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CESSDA
Annual Report **2021**

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Foreword

Another year with the Big C

The CESSDA community kept going strong through another year with the Big C, COVID-19. As I am writing this foreword in June 2022, it feels a bit like yesterday's news, but COVID-19 is of course still among us. The work continues within CESSDA to preserve COVID-19 data and to make sure the data is findable and reusable.

In 2021, CESSDA Service Providers actively supported researchers in archiving and disseminating data on social phenomena related to COVID-19. This was done as part of their regular services and in some cases through special initiatives. At the time of writing, there are 558 studies in English with the keyword "COVID-19" in the CESSDA Data Catalogue. This shows that CESSDA's actions have delivered results and the data collection keeps growing.

Despite, and maybe because of, all the commotion around the Big C, other societal questions stay on the research agenda and other problems need to be solved. There are over 40,000 study descriptions in the CESSDA Data Catalogue, and these data sets can be of use to a wide range of research projects.

However, the research community needs to be reminded about the available data resources. The best way is often to take a thematic approach. In autumn 2021, CESSDA organised a virtual CESSDA Roadshow to exhibit some use cases for CESSDA data and services. Each roadshow had its own theme: COVID-19, migration, climate change, cancer and chronic diseases, and the circular economy.

In addition, CESSDA joined thematic projects, which gave the CESSDA community new opportunities to share information about its data holdings (more information on the collaborative projects with research communities can be found on the CESSDA website: under "**CESSDA and Researchers**". In these projects, CESSDA's expertise in, for example, metadata, common vocabularies, and technical solutions, was put to use to enable the **F**indability, **A**ccessibility, **I**nteroperability, and **R**eusability of the data.

CESSDA is about research data, but it is also about the variety of expertise that is needed to preserve data for reuse, whether it is about COVID-19, migration, child well-being, or another topic of interest.

Helena Laaksonen,
Chair of the General Assembly

2021 Highlights

Supporting excellent science
- Visitors (websites, tools, catalogues): **12,000,000+**
- Registered users: **1,000,000+**
- Number of datasets delivered to users: **300,000+**
- Publications based on CESSDA archived data: **550,000+**
- Data sets available in CESSDA consortium: **40,000+**

Delivering training and education
- Events: **285** (external) + **19** (internal, Agenda/CESSDA financed)
- Attendees: **12,600** (external) + **1,168** (internal)

Outreach activities/
Raising awareness
- External events participation: **692**

International collaboration
- **10** active EC funded projects; 3 proposals in progress
- **11** internal pan-European projects with CESSDA partnerships
- CESSDA Service Providers represented in **100+** external projects
- Domain associations (e.g. EASSH[1])
- EOSC Association membership, EOSC Task Forces participation
- Supporting collaboration with industry initiatives (e.g. ENRIITC[2])

Management
People
- Main Office: **12**
- CESSDA Service Providers (total FTE): **620**

Funding
- National funding to the Consortium: **47 million EUR**
- Main Office operational budget: **1,950,000 EUR**

Technology
- Number of FAIR datasets: **1,500+**
- Number of tools at TRL-8[3]: **60**

1. **https://eassh.eu**
2. **https://enriitc.eu**
3. **Technology Readiness Level**

Governance

The Research Infrastructure Landscape

CESSDA operates in an environment of European research infrastructures marked by ever-growing complexity. This is demonstrated at several levels.

- At a European level, there are many cross-domain collaborations and contributions to the European Open Science Cloud (EOSC) in the SSH domain.

- At a national level, there is an increasing number of nationally established research infrastructures.

- At an institutional level, CESSDA Service Providers position themselves as certified and trusted data repositories, as well as providers of data, tools, and services to the local scientific communities. They are experts in data quality and long-term data preservation.

CESSDA ERIC membership strengthens Service Providers and enhances their competitiveness at a national level. It provides access to know-how and shared standards. It enables the joint development of tools and services, which reduces their individual costs. Moreover, it gives CESSDA Service Providers access to relevant initiatives and funding reserved for European Research Infrastructures (RIs).

These strategic partnerships, facilitated by EU-funded projects, are presented under Strategic Partnerships below. For example, CESSDA applied, together with all four other social sciences ERICs, to the infra EOSC-04 call in 2019, and created what is now known as the SSHOC project.

The RITrain Plus project gathered a number of EU RIs, core facilities, business and management schools, as well as European universities. Together, they looked at how to improve human resources for national and international scientific facilities in Europe. One of the main goals was to provide highly qualified personnel for managing research infrastructures and similar complex operations.

The ERIC Forum Implementation project is another example of strengthening the coordination and enhancing collaborations between ERICs. It brings together the whole ERIC community and aims to support RIs across various areas: e.g. the ERIC legal framework, sharing best practices, and addressing common challenges. The project aims to encourage a unified voice and provide support on how to respond to relevant policy actions at the EU level.

CESSDA Governance

CESSDA has grown rapidly over the last few years and 2021 was a year of intensive development. Agile and real-time responses and adjustments are increasingly expected of European Research Infrastructures.

The General Assembly met twice, in June and in November 2021. The CESSDA Service Providers' Forum, an advisory body to the Director, consisting of representatives of CESSDA national Service Providers also met twice: in April and in October 2021.

The major discussion points were:

- CESSDA's internal developments and impact

- Maintenance of existing infrastructure

- Evaluation of outputs and compliance with the CESSDA Agenda and its work plan

- Alignment across the SSH domain and other SSH research infrastructures

- Participation in the European Open Science Cloud (EOSC)

CESSDA's working groups monitored the progress and developments in each of the four strategic areas: Training, Trust, Tools, and Widening and Outreach.

CESSDA's strategic activities in the EU ecosystem and policymaking bodies of research infrastructures has gained momentum over the past years. Since 2019, CESSDA has been leading the Social Sciences and Humanities Open Cloud (SSHOC), a large cluster project connecting the SSH communities to EOSC. As coordinator, CESSDA chaired the governing body of the project, led project activities, and streamlined the decision-making process.

