



SUSINCHAIN
SUSTAINABLE INSECT CHAIN

Data management plan (ORDP – Open Research Data Pilot)

Deliverable 50

Martha Octavia, WP8 Leader

Ajaya Kusum, WP8 Assistant

Sociedade Portuguesa de Inovação (SPI)

March 2020



Table of Contents

Chapter 1 – Introduction.....	5
Chapter 2 – Data Summary	7
Chapter 3 – Fair Data.....	11
Chapter 4 – Allocation of Data	13
Chapter 5 – Data Security.....	15
Chapter 6 – Ethics and Legal Compliance	18
Chapter 7 – IPR Management	20
Chapter 8 – Exploitability Strategy and Planning.....	23

Index of table

Table 1 - Brief understanding on project exploitation of results	24
--	----

Abbreviations	
DMP	Data Management Plan
EC	European Commission
EU	European Union
IPR	Intellectual Property Right
JOA	Joint Ownership agreement
SMEs	Small and Medium Enterprises



CHAPTER 1

Introduction

Chapter 1 – Introduction

1.1 Objectives of the document

This document is a deliverable targeted to the SUSINCHAIN project members. The objective of this deliverable is to present a brief Data Management Plan (DMP) which gives a holistic understanding on how the data can be shared, preserved and made available to the general public.

1.2 Purpose of the document

The document helps to manage and conserve the data collected under the SUSINCHAIN project. Due to confidentiality issues, the exchange and storage of data between authorised parties will be strictly regulated. Furthermore, other areas like data security, IPR issues and ethics will be addressed. This document is expected to be updated, particularly if the identified use for the data generated changed since the start of the project.

1.2 Methodology

The Data Management Plan will include the main elements of the data management policy and will adhere to the guidelines provided by the European Commission on *FAIR Data Management in Horizon 2020*. This DMP will focus on the work packages, upscaling rearing insects, insect processing, insects in animal feed and insects in human diet.



CHAPTER 2

Data Summary

Chapter 2 – Data Summary

The purpose of the data collection/generation in SUSINCHAIN

The data collection/generation in SUSINCHAIN is aimed to achieve the objectives of the project to contribute to novel protein provision for feed and food in Europe by overcoming the current barriers for increasing the economic viability of the insect value chain and opening markets by combining forces in a comprehensive multi-actor consortium. Specifically, the data collection will provide the necessary knowledge and data for actors in the insect value chain to decrease the cost price of insect products, process insects more efficiently and market insect protein applications in animal feed and regular human diets that are safe and sustainable. This will pave the way for further upscaling and commercialisation of the European insect sector, resulting in a replacement of animal protein by insect protein of 10% in animal feed and of 20% in human diets, and a thousand fold increase in both production volumes and jobs in 2025.

The relation to the objectives of the project

Apart from its general goal mentioned above, the SUSINCHAIN project has specific objectives, which are the following:

1. **Develop business models, increase market opportunities** and share best (and worst) practices among insect value chain stakeholders for overcoming supply and demand-side barriers to large-scale commercialisation of high-quality insect proteins for food and feed in Europe and for increasing consumer acceptance.
2. Facilitate large-scale commercial **rearing of insects with continuous quality and efficiency improvement** by sharing best practices; optimising feed substrates; prevention of insect diseases and; the sustainable and economically use of side streams (frass, chitin and fat).
3. Demonstrate and optimise the **large-scale implementation of transport and processing** technologies for insects at demo and industrial sites.
4. Validate research at a commercially-relevant scale on the inclusion of insect-derived proteins in animal diets, so to **compose commercial insect-based feed** that will guarantee optimal animal performance and product quality.

5. Pilot the **integration of insects as part of daily meals of European consumers** by testing and refining the nutritional value, sensory quality, and addressing consumer acceptance of six novel insect-based food products.
6. Develop tools that effectively **control the safety** of insects and insect-derived products along the entire production chain.
7. Develop a decision support system for insect industry to ensure that the growth of the insect supply chain in Europe remains **economically and environmentally sustainable**.
8. Develop strategies and business plans for exploitation of project results, and ensure **proper communication and dissemination of project results**, to raise awareness, improve consumer trust and acceptability, and **develop a sustainable communication platform for the future**.

Considering the specific objectives above, various types and formats of data will be generated and collected throughout the project duration within the project activities.

