

CESSDA Work Plan 2020

CESSDA Widening Activities and Journals Outreach 2020

D6b. Report from the update and upgrade of the Resource Directory

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Author List

Organisation	Name	Contact information
SND	Iris Alfredsson	iris.alfredsson@snd.gu.se
MK DASS	Klime Babunski	klimeb@isspi.ukim.edu.mk
DCS	Jelena Banovic	jelena.banovic@ien.bg.ac.rs
FORS	Christina Bornatici	christina.bornatici@fors.unil.ch
CROSSDA	Marijana Glavica	mglavica@ffzg.hr
CROSSDA	Irena Kranjec	ikranjec@ffzg.hr

Peer-review

Organisation	Name	Contact information
CSDA	Jindřich Krejčí	jindrich.krejci@soc.cas.cz

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Executive Summary

Understanding the needs of the Service Providers (SPs), both CESSDA members and partners, is essential for the success of CESSDA as a whole. Sustainable tools must be developed and made available for addressing these needs, as well as for facilitating and encouraging exchange between data archive services (DAS) at different maturity levels. The Resource Directory (RD), initiated in CESSDA Widening Activities 2018 (WA2018), and further developed in Widening and Journals Outreach 2020 (W&JO2020) is a tool that addresses these needs.

The aim of the RD is to help disseminate existing resources that either help building a sustainable and mature data service or to develop new services and features within an existing DAS. The RD is meant to be a central place to turn to when looking for resources useful for building and developing a DAS, and for achieving CESSDA membership. Information on relevant documents, training materials, tools and support services has been collected, selected and reviewed, making the RD a curated inventory of specific resources where all resources are available via web links or DOI.

Abbreviations and Acronyms

CESSDA	Consortium of European Social Science Data Archives
CROSSDA	Croatian Social Science Data Archive
CTS	CoreTrustSeal
DAG	Data Archiving Guide
DAS	Data Archive Service
DCS	Data Centre Serbia for Social Sciences
ERIC	European Research Infrastructure Consortium
FORS	Swiss Centre of Expertise in the Social Sciences
KP	Knowledge Platform
MK DASS	Macedonian Social Science Data Archive
OAIS	Open Archival Information System
RD	Resource Directory
SaW	Strengthening and Widening
SND	Swedish National Data Service
SP	Service Provider
WA2018	Widening Activities 2018
WG	Working Group
W&JO2020	Widening and Journals Outreach 2020

Introduction

Widening European coverage and the development of Pan-European data services are among the priorities of CESSDA ERIC. Widening activities have been central in several CESSDA projects and work plan tasks, and from 2021 Widening & Outreach is one of CESSDA's four strategic pillars.

One of the aims of the work plan project CESSDA Widening and Journals Outreach 2020 (W&JO2020) was to build on work done in earlier work plans, and to ensure the continuity of long-term CESSDA widening efforts. The Resource Directory (RD), created during WA2018, is a structured and documented collection of information with the purpose to provide an extensive guide to available resources for data service building¹. The aim of the W&JO2020 subtask *Upgrade and Update the CESSDA Resource Directory* was to continue the work started in WA2018.

When WA2018 ended, there was still no decision on where to publish the RD. The initial plan was to submit the resources to the Knowledge Platform (KP), developed during the CESSDA SaW project². As it was later decided that CESSDA was not to continue maintaining the KP, another solution had to be found. Meanwhile, the RD was available as a Google Sheet.

Even if there was no Work Plan task including the RD in 2019, the work to find a place to publish the RD continued. After investigating different solutions, it was decided to publish the RD as a group library on Zotero. The migration started during the autumn 2019 and was finalised shortly before the start of the new task in 2020.

The outcome of the Task on Upgrade and Update the CESSDA Resource Directory is deliverable D6 separated in two items:

1. D6a. Updated and upgraded Resource Directory (published in Zotero as a group library - see section "The Updated and Upgraded Resource Directory v2.0" of this report).
2. D6b. Report from the update and upgrade of the Resource Directory (this document).

¹ See Christina Bornatici and Mike Priddy (2019). CESSDA Widening Activities 2018: Deliverable 1 - CESSDA Resource Directory.

