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# ● Digital preservation policy

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# INTRODUCTION

## Purpose of the document

The digital preservation policy aims to define the rules, roles and responsibilities, and system of supervision of data management in Slovenian Social Science Data Archives (Arhiv družboslovnih podatkov, ADP). The policy is developed in accordance with the core mission of the organization to ensure the permanent accessibility of the archive holdings, thus presenting the archive as a trustworthy data repository in the eyes of its users, data providers and funders.

The purpose of the Digital Preservation Policy at ADP is to determine goals that continually improve the operation of ADP to ensure greater transparency and fulfilment of the organization's core mission. In this way, the requirements of the Republic of Slovenia's membership in the international research infrastructure entity CESSDA ERIC, for which ADP assumes the role of national service provider, are met.

The following document is an update of Digital Preservation Policy v1, from 2017 and provides a systematic overview of the ADP high-level workflow with changes and improvements in the functioning of ADP in detail. The document includes references to the internal documentation of the detailed daily routine workflow. Suggestions for improvement (following best practices of similar organizations and initiatives in the international environment) are also presented in some places, some of which are in the process of implementation, others in the preparatory phase. Individual workflows of ADP are described in detail in internal reference manuals and instructions (see [Appendix A](#)).

## Structure of the document

The document consists of four main parts that follow the logic of the requirements for obtaining [CoreTrustSeal](#) certification (hereafter: CTS) and provide a response to certain dilemmas in establishing a digital preservation policy.

In accordance with the structure of the CTS requirements, the first chapter describes the functional context of the archive, which includes the type of repository, the description of the level of curation, the designated communities and the importance of the collection of the ADP in the environment of Slovenian social sciences, including information about the involvement of ADP in the national, regional and international research environment.

The second part addresses the organizational infrastructure, as it is crucial for a digital curatorship to have an appropriate organizational structure that reflects the organization's mission and goals, as well as one that is well equipped with human and technical resources and financial sustainability.

The third part presents in more detail ADP's approach to handling digital objects and describes the model of digital preservation of the holdings of ADP in the catalogue of ADP in accordance with the OAIS standard and the requirements of CTS.

The fourth part describes the technological features of the functioning of the archive. Here, the technical and security specifications that are in line with the mission and goals of ADP are presented in more detail.

At the end of this document is a list of resources and literature used, as well as terminology used throughout the document. Finally, there is a list of internal guides and instructions that guide the workflow and processes at ADP.

### **Control, review and revision of the document**

**The following document will be reviewed and, if necessary, updated every 2 years.** In the meantime, individual elements of the policy and interrelated procedures will be updated internally. Monitoring the implementation of the Digital Preservation Policy and updating it along individual workstreams is the responsibility of the staff of ADP.

The Head of Digital Preservation is responsible for all organizational tasks involved in preparing, updating and implementing the policy. If necessary, the Head assigns a working group, consisting of the selected staff of ADP, to prepare the content of the documents. The Head of the Organization approves the amendments to the policy and ensures the conditions for their implementation.

# 1. DESCRIPTION OF THE ARCHIVE

## 1.1 About the archive

Slovenian Social Science Data Archives (ADP) is a national social science research infrastructure whose primary mission is to manage data and data services to support research, education, and general welfare. The ADP performs data-level curation by reviewing incoming data and documentation in detail, adding detailed metadata, creating new formats, improving documentation, and editing deposited data for accuracy.

The focus of ADP's activities is the digital curation of high-quality research data that is available to researchers and the interested public. In this way, financial savings are made on the unnecessary duplication of new research data and a higher quality of research results is ensured. This idea lies in the revised [Recommendation of the OECD Council concerning Access to Research Data from Public Funding](#) from January 2021 that updates [the previous 2006 legal instrument](#) to address new technologies and policy developments.

ADP is an organizational unit of the [Social Sciences Research Institute](#) (Inštitut za družbene vede - IDV) of the Faculty of Social Sciences of the University of Ljubljana (this status is officially confirmed in the Regulations on the Organization and Operation of the Faculty of Social Sciences of the University of Ljubljana (2017) and in the Regulations on the Organization and Operation of the Research Activities of the Faculty of Social Sciences of the University of Ljubljana (2017)). The Act on the Establishment of ADP (1997) defines the main activities of the archive as "*collecting, documenting and disseminating original data from social science studies, as well as connecting with similar institutions in national and international merits*".

The mission of ADP, as defined in the [Regulations on the Organisation and Functioning of the Faculty of Social Sciences of the University of Ljubljana \(2017\)](#), is "to preserve original data from social science studies conducted within the Faculty, which all researchers of the Faculty are obliged to deposit, including original materials, as well as all other social science studies relevant to the social sciences". Thus, the functioning of ADP is clearly aimed at securing access to and preserving data in the field of Slovenian social sciences. As part of its mission, ADP establishes itself as a national infrastructure that collects, deposits, preserves, and promotes the further use of important data sources from a wide range of social sciences that are of interest for analyses of Slovenian society for scientific, educational, and other purposes.

As part of its membership in CESSDA ERIC, the Ministry of Education, Science and Sport of the Republic of Slovenia has appointed ADP as its national data service provider. The long-term national importance of ADP is also reflected in the ongoing support of the Ministry, which has provided funding for the operation of ADP since its inception. Funding for operations has been provided since 2004 under the infrastructure programme [Network of Research and Infrastructural Centres at the University of Ljubljana \(MRIC UL\)](#). The current programme period of funding ADP is 2015 to 2020, prolonged to the end of 2021 due to the pandemic.

Based on the Regulations on the Organisation and Functioning of the Faculty of Social Sciences of the University of Ljubljana (2017), the FDV Senate appoints the ADP Council, considering the proportional representation of all basic disciplines. The aim of the Council is to help ADP monitor and respond to developments in the Slovenian social science community. Members of the Council are distinguished members of the Slovenian scientific community. The current ADP Council was constituted in early 2020 and consists of the following members:

- Prof. dr. Iztok Prezelj, Vice-Dean for scientific research at the Faculty of Social Sciences, University of Ljubljana

- Prof. dr. Aleksandra Kanjuro Mrčela, Faculty of Social Sciences, University of Ljubljana
- Dr. Iztok Šori, director, Peace Institute
- Prof. dr. Vesna Žabkar, School of Economics and Business, University of Ljubljana
- Dr. Mateja Sedmak, Science and Research Centre Koper (ZRS Koper)

The mission of the ADP Council is to promote ADP in its activities, to advise and evaluate the functioning of the services of ADP, considering the benefits of the wide range of users. The ADP Council follows the procedures set out in the document ADP Council Working Procedures Act. The Council meets annually to discuss the proposed annual plan and the ADP annual report. The convener of the meeting is the Head of Organisation and all ADP staff are present at the meetings. On behalf of the ADP Council, Vice-Dean for Research reports annually to Scientific Council and FDV Senate.

*Curator of the field: Head of Organization*

## **1.2 Designated Community**

Our designated communities are on the one hand **national and international researchers** who play the **role of data providers** and on the other hand **national and international researchers, teachers, and students** who act as **end-users of our catalogue**. **Journalists, policy makers and ordinary citizens** are considered part of the **wider public** if they express a desire to use data legitimately and accept the rules and limitations of working with secondary data. End-users need to be data and statistical literate in order to understand and analyse the material independently. This competency includes the ability to independently search for data to address a specific research problem, evaluate the usability of data according to ADP descriptions about the source, methodology, process of data collection, and detailed descriptions of each variable, the ability to conduct analyses of selected data, interpret results, and draw conclusions. The ADP customises access to data, metadata, and other data services to its various target users. Customised views and tailored services are available to meet the needs of different user groups.

Target users also include librarians who act as data stewards and other support services with whom we regularly collaborate, share knowledge and exchange best practices.

By providing training to our designated communities and promoting knowledge sharing through various activities (e.g. workshops, conferences, webinars, seminars, etc.), ADP actively promotes data stewardship, data curation, data sharing and secondary use of data within its designated communities. We actively promote new studies added to the catalogue through blog and social media posts and invite data depositors to present their work to other target groups on webinars.

ADP occasionally conducts quality assessments of its services (including user satisfaction surveys), using internationally comparable quality of service ([ADP User Satisfaction Survey 2016](#)). Based on these assessments, it designs and adapts its services to the different needs of users, thus fulfilling the third and fourth requirements of the OAIS - namely defining the targeted communities, taking into account their level of knowledge and ensuring an independent understanding of the deposited data by providing sufficient information about the data itself (see [Chapter 3.2.3](#)).

### ***1.2.1 Usage and impact of archives' holdings***

Using a registration form, ADP tracks the use of its holdings and their importance. In the form, users define 1) the purpose of using the holdings of ADP: whether they intend to use the data for educational, scientific, public or commercial purposes, and 2) their category: academic user

(student, PhD student, employee of an educational institution (teacher, researcher)), non-profit user (student, employee of a secondary school, employee of a non-governmental/governmental organisation, non-profit user, personal user), commercial user (employee of a commercial company or organisation) and other user.

The ADP delivers general workshops and webinars to train users in the secondary use of the data. The ADP asks users to provide information about their educational background, prior knowledge (about data, statistics, etc.), and intended data use when they register for an event. Based on this, ADP tailors workshops and webinars to the group of participants (the topic and the level of complexity). The trainers are always available to answer specific questions and/or give advice to the participants during and after the workshop. The ADP also prepares workshops, webinars and lectures for specific audiences, such as professors, high school teachers, sociology students, psychology students, etc. In addition, the ADP conducts special thematic workshops of interest to disciplinary researchers and professors. These special workshops are aimed at advanced users. After the events, the ADP invites participants to fill out a user satisfaction survey. This feedback is important for developing plans for working with specific communities. The ADP is also working with teachers and professors to create thematic handbooks on the use of data in teaching to be even more responsive to user needs (see [Teaching Data](#)). In this way, the ADP listens to teachers' needs on the one hand and tries to promote the use of secondary data among students as early as possible in the educational process on the other.

Among the most prominent users of the ADP datasets are researchers and students, with a smaller proportion of users coming from other organizations. It can be concluded that the data holdings of ADP are mainly used for scientific and research activities as well as for educational purposes.

The data from ADP are usually used for seminar papers, scientific publications or as a supplement to lectures and practical exercises with students - in some cases adapted modules for teaching are provided. The ADP provides its users with study and data related materials that can be used to develop new studies (e.g., original questionnaires and indicator collections to measure established theoretical concepts from the scientific literature) or to provide theoretical grounding for data interpretations (e.g., titles of publications based on a particular data source).

With the intention of further stimulating the secondary use of data from the ADP, the special [Klinar Fund Award](#) is offered to which all diploma, masters and doctoral theses defended at the Faculty of Social Sciences that use data from ADP as primary sources can apply.

### **1.3 Inclusion in the national and international research infrastructure**

In addition to its primary mission of providing services to its designated communities in the national setting, ADP is actively involved in a broader national and international research infrastructure. As a data service provider, it actively follows international development initiatives from its field (OECD, academic associations, research policies from developed EU countries, USA and Australia) and promotes their implementation in the national setting. The staff of ADP is involved as external experts in various working groups, preparing drafts or advising on the creation of strategic documents and guidelines, such as the strategy of the Ministry of Education, Science and Sport (Open Science chapter of the draft Resolution on Research and Innovation Strategies of Slovenia 2021-2030 (RISS) and associated Action Plan 2021-25), as well as participation in the working groups of [GUILD research universities associations](#) on behalf of University of Ljubljana and member of Scientific Advisory Committee

of [OPERAS](#). Initiatives, guidelines and demands from national and international organizations and science funders are promoted in the national research community through the organization of workshops, round tables and seminars intended for various participants in the scientific research community (researchers, heads of institutions, publishers, libraries, etc.).

Due to the interdisciplinary nature of the research data holdings of ADP, ADP is also relevant for users from other scientific fields as well as for other infrastructure networks. The content of the research datasets and the possibilities for reuse are broad, e.g., in kinesiology, psychology, geography, history, medicine, etc.<sup>1</sup>

At the national level, ADP networks with other national disciplinary infrastructures. ADP works most closely with the national representatives of the [Digital Research Infrastructure for the Arts and Humanities - DARIAH](#) (Institute of Contemporary History - SiStory and affiliated research infrastructure ZRC SAZU) and [Common Language Resources and Technology Infrastructure - CLARIN](#) (Institute Jožef Stefan and Faculty of Arts) to share experiences, good practices and interdisciplinary data exchange and to discuss opportunities to develop networked infrastructure services at national level. Between 2019 and 2020 ADP received funding to coordinate [RDA Node Slovenia](#) by establishing a national Research Data Alliance node to act as a long-term central point of contact between the Research Data Alliance and data practitioners, funding organizations, research agencies and other relevant stakeholders in Slovenia.<sup>2</sup> The objectives of the node are of a general nature, with some specific focus on the coordination of infrastructure development based on internationally recognized standards, e.g., CoreTrustSeal (CTS), and on the development of journal open data guidelines as one of the points in National Action Plan that can have an impact on the growth of data sharing culture. Additionally, the aim of the node is also to support research data management and training for research-supporting services.

The involvement of ADP in the activities of the Pan-European Research Infrastructure - [CESSDA ERIC \(Consortium of European Social Science Data Archives\)](#) is at the forefront of international cooperation. CESSDA was founded in 1976 and brings together social science data archives across Europe. In 2013 it formed into a European Scientific Infrastructure Unit (ERIC) in accordance with the European priority list ESFRI ([European Strategy Forum on Research Infrastructures](#)). The Republic of Slovenia added membership in the CESSDA consortium as one of the priorities of the [Plan for the Development of Research Infrastructures](#) and is one of its first members. Under the authority of the Ministry of Education, Science and Sport, ADP acts as the national service provider of CESSDA. CESSDA provides large-scale, integrated and sustainable data services for the social sciences. It brings together social science data archives across Europe with the aim of promoting social science research outputs and supporting national and international research and collaboration. The **CESSDA Agenda 21-24** is the overarching document that sets out the broad strategic objectives and priorities for each pillar of CESSDA over the period 2021 to 2024. The CESSDA Agenda 21-24 has 4 main pillars which have their own sub-tasks and deliverables and serve as a framework for the implementation of the Agenda's tasks:

- **Training Pillar:** The objectives are to (1) promote and increase secondary use of data by improving data discovery and data analyst skills, (2) improve the culture of data sharing by providing training on data management skills and related tools, and (3) provide training on developed tools, services, and materials used by data professionals and related experts in repositories, especially the tools developed by CESSDA ERIC.

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<sup>1</sup> As an example, reference can be made to a round table in 2014 at which the importance of opinion data for research into contemporary history was highlighted.

<sup>2</sup> The coordination is still active beyond 2020 despite end of the funding period.

