



DEVELOPERS OF CIRCULAR SOLUTIONS

Topic: CIRC BIO-01-01 Circular Cities and Regions Initiative's project development assistance (CCRI-PDA)

D6.5 – Data Management Plan-initial



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D6.5 – Data Management Plan-initial

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Abstract	This deliverable specifies the contribution potential to Open Research Data describing the contribution to the open research data, open EC database and possible contributions to open knowledge repositories. This deliverable will be produced within “T6.2.3 Contribution to Open Research Data”.
Title and number of connected deliverables	D6.4 – Data collection and processing
Explain Deliverable Dependency/ Connection	“D6.5 – Data Management Plan-initial” details how the data collected following the requirements of D6.4: Data collection and processing will contribute to Open Research Data.
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1. Introduction

1.1. Objective and Purpose

The objective of the DECISO project is to foster the interest of potential investors and to create a favourable climate for the development of the Circular Economy (CE).

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Purpose of DECISO project is to accompany and assist promoters with actions for mobilising stakeholders to promote systemic solutions that involve all actors of the value chain of an asset, and also, all those who can influence, even indirectly, the value and the emergence of Ecosystems of CE.

The objective of the current deliverable is to provide a Data Management Plan (DMP) for the DECISO project describing the data management life cycle for the data to be collected, processed and/ or generated. This deliverable follows the structure defined by Horizon Europe (European Commission, Data Management Plan Template, Version 1.0, 05 May 2021). Despite being a Coordination and Support Action which does not lead to the production of research, the development of the current DMP has been essential to describe how the content derived from the project's main activities, that is, the creation of the digital ecosystems in the four pilots and the participatory workshops, will be stored, processed and disseminated. It is worth mentioning that the DMP has the form of a living document, that is, it will be recurrently updated as the DECISO project progresses. The second objective of this deliverable is to ensure that the collected data, publicly available from the DECISO website as well as data produced from the participatory workshops, will comply with the Convention for the Protection of Individuals with regard to Automatic Processing of Personal Data guaranteeing the right to privacy for all participants engaged in the project.

1.2. Guiding Principle

The guiding principle of the DECISO project is to be an open project, with 24 out of 30 deliverables in the project being publicly available. The 6 that are not public are sensitive, only one of them concerns project results: D4.4 Collection of grant agreements signed by each pilot. The other five concern the project management, the operating rules of the consortium and the management of the results. To protect the privacy of individual participants in the project activities, only anonymized data to the degree that it is impossible to identify individuals will be shared publicly. Non-anonymised data will be kept internally in the project and will be accessible by the person/team in charge of the activity/research, but never shared publicly in its original format. Once data are anonymized, generalized data will feed into project work and provide the basis for analysis in deliverables and scientific publications. In case the editor of deliverables or other kinds of project reports is concerned that her or his report contains personal information, a separate screening for privacy and ethics issues will be requested to ensure that no personal data is included. The leader of WP6, the Project Coordinator, is responsible for performing these screenings. All public



deliverables, publications and anonymised datasets will be shared openly through an open research data repository (see section 4).

2. Data Summary

2.1. Re-use any existing data and purpose

DECISO has the objective to support the four pilot partners to develop and launch financing schema/programmes for fostering circular economy in their territories. The overall motivation for data collection in DECISO is to efficiently support the development and launch of these financing schema/programmes. This implies carrying out (done in WP1) a preliminary study to take a picture of the state of the art of the market for "Circular economy" at the local level through a desk-based research based on scientific literature, with a subsequent involvement of the local stakeholders of the four pilots to characterize the study in the four territories involved.

These activities are all based on a study and reuse of existing data, and, in some cases, also on the generation of new data involving stakeholders in participatory events and interviews.

2.2. Purpose of the data production and its relation to the objectives of the project

DECISO, to efficiently support the development and launch of these financing schema/programmes, will collect several types of data coming from an intense activity of participatory workshops, databases and elaborations done by the DECISO partners. The main types of data produced are:

- 1) data produced through interviews, participatory workshops and focus groups with local stakeholders and in international meetings/workshops,
- 2) data produced using queries on databases identifying the characteristics of the market structure and gaps of the involved territories,
- 3) good practices and opportunities at the national and European levels that can provide tools for the development of the four pilots' circular economy programs,
- 4) an analysis of the policy and regulatory gaps at local and national levels and of the risks connected to the characteristics of the productive structure of the territory,
- 5) policy briefs,
- 6) stakeholders data,
- 7) data and information related to the programmes, operative plans, financing schemes, policy and regulatory gaps and risks, sustainability analysis of the pilots,
- 8) data produced for dissemination, communication and exploitation purposes.