The data will include:

- **Primary data** resulting from the following activities:
 - a series of in-depth interviews, workshops, online choice experiments, with various groups of selected stakeholders and key experts;
 - pilot-scale facility and industrial scale testing, optimization, validation and demonstration activities;
 - analytical laboratory testing;
 - animal (in vitro) digestibility trials with poultry, pig and fish;
 - farm trials with rainbow trout, seabass, salmon, laying hens, broilers and piglets;
 - consumer research activities and sensory testing during food product development (with trained sensory panellists);
 - voluntarily data and information from mailing list subscriptions, networking events, meetings, and other social media channel interactions.
- **Secondary data** from literature review and other desk research of specific topics.

Some existing public data from previous or on-going European projects and other research or data providers, i.e. Eurostat, will be used if deemed relevant and needed for any particular activities in the project.

The expected size of the data

Each of the project activities will have different size of data to be collected. For instance for a workshop or online survey where the experts will be interviewed, it could be between 25 – 30 people. For consumer survey, the size will vary between 20 – 100 people, etc. Each of the project activities will specify the number of data collected in the report of the particular activity.

The data utility

The data will only be used and processed by project partners for the purpose of the project research and to be reported anonymously.



CHAPTER 3

Fair Data

Chapter 3 – Fair Data

Making Data Findable

To make sure that the data is findable, the project results will be kept in repositories which will be accessible to the partners and also to the public later on. Depending on the underlying data, the information will be stored along with some relevant documentation about the contents.

Making Data Openly accessible

Though all the information is confidential in the very nature, certain data may be made available to the public or used in openly accessible publications. If data is stored at an openly accessible repository, then this repository will have the possibility to enable users to reach selective quality controlled data sets and versions approved by data owners.

Making data interoperable

The project aims at keeping the information simple and understandable. Though it is technical, importance is given to making the information understandable for laymen. Hence, the following principles will be applied:

- Data will use a formal, accessible, shared, and broadly applicable language;
- Data will use vocabularies that follow FAIR principles;
- Data will include qualified references to other metadata.

Increase data re-use

SUSINCHAIN provides the audience to re-use data. The data re-use policy of the project is defined by the end-users and also provides the infrastructure and the means to specify which data will be accessible from which organizations and users.

In similar sense, all the work packages are treated with confidentiality; hence it is not foreseen at this stage to share the data. However, upon agreement of the consortium partners certain data may be made available to the public or used in (openly accessible) publications, as mentioned above. The data quality will be assured by quality management procedures established by the partner institution collecting the data. The general methodology for data collection will be discussed and reviewed at work package level among the consortium members.



CHAPTER 4

Allocation of Data

Chapter 4 – Allocation of Data

3.1 Accessibility and Exploitation of Data

All the datasets that are produced during the SUSINCHAIN project will be accessible for research purposes to all the partners after anonymization and securitisation measures. The datasets will be made available online for study purposes. Furthermore, the commercial rights intended for exploitation of data will remain with the consortium.

3.2 Preservation of Data

Prior to sharing and storing the data, raw data will be anonymised subject to appropriate measures to anonymize every reference to the demonstrators. Nevertheless, demonstrators will be able to retain the full dataset pertaining to the pilot project they are involved in.



CHAPTER 5

Data Security

Chapter 5 – Data Security

Simple, sensible steps must be taken to ensure data security during the SUSINCHAIN project implementation. In order to prevent unauthorized access, modification, replication or destruction of the project data, several measures have been put in place. These include:

Identification security: Data are stored in online repositories which are password protected and/or grant access only upon correct identification. Different layers of security are to be implemented in order to protect data of higher sensitivity (users' personal data, etc.) Furthermore, to insure code continuity in case of unexpected events, weekly backups of the corresponding repositories will be stored in a backup medium by the technical coordinator. Moreover, the technical coordinator will keep monthly backups of the code in two different mediums.

Location and workstation security: Access to the premises of the partners, where all the SUSINCHAIN data files, mostly confidential information are secured by their own security system. Similarly, the working professionals of the project are strongly encouraged to remain protected against a possible data breach by using a password. They are advised to use updated antivirus software. Extremely confidential data are to be stored through encryption and sharing information through personal email isn't advised.

4.1 Communication Data

As the primary communication between partners is through emails, the email servers should use proper encryption mechanisms to prevent cyber theft of information. The coordinator of the project should manage internal mailing lists, performing a custom access-control of which information is disseminated to whom under need-based criteria.

Apart from the emails, partners should also use communication platforms like GoToMeeting, WebEx and Skype. These platforms are widely used, and use well-known encryption protocols to communicate; operating at an invitation-based communication scheme, therefore their use can be considered secure and rational. Regardless, of the means used to communicate, sensitive files carrying a lot of information must be individually encrypted.