² Strengthening and widening the European infrastructure for social science data archives. Project funded by the EU Horizon 2020 Research and Innovation Programme under the agreement No.674939; website: <https://cessdasaw.eu/> [accessed 13.03.2021]

Work done in 2020

Objective, team and timeline

The main task for 2020 was to upgrade and update the RD. Due to a limited budget for Widening Activities in 2019, there had been no update of the resources since they were collected in the spring of 2018. For a product like the RD maintenance is essential, and it could be assumed that new resources of value to the RD had been created since 2018, that links had been broken or changed for some resources, and that other resources had become obsolete.

After the completion of the WA2018 project the RD had been moved to a new platform, Zotero. This meant that the team needed to explore the features of Zotero, and how the initial Google sheet structure worked in the Zotero environment.

The RD team consisted of members from SND, FORS, CROSSDA, MK DASS and DCS representing the CESSDA member countries Sweden, Switzerland, Croatia, North Macedonia and Serbia. SND and FORS contributed with experience from the RD work in 2018, and the new CESSDA member SPs, CROSSDA, MK DASS and DCS, contributed with the experience of being in the process of building up a new DAS, and the knowledge of what kind of resources are helpful in that process. It also turned out that the colleagues from CROSSDA had experience of working with Zotero, which was of great value.

Bi-weekly virtual meetings with the whole team were held during the period April-October (except for the vacation period during July-August). During this period the work mainly focused on testing the RD, changing the structure of the RD, testing and changing the collection tool and sending out the collection tool to CESSDA member and partner SPs.

From mid-October the work was conducted by a smaller group, the editorial board, composed by SND, FORS and CROSSDA, and this group continued with bi-weekly meetings until mid-February. During this period the work focused on reviewing new and updated resources collected from different sources, and to initiate the work to create a guide on how to review resources.

In March 2021 the practical work with the RD was transferred to the new team in the task under Agenda 21-22.

Testing and modifying the RD

During the first phase of the work, CROSSDA, MK DASS and DCS tested the current RD, giving feedback on the functionality and missing resources. In the meantime, SND and FORS

were tasked with reviewing the RD's structure and seeing if any improvements could be made. Then the whole team went through the change proposal and it was decided what changes should be made.

The initial test of the RD consisted of a general exploration of how to use the tool on Zotero, and to give feedback on this. In addition, a more specific test was performed in order to check whether the resources currently available in the RD could answer the questions that staff at a new SP may have when building up their service. A similar test was also conducted in 2018³.

Exploring the Zotero library web interface resulted in several questions about its user friendliness. Ideally, an interface should be self-explanatory, but for proper use of the RD on Zotero a user guide is needed. Zotero can also be installed as a local application and this also needs to be explained in a future user guide.

Looking at the content of the RD, a general view was that it includes many resources of value for building a DAS, but there are still areas where more resources are needed. Examples of such areas are:

- Legal and ethical considerations in data management (especially GDPR),
- Governance structure, overview of different organisational and governance models,
- Staffing and job descriptions,
- Financing models, financing/funding schemes,
- Policies, such as Collection policies, Preservation policies, PID policies,
- Data Anonymization,
- Tools and how to install,
- OAIS.

In the future development of RD, this lack of resources in certain areas should be taken into account and special efforts should be made to fill the gaps.

The review of the RD structure resulted in the suggestion of changes in the division of resource categories and resource types. It was also suggested to drop the classification of each resource into development phases (conception, establishment or improvement). The proposed changes were agreed on by the whole team, and the structure of the RD was changed accordingly. The main changes are described below.

³ See Christina Bornatici (2019). CESSDA Widening Activities 2018: Deliverable 5 – Gap Analysis of CESSDA Resources

Resource category

In the collection tool from 2018, the resources were divided into eight main categories, and some of them were divided in subcategories. After the review of existing categories, it was decided to adapt them to fit the elements of the CoreTrustSeal (CTS) requirements and to the Open Archival Information System (OAIS) model. New categorisation also allowed a clearer division of resources for the internal DAS work and resources targeting the contacts with users.

In the new structure the resources were divided into four main categories. The category *Organisation* (1) covers resources dealing with institutional management. *Digital object management* (2) deals with activities around the acquisition, curation, dissemination and long-time preservation of data. Resources on support, assistance and advice to users of the services can be found under *Communication and support to users* (3). *Technical infrastructure* (4) includes resources on hardware, software and tools needed to run the service, implementation and maintenance of technical systems and technical resilience. To make it easier to get an overview of the resources, categories 1-3 are also divided into 4-5 subcategories.

