Re-Livestock
RESILIENT FARMING SYSTEMS

Deliverable 9.1. (D37)
Data Management Plan (DMP)

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Contents

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Project Number:	101059609
Project:	Re-Livestock - Facilitating Innovations for Resilient Livestock Farming Systems
Duration:	60 months
Start date of Project:	1 September 2022
Project management:	CSIC - AGENCIA ESTATAL CONSEJO SUPERIOR DE INVESTIGACIONES CIENTIFICAS
Deliverable:	**D9.1**
Due date of deliverable:	**28 February 2023**
Actual submission date:	**28 February 2023**
Work package:	**WP 9**
Leader:	**1-CSIC**
Person in charge:	**David Yáñez-Ruiz**
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Contributor(s):	**WP leaders**
Communication level:	**PU**
Version:	**1**

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Executive Summary

This document describes the Data Management Plan (DMP) generated in the Re-Livestock project. This DMP will identify the type of data to be generated by the project team, as well as the standards that will be used to ensure their quality, scientific relevance and impact. The DMP is developed in compliance with European guidelines such as INSPIRE, ARGOS and General Data Protection Regulation (GDPR). It presents general recommendations for all data sets, including the allocation of sources (storage and preservation), data collection, data security, ethical, and legal aspects. The Consortium Agreement (CA) specifies the ownership and access to key knowledge and Intellectual Property Issues.

Concerning data sharing, all information generated during the project (e.g., the Re-Livestock training outputs, tools, guides, good practices, etc.) will be open-access to share the results and benefits of the project as widely as possible. If there is background data or new data generated during the project that cannot be made open-access for reasons such as ethical, personal data protection, intellectual property, commercial, privacy-related, security-related, etc. this will be clearly mentioned in this document. This project has an official online repository (SACO), held by CSIC, that is freely accessible to all partners, where data relevant to project execution is safely stored and exchanged by partners.

The DMP it is a living document and provides a clear description of procedures for long-term preservation of the datasets. Intellectual property rights are addressed in the CA, which was signed prior to the project starting-date. All project outputs that can be made public will be available in the project website (https://re-livestock.eu), including the Re-Livestock tools, guides, good practices, awareness materials, presentations, policy-briefs, brochures, and publications. For scientific publications all partners will deposit scientific peer reviewed publications (machine-readable electronic copy of the published version) in an institutional repository (green open access) and the link made available in the project website.

