SCIRT.

Data Management Plan

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Summary

The Data Management Plan (DMP) for the SCIRT project is based on the ?Horizon 2020 FAIR DMP? template, based on the European Commission?s Guidelines on FAIR Data Management in Horizon 2020. This first version of the DMP describes the open access issues, data management principles and management strategies to be used throughout the SCIRT project. The DMP will be a living document, which will be updated along the implementation of the project, when further details and insights are gained and in case significant changes might occur. An updated version of the DMP will accompany each project report that is submitted to the European Commission.

Approval

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Keywords

Data, storage, management, reuse, confidentiality, information, protection, IP

Abbreviations and acronyms

Acronym	Description
WP	Work Package
DMP	Data Management Plan
MS	Microsoft
GDPR	General Data Protection Regulation

1 Introduction

This document is the first version of the Data Management Plan (DMP) in the EU framework of the SCIRT project, under Grant Agreement number 101003906.

1.1 Summary of the SCIRT project

SCIRT is a H2020 project, that started on 1 June 2021 and will run for 36 months, until 31 May 2024. SCIRT brings together research and industry frontrunners with the objective to support systemic innovation towards a more circular fashion system. The SCIRT project consists of seven work packages:

- Work package 1, Analysis of baseline & vision: a starting point for the project, to map the current, complete textiles system, consolidating existing research and knowledge and envisioning realistic circular transition pathways for the textile industry;
- Work package 2, Towards a fibre-to-fibre system: design & testing, setting up of a fibre-to-fibre recycling system, from waste collection to yarn spinning, while taking into account textile waste from different sources and the desired quality and properties as set by the SCIRT demonstrators (clothing brands);
- Work package 3, Fibre-to-fibre demo: the demonstrator brands prototype and market six different garment types with an optimized recycled content, to prove the feasibility of closed loop recycling for apparel;
- Work package 4, System optimization and impact validation: to support the set-up of the fibre-to-fibre recycling system as well as the systemic transition to increased circularity in apparel a strong focus on transparency and traceability along the value chain is needed. Development of a True Cost Model, business case validation for each individual actor in the value chain, and the development of circular design guidelines;
- Work package 5, Stakeholder engagement: ensure all the relevant stakeholders are consulted when designing and piloting the fibre-to-fibre system, engaging with actors from across the entire value chain and taking into account behaviour of end consumers;
- Work package 6, Communication, dissemination and exploitation: communicate and disseminate the results of SCIRT in the most effective way, boost engagement by strengthening the existing community around textile recycling, clothes manufacturing and sustainable retail;
- Work package 7, Project management: ensure timely delivery of quality project results, to reach the objectives and contractual commitments.

1.2 Objective of the DMP

The Data Management Plan provides guidelines and standardises the data generation, formats, handling and storage in the SCIRT project. The present DMP is the first version, further updates will follow throughout the project. The DMP has the following structure: :

- Data summary
- FAIR data
- Allocation of resources
- Data security

- Ethical aspects

2 Data summary

2.1 Purpose of the data collection/generation and its relation to the objectives of the project

The objective of SCIRT is to demonstrate an entire textile-to-textile recycling system for post-consumer textiles, focusing on the recycling of natural and synthetic fibres, as well as fibre blends. The project aims to enable conditions and supporting measures to facilitate the transition towards a circular system for apparel, while giving special attention to the consumer perspective.

The data required to realize the specific objectives of SCIRT can be classified as scientific and personal data. All will happen in compliance with all ethical requirements on national and EU level.

Data collection and generation will happen in relation to the following activities:

- Analysis of the current as well as future (envisioned) textiles system, including the calculation of the fibre footprint and development of the true cost model framework;
- Development and piloting of the five demonstrators;
- Consumer behavioural flow intervention, citizen labs and user boards;
- Co-creation of the optimal business model for circular garments;
- Development of system for increased value chain transparency and traceability.

2.2 Types and formats of data SCIRT will generate/collect

Throughout the project, data will be inventoried, covering the data type, format, naming protocol, storage, back-up, metadata, open data (Y/N; when & where) and identification of potential confidentiality issues. The table in annex 1 will be used for this. For now, more generic information on some of these aspects is presented below.

