CASE STUDY ON RESEARCH DATA MANAGEMENT AND OPENNESS IN SLOVENIA

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ABSTRACT

A flagship policy initiative on Research Data Management and Openness in Slovenia is nominated for the case study. The initiative is composed of two complementary activities, both stemming and resulting from the National Strategy of Open Access to Scientific Publications and Research Data in Slovenia 2015-2020 and from the action plan for the implementation of the national open access strategy.

The two activities are:

A. Adoption of the new Research and Development Activity Act with a chapter on open science (also containing a clause on open research data);

B. Preparation, implementation and analysis of the Pilot Programme Open Access to Research Data and design of open research data policy for the next period (after the year 2020).

The planned new Research and Development Activity Act has already undergone the public consultation. As the Government and National Assembly’s legislative activities have stopped after the resignation of the Prime Minister in March 2018, the process of adoption of the new Research and Development Activity Act has stopped. When the new Government will be formed and the newly elected National Assembly will become fully functional, then the procedure for the adoption of the new Research and Development Activity Act will be reactivated, and, when adopted, the Act will also provide legal background for open research data from publicly funded research projects and programmes in Slovenia.

Chapter 7 of the national open access strategy introduces the Pilot Programme Open Access to Research Data. The action plan for the implementation of the national open access strategy determines that the pilot will be defined, implemented and analysed, and recommendations prepared for the policy in the context of open science for the next period.

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3 Predlog predpisa Zakon o raziskovalni in razvojni dejavnosti, 2018; Chapter 4 on open science and open access to scientific publications and research data [In Slovenian only].
1. INTRODUCTION

The Ministry of Education, Science and Sport of the Republic of Slovenia received the OECD invitation to prepare the case study on one or two flagship “strategic” policy initiatives for open access to public data in Science, Technology and Innovation. The invitation coincides with the activities for the implementation of the National Strategy of Open Access to Scientific Publications and Research Data in Slovenia 2015-2020.

In the Case Study Template, criteria for the flagship “strategic” policy initiatives are specified in Chapter 2 General Guidelines and in Chapter 3 Proposed Criteria. The following decisions were made for the flagship policy initiative case study in Slovenia:

– **TOPIC OF THE POLICY INITIATIVE**
The flagship policy initiative suggested is Research Data Management and Openness in Slovenia and is composed of two complementary activities:

A. Adoption of the new Research and Development Activity Act with a chapter on open science (also containing a clause on open research data);

B. Preparation, implementation and analysis of the Pilot Programme Open Access to Research Data and design of open research data policy for the next period (after the year 2020).

– **LEVEL OF THE POLICY INITIATIVE**
The nominated policy initiative is set at the national level because it originates from the National Strategy of Open Access to Scientific Publications and Research Data in Slovenia 2015-2020 (adopted by the Government of the Republic of Slovenia in September 2015) and from the action plan for the implementation of the national open access strategy (adopted in May 2017). The national approach is aligned with the European Research Area (ERA) open access/open science policies.5

– **TYPE OF POLICY INITIATIVE**
A. New act regulating research and development activities, also containing a clause on open research data;

B. Pilot programme on research data management and openness.

– **KEY ISSUES COVERAGE**

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5 A Reinforced European Research Area Partnership for Excellence and Growth, 2012; Amsterdam Call for action on open science, 2016, Council Conclusions on the transition towards an open science system, 2016, European Cloud Initiative - Building a competitive data and knowledge economy in Europe, 2016.
Coverage is aimed at all issues suggested by OECD, i.e., data governance for trust (addressing privacy, confidentiality, quality and ethical issues), discoverability/findability, machine readability and data standards, recognition and reward system for data authors, definition of responsibility and ownership, business models for open data provision, building human capital and institutional capabilities at public agencies, to manage, create, curate and reuse data.

- **LONG-TERM FOCUS**
  The planned new Research and Development Activity Act will have long-term duration. Pilot Programme Open Access to Research Data will be completed by 2020.

- **SCOPE IN TERMS OF TARGET STAKEHOLDERS**
  A. The planned new Research and Development Activity Act involves all scientific community in Slovenia.

  B. The Pilot Programme Open Access to Research Data involves beneficiaries from four scientific areas (i.e., from social sciences, humanities, medicine, and biological sciences).

  Open research data will serve innovative businesses for the development of new services and civil society actors to solve societal challenges.