In particular, CESSDA led the cooperation with other cluster projects such as ENVRI-FAIR, EOSC-Life, ESCAPE and PANOSC resulting in a recognised position when it comes to EOSC governance. One of CESSDA's overall goals has been to provide a platform for social data researchers that integrates with the EOSC within the 2020-2022 timeframe.

CESSDA Performance Indicator activities

CESSDA started gathering Key Performance Indicators (KPIs) in 2020.
KPIs form an important part of governance and are useful for monitoring impact.

2020 results were summarised in a public report shared with CESSDA governing bodies in 2021. A set of detailed guidelines and an improved list of indicators were prepared to guide the second round of data collection in 2021. Some of the numbers for 2021 have been used in the 2021 Highlights section. CESSDA monitored six broad areas which were defined by ESFRI and adapted to CESSDA's vision and mission.
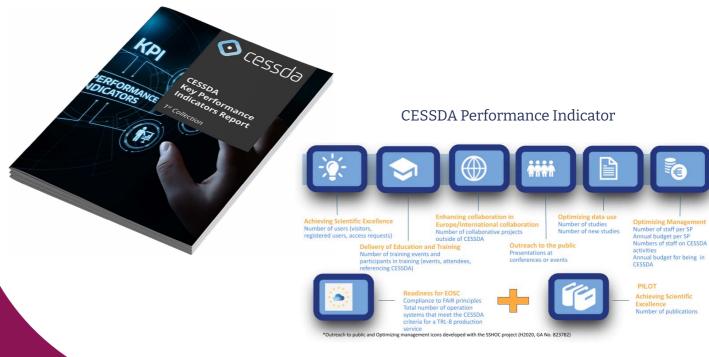
The six areas were:
- Achieving scientific excellence;
- Delivering Education and Training;
- Enhancing European and international collaboration;
- Public outreach;
- Optimising data use;
- Optimising management.

Measures included:
- CESSDA visitors, registered users and access requests;
- Training events, attendees and references to CESSDA;
- Number of collaborative projects;
- Presentations at conferences and events;
- Number of digital objects accessible at our archives and data services;
- Information on staff members and their engagement, and annual funding at a national level.

In addition, CESSDA monitored EOSC-readiness within the consortium. In 2021, this was measured internally and covered compliance with some of the EOSC requirements for data, tools and services. In 2021, CESSDA piloted tracking the number of publications using data from CESSDA archives (see 2021 Highlights).

CESSDA Performance Indicator

Source: CESSDA (Ivana Ilijasic Versic)

CESSDA Consortium activities

CESSDA's four working groups include members from Service Providers and cover the following strategic areas: the Training Pillar, the Trust Pillar, the Tools Pillar, and the Widening & Outreach Pillar. The working groups followed their respective roadmaps for 2021–2022 according to the CESSDA Strategic Plan 2018–2022.

Gender Equality Plan

The Gender Equality Plan (GEP) was introduced by the European Commission as an eligibility criterion for Horizon Europe projects. At its core, a GEP is a set of commitments and actions that aim to promote gender equality in an organisation through institutional and cultural change.

CESSDA conducted data analysis and produced a report in 2021. This report serves as an internal initial assessment of the state-of-play of gender equality within the infrastructure.

The report reinforces CESSDA's support towards equal representation and inclusiveness and paves the way for addressing identified weaknesses. The GEP will be developed for 2022–2023 and will focus on the following key priority areas: gender leadership and decision-making, gender in recruitment, retention and career development, work-life balance and organisational culture, and gender training.

Source: Shutterstock

Training

The goals of the CESSDA Training Working group are to provide training for researchers, data professionals and archive staff. The Training pillar delivers events and materials to raise awareness about Open Science, FAIR data principles, and increases the data skills of researchers. Under this pillar an important aim was to increase the secondary use of data via improved data discovery skills and, in parallel, improve the data sharing culture. Key to this was offering training opportunities on tools, services, and materials used by data professionals and related experts in repositories. Of particular interest are tools produced by CESSDA.

Training in figures in 2021

- **57** events published in CESSDA Training Calendar;
- **43** videos were uploaded to CESSDA Training YouTube channel;
- **>150** views of the webinar on "Want to collect personal data? An introduction to processing personal data for research purposes";
- **>1,000** training tweets.

Highlights

CESSDA Training website and calendar

The main goal for the CESSDA Training website in 2021 was to provide CESSDA Training resources for researchers in social sciences that were findable, accessible, and reusable. CESSDA and its Service Providers organised, coordinated, and collected events covering the topics of data discovery, data use and research data management. The majority of events were online due to the pandemic.

An event checklist and accompanying template documents were prepared to help training organisers, facilitators, and the communications team to deliver the online training sessions. Training events in 2021 were delivered on data usage covering many topics, including COVID-19, Climate Change, Migration, Cancer and Chronic Diseases, Circular Economy and R for GIS, and what is new in CESSDA Data Catalogue.

Events focused on data management and data publishing and covered topics such as: anonymising qualitative data, data cleaning, several workshops on fundamentals of research data management and an introduction to a FAIR evaluation tool.

The most frequent type of event were online workshops (47%) and webinars (46%). The majority of events were designed for data users 67%, (38), around one fifth (11) for data professionals (people with expertise in data cleaning, management, curation and preservation), and approximately 16% (9) for data producers.

Source: Shutterstock

The online workshop "Using the statistical language R as a Geographic Information System" from 23 November 2021 was the event with the highest number of unique views (255). Recordings of events are regularly published on the **CESSDA Training YouTube channel**. In 2021, 43 videos were uploaded (one event can result in more than one video).

The most popular video was "**Want to collect personal data? An introduction to processing personal data for research purposes**". This webinar, delivered in 2020, received around 150 views in 2021 and was held by Data Protection Advisers from the Norwegian Centre for Research Data (NSD).

CESSDA also organised a well-attended online forum on "Challenges of sharing data linked to publication" about developing journal policies and another on "Making Social Science Research Transparent". Pilots on workflows and procedures on depositing replication data with several journal publishers are taking place. The evaluation of the success rates of the different workshops and their topics will indicate the priorities for 2022.