2.3. Types and formats of data generated by the project

DECISO is based on a participatory approach (workshops), therefore, most of the collected data will be originated from the interaction with the involved project target groups in the local Digital Ecosystems. These data will be integrated by a) quantitative and qualitative data based on surveys and interviews, b) scientific literature; c) certified statistical data, d) data and information collected from the web (from verified sites).

To maximise access to, and reuse, the data generated by the project will be managed following the principles of FAIR data management (Findable, Accessible, Interoperable and Re-usable data, <https://www.nature.com/articles/sdata201618>). However, DECISO will also generate datasets that cannot be shared to protect the privacy of voluntary participants. Table 1 below shows an overview of the datasets that will be generated/collected in DECISO and their availability.

Table 1: datasets generated/collected in DECISO

No.	WP No	Dataset	Description	Type	Origin	Format	Availability
1	1	Scientific literature analysis of the market for "Circular Economy"	Data produced by desk-based research on the scientific literature regarding the state of the art of the market for "Circular Economy" at the local level in the sectors of interest of the four pilots	Report/paper, text, tables	Scientific community, DECISO partners	.pdf .xls	Open
2	1	Interviews and focus groups with local stakeholders	Data produced through participatory events and interviews with local stakeholders that integrate and complete the information collected from the study of scientific literature	Report/paper, text, tables	DECISO partners, stakeholders	.pdf .xls	Open



			in the sectors of interest of the four pilots				
3	1	Market structure and gaps mapping	Identification of market structure in the sectors of interest of the four pilots and mapping of the gaps	Report/ paper, tables	DECISO partners, stakeholders	.pdf .xls	Open
4	1	Library of good practices	Good practices identified and selected through a literature review and discussion in participatory events with stakeholders of the four pilots	Database, Report/ papers	The scientific community, DECISO partners, stakeholders	Online database, .pdf .xls	Open
5	1	Funding opportunities at the national and European levels	Funding opportunities at national and European levels that can provide funds and tools for the development of the four pilots' circular economy programs	Database, Report/ paper, tables	DECISO partners, stakeholders	Online database, .pdf .xls	Open
6	2	Stakeholders engagement strategy	Steps and actions for engaging stakeholders in the local Digital Ecosystems	Report, text	DECISO partners	.pdf	Open
7	2	Participatory events data	Data from a participatory process involving representatives of DECISO, stakeholders involved in the local Digital Ecosystems.	Report, text	Data will be provided by research participants	.pdf	Open after anonymization of the participants.
8	2	Policy briefs	Short policy recommendations	Short document	Elaborated by the consortium	.pdf	Open



9	2	Stakeholders database	Database of stakeholders participating in local Digital Ecosystem	Database,	Data provided by the stakeholders through the consent form	Online database	Open for supporting networking among stakeholders with partial restrictions based on the consent form and data/options filled in by the participants
10	3	Programmes specification	Descriptions of the Programmes including (i) value proposition and topics; (ii) key activities; (iii) key skills for the activities development; (iv) key resources; (v) key partners and roles; (vi) strategic agreements for the implementation of the CE programme; (vii) potential impact on the market. T	Report/paper	Elaborated by the consortium	.pdf	Open
11	3	Operative plans for the implementing the Programmes	Descriptions of the plans for implementing the programmes including: (i) actions, (ii) involved actors, (iii) timing, (iv) services to	Report/paper	Elaborated by the consortium	.pdf	Open