- **SCOPE REGARDING THE TYPE OF DATA CONCERNED**
  The two activities of the initiative cover research data resulting from publicly funded research in Slovenia.

- **SCALE AND IMPACT**
  The initiative targets Slovenian research performing organizations and researchers receiving public funding for research in Slovenia. The initiative will cause a systemic change.
## 2. OVERVIEW OF THE INITIATIVE

<table>
<thead>
<tr>
<th>Name of initiative</th>
<th>Research Data Management and Openness in Slovenia</th>
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<tr>
<td>Objective</td>
<td>Promote the principles of research data management and ensure open access to research data from publicly funded research in Slovenia</td>
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| Type (strategy, policy, bill of law ...) | A. Adoption of new Research and Development Activity Act with a chapter on open science (also containing a clause on open research data);  
B. Pilot Programme Open Access to Research Data. |
| Responsible policy making bodies    | Leading Ministry/Agency: Ministry of Education, Science and Sport  
Relevant Ministries/Agencies: |
| Responsible implementing bodies     | Slovenian Research Agency and other public funders of research in Slovenia |
| International reference framework (if relevant) | OECD Recommendation of the Council concerning Access to Research Data from Public Funding C(2006)184;  
Commission Recommendation of 17. 7. 2012 on access to and preservation of scientific information;  
Commission recommendation of 25.4.2018 on access to and preservation of scientific information;  
Directive on the re-use of public sector information (recast) COM/2018/234 final - 2018/0111 (COD) [Article 10 on research data]; |
| Target audience                     | Beneficiaries of national public research funding |
| Total duration of initiative (years) | A. Adoption of planned new Research and Development Activity Act should be completed in one year, i.e., till the end of 2019; the effect of the adopted Act will be long-lasting;  
B. Pilot Programme Open Access to Research Data will be completed by 2020. |
| Total budget of initiative (in national currency) | 0 EUR [According to the action plan for the implementation of the national open access strategy no funds are needed for the preparation and adoption of the planned new Research and Development Activity Act. Also, the preparation of the Pilot Programme Open Access to Research Data does not need funding. The work of public employees needed to prepare draft strategy, draft action plan, pilot programme and draft act was done in their working hours and they have received salaries from government budget. Apart from this in-kind contribution to the initiative, additional funding was not allocated. Expenses for research data management and openness are eligible expenses in nationally funded projects and programmes. Expenditure is planned for the establishment of national open research data infrastructure according to the action plan (please see action plan pp. 13-22; in Slovenian only).] |
| Sectoral focus (if relevant) | / |
| Type of data concerned (data from research, public sector information, private sector information) | Research data from publicly funded research in Slovenia. |
| Target audience (scientific community, business, civil society, general public) | All publicly funded research beneficiaries, the majority of them from the scientific community. |
| Expected results | National open access strategy, Chapter 3 Vision and goals of open access to peer-reviewed publications and research data in Slovenia: “The vision of the Republic of Slovenia is open access to scientific information from publicly funded research (in the form of scientific publications and research data) and their exemption from the system of payment for access and re-use. Openly accessible scientific information should benefit Slovenian citizens, researchers and economy. Web access has to be enabled to all available scientific information without cost for the users and the preservation of scientific information ensured.

The Republic of Slovenia therefore strives to improve access to scientific information in the form of scientific publications and research data and their openness with which the country also wants to achieve greater efficiency of public research funding. As a rule, the results of all publicly funded scientific research in the Republic of Slovenia have to be completely openly accessible.” |
3. RATIONALE, MOTIVES AND KEY DRIVERS FOR THE INITIATIVE

The public funding for Science, Technology and Innovation in Slovenia is based on the National Research and Development Programme, which provides guidance on strategic topics and national research priorities. The Resolution on the National Research and Development Programme 2011-2020 also defines open access to research data resulting from publicly funded research (following the OECD Recommendation of the Council concerning Access to Research Data from Public Funding, 2006). Based also on this Resolution, the Government of the Republic of Slovenia adopted the National Strategy of Open Access to Scientific Publications and Research Data in Slovenia 2015-2020 in September 2015. The action plan for the implementation of the national open access strategy was adopted in May 2017.

The current Research and Development Activity Act states that the results of research and development activities that are financed from governmental funds are public with limitations set out by the legislation on intellectual property (in case of commercial or industrial exploitation), copyright (to prevent possible breach), and personal data (to ensure lawful protection).