As of 1 December 2021, 57 events in total were published in the CESSDA Training Calendar in 2021. Most of them were either online workshops or webinars that covered the topics of either data discovery and use and, or research data management organised by CESSDA or its SPs.

Seventeen events were delivered under Training in 2021, with a total of 278 attendees. Materials from events are published on **Zenodo** or other national repositories and have good views and downloads (average 70 views/40 downloads).

A quiz on data management

The CESSDA's Data Management Expert Guide (DMEG) was published in the **EOSC marketplace**. A special quiz on data management was conceived and added to the material of the **DMEG**. The purpose was to draw attention to CESSDA's material and support researchers in their efforts to make their data more FAIR.

Social media

The CESSDA Training team helped CESSDA's Senior Communication Officer with the promotion of training events and materials on Twitter and uploading videos to the CESSDA Training YouTube channel (see the section on communication).

Tools & standards

The Tools working group focuses on the user's perspective of both researchers and Service Providers. The group closely monitors the status of CESSDA's services and coordinates and evaluates tasks. It also prioritises enhancing the available CESSDA services and provides direction when it comes to future services.

Highlights

CESSDA services

In 2021, CESSDA shifted from focusing on building technical components towards delivering professional services to our users.

A Service Provider has taken on the role of Service Owner for each of the major core technical services of CESSDA, which are:
- CESSDA Data Catalogue (CDC);
- CESSDA Vocabulary Service (CVS);
- European Languages Social Sciences Thesaurus (ELSST);
- European Question Bank (EQB).

Each Service Owner is responsible for establishing processes for managing user requests and overseeing the strategy and delivery of the technical work by contractors. They are members of the Tools working group and they are also charged with supporting SPs in maintaining their technology and data used to deliver the central services.

At the end of 2021, most Service Providers were successfully onboarded in the CESSDA Data Catalogue (CDC). The findability of data was increased by exposing metadata for machine harvesting. The CESSDA Data Catalogue had over 40,000 records by the end of 2021, which made it the largest Social Science Data Catalogue in the world. The CESSDA Vocabulary Service was further improved in 2021, with new controlled vocabularies, additional languages, and work on the Simple Knowledge Organization System RDF Schema (SKOS/RDF) export.

In addition, a new version of the European Language Social Science Thesaurus (ELSST) was released in September 2021, keeping ELSST up to date with societal changes. The thesaurus consists of over 3,000 concepts and covers the core social science disciplines: politics, sociology, economics, education, law, crime, demography, health, employment, information and communication technology and, increasingly, environmental sciences. Updating the thesaurus ensures that it reflects societal changes and facilitates access to data resources across Europe.

The CESSDA Euro Question Bank (EQB) is envisioned as a cross-national question bank that will integrate and display metadata from several European archives, mostly CESSDA Service Providers. Work on the EQB continued in 2021, in collaboration with the SSHOC project and it was decided to use Colectica as the technology platform for it.

Streamlining IT activities

CESSDA provided the working group members and Technical Committee Members with a FitSM training in November 2021.[4] All attendees received the Foundation level certification in 2021. This will help to streamline CESSDA's IT activities into customer facing services.

The Tools Working group leader joined the EOSC Association Task Force on FAIR metrics and Data Quality on behalf of CESSDA. The EOSC Task Force intends to "implement the proposed FAIR metrics for EOSC by assessing their applicability across research communities". It will also test a range of tools to enable data uptake and make recommendations for further improvement. The EOSC Task Force gives CESSDA the opportunity to work jointly with other experts on metadata, FAIR metrics, and data quality.

CESSDA standards

With the establishment of a Technical Committee in 2021, an advisory group to the CESSDA Main Office on technical matters, the focus has changed towards improving the metadata and implementing standards across the consortium.

The setting up of DDI Profiles created by the Metadata Office in early 2021[5] has ensured that higher quality metadata enters the CESSDA Data Catalogue. As a result, machine-readable specification and human-readable guidance can be provided to metadata professionals. The wider adoptions of classification systems such as ELSST and the CESSDA Topic Classifications (maintained in CESSDA Vocabulary Service) form a central aspect of this work. Metadata Office maintains the CESSDA Metadata Model and the DDI profiles and continues to support Service Providers in their implementation.

Internal developments

Following the CESSDA Agenda 2021–2022, five tasks were carried out in 2021:

- CESSDA Metadata Aggregator development
  - The project delivered an extension to the open source Kuha2 software[6], developed by the Finnish Social Science Data Archive (FSD) and in use at multiple CESSDA Service Providers. This means that the CESSDA Data Catalogue itself is now a harvestable metadata repository. This will allow CESSDA to provide its high-quality metadata to EOSC and other large data catalogues.
- CESSDA Data Catalogue (CDC) upgrade plan
  - With the CDC surpassing 40,000 records, work was undertaken to analyse its functionality and sketch out scenarios for future improvements.
- Data access information upgrade plan
- Dataverse business plan development
- Resource Directory (tools information added)

4. FitSM is a "free and lightweight standards family aimed at enabling effective IT service management in the broadest range of organisations"; **www.fitsm.eu**
5. Zenodo **https://doi.org/10.5281/zenodo.4580376**
6. Kuha2 **https://kuha2.readthedocs.io**

Trust

The CESSDA Trust working group's mission derives from the Service Providers' obligations under Annex II Obligation 7, to "Adhere to the principles of the Open Archival Information System reference model and any agreed CESSDA ERIC requirements for operating trusted repositories". The latter are the sixteen CoreTrustSeal requirements.

Highlights

CESSDA efforts

The fact that CESSDA chose early on to prioritise focusing on requirements for operating trusted repositories has been recognised as vital across the EOSC landscape and globally. For the last couple of years, internal support activities have been accompanied by more externally facing Trust work. The efforts of the Trust working group to provide support have been publicly shared and taken up within EOSC and FAIR data projects offering certification support (see CESSDA and EOSC – Strategic partnerships below). This external landscape of Trust work is now a part of the Trust working group remit. The working group's perspective on the ever-evolving world of Trust in digital data repositories can benefit actors beyond CESSDA.