- **Tools Pillar:** The objectives are to (1) provide appropriate tools and services for curating, publishing, searching, accessing, and reusing research data in a multilingual environment, (2) provide tools and services that are findable by researchers and data producers, (3) ensure that tools conform to relevant CESSDA policies, (4) ensure integration and/or interoperability of tools, and (5) to standardise metadata so that they are consistent and of good quality.
- **Trust Pillar:** The objectives are to (1) achieve or progress towards CoreTrustSeal for each Service Provider, (2) coordinate common practises and common evidence between service providers in the context of CoreTrustSeal and Annex 2, and (3) integrate into the broader trust landscape.
- **Widening and Outreach Pillar:** The objectives are to (1) extend the European reach of CESSDA, (2) broaden the scope of data, (3) support CESSDA Main Office in developing a new balanced model in terms of scalability of governance, financial stability of operations and organisational structure, (4) raise the profile and impact of CESSDA through coordinated dissemination activities, and (5) collaborate with global partners beyond Europe.
- **Cross-Pillar Activities**

There are several working groups within CESSDA in which ADP is active:

- CESSDA Trust Working Group, which provides guidance and support to both existing and emerging service providers in meeting a range of issues and standards relating to trusted data and services. CESSDA requires the adoption of specific criteria, such as the internal commitments required of all members ([CESSDA statutes](#)) and the trustworthy digital repository (TDR) requirements set by the CoreTrustSeal,
- CESSDA Training Group, which aims to maximize the potential of training provided by individual social science data archives and seeks harmonization and knowledge transfer between service providers. ADP is currently leading the CESSDA Training WG,
- CESSDA Tools & Services, whose aim is to prioritize and realize new tools and services from Service Providers and third parties for our users: both data users and data producers.
- CESSDA Widening and Outreach

In addition, the ADP collaborates in various international initiatives on the publication and citation of research data. Groups with which the ADP forges professional links and organizes data sharing include [Research Data Alliance](#) (RDA), [Interuniversity Consortium for Political and Social Research](#) (ICPSR), [Committee on Data for Science and Technology](#) (CODATA), [International Association for Social Science Information Service and Technology](#) (IASSIST), [Data Documentation Initiative Community](#) (DDI), [Association of European Research Libraries](#) (LIBER), International Federation of Data Organization (IFDO) and others.

## 2. ORGANIZATIONAL INFRASTRUCTURE

### 2.1 Mission of digital preservation and main functions

The mission of the digital preservation of ADP is to ensure and promote sustainable services to its designated communities for ingest, storage, and access to high quality and useful research data for a variety of purposes. The ADP contains research data of interest to social science researchers dealing with problems of Slovenian society or otherwise important to Slovenian society and social sciences, regardless of geographical boundaries.

The main functions of the disciplinary data service provider ADP are:

- **Acquisition of important research data from a wide range of social sciences** of interest for the study of Slovenian society.
- **Evaluation of submitted research data and their selection for deposit.** Priority will be given to research data from scientifically important studies that achieve theoretical and methodological excellence, especially longitudinal data and internationally comparable data that include data from Slovenia. Investment in the handling of research data must be proportionate to its value and usefulness for further use.
- **Ingesting and processing research data and other documentation**, together with the creation of metadata with the aim of preparing a package for long-term digital preservation (AIP) and preparation for access and further use for scientific, educational and other purposes (DIP).
- **Long-term digital preservation.**
- Provide **access to research data** that allows easy and well-informed use for a variety of purposes.
- **Training researchers** in the planning, handling and preparation of data for ingest in open access.
- Actively **promote secondary use of research data** by training users and stimulating knowledge exchange between users.

### 2.2 Legal framework and responsibilities

The functioning of ADP in the Slovenian research environment is subject to certain rules of exchange and use of knowledge and information. The functioning must be in accordance with the relevant national legal framework defining the area of access and use of digital objects. It is essential that the ADP informs its users about the content of the relevant legal framework and monitors compliance with the existing rules. During its activities, the ADP carefully follows the relevant legislation:

- [Personal Data Protection Act](#), which establishes rights, obligations and measures to prevent interference with the privacy and dignity of individuals in the handling of personal data. The law determines the obligations of ADP at the time of ingesting, storing and accessing microdata.
- [Copyright and Related Rights Act](#), which recognizes copyright and related rights, including the rights of authors of research data and other related materials when disseminated.
- [General Data Protection Regulation \(GDPR\)](#), which sets out guidelines for the collection and processing of personal data of individuals living in the European Union (EU).

Since the primary mission of ADP is to provide research support services, ADP is not directly bound by national requirements for the operation of official archival organizations. However, the basic guidelines for its operation are taken from the relevant area of legislation:

- [Law on the Protection of Documents and Archives and Archival Institutions](#), which define the mode, organization, infrastructure and implementation of the acquisition and storage of holdings in physical and digital form.

When working with other organizations, the ADP follows these laws:

- [The Law on Access to Public Information](#), which defines the rules for access and reuse of public data produced in the public administration and other public institutions.
- [The Law on National Statistics](#), which defines the activity of the Offices of Official Statistics as a professional and independent activity of carrying out the program of statistical research. The ADP actively cooperates here with the national provider ([Statistical Office of the Republic of Slovenia](#)).

With respect to the rules of ingest and the rules of access to materials and research data, the ADP uses fixed standardized forms. Ingest of research data is accompanied by documentation of compliance with [ethical standards](#), legal frameworks and good practices. The ingest agreement, in the form of a [Deposit Agreement](#), signed by the data depositor and the disciplinary data provider (ADP), defines the relationship between the two parties: it gives the disciplinary data provider the right to process the study for the purpose of digital preservation and gives users the right to access the research data. By signing the agreement, the data depositor, on behalf or under the authority of the researcher, agrees that the disciplinary data provider will process, store, and distribute research data (see [Digital Object Management](#)).

The main elements of the Deposit Agreement are:

1. The depositor deposits study materials in the archive for long-term storage and further dissemination.
2. The depositor ensures that personal data is protected in the deposited materials.
3. The depositor makes the materials available to users at Creative Commons Licenses (CC0, CCBY or CCBYNC).
4. The ADP assures that the access to materials will be provided to end users only after prior registration and commitment to comply with ethical principles and general rules of conduct.
5. List of Deposited Materials

The Deposit Agreement gives the ADP rights under which it may (1) prepare materials for storage and distribution and (2) store and distribute materials. With such an agreement, the ADP fulfils the second obligation of OAIS - it is necessary to obtain sufficient rights to handle information to ensure its long-term preservation.

The research data and accompanying documentation are available to users under [Creative Commons 4.0 licenses](#). The ADP generally uses the following licenses: CC0 - no restrictions, CCBY - attribution only, CCBYNC - attribution + non-commercial (more on this in the [section on Access](#)). The ultimate responsibility for careful use of research data that respects the ethical principles of confidentiality, copyright and academic probity rests with the user of the research data. When accessing research data, users are advised to carefully consider the principle of ethical reuse of data (see [example](#)). Users can find out about the [specific conditions of reuse in the study descriptions](#). By registering on ADP, users agree to comply with the professional and disciplinary ethical standards (see [General Provisions and Terms of Use](#)) as well as the ethical and legal restrictions on the reuse of data, in particular the clauses on confidentiality. Users may only use research data for the purposes specified during registration.

### ***2.2.1 Protection of confidentiality, adherence to disciplinary and ethical norms***

In the social sciences, it is often the case that researchers handle personal or other sensitive data and therefore must be especially vigilant to protect the confidentiality of their research subjects. In addition to the rules set out in the [General Data Protection Regulation \(GDPR\)](#) and [Personal Data Protection Act](#), ADP considers relevant codes of ethics in the social science research community. Relevant (disciplinary) codes of ethics are:

- [Code of Ethics of the University of Ljubljana](#),
- [European Code of Conduct of Research Integrity](#),
- [Code of Professional Ethics of the Slovene Sociological Society](#),
- [Declaration of Code of Professional Ethics of the Slovene Statistical Society](#).

For each study deposited in the catalogue ADP, ADP checks whether it meets the above ethical standards or not before ingesting it. This means that the data depositor must ensure that all research participants are protected from unnecessary harm, that they have been notified and have voluntarily agreed to collaborate, and that the study respects current disciplinary methodological standards.

A Confidentiality Protection Commission is an internal committee of ADP (more on this in [Chapter 2.7.1](#)). The Commission meets in cases where the initial inspection of the study identifies a need for further protection of the research data. The Commission otherwise has two main tasks: (1) to make decisions on the protection of submitted data from disclosure, (2) to deal with requests from researchers for access to less protected or unprotected microdata under special conditions.

Protection of research data is primarily the responsibility of the data provider, and the ADP can only help. Researchers can ask the ADP for assistance in the process of managing research data, including the area of protecting confidentiality and anonymising research data. In extreme cases, the ADP may independently carry out the protection of research data in accordance with established procedures, but only in cases where the data provider specifically requests such intervention. The responsibility for proper protection of confidentiality is on the part of the data provider and the ADP. The ADP carries out the protection of confidentiality in two ways, by anonymising research data (see [Chapter 3.2.2](#)) and by managing access to different types of data for different types of users under specific conditions (see [Chapter 3.5.2](#)).

*Curator of the field: Head of Organization*

## **2.3 Sustainability and funding**

A progressive research policy of open access to scientific results requires a sustainable functioning of disciplinary data infrastructure services, such as the ADP. Such a research infrastructure relies on the collaboration of various stakeholders, including meeting the policies and guidelines of funders, the needs represented by the scientific communities, and other target users. From a resource optimization and utilization perspective, it is important that the ADP functions continuously to fulfil its mission and function as a national social science data service provider. To ensure transparency, the ADP reports annually to its funders on its activities.

The Republic of Slovenia has taken on the obligation arising from its membership in the international infrastructure entity [CESSDA ERIC](#) to ensure the sustainability of research data services for the social sciences and has appointed the ADP as the national service provider, the organization that provides nationally and internationally integrated services arising from

its membership in CESSDA. The Ministry of Education, Science and Sport supports the implementation of these commitments through the provision of national funding for the CESSDA infrastructure research program delivered by ADP under the [MRIC UL](#) program. By appointing ADP as the national data service provider, the Ministry explicitly guarantees the sustainability of the functioning of ADP, which is one of the core elements of trusted data repositories.

The existence and long-term sustainable functioning of ADP as a national disciplinary data service provider is extended by the commitments of national member status in CESSDA and defined in the draft [Resolution on Research and Innovation Strategies of Slovenia 2021-2030](#) (RISS) (Government of the Republic of Slovenia 2021). The roadmap serves as a strategic basis for long-term financial support from the Slovenian Research Agency under the [Network of Research and Infrastructural Centres MRIC UL](#) (University of Ljubljana 2016). The programme is renewed every 5 years, and the current programme period runs from 2015 to 2021.

In 2015, the Government of the Republic of Slovenia adopted the [National Strategy of Open Access to Scientific Publications and Research Data in Slovenia 2015 – 2020](#) (Government of the Republic of Slovenia 2015) which includes a clause to ensure adequate sustainable funding for the national infrastructure of open access to scientific information in the form of publications and research data, consisting of people, organisations, equipment (hardware and software) and content: "*The sustainability of the national open access infrastructure can only be ensured through continued public funding that enables the application of international standards for the creation, publication, dissemination, use, processing, preservation and archiving of scientific information, the training of all stakeholders and the information of the national and international public on the availability and ways to use the services and information through the national open access infrastructure. Openly accessible scientific information in the form of publications and research data must be kept secure to prevent loss, damage and misuse.*" The existence and sustainable functioning of disciplinary data providers in Slovenia are also expected in the draft Action Plan 2021-25 of the [Resolution on Research and Innovation Strategies of Slovenia 2021-2030](#) (RISS).

As a member of international organisations, the Republic of Slovenia is committed to open access to publicly funded research data as a public good, in line with the [Recommendation of the OECD Council concerning Access to Research Data from Public Funding](#) from January 2021.

The Slovenian Research Agency is one of the signatories of the [The Declaration on Research Assessment](#) (DORA) and [Plan S](#). We therefore expect open access to research data and the obligation to draw up research data management plans to become mandatory.

## **2.4 Model of digital preservation in ADP**

The ADP follows the OAIS model ([The Open Archival Information System](#); ISO 14721: 2012) and the [CoreTrustSeal](#) requirements in its digital preservation processes. Figure 1 on the next page shows how ADP's processes conform to the OAIS model and CTS.

The national document [Guidelines for Ingest, Long-term Preservation, and Access to Cultural Heritage in Digital Form](#) (Ministry of Culture 2013; in continuation Guidelines) recommends compliance with the OAIS standard (ISO 14721: 2012) for archives. Adherence to the OAIS standard is also one of the obligations of CESSDA's national data service providers and one of the CTS requirements (supporting repository functions and operation consistent with internationally accepted archival standards). By following these commitments and recommendations, the ADP aims to be recognized as a trusted data repository among its

designated community (users, data depositors, funders) (see [DASISH 2012](#)). The above guidelines present the OAIS model as a basic framework for understanding the concepts needed for long-term preservation of digital materials and their reuse.<sup>3</sup> The terminology and the OAIS model provide a framework for describing the stages in the data lifecycle that is harmonized at the national level from the perspective of the organizations involved - the heritage curators (Guidelines 2013), while also providing a basis for international comparison and optimisation of the practices of different organizations in the same field (see Schumann 2012, Vardigan and Whiteman 2007, Beedham et al. 2007).

The OAIS model consists of three complex information objects: **Submission Information Package** (SIP), **Archival Information Package** (AIP) and **Dissemination Information Package** (DIP). These three information objects represent the state and transformation of digital content along with metadata from ingest to archival storage to delivery to users. Due to the process of preparing and actively acquiring materials, a phase of pre-ingest or pre-SIP is added to the model (see [Producer-Archive Interface – Methodology Abstract Standard \(PAIMAS\) - ISO 20652: 2006](#)), in which communication is established with potential data providers and an assessment of the suitability of the study for collection of ADP is made. Based on this, a decision is made on which studies to ingest (see [Štebe and Vipavc Brvar 2011](#)).