Category 2 and 3 are addressing similar issues, where category 2 focuses on the internal work at the DAS, and category 3 focuses on the communication with the users.

The table below gives an overview of the new categories and subcategories in the RD. The content of a resource often covers more than one category, the same resource can therefore be found under more than one category. The main category includes all resources found in its subcategories.

Table 1: Resource categories

Category	Explanation
1. ORGANISATION	
1.1 Organisational structure	Resources dealing with the structure of the organisation, e.g. mission statement, type of organisation, main purpose, nature and scope of the data collected, primary recipients of the services, etc.
1.2 Staffing, management and financing	Resources that describe the operation of the organisation, e.g. staffing, management, financing, advisory board.
1.3 National and international cooperation	Resources that address various forms of collaboration at national and international level.
1.4 Certification	Resources on how to certify the repository, e.g. institutional CTS application.
DIGITAL OBJECT MANAGEMENT	
2.1 Pre-ingest – Acquisition	Resources describing actions taken before entering data into the repository, e.g. how to identify valuable data, contact data producers, acquisition policy etc.

2.2 Ingest – Curation	Resources describing the process of entering data and associated metadata into a data repository, and how to manage data to ensure that they are fit for contemporary purpose and available for discovery and reuse.
2.3 Access – Dissemination	Resources describing how to make the data available through a distribution mechanism, e.g. catalogue, access management, etc.
2.4 Preservation	Resources describing actions required to maintain access to digital materials beyond the limits of media failure or technological change, e.g. how to create and implement a data preservation plan and succession plan.
COMMUNICATION AND SUPPORT TO USERS	
3.1 General information about the institution	Resources describing the purpose of the institution and the services provided for research.
3.2 Data deposit	Resources describing how to deposit data, e.g. licences, list of recommended formats, metadata needed.
3.3 Data access	Resources describing how to get access to data, e.g. licences, access levels.
3.4 Data management	Resources describing how to manage data during the research life cycle, e.g. DMP, ethical and legal matters.
3.5 Data (re)use	Resources describing why and how to reuse data.
TECHNICAL INFRASTRUCTURE	Resources dealing with the hardware (servers, desktop computers, security and backup systems), software and tools (statistical analysis programs, databases and archiving system tools) needed to run the service, implementation and maintenance of technical systems and technical resilience.

Resource type

The original vocabulary for resource type also needed to be updated to better adapt to Zotero. Originally there had been seven types, but some of these were split up into several types in Zotero. For example, report and document are two different types in Zotero, while in the RD report, document and deliverable together formed one single type.

Of the more than 30 item types available in Zotero, 12 was selected to be included as alternatives in the collection tool.

Table 2: Resource types

Resource type	Explanation
Audio recording	Any form of audio recording.
Blog post	An article or entry posted to a blog website.
Book	A book or similar published item.
Book section	A section of a book.
Document	A generic document item to use if no other types are relevant.
E-mail	Contact information for consultation.

Journal article	An article published in a scholarly journal (either print or online).
Presentation	A presentation made as part of a conference, meeting, symposium, lecture, etc.
Report	A report published by an organisation, an institution, a project etc.
Software	A piece of software, an app, or another computer program (including code).
Video recording	Any form of video recording.
Webpage	An online page of a website. When possible, use one of the more specific item types above (e.g., Blog Post, Report).

Updating and upgrading the content

Two strategies were used to upgrade and update the RD content. The first one was to collect information from CESSDA partner and member SPs with a tool similar to the one used in WA2018. Secondly, the team took advantage of materials collected for the publication of the pilot CESSDA Newsletter for Data Service Professionals (bi-weekly newsletter issued from June 2020).

Collecting information from SPs

The RD includes resources from organisations of CESSDA members and CESSDA partners. In order to maintain and update content provided by DAS, it is essential for them to be involved. In preparation of this, the collection tool used in WA2018 was modified and adapted to the changes made in the RD. During the summer the updated collection tool was tested by CROSSDA, DCS and MK DASS. The test consisted of a review of resources from the projects SERSCIDA⁴, SEEDS⁵ and CESSDA SaW⁶, as well as suggestions of new resources to add from projects and organisations outside CESSDA.

