

Research data management and data economy

Political context and funders' perspective

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WWW.FCT.PT

•Open Data: Bridging research and economy

International context

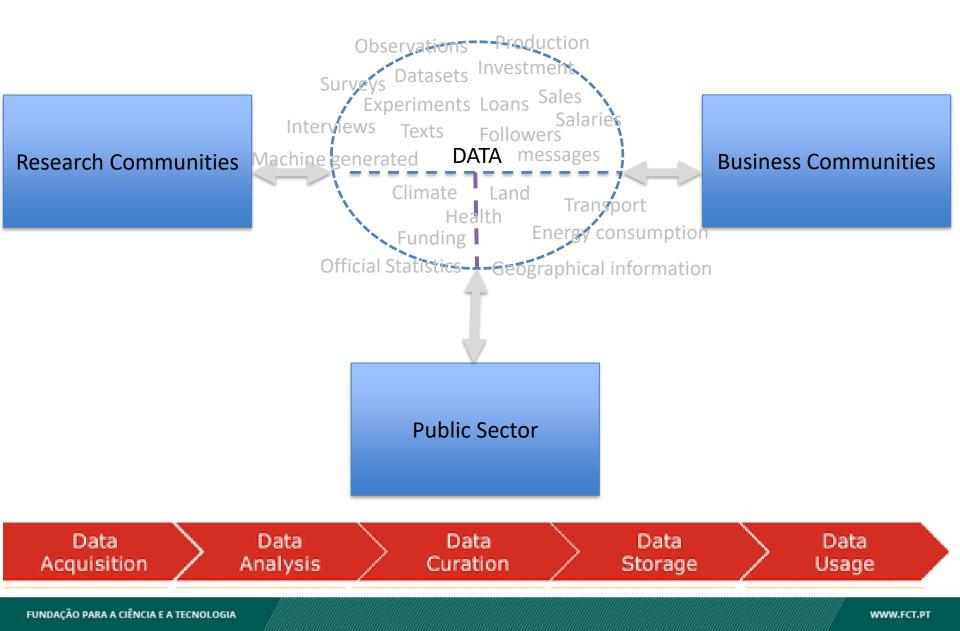
- •European Union
- Science Europe

National context

Policies

- Infrastructures
- •Initiatives/ awareness
- •Funding

Bridging Research and Business



Policies

• Communication "Building an European Data Economy" (COM 2017)

Looking at proven or potential blockages to the free movement of data and presenting options to remove unjustified and or disproportionate data location restrictions in the EU.

• Communication "Towards a common Europe Data Space" (2018/232)

Promoting a seamless digital area with the scale that will enable the development of new product and services based on data

• Proposal of the review of the Directive on the re-use of public sector information (PSI)

Seeking to ensure more data will be made available for re-use in an easier and possibly automated way

• *Recommendation on access to and preservation of scientific information (2018/790)*

Stimulating to set and implement clear policies (as detailed in national action plans) for the dissemination of and open access to scientific publications resulting from publicly funded research

• Regulation of the free flow of non-personal data in the European Union (2018/1807)

Laying down the rules relating to data localisation requirements, the availability of data to competent authorities and data porting for professional users

• Communication "Guidance on sharing private sector data in the European Data Economy" (2018/2375)

Defining principles that could support the business to business and business to government data sharing

Delivering on the

Digital Single Market

Building the European

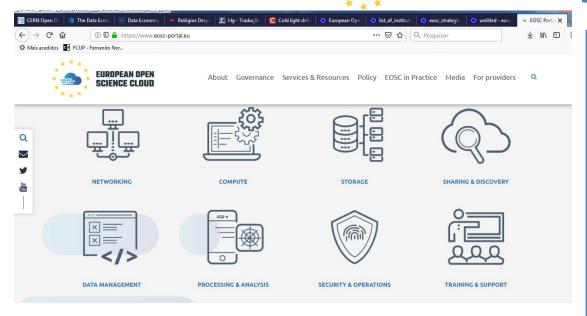
Data Economy

Building a Data Economy

Infrastructures and Services (against fragmentation)

- European Data Infrastructure
 - Data hosting, Registration & Management and Sharing
 - Data management planning
 - Data discovery
 - Data Access, Interface & Movement
 - Identity and Authorization

• European Open Science Cloud



A pan-European solution that designs, develops, implements and offers "Common Data Services" to all interested researchers and research communities (https://www.eudat.eu/).