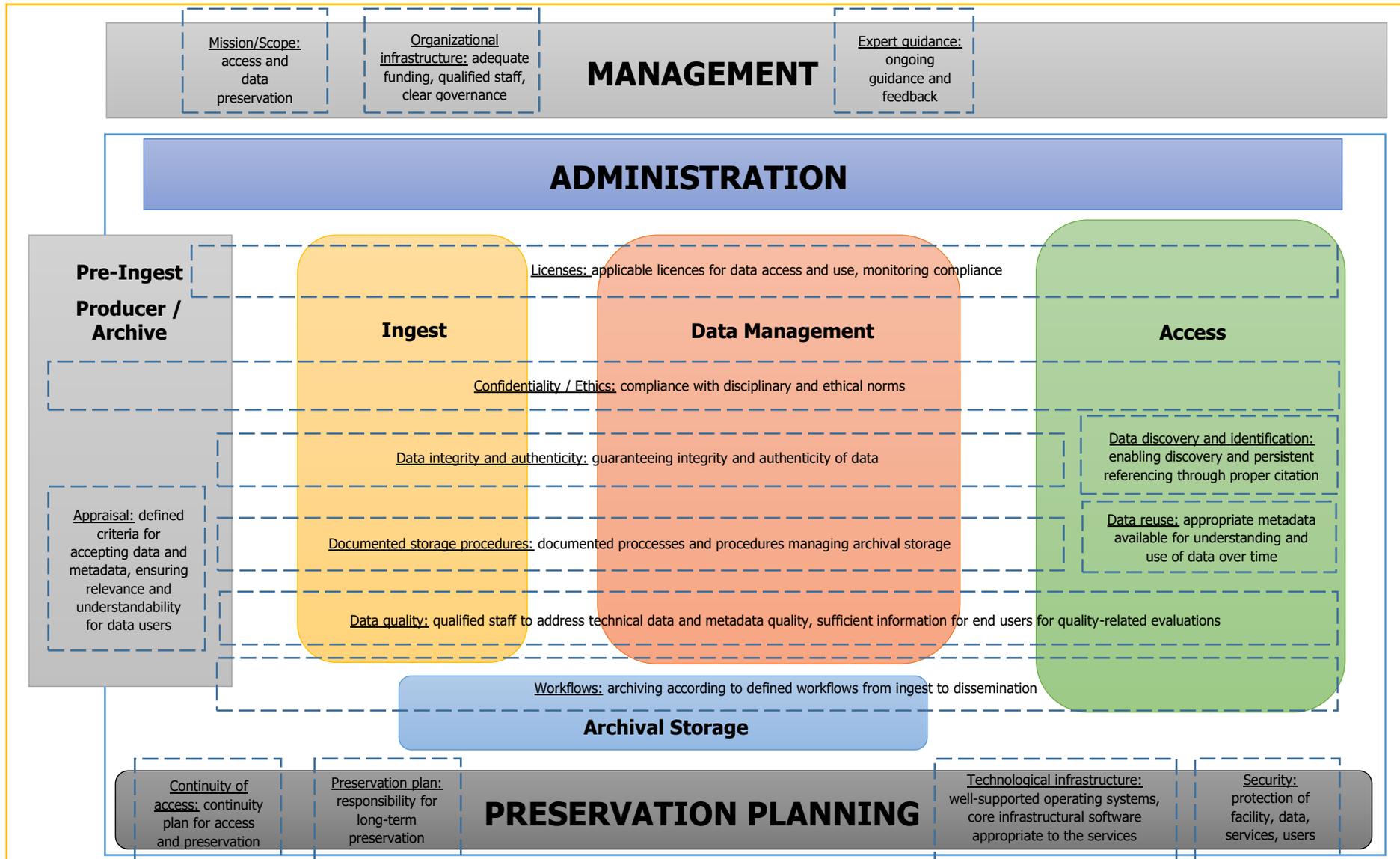
The archiving process at ADP follows a fixed workflow, from ingest to dissemination of the holdings (see [Workflow](#)). Individual workflows of the archive are presented in the following chapters from the perspective of following the OAIS standard and considering the requirements of CTS. A more detailed description of the workflow can be found in the internal manuals and instructions for working in ADP (available in [Appendix A](#) and on the [website](#)).

*Curator of the field: Head of Digital Preservation*

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<sup>3</sup> By decision of the Expert Council SIST from the field of electrical engineering, information technology and telecommunications, the standard ISO 14721:2021 is made standard as SIST ISO 14721:2013 (Decision 36.3) (Krstulović et al. 2013).

Figure 1: Policy of digital preservation:  
 Compliance with the [OAIS](#) and [CoreTrustSeal Requirements](#).



## 2.5 Collection development policy

The ADP contains research data of interest to social science researchers dealing with problems of Slovenian society or otherwise important to Slovenian society and social sciences, regardless of geographical boundaries. Priority is given to studies that achieve theoretical, conceptual, and methodological excellence, especially longitudinal data and internationally comparable data that include data from Slovenia. Exceptionally, studies that do not fall into the above categories may be included, e.g. (1) studies that do not fall strictly into the social sciences but are structurally similar to data from this field and have no other curation option, (2) data from related disciplines, especially if relevant from an interdisciplinary use perspective (e.g., humanities, medicine), and (3) new types of data that are interesting for testing new approaches.

Long-term preservation of research data requires additional effort and cost to prepare it in a format that allows for continued use. This cost and effort are justified by the savings that lie in the continued reuse of the data. The ADP involves additionally the professional public in determining the goals of the archive by encouraging the ADP Council to define main problem areas and development initiatives in order to expand the collection of the ADP to new areas.

Each study that enters the ADP system is firstly assessed in terms of its formal and technical appropriateness for the inclusion into the collection. Secondly, each study is evaluated in terms of its scientific quality, relevance and reuse potential. The purpose of evaluating studies with research data is to assess the importance and justification of archiving and storing research data, consistent with the mission of ADP.

In selecting research data for ingest, ADP considers the basic quality criteria as well as the content suitability and attractiveness of the study for secondary analysis. The following criteria will be used in selecting research data for ingest:

- the richness of the data in terms of relevance to the conceptualization and thematic complementarity to the ADP collection,
- the excellence of the methodology used, integrity and relevance of the research data, and additional documentation for secondary analyses,
- the copyright of the data provider over the research data and its willingness to deposit the data in the archive.

There are two types of assessment:

1. the first assessment is conducted for the purpose of adding the study to the collection ADP,
2. the reassessment is conducted for the purpose of re-evaluating the justification of keeping the study that is already part of the collection.

The evaluation will consider the following aspects: (1) consistency with collection development policy of the ADP, (2) scientific value of the data, (3) consistency with open data access principles, (4) legal and ethical principles, (5) reuse potential, (6) evaluation of significance in terms of long-term storage costs. The result of the assessment is a decision on the type of archiving and access to the study: 1) quality data will be classified in the active curatorial regime, 2) data with limited significance will be included in the self-archiving regime 3) data that do not meet the criteria will not be included in the ADP collection.

### **Remaining challenges**

The ADP Promotion, Education and Training Working Group plans to develop the ADP collection on an annual basis. We are currently developing technical capabilities for self-submissions (incorporating studies judged to be of limited significance), considering increasing demands for open access to research

data from funders, and following the editorial guidelines of scientific journals to allow open access to research data associated with scientific publications (for example, Horizon Europe).

We are currently piloting the internally developed quality assessment tool that forms the basis for categorising incoming studies into different regimes of archiving and access. The pilot test will show how this tool needs to be adapted in the next period to our collection development policy and technological developments.

*Curator of the field: Head of Acquisition and Ingest, Head of Trainings and Promotion*

## 2.6 Principles and strategy of digital preservation

In 2011, ADP conducted an analysis of the gaps in its digital preservation system, which formed the basis for updating the digital preservation system, including the development of firm operating procedures. Internal procedures and instructions now set out detailed rules and procedures for the processing and management of digital objects (see [Appendix A](#) and [website](#)).

The ADP follows the fourth requirement of OAIS and the CTS requirements in establishing the digital preservation strategy. By ensuring that information is preserved in a manner that can be understood independently, the designated community is able to understand the information without relying on the help of the experts who created the information, even if the digital environment in which it was primarily stored has become obsolete. The basic strategy of digital preservation in the ADP is **normalization in ingest**. To this end, the ADP has established rules for appropriate formats of data files that are acceptable to data providers, as well as compatible formats for digital preservation (see [Recommended Formats](#)).

The ADP has a mandate to preserve its collections digitally for the long term. The primary goals of the digital archive are to preserve files and other materials for the long term, particularly in conjunction with the following principles:

- **Maintaining data integrity:** ensuring that archived data is protected from unauthorized modification.
- **Maintaining authenticity:** ensuring that digital objects come from a documented creator and that they are what they purport to be.
- **Completeness:** no parts of the digital object are missing.
- **Preservation of readability:** it is always possible to view and interpret at least the most recent version of a digital information object. In this context, it is important to know what formats occur for each version.
- **Preservation of discoverability:** persistent identifiers (DOI, URN) and entries in relevant directories and search engines should be used.
- **Maintaining confidentiality:** considering relevant legal regulations, ethical and disciplinary standards.

By fulfilling the above principles and creating transparency of its activities to the outside world, the ADP contributes significantly to the credibility of the data archive, which is one of the core objectives of this document.

In order to fulfil the sixth requirement of the OAIS, namely, to ensure the independent intelligibility and usability of the data, the ADP follows a detailed documentation of all transformations in the processing data, through which it ensures the preservation of the authenticity of the digital objects. All transformations related to the normalization of research data and interventions in data for the purpose of anonymization are carefully documented (see

[Chapter 3.4.1](#)). All the above information is accessible to end users in the form of study metadata. The formats of data files used by the ADP will be chosen with consideration of the challenges of long-term preservation, avoiding proprietary, obsolete and infrequently used formats. Where possible, all textual documentation relating to the study will be stored in PDF/A format to preserve the appearance and textual status of the documents. Data files will be saved in ASCII format, including the DDI protocol on the structure and content of the data files, and accompanying syntax for reading the files will be added.

The staff of ADP regularly follow developments in the field of long-term preservation in similar organizations, e.g., among the members of CESSDA, within the professional association IASSIST and Research Data Alliance, and actively participate in professional debates. At the national level, ADP cooperates with the National and University Library, the Archives of the Republic of Slovenia and other similar institutions from the field of protection of scientific and cultural heritage (conferences in the organization by NUK). The staff of ADP participate in regular professional trainings and cooperate in the exchange of knowledge between archives and digital humanities on issues of digital preservation and efficient development of data services (NUK, UKM, CTK, Archives of the Republic of Slovenia, SURS and other research libraries). CESSDA continues its tradition of expert seminars ([CESSDA Expert Seminar](#)), in which ADP participates with expert contributions. The ADP also participates in the international association and international conferences of IASSIST (International Association for Social Science Information Service and Technology), European DDI (EDDI) Conference, Research Data Alliance Plenaries and national node, GUILD association of research universities in Europe Open Science working group etc. The Head of Digital Preservation is concerned with the incorporation of professionally proven approaches and principles of digital preservation into the present strategy.

Within the CESSDA Training Working Group, ADP contributes to the development of the education infrastructure, the study of the needs of the designated communities and the formation of the priority themes/programs for education and training. The Head of Training and Promotion holds the organization of internal and external trainings in the field of digital preservation.

#### **Remaining challenges**

It makes sense to seek a balance between cost and the educational and historical significance of the holdings in monitoring and adopting this strategy. Two core principles must be kept in mind: 1) information carriers must be stored appropriately to avoid damage and 2) data formats and physical information carriers may become obsolete, so regular monitoring, updating and maintenance is mandatory.

Rules for monitoring must be established - modes of monitoring (e.g., formats, migrations, media, etc.) - and a strategy must be developed consistent with available funding and staff resources, the importance of the collection or its parts (educational, historical), legal requirements, funder requirements, etc.

In the future, ADP will carefully consider each tool and implement the most appropriate tool for automatically converting data files to long-term preservation formats into its workflow.

### ***2.6.1 Strategy of long-term availability and continuity of access***

Regarding continuity of access, the ADP ensures that appropriate local devices and procedures are implemented for long-term digital storage. In addition, existing tools and services of a backup duplication in the national environment are used.<sup>4</sup>

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<sup>4</sup> See the details on the transfer of backups to ARNES and NUK in [Chapter 4.2](#).

The ADP aims to practice the open access policy, which stipulates that the open access service to research data is free of charge to end users. In the extreme case, if funding were to be reduced from ADP, ADP could begin to charge users for some of the data access services that are free under the current system.

The ADP ensures transparency in its operations by being responsive to the needs of its users. It informs the public about its activities, resources and services in various ways, such as eNews, workshops, conferences, meetings and round tables. In its annual report, submitted to the Ministry of Education, Science and Sport, the ADP reports on the implementation of its plans.

The [Regulations on the Organisation and Functioning of the Faculty of Social Sciences of the University of Ljubljana \(2017\)](#) determine the official commitment of the Faculty to "*continuity of preservation and provision of access to research data kept by ADP by creating appropriate organizational and financial conditions for its functioning. This is being done, and will continue to be done, by acquiring public funding from the Slovenian Research Agency to support the archival infrastructural research program. The Faculty is committed to maintaining these funding streams. If ADP ceases to function, the Faculty, together with ADP, will organize and prepare a plan for the transfer of the data to an external institution that will responsibly and adequately ensure the archiving of the data, or to another organizational unit on the condition that it has secured external funding.*"

#### **Remaining challenges**

In preparing a plan for a possible transfer and succession of digital preservation services of research data of ADP (cases of situational uncertainty) there are possibilities of cooperation and use of infrastructural capacities in the National and University Library of Slovenia. In the document Strategy of Permanent Storage from Digital Resources in National and University Library 2012-2020, Objective 9 states that "The Library will cooperate with other Slovenian and international organizations in planning and implementing activities in the field of long-term preservation of digital objects".

The draft Resolution on Research and Innovation Strategies of Slovenia 2021-2030 (RISS) includes establishment of a federation of national ecosystem repository infrastructure to ensure open access. To ensure this possibility, technological requirements need to be sifted and harmonized, and agreement reached on possible succession. ADP will actively follow and cooperate in building the federation. Cooperation and networking between institutions in the field of scientific information and culture with the Archives of the Republic of Slovenia is already supported in the document Guidelines (Ministry of Culture 2013). Cooperation between different national providers and discussions on support activities were part of the [RDA Node Slovenia](#) project.

*Curator of the field: Head of Digital Preservation*

## **2.7 Roles and responsibilities**

Due to the small size of the organization, roles in ADP are shared among staff. When necessary, some of the tasks are outsourced to external contractors. The basic structure, roles, duties and responsibilities in the ADP are:

### **Head of Organization**

Responsible for pursuing the organization's mission in digital preservation as the fundamental goal of the organization, ensuring financial and organizational viability, preparing the strategic plan, overseeing day-to-day activities, making decisions, and coordinating all activities of the organization (from international collaboration to building relationships with specific communities, ingest, preparation, and access to research data).

### **Head of Acquisition and Ingest**

Responsible for acquiring new studies and ensuring appropriate responsiveness in communications with data providers as well as key beneficiaries, coordinating ingest of research data and supplemental materials, and reporting on the status of ingest and processing of studies.

### **Head of Digital Preservation**

Responsible for updating digital preservation policies, internal workflows and procedures and documentation related to long-term storage. He/she is also responsible for acquiring and maintaining certificates for trustworthy data repositories (CoreTrustSeal), and cooperating in CTS and CESSDA Trust related and monitoring activities of Annex II obligations (or other requirements regarding harmonisation of services within CESSDA).

### **Head of Access and Use**

Responsible for recording the publication of research data and compiling the statistics of submitted and published studies. He/she is responsible for managing access to research data, including guiding users and informing them about the website. He/she will register users of research data and produce an annual report on the use of data in the archive.

### **Head of Trainings and Promotion**

He/she is responsible for carrying out activities related to promotion, including organizing events, informing users and the interested public about important activities of the organization (news, website, social media), selecting appropriate internal and external trainings, organizing the preparation and recording the publications of the staff of ADP. He/she is particularly responsible for strategic planning and implementation of the strategy in the area of acquisition and training of data providers - expansion of data collection to various new areas.