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1. Glossary

CA: Consortium Agreement

DMP: Data Management Plan

EB: Executive Board

GDPR: General Data Protection Regulation

PI: Participating Institution

SQL: Structured Query Language

WP: Work Package

WPL: Work Package Leader

VBA: Visual Basic for Applications

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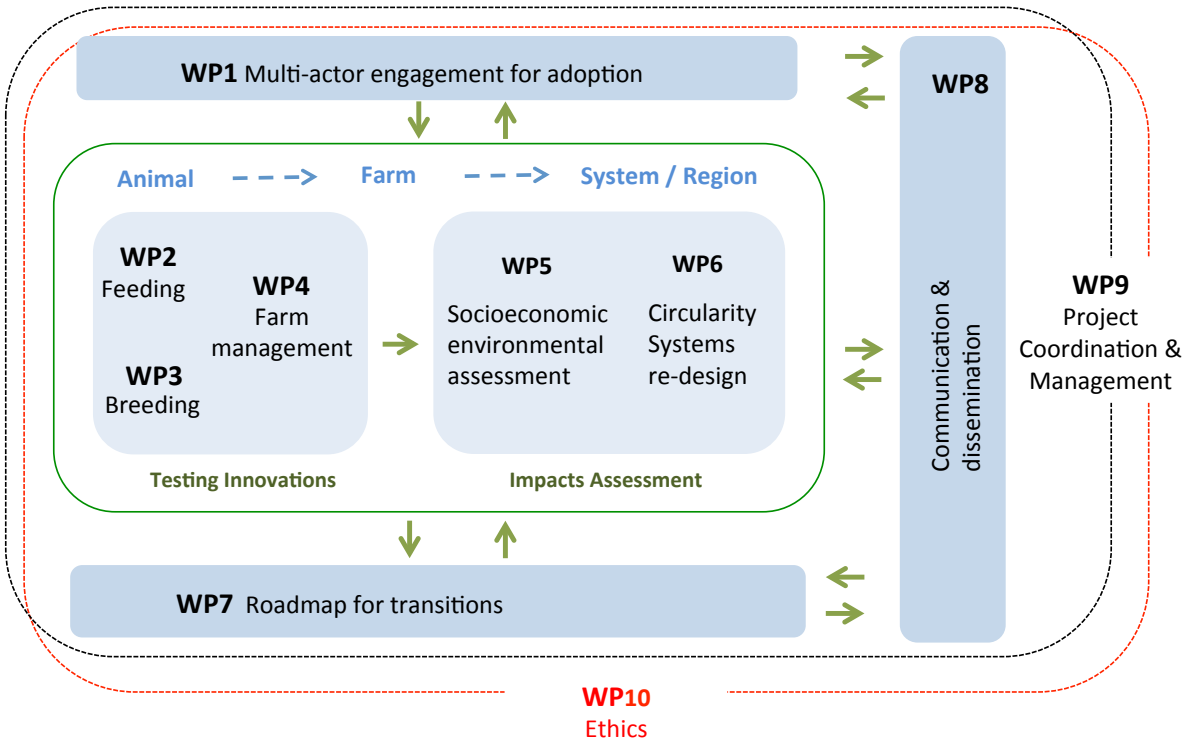
2. Datasets Description and interconnection

The overall objective of Re-Livestock is to understand and mobilize adoption of innovative practices, applied cross-scale (animal, herd/farm, sector and region), to reduce the greenhouse gas (GHG) emissions of livestock farming and to increase the capacity for dealing with climate change impacts, in order to ultimately increase the overall resilience of the livestock sector.
To achieve this goal the project consortium will engage in several actions to ensure meaningful results. These actions are organised around 10 work packages:

- WP1 Re-understanding and mobilising adoption through multi-actor engagement
- WP2 Re-Feeding livestock for resilience
- WP3 Re-Breeding livestock for resilience
- WP4 Re-Managing at farm level for livestock resilience
- WP5 Re-Assessment of livestock farm systems
- WP6 Re-Design of circular systems
- WP7 Re-Map a roadmap for transition
- WP8 Communication, dissemination and capacity building
- WP9 Project management and coordination
- WP10 Ethics requirements

The interrelation of the information generated by the different work packages is shown below:



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All the data collected and generated according to the different activities described will be available for sharing between project partners involved in the same tasks in raw or aggregate form in the project official repository (SACO).

The categories of data to be collected are closely related to the objectives of the project and can be summarised as follows:

- Social Sciences and field data (*WP1* and *WP7*): qualitative and quantitative farm practice, structure, input(s), management and production data related to the innovations, which are studied by the project. This dataset is collected through stakeholder engagement (through the case studies and industry partners/stakeholders,..,.) and to consult stakeholders about these innovations.

- Animals' phenotypes: animals' responses to different conditions, mainly *WP2* (feeding trials), *WP3* (response to climatic conditions, methane emissions) and *WP4* (farm management). This will include rumen fermentation param3ters.

- Pedigrees and genotypes of animals (*WP3*), which will consist mainly on existing data (*background*).

- Feed/Crop/Soil characterization from feeding and grazing trials (*WP2*)

- Genomics, proteomics and metabolomics: DNA sequences, proteomics and metabolomics from animals or rumen microbes (*WP2* and *WP3*).

