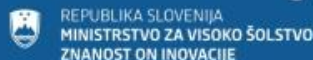


Three Steps of Open Science Implementation in Slovenia

Presentation for members of the Oscar Asia and Oscar 2.0 projects

mag. Miro Pušnik, CTK





Three Steps of Open Science Implementation in Slovenia





Reform of the European Research Area (ERA)

Reform of the European Research Area (ERA)

In March 2022, the European Commission adopted the Pact for Research and Innovation in Europe. The Pact defines 10 common values and principles that will guide research and innovation in Europe and its cooperation with the rest of the world. The ERA Common Policy further defines 20 concrete actions that will contribute to the realization of the goals set in the Pact in the period 2022–2024.



ERA Policy Agenda with Concrete Actions

1. Establishment of new ERA governance
2. Adoption of the Pact for Research and Innovation in Europe with a list of 10 common values and principles
3. An ERA Policy Agenda with concrete actions

1. Enable Open Science, including through the European Open Science Cloud (EOSC)
2. Propose an EU copyright and data legislative framework for research
3. Reform the Assessment System for research, researchers and institutions
4. Promote attractive research careers, talent circulation and mobility
5. Promote gender equality and foster inclusiveness
6. Protect academic freedom in Europe
7. Upgrade EU guidance for a better knowledge valorisation
8. Strengthen research infrastructures
9. Promote international cooperation
10. Make EU research and innovation missions and partnerships key contributors to the ERA
11. An ERA for green transformation
12. Accelerate the green/digital transition of Europe's key industrial ecosystems
13. Empower Higher Education Institutions
14. Bring Science closer to citizens
15. Build-up research and innovation ecosystems to improve excellence and competitiveness
16. Improve EU-wide access to excellence
17. Enhance public research institutions' strategic capacity
18. Support the development of EU countries' national processes for the ERA implementation
19. Establish an ERA monitoring system
20. Support research and innovation investments and reforms

Main Challenges and Priorities for Open Science in the Context of ERA Reform

Improving the Practice of Research and Innovation	Developing Proper Enablers
Openly accessible scholarly publications	Rewards and incentives to adopt open science practices, with appropriate metrics
Early and open sharing of all research outputs	Appropriate skills and education, including for research integrity
RRDM	Open research infrastructures including the European Open Science Cloud (EOSC)
Reproducible results	
Societal engagement and responsibility	

Reference: Kostas Glinos, Open Science: the new normal for practicing Science? Dostopno na: <https://beopen-project.eu/storage/files/parti-1-os-the-new-normal-for-practicing-science-kglinos.pdf>



Reform of the Science Legislation in Slovenia

Scientific Research and Innovation Activities Act (November 2021)

2. Open science and open access to scientific publications and research data

Article 40 (open science)

(1) Open science primarily includes open access to research results, evaluation of the quality and impact of scientific research work using responsible metrics, and connecting and involving the interested public in the research process. More detailed requirements for the implementation of scientific research work according to the principles of open science are determined by the government, taking into account the Scientific Research and Innovation Strategy of Slovenia and the recommendations of European research policies. Open science measures are defined in an action plan adopted by the government.

(2) Evaluation and evaluation of researchers, research organizations, research programs and projects must promote open science.

(3) In order to co-finance the implementation of open science measures, the ministry responsible for science or ARIS may enter into a direct co-financing agreement with the performers of scientific research activities.

Article 42 (scientific journals and monographs of Slovenian publishers)

(1) Scientific journals of publishers based in the Republic of Slovenia and abroad, which contain peer-reviewed articles and whose publication is fully financed by state resources, must ensure open access to their contents.

(2) Financing of scientific monographs with state resources is carried out under conditions that allow open access to the entire contents of digital editions of scientific monographs upon publication, taking into account intellectual property rights and copyright management with free licenses.