### **Tehnology and Security Officer**

Responsible for overseeing the management of all servers used for the storage and distribution of research data, including the website of ADP. He/she is responsible for updating website certificates and regularly performing backups.

### **System Administrator**

Responsible for managing all servers used to store and distribute research data, and handles regular system backup and recovery.

### **Data Archivist**

Responsible for studies in the pre-ingest phase: he/she conducts an interview or other communication with the depositor and prepares a report for the Commission for the Acquisition and Evaluation of Studies. In the ingest phase, he/she processes microdata and metadata and related documentation, adequately documents the study in internal applications and databases, and handles the publication of the study in the ADP catalogue.

### **Director of Administration**

Responsible for organizing and supervising the daily administrative tasks defined by the OAIIS (guiding and supervising the daily task performance of the heads of each functional unit, including the final review of the work results on the studies of the data archivists), as well as preparing the annual reports in collaboration with other departments of the University.

### *2.7.1 Working bodies of the ADP*

#### **Commission for the Acquisition and Appraisal of Studies**

The Commission is responsible for deciding which studies are suitable for inclusion in the catalogue of ADP. The Commission's responsibilities also include reviewing publicly available studies that could potentially be included in the catalogue. After a careful review of the content of the studies, the Commission assigns a scientific quality level to the study, which is also the criterion for the researcher(s) to receive scientific points and is identified in the description of the study in the catalogue of ADP.

#### **Commission for the Protection of Confidentiality**

The Commission is an internal body of ADP, working in the field of data protection and access to microdata. The role of the Commission is to make decisions about the need to protect research data and the means to protect the data, while managing user access to microdata intended for secondary use.

### *2.7.2 Working groups of the ADP*

#### **Working Group for the Development of the Application E-Storage**

The task of the group is to coordinate the preparation of the digital storage application to be used for study description creation, data storage, versioning and distribution. The working group works in collaboration with external contractors.

#### **Working Group for Technical Tasks**

The task of the group is to coordinate the implementation of the various technical tasks that arise in the daily work of the archive. This includes the development of new applications, new technical solutions and maintenance. The working groups work in collaboration with external contractors.

#### **Working Group for Administrative micro-data**

The task of the group is to develop, in close cooperation with the Statistical Office and other public institutions, a work plan to acquire and promote the use of microdata from administrative sources for scientific and educational purposes.

#### **Working Group for Education, Trainings and Promotion**

The task of the working group is to plan, prepare and implement activities of ADP concerning promotion, work with users and training of ADP staff. Its tasks include the organization of promotional events, the preparation of promotional materials and appropriate communication with the designated communities.

#### **Working Group for the Controlled Vocabularies**

The task of the working group is to follow, contribute to the development on the level of CESSDA, prepare translations from English to Slovenian and implement CESSDA Controlled Vocabularies in the work of ADP. This involves following the developments of the [CESSDA Vocabulary Services](#) and the [European Social Sciences Electronic Thesaurus](#) (ELSST).

### ***2.7.3 Competences and development of the staff***

Despite the relatively small size of the organization, ADP has enough staff to smoothly and efficiently carry out its mission and work responsibilities under the requirements of the CTS. The staff of the ADP is also involved in ongoing training and projects at the national and international level (CESSDA), ensuring appropriate knowledge and professional experience from the field of digital data storage and data management practices that follow current international standards and practices. Each year, ADP prepares an annual plan for the training of its staff, which includes a plan for professional training and development of staff as needed.

Employees of ADP must meet certain knowledge and qualification requirements in order to work in the Archives. The defined knowledge and qualifications are the basis for acquiring new staff as well as the basis for organizing additional training for staff. Staff at ADP must meet the following qualifications:

- knowledge of digital preservation in general,
- familiarity with relevant legal and ethical principles, and strategies in data protection and intellectual property rights (IPR),
- expertise in specific formats (see [Chapter 3.1.2](#)),
- basic (or advanced) IT and statistical skills (depending on the work role),
- communication and organizational skills for collaboration between internal functional units and between external agencies and individuals from whom/from whom objects are preserved, users and external service providers,
- organizational and management skills for overall planning (strategy, resources) and coordination of the different functional units.

### ***2.7.4 Outsource partners and expert guidance***

The ADP works with various external service providers who undertake certain tasks on behalf of the archive. Cooperation with ARNES takes place at the level of management of the network infrastructure used by the ADP. The ADP also cooperates with the National and University Library (NUK) in the development of software for digital preservation based on the repository platform Fedora Commons and with certain other external service providers (maintenance of servers and IT support, programming). Signed cooperation agreements, which are regularly updated, govern the collaboration with each outsourcing partner.

The staff of ADP regularly follow developments in the field of Open Science, Open Data and long-term archiving in similar national and international organizations (see Chapter 1.3) and actively participate in professional debates. Staff members of ADP regularly participate actively in national and international conferences, summer schools, workshops and trainings to learn about and exchange the latest best practices and standard developments (e.g., EDDI, RDA Plenaries, ICTeSSH, International Digital Curation Conference, CODATA/RDA School of Research Data Science, etc.).

## 3. DIGITAL OBJECT MANAGEMENT

### 3.1 Pre-ingest: Obtaining and selecting data for ingest

#### *3.1.1 Evaluating the quality of studies and adhering to the criteria of ingest*

The first function supported by the OAIS reference model is ingest. Under this function, the data provider transfers research data and other documentation to the archive, where they are prepared for storage according to established procedures. The ingest function is an external interface between a data provider and the Archives and defines the entire process from ingest to actual storage of materials.

The Head of Acquisition and Ingest is responsible for coordinating, planning, monitoring, and promoting the ingest of studies, as well as finding solutions to potential problems in obtaining information about new studies. Processes and related documentation are regularly evaluated and updated according to new developments in the field (e.g., legal, technological developments) and respond to the demands of the designated communities.

Information about studies of interest that might be included in the ADP Catalogue can be obtained from any of the staff at ADP. Information about potential data provider is obtained from a variety of sources:

- Researchers themselves suggest studies to be included (via [record the study](#) through the ADP website, email, telephone, other). With this action, the data provider informs ADP of his willingness to deposit his study in the archive.
- ADP contacts researchers based on a published scientific article, conference attendance, involvement in a research project, etc. This involves regular screening of potential candidates for studies by the staff of ADP.
- At the beginning of the year, the Head of Acquisition and Ingest prepares a "List of Priority Areas and Institutions" in accordance with the ADP Collection Policy (part of the Annual plan of the Working Group for Promotion) and in consultation with the ADP Council. This list is used as a basis for contacting relevant researchers and inviting them to submit studies to ADP.
- Other.

Potential depositors can access a [detailed ingest guide](#) on our website, explaining the entire workflow and requirements they must meet. The ADP encourages collaboration with data providers from research data management planning through ingest. It is crucial that data creators are familiar with the [basic legal and ethical requirements](#) that must be met, particularly in relation to the protection of personal data and copyright (McGeever et al. 2015). Through the organization of occasional training sessions (see the program of training sessions to date), information on the [website of ADP](#), a special handbook [Preparing research data for open access, Guide for data producers](#),<sup>5</sup> and promoting the use of [CESSDA Data Management Expert Guide](#) the ADP informs data providers about important steps in the data life cycle (Štebe et al. 2015). This handbook, along with other guides, includes an explanation of data licensing, guidelines for adhering to ethical standards, and, in particular, recommendations for obtaining consent from research participants during the data collection phase. The ADP promotes a

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<sup>5</sup> Available in Slovenian and English (digital and print versions).

sample research consent form that provides informed and explicit consent for transmission and permission to access research data by an authorized data centre.

In selecting research data for ingest, ADP follows its Collection Development Policy (see Chapter 2.5). Regardless of the source from which a study enters the ingest process, each submitted study is reviewed by ADP and then evaluated to determine whether or not the submitted study/research data meets the [quality criteria for ingest](#). This process is described in detail in the internal manual "Pre-ingest: description of the workflow". The Head of Acquisition and Ingest appoints a Data Archivist, who reviews the submitted study and prepares the report for the Commission for the Acquisition and Evaluation of Studies. The Data Archivist calls on the data provider to prepare all necessary materials for ingest. The data provider may receive professional assistance in this process from Data Archivist and use various guides and [additional recommendations for preparing the data](#). The data provider can also participate in occasional [free trainings](#) offered by ADP in the form of workshops.

Incoming materials will first undergo a thorough review, focusing on copyright, completeness of documentation, suitability of study content, verification that materials have been anonymized if there is no legal basis for personal data sharing, and compliance of submitted data formats with recommended formats for ingest (see [Recommended and other forms of formats of individual materials for ingest](#)).

In the pre-ingest phase of the research data, ADP aims to clarify with the data providers all possible remaining issues related to the study, such as ethical dilemmas, confidentiality and anonymization of the research data, copyrights. This includes the rights of the archive and its successor to ingest data, subject it to digital curation, preserve it and allow access to it under certain conditions of access - for example, a possible embargo, special treatment of sensitive data and/or special restrictions on the commercial use of research data. On this basis, the archive and data provider enter into an agreement in the form of a [Deposit agreement](#). All information on rights and access conditions are later recorded in the administrative metadata, which governs the further processes of retention and access arrangements.

Based on this information, the responsible Data Archivist and Head of Acquisition prepare a **study report and proposal of the evaluation of study** for the Commission for the Acquisition and Evaluation of Studies that decides whether or not the study is suitable for Ingest. The Head of Acquisition and Ingest is responsible for convening the Commission. Besides the Head of Acquisition and Ingest, the members of the Commission are also the Head of the Organisation, Data Archivists and one other member of the ADP staff.

In the selection process, the studies received are [assigned a category](#) according to their relevance:

1. studies outside the geographical or thematic scope of the archive,
2. occasional studies of low quality,
3. non-unique studies of limited theoretical or practical relevance,
4. studies of limited conceptual scope and methodological sophistication,
5. pilot studies that create or improve the instrument and conceptualization of a new area,
6. methodologically and substantively excellent studies without many implications for a wide range of problems,
7. studies that allow theoretical generalizations or relate to a practical problem, less influential,
8. theoretically or practically important studies, studies that fill the research gap or have many implications for a wide range of practical problems, long-term scientific value,

9. highest scope, comparative or continuous research, influential populations, with methodological excellence.

Submitted studies that under the internal evaluation meet the scientific and methodological highest quality and reuse potential scores count as a scientific publication based on the criteria of the Slovenian Research Agency ARRS ([Rule book on the procedure to \(co\)finance, evaluate and monitor the performance of the research activities, Appendix 1](#)).

The Commission for the Acquisition and Evaluation of Studies may decide to approve the proposed decision of the Data Archivist and the Head of Acquisition and Ingest based on the prepared study report (it has 2 options: to accept the study into the ADP catalogue or to confirm the proposed rejection and deletion of the study). By doing so, it also confirms or changes the assigned category of the study.

The Commission may decide to reject the proposed decision of the Data Archivist and the Head of Acquisition and Ingest based on the prepared study report. In this case, it shall state the reasons why the proposal is not appropriate. The study goes back to the prior steps where additional information is obtained and the study is re-evaluated.

The Head of Acquisition and Ingest and/or the Data Archivist continuously note all information about the study, communications with the data provider, and decisions made by the Commission in the administrative tool JIRA under the study task. All created reports and documents become fundamental part of the study documentation.

#### **Remaining challenges**

We are currently piloting the internally developed quality assessment tool that forms the basis for categorising incoming studies into different regimes of archiving and access. The pilot test in 2021 will show how this tool needs to be adapted in the next period to our collection development policy and technological developments.

*Curator of the field: Head of Acquisition and Ingest*

### **3.1.2 Recommended formats**

The data provider can find information on [recommended formats for quantitative and qualitative studies](#) that are independent of software and/or computer platforms on the ADP website. When ingesting research data and other materials, the ADP reviews the submitted formats and, if necessary, converts them to formats suitable for digital preservation and access. In cases where software is not available to convert formats, the data provider will be asked to submit materials in other more appropriate formats.

#### **Quantitative data**

For the main group of digital objects intended for the target users, i.e., data files of quantitative data, ADP follows an established procedure of ingesting research data in one of the previously established proprietary formats and transforming them into a non-proprietary format that is persistent under conditions of long-term storage. The data files are transformed into CSV format in utf-8, the information about the structure and content of the data file is synchronized in the CSV data file with the DDI record at the level of data and file description. The tool used for this transformation Nesstar Publisher is tested for maintaining significant properties, with the aim of obtaining at least the same possibility of data analysis performance as specified by the data provider.

## Qualitative data

For the main group of digital objects intended for target users, i.e., files containing qualitative data (text, images, video and audio), ADP has developed a working procedure for ingest<sup>6</sup> based on the [Guidelines for Ingest, Long-Term Preservation, and Access to Cultural Heritage in a Digital Form](#) (Ministry of Culture document 2013) and documented best practices of similar organizations (such as [UK DataService](#) and the [Finish Social Science Data Archive](#)), defining standards and typical data formats of multimedia documents. The internal manual "Recommendations for ingest of qualitative data (for data archivists)" contains information about the types of qualitative data and recommendations for data preparation, defines the types of data file formats (submission, archival and distribution formats) and determines the necessary metadata and its entry in DDI 2.5 for individual types of qualitative data.

The ADP has established detailed rules for the anonymisation procedure for qualitative studies, which are described in detail in [Chapter 3.2.2](#).

*Curator of the field: Head of Digital Preservation*

## 3.2 Ingest

### 3.2.1 Submission information package (SIP)

When the study enters the ingest phase, the work process follows the procedures outlined in the internal manuals (see [Appendix 1](#) – Section Ingest). By signing the [Deposit agreement](#), the data provider confirms that it has the right to dispose of the research data, assures that care has been taken to maintain the confidentiality of personal data, and defines licenses under which the research data and additional documentation can be shared with users. The data provider may also define possible exceptions regarding access. Otherwise, the research data and additional documentation are accessible to users under Creative Commons 4.0 licenses (see [Chapter 3.5.1](#) and the section on [Access](#)).

In exceptional cases, e.g., when dealing with older data with no accessible information about the copyright holder, the ADP will assess the risks of an unresolved copyright when sharing data and, if it concludes that there is a negligible risk, may decide to allow access to such data under a CC-BY license. Access to such data is accompanied by the information that the ADP may withdraw this study if it receives a warning from the copyright holder (see an [example](#)).