- Precision Livestock Farming dataset: data generated from records using different PLF technologies (*WP4*)

- Food systems modelling data (*WP6*) which will consist of spatial datasets (crop and grass yields under different climatic conditions, environmental impacts at grid-level) and biophysical food systems indicators (nutrient provisioning per capita, number of animals, land use per crop, dietary composition). Background data used for the CiFoS model will not be open-access. Only foreground data will be available.

- Contact data for persons participating in project communication, dissemination and capacity building activities *(WP8)*. These data are not research data and will be subject to EU General Data Protection Regulation (GDPR) and kept undisclosed to public (so data sets will not be following FAIR principles).

Please see the **appendix** for a detailed table providing more information about the data, including re-use of data, origin of the data, data types and formats of data, expected data size and 'data utility'.

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3. FAIR data

Re-Livestock will comply with the Horizon Europe requirements on Open Research Data, in line with the Commission's Open Access to research data policy for facilitating access, re-use and preservation of its research data in line with the FAIR principles of Findability, Accessibility, Interoperability and Reusability.

The DMP describes the research data collected or generated by the project, the methodology and standards used, data sharing, curation and preservation during and after the project. The DMP will be a living document evolving and gaining more precision and details during the project. More precisely, the DMP will describe:

- The types of data created in the project, the methods of data collection and associated metadata;
- How the project will deposit the project publications and research datasets in institutional data repositories of project partners or a repository service (e.g. provided by the thematic aggregator in the agri-food sector, namely AGINFRA; the OpenAIRE's Zenodo repository service; European Open Science Cloud for Research);
- How the project coordinator will monitor, track and disseminate information about the project produced research publications and datasets to the relevant channels (e.g. via AGINFRA, serving as the thematic aggregator of OpenAIRE for agriculture, food and the environment);
- How the project will take measures to allow third parties to access, mine, exploit, reproduce and disseminate (free of charge) the research data, including associated metadata, needed to validate the results presented in scientific publications, and other data, including associated metadata;
- Information on the tools and instruments needed to validate the results produced by using the specific data sets;
- Guidelines, support material, proposed workflows and tools for the coordinator, Work package leaders (WPL) and each project partner, translating the generic requirements of the Open Access & Open Research Data Pilot into specific practical guidelines that they can apply during the lifetime of the project.

Re-Livestock will produce a broad range of data and research outputs, ranging from quantitative data from experiments or farm interviews, but also more qualitative data from workshops, stakeholder engagement, including audio, transcript and photos. This information will be available for sharing in raw or aggregate form in 'SACO', the project official repository, a cloud space developed and managed by the Spanish Research Council (CSIC): https://saco.csic.es/index.php/s/2GS3qN6s4s9yHZT

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4. Making data findable

This project will result in the production of a database from all WPs activities. Data produced and/or used in the project are discoverable with metadata, identifiable and traceable through *"Re-Livestock Document Naming Protocol"* as a standard identification mechanism, available at SACO: https://saco.csic.es/index.php/s/KGnkRtZamftjXaE

All data will be expressed in commonly used units, according to standards used in scientific peer-reviewed manuscripts according to the area of expertise (i.e. nutrition, breeding, greenhouse gases emissions, etc.…), and according to generally used terms and vocabularies. Explanation of the terms used will be added in the Glossary of the database datasheets. Also during the project life, partners will use similar terms and units when comparing and exchanging results, after having reached mutual agreement on this thanks to the glossary and datasheet template. It is expected that the results generated are highly interoperable and can easily be exchanged and used across researchers, institutions and countries.

In Re-Livestock, file names follow a standard naming convention that on the one hand provides information about the content of the file and, on the other hand, enables a chronological order and the creation of versions: Re-Livestock_[Type]_YYYY-MM-DD_[Version]v[y.y].