Article 41 (open access to scientific publications and research data)

(1) In the context of research co-financed with public resources to the extent of at least 50%, the financier must request, and the performer of the scientific research activity must ensure open access to all peer-reviewed scientific publications and research data and other research results. The performer of scientific research activities or researchers must also take into account this obligation in the individual management of intellectual property rights, by reserving the appropriate scope of rights necessary to fulfill the obligations from this paragraph.

(2) The results of research co-financed from public sources must be open and accessible, taking into account the restrictions imposed by the protection of intellectual property, the protection of personal data, the safety of persons or the state. Open research data must be published or otherwise accessible in a way that enables their findability, accessibility, interoperability and reuse.

(3) Personal data from the content of research co-financed with public resources may be subsequently processed for research purposes comparable to the initial research purposes, or for other research purposes in accordance with applicable regulations governing the protection of personal data. If the personal data were processed in the research on the basis of the consent of the individual to whom they relate, they may be further processed only if the consent also includes subsequent processing or if this is permitted by a new consent. Obtained consents must be kept by the performer of the scientific research activity for ten years and, for the purpose of checking the legality of the processing of personal data, they are available to the individual to whom the personal data relates and to the performer of the scientific research activity. Consent is not required when processing personal data based on the law governing the protection of documentary and archival material and archives.

(4) A public research organization or another competent public institute may, as the administrator of this data, establish regional data centers for research data in accordance with the applicable regulations governing the protection of personal data in order to implement the provisions of the first, second and third paragraphs of this article. The data controller must ensure that only persons who are entitled to conduct research in accordance with the previous paragraph have access to the content of the data from the regional data center.

(5) More detailed requirements regarding the preparation of scientific publications and research data from the first and second paragraphs of this article and deadlines for ensuring open access shall be determined by the government, taking into account the provisions from the third paragraph of this article.



Decree on the Implementation of Scientific Research Work in Accordance with the Principles of Open Science (June 2023)

The Decree is the implementing act of the Scientific Research and Innovation Activities Act. It lays out the implementation arrangements for regulators (Slovenian Research and Innovation Agency, Slovenian Quality Assurance Agency for Higher Education), research organisations and researchers in greater detail.

Main Parts of the Decree (1/2)

1. Open access to scientific publications (requirements, implementation);
2. Open access to research data and other research results in the digital form (requirements, implementation);
3. Copyright management in accordance with the principles of open science (copyright management of scientific publications, research data and other research results);
4. Involvement of the interested public in scientific research (considering the needs of users and the wider community; citizen science);
5. Eligible costs of scientific research work in accordance with the principles of open science;

Main Parts of the Decree (2/2)

6. Evaluation and assessment of researchers, research organisations, research programmes and projects in accordance with the principles of open science (evaluation by funders, evaluation in public research organizations);
7. Open science infrastructure (national ecosystem for open science);

Main Parts of the Decree (2/2)

6. Evaluation and assessment of researchers, research organisations, research programmes and projects in accordance with the principles of open science (evaluation by funders, evaluation in public research organizations);
7. Open science infrastructure (national ecosystem for open science);



The Action Plan for Open Science



Action Plan for Open Science

The Slovenian government adopted the Resolution on the Slovenian Scientific Research and Innovation Strategy 2030 (ReZrIS30),
<https://www.gov.si/assets/ministrstva/MIZS/Dokumenti/ZNANOST/Nacionalni-dokumenti/Resolution-on-the-Slovenian-Scientific-Research-and-Innovation-Strategy-2030>.

Objective 6.2 in ReZrIS30 is *Open Science for Improving the Quality, Efficiency and Responsiveness of Research*.

The implementation of the action is laid out in the Action Plan for Open Science, <https://www.gov.si/assets/ministrstva/MVZI/Znanost/Nacionalne-strategije-in-dokumenti/2023-Action-Plan-Open-Science-Slovenia.pdf>.

6.2. Open Science for Improving the Quality, Efficiency and Responsiveness of Research (1/3)

1. Internationally Aligned National Open Science Ecosystem

Management and financing, coherence with international standards, integration into international networks and infrastructures

- Preparation and adoption of governmental decree on open science, implementation of an RRF project to support public research organisations in adapting their operation according to the open science principles, establishment of the national Open Science Infrastructure Council to support the development of national open science infrastructure, development of services ...

