

Connecting Data & People in a Changing Landscape

CESSDA Strategy
2023-2027





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Preamble

Europe faces deep societal, ecological, and economic challenges, first aggravated by the coronavirus crisis and now by the Russian invasion of Ukraine. State-of-the-art digital technologies and research infrastructures, like CESSDA, remain crucial to support social scientists in their quest to provide answers to global challenges. It is, therefore, vital that national service providers continue to do what they do best: provide metadata expertise, develop standards and training to enable interoperability and make data FAIR, support data deposits, enable access and reuse of data, therefore ensuring that digital assets retain their value with time.



Vision

CESSDA is a renowned, sustainable, and trusted European social science infrastructure, that enables excellent services to its members, research for all social sciences disciplines, and beyond for societal benefit.

Mission

1. The mission of CESSDA, as outlined in the statutes, is:
 - To provide a distributed and sustainable research infrastructure.
 - To enable the research community to conduct high-quality research in the social sciences, contribute to the production of effective solutions to the major challenges facing society today and tomorrow.
2. To facilitate teaching and learning in the social sciences.

Five-Year Vision (2023-2027)

In the next five years CESSDA will enable long-term access to documented and curated high-quality social science data to researchers. CESSDA will build upon its **data** and knowledge assets and engage with **people** and the surrounding policy and research data **landscape** for the benefit of research and society.

Planning & Consultation

CESSDA's strategic planning aims to support and advise the SSH community and the Service Providers in an increasingly challenging and fast-moving environment. It is an opportunity and a must for social sciences to participate in the shaping of the European and global research landscape. The strategy for the period 2023-2027 takes stock of the achievements of CESSDA as an ERIC since its creation in 2017 and the rapid evolution of the role of data in modern society in recent years.



Fig.1 Map with member countries

The new strategy looks ahead to future developments in the research landscape, the European Research Area (ERA) at the global level. The analysis lays the foundation to anticipate and provide services to the research community and stakeholders from academia, industry, and policy.

The CESSDA Strategy was co-designed by the Director, Dr Bonnie Wolff-Boenisch, and all CESSDA's constituencies. These include the Strategic Committee, the Service Provider Forum and Directors, the General Assembly and the Chairs, the CESSDA Main Office staff and the Chairs of the working groups 'Tools', 'Training', 'Trust' and 'Widening and Outreach'.

CESSDA's Unique Expertise for its Services Providers and the Researchers. Furthering Interconnectivity in an Increasingly Digital Age.

Key values of CESSDA ERIC are to provide interconnectivity to its Service Providers by:

- Sharing knowledge and providing learning opportunities on technical, operational, scientific, and educational, and political matters.
- Understanding the diversity of the European landscape and connecting with other research infrastructures in SSH and other disciplines at European (see By-COVID on page 7) and international level.
- Speaking with one voice on behalf of its members.

The alignment of knowledge, practice, and support across CESSDA directly benefits researchers by providing them with a pan-European framework with data and metadata. The cooperation and knowledge exchange enabled by CESSDA helps Service Providers to offer their data depositors a strong level of consistent and efficient service. CESSDA is a 'hub' space where best practice and guidance can be shared.

CESSDA's collective expertise in managing, curating and archiving research data provides social scientists with the best conditions to undertake excellent research to provide answers to societal questions. CESSDA is an important partner for a wide range of social science communities and increasingly other research communities such as from the humanities, life and environmental sciences that either use CESSDA's tools and services or access information via their national data service. CESSDA Secretariat (Main Office) and its consortium members, the Service Providers, are also increasingly solicited by third parties that either lack the knowledge or require advice on how to preserve and harness data.



CESSDA Today

Since the `start-up` phase in 2017 as an European Research Infrastructure Consortium (ERIC), CESSDA has been transitioning into a more mature European research infrastructure organisation with 22 member countries.

In 2022 a Memorandum of Understanding (MoU) between the SSH Landmarks (SSH ESFRI ERICs) was signed¹. This MoU attracts emerging projects and communities highly interested in formally entering CESSDA. The SSH thematic communities cover topics such as migration, elections, historical financial data, religious studies, family studies, and youth.

Through SSHOC, CESSDA is involved in the collaboration between the five ESFRI Clusters (SSHOC, ENVRI-FAIR for environmental research, PaNOSC for multidisciplinary scientific analysis, ESCAPE for astronomy and particle physics and EOSC-Life for life sciences) providing a gathering point for various ESFRI projects and landmarks to connect to the EOSC.

