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data infrastructures for open science

Check Against Delivery
Seul le texte prononcé fait foi
Es gilt das gesprochene Wort

ALLEA SYMPOSIUM

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1. Introduction

Thank you for inviting the European Commission to participate in this ALLEA Symposium on such a relevant and timely subject of **open infrastructures for open science**.

More or less one year ago, Vice President Neelie Kroes met ALLEA in Rome in an event about Science in the 21st Century. I am therefore very pleased to continue this dialogue because we share the ambition to consolidate Europe as a world leader and an internationally trusted partner in research.

Whether it's scientific results, the data that feed them, the software that sits beneath them, or the education resources that help us teach and learn: open science practices transform every scientific discipline and enable cross-disciplinary research.

2. The role of data in the 21st Century science

Science in the 21st Century is still science. It is still about pushing further the frontiers of knowledge. It is still about understanding how nature works, to improve the quality of our lives. It is still about innovating and creating the bases of socio-economic development by exploiting new knowledge. It is still about making this knowledge accessible and widespread through education and development of skills. But you will agree that 21st Century Science has some aspects that challenge the way of work of researchers, scholars, educators, students. One of these things is… data.

Research data became an important asset in the modern discovery process. More and more data are produced as a result of our continuously improving ability to measure with precision, to analyse in more depth and to process data volumes never seen before. And data generates more data!

In fact, research data is also produced by processing data with high performance computers in large scale simulations. Therefore we can say that modern science in all fields of knowledge is relying on data, lots of data that are complex and diverse.

There is no "one size fits all". There are specificities and cultural variations in different scientific domains but all of them face the same challenge: acquiring the capacity and the skills to seize the opportunities that information and communication infrastructures provide.

The process of getting ready and "gain from the rising tide of scientific data" – as the High Level Group on Scientific Data put it – will succeed if the research and education communities take a leading role. Developing new skills, adopting new methods for research and education, modernising our tools, services and infrastructures and… changing cultures will require collaboration between different stakeholders: universities, libraries, data centres, publishers, computer centres, funders.

3. Openness as enabler of a global data-driven science

The European Commission is working to ensure an open access framework for publications stemming from EU-funded research. We will progressively open access to the research data, too. We're asking national funding bodies to do the same.

The European Commission is also looking at other important dimensions of data infrastructures such as the big challenges of data discoverability, quality assessment and long-term preservation. It is such a big set of challenges, shared by funders all over the world that only a global effort can be effective. We cannot forget that with the World Wide Web scientific communication became global and all started in CERN, with the objective of sharing research information.

The European strategy in the area of data infrastructures addresses the challenges of access and long term preservation recommending that results should become widely and openly accessible, preserved and curated in a cost effective way in order for citizens to trust the scientific enterprise as generator of the future knowledge and wealth.

The European Commission is supporting through the iCordi initiative the recently launched Research Data Alliance. In Rome, one year ago, at the ALLEA event, Vice-President Neelie Kroes Europe announced that we were working with international partners on a global approach so that the world's scientific resources could work together, interoperate, and be open to discovery. And one month ago the Research Data Alliance was launched by the EU hand in

hand with the USA and Australia aiming at enlarging it to a truly global forum for global coordination to define a global data infrastructure.

Open data e-Infrastructures increase scope, depth and economies of scale of the scientific enterprise; they are catalysts of new and unexpected solutions to emerge by global and multidisciplinary research. They bridge the gap between scientists and the citizen and are enablers of trust.

The European Commission conscious of the strategic importance of reliable and high-performance data infrastructures for the European science and has proposed a framework for action for data infrastructures to be developed in Horizon 2020, in coordination with Member States and stakeholders.

4. Data Infrastructures in Horizon 2020

Investment in research and innovation is investment in sustainable jobs and growth. Achieving the EU's agreed target of investing 3% of GDP in R&D could create 3.7 million jobs and increase annual GDP by close to 800 billion euro by 2025. Horizon 2020 is a key instrument for funding research and innovation and for achieving overall policy

goals of Europe 2020 strategy. And information and communication technologies are a crucial part of it.

In respect of data infrastructures, we have concluded recently an on-line consultation on the main priorities to define the **European Framework for Action on data infrastructures**. We are very pleased with the amount and quality of feedback received by more than 100 institutions and organisations responding positively to the proposed framework.

The approach to build the data infrastructures that Europe needs in the 21st Century has to combine the expertise of scientific communities that know best their needs and the meaning of the data they produced with the expertise of ICT communities capable of exploring the limits of high bandwidth communication, high-performance computing, open software and virtual research environments.

We can only be successful if the research community is actively engaged and leading the way…

… and we ask ALLEA to support us making this strategy a real success!