2. Evaluation of Scientific Research Activities in Accordance with the Open Science Principles

Introduction of modern approaches to evaluation of scientific research in accordance with open science

- Changes and amendments to ARIS, NAKVIS, and public research organisations regulations; engagement in the ERA and EHEA activities related to the research assessment reform ...

6.2. Open Science for Improving the Quality, Efficiency and Responsiveness of Research (2/3)

3. Compliance of Scientific Research Results with the FAIR Principles and Openess

Ensure the results of scientific research are consistent with FAIR, provide full and immediate open access (subject to justified exceptions)

- Publications: Incentives to support the implementation of open science, upgrades in the system for funding the purchase of international scientific journals (support to transformative agreements, later on contracting agreements for diamond publishing, open access publishing in gold journals and open acces publishing platforms ...
- Research data: selection/evaluation, DMP preparation support, development and maintenance of the data services ecosystem ...

4. National Open Science Community

Establish the national Open Science Community to support implementation and monitoring of open science in Slovenia and the integration into ERA and beyond

- Establishment of the Slovenian Open Science Community (SSOZ), permanent professional and administrative support to SSOZ with sustainable funding, national catalogue of open science trainings and services,...



6.2. Open Science for Improving the Quality, Efficiency and Responsiveness of Research (3/3)

5. Citizen Science

Promote development of citizen science and public involvement in scientific research

- National Observatory of Citizen Science, establishment and operation of national citizen science network citizenscience.si, support to citizenscience within the national open science system, incentives to public research organisations to incorporate citizen science into the research process ...

6. National open-access scientific publishing

Promote development of national scientific publishing to operate according to the principles of open science

- National Contact Point for Scholarly Publishing, establishment of the Slovenian network of scientific publishers, implementation of diamond open access in national scientific publishing, strategy/guideline for national scientific/academic publishing ...



The SPOZNAJ Project



Basic Information

Project duration:

1 May 2023 - 30 June 2026

Total funding:

EUR 4.031.728,66

- NOO: EUR 3 999 994,81
- VAT: EUR 31 733,85

Consortium partners: 20 Slovenian public research organisations and CTK

The SPOZNAJ project is co-funded by the Republic of Slovenia, the Ministry of Higher Education, Science and Innovation and the European Union - NextGenerationEU.



REPUBLIKA SLOVENIJA
MINISTRSTVO ZA VISOKO ŠOLSTVO,
ZNANOST IN INOVACIJE



NAČRT ZA
OKREVANJE
IN ODPORNOST



Financira
Evropska unija
NextGenerationEU



The SPOZNAJ Project – Basic Aims

- The Central Technical Library at the University of Ljubljana (CTK) as the leading partner and 20 Slovenian public research organisations (out of 23) will work within the project to adapt their operations in accordance with the Scientific Research and Innovation Act, the Decree on the Implementation of Scientific Research Work in Accordance with the Principles of Open Science and related practices and principles of open science in ERA.
- Establishment of cooperation and consequently effective synergies of joint action of the PROs in the field of open science and scientific communication.
- The project is part of the Slovenian Action Plan for Open Science 2023-2030 (but is financially complementary).



SPOZNAJ Project Content

The project addresses all aspects of open science:

- FAIR research sharing,
- policies/requirements of funders in Slovenia and in the ERA,
- open science publications,
- responsible research data management,
- responsible criteria for evaluating scientific research work,
- public engagement in scientific research,
- early and open sharing of research, infrastructure for open science, e
- ethical and copyright aspects of open science ectr.