SSHOC  **SSHOC**  **SSHOpenCluster**
Social Sciences & Humanities Resources

Sustainability

A memorandum of Understanding for continued collaboration in 2022 and beyond

Other research infrastructures in the wider Social Science ecosystem are welcome to join

Be part of the SSHOC sustainability drive by signing up

1. www.sshopencloud.eu/news/sshoc-signs-mou-bolster-cloud-services-social-science-and-humanities

CESSDA is also engaged in EC-projects and pilots that address data handling matters with non-SSH communities for example in the eRemote project discussing best practices in remote solutions for digital and remote service provision across RI domains with stakeholders from the physics, life sciences and geosciences), in EOSC Future projects (e.g. working on data related to political and social trust, health and health inequality, attitudes towards climate change and energy) or in the BY-COVID project (made up of a wide range of partners from the life sciences).^{2,3}

BY-COVID - an Interdisciplinary Approach

In an unprecedented interdisciplinary effort, BeYond-COVID (BY-COVID)⁴ brings together 53 partners from 19 countries from the biomedical field, hospitals, public health, social sciences, and humanities.

The project aims at integrating open data on SARS-CoV-2 and other infectious diseases from national and European infrastructures such as ELIXIR, BBMRI, ECRIN, PHIRI and CESSDA.

BY-COVID will enable federated data analysis compliant with data protection regulations, harmonise and manage metadata and sample identifiers, and facilitate long-term cataloguing to ensure interoperability of national and global efforts.

The project will enable the linking of FAIR data and metadata on SARS-CoV-2 and COVID-19, other infectious diseases, and related data, and ultimately increase the potential for collaboration and exploitation of data.

BY-COVID

The [BeYond-COVID project](#) aims to make **COVID-19 data** accessible to everyone, scientists in laboratories, medical staff in hospitals or government officials.

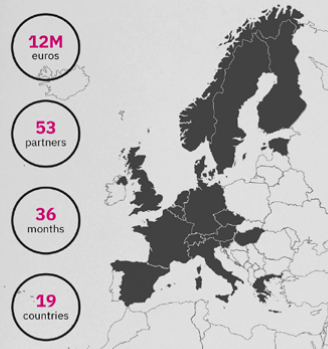
Going beyond SARS-CoV-2 data, the project will provide a framework for making data from other infectious diseases **open and accessible** to everyone, and build a bridge between public health, clinical sciences, social sciences, and molecular sciences.



Subscribe to the newsletter

by-covid.org

The project in numbers



BY-COVID receives funding from the European Union's Horizon Europe Research and Innovation Programme under grant agreement number 101046203.

The challenge

The world has generated vast amounts of data in response to the COVID-19 pandemic. This data comes from many different sources, and identifying, connecting and integrating these for effective analysis remains a challenge.



Data from SARS-CoV-2, other pathogens, their hosts, and the associated diseases come from many different sources.

What we are doing

1. Mobilising data
2. Connecting data
3. Standardising data
4. Exposing and analysing data



The outcomes

Make SARS-CoV-2 and other infectious disease data easier to access, aggregate and analyse to:

- Enable **scientists in academia and industry** to respond faster to new SARS-CoV-2 strains or other pathogens causing infectious diseases.
- Help **policy-makers** assess the impact of COVID-19 and take appropriate measures to protect people.
- Facilitate **open innovation** in academia and industry across disciplines.

2. <https://erimote.eu/home>
 3. <https://eoscfuture.eu/data/climate-neutral-and-smart-cities/>
 4. <https://by-covid.org/>