The ADP allows the data provider to submit materials securely and quickly via a safe connection (see [ingest instructions](#)). Consistent with the information model of an OAIS-type archive, the research data and other additional documentation submitted by the data provider constitute the Submission Information Package (SIP). This package consists of:

- completed [Study Description form](#),
- appropriately edited and documented data file (in accordance with the [Recommendations on how to edit data files](#)),
- original questionnaire (if available),
- [other materials](#) that contribute to understanding of the research data, such as list of codes, codebook, frequencies, instructions for interviewers, information on how to conduct the interview, copies of publications, and other supporting documents that were part of the data collection or are relevant to understanding,

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<sup>6</sup> See [Razvoj smernic za predajo in arhiviranje kvalitativnih podatkov v Arhivu družboslovnih podatkov](#), Lecture ADP at an event "Konferenca "Jezikovne tehnologije in digitalna humanistika", Fakulteta za elektrotehniko, Univerza v Ljubljani, 20. 9.–21. 9. 2018", Slovensko društvo za jezikovne tehnologije (SDJT), Ljubljana (2018)

- completed and signed [Deposit Agreement](#) along with a list of materials submitted (2 copies).

It is recommended (but not mandatory) that the data provider also include with the submission package research reports and other supporting publications that may be useful for secondary use of the research data.

The submitted materials will be reviewed by the Data Archivist and any potential issues regarding content and formats will be discussed. If necessary, the Data Archivist will request the data provider to complete the submitted materials to ensure the completeness of the study. The Data Archivist prepares all necessary metadata to register the individual units of material linked in the ingest package. He/she also imports descriptive metadata for study description according to the DDI and structural metadata that allows for comprehensibility and maximum usability for future users. The materials are then transformed into recommended formats for long-term storage and access. Distributed materials intended for end users are stored separately from archived materials.

The ADP also stores all physically submitted printed materials and materials on various media.

#### **Remaining challenges**

Automatic anti-virus and format checking must be introduced.

*Curator of the field: Head of Acquisition and Ingest*

### ***3.2.2 Protection of confidentiality and anonymization***

The Commission for the Protection of Confidentiality of the ADP deals with the field of the protection of confidentiality. The Commission meets only in cases where additional protection needs for research data are identified during the ingest process. The Commission has two primary responsibilities: (1) to make decisions about the protection of submitted data prior to their distribution, (2) to process requests from researchers for access to less protected or unprotected microdata.

Data protection is primarily the responsibility of the data provider, and the ADP can only help. The ADP can advise data providers on research data management planning, including protecting confidentiality and restricting access to research data. In extreme cases, if the data provider requests such intervention, the ADP may independently implement research data confidentiality protection under its established procedures. The responsibility for adequately protecting confidentiality rests on the side of the data provider and the ADP.

#### **Methods of implementing protection of confidentiality**

The ADP performs confidentiality protection in two ways, first by protecting the data and second by managing access to different types of data for different types of users (see [Chapter 3.5](#)).

#### **Protection of data**

The ADP advises data providers on how to protect data. Two types of protection are applied: anonymization of microdata (quantitative and qualitative) and anonymization of descriptive statistics (frequencies of categorical variables and statistics for numerical variables).

## a) Anonymization of microdata

Anonymization is the basis for protecting confidentiality. The ADP uses the following principles to anonymize microdata, distinguishing by the type of microdata:

### **Quantitative microdata**

No direct identifiers (e.g., names, telephone numbers and addresses) should be present in distributed data. In cases where microdata are publicly available, indirect identifiers may need to be protected to prevent the identification of an entity in the data. Various methods and techniques can be used for this purpose: aggregation of values of variables, deletion of variables, deletion of values in all units, and deletion of values in specific units. The fact that the user can identify a unit by using publicly available databases (e.g., administrative sources on the Internet) is considered. Special emphasis is given to the protection of sensitive microdata, e.g., microdata that have companies or organizations as units of analysis, medical microdata, microdata with extremely sensitive research topics (bullying, sexual harassment, etc.). In cases where such data are transferred to the archive, the Commission for the Protection of Confidentiality must meet and decide whether or not to include such a study in the catalogue of ADP.

### **Answers to open-ended survey questions**

Open-ended questions are usually not coded. If there is a need to anonymize questions or their parts, then this must be coded appropriately so that they can be distributed within a unified microdata file. Coding must usually be done by the data provider, and ADP can only help. In cases where coding has not been done correctly, responses to open-ended survey questions will be deleted from the distributed data file or they will be distributed separately in aggregated form.

### **Qualitative microdata**

**Textual data:** In cases where depositor does not have permission from respondents to share their personal data, all direct identifiers in the distributed data have to be removed. Direct and indirect identifiers must be replaced with pseudonyms or surrogates that do not identify the individuals who participated in the study (e.g., in-depth interviews, focus groups). Data in qualitative form (e.g., transcripts) must be prepared by the data provider, and the ADP can only provide support. The main principle followed in protecting qualitative microdata is that it makes sense to preserve the highest usability of the research data, so it is advisable to avoid overprotecting or deleting information that could be important for further analysis.

**Images:** if the data provider has not obtained prior consent from study participants to share images, then the distributed data must include blurred identifiers (people's faces, exposed names etc.).

**Audio data:** if the data provider has not obtained prior consent from study participants to share an audio recording, then the audio data file cannot be distributed. In the case of audio recordings of speech (speech broadcasts, interviews, etc.), it sometimes makes sense to provide a transcription of the spoken text (taking into consideration the above rules for textual data anonymisation in case of lack of consent to share materials) – this should be done by the data provider, ADP can only offer support.

**Video data:** if the data provider has not obtained prior consent from study participants to share a video recording, then the video data file cannot be distributed. In the case of video recordings of speech (speech broadcasts, interviews, etc.), it sometimes makes sense to provide a transcription of the spoken text (taking into consideration the above rules for textual data anonymisation in case of lack of consent to share materials) – this should be done by the data provider, ADP can only offer support.

### ***3.2.3 Metadata standards and interoperability***

The ADP follows the OAIS model and the requirements of the CTS by providing its designated communities with enough information about the study (metadata) to allow end users to independently understand individual parts of the data file or additional materials. In this way, ADP fulfils one of the mandatory roles of OAIS, as it regularly updates and improves study metadata according to the identified needs of users.

Metadata are the main components of all versions of information packages in the system and, together with preservation metadata, form the basis for the appropriate semantic and structural use of data and additional documentation. In defining study descriptions (metadata), the ADP uses the DDI standard 2.5 ([Data Documentation Initiative](#)) and follows the [CESSDA Metadata model](#). The Data Archivist with the help of the data provider, checks the submitted documentation for consistency and creates the final metadata description according to DDI on this basis. The scope of the metadata differs depending on the level of processing of the study and, in the case of quantitative data, may include not only the study description but also the full description of the variables in the case of the main studies, including frequency distribution and question texts. In the case of qualitative data, Data Archivists uses the metadata fields suggested in the document "Recommendations for ingest of qualitative data (for data archivists)" for data file descriptions.

The use of standard metadata and the connectivity of identifiers with other information services enable a quality and sustainability-oriented development of data services. This forms the basis for linking different services of scientific information provision and is at the same time the basis for coordination and cooperation within the common services of the international infrastructure unit of CESSDA. Interoperability is also one of the exposed focal points of the OAIS standard and one of the main FAIR principles. Study descriptions according to DDI are interoperable with catalogues that harvest DDI formats ([CESSDA Data Catalogue](#), [DataVerse](#) etc.). We also enable [Open Archives Initiative Protocol for Metadata Harvesting](#) (OAI-PMH) using the [Kuha](#), tool developed by the Finnish Social Science Data Archive. The OAI-PMH is a protocol that allows archives to share metadata with service providers. Using the metadata harvested from archives, service providers offer various services to end users, such as search engines or catalogues. OAI-PMH servers can provide metadata in various formats to service providers. Dublin Core and EAD (Encoded Archival Description) are the supported formats for the archive's OAI-PMH service. The Kuha server generates these formats from the study descriptions in DDI format from ADP and sends the studies to the [CESSDA Data Catalogue](#).

The staff of ADP is involved in the projects to harmonize the use of metadata in the special working/project groups in CESSDA (controlled vocabularies, ELSST, CESSDA data catalogue), which includes the discussion on the fixed use of terminology and the development of methods to adapt the metadata to technological progress.

#### **Remaining challenges**

The ADP regularly monitors trends in new services and identifiers. The list of monitoring initiatives includes the following: CONOR, COBISS, PREMIS. Currently, the ADP is piloting an inventory description control program that will include FOXML and accompanying identifiers, including checksum (MD5) information, traceability, accessibility of different versions, etc.

In the next period, the ADP expects to ensure conformity with the requirements of various external services of aggregation and display of information, such as [OpenAire](#), [Digital Library of Slovenia - dLib](#),

[National Open Science Portal](#), and integration with the existing and developing activities of other networks of scientific information and open access.

*Curator of the field: Head of Digital Preservation*

### 3.3 Archival storage of data

The main mission of the second OAIS function is to ensure long-term preservation, i.e., to store data in appropriate formats for long-term preservation and in appropriate locations. To ensure this requirement, regular monitoring and updating of the digital preservation process is necessary (updating of media, migration of formats, etc.).

The ADP monitors its holdings and adapts them to its needs when formats for long-term preservation are changed. The ADP also ensures that all materials and metadata are machine-readable for the long term. The archival function includes many safeguards, such as checking for errors in the information package, evaluating the preparation of materials for long-term preservation, and a policy for handling the disposal of items from the collection.

The archival information package (AIP) consists of all deposited and accessible digital objects that have been transformed into formats suitable for long-term storage. They are stored, along with associated metadata, in a separate location from the Dissemination Information Package (DIP). Backup copies of all packages are made regularly, which ensures greater protection against data loss (see [Chapter 4.2](#)).

*Curator of the field: Head of Digital Preservation*

### 3.4 Management of (meta)data

The third function of the OAIS model is the Data Management function. The Data Management function maintains databases of metadata that identify and describe archival holdings. Primary data management functions also include performing queries on these databases and generating reports in response to requests from other functional units within OAIS (e.g., Ingest, Administration, Access), as well as performing updates to the databases as new information arrives or existing information is modified or deleted.

The ADP stores administrative metadata in various databases necessary for reporting on new materials, users, data providers, etc. There is:

- **a database of recorded studies**, where all basic metadata of each study is recorded (e.g., address, author, materials submitted, etc.).
- **a database of users**, in which all data on users and their assigned access levels are provided.
- **a database of depositing agreements**, providing all basic information about the contracts: ID of the study, number of the contract, name of the data file, URN, date of signature, data provider.
- **a database of study access arrangements**, giving a list of all accessible studies together with the assigned access level (ACU).

By regularly updating the above databases with administrative data and ensuring appropriately updated metadata for end users, ADP enables long-term independent understanding and usability of research data/deposited studies. The staff of ADP is sufficiently trained to manage and add all technical changes to the holdings and achieve metadata quality in accordance with international standards and best practices, which in turn enables sufficient information in the form of quality metadata to be available to end users. With such functionality, the ADP follows the CTS requirements.

### ***3.4.1 Versioning and transformation management***

The ADP has developed a change monitoring system that allows traceability of the transformation of digital objects. Two types of changes are possible, namely minor changes that are executed as revisions and major transformations of objects that are executed as versions. The revision and version of the document are visible in the document name.

All materials, regardless of their revision or version, are stored in a common directory, and their backup copies are kept in different locations (see [Chapter 4.2](#)).

#### **a) Versioning and noting changes in studies and supporting documentation**

Changes are most carefully noted at the data file level so that it is possible to track them at each step and go back to the original version of the data file. Changes in study descriptions, data files, and supplementary materials will be noted with versioning in the naming of each file. Explication of changes will be noted in the administration tool Jira. For data files, all changes are also noted in SPSS syntax.

The system of naming documents is the following:

[IDstudy\\_type of material\\_ language\\_ version\\_revision.ending](#)  
(for example, *SJM13\_vp1\_sl\_v1\_r0.pdf*)

#### **b) Versioning and noting changes in internal documents**

Changes are also noted in internal documents. This is done by adding a version and a revision to the name of the documents. Minor changes result in a new revision of the document, while major changes result in a new version of the document.

The system for naming documents is as follows:

[name\\_version\\_revision.ending](#)  
(for example, *navodila\_v1\_r2.pdf*)

#### **c) Versioning and logging of changes on the webpage of ADP**

A Subversion SVN client is used to track changes on the webpage of ADP. All changes on the webpage of ADP are noted and at the same time there is a possibility to recall the previous version of the webpage at each step.

#### **Remaining challenges**

The current system of access does not allow users to access different versions of studies online. Only most recent version is available to end users, whereas older versions are available on request. By developing the new digital preservation application "E-Storage" and using Dataverse for dissemination of studies, this will be enabled.

### 3.4.2 Policy of disposal of items from the holdings

In ADP we distinguish between two types of retention of materials received from data depositors:

- Short-term retention: material received from data depositors for evaluation in the pre-ingest phase that is later found not to meet the criteria for ingest at ADP. These types of studies must be safely deleted.  
Note: Some of these types of studies will be stored in the future in the form of self-deposits, which allow researchers to store research securely and where ADP only provides a basic overview of the submitted study.
- Long-term storage: material that meets the criteria for inclusion in the ADP and that we intend to keep for a long time.

To date, the ADP has not encountered a case where any of the materials would need to be disposed of. In the future, some documents whose lifespan is ending may need to be disposed of (e.g., a poorly recorded survey (surveys that have poor metadata), missing copyrights, missing data files, author deletion requests, etc.). The procedure for dealing with such cases is set out in the Policy of Disposal of Materials. Destruction must be carried out by a Commission decision, which means that the Commission reviews the study object and orders its destruction. The revision track of the destruction as well as the existence of the document must be carefully noted in the administration tool Jira.

*Curator of the field: Data Archivist*

## 3.5 Access to data (DIP)

Ensuring access to holdings is the fifth function in the OAIS model. The function deals with user applications (designated communities) and provides access to content based on the applications and rights of individual users. The function is also responsible for technological oversight over the management of access, according to user rights.

Metadata and other materials related to the study are accessible to all users of the [website ADP](#) without registration. Access to microdata is subject to prior [registration](#). Registration provides users with the ability to conduct online analyses in the [Nesstar browser](#) and/or the ability to download data files in the selected format to their personal computer.

Users can access the following study metadata on the ADP website:

- a) [Metadata of studies with microdata available at ADP](#)  
The ADP holds metadata along with microdata accessible through ADP. The user must agree to the rules of ADP to use such microdata.
- b) [Metadata of studies with microdata available in other organizations](#)  
The ADP also prepares metadata of studies whose microdata are available in other archives or organizations, such as some internationally comparative data and unprotected microdata from official statistics. The ADP stores and disseminates their metadata and links to the landing page for data access. Access to the data files is subject to the rules of the organization responsible for the preservation and dissemination of the study.

### *3.5.1 Licenses, limitations and types of data access*

At the time of submitting materials to ADP, data providers confirm by signing Deposit Agreement that they have the rights to handle the research data, they assure the confidentiality of the research subjects, and they define the licenses under which the research data and other documentation will be distributed to users, including possible restrictions on access. The research data and documentation are available to users under the license [Creative Commons 4.0](#). ADP uses the following licenses:

**CC0** – without restriction

**CCBY** – authorization only

**CCBYNC** – authorization + non-commercial

At ADP, three types of users are distinguished: **registered researchers** who may also access less protected microdata, public users such as **students** who may access the majority of microdata in the catalogue of ADP, and **commercial users** who may only access a limited amount of microdata that is not distributed under the CCBYNC license. Users will be informed of any restrictions or exceptions to access that the data provider specifies at ingest via the study description on the ADP website (more on the access and use conditions for each study can be found on the website under [Access](#)).