4.2 Partner Data

Partners are responsible for their own data so it is imperative to be careful while exchanging files. In this sense, contact details from partners on financial data need to be protected from each partner individually without any responsibility from the others in case of data misuse. Also, when partners share such information with others, bilateral agreements need to be made.



CHAPTER 6

Ethics & Legal Compliance

Chapter 6 – Ethics and Legal Compliance

The SUSINCHAIN project will conform to Horizon 2020 ethical guidelines, including “Data protection and privacy ethics guidelines” and the “Guidance for Applicants on Informed Consent”. The partners have been informed and briefed about the ethical requirements of the project in conducting, progressing and completing it. This will not be a rehearsal of the usual respect for EU guidelines and laws but will be the occasion at which ethical issues in practice can be raised, along with brainstorming on how to speedily address them.

Ethics will feature on how data is stored, who can access it and for how long it can be kept. The consent for data preservation and sharing obtained from data producers, or data owners will be implemented based on applicable license rules. In addition, the relevant information regarding the term of use, curation, sharing datasets which are available by the data owners will be entailed in the consent agreements that administer IPR and copyright management.

The formal consent agreements will state who will own the copyright and IPR on data to be collected or created, along with the license(s) for its use and reuse. IPR is to be featured in the consortium agreement with relevant funder, institutional, departmental or group policies on copyright or IPR. When applicable, permissions to reuse third-party data and any restrictions needed on data sharing will also be referred in the associated metadata.

5.1 Anonymity and Confidentiality

The most imperative aspect is to assure the participants anonymity who give information to the project. The participants are informed that the partners shall protect them during the conduct of the different phases of data collection. All records, minutes, data captured online, recordings shall be treated with the strictest confidentiality. Names are changed in verbal transcripts of interviews, field notes, and details that might make the individual personal subject identifiable. Of course, sensitive information will be changed in a way that does not become identifiable.



CHAPTER 7

IPR Management

Chapter 7 – IPR Management

A general principle for IPR management is that organizations connected to SUSINCHAIN network should have an advantage over those who do not. This implies that the knowledge generated from commercial interest must be safeguarded. On the other hand, the partners of this project have come together in order to collaborate and benefit from their respective resources and competencies. Added value through knowledge sharing and promoting exploitation are clear objectives and driving forces. Considering that measures to ensure the exploitation of results must be performed even after the project lifetime, provisions will be made to cover rights and obligations related to IPR, such as:

- Confidentiality obligations;
- Provisions concerning the transfer of results;
- Obligations to protect results capable of commercial exploitation;
- Notification to the EC, when deciding to stop protection or not to seek extension;
- Right of participants to request access rights.

All SUSINCHAIN consortium partners, from the inception of the project will ensure that their information and expertise will be used in the project, and are identified and acknowledged by the other participants up front. A specific piece of knowledge resulting from the project will belong to the contractor who generated it. If the knowledge is jointly generated, it will be jointly owned, unless the concerned contractors can come on a mutual consensus on an alternative decision. In general, joint owners will agree among themselves on the allocation and the terms of exercising the ownership of the knowledge.

Transfers of ownership will be allowed, but joint owners must come to a mutual agreement. Where knowledge developed is capable of industrial and commercial application and having due regard to the legitimate interests of the partners concerned, it will be protected. It is expected though, that there will be situations where newspaper, industrial magazine, journal publication or other means of disseminating knowledge in the public domain, will constitute appropriate alternatives, taking account of the nature of the results and the participants' interests.

This approach to knowledge and IPR management is detailed and regulated in the Consortium Agreement that all partners have signed before the project start. The major aspects are:

- **IP Ownership:** It is important to keep in mind that the foreground IP shall be in the ownership of the project partner. If any Foreground IP is created mutually by at least two project-partners and is difficult to identify the contributions of each of the project partners, such work will be cooperatively owned by the contributing project partners. The same method shall be applied in the course of carrying out work on the project during innovation discovery from two or more contributing parties where it is not possible to separate the individual contributions. Any such joint inventions and all related patent applications and patents shall be jointly owned by the contributing parties.
- **Confidentiality:** It is paramount that the partners treat information from other partners as confidential and not reveal it to the third parties unless the information is publicly accessible.
- **Patents:** SUSINCHAIN partners who introduce patentable knowledge will be encouraged to register patent for their discovery or similar form of protection.
- **Access Rights:** Partners issue one another royalty-free access right to knowledge generated in the project to the extent needed to efficaciously conduct the project. Access rights to a partner pre-existing knowledge for use outside the project is, when needed and only to the extent necessary to make use of the project result, given on preferential conditions to the other partners.
- **Ownership of Knowledge:** Knowledge possessed by the partners who made consistent effort generate knowledge, or on whose behalf such work was carried out. If in any case any partner requests to assign knowledge to a third party, he should inform the other partners for their consent, and should not arbitrarily withdrawn or kept pending.