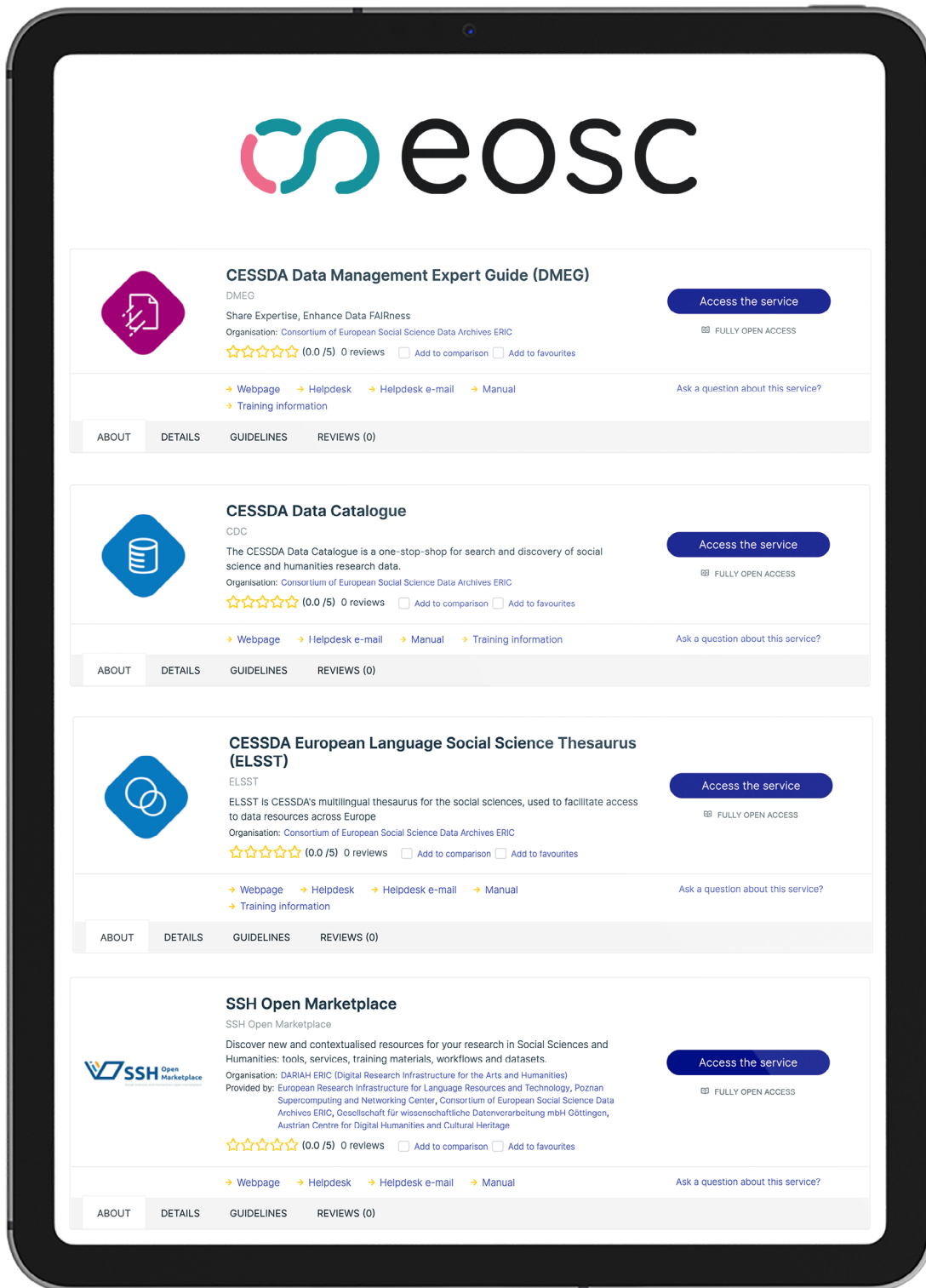


Fig.3 CESSDA's EOSC-onboarded services

CESSDA is also a member of the EOSC association, strongly engaged in different EOSC projects and task forces and recognised as an early adopter of EOSC research infrastructure. Currently three of CESSDA's services have been onboarded by EOSC: The CESSDA Data Catalogue, the Data Management Expert Catalogue (DMEG) and the European Language Social Sciences Thesaurus (ELSST).



Fig.4 SSHOC League of Data

CESSDA Achievements for the Benefit of Research:

- The adoption of and contribution to best practice requirements in trustworthy digital repositories (CoreTrustSeal) to create compatibility and cooperation within CESSDA's Service Providers and to increase the quality of data and services for the research community.⁵
- The establishment of tools (e.g. CESSDA Training, DMEG) to increase the culture of metadata sharing and responsible data management within the social science community to enhance the quality, efficiency, and transparency of research.⁶
- The enhancement of collaborative cooperation between Service Providers across Europe and beyond CESSDA to increase coverage of European social science data resources.
- The collaborative development of effective tools, policies, and information resources for the support of archiving and sharing social science data in Europe.

5. <https://www.coretrustseal.org/>

6. <https://www.cessda.eu/Training/DMEG>.