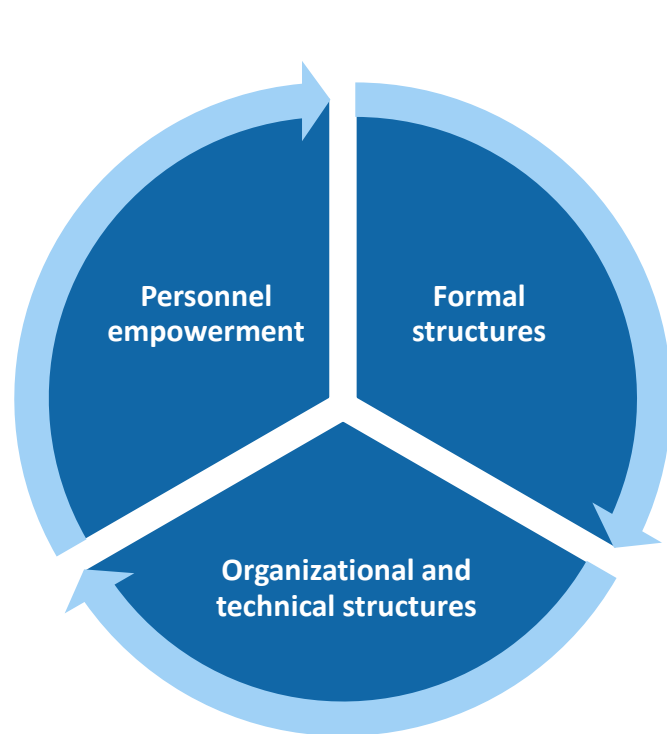
Partners

Št.	Partner	
1	Centralna tehniška knjižnica Univerze v Ljubljani, vodilni partner	
2	Univerza v Ljubljani	12 Kemijski inštitut
3	Univerza v Mariboru	13 Kmetijski inštitut Slovenije
4	Univerza na Primorskem	14 Nacionalni inštitut za biologijo
5	Fakulteta za informacijske študije v Novem mestu	15 Pedagoški inštitut
6	Geološki zavod Slovenije	16 Rudolfovo - Znanstveno in tehnološko središče Novo mesto
7	Gozdarski inštitut Slovenije	17 Urbanistični inštitut Republike Slovenije
8	Institut "Jožef Stefan"	18 Zavod za gradbeništvo Slovenije
9	Inštitut za hidravlične raziskave, Ljubljana	19 Znanstvenoraziskovalni center Slovenske akademije znanosti in umetnosti
10	Inštitut za narodnostna vprašanja	20 Znanstveno-raziskovalno središče Koper
11	Inštitut za novejšo zgodovino	21 Znanstveno in inovacijsko središče Pomurje

They are missing: Inštitut za ekonomska raziskovanja, Inštitut za kovinske materiale in tehnologije, Inštitut za matematiko, fiziko in mehaniko



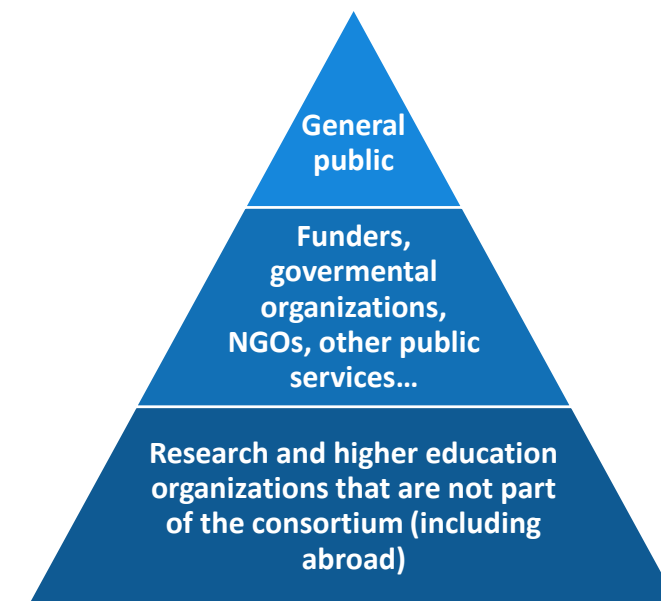
Purpose of the project



At the level of the consortium
partners



At the consortium level



Wider



Goals

Education and awareness

- Website, newsletter
- Media announcements
- General presentations for partners and the general public
- Printed and online manual
- Specialized training for data administrators