### *3.5.2 Protection of confidentiality and access to data*

Confidentiality protection can be managed with different restrictions on access to microdata, depending on the level of protection of the microdata and the type of user. If required, the data provider, with the support of the ADP, will provide different versions of the microdata with different levels of protection for different levels of access. The microdata types differ in details of the microdata itself, which in practice means more or less large variable sets (e.g., detailed geographical information), variable sets (e.g., aggregation levels) and availability of variable values (e.g., subsamples, hidden values).

There are four types of access to microdata in ADP: access to microdata in Nesstar, access to protected microdata (PUF - Public Use Files), access to less protected microdata (SUF - Scientific Use Files) and access to unprotected sensitive microdata (ScUF - Secure Use Files).

#### **Access to microdata on Nesstar browser**

Access to microdata on the Nesstar browser is intended for registered users for whom handling the data does not require transferring individual microdata files to local computers. These users perform statistical analyses on the [Nesstar browser](#), and as a result of the desired statistical analyses, they can only use aggregated data and not microdata.

#### **Access to PUF microdata**

Access to the microdata is intended for registered users who perform analyses of the microdata on local computers using selected statistical software. PUF microdata do not contain detailed data because they have been protected or they primarily do not contain any (combination of) variables that needed to be protected.

### **Access to SUF microdata**

Access to such microdata is only available to registered users who need access to microdata that is less protected than PUF versions of microdata. Access is only possible if the user submits a specific request for access, which is evaluated by the Commission for the Protection of Confidentiality of ADP. SUF microdata file is only available for specific studies, for example in cases where a protected PUF file has been prepared for general distribution.

### **Access to ScUF microdata**

Access is possible only for registered users based on approved application for access. Access to such sensitive unprotected data is possible only in a safe environment in the offices of the ADP. Each application is individually dealt with by the *Commission for the Protection of Confidentiality*, which carefully examines the application and determines the possibilities of access.

### ***3.5.3 Management of access to microdata***

Access to data and materials is determined by the Digital Preservation Policy. The user can freely access the metadata of the study through the [website](#) and the [Nesstar browser](#). There are 3 types of access in the ADP:

#### **1. open access**

The access to the materials is completely open, they can be accessed without registration through the [website ADP](#). Users can download the material to their computer, subject to the general conditions of ADP, legislation and ethics.

#### **2. standard access – with registration**

Access to most of the microdata in the catalogue of ADP is free of charge for users, but [registration](#) on the website of ADP is required. Access to microdata is intended for registered users who perform analyses either through the Nesstar web interface or on their own computer to which they transfer the data:

Anyone can register for access to microdata, regardless of purpose or employment status. When registering on the website, users must provide their name and status (student, researcher, employee at in various institutions, personal use, etc.), define the purpose of data use (educational, scientific, public, commercial), and agree to the terms of use, which require, among other things, adherence to [professional disciplinary and ethical codes of conduct](#) along with [full attribution of the author of the research data and archive](#). Status information is required to track the nature of users of ADP in order to design future data services (preparing different versions of microdata, organising training, etc.).

Access to microdata is regulated by the form [Registration for Data Access](#) on the website ADP.

Standard access includes access to a file for public use, i.e., "Public Use File". The file is suitable for general research use. It allows users to make more accurate inferences about the phenomenon for which the data were collected and to access the data more easily.

### 3. Access under special conditions

Access under special conditions is a form of protection for data files from which it is not possible to remove all direct or indirect identifiers that allow identification of an individual entity under investigation. Special conditions may include

- the data may not be completely anonymised
- the data file is subject to a 6-month embargo
- the file is only available to the research sponsor and original authors

#### a) Scientific Use File (SUF)

Provides access to files available for research purposes only, i.e., Scientific Use File. Access to the data is provided via a secure connection. The ADP provides the user with a connection and a unique password.

Specific conditions that must be met to gain access:

- Registered user
- Request for access via a secure connection
- ADP Commission approval
- Access provided via a secure connection or cloud

#### Registration and application to access the material

To access the microdata, the user must [register](#) and submit an [Application to access the study through a secure connection](#). The Commission for the Protection of the Confidentiality of ADP considers each request individually and carefully examines the content and means of access. The Commission will decide whether or not to grant access.

#### b) Secure Use File (SCUF)

A data file containing confidential data intended for scientific research, methods of statistical concealment/protection of data have not been used, so access is only possible in a secure environment. In a secure environment, i.e., in a safe room within the premises of ADP, access to the Internet is disabled and there is no possibility of data transfer to removable media. The use of image and video recording devices is also prohibited. ADP will check the results of the work on the file and only then will it be safely handed over to the user.

Specific conditions that must be met in order to gain access:

- Registered researcher
- Application to access the study through a safe room
- ADP Commission approval
- Ethics Commission's permission
- Signed Contract of Use

Access is granted only to registered researchers who have a researcher code with the Slovenian Research Agency (ARRS), have submitted a completed [Application to access the study through a safe room](#), have been approved by the Commission for the Protection of Confidentiality and have also signed the [Contract of Use](#).

The Commission for the Protection of Confidentiality of the ADP considers each request individually and carefully considers the content and potential for access. The Commission decides whether or not to grant access.

In special cases, the approval of the ethics committee of the research area or organization in which the user works is required.

Before the user takes the work results out of the secure space, they are reviewed by ADP and examined for the risk of disclosure. Only if there is no risk, the work results are handed over from the safe room to the user.

### ***3.5.4 Citation of holdings***

The ADP provides a standardized format to cite research data and additional materials from the catalogue that includes a persistent identifier link (DOI) to access the landing page for research data and materials. The goal is to educate users about the requirement to use an appropriate and persistent citation format that allows for traceability. Each study in the catalogue of ADP is accompanied by the information on proper citation (see [How to cite this study?](#)). By registering, users agree to properly cite the materials they use (see [General Conditions and Terms of Use](#)). The ADP asks researchers to inform the ADP of possible publications based on the data used from the catalogue of ADP.

#### **Remaining challenges**

In the future, the ADP will provide more examples of data citations via the Dataverse application, which also allows for citation monitoring.

In the next period, the ADP will provide access to study metadata and data in the catalogue through the Dataverse application (access through the ADP website will no longer be available). In the first phase, the catalogue will also be accessible through the Nesstar browser, but we plan to stop using Nesstar soon and replace its functionalities with additional plugins in Dataverse (data download, data preview, data analysis etc.).

*Curator of the field: Head of Access and Use*

### ***3.5.5 Improper use of data and sanctions***

Through the [General Conditions and Terms of Use](#), the User is obliged to ensure an adequate level of protection of the data during its transmission, storage and use. In his work he will respect the relevant legislation and the professional and institutional ethical rules of conduct. The user undertakes not to abuse the confidentiality and privacy of the individuals or organizations involved in the study. The user must maintain the confidentiality of all information, even if he/she publishes his/her research results. The user agrees to abide by the specific limitations of individual data files when indicated. The user will adhere to professional ethics and institutional codes of conduct when using the data and will consult with ADP if unsure.

In case of detected violations, ADP will revoke the user's right to continue using the microdata to which he/she has been granted access and will deny any further request for access to the material. The user may also be held liable under criminal law and for damages in the event of violations.

#### **Remaining challenges**

Sanctioning the misuse of data has not been necessary in the past. In the future, ADP will develop a system for monitoring when necessary, in accordance with ethical codes of conduct and active consultation with ethics committees.

## 3.6 Administration

The Administration function of the OAIS model involves managing the day-to-day tasks of the OAIS model and coordinating its component parts. The ADP performs administrative tasks in the following areas:

### a) Ingest

At the ingest level, the administrative burden is primarily associated with communication between the data provider and the curator of the study and managing the documentation for the ingest. This includes the following tasks:

- Newly reported study is entered into Jira and a study supervisor (aka Data Archivist) is assigned to handle all study processing.
- A list of potential studies is created to serve as the basis for new study entry.
- All necessary information for ingest is sent to the data provider (the procedure, what and how to submit materials).
- A *Commission for Ingest and Evaluation of the Study* is convened, which decides whether or not to file the study in the archive. Minutes of the meeting are taken, stored in Jira, and accessible to the data provider as needed.
- Data Archivist of the study ensures that the submitted package is complete, and all materials are appropriately edited.
- Data Archivist of the study ensures that the License Agreement is completed and signed by both parties. Data Archivist scans the agreement and notes it in the database and in Jira. The physical copy of the agreement will be placed in a folder in the ADP office. Ensure that all possible specific requirements of the data provider are noted in Jira.
- The Data Archivist will ensure that all communication with the data provider is documented in the administrative tool Jira.
- Information about the authorization of the study description by the data provider is noted in Jira, including any possible subsequent changes to the study description.
- Information on the authorization of the study description by the data provider is noted down in Jira, including all possible subsequent changes in the study description.

### b) Archiving

It is important that all materials be in formats suitable for long-term storage and that there be a regular notation of all changes to individual materials. Administrative tasks in archiving are:

- Archival versions of submitted and distributed materials are created for each study. Logging is done in the Microsoft Access database and in the administrative tool Jira.
- All possible subsequent changes to archival materials are noted in the Microsoft Access database and in the administrative tool Jira.

### c) Managing data (processing)

It is important to regularly monitor and note any changes in the way data is handled. To ensure traceability of transformations, the entire process of changes is noted in the administrative tool Jira, where there is information about:

- The entire process of handling the study,
- the list for review of studies, research data and additional materials.

Internal instructions for handling data are stored in the local ADP directory.

#### **d) Storage planning**

To ensure long-term preservation, it is necessary to regularly monitor and update the archival system. The management of this area includes the following tasks:

- supervision of contracts with external service providers (NUK, ARNES, server maintenance and IT support, programmers): a contract supervisor is appointed to monitor the content of contracts (validity, payments, regular reporting),
- appropriate and secure storage of backup copies (one copy on the local drive, one physical copy in the folder in the office of ADP),
- regular monitoring of the creation of the backup copies and noting of all activities in in the administrative tool Jira and Redmine.

#### **e) Access**

The access phase includes the following administrative tasks:

- Assisting users with registration,
- Processing and storing registration forms (printed versions stored in folders in the offices of ADP, digital versions stored on the local server),
- Managing access lists to individual studies,
- Granting access to users, in accordance with the completed registration forms.

**Additionally, administrative tasks are carried out in the following fields as well:**

#### **f) Interaction with data providers**

Interaction with data providers in administrative terms includes organizing training and direct support (email, phone, personal contact, manuals, webinars). Data providers will need to be motivated and encouraged to ingest, negotiated with on data accessibility, and provided with additional training informing them of the importance and process of ingest.

Meetings will be organized with institutional representatives to expand the support environment that will enable timely ingest of high-quality research data within the guidelines of the institutions and scientific journals. The plan of collaboration with data providers for the purpose of thematic and qualitative expansion of the collection of the ADP is included in the document of promotion of ADP and is prepared at the beginning of each calendar year for the current year.

#### **g) Interaction with users**

The Head of Access and Use provides support to users via email, phone or in person. In addition, several group and individual training sessions are organized to train users on how to search and use data from the ADP data catalogue. The plan for working with users is included in the ADP Education, Training and Promotion Support Activities document prepared by the Head of Trainings and Promotion prepares at the beginning of the calendar year for the current year and negotiated and confirmed within the Working Group.

This plan identifies the following activities for users:

- Workshops on the use of data from the catalogue of ADP,
- Presentations for users on the use of data from the catalogue of ADP on their institutions (e.g., on faculties),
- Workshops on the use of official statistics.

Users are regularly informed about new studies in the data catalogue of ADP. They are advertised through various digital channels:

- "News" section on the website of ADP (<http://www.adp.fdv.uni-lj.si/novice/>),
- ADP's monthly newsletter sent to subscribed users (<http://www.adp.fdv.uni-lj.si/enovice/>),
- Facebook page of ADP (<http://sl-si.facebook.com/Arhiv.Druzboslovnih.Podatkov>),
- Twitter account of ADP (<https://twitter.com/ArhivPodatkov>),
- The website of the Faculty of Social Sciences (FDV), where ADP has its own subpage (<http://www.fdv.uni-lj.si/raziskovanje/publikacije/arhiv-druzboslovnih-podatkov>),
- FDV internal news, which is sent out weekly to all FDV staff,
- FDV Facebook page (<https://www.facebook.com/fdv.si>),
- Twitter account of FDV (<https://twitter.com/FDVLjubljana>).

#### **h) Management/Maintenance**

The ADP ensures that its operations follow accepted standards and guidelines. The administrative duties in this area are to monitor the operation of the entire ADP system and to determine appropriate updates to procedures.

*Curator of the field: Director of Administration*

## 4. TECHNOLOGY

### 4.1 Architecture of the information technology

The ADP operates on a well-supported operating system and other infrastructural program foundations suitable for the data services that the ADP provides to its designated communities (see the internal document [Schema of the ADP system](#)). For its activities, the ADP uses the network of the [Academic and Research Network of Slovenia ARNES](#), which ensures stable, secure and efficient functioning of the information and communication infrastructure (see [General provisions of the use of ARNES network services](#)). The Arnes assures that it manages the e-infrastructure, network resources and services carefully and in accordance with best practices and technological standards, thus serving the needs of its users with best efforts.

In designing its information technology, the ADP considers the recommendations and requirements of CESSDA (for example, recommendations regarding PID and AAI). It follows current trends in hardware and software development, which are regularly monitored and updated. Efficient storage capacities of the entire infrastructure are provided. The storage of data, its distribution and the entire infrastructure of the archive are based on an adapted IT infrastructure, to which only staff and registered users have access.

Responsibilities regarding technical infrastructure are divided between ADP and the I.T. Department of the Faculty of Social Sciences, University of Ljubljana. Overall, the I.T. Department provides and maintains the physical computing environment and services common to all faculty actors while ADP caters for virtual machines and services that are unique to ADP's operations in the context of the Faculty of Social Sciences. ADP follows the faculty level guidance given by I.T. Department. Division of labour has been agreed upon in meetings between ADP and the I.T. Department. No formal SLA has been signed as ADP and I.T. Department are distinct parts of the same organisation; rather, faculty policies and biannual meetings drive the cooperation between ADP and I.T. Department. Both parties maintain software inventory and documentation, respective to the division of labour.

The ADP is currently developing a technological upgrade to support internal processes and enable their automation, based on repository software with certain adaptations that consider the specificities of data, documentation and metadata from the field of social sciences. The ADP regularly invests in upgrades and developments of services that allow interconnectivity between different organizations and the use of versioning and persistent identifiers, an overview of copies in different formats and access regimes. The ADP will also continue to collaborate with the NUK and ARNES in relation to work on secure digital storage across multiple sites.

