Do Not Forget the Research Sector

Science Europe Response to the European Commission Consultation on the European Strategy for Data

The European Commission and Science Europe have developed and maintained an open and constructive relationship over the years to strengthen the European research landscape. Science Europe therefore welcomes the opportunity to provide its views on the 'European Strategy for Data' put forward by the Commission.

The 'European Strategy for Data' aims to enable the digital transformation of society through more and better access to data. Science Europe fully supports that goal, as it believes that data accessibility and re-use of data by the citizenship at large can benefit businesses and society as a whole.

Science Europe, as the representative of major national research performing and research funding organisations, has consistently promoted data accessibility and good practices for data management for many years. It therefore has vast experience to share.[1]

The following presents Science Europe's response to the European Commission's 'European Strategy for Data'.

The research sector as experienced data producer and user

High-quality data are one of the cornerstones of research. Science Europe agrees with the European Commission that "the value of data lies in its use and re-use".[2] To allow the re-use of data by other researchers, data should be made available according to the FAIR principles, meaning that data need to be Findable, Accessible, Interoperable, and Re-Usable. The paradigm shift towards more Open Science, including FAIR data, and the current development of the European Open Science Cloud (EOSC), in which Science Europe is actively involved, will further reinforce a situation where researchers have an ever-expanding amount of FAIR data at their disposal. The relevance of data sharing has become even more evident through the current COVID-19 crisis, as researchers all over the world depend on access to existing data to seek solutions for treatment, to develop vaccines, and investigate the impact of the pandemic on society and economy.

Science Europe would like to stress that the research sector is an important producer and user of data and contributes considerably to important economical and societal developments, such as healthcare, mobility, and environmental improvements. With its extensive experience, expertise, and available skills,

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[1] See, for example: Science Europe, (2019). Practical Guide to the International Alignment of Research Data Management: https://scieur.org/rdm-guide

[2] A European Strategy for Data, p. 6

the research sector can substantially contribute to the development of data policies. Any actions undertaken by the European Commission should therefore also take into account the research sector, which will not only benefit from a broader access to more varied datasets, but will also feed knowledge back to other sectors. It is therefore important to also clearly regulate the access to and use of data stemming from the private sector for conducting research.

The experiences, lessons learnt and good practices of the research sector should feed into any broader, cross-sectoral legislative proposals or policy developments. Science Europe has, for example, gathered good practices of organisations who successfully developed research data management policies on organisational or national level. These good practices can inspire other organisations to undertake the same steps.[3] Such practices can also feed into any actions undertaken by the European Commission and should also benefit the research sector, which is strongly dependent on high-quality data. The current establishment of the EOSC, which will depend on standardisation, tools, and services that allow access to and re-use of data, provides important insights on how to develop sustainable and federated data infrastructures. These insights should feed into developments towards broader access and re-use of data across sectors.

An overarching EU data strategy aligned with sectoral policies and practices

To avoid contradiction and confusion, an overarching European data strategy should take into account existing sectoral policies.

An overarching European strategy for data that provides clear rules and standards for all actors involved can be beneficial for businesses, society, and research. Science Europe is in favour of an overarching European data strategy that allows data accessibility across different sectors and takes the specific sectoral needs into account.

Such a European strategy will also be favourable to the development and sustainable implementation of the EOSC. The success of the EOSC will depend on how useful it will be for its users. A clear legislative and policy framework, along with common standards and rules for all involved stakeholders[4] on access to data, data interoperability, and data quality, amongst others, will be a significant factor to ensure the usefulness of the EOSC.

However, a broad data strategy needs to recognise the particularities of highly data-dependent sectors that already have standards in place, such as research. The research sector broadly promotes research data being FAIR and as open as possible. There are some reasons why open data policies should not be generalised by default. These reasons include personal privacy, national security, and competitiveness. In public–private collaborations even more legal requirements will need to be taken into account, such as intellectual property rights. Data accessibility should therefore always follow the principle 'as open as possible, as closed as necessary'.

These considerations should apply to all kinds of data, including the list of high-value data sets the European Commission intends to establish. They are also valid when data are made accessible across sectors.