The initial and primary activity of the Trust group is to support Service Providers, both long-standing and recently joined, in achieving CoreTrustSeal. At the time of writing more than half of the 23 CESSDA Service Providers have achieved this certification goal. Trust activities exist at multiple levels of maturity, some introductory but more frequently at the intermediate level of aspiring repositories. Expert level activities were set up in 2021 for those Service Providers undertaking recertification every three years.

The Trust working group support is often reactive. Each CESSDA Service Provider has a dedicated contact with the working group. This means that Service Providers can choose to seek support and internal peer review of their CoreTrustSeal applications at any time. Maintenance of this in-demand service is a priority for the future development of the group.

Diagram 1 shows the three goals of the Trust working group.

Diagram 1. The Trust Roadmap's Three Goals

The role of "common evidence"

A 2021 report highlighted the role of evidence in CoreTrustSeal applications and the importance of so-called "common evidence". This refers to public documents which describe CESSDA's mission, policies, practices, and activities. These are important building blocks for Service Providers' applications. They not only facilitate the certification process for Service Providers (SPs), they also support standardisation across CESSDA. The Trust working group carried out an analysis of successful CoreTrustSeal applications of SPs. Existing common CESSDA evidence was gathered, and recommendations were made for further necessary documents, policies, and practices.

Two general recommendations were made:
• setting up a dedicated space for the Trust working group to give access to common evidence (e.g. templates).
• creating a framework to help define a common CESSDA approach to succession plans.

Draft support plans were prepared to define overall needs. This work demonstrated a clear need for one-to-one support on specific issues for Service Providers. There was also a desire for the exchange of experiences and best practices.

Collecting trust-related information across Service Providers

In 2021, requirements were collected and a system for collating trust-related information from across SPs was designed.

The group looked at the information needed to measure Service Provider compliance with the ERIC Statutes and then at how these related to the CESSDA Performance Indicators.

The information used for CoreTrustSeal support was used to deliver a shared evidence plan. Work started on a timeline and a plan for organisational information collection, design, and analytics. The collection, analysis and sharing of this information centrally via CESSDA Main Office will be critical. It will help avoid duplication of efforts and demonstrate CESSDA's impact. It will also ensure that future decisions and directions are data driven. In the future, this information will be shared alongside CESSDA performance indicators.

The group looked at CESSDA's alignment with the wider landscape of Trust support services. Trust is an essential part of open science, FAIR data, and the EOSC. An overview was produced of ongoing Trust relevant activities and discussions of interest to CESSDA and its SPs.

Topics covered include:
• repository certification
• different types of data services
• community principles
• metrics
• persistent identifiers, and
• initiatives within and beyond Europe.

This work on the wider Trust landscape perspective was used to identify overlaps and areas where efficiencies could be achieved. In general, low levels of redundancy were found. Support plans, information collection and analyses of the wider landscape all present separate benefits to the CESSDA Service Providers.

Widening & Outreach

The rationale behind the Widening working group is to expand the CESSDA membership, provide capacity-building to new Service Providers and to maintain a network of non-member Service Providers.

Highlights

CESSDA efforts

In 2020, the Widening working group began looking into how CESSDA and its SPs could support partner SPs and new or less developed SPs (from member countries). One-to-one support, aiming at providing tailor-made support, was then established and continued in 2021 via the **CESSDA Mentorship Programme**. In total six mentorship co-operations took place in 2021.

New developments at CESSDA partner SPs and research infrastructures were monitored. The focus was on European research data policies and existing outputs on new data types. In this context a survey focussing on social media data and on researchers' needs for data services for new data types was carried out.

The survey focused on data archives' practices for storing, preserving, archiving and sharing new data types (NDTs). All CESSDA member and partner Service Providers were asked to share their experience with NDTs. Data were collected in April–May 2021 via a semi-structured questionnaire containing standardised as well as open questions. A total of 24 questionnaires were collected.

Data service providers were asked to share what NDTs they stored (e.g. Internet usage data, tracking data, Government transactions data, health data, satellite and aerial imagery data) and to explain the perceived challenges of archiving and sharing NDTs. They were also asked how they value various forms of support from CESSDA. They also shared their suggestions for improving the practice of handling NDTs.

A key finding was that relatively few datasets of NDTs have been archived at CESSDA SPs and that there is a general lack of experience in working with NDTs. There were exceptions for larger and longer-established social science data archives.

In terms of public outreach, 21 issues of the **CESSDA Newsletter** were published in 2021, with the support of CESSDA main office communications.

Internal developments

A priority activity in 2021 was the maintenance and subsequent developments of the **CESSDA Resource Directory** (RD). The Resource Directory is a structured and documented collection of information on available documents, tools, and support services relevant to activities in development of data archive services.

The Widening team developed a new approach for the CESSDA RD. The team updated its content based on information received from the CESSDA newsletter, Tools and Training WGs as well as from other sources. The team started a review of the CESSDA Resource Directory on the Zotero platform.

Two proposals for the IASSIST 2022 conference were successfully submitted. They served as a replacement for the Widening & Outreach events that could not be organised due to the COVID-19 pandemic in 2020 and 2021.

CESSDA's involvement in EC projects

Training

CESSDA Service Providers are involved in different training and awareness raising activities in EC-funded projects as coordinator or contributor. They are:

SSHOC - Social Sciences & Humanities Open Cloud
- SSH Training discovery toolkit
- Training community/Trainers directory
- Training resources

RITrainPlus - Research Infrastructures Training Plus
- Staff and knowledge exchange programmes, secondments
- Community of practice in governance and management of RIs

COORDINATE - COhort cOmmunity Research and Development Infrastructure Network for Access Throughout Europe
- Training on the use of secondary data from RI and data management planning (statistical courses, summers schools, training for non-scientific stakeholders)
- Visits to RIs

EOSC Future
- Training events and materials on EOSC
- EOSC Training catalogue

TRIPLE - Transforming Research through Innovative Practices for Linked interdisciplinary Exploration
- GOTRIPLE platform
- Training events (e.g. ThatCamps)

Tools and Standards

CESSDA Service Providers participate in several EU projects delivering tools and services (e.g. see SSHOC in the section on CESSDA and EOSC – Strategic partnerships).

