitätsbibliothek
am 15. Dezember 2017
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Organization and governance structure of the de.NBI network

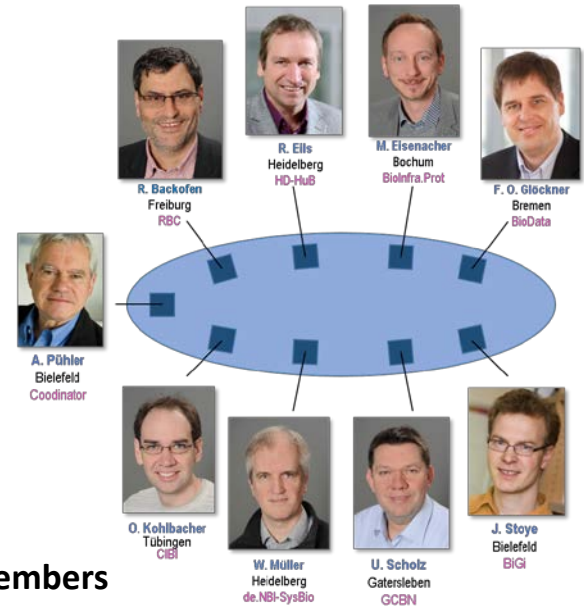
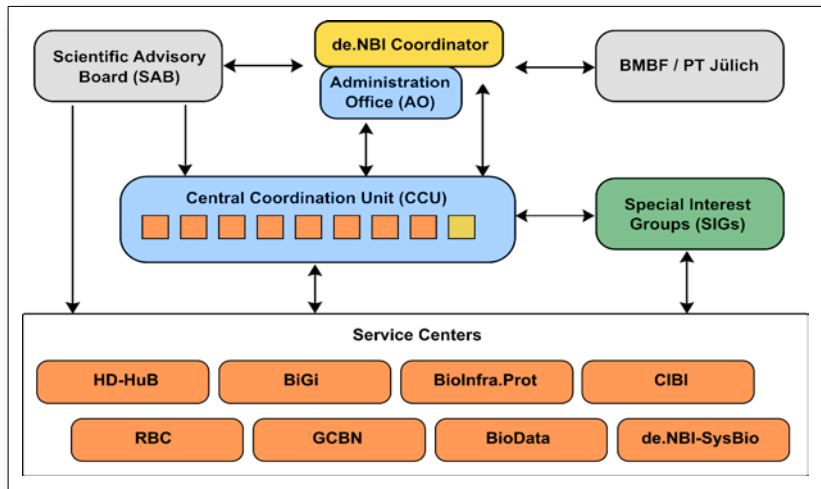
Mission statement and timeline of the de.NBI project

Mission statement

*The 'German Network for Bioinformatics Infrastructure' provides comprehensive **first-class bioinformatics** services to users in basic and applied life sciences research. The de.NBI program coordinates bioinformatics **training and education** in Germany and the **cooperation** of the German bioinformatics community with international bioinformatics network structures.*



Organization and governance structure of the de.NBI network



CCU members



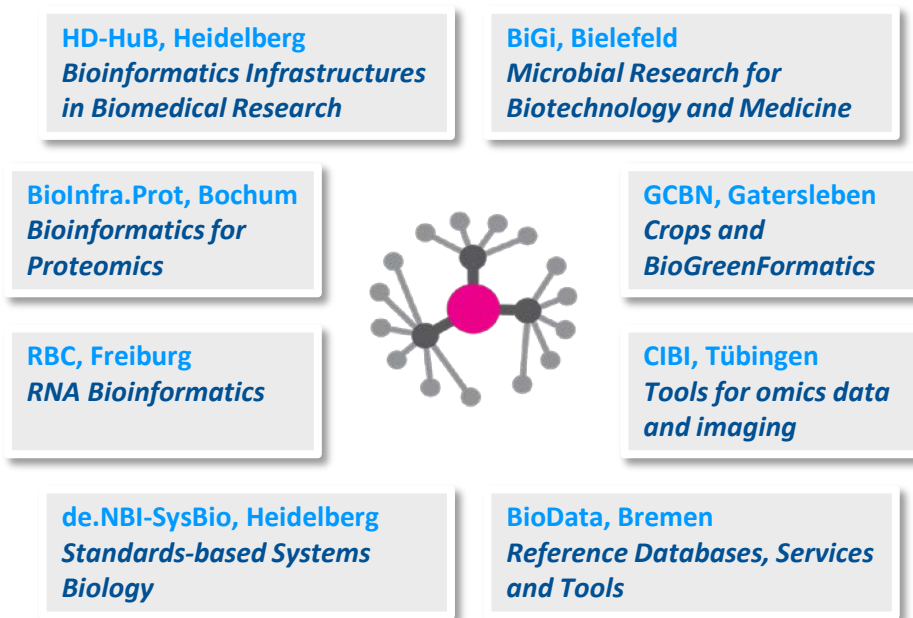
CAU members



SAB members

Organization and governance structure of the de.NBI network

Overview on de.NBI Service Centers and Special Interest Groups



The Special Interest Groups (SIGs) of the de.NBI network, and their chairpersons (status 04/2017)