One of the ongoing activities of ADP is to contribute to, test and implement tools in an international environment. In addition to Nesstar and online environments with contemporary documentation systems (Django, Wordpress, Jira), which the ADP regularly maintains, the ADP plans to introduce technological support for researchers that will enable controlled handling of research data throughout the project and facilitate the transfer of data collected during the project to digital storage in ADP after the end of the project.

The set goals of digital preservation will be achieved with a combination of the introduction of open access tools, such as [DataVerse](#) for ingesting and distributing studies, and the implementation of the internally developed repository tool "E-storage" to manage the archiving processes in the ADP (Fedora-based application). These tools will serve as external support

for data and documentation preparation and will enable rule-based machine processing of ingest. Both tools are currently being piloted.

## 4.2 Security and risk management

The ADP is committed to the security of its physical spaces, equipment, research data and other materials, services and users. There are three physical rooms where all computer equipment and materials are stored. The rooms are part of the Faculty Social Sciences of the University of Ljubljana, which provides for the security of its premises according to its own protocols, such as fire protection and physical security of the premises, including the permanent presence of a security guard.

The ADP follows the safety instructions and rules of the Faculty of Social Sciences in case of various natural disasters:

- *Rules on the Measures for the Protection of Information-Communication Systems in the Faculty Social Sciences (2010),*
- *House Rules of the Faculty of Social Sciences,*
- *Fire safety rules of the Faculty of Social Sciences.*

To ensure safety, all rooms with computers and materials must be locked when no staff member is present. Two laptops are available in ADP and their users are responsible for their security. The ADP ensures secure access to its servers, which are only available to ADP staff and its external service providers. Physical access to the servers is provided only to the staff of the Computer Center of the Faculty of Social Sciences (RC FDV), external service providers with a valid contract and the staff of ADP, but only in the presence of a representative of RC FDV. Access to ARNES servers is available only to ARNES staff.

Access to the system and materials is available only to users and registered users. A firewall is in place for increased security of access. To ensure security, there is limited physical access to the hardware. Transfer of research data between data providers and the ADP is possible through secure cloud transfer. All these measures ensure adequate information security of ADP.

The network of ARNES that the ADP uses for its work is under the direction of ARNES. ARNES has established mechanisms of automatic control and a control centre for technical support, while outside office hours problems in the work of the network are solved by the emergency services. With these measures, ARNES ensures the reliability, quality and security of its services. ARNES tries to establish redundancy in all its network services, which reduces the possibility of outages. In the event of unforeseen events, ARNES ensures that problems are resolved in the shortest possible time.

To ensure physical storage, the ADP has developed a policy and detailed guidance for backup creation and system recovery in the event of a fallout (see [Technology and Security in Appendix A](#)). Software solutions allow for automatic synchronization of backup copies on a specified backup server where encrypted versions of the data files are stored. The encrypted data files are then stored in three different locations: NAS server, external iSCI disk ([Arnes Storage](#) – Technological park of Ljubljana) copying via SSH, and on an external hard disk. In this way, backup copies are created in case of serious events in the server room (e.g. destructive fire). The backup copy outside the location of the archive on the other hand enables backup copies in case of major disruptive events at the Faculty of Social Sciences (destructive fire, bomb, earthquake, etc.).

The ADP currently has no defined standard to guide the design of its technological infrastructure. The ADP follows the [CESSDA Technical Guidelines](#) and the requirements defined in ISO 16363/ TDR and tries to place its operations within the framework of these requirements as much as possible. The ADP has developed a "Strategy for Managing Security Threats". The document is a systematic analysis of potential hardware and software security risks, assessment of system vulnerabilities and the consequences of such risk for the smooth operation of ADP services. The document also identifies appropriate management strategies for the identified risks.

#### **Remaining challenges**

More thorough procedures for long-term storage and handling of materials are underway and will be fully implemented in 2021. For these purposes, the ADP, in collaboration with NUK, is developing a new Fedora-based software environment that will provide a more secure and automated method of digitally storing materials. In the new system, a copy of the data and additional materials will be stored on the ADP server, and a copy will be stored at NUK.

*Curator of the field: Technology and Security Officer*

## TERMINOLOGY

**ADP:** Slovenian Social Science Data Archives (<http://www.adp.fdv.uni-lj.si/>)

**AIP, Archival Information Package:** the state of digital objects in the archive after storage in the preservation system.

**Authenticity:** a digital object is authentic if it can be said to rely on three significant provable properties: that the object is what it purports to be, that it was created by whomsoever is purported to have been created by; and that it was created at the time when it is purported to have been created.

**CESSDA AS:** Consortium of European Social Science Data Archives (<http://cessda.net/>)

**CONOR:** is a [normative data file](#) of personal and corporate names in the system COBISS.SI. The normative control is based on the connectivity between the bibliographic and normative records.

**DANS:** Data Archiving and Networked Services (<https://dans.knaw.nl/en/>)

**DARIAH:** Digital Research Infrastructure for the Arts and Humanities (<https://www.dariah.eu/>)

**Data database:** a relational database with basic data on originally received data files and their variations, including the identification number, type of data file and basic thematic characteristics (data file or other connected materials).

**Data description:** the description of the data file with data in accordance with DDI (position in the data file and the markings of variables and units), together with a detailed description of the content of variables (conceptual meaning of the variable, set of values with codes) that define the thematic and conceptual level of data file that is under digital preservation and part of DDI codebook file.

**Data Documentation Initiative (DDI):** is a project of the social science community to establish an international standard and methodology for describing the content, presentation, transport, and preservation of metadata about datasets in the social and behavioral sciences. (<http://www.ddialliance.org/>).

**Data producer:** is an individual who is named on a deposit agreement as having sufficient responsibility to grant particular rights to the Archive on behalf of a data collection. The depositor may be the investigator, creator or the copyright owner of a data collection, but does not have to be. In some terminology, the term depositor is used in a similar meaning.

**Data users:** those persons, or client systems, that interact with OAI services to find and acquire preserved information of interest. A special class of Consumers is the Designated Community. The Designated Community is the set of Consumers who should be able to understand the preserved information.

**Data:** constitute primary sources that underpin scientific research and enable derivation of theoretical or applied findings. More precise definitions of data vary according to context. Quantitative data may refer to just the matrices of numbers or words that comprise a data file but may also cover other information (metadata) held within a statistical package data file, such as variable labels, code labels, and missing value definitions. Qualitative data might include interview transcripts as well as audio and video recordings (analog or digital).

**DataCite:** DataCite is a leading global non-profit organization that provides persistent identifiers (DOIs) for research data (<https://www.datacite.org/>).

**Data file description:** data file description of quantitative data includes at least information on the number of variables and units in the datafile and their corresponding data file format: part of the DDI codebook file.

**Datafile:** a digital object that is the core unit of preservation and distribution in the ADP. The data are symbolic representations of reality, acquired with the data collection process.

**DataVerse:** is an open source web application to share, preserve, cite, explore, and analyze research data (<http://dataverse.org/>).

**DDI codebook file:** digital object, formatted according to the DDI2.1 DTD standard in the XML language that includes all descriptive data, data on provenance and other metadata, which are important for understanding and reproducing data files. It includes the marking of identifiers and metadata of digital objects that form the collection of data materials (<http://www.ddialliance.org/specification>).

**Designated Community:** an identified group of potential Consumers who should be able to understand a particular set of information. The Designated Community may be composed of multiple user communities. A Designated Community is defined by the Archive and this definition may change over time.

**Digital data curation:** Data curation is the selection, preservation, maintenance, and archiving of digital assets and it establishes, maintains and adds value to data for present and future use.

**Digital Object:** An object composed of a set of bit sequences.

**Digital preservation:** is a series of managed activities necessary to ensure enduring access to authentic versions of the content of digital materials for as long as necessary.

**DIP, Dissemination Information Package:** the state of digital objects as available to final users in different periods.

**DSA:** Data Seal of Approval (<http://datasealofapproval.org/en/>)

**Fedora:** is the flexible, modular, open source repository platform with native linked data support.

**Independently Understandable:** A characteristic of information that is sufficiently complete to allow it to be interpreted, understood and used by the Designated Community without having to resort to special resources not widely available, including named individuals.

**Information Object:** A Data Object together with its Representation Information.

**Information Package:** A logical container composed of optional Content Information and optional associated Preservation Description Information. Associated with this Information Package is Packaging Information used to delimit and identify the Content Information and Package Description information used to facilitate searches for the Content Information.

**Integrity:** refers to its completeness and to a continued state of un-alteration of a digital object.

**Jira:** software used to note down the state and changes of individual studies as well as other administrative tasks.

**Long-Term Preservation:** The act of maintaining information, Independently Understandable by a Designated Community, and with evidence supporting its Authenticity, over the Long Term.

**Metadata:** information that describes significant aspects (e.g. content, context and structure of information) of a resource.

**Nesstar:** Nesstar WebView is a web-based system for the dissemination of data (<http://www.nesstar.com/>).

**Normalisation at ingest:** file format conversion by the repository when data are submitted.

**OAIS:** The Open Archival Information System (OAIS) Reference Model is a conceptual framework for an archival system dedicated to preserving and maintaining access to digital information. It addresses a full range of archival preservation functions including ingest, archival storage, data management, access, and dissemination. It is not a metadata standard but rather it outlines a taxonomy that defines the information types deemed necessary for the understanding of digital content over an indefinite period of time (<https://public.ccsds.org/pubs/650x0m2.pdf>).

**OECD:** Organisation for Economic Co-operation and Development (<http://www.oecd.org/>)

**OpenAire:** The FP7 project OpenAIRE aimed to support the implementation of the EC and ERC Open Access policies. Its successor OpenAIREplus was aimed at linking the aggregated research publications to the accompanying research and project information, datasets and author information. Open access to scientific peer reviewed publications has evolved from a pilot project with limited scope in FP7 to an underlying principle in the Horizon 2020 funding scheme, obligatory for all H2020 funded projects. The

goal is to make as much European funded research output as possible available to all, via the OpenAIRE portal (<https://www.openaire.eu/>).

**Other materials, connected with the research data:** data files of textual and other materials, which are connected with the research data, such as questionnaire, external code etc.

**Other materials:** textual and other data file documents that are important for the additional understanding of the content and context of the study, such as preliminary reports, publications etc. They are usually not part of ADP's digital preservation but are accessible through a link on the primary point of access.

**Preservation strategy:** a digital preservation strategy is a particular technical approach to the preservation of digital materials. This document contains the strategy and policy of the Archive.

**Reliability:** relies on having trusted and dependable contents of a digital object.

**Semantic Information:** The Representation Information that further describes the meaning beyond that provided by the Structure Information.

**Significant properties:** are those elements of a digital object which need to be preserved in order for it to be used by the designated user community. They will almost always include information content and a level of functionality, but might also include formatting and look and feel.

**SIP, Submission Information Package:** the state of digital objects in the archive after ingest.

**Structure Information:** The Representation Information that imparts meaning about how other information is organized. For example, it maps bit streams to common computer types such as characters, numbers, and pixels and aggregations of those types such as character strings and arrays.

**Study database:** a relational database with basic metadata on the level of study that includes the unique study code, title of the study, data provider identification and the date of signing the license agreement.

**Study:** is the Archive's basic content-tracking concept used for a data collection during the stages of acquisition, ingest, preservation and dissemination. There is normally a one-to-one relationship between a study and a data collection. Similarly, there is often a one-to-one relationship between a deposit and a study, but a deposit may, depending on circumstances, be divided into more than one study. Equally, more than one deposit from the same depositor may be combined into a single study, similar to accumulating archival fonds.

**Succession Plan:** The plan of how and when the management, ownership and/or control of the OAIS holdings will be transferred to a subsequent OAIS in order to ensure the continued effective preservation of those holdings.

**Transformation:** A Digital Migration in which there is an alteration to the Content Information or PDI of an Archival Information Package. For example, changing ASCII codes to UNICODE in a text document being preserved is a Transformation.

**UK DA:** UK Data Service (<http://www.data-archive.ac.uk/>)

**Usability:** relies on the ability of a digital object to be located, retrieved, presented and interpreted.

## RESOURCES

- Arhiv družboslovnih podatkov. 2017. *3. Prepare Data*. Accessed: <http://www.adp.fdv.uni-lj.si/eng/deli/postopek/priprava/> (03 June 2017).
- Arhiv družboslovnih podatkov. 2017. *Deposit Procedure*. Accessed: <http://adp.fdv.uni-lj.si/eng/deli/postopek/> (03 June 2017).
- Arhiv družboslovnih podatkov. 2017. *2. Sign a License Agreement*. Accessed: <http://adp.fdv.uni-lj.si/eng/deli/postopek/izjava/> (03 June 2017).
- Arhiv družboslovnih podatkov. 2017. *4. Prepare the Study Description*. Accessed: [http://adp.fdv.uni-lj.si/eng/deli/postopek/opis\\_raziskave/](http://adp.fdv.uni-lj.si/eng/deli/postopek/opis_raziskave/) (03 June 2017).
- ARRS. 2011. *PRILOGA 2: Bibliografska merila znanstvene in strokovne uspešnosti*. Accessed: <http://www.arrs.gov.si/sl/akti/inc/prav-raz-dej-jan11-priloga2-1.pdf> (03 June 2017).
- Beedham, Hilary, Julie Missen, Matt Palmer, in Ruusalepp Raivo. 2007. *Assessment of UKDA and TNA compliance with OAIS and mets standards*. Accessed: <http://www.webarchive.org.uk/wayback/archive/20140615012529/http://www.jisc.ac.uk/media/documents/programmes/preservation/oaismets.pdf> (16 March 2016).
- CESSDA AS. 2016. *The Open Archival Information System (OAIS) Reference Model*. Accessed: [http://cessda.net/content/download/496/4465/file/CESSDA%20User%20Guide%20for%20digital%20preservation\\_2\\_OAIS.pdf](http://cessda.net/content/download/496/4465/file/CESSDA%20User%20Guide%20for%20digital%20preservation_2_OAIS.pdf) (17 March 2016).
- CESSDA. 2014. *Statutes for CESSDA Annexes: Consortium of European Social Science Data Archives*. Accessed: [https://www.google.si/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0ahUKewjRgpWd-4LAhXGPxOKHYHyCmIQFggbMAA&url=http%3A%2F%2Fcessda.net%2Fcontent%2Fdownload%2F316%2F2908%2Ffile%2FAnnexes-to-Statutes-for-CESSDA-210213-Final-Version-brand.pdf&usq=AFOjCNEgpbI7A\\_S9-13vebFbPpWjDZSI9g&sig2=hCjwzpNxNBjHtG252zHm7Q](https://www.google.si/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0ahUKewjRgpWd-4LAhXGPxOKHYHyCmIQFggbMAA&url=http%3A%2F%2Fcessda.net%2Fcontent%2Fdownload%2F316%2F2908%2Ffile%2FAnnexes-to-Statutes-for-CESSDA-210213-Final-Version-brand.pdf&usq=AFOjCNEgpbI7A_S9-13vebFbPpWjDZSI9g&sig2=hCjwzpNxNBjHtG252zHm7Q) (24 February 2016).
- DASISH. 2015. *Data Service Infrastructure for the Social Sciences and Humanities*. Accessed: [http://dasish.eu/publications/projectreports/DASISH\\_D4.3\\_081214-final.pdf](http://dasish.eu/publications/projectreports/DASISH_D4.3_081214-final.pdf) (25 February 2016).
- European Commission Research & Innovation. 2016. *Policy Initiatives*. Accessed <http://ec.europa.eu/research/openscience/index.cfm?pg=openaccess> (18 April 2016).
- *Fakulteta za družbene vede*. Accessed: <http://www.fdv.uni-lj.si/> (3 March 2016).
- Interuniversity Consortium for Political and Social Research (ICPSR). 2009. *Principles and Good Practice for Preserving Data. IHSN Working Paper No 003. December 2009*. Accessed: <http://www.ihsn.org/home/sites/default/files/resources/IHSN-WP003.pdf> (24 February 2016).
- Jones, Sarah. 2010a. *DCC preservation policy template*. Accessed: <http://www.dcc.ac.uk/sites/default/files/documents/Preservation%20policy%20template.pdf> (4 March 2016).
- Jones, Sarah. 2010b. *Preservation policy template for repositories*. Accessed: <http://www.dcc.ac.uk/sites/default/files/documents/Preservation%20policy%20template.pdf> (4 March 2016).
- Kavčič-Čolić, Alenka, Melita Ambrožič, Janko Klasinc, Eva Kodrič-Dačić, Matjaž Kragelj, Zoran Krstulović, Aljoša Nikl, Irena Sešek in Renata Šolar. 2012. *Strategija trajnega ohranjanja digitalnih virov v Narodni in univerzitetni knjižnici 2012-2020*. 2012. Ljubljana: Narodna in univerzitetna knjižnica. [URN:NBN:SI:DOC-HPEWEXEN](https://nbn-resolving.org/urn:nbn:si:doc-hpewexen)
- Krstulović, Zoran, Tatjana Hajtnik in Mitja Doma. 2013. *Smernice za zajem, dolgotrajno ohranjanje in dostop do kulturne dediščine v digitalni obliki*. Ljubljana: Ministrstvo za kulturo.

