



Science 2.0 Conference – Hamburg, 26-27 March 2014

Opening by Neelie Kroes, Vice President of the Commission and Commissioner for the Digital Agenda (Video message)

Hello everybody!

Everywhere we look, we are seeing the new opportunities that come from digital innovation and from opening up.

From open access to public data – to the amazing ideas startups can develop on the unrestricted Internet – we are seeing the transformative power that results from pairing "open" with "digital".

And science is no exception.

Scientists have long found ways to open up and share. From the learned society to the peer-reviewed journal, the community has developed many robust and effective ways to examine, compare and learn.

Now digital technology and tools offer the chance for a new transformation: improving research and innovation and making them more relevant for citizens and society. We are moving towards open, digital science – a trend that is gradual but, I believe, unstoppable. That trend, and the desire to embrace it, comes, not from politicians, but from the scientific and academic communities themselves. But I am determined to support it.

Today we see the emergence of a new digital citizen. People with greater access to information, people empowered to shape the world around them. More able to both learn: and participate.

So new approaches to science can help lower the barriers, and improve the impact. For example, Open Access allows citizens, innovators, and society to see the results of research investment — and benefit directly.

Horizon 2020, running from 2014 to 2020, is the EU's biggest ever investment in research and innovation. And all its publications will become openly and freely available in this way. Plus, we are also running an ambitious pilot on opening up access to research data.

But it's not just about increased knowledge – it's also about increased participation. "Citizen Science" lets people have an active role across the research process: from setting goals, to contributing to analysis, to ensuring results are applied to the right challenges.

Another specific aspect, often called "Science two-point-zero", focuses on using social media in research and science: by scholars, students and citizens. That is an important aspect of the wider move. More open by design, more responsive and effective, it is a good illustration of technology's potential.

Of course, scientists also need the right infrastructure: sophisticated, robust and up-to-date. From archaeology to zoology, researchers in many fields could not do their work without fast networks connecting them to other scientists: to their data, tools and computing capacity. Managing and manipulating data in a way that is so easy and seamless it is often almost invisible.

GÉANT, Europe's superfast research network, is today reaching speeds up to two Terabits per second, and used by thirty-two thousand universities and institutions. Providing the infrastructure to store and manage data, the high performance computing to process, and the open repositories to share results and data.

Virtual Research Environments that help scientists work together – wherever they are.

Of course, the move to open digital science raises many further questions.

For example: how should researchers and their careers be evaluated? – and how can those metrics be modernised and improved? In particular, how should teaching, outreach, communication and collaboration be taken into account – in addition to "citation counts" or the number of publications?

And what new indicators should we start using to measure impact and importance? – more granular and comprehensive?

Likewise: how do we ensure and measure quality in research? Is traditional, closed and largely anonymised peer review still the best we can get? Or does the internet enable us to open it up, for example by deploying it earlier on in the publication process; or by enabling open, online peer review alongside that process? Some innovative publishers are already experimenting with this type of model, and I applaud them.

I invite you to consider these questions in your thinking and discussions. Over the next two days and beyond.

Finally, let me be very clear on one thing: this is not about displacing your expertise, that of scientists and scholars. And nor is it about bringing politics into the outcomes. But I know that the right framework and infrastructure can support your work. So that you can operate to full capacity and interact with a fast-changing world. The right framework can enable research that is open, collaborative and relevant – with the greatest possible impact on society.

That is the potential of open, digital science.

Thank you.