During the autumn the team sent out a request to 35 member and partner SPs, asking for help to review the existing resources and to add new ones. Furthermore, the request was also sent to the leaders of the four CESSDA Working Groups (WG) to get input on relevant resources produced in tasks led by the WG.

⁴ Support for Establishment of National/Regional Social Science Data Archives. Project funded by EU FP7 Research and Innovation Programme under the agreement No.288985; website: <http://www.serscida.eu/> [accessed 31.03.2021]

⁵ South-Eastern European Data Services. Project co-funded by the Swiss National Science Foundation and the Swiss Agency for Development and Cooperation under the agreement No.644564; website: <https://seedsproject.ch/> [accessed 31.03.2021]

⁶ Consortium of European Social Science Data Archive - Strengthening and widening. Project co-funded by EU Horizon 2020 Programme under the agreement No.674939; website: <https://cessdasaw.eu/> [accessed 31.03.2021]

The SPs were asked to provide resources that help to define, develop and improve activities within the areas: organisation, digital object management, communication and support to users, and technical infrastructure. The resources could be of different types, but they should be available in English. The SPs were encouraged to provide examples of resources both from their own organisation and from others (outside CESSDA).

For each SP an individual collection tool was created. Service providers already providing resources to the RD received a collection tool filled with these resources. Out of the 39 collection tools sent out, 26 contained between one and forty-eight resources to review. When reviewing existing resources the following information had to be checked and updated if needed:

- Old or new resource (pre-filled for the old resources)
- Status of resource (drop-down list: no change, changes made or can be removed)
- Title
- Short summary
- Resource type (drop-down list, see table 2)
- Principal and additional category (drop-down list, see table 1)
- Author(s)
- Related institution/project
- Publication year
- Resource link

For new resources the same information had to be added.

An email with a link to the collection tool was sent out 16-19 October, and reminders were sent out a month later. Of the 22 CESSDA SPs 18 answered, and among CESSDA partners 8 out of 13 answered. 3 out of 4 Working Group leaders answered. This resulted in 27 updated resources, 4 resources to remove from the RD, and the suggestion of **41 new resources to add to the RD**.

Resources from the Newsletter

Due to the COVID19 pandemic, the Mentorship subtask of W&JO2020 had to reorganise its activities. In May 2020 a decision was made to publish a bi-weekly Newsletter for data service professionals. The newsletter contained information on upcoming training possibilities, conferences and events, as well as interesting publications, recordings and slides from events etc. For each news item an assessment was made of whether it should be added to the RD. At the end of 2020 there were **close to 100 resources** from the Newsletter suggested to be reviewed by the RD editorial board.

The editorial board

In October the RD team reorganised into a smaller group, the editorial board. The editorial board was formed by members from FORS, SND and CROSSDA. The task was to review the information on updated and new resources collected from the SPs, resources from organisations and projects outside of CESSDA collected by CROSSDA, DCS and MK DASS, as well as resources suggested from the Newsletter team. The editorial board also had to review a number of resources in the current RD, which had not been checked by any SP.

After the review the editor decided if the resource should be updated/added and made the required changes/additions in Zotero. In cases where it was unclear how a resource would be treated, the issue was raised at the next editorial meeting.

The main priority of the editorial board in 2020 was to update the RD with the information from the SPs. Most of the proposed new resources were accepted, a few were rejected due to the fact that the content was mainly in another language than English, and some are still under discussion. Items under discussion usually depend on the decision on what level the resource should be presented, for example, should a resource point to a website with many different resources covering many different topics or should the link point to something more specific.

The editorial board has also started to review the resources suggested by the Newsletter team and the resources from organisations and projects outside of CESSDA collected by CROSSDA, DCS and MK DASS during the test of the collection tool. The review of these resources will be continued in the new Agenda 21-22 task.

Curation issues discussed at the editorial meeting were collected into a document called 'editorial notes'. So far, about twenty questions have been raised and in just over half of the cases, a joint decision has been made on how to curate. The editorial discussions will continue in the coming years, and issues and answers will be used for compilation of a Curation Guide for the RD.

