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EUROPEAN PARLIAMENT

*Scientific Technology  
Options Assessment*

**STOA**

# **Computer networks for research and education:**

## **A European success story – New challenges for policy makers**



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# The impact of research networks on the methodology and efficiency of research: Biomedical and social sciences

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# Research e-infrastructures

- RI are key components of the ERA
- RI are not confined to big science (CERN, ESO, ...) but open also to new research fields
- Biomedical Sciences and Social Sciences and Humanities are not « new » user communities of the NRENs but they have increasing needs for dedicated e-infrastructures services to support their research activities: Access, Sharing...



# Research infrastructures for BMS and SSH

- Some examples :
  - **DARIAH** (Digital Research Infrastructure for the Arts and Humanities)
  - **CLARIN** (Common Language Resources and Technology Infrastructure)
  - **ESS** (European Social Survey)
  - **ELIXIR** (European Life Sciences Infrastructure For Biological Information)
  - **ECRIN** (Infrastructure for clinical trials and biotherapy facilities)
  - **EATRIS** (European Advanced Translational Research Infrastructure in Medecine)



# Why do they use the NRENs for?

- ESFRI roadmap and EARNEST study report highlights needs for virtual environments, distributed databases, Real-Time Collaboration tools, digital repositories, global authentication and authorization infrastructures, etc..
- Slovenian conference on Research Infrastructures (Brdo, 4-5<sup>th</sup> March) emphasized the importance of e-infrastructures
- Focus on ACCESS to data and instruments
- > **NRENs support the diversity of technologies to ensure resilience, ubiquity and permanency.**



# What evolution of NRENs can bring to BMS and SSH research

- Access to data
- Sharing information
- Virtual organizations
- New remote instruments
  - ==> Full ubiquity
  - ==> Quality of service (real-time, priorities)
  - ==> Interoperability



# What evolution of NRENs can bring to BMS and SSH research

- Global connectivity
- New ways to perform research by crossing disciplines
- New support tools (cohorts, surveys, etc...)
- Unique world of knowledge



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