➔ **Types of data**

Different types of data will be generated/collected during the project. These cover:

- Data from the demonstrators: project partners' production activities, across all steps of the value chain (process data) as well as technical product data (names and locations of suppliers, production partners, energy consumption, water consumption and emissions at each location, materials, products and processes that are used in production…);
- Data from business models and business plans: market data, financial data, data from the true cost exercise (environmental, social, economic): sales data, impact data, purchasing behaviour and experience;
- Qualitative research data on consumer behaviour: data collected through the citizen labs and in the framework of the consumer behavioural flow work;
- Qualitative research data on functionality and design of the circular fashion system: collected before, during and after the user boards with value chain stakeholder representatives: data and contact details of relevant stakeholders;
- Technical research data on recyclability of fibres (process data, lab data, …): technical criteria (parameters) of used fibres and yarns (titer (Nm), strength (cN/tex), elongation, regularity and IPI values), process and lab data,…;
- Technical research data on optimized dismantling and sorting;

- Technical research data on chemicals of concern (testing): names (and amounts) of chemicals that are used in the different production steps;
- Other data exchanged in the consortium, such as data of stakeholders during stakeholder mapping and engagement activities;
- Data gathered through the SCIRT website (personal information for newsletter, cookies, …);
- Peer reviewed publications;

➔ **Formats of the data**

Depending on the type of data and potential for re-use, different formats will be used.

Possible formats in which data will be stored and provided are

- MS Excel (.xls, .xlsx) and MS Word (.doc, .docx) compatible files, including CSV;
- PDF;
- JPEG;
- QUIP files;
- Mural boards;
- Written documents (with names, autographs from participants of engagement activities);
- Tableau files;
- Specific: circularity.ID standard format;
- Other specific formats when identified in the course of the project.

2.3 Re-use of existing data

It is encouraged to incorporate as much as possible available research data in the work done in SCIRT. This will surely be the case, for example in

- The work on the true cost model, e.g. for environmental impacts, the resource effectiveness metrics, …;
- The work on traceability and transparency: data will be collected from producers, re-use will be done according to the guidelines by the data providers;
- Existing circular design guidelines;
- The work done on recycling and spinning technologies and developments;
- Product Environmental Footprint for textiles;
- …

A more specific overview on data re-used in SCIRT will be included in a future update of this document.

2.4 Origin of the data

This section will be updated in a next version of the DMP, in line with the previous paragraph describing the re-use of existing data. The data will come from, among others, previous research projects and monitoring campaigns, life cycle impact databases, and so on.

2.5 Data utility

Data are expected to be useful for:

- The SCIRT consortium
- Stakeholders of the fashion (and more broad: textile) value chain;
- European Commission services and European Agencies;
- EU national bodies;
- The scientific community;
- General public.

3 FAIR data

3.1 Making data findable, including provisions for metadata

3.1.1 Metadata provision

For all data that will be catalogued in the repository (Zenodo), metadata will be completed. This will make the data more easy to find and re-use. Metadata that will be completed (at a minimum) will include:

- Digital Object Identifiers
- Version numbers
- Bibliographic information
- Keywords
- Abstract/description
- Associated project and community
- Associated publications and reports
- Grant information
- Access and licensing info
- Language

We will also include for each upload the project name and Grant Agreement number.

3.1.2 Standard identification mechanisms for making data identifiable and locatable

As described above, uploading publications and data sets to Zenodo will automatically generate a DOI. Other potential identifiers might be used, specific to the data, such as the circularity.ID (traceability work), GS1, sGTIN, and so on. More detailed information on the identifiers used will be completed and updated in the course of the project.

3.1.3 Naming conventions

Naming conventions will be uniform as much as possible. All metadata, datasets and templates will be defined according to a naming convention consisting of:

- A prefix: this will indicate whether it concerns a dataset, metadata or a template;
- A root:
    o A short and meaningful name;
    o The acronym or short name for the data provider organisation(s). In case of a template, the default will be SCIRT;
- A suffix: the date of the last upload into the repository. The format will be YYYYMMDD.