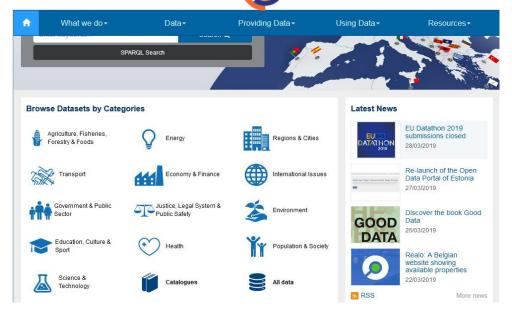
A pan-European federation of data infrastructures built around a federating core [shared resources and compliance framework] and providing access to a wide range of publicly funded services supplied at national, regional and institutional levels, and to complementary commercial services.

https://www.eosc-portal.eu/

Building a Data Economy

Infrastructures and Services (against fragmentation)

• European Data Portal 📢



The portal harvests the metadata of the Public Sector Information available on public data portals across European countries. https://www.europeandataportal.eu

• Support Centre for data Sharing

It will faciliate data transactions and data analytics by collecting, developing and disseminating, through a dedicated website, tools and technical expertise and by providing pratical support. It shall address situation in which public sector data or data held by private companies are made available to other organisations for use and re-use (https://ec.europa.eu/digital-single-market/)

Building a Data Economy

Infrastructures and Services

Research Data Alliance
 RDA



Focused on the development of infrastructure and community activities aimed to reduce barriers to data sharing and Exchange and promote the acceleration of data driven innovation worldwide https://rd-alliance.org/about-rda

EU-funded projects on data – H2020

H2020 ICT Work Programme 2018 - 2019 (until now 10)

- •Call ICT-12-2018-2020 Big Data technologies and extreme-scale analytics (6 projects)
- •Call <u>ICT-13-2018-2019</u> Supporting the emergence of data markets and the data economy (4 projects)
- •Call-11-2018-2019 HPC and Big Data enabled Large-scale test-beds and Applications

–ICT-11b) Innovation Actions-targetting the development of large-scale IoT/Cloud enabled idustrial pilot test-bets for big data applications - coming in 2019

H2020 ICT Work Programme 2016 – 2017 (16 projects)

•Call <u>ICT-14-2016-2017</u> - Big Data PPP: cross-sectorial and cross-lingual data integration and experimentation (8 projects)

•Call <u>ICT-15-2016-2017</u> - Big Data PPP: Large Scale Pilot actions in sectors best benefitting from data-driven innovation-(2 projects)

- •Call ICT-16-2017 Big data PPP: research addressing main technology challenges of the data economy
- •Call ICT-17-2016-2017 Big data PPP: Support, industrial skills, benchmarking and evaluation (1 project)
- •Call <u>ICT-18-2016</u> Big data PPP: privacy-preserving big data technologies (4 projects)
- •Call ICT-35-2016 Enabling responsible ICT-related research and innovation (1 project: K-PLEX)

H2020 ICT Work Programme 2014 - 2015 (25 projects)

- •Call ICT-15-2014 Big data and Open Data Innovation and take-up (13 projects)
- •Call ICT-22-2014 Multimodal and Natural computer interaction (2 projects Aria-Valuspa and KRISTINA)
- •Call ICT-16-2015 Big data research (10 projects)

https://ec.europa.eu/digital-single-market/en/programme-and-projects/project-factsheets-data

- FAIR data
- Horizon 2020: Guidelines on FAIR Data Management in Horizon 2020
 - For the WP2017, Open Research Data pilot has been extended to cover all the thematic areas of Horizon 2020
 - It applies primarily to the data needed to validate the results presented in scientific publications.
 - Other data can also be provided by the beneficiaries on a voluntary basis, as stated in their **Data Management Plans**.