The current Research and Development Activity Act does not explicitly demand openness of research data. The National Strategy of Open Access to Scientific Publications and Research Data in Slovenia 2015-2020 defines a Pilot Programme Open Access to Research Data in Slovenia (p. 19: “To establish the necessary procedures and inform the researchers and the public at large, the national Pilot Programme Open Access to Research Data will be carried out before the adoption of the open research data mandate.”).

In the action plan for the implementation of the national open access strategy, relevant activities are specified for the efficient support of research data openness and the implementation of the pilot programme. Among them are also two activities, nominated for the flagship policy initiative Research Data Management and Openness in Slovenia:

A. Adoption of a new Research and Development Activity Act with a chapter on open science (also containing a clause on open research data);


The policy initiative Research Data Management and Openness in Slovenia was initiated by the Ministry of Education, Science and Sport in 2014 based on OECD Recommendation of the Council concerning Access to Research Data from Public Funding [C(2006)184] and Commission

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6 Resolucija o raziskovalni in inovacijski strategiji Slovenije 2011–2020 [In Slovenian], The Resolution on the National Research and Development Programme 2011-2020 [In English], 2011.
recommendation of 17. 7. 2012 on access to and preservation of scientific information. Project entitled Open Data was funded in period 2010-2013 to analyse research data landscape in Slovenia and propose draft policy and infrastructure.

The underlying motives for the adoption of the national open access strategy are listed at the end of its Chapter 1:9

“The subscription and copyright limitations for access to and for the re-use of scientific information,10 generated with the national public funding, will be suppressed with the implementation of open access in Slovenia. We wish that the recommendations of the Budapest Open Access Initiative and the Hague Declaration on Knowledge Discovery in the Digital Age are implemented:11

- Open access benefits research and researchers, and the lack of open access impedes them.
- Open access for publicly-funded research benefits taxpayers and increases the return on the investment, it has economic benefits as well as academic or scholarly benefits.
- Open access amplifies the social value of research, and open access policies amplify the social value of funding agencies and research organisations.
- The costs of open access can be recovered without adding more money to the current system of scholarly communication.
- Open access is consistent with copyright law everywhere in the world, and gives both authors and readers more rights than they have under conventional publishing agreements.
- Ethical norms in research as well as the further development of legislation, infrastructure and standards have to support as well as encourage content mining for the benefit of the whole society.”

Within the initiative Research Data Management and Openness in Slovenia, coverage is planned of the following aspects, identified by OECD:

- **DATA GOVERNANCE FOR TRUST - ADDRESSING PRIVACY, CONFIDENTIALITY, QUALITY AND ETHICAL ISSUES**
  Pilot Programme Open Access to Research Data allows for opting-out for different reasons, among them privacy and confidentiality. High quality research data are to be used in research evaluation (activity VI.1 in the action plan for the implementation of the national open access strategy). Awareness raising of ethics and establishment of ethics committees is envisioned in the action plan (activity I.5).

- **DISCOVERABILITY/FINDABILITY, MACHINE READABILITY AND DATA STANDARDS**
  Explicit requirements regarding documentation and metadata standards are set, similar to Horizon 2020 open research data provisions: “Open research data has to be discoverable, ...
accessible, assessable, intelligible, reusable, and, wherever possible, interoperable to specific quality standards.” (Strategy, p. 6). The strategy states (p. 19): “The pilot programme aims at concretisation of further development of the Slovenian open science policy and will strive to improve and maximize access to and re-use of research data.” To attain this, discoverability/findability, machine readability and data standards will be addressed.

- RECOGNITION AND REWARD SYSTEM FOR DATA AUTHORS
  National open access strategy states (p. 20): “The research data that has undergone the scientific judgement and has been as such deposited at the authorised data centre is recognised as a scientific publication in the evaluation of the results of the programme or project.” Action plan (activity VI.1) envisages recognition of research data in research evaluation.

- DEFINITION OF RESPONSIBILITY AND OWNERSHIP
  The Ministry of Education, Science and Sport is guardian of the national open access strategy with the Pilot Programme and the action plan with the draft Research and Development Activity Act. The action plan defines responsible and cooperating institutions for implementation of actions. These are different ministries, research funding and research performing organizations and infrastructure organizations.

- BUSINESS MODELS FOR OPEN DATA PROVISION
  Generally, research data should be openly accessible for re-use through digital archives. In relevant cases, safe-room access can be imposed. According to the vision and goals of the national open access strategy and as a rule, the results of all publicly funded scientific research in the Republic of Slovenia have to be completely openly accessible.