SIG	Title	Chair
SIG 1	Communication and outreach	J. Stoye, F. Sprengel
SIG 2	Service and service monitoring	F. O. Glöckner, U. Scholz
SIG 3	Training and education	O. Kohlbacher, D. Wibberg
SIG 4	Infrastructure and data management	M. Eisenacher, W. Müller
SIG 5	de.NBI development	A. Pühler, U. Kummer
SIG 6	de.NBI cloud	C. Lawerenz, A. Sczyrba
SIG 7	ELIXIR cooperation	A. Goesmann, H. Gundlach

Initial tasks of the de.NBI network

Services and tools offered by de.NBI



Summary of tools offered by the eight service centers:

- **115 services** are listed on the de.NBI web page
- **~ 100 services** are registered in the 'BioTools' registry hosted by ELIXIR
- **76 services** are announced to be monitored using the tool 'SurveyMonkey'
- **35 flagship services** were offered to ELIXIR

Initial tasks of the de.NBI network

Training and education carried out by de.NBI

Summary on training courses:

	2015	2016	2017
training courses	17	40	68
participants	329	882	≥ 1,500

Summary on summer schools:

- **Microbial Bioinformatics**, September 2015 in Gießen
- **From Big Data to Big Insights**, September 2016 at Schloß Dagstuhl, Wadern
- **Cloud Computing for Bioinformatics**, June/July 2017 in Gießen
- **Computational genomics and RNA biology**, September 2017 in Berlin



Galaxy Workshop on HTS data analysis, 2016 in Freiburg



de.NBI Summer School 2016 at Schloß Dagstuhl, Wadern

Initial tasks of the de.NBI network

Communication activities of de.NBI

In order to reach users and also de.NBI members, communication plays an important role. This includes the following projects:

- The **de.NBI web page**
- The **de.NBI Twitter channel**
- The **de.NBI Youtube channel**
- The **de.NBI Flyer**
- The **de.NBI Quarterly Newsletter**
- The **de.NBI Handbook**
- **General articles**
- A **special issue** of the Journal of Biotechnology



Additional tasks of the de.NBI network

Integration of partner projects into the de.NBI network

- In order to close scientific gaps in the de.NBI network, a BMBF call for partner projects was launched in November 2015.
- An international reviewer panel finally selected eight joint projects with altogether 16 partners which became active 1 November 2016.
- The eight partner projects cover the following topics and were incorporated into the existing service centers:

Project / Service Center	Topic	Project / Service Center	Topic
LIFS / BioInfra.Prot	lipidomics	NBI-ModSim / de.NBI-SysBio	modelling
MASH / CIBI	metabolomics	DAIS / CIBI	image analysis
Enzyme structure / BioData	structural biology	de.NBI-epi / HD-HuB and RBC	epigenetics
de.STAIR / RBC	RNA sequences	MetaProtServ / BiGi	metaproteomics

Additional tasks of the de.NBI network

The collaboration with ELIXIR

- August 2016: BMBF signed the **ELIXIR Consortium Agreement** to establish ELIXIR Germany.
- ELIXIR Germany is run by the so-called **German ELIXIR Team**.
- As a next step, the **German Node Application** was established, proposing that the initial de.NBI projects contribute to the German ELIXIR node.
- A further document, the **Collaboration Agreement**, is not yet signed.
- ELIXIR Germany is already involved in many ELIXIR activities like **Implementation Studies, ELIXIR Core Data Resources**, and **ELIXIR Use Cases**.