Thematic portals:
• BY-COVID
• COORDINATE

Data archiving:
• HummingBird

Data distribution:
• TRIPLE

EOSC Enhance:
• EOSC Portal specifications, interoperability, and quality framework
• EOSC Portal functionalities towards EOSC Service and Resource

Providers
• EOSC Portal functionalities towards EOSC End-Users

COORDINATE:
• Enhancing Findability

RITrainPlus:
• On Data policy and management

EOSC Future:
• Architecture and Interoperability
• Design & Development of Portal Demand Layer
• Integration of Community Services & Products into EOSC

TRIPLE:
• Data acquisition and categorisation
• Integration and building of TRIPLE Platform
• Open science and EOSC integration

SSHOC:
• Lifting technologies and service into the SSH Cloud
• Innovations in data access

BY-COVID:
• CESSDA metadata into COVID-19 portal

Trust

Members of the CESSDA Trust working group are connected to the wider network of Trust activities. Diagram 2 presents several interactions.

Diagram 2. CESSDA Trust Connections

CESSDA's Trust connections have resulted in the publication **FAIR+Time: Preservation for a Designated Community**, prepared by members of SSHOC, EOSC Nordic and FAIRsFAIR projects. It presents key concepts and the standards and assessments required for an interoperable ecosystem of FAIR data. An overview of support approaches is also being prepared.

Widening & Outreach

WG members were involved in a number of EC projects (e.g. SSHOC, BY-COVID). For example, SSHOC project results fed into the CESSDA Resource Directory and the mentorship activities.

Communications and outreach activities

The Roadshow's Impact in numbers

- **5** Global challenges addressed
- **5** Slide decks on ZENODO
- **5** Sets of recordings for YouTube
- **6** Sets of graphically designed banners
- **31** Speakers (**18** female)
- **219** People registered
- **142** Attendees
- **130** New newsletter registrants
- **15** User stories showcased

Highlights

CESSDA Roadshow

The CESSDA Roadshow was the main highlight of 2021 in terms of outreach. Five two-hour interactive webinars were organised, aimed at researchers in the social sciences and humanities.

The webinars took place every week for five weeks:

- **Roadshow #1:**
  30.09.21 – COVID-19
- **Roadshow #2:**
  08.10.21 – Migration
- **Roadshow #3:**
  14.10.21 – Climate Change
- **Roadshow #4:**
  21.10.21 – Cancer and Chronic Diseases
- **Roadshow #5:**
  28.10.21 – Circular Economy

Two essential CESSDA services for researchers took centre stage:
- CESSDA Data Catalogue (CDC)
- CESSDA Data Management Expert Guide (DMEG)

Consult the CESSDA Roadshow booklet

The slides and recordings are available on the **CESSDA community on Zenodo**

The recordings are also available via the **CESSDA Training YouTube channel**.

CESSDA interviews

CESSDA continued in 2021 with its interview series, targeted at researchers with topics ranging from COVID-19 to the core business of Service Providers.

A dedicated **interview playlist** was created on CESSDA's YouTube channel. In December, the CESSDA and ICPSR Directors chatted live and shared stories of navigating the pandemic, data access, privacy, and more. CESSDA also launched its own podcast on Spotify in January 2021, called "**CESSDA – Stories about Data**".

CESSDA website

Researcher user stories on the CESSDA Data Management Expert Guide were published on the webiste. One story is about using the guide for ethical challenges with interview data[7], the other story explains a project aimed to challenge the existing historiographical narrative on the relation between ordinary citizens and the Salazarist political police (PIDE)[8].

Two articles in the series "Tour of CESSDA" were published on the website in 2021. This series of articles highlight each of CESSDA's national service providers one at a time. The articles were:
- **DATICE – The Icelandic Social Science Data Service;**
- **SND – Swedish National Data Service.**

An updated version of the CESSDA Data Catalogue was made available early 2021. A news item explaining the benefits for users and a webinar the following month were helpful outreach activities.

Some results from the CESSDA website:
- 116,755 visits
- 142,521 views to the Training website
- 122,805 views of the DMEG
- 4,337 views of the CDC

The biggest growth in terms of page views was for News & Events with +60% compared with 2020. Over two thirds of visitors to the CESSDA website come from search engines, with only one quarter of direct entries. Three main social media platforms attract visitors to the CESSDA website: Twitter, Facebook and LinkedIn. The main outlink from the website was the CESSDA Data Catalogue with over 3,000 unique clicks.

In 2022, CESSDA will launch a new website. Finally, CESSDA published a booklet on "**CESSDA behavioural data for research tackling the global COVID-19 challenge**" in time for the ICRI 2021 – The International Conference on Research Infrastructures virtual event. It presents CESSDA COVID-19 resources and highlights from European Social Science Data Archives.

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7. Peter Čerče, Data Officer, Migrant Children and Communities in a Transforming Europe (MICREATE) project. **www.cessda.eu/News-Events/News/CESSDA/CESSDA-Data-Management-Expert-Guide-User-Story2**

8. Duncan Simpson, a Marie Curie Fellow at the Institute of Social Sciences, the University of Lisbon. **www.cessda.eu/News-Events/News/CESSDA/CESSDA-Data-Management-Expert-Guide-User-Story3**

Social media campaigns and newsletter

11 Twitter campaigns ran in 2021:
#ThrowbackThursday (related to #CESSDARoadshow in 2021)
#CESSDATraining (events from the Training calendar)
#DMMonday (DMEG)
#CESSDAData & #COVID19data (CDC)
#10Questionsto (CESSDA interviews)
#CESSDAArchives (SP Promotion)
#JobFairy (SP Promotion)
#TourofCESSDA (SP Promotion)
#CESSDANewsletter (SP Promotion)

Between January and November 2021, 908 training tweets were published: 223 covered the CESSDA Training Calendar, and 57 the DMEG. They showed relatively good performance in terms of likes and retweets compared to tweets from other content categories. The highest number of published tweets belong to the category "CESSDA Training events (from Training Calendar)" (223), which concerned the announcement of training events organised by SPs. Also, 57 tweets were published to promote chapters of the DMEG (usually on a weekly basis).