Each of these three elements will be separated by an underscore ("_").

3.1.4 Search keywords

When publications and data are uploaded to the Zenodo repository, the data owners will enter keywords to describe the publication/data, in order to facilitate the search. A set of

relevant keywords will be developed in the course of the project, for data owners to choose from. These will be included in an update of the DMP.

3.1.5 Clear versioning

Clear versioning will be guaranteed through:

- The naming conventions, where the suffix indicates the date of the last version of the file that was uploaded to the repository;
- The functionalities in the Zenodo repository.

3.2 Making data openly accessible

3.2.1 Overview of access to data

Data type	Access	Guidelines
Demonstrator data	Open	Data in final reports, project website and in press releases: open to public
	Confidential access	Confidential access for all personal information, in compliance with GDPR
Business models & business plans data	Confidential access	Contractual terms, financial information, detailed business plans, … will fall under confidential access.
	Open	Data in final reports, project website and in press releases: open to public
Qualitative research data on consumer behaviour	Confidential access	User data will be treated with confidentiality. Disclosure is conditioned by the systematic authorization of end users provided in the "informed consent form" and "information sheets". The collection, storage, protection, retention will be done in compliance with EU Directive 95/46/EC of the European Parliament and of the Council of 24 October 1995 on the protection of individuals with regard to the processing of personal data and on the free movement of such data and in compliance with the Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation).
	Open	Data (as deliverables) in final reports, project website and in press releases: open to public (if not stated otherwise for a specific deliverable in the DOA).

		All data related to personal information will be anonymised prior to its inclusion in reports.
Qualitative research data on functionality of design of the circular fashion system	Open	Data (as deliverables) in final reports, project website and in press releases: open to public (if not stated otherwise for a specific deliverable in the DOA). All data related to personal information will be anonymised prior to its inclusion in reports.
Technical research data recycling of fibres	Open	Data (as deliverables) in final reports, project website and in press releases: open to public. Know-how will remain private. A 3-step procedure will be followed: 1. Assessment of the IPR protection 2. Review of inclusion of personal data 3. Upload in Zenodo repository
Technical research data optimized dismantling & sorting	Open	Data (as deliverables) in final reports, project website and in press releases: open to public. Know-how will remain private. A 3-step procedure will be followed: 1. Assessment of the IPR protection 2. Review of inclusion of personal data Upload in Zenodo repository
Data exchanged in consortium	Confidential access	Emails, File Transfer Protocol, secured collaborative working space (MS Teams, FLEXX)
Peer reviewed publications	Open	Open access through Zenodo repository and in consortium document repository (Flexx), as well as partners' repositories.

3.2.2 Making data accessible

Datasets, metadata and publications will be made accessible through their deposition in the Zenodo repository, CORDIS and a selection also on the project website. Scientific publications will be made available through journals, with open access. Datasets used to store personal data in the context of engagement activities will not be made publicly available as such for GDPR reasons.

3.2.3 Required software

It will be avoided to the extent possible to require specific software to facilitate access to the data. This section will be updated accordingly, if during the project it turns out to be required.

3.2.4 Storing of data and associated metadata, documentation and code

All data will be stored on Zenodo. Moreover, data will be stored in partners' open repositories, provided that open access is not in conflict with publisher's terms and conditions and possible embargo period set by the publisher is respected. Journals for publication of scientific articles shall be selected based on their open access policy, or, if no other option, the gold open access fee will be paid.

3.2.5 Potential restrictions and implications for accessibility

The decision on whether to publish Open Access documents will follow the procedures as described in the Consortium Agreement to first seek protection for intellectual property rights.

3.3 Interoperability

This section of the DMP will be further elaborated during the course of the SCIRT project, when there is more clarity on the datasets that will be made available. It will then cover the use of standard vocabularies or use of mappings to link to standard vocabularies in order to make data interoperable. The SCIRT project will strive to use as much as possible open/non-proprietary/standard formats.