- BUILDING HUMAN CAPITAL AND INSTITUTIONAL CAPABILITIES AT PUBLIC AGENCIES, TO MANAGE, CREATE, CURATE AND REUSE DATA
  National open access strategy determines in Chapter 6.5 Support for researchers and monitoring of compliance (p. 17): »In cooperation with other stakeholders, the research organisations should establish the support for researchers regarding compliance with open access mandate for scientific information. In order to avoid duplication, the stakeholders should strive to cooperate in providing support services at the national level.« Action plan for the implementation of the national open access strategy lists five activities to support researchers (IV.1-IV.5).
4. GOVERNANCE OF THE INITIATIVE

The flagship policy initiative Research Data Management and Openness in Slovenia is led by the Ministry of Education, Science and Sport and content-wise supported by Slovenian open access experts:

A. Adoption of the new Research and Development Activity Act with a chapter on open science (also containing a clause on open research data)

The Minister for Education, Science and Sport will oversee the preparation and consultations on the draft Act, present it to the Government of the Republic of Slovenia and to the National Assembly of the Republic of Slovenia. The Ministry staff will manage the procedure and will be content-wise supported by Slovenian open access experts that have participated in working groups for the preparation of the draft national open access strategy and the draft action plan for the implementation of the national open access strategy.

B. Preparation, implementation and analysis of the Pilot Programme Open Access to Research Data and design of open research data policy for the next period (after the year 2020)

The Minister for Education, Science and Sport will oversee the preparation and consultations on the Pilot Programme. The Ministry staff will manage the procedure and will be content-wise supported by an expert group.

The provisions of the new Act and the Pilot Programme will be mostly implemented by the main research funding organisation in Slovenia, i.e., the Slovenian Research Agency.

The main stakeholders for the national open access strategy, which also contains the Pilot Programme, are beneficiaries of national public research funding. In 2015, they were invited to participate in public consultation on the draft national open access strategy. These stakeholders were also invited to express opinion regarding the draft Research and Development Activity Act in 2018.

The main decision makers for the initiative are Minister for Education, Science and Sport and staff at Science Directorate at the Ministry. So far conflict resolution mechanism was not needed.

Different levels of actors at local and national level were involved in drafting the Act and the national open access strategy with the Pilot Programme. Political leadership was active at the level of government and will be active when the draft Research and Development Activity Act is submitted again to the National Assembly of the Republic of Slovenia. OECD and the European Commission, representing the European Union, as supra-national levels, are indirectly presented through their policy recommendations (and regulations in case of the European Union).

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12 Javna razprava o osnutku dokumenta "Odpri dostop v Sloveniji 2015-2020: načela in določila glede odprtega dostopa do znanstvenih objav ter raziskovalnih podatkov v Sloveniji v obdobju 2015-2020", 2015. [In Slovenian only]

13 Predlog predpisa Zakon o raziskovalni in razvojni dejavnosti, 2018; Chapter 4 on open science and open access to scientific publications and research data. [In Slovenian only]
The Ministry of Education, Science and Sport is guardian of the national open access strategy with the Pilot Programme and the action plan with the draft Research and Development Activity Act, which were chosen for the flagship policy initiative Research Data Management and Openness in Slovenia. As the guardian, the Ministry receives stakeholder’ suggestions and comments and responds to them. This will enable that the flagship policy initiative Research Data Management and Openness in Slovenia will continuously focus on its strategic goal, while remaining responsive to the changing context.

Transparency in the management of the initiative can be improved by presenting the initiative to the Council for Science and Technology (a body counselling the Government of the Republic of Slovenia), to the Slovenian Rectors’ Conference, to the Coordination of Independent Slovenian Research Institutions as well as at events for researchers and to other stakeholders.
5. PROCESS OF THE INITIATIVE

The major milestones of the flagship policy initiative Research Data Management and Openness in Slovenia are:

A. Adoption of the new Research and Development Activity Act with a chapter on open science (also containing a clause on open research data)

Activities for the preparation of the draft new Research and Development Activity Act started in 2015. Successive versions of the draft were prepared by the Ministry staff and by working group composed of representatives of all relevant stakeholders. Reports on implementation of calls for projects and programmes as well as relevant internal analyses were used to draft different parts of the new Act. Also included were provisions from the European Research Area documents. The drafts were discussed with different stakeholders and final public consultation took place in the beginning of 2018. The basic regulatory impact analysis was applied in the process and is part of the document to be submitted to the Government of the Republic of Slovenia and to the National Assembly of the Republic of Slovenia. Priorities among the ideas were determined according to the ERA compliance and to the improving the excellence of research in Slovenia as well as the efficiency of public funding. Time was needed to reach the consensus on the draft Act. Stakeholders’ feedback was incorporated into the draft Act in a way that the draft Act’s content remained coherent.