[Type] refers to:
- a milestone, written as MSx, where x is the number as indicated in description of action
- a deliverable, written as Dx, where x is the number as indicated in description of action
- other data or text, described with an informative name, e.g. 'workshop-Madrid' or 'PGtool-CaseStudy1'

[Version] indicates the version of the document e.g. v1, v2, final. No more than 10 versions of a file should be kept. Version numbering in file names can be through discrete or continuous numbering depending on minor or major revisions. For example:

Changes to file	Version numbering
-Original document	1.0
-Minor revisions made	1.1
-Further minor revisions	1.2
-Substantive changes	2.0

How data files are named, organised and version-controlled will be documented in a README text file, stored in the root folder of the project.

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5. Making data openly accessible

Data and associated metadata, documentation and code will be openly available and accessible by deposition in the CSIC SACO share point, in different formats as described in the Appendix.

The data will be curated and preserved by storing them together at the CSIC SACO share point.

The databases will have a common data structure and common units that will be used across deliverables generated in this project. After expiring date of the project, the data remain available under the Re-Livestock group, next to storage of data by each individual partner that contributed to the deliverables of this project. Data will be accessible through common data handling software such as Acrobat or Microsoft software packages as Excell or Access. As this software is very common in use the data are in principle easily accessible by other parties.

6. Making data interoperable

Data produced in the project will be interoperable, to allow data exchange and re-use between researchers.
Quality will be assured through routine monitoring by the WP leader and each task leader researcher, and periodic cross-checks.
Standard vocabulary, defined by WP leaders, will be used for all data types present in out data set, to allow inter-disciplinary interoperability. In case of uncommon or specific ontologies or vocabularies use, we will provide mappings to more commonly used ontologies.

a. Increase data re-use

Access to databases and associated software tools generated under the project will be available for educational, research and non-profit purposes. Such access will be provided using web-based applications, as appropriate.

Data will be stored based on the agreeable terms among partners, until which it can be re-usable (all research related data will be stored – as long as required according to national regulations – after the end of the research project). Because of the combined natural and social science nature of the data there is no time limit for its re-usability.

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In case of sharing data or restricting certain data with third parties outside of the consortium, a data sharing agreement will be set up following legal requirements of the leading organisation. Data will be used in standard forms allowing reuse, as well as allowing searchability. Data quality assurance processes will be undertaken, including applied standards and methodologies as documented in DCC guidance.

b. Allocation of resources

The management of the DMP is the responsibility of WP9 (Coordinator) together with the project manager. The collection of the metadata and any dataset is conducted by the respective lead partners. It is the responsibility of the work package leaders to coordinate the specific data collection in accordance with this data management plan. Financing for data storage and making data available after the life of the project is covered by the project's indirect cost for each partner.

The DMP applies to all research of all consortium partners and individually each researcher or research team employed or subcontracted will be responsible for managing their data adequately (i.e., according to best practice). Where Re-Livestock researchers plan to publish with co-authors outside the project, they will make them aware of the Re-Livestock DMP requirements and data collection procedures and make sure that primary research data are stored to the same standard as required for Horizon Europe projects. Responsibility for this will be with the first author. The project coordinator, project manager and the executive board will take overall responsibility for data management within the project.

7. Data security

The project coordinator will make sure that each partner is responsible for the data generated according to the DMP, and to update and share this during the course of the project where needed. Each partner contributing is responsible for his own data.

The final results will be published on the web-site allocated to ensure availability of these data after the project expires. Although the data are in principle available, they will be shielded from direct use through the web manager of the Re-Livestock web site, in order to prevent unwanted use, manipulation or even the introduction of erroneous data or results of calculation. At all times, after the project expires, the Re-Livestock can be contacted about use of the data.

People requesting the use of data generated by the project need to identify themselves to the Project coordinator, who will evaluate the intended use of the data and the purposes of the data and discuss the request with the members of the EB.

Data will be maintained in the CSIC SACO share point provided by CSIC for a minimum of three and a maximum of eight years after the conclusion of the project.

a. Backup and security

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Here we describe what provisions are in place for data security within the project. Data security is guaranteed by storing data in SACO. using individual partners storage and following respective central routines for back-up.