CHAPTER 8

Exploitability Strategy & Planning

Chapter 8 – Exploitability Strategy and Planning

SUSINCHAIN will incorporate the following exploitation channels to derive the best results to the marketplace such as:

- Creating new protein based businesses for further exploitation involving third parties outside of the project;
- Improving existing/developing insect based products to be more competitive in existing and/or emerging new markets.

Protection of results: IP protection is imperative for a prospective commercial or industrial exploitation of the insect produce. As this invention is fresh in the market, all the partners are expected to select the most suitable IP protection tool for every foreground, in accordance with the other partners' legitimate interests and with the future planned use. Most importantly, direct commercial exploitation or further research is preferred. Furthermore, it would be sensible if the partners inform one about their individual protection activities plans, especially where dealing with potentially joint IP.

Use of foreground: In certain cases, there can be direct use, when the partners industrially or commercially exploit the results and transfer the foreground to other project partners or third parties that will exploit such results through the use of licensing. This will also incorporate utmost utilization of foreground in further research initiatives, aiming at furthering expected results.

Dissemination of results: While disseminating the project results, partners are expected to select the most convenient means like e.g. scientific publication, web-site publication, in accordance to the conditions set forth in the CA and in other specific confidentiality agreements. Publications are to be made in high impact papers.

Identification of the Data Stakeholders

The data stakeholders for SUSINCHAIN project come from various backgrounds with diverse intentions. Some of the project's important and easily identified stakeholders are: Project partners, European Commission, SMEs, Research community, other related clusters.

License of the Data: How and When

All of the project's data will be produced and used within the project and will be made publicly available. Otherwise, licensing options must be exercised to examine on a case by case basis, considering all applicable concerns.

Data Quality Assurance Process

All of SUSINCHAIN’s deliverables, audio-visual contents and reports/other publications will be peer-reviewed by the project partners and in some cases by external reviewers, as and when necessary. Through this approach we expect to ensure high data quality within the project, promoting project data reuse and sharing.

General Procedure for benefited SMEs

SUSINCHAIN does not expect SMEs to capture newly generated IPR as the funded projects will have TRL above 6 (scale-up, validation and commercialization of technology). There might be exceptions, especially while producing new value-chains, processes, services and products. Nevertheless, the general procedure to manage third-party IPR is described in the below table and is included in the contract. The table below provides a brief understanding on project exploitation of results.

Table 1 - Brief understanding on project exploitation of results

<i>Purpose</i>	<i>Background information</i>	<i>Access to results</i>
Project implementation	<p>Each party will detail the background information, including pre-existing IP that is needed for carrying out the project.</p> <p>Access Rights to background information needed for the performance of the own work of the Party under the project shall be granted on a royalty-free basis.</p> <p>All parties will commit with non-disclosure information with regards to the confidential scientific or technical information shared.</p>	<p>Results are owned by the party that generates them. Access to impact results generated by the project funded under SUSINCHAIN during the project implementation will be the royalty-free basis.</p> <p>Under joint ownership, each third party that wishes to use the partial or final result, for the dissemination of their own results, will be entitled to use it prior to the other partner consent with at least 30 calendar days advance notice and under fair and reasonable compensation.</p>

Exploitation of Project results	<ul style="list-style-type: none">• Results are owned by the Party that generates them. Third parties will commit with SUSINCHAIN results valorisation and will provide to the consortium a set of impact indicators according to the provisions mentioned in the work packages, of the technology scale-up, valorisation and commercialization on a royalty-free basis.• Joint Owners must agree in writing on the allocation and terms of the exercise of their joint ownership by a <i>Joint Ownership agreement</i> (JOA) after the project execution.• Access rights to results, if needed for exploitation of a party's own results, shall be granted on a royalty-free basis, as long as joint owners are given 30 calendar days in advance notice and fair and reasonable compensation.
--	---



SUSINCHAIN
SUSTAINABLE INSECT CHAIN



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement n° 861976. This document reflects only the author's view and the Commission is not responsible for any use that may be made of the information it contains.