Personnel and infrastructure

- Recruitment of new support staff
- Organizational changes
- Inter-institutional support group
- Institutional records of research and data
- Local servers
- Digital resources and tools

Formal structures

- Rules on sharing research results according to FAR principles
- Rules on publishing in open access
- Rules on the handling of research data
- Rules on the involvement of citizens in research work
- Rules for assessment of research work

Implementations of adjustments

- Plans for adjustments
- Adopted and supplemented legal acts
- Infrastructure adjustments
- Establishing support structures
- Staff empowerment

Evaluation of adjustments

- Development of a methodology for evaluating the success of adjustments
- Content, time and financial evaluation of project results
- Comparison between the partners

Work packages

WP 1: Consortium management and coordination

WP 2: Awareness-raising, promotion and communication of the activities of the consortium

WP 3: Conducting trainings on open science practices and on sharing research according to FAIR principles

WP 4: Preparation and implementation of dedicated trainings for operation according to the principles of open science

WP 4.1 Defining profiles of support professionals and creating a catalogue of competencies

WP 4.2 Creation of the data professionals training program and creation of manuals

WP 4.3 Implementation of the data professionals training

WP 4.4 Establishment of a group of supporting experts/coordinators to support the project partners' staff and other interested parties in training and implementation of open science.

WP 5: Preparation and distribution of an open science manual with an emphasis on research data management

WP 6: Comprehensive adaptation of open science operations and evaluation of results of consortium partners

WP 6.1 Analysis of business/organizational models of support structures to open science from the perspective of the needs of individual consortium partners and preparation of recommendations

WP 6.2 Open science adaptation plan and pilot introduction of major adjustments

WP 6.3 Preparation of internal organizational and other regulations, documents, policies