The security measures that will be implemented to prevent unauthorised access to personal data or the equipment used for processing are as follows: The research data collected will only be linked to personal data by a code, which will be kept securely in a separate location from the research data and only accessible to the lead researcher. After 7 years the code/link will be destroyed. All data will be collected on laptops or handheld devices and then uploaded to central storage as outlined above and removed from the portable devices. For activities where audio or video recordings are taken, the data will be transcribed and then the recording medium erased or destroyed.

Data collected in the project will be initially stored on secure, password-protected servers at the lead researcher premises. All data will be stored in an anonymous and unidentifiable format so that entries cannot be linked to the personal identity of the participants. Hence, the participants' actual identities will be known only to the researchers who will protect the viewpoints, actions and personal characteristics in all communication resulting from the project (reports, books, articles, and presentations) through anonymisation or pseudonymisation.

Original data and paper records will be kept in lockable cabinets or offices with controlled access, when not under the direct supervision of a member of the research team. Access to electronic data and records are controlled by passwords and, where appropriate, access to individual files folder or databases will also be password protected. Passwords will be known only to authorised individuals. Access controls will regularly be reviewed and updated as individuals join, leave or change roles within the project. Computers and software will not be left logged in and unattended.

b. Ethical Aspects

The project is quite complex with 37 partners, including partners from non-EU countries (UK, Switzerland and Australia). An external independent Ethical Board has been appointed (Deliverable 36) to guide the project partners with the needed preparation and follow-up of the different ethics issues of the project, especially with regards to:

1) Non-EU country data transfer

2) Protection of personal data

3) Artificial Intelligence: algorithmic tools will be developed that can be considered an AI system.

4) Animal welfare

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This external Ethical Board is made up by 3 international experts as described in Deliverable 36. A report prepared by the external independent Ethics Board will be submitted as a deliverable at the end of the 1st, 2nd, 3rd and 4rd reporting periods, (deliverables 41, 42, 43 y 44).

The external independent Ethical Board will be consulted (and report on) at least on the following points: non-EU country data transfer, protection of personal data, artificial intelligence and animal welfare.

A letter explaining the purpose, approach and dissemination strategy (including plans to share data) of the research, and an accompanying consent form (including to share data) will be prepared and translated into the relevant languages. A clear verbal explanation will also be provided to each interviewee and participating group.

Commitments to ensure confidentiality will be maintained by ensuring recordings are not shared, that transcripts are anonymised and details that can be used to identify participants are removed from transcripts or concealed in write-ups.

As the highly focused nature of the research means that many participants may be easily identifiable despite efforts to ensure anonymity or confidentiality, where there is such a risk, participants will be shown sections of transcript and/or report text to ensure they are satisfied that no unnecessary risks are being taken with their interview data.

Interviews with policymakers will not guarantee confidentiality unless this is requested, as interviewees will be expected to speak in their official capacities or institutional roles.

However, as is often the case, interviewees may be more comfortable if some sections of their interview are not recorded or made public. In such circumstances, recording will be paused, or sections of text will be expunged from shared transcripts, and an indication made that this is the case.

c. Copyright/Intellectual Property Right

The institutional partners will jointly own the data generated. Online and archival sources will be cited and clearly acknowledged in the database and research outputs. Permission will be sought from secondary sources to share the findings of the research on public websites.

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d. References

Guidelines on Data Management in Horizon 2020, Version 1.0, European Commission, 11. December2013, http://ec.europa.eu/research/participants/data/ref/h2020/grants_manual/hi/oa_pilot/h2020-hioa-data-mgt_en.pdf

Guidelines on Open Access to Scientific Publications and Research Data in Horizon 2020, Version 1.0, European Commission, 11. December 2013, http://ec.europa.eu/research/participants/data/ref/h2020/grants_manual/hi/oa_pilot/h2020-hioa-pilot-guide_en.pdf

Inspire European Guidelines: https://inspire.ec.europa.eu/inspire-directive/2

Wilkinson et al., 2016. The FAIR Guiding Principles for scientific data management and stewardship. Scientific data, 3(1), 1-9.