- Lavoie, Brian. 2014. *The Open Archival Information System (OAIS) Reference Model: Introductory Guide (2nd Edition) DPC Technology Watch Report 14-02 October 2014*. Great Britain: Charles Beagrie.Ltd. DOI: <http://dx.doi.org/10.7207/twr14-02>
- Lavoie, Brian. 2014. *The Open Archival Information System (OAIS) Reference Model: Introductory Guide (2nd Edition)*. Accessed: <http://dx.doi.org/10.7207/twr14-02> (24 February 2016).
- McGeever, Mags, Angus Whyte in Laura Molloy. 2015. *Five Things You Need to Know About RDM and the Law: DCC Checklist on Legal Aspects of RDM*. Accessed: <http://www.dcc.ac.uk/resources/how-guides/rdm-law#sthash.IMdJCLdo.ygq01jsc.dpuf> (3 March 2016).
- Nestor. 2014. *Guideline for Preservation Planning: Procedural Model and Implementation*. Accessed: <http://nbn-resolving.de/urn/resolver.pl?urn:nbn:de:0008-2014102709> (3 March 2016).
- OECD. 2007. *OECD Principles and Guidelines for Access to Research Data from Public Funding*. Accessed: <http://www.oecd.org/sti/sci-tech/oecdprinciplesandguidelinesforaccesstoresearchdatafrompublicfunding.htm> (25 February 2016).
- OpenAIRE. 2016. Dostopno preko: <https://www.openaire.eu/> (4 March 2016).
- OpenAIRE. 2016. *OpenAIRE Guidelines for Data Archives*. Accessed: <https://guidelines.openaire.eu/en/latest/data/index.html> (4 March 2016).
- PIS. 2016. *Print preview Zakon o državni statistiki*. Accessed: <http://www.pisrs.si/Pis.web/pregledPredpisa?id=ZAKO424> (4 March 2016).
- PIS. 2016. *Zakon o avtorski in sorodnih pravicah (ZASP)*. Accessed: <http://www.pisrs.si/Pis.web/pregledPredpisa?id=ZAKO403> (4 March 2016).
- PIS. 2016. *Zakon o Informacijskem pooblaščenju*. Accessed: <http://www.pisrs.si/Pis.web/pregledPredpisa?id=ZAKO4498> (4 March 2016).
- PIS. 2016. *Zakon o varstvu osebnih podatkov (ZVOP)*. Accessed: <http://pisrs.si/Pis.web/pregledPredpisa?id=ZAKO1213> (4 March 2016).
- Schumann, Natascha and Astrid Recker. 2012. *De-mystifying OAIS compliance: Benefits and challenges of mapping the OAIS reference model to the GESIS Data Archive*. Accessed: <http://www.iassistdata.org/iq/de-mystifying-oais-compliance-benefits-and-challenges-mapping-oais-reference-model-gegis-data-arc> (24 February 2016).
- Slovenian Research Agency. 2017. *Slovenian Research Agency (ARRS)*. Accessed: <https://www.rrs.gov.si/en/index.asp> (3 March 2016).
- Slovenian Research Agency. *Zakoni, predpisi, normativni akti*. Accessed: <http://www.rrs.gov.si/sl/akti/prav-sof-ocen-sprem-razisk-dej-nov-13-spr.asp> (3 March 2016).
- Štebe, Janez, Jože Hudales and Boris Kragelj. 2011. *Archiving and Re-using Qualitative and Quantitative Longitudinal Data in Slovenia*. Accessed: <http://www.iassistdata.org/iq/archiving-and-re-using-qualitative-and-quantitative-longitudinal-data-slovenia> (15 April 2016).
- Štebe, Janez, Sonja Bezjak in Irena Vipavc Brvar. 2015. *Priprava raziskovalnih podatkov za odprti dostop: priročnik za raziskovalce*. Ljubljana: Fakulteta za družbene vede, Založba FDV. [URN:NBN:SI:DOC-06SLBVXX](http://nbn-resolving.org/urn:nbn:si:doc-06slbvxx)
- Štebe, Janez, Sonja Bezjak in Sanja Lužar. 2013. *Akcijski načrt za vzpostavitev sistema odprtega dostopa do raziskovalnih podatkov financiranih z javnimi sredstvi*. Accessed: [http://www.adp.fdv.uni-lj.si/o\\_arhivu/publikacije/odpp10\\_akcijski\\_nactr/](http://www.adp.fdv.uni-lj.si/o_arhivu/publikacije/odpp10_akcijski_nactr/) (24 February 2016).
- Univerza v Ljubljani. 2017. *Network of Research and Infrastructural Centres*. Accessed: [https://www.uni-lj.si/research\\_and\\_development/research\\_infrastructure/network\\_of\\_research\\_and\\_infrastructural\\_centres/](https://www.uni-lj.si/research_and_development/research_infrastructure/network_of_research_and_infrastructural_centres/) (03 June 2017).

- Vardigan, Mary in Cole Whiteman. 2007. *ICPSR Meets OAIS: Applying the OAIS Reference Model to the Social Science Archive Context*. Accessed: <http://hdl.handle.net/2027.42/60440> (24 February 2016).
- Vlada republike Slovenije. 2015. *Nacionalna strategija odprtega dostopa do znanstvenih objav in raziskovalnih podatkov v Sloveniji 2015-2020*. Accessed: [http://www.mizs.gov.si/fileadmin/mizs.gov.si/pageuploads/Znanost/doc/Zakonodaja/Strategije/Nacionalna\\_strategija\\_odprtega\\_dostopa.pdf](http://www.mizs.gov.si/fileadmin/mizs.gov.si/pageuploads/Znanost/doc/Zakonodaja/Strategije/Nacionalna_strategija_odprtega_dostopa.pdf) (24 February 2016).
- Vlada republike Slovenije. 2016. *Načrt razvoja raziskovalnih infrastruktur 2011–2020. Revizija 2016*. Accessed: [http://www.mizs.gov.si/fileadmin/mizs.gov.si/pageuploads/Znanost/doc/Strategije/NRRI\\_2016\\_SLO.pdf](http://www.mizs.gov.si/fileadmin/mizs.gov.si/pageuploads/Znanost/doc/Strategije/NRRI_2016_SLO.pdf) (23 December 2016).
- Zakon o dostopu do informacij javnega značaja. Accessed: <http://www.uradni-list.si/1/objava.jsp?urlid=200651&stevilka=2180> (3 March 2016).
- Zakon o varstvu dokumentarnega in arhivskega gradiva ter arhivih. Accessed: <https://www.uradni-list.si/1/content?id=72425> (3 March 2016).

# APPENDIX

## A. List of internal guidelines and instructions

ADP Council Working Procedures Act

Recommendations for ingest of qualitative data (for data archivists)

### Workflow of handling a new study

- Procedure of working with study (workflow\_v1.pdf)

### Obtaining and selecting data for ingest

- Instructions for submitting data for ADP (Navodila za predajo podatkov-za ADP\_V1.3.docx)
- Instructions for submitting data for data producers (Navodila za predajo podatkov-za dajalca\_V1\_2.docx)
- Workflow for the protection of data (Workflow za zaščito podatkov.pdf)
- Functioning of the Commission for the protection of confidentiality (Komisija za zaščito zaupnosti – opredelitev\_v2.docx)
- Main criteria for evaluating studies and marking of scientific successfulness (Ocene raziskav - definicije\_v3.docx)
- Instructions for checking and storing of holdings (Navodila za pregledovanje in spravilo gradiv\_V5\_R6.docx)
- Internal instructions for the protection of microdata (Interna navodila za zaščito mikropodatkov.docx)

### Ingest

- Instructions on how to add new studies in Jira (Uvoz raziskave v Jira.docx)
- The procedure for entering a study (Navodila\_raziskave\_JIRA\_v3.docx)
- Additional recommendations for editing the data file (DodatnaPriporocilaSPSS-V2.docx)
- Instructions for the program of correcting the Access database (Navodila za program popravkov Accessove baze.docx)
- Instructions for the creation of CDB (navodila\_za\_izdelavo\_cdb\_14\_5\_02.doc)
- Instructions for database export (Navodila za izvoz baze raziskav.docx)
- Instructions for database users' export (Navodila za izvoz baze uporabnikov.docx)
- Instructions for publishing on Nesstar (v 4.0.9) (Navodila za objavo na Nesstarju.docx)
- Instructions for publishing on web (Navodila za objavo na Web-u\_v2.docx)
- Instructions for the use of programme sintaxe.exe to build SPSS, SAS, STATA and R syntax (Navodila za sestavljanje sintakse iz xml in ascii.docx)
- Instructions on how to prepare the final data files (NavodilaSPSS.docx)
- The procedure for preparation of data file and related documentation (Postopek za pripravo podatkovne datoteke\_V2\_R2.docx)
- Instructions on how to process study descriptions in xml format in accordance with DDI DTD standard (PRAVILA ADP1.doc)
- Instructions on how to process study descriptions (pravilaADP.doc)

## **Archival information package**

- Instructions for the programme for the creation of XML for NESSTAR (Navodila za sestavljanje xml za NESSTAR.docx)
- Instructions for the programme for the creation of XML for web (Navodila za sestavljanje xml za WEB.docx)
- Instructions for the use of programme to generate ACU for NESSTAR (Navodila za generiranje ACU.docx)
- Instructions for publishing a study on NESSTAR (Navodila za objavo na Nesstarju\_v2.docx)
- Instructions for publishing a study on webpage ADP (Navodila za objavo na Web-u\_v3.docx)
- Instructions for using the application e-Trajna hramba [eng. e-Long-term curation] (Fedora\_navodila.docx; Navodila za pregledovanje in spravilo gradiv\_V5\_R7.docx)

## **Access**

- Instructions for assigning passwords for access to NESSTAR (Navodilo za dodelitev gesel1.doc)
- Instructions on how to use Nesstar (Nesstar guide.docx)
- Instructions on how to use Nesstar in Slovenian (nesstar navodila\_sl.doc)

## **Administration**

- Instructions on how to use the Admin module for users (Admin modul za uporabnike.docx)
- Instructions on how to use export user database (Izvoz uporabnikov.docx)
- JIRA-instructions for use (JIRA navodila za uporabo.docx)
- Administration of NESSTAR and Jira server (Navodila za administracijo Nesstar in Jira strežnika.docx)
- Instructions for using the programme Nesstar\_logi (Navodila za generiranje poročil o obiskanosti Nesstarja.docx)
- Instructions to generate reports from Jira database (Navodila za generiranje JIRA porocil.docx)
- Instructions to generate reports from web database (Navodila za generiranje porocil iz WEB baze.docx)
- Instructions on how to use import a CSV file to Excel (NAVODILA ZA UVOZ CSV DATOTEKE V EXCEL.docx)
- Diagram of directories on »Linux« server (Shema direktorijev na Linux strezniku.docx)
- Instructions for maintaining the website of ADP (Navodila za urejanje spletne strani\_v2.docx)
- Instructions for adding a new webpage outside of Django (NAVODILA ZA DODAJANJE NOVE SPLETNE STRANI - NOVI STREZNIK.docx)
- Instructions on how to translate website in English (Prevodi na spletni strani.doc)
- Instructions for publishing on the webpage of Faculty of Social Sciences (Objava spletna stran FDV.docx)
- Instructions for administration in Wordpress (Wordpress admin.docx)
- Instructions on how to be present on the social media (Prisotnost na socialnih omrežjih v1\_6.docx)

- Instructions on how to prepare and send e-News (Priprava in posiljanje e-novic.docx)
- Instructions for saving e-News (Navodila za shranjevanje novic v PDF.docx)
- Instructions for using Google Analytics and preparation of monthly reports (Navodila\_google\_analytics.docx)
- Instructions on how to prepare a travel order (Navodila za pripravo POTNEGA NALOGA.doc)
- Instructions on how to set up rights on server directories (Streznik pravice.docx)
- Instructions on how to deal with frequent problems of users (Tezave uporabnikov.docx)
- Prof. Klinar Prize - Instructions (NAGRADE prof Klinarja - navodila.doc)

### **Technology and Security**

- Diagram of the ADP system (skica\_ADP\_v10.pdf)
- Instructions on how to migrate the Nesstar server (Migracija Nesstarja.docx)
- Instructions on how to migrate Nesstar (Nesstar migracija.docx)
- Instructions on how to deal with a non-functioning webpage, Nesstar or Jira (kaj\_narediti\_ko\_spletna\_stran\_ne\_deluje.docx)
- Instructions on how to protect website content with password (Zascita strani z geslom.docx)
- Instructions on how to provide backup (Dokumentacija\_varnostnih\_kopij.docx)
- Instructions on how to inspect backup copies (pregled\_varnostnih\_kopij.docx)