The Updated and Upgraded Resource Directory v2.0

The aim of subtask three of the CESSDA W&JO2020 was to update and upgrade the CESSDA Resource Directory initiated in 2018.

In October 2019 CESSDA Resource Directory was registered as a group library at Zotero. The information collected in excel sheets 2018 was migrated to the Zotero library, and the RD became publicly available at:

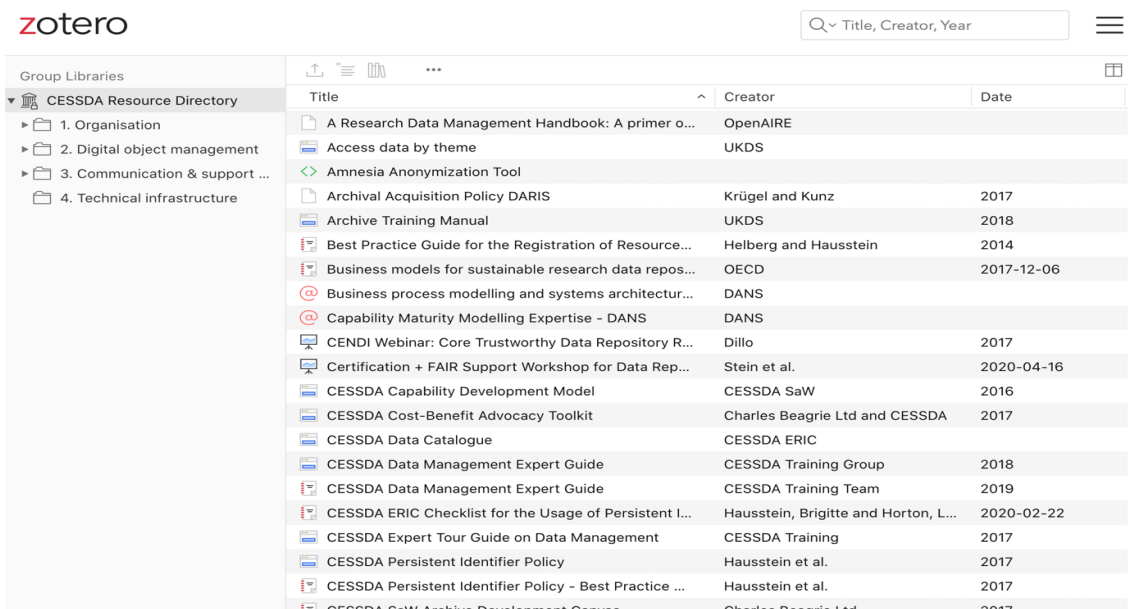
https://www.zotero.org/groups/2382601/cessda_resource_directory/

At the CESSDA web site, information about and link to the Resource Directory can be found under the section Tools & Services/For Service Providers, see:

<https://www.cessda.eu/Tools-Services/For-Service-Providers/Resource-Directory>

Version 2.0 of the RD includes information about **238 resources** (March 2021) that can be of help in the building of new data archive services or to develop new services and features within an existing data archive service.

