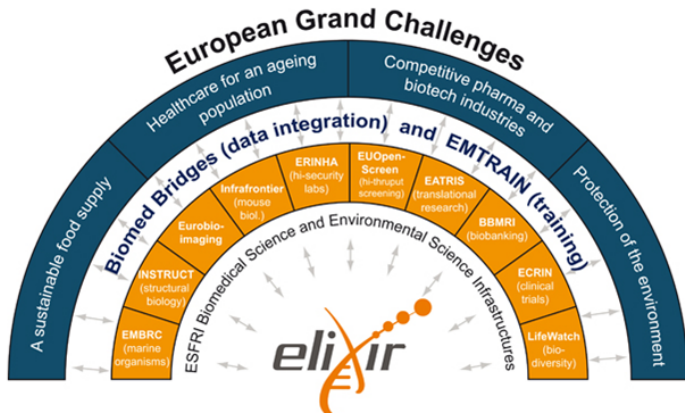


# Experiences with ELIXIR in the Czech Republic

Luděk Matyska and Jiří Vondrášek

EGI TF, 18.9.2012

## European Infrastructure for Biological Data (ESFRI)

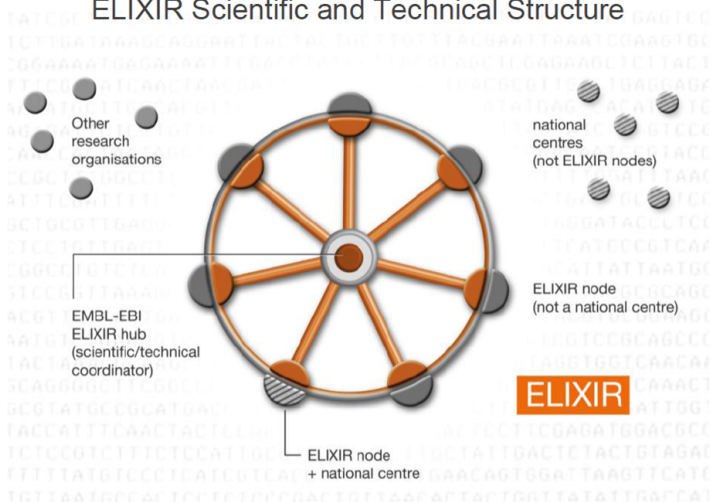


# ELIXIR node suggestion (2011)



# ELIXIR structure

## ELIXIR Scientific and Technical Structure



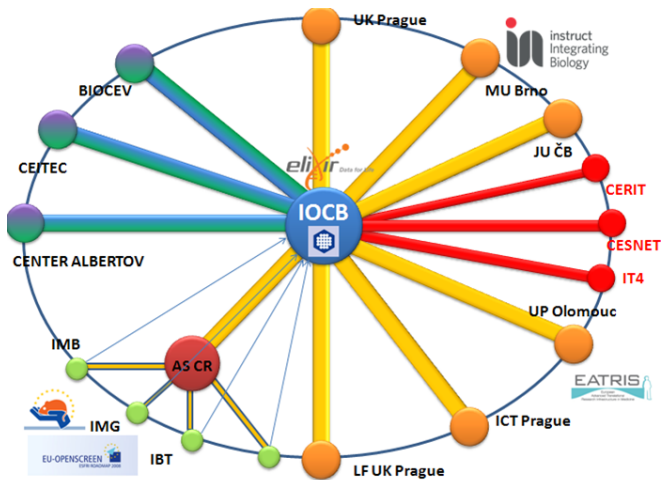
# ELIXIR and Czech Republic

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- ▶ Long term informal collaboration with EMBL
  - ▶ Czech Republic has not been a formal member
- ▶ Surge of activities two years ago
  - ▶ Several meetings co-organized with Ministry of Education and ELIXIR HQ
  - ▶ Large national players involved

- ▶ Czech representation for ELIXIR related activities
- ▶ Composed of
  - ▶ Institutions with large Life Science program
  - ▶ Large projects funded from cohesion funds
  - ▶ *e-Infrastructure institutions*
- ▶ Coordination
  - ▶ Institute of Organic Chemistry and Biochemistry Academy of Science (UOCHB)

# ELIXIR\_CZ Composition



- ▶ Aim
  - ▶ National ELIXIR representation
  - ▶ Deployment of ELIXIR standards
  - ▶ Data deposits, projects/activities coordination
  - ▶ Funding coordination and distribution
- ▶ Governance through representatives of participants
- ▶ Scientific content
  - ▶ Small molecules developed for therapy
    - ▶ in-silico tests, QSAR analysis
  - ▶ Coordination and support for Czech bioinformatics projects
    - ▶ Small databases
  - ▶ Large system DNA sequencing-related related projects
    - ▶ Large data volumes and their processing



# National Collaboration and IT

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- ▶ Three e-infrastructure projects official part of national roadmap of large research infrastructures
  - ▶ CESNET (MetaCentrum), CERIT-SC, IT4Innovations
- ▶ All three part of ELIXIR activities since the beginning
  - ▶ Constituting members of ELIXIR\_CZ
- ▶ Direct IT support
  - ▶ First national node at UOCHB
  - ▶ Hardware (servers) and connectivity provided by CESNET
  - ▶ Application and higher level support provided by CERIT-SC
  - ▶ Currently small compute and data storage dedicated node under the governance of MetaCentrum (Czech NGI)
  - ▶ Additional flexible (cloud) compute and data resources are available both at MetaCentrum and CERIT-SC

# Current Status

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- ▶ ELIXIR\_CZ Consortium in preparation
  - ▶ 5 Universities
  - ▶ 3 new Biomedical Research Institutes/Facilities
  - ▶ All major e-infrastructure centers
- ▶ Node at UOCHB operational
  - ▶ Unique Database of small therapeutically relevant molecules
  - ▶ Tools and methods for In Silico pro-drug testing

# Future Plans

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- ▶ Work on further refinement of ELIXIR\_CZ node IT architecture
  - ▶ Bioinformaticians and e-infrastructure experts jointly involved
  - ▶ Extending the node facilities through grid and cloud environment
  - ▶ Cloning the successful node configuration on the cloud
- ▶ Helping to shape the national e-infrastructure landscape
  - ▶ All major players are involved
  - ▶ The actual data will start to flow in 18 months

# Conclusion

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- ▶ Start of successful collaboration with large non-HEP community
- ▶ Mutual interest in future work
  - ▶ Czech ELIXIR community acknowledges lack of up to date IT experience
  - ▶ e-infrastructure partnership on governance of ELIXIR\_CZ
- ▶ New strong partner to help shape future architecture of pan European application neutral e-infrastructure
  - ▶ ELIXIR has primary focus on data
  - ▶ but data must be properly processed
- ▶ The same general vision from CERN laid foundations to contemporary EGI
- ▶ Collaboration with Life Science communities through ELIXIR could define EGI next generation