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e. Annex I: Table A1 Summary of data per work package

	Task	Activity	Type of data	Subject	Newly generated/ already existing data	Data format (Excel, Word, text file)	Nature of data (numerical, oral, visual)	Data type (observational, experimental, simulated/modelled, derived from databases)	Data volume (if known 1 - 500 MB = small, 501 MB - 5 GB = medium, over 5 GB = large)	Methodology of data collection	Personal/ sensitive data? Yes/No	Will data be published? Yes/No	Metadata file done? Yes/No
WP1	1.1	Establish database of stakeholders and focus groups	Contact details of stakeholders forums members and their feedback	Humans	New	Word file, excel files	Text, Numerical	Database	<1MB	Online form	Y	N	N
	1.2	Data collection from case studies	Farm management practice data	Technical data	New	Excel files, Word files, jpg, videos	Numerical, text, visual	Database	<1GB	Excel sheets (offline)	Y	N	N
	1.3	Reflexive Learning for Innovation Networks members	Personal details of members and their feedback	Animals, humans, technical data	New	Excel files, Word files	Numerical, text	Database, Experimental	<1GB	Excel sheets (offline)	N	N	N
	1.4	European multi-actor platform	Personal details of members and their feedback	Humans and technical data	New	Excel, word files	Numerical, text	Survey, questionnaires and discussion groups	<1MB	Online form and Excel sheets (offline)	N	Y	N

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WP2	2.1	Low C footprint feed materials – animal response	List of feed materials to reduce C footprint, nutritional composition and animal response from feeding trials	Technical and experimental data	Existing and new	Excel files, word files	Numerical, text	Observational, experimental and derived from databases	<10MB	Word documents and Excel sheets (offline)	N	Y	Y
	2.2	Grass, crop and soil characterization	Feed and soil evaluation and animal responses in grazing trials	Technical and experimental data, animals	Existing and new	Excel files, word files	Numerical, text	Observational, experimental	<10MB	Word documents and Excel sheets (offline)	N	Y	Y
	2.3	Rumen methane inhibition with supplements	Testing Feed supplements: In vitro and in vivo data on rumen fermentation and methane production	Technical and experimental data	New	Excel flies, word files	Numerical	Literature data and experimental	<10MB	Word documents and Excel sheets (offline)	N	Y	Y
	2.1 & 2.3	Rumen microbial characterization	Rumen microbial DNA sequencing	Microbial, Experimental data	New	Excel files, Gene sequencing files – fastq-	Numerical and text	Experimental	TB	Gene sequencing files – fastq-	N	Y	Y
	2.4.	Dietary treatments to alleviate heat stress	Testing feeding strategies to alleviate heat stress in animals	Animals, Experimental data	New	Excel files, word files	Numerical and text	Experimental	<10MB	Word documents and Excel sheets (offline)	N	Y	Y
WP3	3.1 & 3.2	Animals genotypes	Pedigree and genotyping	Animals, Experimental data	Already existing	Excel files and flat files (.txt)	Numerical, text	Database	>1GB	Excel sheets (offline)	N	N	Y
	3.1	Animals methane phenotypes	Data from individual animals methane emissions	Humans, animals	Already existing and newly generated	Excel files, Word files	Numerical, text	Database	<1GB	Word documents and Excel sheets (offline)	N	N	Y
	3.1	Rumen microbial DNA sequencing	Nanopore long reads from the rumen metagenome	Microbial, technical data	Already existing	Excel files, Gene sequencing files – fastq-	Numerical, text	Database	>1TB	Word documents and Excel sheets (offline)	N	N	Y