CESSDA's Environment

Social Sciences & Service Providers in a Changing World

Among its political agenda the EC and the 27 Member States have emphasised the importance of state-of-the-art digital technologies and research infrastructures, the importance of academic freedom, the need for resilience of the economy and the society, and the acceleration of the green/digital transition.

National Service Providers and European research infrastructures such as CESSDA ERIC play a critical role by supporting social scientists in addressing societal challenges by:

- Facilitating easy, trusted and seamless access to infrastructures to scientists, who then can provide advice to policy makers to cope with and prepare for crises (e.g., health, climate, war, migration) via their research outcomes.
- Improved cooperation among members and Member States, and European research infrastructures through data sharing (e.g. via the COVID-19 platform).
- Identifying opportunities for new governance and funding mechanisms (e.g. Horizon Europe Missions).
- Equipping scientists with the skills they need in a fast-changing global world (training and data literacy).

The European Research Area and the Role of Research Infrastructures

The European Research Area (ERA) aims at building a common scientific and technological area for the EU in which researchers, scientific knowledge, innovation (and data to a certain extent) move freely among its members.

Among many initiatives and actions, the Open Science Initiative, the European Strategy Forum on Research Infrastructures (ESFRI), the development and implementation of European Research Infrastructures across all fields of science and the European Open Science Cloud (EOSC), a web of FAIR data and services for research data in Europe, are seen as major contributors to this vision.⁷

CESSDA as an ERIC contributes directly to the evolution and implementation of ERA.

7. https://research-and-innovation.ec.europa.eu/system/files/2021-11/ec_rtd_era-policy-agenda-2021.pdf

Changing Research Landscape

The digital transformation and increasing interdisciplinary collaborations cause changes in the research system, and the research data life cycle. Such changes are manifested for example by the open science and the open access to publication movement.

The access and sharing of (research) data and open-source software and the blending of new forms of data has become a focus of political science discussions, due to the potential for digital innovation in a near future (research) data economy and provision of solutions for societal challenges.

New forms of research assessments and how to incentivise a collaborative research culture to leverage the full potential of research data have been discussed at Member State level (Action 3 of the ERA policy agenda 2022-2024: 'Reform the Assessment System for research, researchers, and institutions') and resulted in the Coalition for Advancing Research Assessment (CoARA).⁸⁹ The vision of CoARA is that assessment of research, researchers and research organisations recognises the diverse outputs, practices and activities that maximise the quality and impact of research.

Linked to this initiative, social scientists who use CESSDA's tools and service via their national service providers, may ask CESSDA or their national providers to validate or certify demonstration of data sharing and responsible data management efforts for research assessment.

Trusted Environments

CESSDA's Service Providers offer trustworthy repositories, certified with CoreTrustSeal, to ensure the long-term sustainability of data deposited with them and fulfilling the requirements of the EC, for Horizon Europe activities¹⁰. Simultaneously, the Service Providers provide both technical and legal expertise to process and store sensitive and restricted data in compliant and secure environments.



8. <https://coara.eu/>

9. https://research-and-innovation.ec.europa.eu/system/files/2021-11/ec_rtd_era-policy-agenda-2021.pdf

10. <https://www.coretrustseal.org>



Fairification of Research

The requirements to make both metadata (including information about data access) and data more interoperable and understandable by machines will grow to harness new forms or combine existing data in innovative ways.

The role of domain data services in this process is irreplaceable because they increase the understanding of data, make data `FAIR`er and thus create the conditions for effective data reuse. The increasing interoperability will make RIs more resilient and sustainable, hence more cost-efficient. It will also pave the way for AI-based applications.

At the same time SSH data may include sensitive data that must be appropriately protected through information security and access management measures.

There is a lot of potential for CESSDA collectively (MO and Service Providers) to work together for synergies and cost efficiency, instead of Service Providers working individually.

Interoperability Across Disciplines

Through the SSH Cluster `SSHOC`, CESSDA and the Service Providers have been crucial in shaping the design of EOSC, and indirectly the ERA Policy Agenda 2022-2024 where working to `Enable Open Science, including through the European Open Science Cloud (EOSC)` is listed as the first top priority of the Council conclusions of the ERA Governance.¹¹

Together with the other four Science Clusters, CESSDA contributed to the refinement and transformation of the EOSC services towards specific interdisciplinary services and platforms for research infrastructures and for scientists and (potentially) EU member state institutions.¹²

This was done by enriching existing services with additional information, tailored for scientific use, translating EOSC services into more specific disciplinary science services.