Science Europe strongly agrees with the European Commission that national and sectoral specificities need to be taken into account. It will be important to ensure that general and sectoral data policies are

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[3] Science Europe, (2020). Implementing Research Data Management Policies Across Europe: Experiences from Science Europe Member Organisations: https://scieur.org/rdm-bestpractices
[4] Research organisations, service providers, researchers as end users, and so on.

complementary to successfully promote cross-sectoral data accessibility. An example of a methodology that could be adapted to other frameworks can be found in Science Europe's 'Framework for Discipline-specific Research Data Management'[5]. This document presents a framework for the creation of domain-specific protocols that can be used as standardised templates, reducing the administrative burden on researchers, research organisations, and funders.

EU investments in technology and infrastructures and a European federation of infrastructures

Data accessibility requires the establishment of clear standards for deposition, preservation, interoperability, and re-use. It needs developing IT tools, infrastructures and skills, sharing of best practices, and transparency policies in federated infrastructures. Appropriate investment in modern facilities is another important factor. Necessary funds also need to be foreseen on a long-term basis to allow the sustainability of such infrastructures.

Science Europe is in favour of fostering data accessibility through federated infrastructures. This is clearly illustrated by Science Europe's support and engagement in the development of the EOSC and the related future partnership. Also, modern infrastructures are important to foster the use and re-use of data, as they often hold unique and valuable data whose re-use increases their initial value. It is to be noted, however, that the European Commission's proposals focus primarily on economic and societal benefits, as well as private actors. Science Europe invites the Commission to ensure that the role that the research sector has been playing for a long time in a data-agile environment will be duly taken into account. Research is the basis for IT as a whole and technologies for data storage in particular. It is therefore crucial to also invest in basic and engineering sciences.

It needs to be ensured that any investments in modern data infrastructures that are funded with money from the future framework programme for research and innovation 2021–2027, Horizon Europe, are beneficial for the research sector.

European Data Spaces

The development of the EOSC demonstrates the complexity of setting up data spaces and can provide insights on how to proceed with creating further sectoral data spaces.

Science Europe welcomes that the European Commission intends to build on the "ongoing experience with the research community with the European Open Science Cloud"[6] when developing other data spaces. It is important to draw lessons from the EOSC developments. Building a sectoral data space is multifaceted and requires the engagement of all relevant actors. Experiences from the current EOSC governance since January 2019 give a clear indication of the huge complexity of this task. Discussing sustainability (including financial and legal elements), technical needs, and rules under which stakeholders will be allowed to contribute to the data space under specific conditions, calls for realistic timelines. Sufficient time also needs to be foreseen for the integration of existing national infrastructures into a European data space. It is also essential to involve all the stakeholders concerned early in the development process. Furthermore, it is crucial to consider that other sectors may be impacted by sectoral data spaces. The data spaces should therefore be complementary. Data spaces such as on the

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[5] Science Europe, (2018). Guidance Document Presenting a Framework for Discipline-specific Research Data Management: https://scieur.org/guidance-rdmps
[6] A European Strategy for Data, p.22

European Green Deal, on health, on energy, or on agriculture do have strong links with many research fields.

Science Europe strongly recommends building on lessons learnt from the EOSC development to avoid difficulties such as too tight timelines or stakeholders' complaints about their lack of involvement.

Data Governance

A clear set of legal, organisational, technical, and financial rules, tools, and processes is crucial to promote access to high-quality data. The research sector has proven experience to build on when developing common policies, practices, and technical standards for data sharing and data management.

General rules and standards for data accessibility help to increase the use and re-use of data if these rules and standards are fit for all research. Data governance principles and practices, such as FAIR data and aligned organisational rules for research data management, are largely implemented by research stakeholders and demonstrate their benefit. For many years, Science Europe has been actively engaged in the development of common policies and standards for data sharing with its member organisations and other research stakeholders who value having such common principles in place. Science Europe also strives to further advance the alignment of existing rules and standards on data management.

Open Dialogue on the Way towards an Overarching Data Strategy

Science Europe welcomes the plans of the European Commission to make use of the significant value of data and promote data accessibility across sectors. Many of the general and cross-sectoral considerations of the European Commission have already been implemented in the research sector for many years. Science Europe would like to stress its willingness to further provide its expertise and extensive experience of its member organisations in defining standards and contributing to a cultural change in the future discussions and developments towards a common European data economy.

About Science Europe

Science Europe represents major public organisations that fund or perform excellent, ground-breaking research in Europe. It brings together the expertise of some of the largest and most respected European research organisations to jointly push the frontiers of how scientific research is produced and delivers benefits to society. Science Europe's 36 members manage a large variety of national and international funding programmes, from bottom-up schemes to mission-oriented research. They collectively invest €18 billion in 27 countries each year.