B. Pilot Programme Open Access to Research Data

The drafting of the National Strategy of Open Access to Scientific Publications and Research Data in Slovenia 2015-2020 started in 2014. During the process, the Pilot Programme Open Access to Research Data was designed and included in the strategy as Chapter 7. Since at that time there was very little experience with open access to research data in Slovenia, OECD recommendations and European Union’s regulations and recommendations were used to draft the content of the pilot. The programme was conceived as a pilot and its results will be used to design the open research data policy for the next period. Public consultation on the national open access strategy and with it on the pilot programme took place in 2015. Regulatory impact analysis was not conducted since this is a pilot. Again, like with draft Research and Development Activity Act, priorities among the ideas were determined according to the ERA compliance and to the improvement of excellence in Slovenian research activities and of public funding efficiency. There were no major delays or setbacks in the process since stakeholders understood that pilot was designed to prepare the open research data policy.

The drafting of the action plan for the implementation of the national open access strategy started after the adoption of the strategy in 2015. The action plan contains actions/activities, indicators, responsible and cooperating institutions for implementation of actions, deadlines, and financial
resources. Public consultation on the action plan was not carried out since the action plan contains only activities needed for the implementation of the national open access strategy.
6. ADOPTION AND IMPLEMENTATION OF THE INITIATIVE

Contents of the final design of the initiative is:

A. Adoption of new Research and Development Activity Act with a chapter on open science (also containing a clause on open research data):
   In the draft Act, Chapter 4 is entitled Open science and open access to scientific publications and research data.
   In the draft Act, Article 25 entitled Open science determines that research and development as per this act are carried out according to the principles of open science (i.e., access to scientific publications and research data, evaluation of research quality and impact, inclusion of interested public). Detailed requirements are designed in subordinated regulations, according to recommendations from European research policies and good international practices.
   Article 26 entitled Scientific publications and research data determines that beneficiaries have to enable open access to all peer-reviewed scientific articles. Beneficiaries should strive for openness of other types of publications. Research data, co-funded with public means, has to be open and accessible, except when legislation determines different provisions. Open research data has to be published in such a way that it is accessible, it can be re-evaluated and re-used. Detailed requirements are defined in subordinated regulation.
   Article 28 entitled Monitoring compliance with provisions on open access to scientific publications and research data determines that monitoring is done by funder in the framework of monitoring research and development activities. Consequences of non-compliance are defined in subordinated regulation.
   Article 29 entitled Interoperability of national open access infrastructure and open access in research evaluation determines that national open access infrastructure has to be interoperable with European and international infrastructures. Research evaluation uses and encourages open access to scientific information in the form of publications and research data. Evaluation criteria include relevant new ways of evaluating research.

B. Pilot Programme Open Access to Research Data
   The following provisions are cited from Chapter 7 of the National Strategy of Open Access to Scientific Publications and Research Data in Slovenia 2015-2020.

   The Pilot Programme Open Access to Research Data applies to two types of data:
   1. The data, including associated metadata, needed to validate the results presented in scientific publications. They have to be openly accessible as soon as possible.
   2. Other data, including associated metadata, as specified and within the deadlines laid down in the data management plan.

   Research that is part of the Pilot Programme Open Access to Research Data must provide the first version of the data management plan till the sixth month inclusive of the action, covering individual datasets. Other funded research that does not participate in the pilot programme is also invited to submit a data management plan, if relevant for the planned research.
Scientific areas where the openness principle is the easiest to implement because of the existing data infrastructure are included in the pilot programme as priority:

- Social sciences;
- Humanities;
- Medicine;
- Biological sciences.

The individual research action may opt out completely or partially from the Pilot Programme Open Access to Research Data for a variety of reasons in any stage:

- If participation in the pilot programme is incompatible with obligation to protect all the results for which it can be reasonably expected that they will be commercially or industrially exploited;
- If participation in the pilot programme is incompatible with the need for confidentiality in connection with the national security issues;
- If participation in the pilot programme is incompatible with existing rules concerning the protection of personal data;
- If participation in the pilot programme would jeopardise the achievement of the main aim of the research;
- If the research will not generate / collect any research data;
- If there is other legitimate reason to not take part in the pilot programme.