			activate, (v) monitors indicators, (vi) a monitoring and evaluation strategy.				
12	3	Financing schemes	Description of the financing schemes discussed and validated, incorporating input from a wide representation of the Circular Economy.	Report/ paper	Elaborated by the consortium	.pdf	Open
13	3	Policy and regulatory gaps and risks	Policy and regulatory gaps at local and national levels and the risks connected to the characteristics of the productive structure of the territory	Report/ paper, tables	DECISO partners, stakeholders	.pdf .xls	Open
14	3	Pilot sustainability analysis and benchmarking	Sustainability analysis and benchmarking including a first evaluation of pilot experiments as well as the opportunities, threats and constraints of the four pilots to be used to assure sustainability after the end of the project	Report/ paper, tables	DECISO partners, stakeholders	.pdf .xls	Open
15	4	Grant agreements	Grant agreements signed with the implementers of the programme	Contracts	DECISO pilots	.pdf	Restricted
16	5	Newsletters	DECISO latest news and updates	Newsletters Text	DECISO partners	Online	Open



17	5	Data from organized dissemination/communication/exploitation events	The material produced by the DECISO partners and the stakeholders participating in the events	Text	Elaborated by the consortium	.pdf	Open
18	5	Lessons learned	Lessons learned identified and selected through the implementation of the four pilots	Database, Report/papers	The scientific community, DECISO partners, stakeholders	Online database, .pdf, .xls	Open
19	5	Exploitation strategy and scale-up	Specification of the exploitation strategy, scaling-up and roadmap	Report/papers	DECISO partners, stakeholders	.pdf	Open



2.4. The expected size of the data

The type of data is mainly textual and concerns guidelines, good practices, papers, reports, outcomes of surveys and interviews. Some data will be collected by the partners in Excel tables, collected in databases implemented by the project and available from the website and uploaded to open-access repositories. Therefore, the size of the data will not present criticalities and the need for specific software for consultation.

2.5. Origin/provenance of the data, either generated or re-used

As specified in Table 1 of section 2.3, the data is supplied by the scientific community, by the stakeholders who participate in the various participatory events and I make their knowledge on the issues addressed by the project available to the project, by the partners and in particular by the pilots, also through the processing of the collected data.

2.6. To whom might data be useful ('data utility'), outside the project

Data produced in DECISO are useful for researchers, policymakers, stakeholders, other projects and the general public. In Table 1 of section 2.3 the list of potential users is specified for each type of data produced.

3. Fair Data

DECISO applies the FAIR principles to the data collected, following the rules as specified in Annex 5 to the model grant agreement for Horizon Europe projects. All data and project outputs (sustainable practices, processes, business models and innovative financing schemes) that will be publicly shared (i.e., in observation of IPR) will be available by Zenodo that assigns an identifier to them, and it provides a DOI with some restrictions in the license, as specified in the Section of Open Science practices and implementation. The project will follow the OpenAIRE and FAIR principles to ensure interoperability for archives of data and literature repositories. Data, metadata and software, as well as monographs and other long-text formats produced with the project, will be made publicly available with a license Open Creative Commons, Non-Commercial (CC BY-NC) and Share Alike (CC BY-SA), i.e., requiring that the others use the same license as the original on all derivative works based on the original work, except for publications that will use a license CC BY or a license with equivalent rights; monographs and other long-text formats will be published under the license that excludes commercial uses (CC BYNC).

The stakeholders' identification and selection require that the project will ask the stakeholders to sign an informed consent related to the data management and an agreement for their collaboration, which will enable them to receive information and collaborate in defining business plans according to their availability and interest. The informed consent will be coherent with the "D6.3 – Informed Consent procedures" released at M6 of the project.

3.1. Making data findable, including provisions for metadata

3.1.1. Metadata in Zenodo

DECISO will use the Zenodo repository to comply with Annex 5. Zenodo is an open research data repository operated by CERN which allows depositing research data across all disciplinary fields. A DECISO community will be created and established on the Zenodo website and all scientific publications, including public



deliverables and public parts of underlying datasets, will be uploaded to the community. Additionally, to achieve maximum findability, all the uploads will be linked to the 'European Commission Funded Research (OpenAIRE) Community' in Zenodo. The uploads will include the standard Zenodo metadata and will be enriched by including Grant Number and Project Acronym. Zenodo assigns DOIs to all uploaded contributions and also provides version control. The metadata associated with each element uploaded in Zenodo are the followings:

- Abstract
- Keywords
- Grant information and GA number
- Project name and community
- Language
- Publications and reports linked to the element
- Version numbers of the uploaded element
- Bibliographic information
- Access and licensing info

3.1.2. Naming conventions

Datasets will be named using the following naming conventions:

DECISO_WPx_title_year_month_vx.ext

The naming convention is explained as follows:

- [WPx] refers to the number of the Work Package the dataset belongs to.
- [title] is the name of the dataset.
- [year] refers to the year the dataset is published.
- [month] is the month of publication of the dataset.
- [vx] is the version number of the dataset.