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	3.2	Novel animal phenotypes	Metabolomics profiles from biofluids	Animal and Technical data	Already existing and newly generated	Excel files, flat files (.txt), Word files	Numerical, text	Database	<1GB	Word documents and Excel sheets (offline)	N	Y	Y
	3.2	Novel animal phenotypes	Haematological profiles	Animal and Technical data	Already existing and newly generated	Excel files, flat files (.txt), Word files	Numerical, text	Database	<1GB	Word documents and Excel sheets (offline)	N	Y	Y
	3.2	Novel animal phenotypes	Transcriptomic data	Animal and Technical data	Already existing and newly generated	flat files (.txt), bam files	Numerical, text	Database	<200GB	Gene sequencing files – fastq-	N	Y	Y
WP4	4.1, 4.2, 4.3 and 4.5	Farm level practices and animal responses	Behavioral animal data	Animals	New	Excel files, Word files, videos, images	Numerical, text, others	Experimental	>1GB	Word documents, Excel sheets (offline)	N	Y	Y
	4.4	Grazing studies and C sequestration	Satellite images analyses of grazing areas. Animal response.	Animal and Technical data	New	Word, files, published literature, text files, excel files, other	Text, numerical, images	Database	>1GB	Word documents Excel sheets (offline)	N	Y	N
WP5	5.1	Literature review; consultation	Assessment methods for improving LCA	Human and technical data	Existing and New	Word, files, published literature, text files, excel files	Text	Database	<30 MB	Word documents and Excel sheets (offline)	N	Y	N
	5.2	Modelling of environmental and economic impact resulting from farm practices	Environmental impact resulting from case studies and farm practices	Modelling data	New	Excel files, Word files	Numerical, text	Database	<1GB	Word documents and Excel sheets (offline)	N	Y	N

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	5.4	Animal welfare assessments	Climate change factors affecting animal welfare	Modelling and technical data	New	Excel files, Word files	Numerical, text	Database	<1GB	Word documents and Excel sheets (offline)	N	Y	N
	5.4	Decision support tools	Outputs from applying decision support tools at farm level	Technical and modelling data	New	Excel files, Word files	Numerical, text	Database	<1GB	Word documents and Excel sheets (offline)	N	Y	Y
WP6	6.1	Link LPjmL with CiFoS	Spatial datasets with crop yields under different climatic scenarios, CiFoS outputs with biophysical indicators	Modelling data: spatial and biophysical	Existing and New	Text files	Numerical, text	Database	>1 GB	Databases, Modelling	N	Y	N
	6.2	Add mitigation and adaptation practices to the CiFoS-LPJmL integration	New modelling parameters from tasks 2.1-2.4, 3.1, and relevant tasks from WP 4. CiFoS outputs with biophysical indicators	Technical and modelling data: spatial and biophysical	Existing and New	Text files	Numerical, text	Database	>1 GB	Databases, Modelling	N	Y	N
	6.3	Link CiFoS outcomes of task 2 with livestock spatial allocation model	CiFoS outputs with biophysical indicators and LSAM outputs with spatial indicators	Modelling data: spatial and biophysical	Existing and New	Text files	Numerical, text	Database	> 1 GB	Databases, Modelling	N	Y	N
	6.4	Explore consequenc es of EU circular food systems in the rest of the world	CiFoS outputs of task 2 and Spatial datasets with crop yields under different climatic scenarios	Modelling data: spatial and biophysical	Existing and New	Text files, Spatial files	Numerical, text	Database	> 1 GB	Databases, Modelling	N	Y	N