The grant agreements for funding of programmes and projects, participating in the Pilot Programme Open Access to Research Data, will include a special clause according to which the beneficiaries have to fulfil the following requirements:

- The aforementioned two types of research data have to be deposited, preferably in a research data repository. As a priority, the research data has to be deposited at the authorized national data centres from the list of the Slovenian Research Agency.
- Programmes and projects in the pilot programme must take measures to enable for third parties to access, mine, exploit, reproduce and disseminate the research data, free of charge to all users. Licensing with open access licenses Creative Commons (CC BY or CC0) is a straightforward and effective way to attain this goal.
- At the same time, the programmes and the projects have to provide information via the chosen repository about tools and instruments at disposal for the validation of results (i.e., specialized software or software code, analysis protocols etc.).

Costs relating to the implementation of the Pilot Programme Open Access to Research Data will be eligible for reimbursement during the research action.

The research data that has undergone the scientific judgement and has been as such deposited at the authorised data centre is recognised as a scientific publication in the evaluation of the results of the programme or project.

The scope of the flagship policy initiative Research Data Management and Openness in Slovenia concerns research data resulting from publicly funded research. Beneficiaries are expected to provide
metadata for research datasets and information via the chosen repository about tools and instruments at disposal for the validation of results (i.e., specialized software or software code, analysis protocols etc.).

The expected results of the initiative are systematic research data management in publicly funded research in Slovenia, and research data “as open as possible, as closed as necessary”, as was described by the European Commission representatives on various occasions when speaking about open research data pilot in Framework Programme for Research and Innovation Horizon 2020. In Chapter 2.1.2 of the national open access strategy, it is defined that “research data, created with public funding, have to be as open as possible and accessible with as little limitations as possible”.

Special key performance indicators were not foreseen for the new Research and Development Activity Act. The Act itself will legally bind national research funders and beneficiaries of national research funding to ensure open and accessible research data, except when legislation determines different provisions.

Key performance indicators for the Pilot Programme Open Access to Research Data are specified in the action plan for the implementation of the national open access strategy (activities V.I, V.2 and V.3):
- System for the implementation of the Pilot Programme established, due December 2017;
- Report of stakeholder expert group with the plan for the implementation of the Pilot Programme, due December 2017;
- Implementation of Pilot Programme in public calls and invitations of research funders, January 2018-December 2020;
- Report on Pilot Programme results prepared by national research funders, January 2020-June 2021;
- Proposition of changes towards open science designed, January 2020-June 2021.

Both activities of the flagship policy initiative Research Data Management and Openness in Slovenia experience delays. Drafting the new Research and Development Activity Act was a lengthy process and included repeated consultations with stakeholders to reach consensus. The legislative procedure activities have stopped after the resignation of the Prime Minister in March 2018. Periods to carry out the activities regarding Pilot Programme Open Access to Research Data are specified in the action plan for the implementation of the national open access strategy. Report of the expert group is delayed (was due December 2017). The Ministry is actively working with the expert group to complete its tasks as soon as possible which will enable the implementation of the Pilot Programme in the Slovenian Research Agency calls.

Responsibility to reach the targets remains with the major research funding organisation in Slovenia, i.e., the Slovenian Research Agency, and is supervised by the Ministry of Education, Science and Sport as the guardian of the national open access strategy and its Chapter 7 on Pilot Programme Open Access to Research Data. The Ministry is actively working with the Agency to ensure that targets will be met, albeit delayed.
7. INTERNATIONAL ASPECTS OF THE INITIATIVE

The provisions of the two activities of the flagship policy initiative Research Data Management and Openness in Slovenia are aligned with the following documents:

- Commission Recommendation of 17. 7. 2012 on access to and preservation of scientific information and Commission recommendation of 25. 4. 2018 on access to and preservation of scientific information;
- Directive on the re-use of public sector information (recast) COM/2018/234 final - 2018/0111 (COD) [Article 10 on research data].

