

Ministry of Education and Research
Division for Research Policy

Lund Declaration on **Maximising the Benefits of Research Data**

Access to reusable high-quality research data is crucial for strengthening and advancing knowledge and determines how efficiently and effectively new challenges and emerging crises can be tackled by the research community. This has been underlined by the COVID19-pandemic, as well as by recent disasters such as the devastating earthquakes in Turkey and Syria, and the unlawful Russian war of aggression in Ukraine. Each of these crises, in the wake of a robust international response, has underlined the importance of Open Science. It is vital to strengthen Open Science practices in the research process and data infrastructures, securing the ability of an effective and rapid response to future crises and creating increased societal benefit from research data also during non-crisis times.

Europe has made substantial investments in research, including developing and maintaining common Research Infrastructures (RIs) in a broad range of research fields and e-infrastructures. In December 2022, the European Union (EU) Competitiveness Council acknowledged that RIs constitute a fundamental pillar of the research and innovation (R&I) system in Europe and that they also contribute to goals that reach beyond advancing scientific knowledge, such as those outlined in the United Nations Sustainable Development Goals.

RIs have an important role to play as major producers of research data and leaders in data-driven science. They have a strong international dimension benefitting from sharing experiences and exchanging good practices. RIs need to ensure that research data are shared and curated in ways that enable usage across disciplines and in sustainable settings, thereby allowing research, academia, industry, and society to take full benefit of the investments that are made into RIs. When research data are *reusable*, notably managed in accordance with the

FAIR principles (findable, accessible, interoperable, and reusable), and as far as possible *open* (acknowledging that not all data can be open), they have greater potential to advance R&I and contribute to addressing societal challenges through new knowledge. However, the implementation and harmonisation of FAIR and open research data policies is slow and uneven across Europe. Even though substantial progress has been made, research outputs are still not to a sufficient extent reusable via trusted repositories, which causes less efficient use of resources and increases risks of duplication of efforts. Limitations on access to reusable research data also create barriers to innovation, competitiveness, and indirectly increase costs to society at large as returns on investments in R&I decrease. Thus, there are scientific and economic imperatives to maximise the utility and reusability of research data and other digital outputs.

So far, it has been challenging for RIs to secure necessary long-term funding. Due to the growing demand from science to help provide effective solutions to societal challenges and contribute to crisis response, RIs are increasingly expected to operate beyond the pure provision of services at the forefront of science, while simultaneously building long-term resilience, which puts further pressure on their budgets.

As Europe aims to lead the development of a market for knowledge, the progress towards higher volumes of truly reusable and open data must accelerate. Research data that are FAIR and open by design have the potential to boost impact, quality, efficiency, transparency, and integrity of R&I. This is a priority area in the new European Research Area, and it can only be achieved by coordinated efforts across all Member States.

The Swedish Presidency of the Council of the European Union calls for reinforcing, accelerating, and maximising the benefits of FAIR and open research data in Europe, within scientific communities and through research infrastructures, to increase the overall research and innovation performance of the European Research Area and strengthen the outreach to and impact on industry and society.

Meeting these challenges notably requires:

- Advancing and monitoring the implementation of Open Science policies and practices on European, national, and institutional levels, notably targeting reusability of high-quality data across all research domains for all relevant stakeholders through the European Open Science Cloud (EOSC).
- Designing and developing policies, frameworks and regulations that can be adapted to changing conditions and local settings, so that research infrastructures may adjust their operations and continue providing services in crises and conflicts.
- Supporting European and international cooperation regarding domain and cross-domain interoperability frameworks and integrating best community practices in the EOSC interoperability framework.
- Improve coordination and interconnection between digital infrastructures and research infrastructures, at policy and operational level to foster user-centric development of cross-cutting digital services, bringing economies of scale, volumes of digital outputs to the wider knowledge society, and limiting duplication of effort.
- Accomplishing the change needed to incentivise Open Science practices and mainstreaming new reward models for research data producers aligned to a reformed research assessment system.
- Creating incentives for investments in FAIR and open research data, e.g., by systematic budgeting for FAIR-by-design research data in national and EU-funded research and in existing European research infrastructures.
- Strengthening adoption of FAIR and open principles in research infrastructures, by promoting networks of data stewards, relevant skills and training, career possibilities, and support centres for researchers.

The Swedish Presidency encourages all Member States and the Commission and in particular the upcoming Council Presidencies to deepen and develop the efforts to maximise the benefits of FAIR and open research data in Europe and beyond.