

FAIR and open data sharing in support to European preparedness for COVID-19 and other infectious diseases (RIA)

Subsidy:	€12M
Funding rate:	100%
Deadline:	6 May 2021
Duration:	No limit; up to 4 years is recommended.
Total budget:	€12M

Consortium:

At least three legal entities established in different Member States or Associated Countries

Scope

This action responds to the need to enable researchers, health care professionals and society at large to share, access, analyse, link and process research data and other research digital objects across disciplines and national borders in response to the COVID-19 pandemic. As seen with other infectious disease outbreaks, such as haemorrhagic fevers, COVID-19 will likely remain a societal challenge beyond the immediate outbreak, considering its destructive and disruptive impact on healthcare systems and the economy. In addition to the ongoing health threat from SARS-CoV-2, the risk from other emerging pathogens also persists, which will also require similar concerted action to identify and characterise infections with pandemic potential, and enable rapid public health action to mitigate health and societal impact. Provision of comprehensive open data on infectious agents and diseases during outbreaks support evidence-based quality assessment - across scientific, medical, public health and policy domains and promotes reproducibility of research outcomes. Particular importance should be placed on mobilising raw viral sequences and identifying and monitoring the spread of SARS-CoV-2 variants. European readiness for future pandemics is of utmost importance and should be addressed to ensure the preparedness of infrastructure building on already existing frameworks for broader use such as the EOSC.

Proposals should facilitate and accelerate the access to, and the linking of data and metadata on SARS-CoV-2 and COVID-19, including through the European COVID-19 Data Portal, the Versatile Emerging infectious disease Observatory (VEO) and other relevant initiatives, with the emphasis on identifying and tracking of new SARS-CoV-2

variants and creating appropriate links with serology and other host data. The scope of the initiative should further expand to other relevant infectious diseases, and incorporate epidemiological, clinical (including Real World Data), and socio-economic data, spanning from molecular biology to other disciplines, including Social Sciences and Humanities. A One-Health approach building on the latest technological advances, covering epidemics and epizootics is encouraged. Particular importance should be given to the need of federating data between national centres to effectively manage data protection.

To ensure the interoperability of the data, community best practices including the use of community-endorsed standards and community metadata schemas should be encouraged. Newly implemented domain specific research data solutions from the project should feed into the work of established international initiatives. Particular attention should be given to the harmonisation and management of meta-data and sample- identifiers to ensure interoperability of national and regional efforts into the EOSC and the long-term cataloguing of data resources within the EOSC.

A strong focus should be placed on exploiting and contributing to EOSC capabilities for data access and federation as well as relevant standards and policies for managing, sharing and reusing research data from different disciplines. As such, the proposals should demonstrate the value of sharing FAIR research data that is as open as possible through EOSC, help consolidating data-sharing and data management practices across the Member States, Associated Countries and beyond, and provide feedback to the EOSC Partnership for the future evolution of EOSC.

Proposals should build on the European COVID-19 Data Platform and support, directly or in combination with financial support to third parties, the creation of national and regional structures to coordinate and promote in-country actions, such as to further enhance genomic surveillance and rapid-response capabilities.

Cooperation with the grant awarded under the Other action "Research infrastructure services for rapid research responses to COVID-19 and other infectious disease epidemics" should be developed from the outset to identify and better exploit related synergies, share results, avoid overlaps and ensure that data generated from access to infectious disease services can be available for re-use through the EOSC. To this extent, proposals should provide for dedicated activities and earmark appropriate resources. Proposals should consider already established national and European infrastructures and build on existing efforts, including actions stemming from Cohesion policy programmes. Proposals should seek to establish synergies with the European Health Data Space as well as relevant initiatives under Digital Europe.

To ensure complementarity of outcomes, alignment with EOSC policies, and a synergetic development of different thematic areas within EOSC, proposals are expected to cooperate and align with activities of the EOSC Partnership and to coordinate with relevant initiatives and projects contributing to the development of EOSC, particularly in the areas of data interoperability.

All software developed under this action should be open source, licensed under a CC0 public domain dedication or under an open source license as recommended by the Free Software Foundation and the Open Source Initiative.

This action seeks to address the challenges linked to the COVID-19 variants. As such, the granting authority hereby requests activation of the public emergency provisions, meaning that the beneficiaries must comply with the public emergency related provisions listed in the General Annexes concerning the project implementation under Intellectual Property Rights (IPR), background and results, access rights and rights of use (article 16 and Annex 5) for the duration of the pandemic; and under Communication, dissemination, open science and visibility (article 17 and Annex 5) during the entire duration of the action and for four years after the end of the action.

Expected Outcome

Project results are expected to contribute to all the following expected outcomes:

- European researchers and public health actors fighting the spread of infectious diseases, e.g. COVID-19 and emerging infectious diseases are able to store, share, access, analyse, process and cite research and clinical data and other research digital objects across disciplines and national borders and to collaborate with global partners;
- Federation of viral and human infectious disease data from national and international centres enables pan-European and global sharing and combination of research and clinical data, thereby catalysing and accelerating research advances to combat the COVID-19 pandemic and prepare for future outbreaks;
- Development of digital tools and data analytics for pandemic and outbreak preparedness, including tracking genomic variations of SARS-CoV-2, linking genomic and clinical data to support timely identification of variants of concern, and subsequent rapid characterisation of such strains to inform public health action;
- Linking of FAIR data and metadata on SARS-CoV-2 and COVID-19, on other related viruses and diseases, and on socio-economic consequences, across research fields, from omics, clinical, and epidemiological research, to Social Sciences and Humanities accelerate infectious disease research, surveillance and outbreak investigation;

- Contribute to the Horizon Europe European Open Science Cloud (EOSC) Partnership and to the development of the European Health Data Space (EHDS).

Expected Impact:

Proposals should set out a credible pathway to contributing to one or several of the following impacts:

- Transforming the way researchers as well as relevant actors in the public and private sectors create, share and exploit research outputs (data, publications, protocols, methodologies, software, code, etc.) Within and across research disciplines, and with the public health sector, leading to improved timeliness, better quality, more innovation, higher productivity of research and a better integration between research outputs and public health policy;
- Seamless access to and management of increasing volumes of research data following fair principles (and that are as open as possible, as closed as necessary) and other research outputs stimulating the development and uptake of a wide range of new innovative and value-added services from public and commercial providers;
- Improving trust in science through increased fairness, openness and quality of scientific research in Europe, supported by more meaningful monitoring and better facilitators for reproducibility, validation and re-use of research results, and by improving pathways for the communication of science to the public.