11. https://research-and-innovation.ec.europa.eu/system/files/2021-11/ec_rtd_era-policy-agenda-2021.pdf

12. <https://sshopencloud.eu/news/33-shocing-key-exploitable-results-support-your-research-ssh-and-beyond>



*CESSDA will build upon its **data** and knowledge assets and engage with **people** and the surrounding policy and research data **landscape** for the benefit of research and society.*

CESSDA General Assembly





Priority 1

Seek to Further the Interoperability of Metadata and Data

Goal 1 - Enable Data Discovery

Documentation and long-term availability of data are key in ensuring reusability of research. With changing data types relevant to researchers, including social media data, the needs for their description and provision are changing. CESSDA will address researcher's needs and support the crossing of boundaries of scientific domains and languages by exploring ways of furthering the interoperability of metadata and data.

By 2027 CESSDA will be:

- The leading European social sciences research infrastructure following the FAIR data principles, enabling data discovery and reuse (including reproducibility of research outcomes).¹³
- A forerunner of new and additional SSH and cross-domain data sources including social media and statistical data and data from other SSH disciplines, and/or other domains (e.g. behavioural data).

How?

- Provide input to best practice in FAIR data principles and skills.
- Addressing how survey and statistical data may be best aligned with social media, and behavioural data or new SSH and cross-domain outcomes.
- Refine and implement crosswalks (i.e. translation of one into another meta standard) to enlarge user audiences and incorporate new data archives.
- Engage with publishers and funders (e.g. on data citation requirements by the provision of new forms of outputs (digital objects) and incentivisation of scientists for the provision of metadata.
- Tackle legal, ethical and procedural challenges (i.e. confidentiality, GDPR, copyright) in a data sharing context.
- Align with the European Open Science Agenda and the EOSC.

Goal 2 - Working on the Interoperability of Services

Services provided to researchers and shared between infrastructure providers should be transparent, trustworthy and accessible to both humans and machines. Interoperability at the technical, data and metadata levels provides for seamless transfers between service providers, including the EOSC and towards the researchers. Standards must be discussed, defined, implemented, communicated, and maintained.

By 2027 CESSDA will:

- Be a default provider of professional data archiving solutions for social sciences (i.e. trusted repositories) for long-term preservation.
- Explore the provision of collaborative analysis tools (for scientists) from different research disciplines and/or processing of (e.g. restricted, commercial limited) data.
- Be a forerunner in professional and legal expertise regarding sensitive data in the social sciences and in concert with research infrastructures (e.g. from the health and biomedical domain, humanities etc.) dealing with sensitive data, too.
- Improve the technology readiness levels for selected CESSDA products and potential new services.

How?

- Continue to explore and address the interoperability of services to ensure that standards and interfaces are available to directly connect data, processing services and publication and archiving platforms across Europe.
- Explore new technologies where appropriate such as AI (enhancing data and metadata) to enable researchers to perform large-scale analysis using cloud computing resources.

13. Wilkinson, M., Dumontier, M., Aalbersberg, I. et al. The FAIR Guiding Principles for scientific data management and stewardship. *Sci Data* 3, 160018 (2016). <https://doi.org/10.1038/sdata.2016.18>.



Priority 2

Connecting People

Goal 3 - Facilitate Mutual Exchange among CESSDA's Service Providers and Support within their National Landscape

The service providers and the MO that form CESSDA encapsulate an immense pool of knowledge. To leverage this resource CESSDA must mobilise and combine its internal resources and services and increase their visibility to guide the social scientist community through the ongoing digital and societal transformation.

By 2027 CESSDA will:

- Strengthen relationships within CESSDA.
- Leverage the common pool of knowledge among Service Providers and GA members.
- Support Service Providers in promoting their work and the work of researchers in their national context.

How?

- Develop mechanisms and opportunities for enhancing mutual understanding among CESSDA and the different needs.
- Diversify services for different types of CESSDA's Service Providers and their needs (e.g. provide different learning and capacity building opportunities).
- Explore different formats to channel information from the European Research area to CESSDA members (e.g. provide regular reports from European events).
- Support consistent national messaging for impact and efficiency (e.g. on deposit in disciplinary TDRs or what is the added-value of CESSDA for the Service Providers and the Member States).