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WP7	7.1, 7.2, 7.4	Assessment of current and future livestock systems	Modelling of impacts of future scenarios, Environmental impact of future scenarios	Technical and modelling data	New	Excel files, Word files	Numerical, text	Database	<1GB	Word documents and Excel sheets (offline)	N	Y	N
	7.3	Potential adoption of tested technologies and practices	Farmers and other actors willingness to accept and implement innovations	Humans	New	Excel files, Word files	Numerical, text	Experimental	<1GB	Word documents and Excel sheets (offline)	Y	Y	N
	7.3	Identification of "levers" for change	List of levers / characteristics for future value chains	Humans	New	Word	Text	Database	<10 MB	Word documents (offline)	N	Y	N
WP8	8.1	Development of knowledge exchange strategy for the project	Using data/material generated by project activities to communicate to stakeholders using human data (Name, email, country, company, occupation) when consented	Project data and humans		Word/Excel	Text	Database	<10MB	Online forms Direct contacts (email) Word documents (offline)	N	Y	N
	8.2	Project website	Using data/material generated by project activities and consent to use personal data in line with GDPR (Name, email, country, company, occupation)	Project data and humans	New	Word	Text	Database	<10MB	Word documents (offline)	Y	N	N
	8.2	Project newsletter	Using data/material generated by project activities and consent to use personal data in line with GDPR (Name, email, country, company, occupation)	Project data and humans	New	Word	Text	Database	<10MB	Word documents (offline)	Y	N	N

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	8.2	Knowledge products: policy toolkit	Using data/material generated by project activities. Policy toolkit embedded on project website which uses personal data when consented in line with GDPR (Name, email, country, company, occupation)	Project data and humans	New	Word/Excel	Text	Database	<10MB	Online forms Direct contacts (email) Word documents (offline)	Y	N	N
	8.2	Knowledge products: Open access repository, practice abstracts, motion design journeys, videos	Using data/material generated by project activities. Products embedded on project website which uses personal data when consented in line with GDPR (Name, email, country, company, occupation)	Project data and humans	New	Word/Excel	Text	Database	<10MB	Online forms Direct contacts (email) Word documents (offline)	Y	N	N
	Task	**Activity**	**Type of data**	**Subject**	**Newly generated/ already existing data**	**Data format (Excel, Word, text file)**	**Nature of data (numerical, oral, visual)**	**Data type (observational, experimental, simulated/modelled, derived from databases)**	**Data volume (if known 1 - 500 MB = small, 501 MB - 5 GB = medium, over 5 GB = large)**	**Methodology of data collection**	**Personal/ sensitive data? Yes/No**	**Will data be published? Yes/No**	**Metadata file done? Yes/No**
	8.4	2 large conferences / share fairs	Using data/material generated by project activities in registration (name/organisation/occupation)	Humans	New	Word	Text	Database	<10MB	Word documents (offline)	Y	N	N
	8.5	Early career programme	Personal details of participants and individual progress reports	Humans	New	Word	Text	Database	<10MB	Word documents (offline)	Y	N	N

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WP9	9.1	Control of project progress and quality of deliverables	All data used and generated by project activities and contact details for Innovation Management Group	Project data, human data	New	Word file	Text	Database	<5 MB	Word documents (offline)	Y	N	N
	9.2	Management of administrative data	All data used and generated by project activities	Project data incl. financial data	New	Word and Excel files	Text, numerical	Database	<5 MB	Word documents (offline)	Y	N	N
	9.3	Management of project data and Data Management Plan	All data used and generated by project activities	Project data	New	Word and Excel files	Text, numerical	Database	<30GB	Word documents (offline)	Y	N	N
	9.4	Organisation of six consortium meetings	Details of all project participants, minutes and data arising from meetings	Humans	New	Word files	Text, oral, visual	Database	<1 GB	Word documents (offline)	Y	N	N
WP10		Management of procedures and criteria for meeting human ethics requirements	Procedures and criteria that will be used to identify/recruit research participant, templates of the informed consent forms and information sheets	Humans	New	Word files	Text	Database	<1MB	Word documents (offline)	N	N	N
		Data protection	Description of restrictions on data use / access	Humans	New	Word files	Text	Database	<1MB	Word documents (offline)	N	N	N
		Ethics requirements: animals	Details of animal experiments' adherence to the Three Rs principles	Animals	New	Word files	Text	Database	<1MB	Word documents (offline)	N	N	N

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Re-Livestock

RESILIENT FARMING SYSTEMS

D 9 .1

Data Management Plan

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