Figure 1. Zotero Library CESSDA Resource Directory v2.0 – Screen Capture

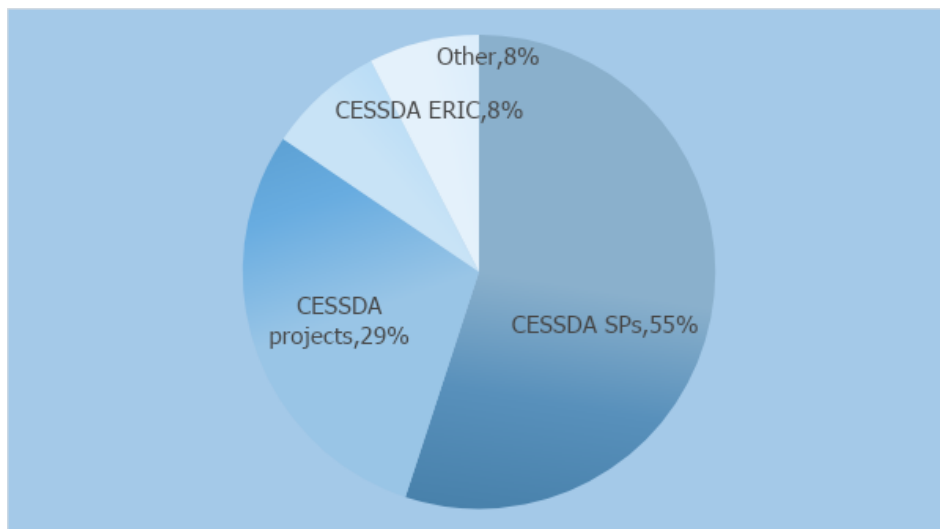


Title	Creator	Date
A Research Data Management Handbook: A primer o...	OpenAIRE	
Access data by theme	UKDS	
Amnesia Anonymization Tool		
Archival Acquisition Policy DARIS	Krügel and Kunz	2017
Archive Training Manual	UKDS	2018
Best Practice Guide for the Registration of Resource...	Helberg and Hausstein	2014
Business models for sustainable research data repos...	OECD	2017-12-06
Business process modelling and systems architectur...	DANS	
Capability Maturity Modelling Expertise - DANS	DANS	
CENDI Webinar: Core Trustworthy Data Repository R...	Dillo	2017
Certification + FAIR Support Workshop for Data Rep...	Stein et al.	2020-04-16
CESSDA Capability Development Model	CESSDA SaW	2016
CESSDA Cost-Benefit Advocacy Toolkit	Charles Beagrie Ltd and CESSDA	2017
CESSDA Data Catalogue	CESSDA ERIC	
CESSDA Data Management Expert Guide	CESSDA Training Group	2018
CESSDA Data Management Expert Guide	CESSDA Training Team	2019
CESSDA ERIC Checklist for the Usage of Persistent I...	Hausstein, Brigitte and Horton, L...	2020-02-22
CESSDA Expert Tour Guide on Data Management	CESSDA Training	2017
CESSDA Persistent Identifier Policy	Hausstein et al.	2017
CESSDA Persistent Identifier Policy - Best Practice ...	Hausstein et al.	2017
CESSDA SaW Archive Development Canvas	Charles Beagrie Ltd	2017

Overview of the content of the RD v2.0

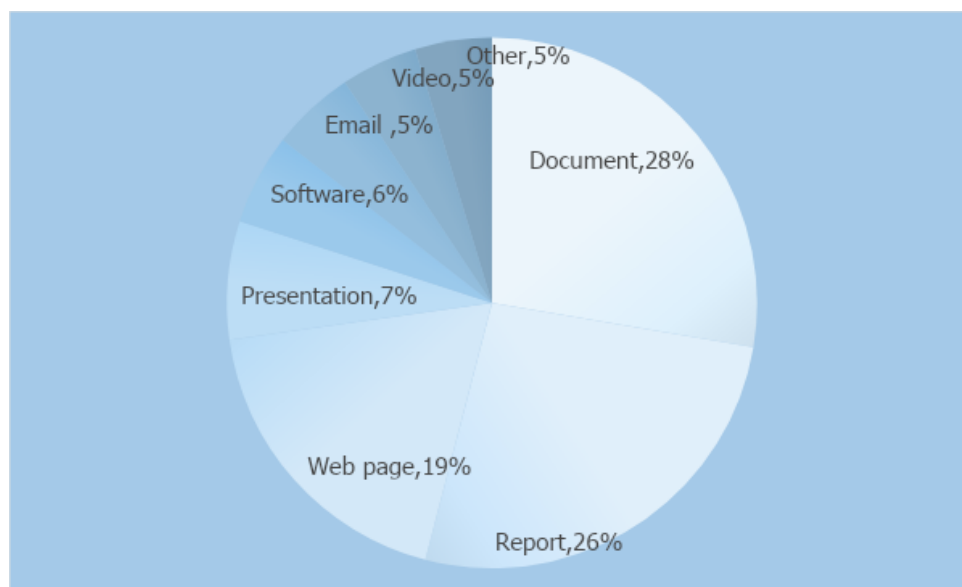
The resources found in the RD have in more than half of the cases been created by a CESSDA member SP to be used in their own organisation. Close to one third of the resources are results from collaboration between CESSDA member and partner SPs in different CESSDA related projects, and slightly less than one tenth has been created in collaboration within CESSDA's working groups and the like. Resources from projects and organisations outside of CESSDA are still few but will probably increase in the future.