Example of dataset name: DECISO_WP1_Interviews/FocusGroups_2023_November_v1.0

1	<i>Interviews and focus groups with local stakeholders</i>
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3.1.3. Versioning

Concerning versioning, Zenodo provides DOI versioning of all datasets uploaded to their communities, which allows us to edit and update the uploaded datasets after they have been published. This also allows us to cite specific versions of an upload and all versions of an upload.

3.1.4. Search keywords

The DECISO Project Coordinator will upload public datasets generated under the project and will assign specific keywords relevant to the datasets. The specific keywords for the datasets must be descriptive of their content. DECISO has defined general keywords to be applied to all public datasets, scientific publications and public reports/deliverables, being this: Circular Economy; Financing Schemes; Circular Economy Ecosystem, and Circular Value Chain.

3.1.5. Specification of metadata

The following metadata are foreseen to be created in DECISO:



- Deliverables: metadata are included at the beginning of the same file. Metadata foreseen are: Project title, Work Programme and Call Topic, Project Id, Document type, Document title, WP, Main authors, Authors, Contributors, Reviewers, Dates of creation, revision and release, Status of the document, Dissemination level, Document id (name) and Version number, Abstract, Connected documents.
- Policy briefs: Metadata are included at the end of the same file. Metadata that will be presented are: Project title, Work Programme and Call Topic, Project Id, Title, Authors, Document id (name), Date of release, Keywords.
- Database: metadata are included in a separate sheet of the same Excel file of the database. Metadata that will be included: 1) Content: Title, subject, description, type, source. 2) Intellectual Property: authors, publisher, contributor, rights. 3) Instantiation: Date, format, identifier, language.
- Presentations: Metadata are included at the end of the same file. Included metadata are: Project title, Work Programme and Call Topic, Project Id, Document type, Title, Authors, Document id (name), where presented, date of presentation, and keywords.
- Multimedia data: Metadata are included at the end of the same file. Metadata included: Project title, Work Programme and Call Topic, Project Id, Document type, Title, Authors, Document id (name), keywords, link, credits.

3.2. Making data accessible

To maximise the impact of DECISO, the public data, metadata and results that will be generated will be shared beyond the consortium. All data and metadata that can be public and aggregated, according to the consent signed, will be shared with the scientific community and other stakeholders through publications in scientific journals and presentations at conferences, as well as on the project website and, will be available using Zenodo, using Open access licenses.

The DECISO project datasets are first stored and organized in a database by the person responsible for data at each partner organization. In particular, all data that include personal data collected with surveys, participatory workshops and interviews will be collected and deposited:

- 1) electronically using the EUSurvey secure tool (<https://ec.europa.eu/eusurvey/home/welcome>),
- 2) in secure computers used and accessible only to the staff members of the consortium working on these data,
- 3) in a shared folder on TEAMS.

These data will have restricted access to the partners who have to process them. Personal data collected from the participants engaged in the several activities will be anonymized, according to the consent signed, and general data will then be elaborated and made available for verification and re-use unless the task leader can justify why data cannot be made openly accessible. Public data produced under DECISO will be made openly available as soon as the related deliverables are uploaded to the Project Portal. The DECISO public datasets, deliverables and other types of results will be accessible via:

- The DECISO project website.
- OpenAIRE.
- ZENODO.
- Open access journals.



All types of data deposited on Zenodo are publicly accessible using Open access licenses. Concerning other types of non-public data (due to IPR), potential users must contact the IPR team to gain access. If necessary, appropriate IPR procedures (such as non-disclosure agreements) will be used. For the datasets deposited in Zenodo, the access will remain available and findable for an unlimited time.