Source: Word cloud of all tweets in 2021

CESSDA became more active on LinkedIn in 2021, following its increased popularity during the COVID-19 pandemic. The CESSDA YouTube channel had 680 views in 2021 and 60 subscribers. By the end of 2021, there were just ten videos on the channel. The CESSDA Training YouTube channel had 5,941 views in 2021 and 140 subscribers. However, it had over 70 videos. The performance of both channels increased markedly from September onwards. A rebranded CESSDA newsletter was launched on 1 March 2021 and **21 newsletters** were published in 2021. The work was executed collaboratively between the communications team at the UK Data Service, communications staff based at CESSDA Main Office (MO), and a social science data specialist from the Swedish National Data Service (SND).

Activities among CESSDA MO & Service Providers

The CESSDA Communications Group is made up of approximately 50 representatives from CESSDA member Service Providers and is open to partner countries. The monthly online meetings are opportunities for Service Providers to be informed about CESSDA communication activities and to share their own activities with the group.

A strategic slogan to enhance collaboration between CESSDA's members was introduced in 2021 to help create a strong CESSDA ERIC identity.
The slogan was "**I am, we are CESSDA**".

CESSDA and EOSC–Strategic partnerships

In 2021, one of CESSDA's priorities was supporting the work of building the European Open Science Cloud (EOSC). The EOSC is a federated and open multi-disciplinary environment where researchers publish, find, and reuse data, tools and services for research, innovation, and educational purposes. It is recognised by the Council of the European Union as one among the 20 actions of the policy agenda 2022–2024 of the European Research Area (ERA), with the specific objective of deepening open science practices in Europe.

CESSDA got involved early on to secure an important position for Social Sciences and Humanities. Out of several calls for funding the Research Infrastructures work, CESSDA coordinated one proposal, the SSH Open Cloud, and joined other proposals, with the aim of gaining a leadership position in the SSH domain.

CESSDA continues to align its processes and standards with those emerging from activities of other disciplines in the EOSC landscape by participating e.g. in the EOSC Enhance and EOSC Future projects. CESSDA has established its role in the EOSC landscape and is now able to connect its services to the EOSC platform. This way, the services can be found and used by completely new user groups.

The alignments ensure that in the future technical solutions can be supported to seamlessly integrate data across different disciplines. Three of its services have already been successfully on-boarded to the EOSC Portal Catalogue & Marketplace:

CDC
marketplace.eosc-portal.eu/services/cessda-data-catalogue

ELSST
marketplace.eosc-portal.eu/services/elsst-european-language-social-science-thesaurus

DMEG
marketplace.eosc-portal.eu/services/data-management-expert-guide-dmeg

Building the SSH part of the EOSC Cloud

On a European level CESSDA has had a leadership position in the SSH domain for the last four years. It successfully coordinated SSHOC (Social Sciences & Humanities Open Cloud), a cluster project, which alone united 53 partner institutions. Together, they addressed the vision articulated by the EC in 2016: to offer researchers in the domain seamless access to full and unified digital panorama of relevant data and services, tools and training required to make optimal use of data.

The **SSHOC** project brought together existing and new infrastructures to foster synergies. It has built a strong and recognisable brand around a consortium lead by 5 ERICs (CESSDA, CLARIN, DARIAH, ESS and SHARE), 1 ESFRI project (E-RIHS), and several on-boarded SSH data communities.

It addressed the following challenges:
• the distributed character of data infrastructures in SSH
• multilinguality
• data complexity
• secure access to sensitive data

It also provided researchers with a curated collection of tools, services and data repositories. All of them are discoverable through the SSH Open Marketplace and the EOSC catalogue.

The **SSH Open Marketplace** is a discovery portal which pools and contextualises resources for Social Sciences and Humanities research communities: tools, services, training materials, datasets, publications, and workflows.

Figure3. SSHOC Consortium

On a policy level, close collaboration of SSH domain stakeholders started to influence and inform the highest levels of policy development, making sure the needs of SSH communities are recognised in the EC policies on European research, open science, and further investments in the European Open Science Cloud.

Participation in a cluster project led to coordinated interaction with other funded domain clusters (ENVRI-FAIR, EOSC-Life, ESCAPE and PANOSC). The strategic alignment of five cluster projects or 'Science Clusters' (funded by INFRA EOSC-04 call) has been ongoing since 2020. It has resulted in joint position papers, stakeholder and engagement events, and a joint response to shaping the new Horizon Europe Research Infrastructures' work programme for the 2023–2024 funding period.

The clusters represent a connection between the EOSC and Research Infrastructures. They provide much needed communication channels with end-users in specific scientific domains. Collaboration between the Science Clusters is a key condition in shaping a landscape that enables and actively supports collaboration across domain boundaries.

One of collaborations stemming directly from the clusters' alignment efforts is the **BY-COVID** project evolving around provision of comprehensive open data on SARS-CoV-2 and other infectious diseases across scientific, medical, public health and policy domains, and ultimately aiming to improve European readiness for future pandemics. It also serves as a demonstrator of a unique interdisciplinary effort, bringing together partners and stakeholders from many diverse fields in several scientific domains and across country borders.

One of many SSHOC results was the pilot gamification of the **CESSDA DMEG** – the **SSHOC League of Data**. It is one of the great innovative examples, which is training researchers in a ludic way on how to maximise the reuse of their data via Open Science and FAIR principles.

Preparing for the next steps – The future of EOSC

A next step after realising the SSH Open Cloud, is to join the project whose purpose is to provide all European researchers, via a single sign-on system, access to interoperable resources and support to manage the full lifecycle of their data.

EOSC Future aims to integrate, consolidate, and connect all e-infrastructures, research communities, and initiatives in Open Science. The project aims to further develop the EOSC Portal, EOSC-Core and EOSC-Exchange of the European Open Science Cloud (EOSC). CESSDA participates in all Work Packages and leads a work package on Design and Development of Portal Demand Layer, adding new and improving existing functionalities for end users who want to discover and use EOSC resources.