Figure 2. Sources in the RD



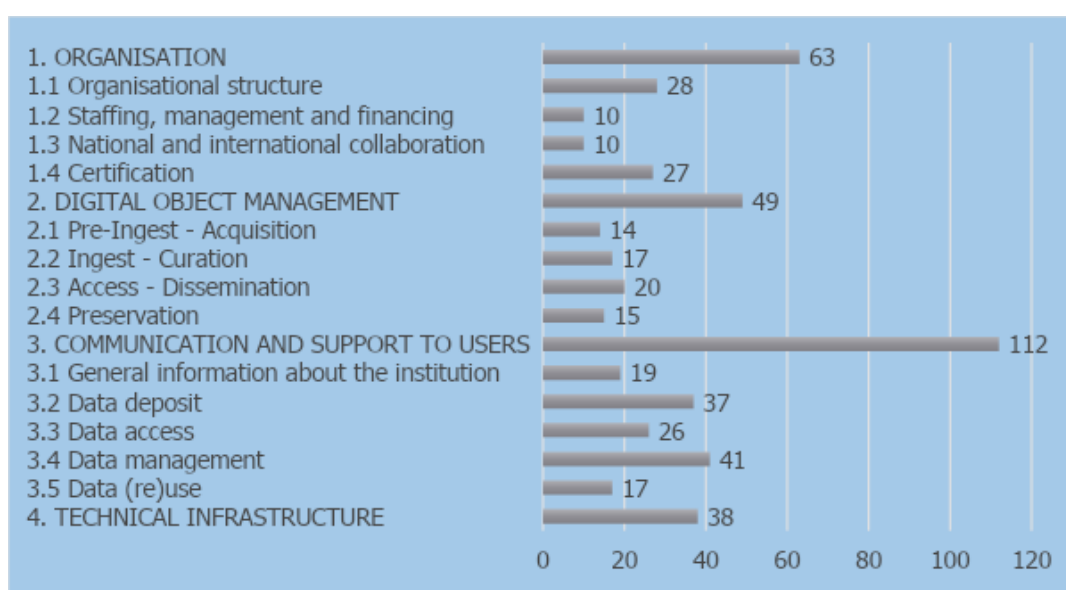
The main types of resources in the RD are documents and reports, and more than half of the resources are of this type. The distinction between a report and a document is sometimes difficult to make, but the rule of thumb is that project deliverables and similar are classified as reports. This distinction has to be further discussed in the editorial board.

Figure 3. Type of sources in the RD



Looking at the content of the resources it can be noted that resources aimed toward the users of the services are most common. This might be a result of the fact that it is more common to communicate with users in both the native language and English, while documents explaining work processes at the DAS more often are available only in the native language. A condition for the resource to be included in the RD is that it is available in English.

Figure 4. Resource categories in RD v2.0



Conclusion

Within the CESSDA Consortium, it has always been natural for more developed SPs to help new member or partner SPs to build up their services. Obligation 11 in Annex 2 of the CESSDA Statutes states that a CESSDA SP shall provide member support for countries with immature and fragile national infrastructures to help them build up needed competence later to be able to fulfil tasks as members.

Over the years, a large amount of expertise in different areas has been gathered at CESSDA and its SPs. This knowledge is available in various reports and documents, on websites and in presentations, etc. It has been produced by a single SP, or by a group of SPs working together in a project. To have a central place like the RD to turn to when looking for these resources, is of great value.

It is important that the RD continues to develop in regular intervals. The tool is still fairly unknown among CESSDA members and partners, and promotion is planned 2021-2022. There is also a potential for the RD to become a useful complement to the Data Archiving Guide (DAG), which will be explored in 2021.

The Zotero platform and its possibilities has to be further explored, but the possibility to move the RD to another platform should also be taken into consideration. During 2021-2022 an inventory of data archiving and curation tools, services, products, scripts, software, etc., will take place and the RD will be evaluated to see if it is suitable for including this kind of information.

The RD will be further developed during CESSDA Agenda 21-22 funding programme under the newly established Widening and Outreach pillar. During the past year, working methods have been developed, but these need to be formalised in a Resource Directory policy and development strategy. This will be one of the deliverables in the Agenda 21-22 Task taking over and building on the results related to the Resource Directory.