In drafting the two activities of the flagship policy initiative, the experiences from MedOANet, RECODE and PASTEUR4OA projects were used as well as good practice policies at the time in EU Member States and at the level of the European Commission. The draft new Research and Development Activity Act contains a chapter on open science for which detailed provisions will be determined in subordinate regulations according to recommendations from European research policies and good international practices. The provisions of the Pilot Programme Open Access to Research Data are fully aligned with the requirement of the Open Research Data Pilot in the Framework Programme for Research and Innovation Horizon 2020.

The principle 4.8 Slovenian open access infrastructure is part of international infrastructures for open access in science (p. 11) in the national open access strategy determines that “the national open access infrastructure for peer-reviewed publications and research data has to be interoperable with relevant European and international infrastructures. Slovenian publications repositories, research data repositories and archives as well as software for scientific journal publishing have to be compatible with OpenAIRE guidelines, which will enable the European and national research funders to monitor the compliance with open access mandates for scientific information.”
8. MONITORING AND EVALUATION OF THE INITIATIVE

Monitoring and evaluation of the flagship policy initiative Research Data Management and Openness in Slovenia will be carried out by the Ministry of Education, Science and Sport. Regarding the new Research and Development Activity Act, the Ministry will report to the Government of the Republic of Slovenia on its adoption and implementation. Regarding the Pilot Programme Open Access to Research Data, the Ministry will collect relevant written evidence and figures from the major research funder in Slovenia, i.e., the Slovenian Research Agency. Funds were not allocated for the implementation of the initiative.

A challenge is that monitoring and evaluation processes by the Ministry are not yet established and will be created during the initial phases of the implementation.

Openness of research data will be attributed to different policies through OpenAIRE metadata set (using metadata like the name of funder and its funding stream). Namely, research data can be open because of different reasons (author’s decision without policy to comply with, compliance with H2020 Open Research Data Pilot or with national Pilot Programme Open Access to Research Data or with provisions of research performing organizations or for other reasons.

As mentioned in Chapter 6 Adoption and implementation of the initiative of this document, special key performance indicators were not foreseen for the new Research and Development Activity Act. Key performance indicators for the Pilot Programme Open Access to Research Data are listed in Chapter 6 of this document.

Goals of the national open access strategy regarding research data are (p. 9):

- The realization of the pilot programme Open Access to Research Data in the period 2017-2020;
- Analysis of the pilot programme results;
- The formation of open research data policy and provision of conditions for its realization in the next period (after the year 2020), based on the experiences of Open Research Data Pilot in Horizon 2020 and the Pilot Programme Open Access to Research Data.

The flagship policy initiative Research Data Management and Openness in Slovenia will improve access to data and re-use thereof. Currently, the culture of managing research data and providing open access to research data in Slovenia is generally not yet established among the researchers.
9. LESSONS AND CHALLENGES OF THE INITIATIVE

The fact that research data management and openness are included in the draft Research and Development Activity Act and that the Pilot Programme Open Access to Research Data is part of the national open access strategy is already considered as an achievement. The Ministry of Education, Science and Sport is aware that full implementation of the adopted Act and the Pilot Programme will require a lot of coordination with all stakeholders and across the activities.

The main pitfall that was successfully avoided is the fact that Slovenian provisions for research data management and openness are not designed as stand-alone solutions, but are fully aligned with international recommendations. Also, the national approach to the design of provisions is more efficient in comparison with separate provisions by individual research funding and research performing organizations.

Lack of data experts in the country will slow down the implementation. Awareness and skills of researchers regarding research data management and openness need a lot of input. Recognition of effort to ensure open research data in research evaluation processes would stimulate researchers to embrace openness faster.

The Ministry of Education, Science and Sport of the Republic of Slovenia is looking forward very much to the OECD’s opinion on the suggested flagship policy initiative.

The Ministry believes that the approach used to design the flagship policy initiative Research Data Management and Openness in Slovenia is transferable to other OECD member and partner countries in a sense that in-country and international interoperability of provisions on open research data eases re-use of publicly funded open research data and collaboration of researchers. In this sense, the Ministry of Education, Science and Sport of the Republic of Slovenia which is an OECD Member State expresses interest in overarching OECD Recommendation on access to public data, as well as on the update of the 2006 Recommendation on access to research data from public funding.

Furthermore, the Ministry suggests that the potential overarching OECD Recommendation on access to public data is aligned with the EU Directive on the re-use of public sector information (recast) COM/2018/234 final - 2018/0111 (COD) and that the content of 2006 OECD Recommendation on access to research data from public funding is updated to be aligned with EU policies on research data management and openness (i.e., FAIR data).