Building the actual Cloud

In 2021, the **EOSC Enhance** project came to an end – another project gathering a consortium working on creating the EOSC Portal. Project partners developed and improved the functionality of the EOSC Portal, further augmenting the catalogue of services, and connecting independent, thematic data clouds for the benefit of users and service providers across Europe.

As one of the ESFRI Cluster representatives, CESSDA was involved in the following activities:
- Further development of the EOSC catalogue, advising on functional specifications, testing API for interconnecting and harvesting thematic services
- Management coordination between the SSHOC and EOSC Enhance projects
- Improvements in portal functionality, gap analysis, alignment of the EOSC Portal with the SSHOC Marketplace, and user personas.

TRIPLE project – Tools for researchers

Another project connects CESSDA to the EOSC realm. At the heart of the **TRIPLE** project is an innovative multilingual and multicultural discovery solution for the social sciences and humanities. It will provide a single access point that will allow researchers to explore, find, access, and reuse research materials and publications at a European scale. These include literature, data, projects, and researcher profiles. The aim of the project is to address the fragmentation of SSH research and overcome obstacles to interdisciplinary research while offering solutions for the use and reuse of SSH research.

CESSDA joined the project with the consortium of eighteen partners, along with several of its Service Providers, namely the UK Data Service (UK), FSD (FI) and ADP (SI). The contribution of CESSDA focuses on designing specifications for harvesting protocols, process, and resource metadata, as well as machine learning, open science, and EOSC integration.

In addition, CESSDA participates in the tasks related to outreach, training and advocacy on Open Science as well as aligning with OPERAS[9]. 2021 was a very productive year for TRIPLE: The GoTriple platform was launched, the main project results were presented during the first TRIPLE conference and several workshops and hackathons took place. Also, important work began on a sustainability model for the GoTriple platform and on the strategy to engage with end users.

9. **www.operas-eu.org**

CESSDA & researchers

CESSDA participates in partnerships and collaborations with research communities to ensure that its services meet the needs of researchers. The CESSDA Roadshow placed centre stage two services that support research in the social sciences: the Data Catalogue and the Data Management Expert Guide (see Communications).

Thematic communities

Users of CESSDA encompass scholars from different disciplines acting both as data producers and data users. These scholars belong to a number of SSH thematic communities. The aim of CESSDA is to engage its stakeholders and raise awareness about the added value of its tools, services, and expertise. CESSDA wants to show its potential users how it can support them with their day-to-day research work. Actions can be taken at the institutional, national, and European level.

CESSDA Service Providers organised several training and education events in 2021, both at an institutional and a national level. These events were held on site at the hosting university or at their own institutions.

The SSHOC project and its impactful outreach strategy made sure that there was a high level of outreach and stakeholder engagement at a European level. Several emerging research communities joined SSHOC, such as **E-RIHS**, **EVS**, **GGP**, **GUIDE**, **OPERAS**, **RESILIENCE**, **Ethnic and migration**, Election studies, or **WageIndicator**. CESSDA also ensured the connection with two emerging thematic communities: **HumMingBird** and **EURHISFIRM**, by participating in EC projects aimed at building these communities.

In 2021, CESSDA had more than 12 million visitors across all of its websites and catalogues, and other tools. In addition, Service Providers organised or actively participated in almost 300 training or education events, attracting over 12,500 attendees.

COVID-19 landing page

CESSDA and its national Service Providers have been committed to supporting researchers working on COVID-19 related research. A dedicated web page set up in 2020 continued to be updated in 2021[10]. It provided information about COVID-19 specific resources from the CESSDA consortium and other relevant sources.

The information provided belonged to the following categories:
- The COVID-19 Interview Series;
- COVID-19 in the CESSDA Data Catalogue;
- COVID-19 activities from CESSDA Service Providers.

10. **www.cessda.eu/Covid-19**

Looking ahead

At the end of 2021 the CESSDA ERIC consortium had started to outline the first elements for updating its strategy. In 2022, the new five-year CESSDA Strategy will be established in consultation with CESSDA's members and service providers. The strategy will take into account changes in the research and data landscape, the policy landscape, as well as in society. The strategy framework will be ready by the end of 2022.

In 2022 the four-year EU-funded project, SSHOC, the Social Sciences and Humanities Open Cloud coordinated by CESSDA will come to an end. SSHOC has transformed the social sciences and humanities data landscape into an integrated, cloud-based network of interconnected data infrastructures. The collaboration between various research infrastructures and communities across disparate SSH domains enabled different domains and methodological frameworks to collaborate on common themes and topics, such as training, vocabulary management, access to sensitive data, support for repository certification and multidisciplinary use cases. It is expected to wrap up the project and analyse the results and impact of SSHOC. Lessons learned will be fed into the new strategy.

Training
The CESSDA DMEG will be updated in 2022 and there will be a soft launch of the Data Archiving Guide. Videos, animations, or photos will be added to training tweets, as this may increase the engagement rate for CESSDA Training activities (events and video recordings). In this context the creation of banners, posters and videos for individual training events could have a positive effect on the number of interactions with tweets. Training resources will be findable on the CESSDA webpage and via the SSH Open Marketplace.

Tools
It is expected that in 2022, the focus of the Working group will shift from setting up and evaluating core services to strategic activities such as CESSDA's service roadmap and collaboration within CESSDA Service Providers.

Trust
The group will continue its approach of working with Service Providers at different levels and supporting them in the CoreTrustSeal certification process. It will also continue to build up common evidence and monitor the wider Trust landscape.

Widening & Outreach
The working group will further analyse and publish the data collected from the survey on researchers' needs for new data. The CESSDA Mentorship Programme will continue in 2022 as well as the CESSDA newsletter. The IASSIST2022 conference will provide opportunities for cooperation.