Data collected through the circularity.ID will follow the circularity.ID open data standard. Through the course of the project, further alignment with other standards and initiatives will be taken care of.

3.4 Data re-use

This section of the DMP will be further elaborated during the course of the SCIRT project, when there is more clarity on the datasets that will be made available. It will then cover licensing, availability of data and embargo time, re-use of data by third parties and duration of maintaining data for re-use. Personal data collected for engagement activities will not be made accessible as such for GDPR reasons.

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4 Allocation of resources

4.1 Estimation of costs

The use and maintenance of the repository for the data will not generate any costs. With regard to publications, potential costs for open access were foreseen in the project budget and will thus, in case needed, be covered.

4.2 Data management responsibilities in SCIRT

Data management in SCIRT is the responsibility of the project management, supported by the PMO. All data will be managed according to the open data policy recommended by the European Commission and the General Data Protection Regulation (GDPR). Data will be curated by individual partners, overseen by the Coordinator. The responsibilities for the data management encompass:

- Definition, creation and update of the repository structure;
- Final approval (validation) of content to be uploaded;
- Timely upload of data and publications in the repository;
- Ensuring appropriate versioning, metadata, access and level of dissemination.

5 Data security

5.1 Provisions for data security

SCIRT will involve collection and processing of personal data. This will be done following the General Data Protection Regulation No 2016/679. No sensitive personal data or genetic information will be collected or processed. The project will not include tracking or observation of participants. The personal data SCIRT will involve are:

- Data from stakeholders, who will be involved during user board meetings or workshops. The data processed will be treated with confidentiality and according to the GDPR regulation;
- Data from Citizen Labs and online workshops with consumer groups identified in SCIRT.

All data will be stored in a secured way. The data will be collected in the online tool QUIP, with back-up copies in an Excel file for data safety reasons. No comment or feedback made during the workshop will be associated with an individual and all feedback is anonymised before being included in reports. All people involved in any of the above mentioned activities, or during dissemination and communication activities, will receive the relevant information to decide if they want to be further involved and contacted or not. All data (publications) is aggregated and anonymised.

Only after free and fully informed consent, participants will be asked for personal data, such as name, contact information or gender.

6 Ethical aspects

6.1 Ethical and legal issues

An ethical issue arises when human beings are involved, irrespective of the nature or topic of the research. SCIRT will rely on research participants for the advisory board, the user board and during other project events, such as workshops. The key objective of SCIRT for involving these participants, is to collect information and relevant knowledge, linked to the project's activities and objectives. This group of participants will not target children/minors, vulnerable individuals or groups, or any of the other specifically mentioned participants. The involvement of the participants will not involve any physical intervention or collection of samples. The participants will mainly be experienced individuals with regard to the project related topics. Such experts can be involved in the advisory board, the user board or during workshops, or during any of the dissemination and communication activities. Moreover, citizens will be involved under the activity on consumer behavioural intervention.

All involved individuals will be involved:

- On a purely voluntary basis;
- Fully informed on the objectives of the project and their involvement: all information will be provided in clear, understandable language (adapted to the target audience);
- After formally giving their informed consent.

Annex 1 – Data inventory table

Some first examples have been included. Further additions will be made throughout the project and will be included in the new versions of the DMP.

Dataset Identifier & name	Partner	Data type	Data format	Storage (Zenodo, OpenAire, Sharepoint, …)	Backup?	File format(s)	Metadata	Confidentiality issues (Y/N? When and where?)	Data reuse?
Stakeholder mapping	PI	Personal data	Excel	Quip	Yes	Excel	/	N, but will not be shared externally as such	
State of the art	ESTIA	Text		Sharepoint SCIRT	Yes	.docx or .pdf	/	N	
Robotic cell specifications	ESTIA	Text		Sharepoint SCIRT		.docx or .pdf		N	
Robotic cell Modelisation	ESTIA	Modelisation		Sharepoint SCIRT		.step or .cat		N	
Robot code	ESTIA	Program		Sharepoint SCIRT		Depending on the robot		N	
Garment images for Deeplearnig	ESTIA	Images		Zenodo		.jpeg		N	

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