European Cloud Initiative to give Europe a global lead in the data-driven economy

Brussels, 19 April 2016

The Commission today presented its blueprint for cloud-based services and world-class data infrastructure to ensure science, business and public services reap benefits of big data revolution.

Europe is the largest producer of scientific data in the world, but insufficient and fragmented infrastructure means this 'big data' is not being exploited to its full potential. By bolstering and interconnecting existing research infrastructure, the Commission plans to create a new **European Open Science Cloud** that will offer Europe's 1.7 million researchers and 70 million science and technology professionals a virtual environment to store, share and re-use their data across disciplines and borders. This will be underpinned by the **European Data Infrastructure**, deploying the high-bandwidth networks, large scale storage facilities and super-computer capacity necessary to effectively access and process large datasets stored in the cloud. This world-class infrastructure will ensure Europe participates in the global race for high performance computing in line with its economic and knowledge potential.

Focusing initially on the scientific community - in Europe and among its global partners -, the user base will over time be enlarged to the public sector and to industry. This initiative is part of a package of measures to strengthen Europe's position in data-driven innovation, to improve competitiveness and cohesion and to help create a Digital Single Market in Europe (press release).

Carlos **Moedas**, Commissioner for Research, Science and Innovation, said: "*Our goal is to create a European Open Science Cloud to make science more efficient and productive and let millions of researchers share and analyse research data in a trusted environment across technologies, disciplines and borders. We listened to the scientific community's plea for an infrastructure for Open Science and with this comprehensive plan we can get down to work. The benefits of open data for Europe's science, economy and society will be enormous*."

Günther H. **Oettinger**, Commissioner for the Digital Economy and Society, said:"*The European Cloud Initiative will unlock the value of big data by providing world-class supercomputing capability, high-speed connectivity and leading-edge data and software services for science, industry and the public sector. With this initiative, our ambition is to be in the global top-three in high performance computing by 2020. We will also be looking into the potential of quantum technologies which hold the promise to solve computational problems beyond current supercomputers.*"

The European Cloud Initiative will make it easier for researchers and innovators to access and re-use data, and will reduce the cost of data storage and high-performance analysis. Making research data openly available can help boost Europe's competitiveness by benefitting start-ups, SMEs and data-driven innovation, including in the fields of medicine and public health. It can even spur new industries, as demonstrated by the Human Genome Project.

The Commission will progressively put in place the European Cloud Initiative through a series of actions, including:

- As of 2016: creating a **European Open Science Cloud** for European researchers and their global scientific collaborators by integrating and consolidating e-infrastructure platforms, federating existing scientific clouds and research infrastructures, and supporting the development of cloud-based services.

- 2017: **opening up by default all scientific data** produced by future projects under the €77 billion Horizon 2020 research and innovation programme, to ensure that the scientific community can re-use the enormous amount of data they generate.

- 2018: launching a flagship-type initiative to accelerate the nascent development of **quantum technology**, which is the basis for the next generation of supercomputers.

- By 2020: developing and deploying a large scale **European high performance computing, data storage and network infrastructure**, including by acquiring two prototype next-generation

supercomputers of which one would rank among the top three in the world, establishing a European big data centre, and upgrading the backbone network for research and innovation (GEANT).

In addition to the European research community, the European Open Science Cloud and the European Data Infrastructure will be accessible and bring benefits for a host of other users:

- **Businesses** will have cost-effective and easy access to top level data and computing infrastructure, as well as a wealth of scientific data enabling data-driven innovation. This will particularly benefit **SMEs**, which typically lack access to such resources.

- **Industry** will benefit from the creation of a large-scale cloud eco-system, supporting the development of new European technologies such as low-power chips for high performance computing.

- **Public services** will benefit from reliable access to powerful computing resources and the creation of a platform to open their data and services, which can lead to cheaper, better and faster interconnected public services. Researchers will also benefit from online access to the wealth of data created by public services.

The public and private investment needed to implement the European Cloud Initiative is estimated at **€6.7 billion**. The Commission estimates that, overall, **€2 billion** in Horizon 2020 funding will be allocated to the European Cloud initiative. The estimation of the required additional public and private investment is **€4.7 billion** in the period of 5 years.

More information

- Press release: Commission sets out path to digitise European industry

- Questions and answers on the set of measures to digitise European industry

Communications adopted today:

- Communication on Digitising European Industry: Reaping the full benefits of a Digital Single Market

- Communication on a European Cloud Initiative-Building a competitive data and knowledge economy in Europe

- Communication on an EU e-Government Action Plan 2016-2020. Accelerating the digital transformation of government

- Communication on Priorities of ICT Standardisation for the Digital Single Market

On social media

#DigitiseEU

#DigitalSingleMarket

#OpenScience

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