Project proposals
In 2021, CESSDA was also involved in the preparation and submission of several successful project proposals. All these projects are expected to start in 2022:
- eRImote (HORIZON-INFRA-2021-DEV-01 call) together with three Service Providers (FORS, UKDS, ISSDA) and focusing on the post-COVID-19 response to provide solutions for remote access across RI domains.
- FAIR-IMPACT (HORIZON-INFRA-2021-EOSC-01 call) together with UK Data Service and NSD, focusing on realising a FAIR EOSC by expanding FAIR solutions across the EOSC. This proposal built on the results of the FAIRsFAIR project and

Financial statements

Independent Auditor's Report 2021

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CESSDA ERIC Financial Statement 2021

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Bodies of CESSDA

CESSDA ERIC Members, Observers and Service Providers in December 2021

Country	Representing entity	Service Provider	GA Delegates	SPF Delegates
Austria	Federal Ministry of Education, Science and Research (BMBWF)	AUSSDA – The Austrian Social Science Data Archive	Matthias Reiter-Pázmándy, BMBWF Bettina Glazer, BMBFW (deputy) Lars Kaczmirek, AUSSDA	Lars Kaczmirek
Belgium	BELSPO – Belgian Scientific Policy Office	SOHDA – Social Sciences and Humanities Data Archive	Aziz Naji, BELSPO	Benjamin Peuch Laura Van Den Borre Oliver Lenaerts (not confirmed)
Croatia	Ministry of Science and Education	CROSSDA – Croatian Social Science Data Archive	Jelena Ilić-Dreven Staša Skenžić, Ministry	Marijana Glavica
Czech Republic	Ministry of Education, Youth and Sports	CSDA – Czech Social Science Data Archive	Naďa Vaverova, Ministry Jindřich Krejčí, CSDA	Jindřich Krejčí Yana Leontiyeva
Denmark	Danish Agency for Science and Higher Education	DNA – Danish Data	Kirsten Villadsen Kristmar, Deputy Director, DNA	Jan Dalsten Sørensen
Finland	Academy of Finland	FSD – Finnish Social Science Data Archive	Vilma Lehtinen, Academy of Finland (on leave until 31.08.22) Jussi Varkemaa, Academy of Finland Mari Kleemola, FSD	Helena Laaksonen
France	Ministry of Education, Higher Education and Research	PROGEDO/CNRS	Fabrice Boudjaaba, CNRS Basudeb Chaudhuri, Ministry	Sébastien Oliveau
Germany	Federal Ministry of Education and Research (BMBF)	GESIS – Leibniz Institute for the Social Sciences	Miriam Schriefers, Ministry Alexia Katsanidou, GESIS	Libby Bishop
Greece	So.Da.Net – Greek research infrastructure for the social sciences	So.Da.Net	John Kallas Dimitra Kondyli	Dimitra Kondyli
Hungary	The National Research, Development and Innovation Office (NRDI Office)	TÁRKI Foundation	Orsolya Rigó-Ditzendy, NKFIH Béla Janky, TÁRKI Péter Hegedűs, TÁRKI	Péter Hegedűs Béla Janky
Iceland	Ministry of Education, Science and Culture of Iceland	DATICE – Social Science Research Institute	Guðbjörg Andrea Jónsdóttir, Social Science Research Institute	Örnólfur Thorlacius Guðbjörg Andrea Jónsdóttir
Ireland	Irish Research Council	ISSDA – Irish Social Science Data Archive	Peter Brown, Research Council, Director	John Howard Julia Barrett
Italy	Ministry of Universities and Research; entity - Consiglio nazionale delle Ricerche (CNR)	DASSI - Data Archive Social Sciences Italy	Andrea Filippetti , CNR Grazia Pavoncello, Ministry	Sonia Stefanizzi

Country	Representing entity	Service Provider	GA Delegates	SPF Delegates
Netherlands	The Netherlands Organisation for Scientific Research (NWO)	DANS - Data Archiving and Networked Services	Joris Voskuilen, NWO Ingrid Dillo	Ricarda Braukmann Ingrid Dillo
North Macedonia	Ministry of Education and Science	Ss. Cyril and Methodius University in Skopje	Klime Babunski Elvan Hasanovic, Ministry	Aneta Cekikj
Norway	Research Council of Norway	NSD - Norwegian Centre for Research Data	Siri Lader Bruhn, Research Council Vigdis Kvalheim, NSD	Vigdis Kvalheim Ingvild Eide Graff
Portugal	Institute of Social Science, University of Lisbon	APIS - Portuguese Archive of Social Information	Pedro Moura Ferreira, University of Lisbon José Manuel Mendes	José Manuel Mendes Pedro Moura Ferreira
Serbia	Ministry of Education, Science and Technological Development	SER.DAC – Serbian Data Centre in Social Sciences	Aleksandra Bradić-Martinović, SER.DAC Marija Velickovic, MPN	Aleksandra Bradić-Martinović
Slovakia	Ministry of Education, Science, Research and Sport of the Slovak Republic	SASD – Slovak Archive of Social Data	Miloslav Bahna, Institute for Sociology of Slovak Academy of Sciences	Miloslav Bahna Katarína Strapcová
Slovenia	Ministry of Education, Science and Sport (MIZs)	ADP – Social Science Data Archives	Albin Kralj, MIZs Janez Štebe, ADP	Janez Štebe Irena Vipavc Brvar
Sweden	Swedish Research Council	SND - Swedish National Data Service	Susanna Bylin, Research Council Kenneth Nelson, Stockholm University	Iris Alfredsson Max Petzold
Switzerland	FORS – the Swiss Centre of Expertise in the Social Sciences	FORS	Georg Lutz, FORS Brian Kleiner, FORS	Brian Kleiner Alexandra Stam
United Kingdom	BEIS – Department for Business, Energy& Industrial Strategy	UKDS – UK Data Service	Carlos Pueyo Richard Welpton – ESRC UKRI replacement for Carlos until June/July 2022 Matthew Woollard, UKDS	Herve L'Hours Matthew Woollard

Non-members

Country	Representing entity	Service Provider
Estonia	Irish Research Council	ISSDA - Irish Social Science Data Archive
Romania	Ministry of Universities and Research; entity - Consiglio nazionale delle Ricerche (CNR)	DASSI - Data Archive Social Sciences Italy

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