Science Europe

Working Group on Research data

- Until 2016 Fundamental aspects of research data (funding of data management infrastructures and lega aspects related to copyright and texto and data mining)
- 2016-18 Research data management protocols
- 2018 Aligning research data management policies



Core Requirements for Data Management Plans

- Data description and collection or re-use of existing data
- Documentation and Data Quality
- Storage and backup during the research process
- Leal and ethical requirements, codes of conduct
- Data sharing and long-term preservation
- Data management responsibilities and resources

Criteria for the selection of trustworthy repositories

- Provision of persistent ad unique identifiers (PIDs)
- Metadata
- Data access and usage of licences
- Preservation

https://www.scienceeurope.org/policy/policy-areas/researchdata/

National context

Policies

- <u>RCAAP</u> infrastructure
- Policy on management and sharing of data and other results arising from FCT-funded research
- <u>National Open Science Policy</u>

"The pursuit of a policy oriented towards open access to knowledge constitutes (...) a natural priority for the Government and the Ministry for Science, Technology and Higher Education"

- <u>Resolution of the Council of Ministers 21/2016</u>
- Working Group National Policy for Open Science
 - Open access and open data
 - Infrastructures and digital preservation
 - Scientific evaluation
 - Scientific social responsibility

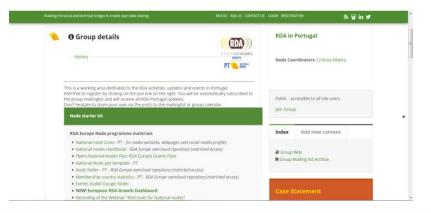
National context

Infrastructures and Services

• e-infras.pt



 Research Data Alliance Portuguese Node



- Centro de Computação Avançada do Minho (MACC)
- Air Center Data Intelligence Network
- Iberian Advanced Computing Network

 coordinate policies, strategies and initiatives from the Portugal and Spain on supercomputing, distributed computing and quantic computing

National context

Initiatives

Data Management Fora



- Resources
 - Open Science Training (project FOSTER, handbooks, MOOC ...)

Type to search

Manual de Formação em Ciência Ab.

- 1 Introdução ao Manual
- 2 Introdução à Ciência Aberta
- 2.1 Conceito e Princípios da Ciê.
- 2.2 Dados e Materiais de Investi.
- 2.3 Software Aberto na Investig...
- 2.4 Investigação Reprodutível e .
- 2.5 Acesso Aberto a Publicações
- 2.6 Licenciamento Aberto e For..
- 2.7 Plataformas Colaborativas
- 2.8 Revisão por Pares Aberta, .
- 2.9 Políticas de Ciência Aberta
- 2.10 Ciência Cidadã
- 2.11 Recursos Educativos Abertos
- 2.11 Defesa e Promoção da Ciê..
- 3 Sobre Aprendizagem e Formação



Manual de Formação em Ciência Aberta

Em fevereiro de 2018, um grupo de catorze autores reuniram-se na Biblioteca Nacional Alemã de Ciência e Tecnologia (Technische Informationsbibliothek - TIB), em Hanover, para criar um manual aberto e vivo sobre formação em Ciência Aberta. As formações de elevada qualidade são fundamentais quando se pretende uma mudança cultural em direção à implementação dos princípios da Ciência Aberta. Os recursos de formação são um suporte fundamental para instrutores e formadores. O Manual de Formação em Ciência Aberta será um recurso chave e um primeiro passo para o desenvolvimento de programas curriculares e na educação continua em Acesso Aberto e Ciência Aberta. Apoiando e

Funding

- Research and Technological Development Projects in Data Science and Artificial Intelligence in Public Administration - foster scientific knowledge through Public Sector-derived big data analytics.
 - February 2018: launching of 4 pilot R&D projects to foster AI within Public Administration, in close interaction between FCT and AMA.
 - March 2018: launching of a "FCT's Mobilizing program to foster AI in public administration", through a competitive call for R&D project promoted by FCT.
 - 19 funded projects presented in October 32018
 - January 2019: launching of a call within the System to Support the Modernization and Capacitation of Public Administration (SAMA2020) to finance Data Science and Artificial Intelligence projects within Public Administration.
 - March 2019: second edition of "FCT's Mobilizing program to foster AI in public administration".
- Atlantic International Center (RCM 29/2018) promote an integrated and systemic approach to climate, earth, space, oceans and data science
- Portuguese Space Agency (RCM 55/2019) execute the Portuguese space strategy 2030



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Thank you very much for your attention!

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