WP 6.4 Implementation of adjustments

WP 6.5 Evaluation of adjustments



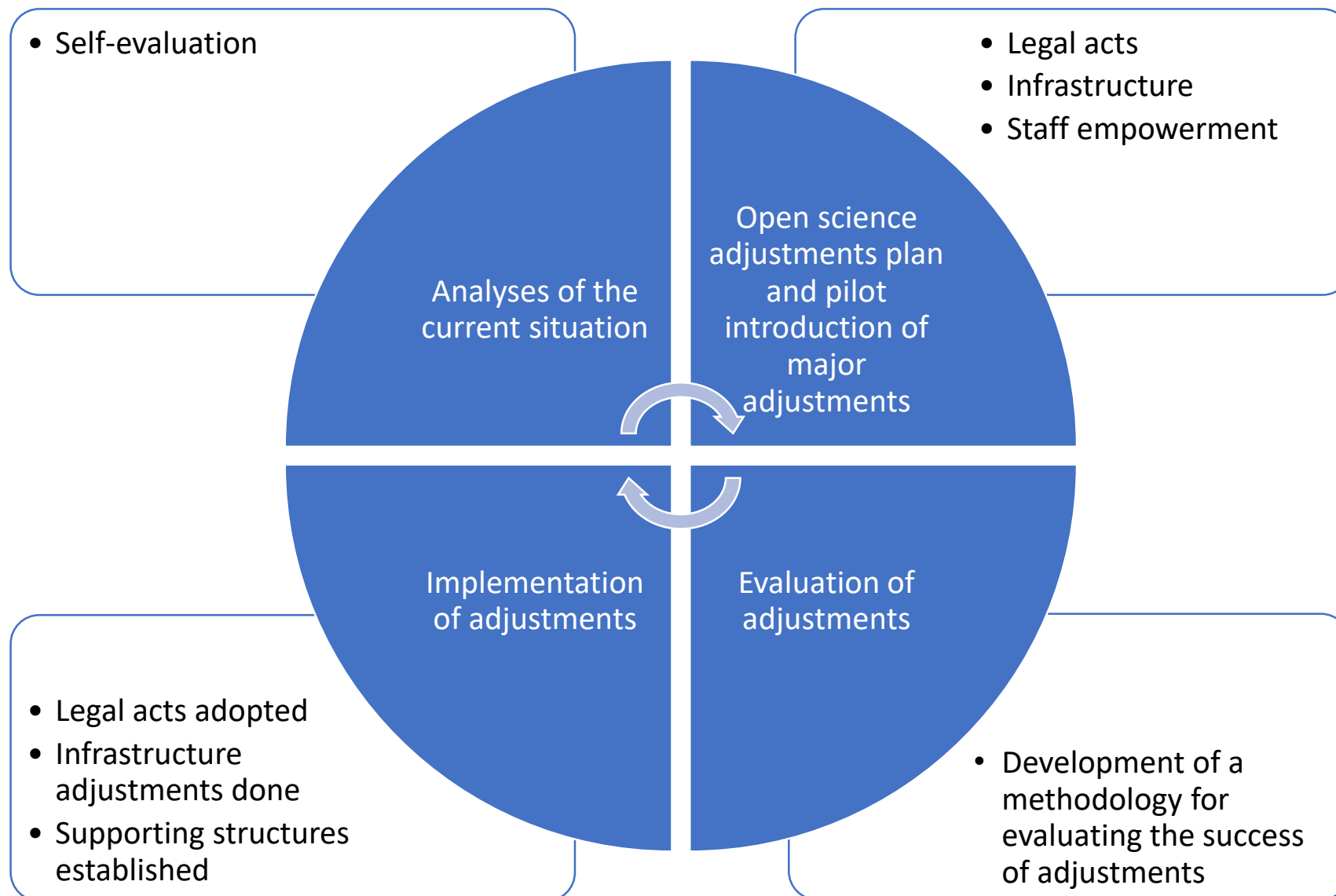
The Data Professionals Training Program

- General content on open science
- The formal basis of data curation and data stewardship
- Organisation of training courses for researchers
- Ethics, integrity and legal aspects of open science
- Open science infrastructure
- The life cycle of research data
- Planning RDM
- Specific RDM topics for particular scientific fields
- Tools for working with data
- Workshops

Estimated 72 hours (four blocks of four days/six hours each).

Lecturers from within the consortium and from outside, including from abroad.