3.3. Making data interoperable

To ensure interoperability, all datasets will use the same standards for data and metadata capture/creation. The consortium will observe OpenAIRE guidelines for online interoperability, including OpenAIRE Guidelines for Literature Repositories, OpenAIRE Guidelines for Data Archives, and OpenAIRE Guidelines for CRIS Managers based on CERIF-XML5. Concerning Zenodo, this platform uses the JSON scheme as an internal representation of metadata and offers export to other formats such as BibTEX, CSL, Dublin Core, DataCite, and export also to Mendeley.

3.4. Increase data re-use

DECISO will enable third parties to access, mine, exploit, reproduce and disseminate free of charge for any user all public data sets, and regulate this by using Creative Commons Licences. However, an embargo period may be applied if the data (or parts of the data) are used in published articles in 'Green' open-access journals. The recommended maximum embargo period length by European Commission is 6 months (12 months for publications in the social sciences and humanities). For the datasets deposited in Zenodo, the access is unlimited.

4. Other research outputs

A DECISO community (including stakeholders at different scales) will be established mainly to facilitate effective stakeholders' engagement, discussion and contribution, and to promote the sustainability and exploitability of the outcomes. All types of stakeholders identified in Table 1 (at different scales) can contribute to discussing the specific topics addressed in the different workshops organised by the project, providing their points of view and sharing their experiences. The contribution to the community is on a voluntary basis and will provide content for the local Circular Economy Ecosystems accessible from the DECISO website.

5. Allocation of resources

The data archiving costs will be borne by the project partner responsible for data archiving. Data management in DECISO will be done as part of the WP6 and the Project Coordinator, which is responsible for data management, has allocated a part of the overall WP6 budget to these activities. For the time being, the Project Coordinator is responsible for FAIR data management. Resources' long-term preservation of the public data is ensured through Zenodo and the DECISO website. How data will be kept beyond the project and how long will be discussed by the whole consortium during General Assembly (GA) meetings.

6. Data security

A team for data and project outputs management and quality assurance will be established at the beginning of the project, and it will be led by Fernando Ferri. The project will follow some good practices to ensure the security of the data, such as:



- Store data in two separate locations to avoid loss of data.
- Limit the use of USB flash drives.
- Label files in a codified way to ensure the coherence of the final dataset.

All project deliverables and data will be stored and shared in TEAMS and a secure server managed by CNR-IRPPS, with access restricted to the project consortium. Scientific publications and papers, the dataset, deliverables and the digital tool source code will be shared using ZENODO and other databases to promote the data making FAIR according to the licenses previously described.

7. Ethics

The ethical requirements related to data management will be met for all research undertaken in the project, including data management aspects, in compliance with Horizon Europe's ethical standards. All partners will ensure that the EU standards regarding ethics and data management are fulfilled in compliance with ethical principles and confidentiality. The data controllers and processors are fully accountable for the data processing operations following the General Data Protection Regulation 2016/679. Templates for informed consent forms and information sheets will be available. An Advisory and Ethical Board has been established at the beginning of the project and consists of three members (external with respect to the consortium) and the coordinator. Finally, DECISO will deliver sustainable practices, processes, business models and innovative financing schemes. The team for data and project outputs management will have in charge to identify and protect relevant IPRs, via appropriate IPR management tools:

- a) identify possible re-use and replication mechanisms, both for commercial and research purposes,
- b) define schemes to activate ownership mechanisms for the IPR management,
- c) define licensing schemes.

8. Bibliography

- DECISO deliverable “D6.4 – Data collection and processing”, 2023
- Horizon Europe, Data Management Plan Template Version 1.0 05 May 2021, <https://enspire.science/wp-content/uploads/2021/09/Horizon-Europe-Data-Management-Plan-Template.pdf>
- Council of Europe, Convention 108 + Convention for the protection of individuals concerning the processing of personal data, https://www.europarl.europa.eu/meetdocs/2014_2019/plmrep/COMMITTEES/LIBE/DV/2018/09-10/Convention_108_EN.pdf
- The FAIR Guiding Principles for scientific data management and stewardship <https://www.nature.com/articles/sdata201618>
- Zenodo, <https://zenodo.org/>
- OpenAIRE, <https://www.openaire.eu/>
- Open Creative Commons, <https://creativecommons.org/about/program-areas/open-access/>
- EUSurvey, <https://ec.europa.eu/eusurvey/home/welcome>