Goal 4 - Reach Out to the SSH Researcher at National, European and Global Level

CESSDA expertise in managing research data is a valuable and sought-after asset. This equips CESSDA to serve other communities in the social sciences domains.

By 2027 CESSDA will:

- Enlarge the pool of users from the research community to enrich CESSDA's thematic catalogue and services.
- Establish strategic partnerships within the SSH community and beyond.

How?

- Identify and reach out to new social sciences researchers' communities and beyond that seek support and expertise in research data management.
- Identify and develop together with social sciences research communities innovative science driven types of services. Explore how services of service providers can be pooled and leveraged for researchers and public good.
- Co-develop pilots with other research communities from or outside the SSH community with common needs and interests to address societal goals (e.g. EC mission-type or and/or SDGs related interdisciplinary projects).
- Provide training in research data management.



Priority 3

Shaping the European Research Arena

Goal 5 - Establishing Strategic Partnership with ERA Actors

CESSDA with all its Service Providers will continue to build a strong interlinked science-driven infrastructure for social science data for the benefit of the social sciences research communities and beyond.

By 2027 CESSDA will:

- Shape the European landscape through participation in relevant science policy arenas and thematically linked international and global organisations, for example CODATA, the Committee on Data of the International Science Council and the WorldFAIR project^{14 15}.

How?

- Continue to collaborate with other RIs (domain and cross) on topics of mutual interests such as the development and alignment of standards (e.g. CoreTrustSeal, Data Documentation Initiative)^{16 17}.
- Support the alignment of research infrastructures at European and national level.
- Provide data for policy advice.

Goal 6 - Establishing Strategic Partnership for the Benefit of Society

CESSDA on behalf of its members will engage with national, European and global organisations for raising its external visibility, for mutual learning and for alignment of standards and policies (e.g. EOSC, CODATA, ADA in Australia, ICPSR in the US, SSJDA in Japan and other worldwide data archives)¹⁸.

By 2027 CESSDA will:

- Be a visible part of the data-led/driven global landscape.

How?

- Engage data-driven umbrella organisations in Europe and beyond for mutual learning, alignment of standards and policies.
- Organise joint sessions in selected European and national workshops.
- Represent CESSDA or position CESSDA members in strategic outlets.

14. <https://codata.org>

15. <https://codata.org/worldfair-global-cooperation-on-fair-data-policy-and-practice-kick-off-meeting-introduces-major-new-initiative-to-advance-implementation-of-the-fair-data-principles>

16. <https://www.coretrustseal.org>

17. <https://ddialliance.org>

18. <https://ukdataservice.ac.uk/help/other-data-providers/data-archives/other-worldwide-data-archives>

CESSDA Strategy

Implementing the Strategy

This CESSDA strategy begins in 2023 and runs through to the end of 2027. Granular identification of needs and teams, alongside more detailed engagement and planning already started in 2023. The implementation of the work plan will take place from 2024 to 2026 before the results are consolidated and refined.

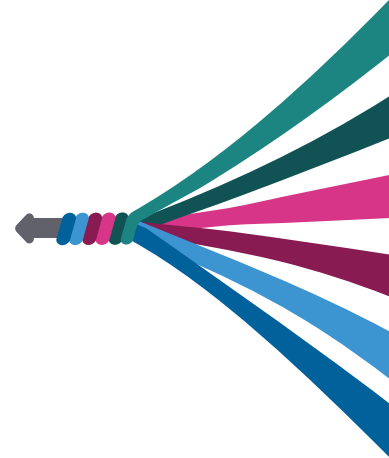
Conclusion

The new strategy captures the latest developments in the research data landscape and in the European Research Area (ERA), such as the digital transformation, the increasing cross-fertilisation and FAIRification of research and the way it is conducted and assessed.

The three strategic strands (data, people, and landscape) organised in six goals, will increase the interoperability of services within the social science community and beyond, to enable data discoverability for advancing research. This will be achieved by exchange among CESSDA's Service Providers, for mutual learning and transfer of knowledge to their national research landscape.

Strategic partnership with ERA Actors and global, will ensure that social science researchers at national and international level can provide evidence-based research for the benefit of society.

CESSDA will continue where it is best to 'support CESSDA's mission to provide long-term access to documented and curated high-quality social science data to researchers and beyond, for societal benefit'.







For more information visit our website:

cessda.eu