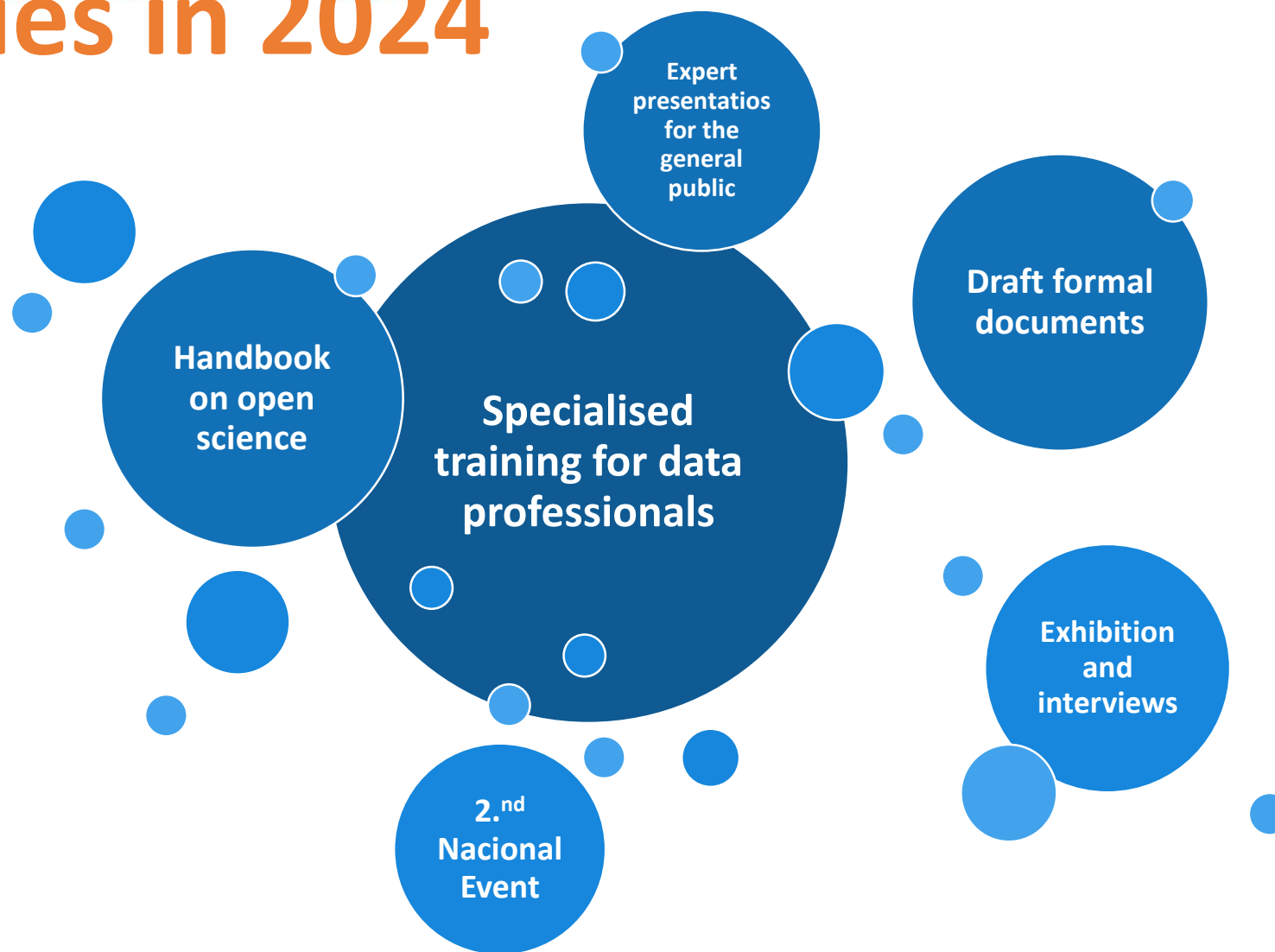
Adjustments to Open Science



Done so far

WP 1	WP 2	WP 3	WP 4	WP 5	WP 6
<ul style="list-style-type: none">• Setting up the consortium• Shared document storage and communication tools• Records• Regular meetings (consortium and thematic)• 1st Review Meeting• Successful 1st semi-annual reporting•	<ul style="list-style-type: none">• Website• Newsletter• Media publications• Video archive• Direct contacts with external recorders• 1st National Event• In progress: permanent archiving of consortium materials in DiRROS	<ul style="list-style-type: none">• >25 project presentations to cons. partners' staff and external stakeholders• >15 expert presentations for the general public (archived on Arnes Video), with SI and EN subtitles	<ul style="list-style-type: none">• Catalogue of competences for data professionals• Work in progress: programme of specialised training for data professionals, recruitment of lecturers	<ul style="list-style-type: none">• Printed user handbook on open science in the final stages of preparation (review, proofreading), expected to be published in May 2024	<ul style="list-style-type: none">• All consortium partners produce an analysis of the situation at their institutions• In progress: draft formal documents

Priorities in 2024



More information



Project website:

<https://projekt-spoznaj.si>

Newsletter subscription (in English):

<http://eepurl.com/iuwA5c>



O PROJEKTU

Namen projekta je uvesti načela odprte znanosti v znanstvenoraziskovalno delo oziroma prilagoditi delovanje dvehletnih izumih raziskovalnih organizacij in CTK v



Univerza v Ljubljani



Centralna tehniška knjižnica Univerze v Ljubljani
Central Technical Library at the University of Ljubljana
Trg republike 3, SI-1000 Ljubljana
Slovenija / Slovenia

Thank you for your attention!



Univerza v Ljubljani