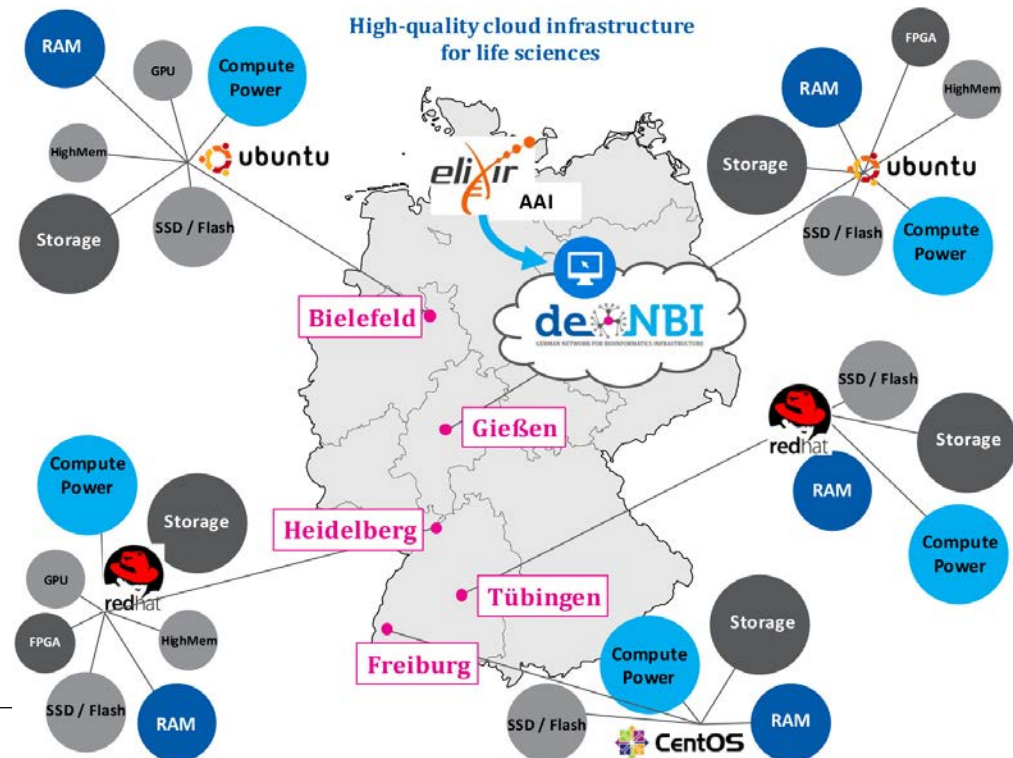


The German ELIXIR Team	
Head of Node:	Prof. Dr. A. Pühler
Deputy:	Prof. Dr. A. Tauch
Technical coordinator:	Prof. Dr. R. Backofen
Deputy:	Dr. B. Grüning
Training coordinator:	Prof. Dr. O. Kohlbacher
Deputy:	Dr. D. Wibberg
Members of the ELIXIR Board	Prof. Dr. R. Eils Prof. Dr. A. Goesmann Dr. J. Mohr, BMBF

Additional tasks of the de.NBI network

Establishment of a de.NBI cloud

- In July 2016, BMBF provided 6 Mio EURO and 6 scientific positions to start the establishment of a **compute component of the de.NBI cloud**.
- The Universities located in **Bielefeld, Gießen, Freiburg, Heidelberg** and **Tübingen** were selected to participate in the federated cloud project.
- In July 2017, BMBF provided again 6 Mio EURO to add a **storage component to the de.NBI cloud**.
- The people responsible for the de.NBI cloud in Bielefeld are S. Albaum and A. Sczyrba.



Future aspects of the de.NBI network

The role of de.NBI for the future of life sciences

- In Germany, an established bioinformatics infrastructure is crucial for further development of life sciences.
- In Germany, de.NBI forms and should form the basis for the national node in ELIXIR.
- It has to be concluded that de.NBI is an essential infrastructure which has to be maintained in future.

Future aspects of the de.NBI network

Model for the sustainable continuation of the de.NBI network

- Integration into one of the steadily financed BMBF organizations such as ‚Helmholtz Association‘ or ‚Leibniz Association‘.
- Implementation of a new funding structure for dynamic and distributed infrastructures by BMBF.

The de.NBI network – a dynamic and distributed infrastructure

Summary of the presentation

Vision

- The de.NBI network – a dynamic and distributed infrastructure – should become one of the most powerful national bioinformatics infrastructures in Europe.

Achievements

- Establishment of **service and training** activities
- Incorporation of de.NBI as a **national node into ELIXIR**
- Establishment of a **de.NBI specific cloud** at five universities

Future activities

- Development of a marketing concept for the de.NBI network
- Establishment of an **industrial branch** of de.NBI
- Development of a plan for the **sustainable continuation** of the de.NBI initiative

The de.NBI network – a dynamic and distributed infrastructure

Many thanks for your attention!



The plenary meeting of the de.NBI network at Bielefeld University in October 2017

QUESTIONS ?