HARMONITOR

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REPORT

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DOCUMENT HISTORY

Version	Description
0.1	First Internal draft
0.2	Second Internal draft
0.3	First Review draft
0.4	Final draft reviewed by all partners
1.0	Final Initial DMP
1.1	Converted to Living Document
1.2	M18 update cycle
1.9	Draft Final DMP
2.0	Final DMP

CONTENTS

INTRODUCTION

The HARMONITOR consortium acknowledges that effective data management practices are crucial for the success and impact of the project. The HARMONITOR Data Management Plan (DMP) focuses on managing the research data generated by the project. It seeks to provide consortium partners with a unified strategy to implement the Horizon Europe data-sharing principle of “as open as possible, as closed as necessary,” while allowing for justified deviations where appropriate.

The Data Management Plan (DMP) aims to ensure that research data is findable, accessible, interoperable, and reusable (FAIR). It provides a comprehensive overview of all datasets collected and generated by the project and outlines the consortium’s data management policy pertaining to these datasets.

The DMP details the procedures for handling research data both during and after the project's completion. This includes making research data openly available whenever possible while ensuring it adheres to FAIR principles. The objective is to maximize the benefits of the work performed under HARMONITOR for the research community and society as a whole, not only through its deliverables but also through the underlying datasets produced throughout the project's duration.

This document

The Data Management Plan was a living document. The Initial DMP was forward-looking; it outlined the planned expectations for the consortium's researchers regarding data management. Updates to the "living version" of the HARMONITOR DMP were made as necessary, with a key feature being the ongoing identification and tracking of all HARMONITOR data sets. The current version is the Final HARMONITOR DMP (Deliverable 7.3), which includes guidance provided, describes the work undertaken, and contains the final version of all data set metadata information tables.

The Initial Data Management Plan (DMP) was presented as a separate deliverable, D7.2, prepared using DMPonline. It adheres to the DMP template provided by the Commission for Horizon projects. The Initial DMP was downloaded from DMPonline and converted into an MS Word version, which was maintained as a living document on the project’s internal MS Teams site. The headings and numbering of the sections in this DMP are consistent with those in the Commission's template, and each section starts with a textbox containing the instructions from the official template, to guarantee full compliance and comparability with the DMPs of other HORIZON DMPs. The living document was revised and updated as necessary, with a comprehensive revision at the end of the first reporting period (M18). The current deliverable, D7.3, is based on the living document, transforming it into a final version that reviews the entire HARMONITOR project and serves as a record of the procedures and datasets utilized by our project. This ensures the continued availability of all HARMONITOR public datasets beyond the project's lifetime.

1 DATA SUMMARY

Provide a summary of the data addressing the following issues:

- State the purpose of the data collection/generation
- Explain the relation to the objectives of the project
- Specify the types and formats of data generated/collected
- Specify if existing data is being re-used (if any)
- Specify the origin of the data
- State the expected size of the data (if known)
- Outline the data utility: to whom will it be useful

The data usage foreseen in the HARMONITOR project combined original data generated during the project with building on existing data from earlier work by partners and relevant published data. Types of data foreseen to be gathered included:

- Background information of existing European and International Certification Schemes and Labels (CSLs)
- Qualitative data from open public consultation on existing CSL issues
- Qualitative data from interviews and meetings with CSL stakeholders
- Trade flow data of bio-based materials from Eurostat, UN Comtrade, Comext, STIX, or FAOSTAT
- Bio-based material product certification information and volumes
- Inventory of key aspects of CSLs
- Application of BIOBASEDCERT Monitoring Tool (BMT) and indicators on CSLs
- Direct and Indirect costs of certification
- Cost Benefit Analysis Database

For all foreseen types of data, the key tasks/WPs, key partners, data file types, and file sizes for the whole HARMONITOR project are summarised in Table 1 below.

Table 1 Types of data used in HARMONITOR

Table 1: Types of data used in HARMONITOR	Partners	WP/tasks	Data file type	Data file size
Background information of existing European and International CSLs: Certification practices and procedures, Trademarks, and marketing of the CSL, Material tracking practices, Environmental, social, and economic impacts, Governance systems	All	WP2, T4.1, T5.1	Text documents, spreadsheets	< 100MB
Qualitative data from open public consultation on existing CSL issues	UU,RINA-C, others	WP2	Text documents, spreadsheets	< 100MB
Qualitative data from interviews and meetings with CSL stakeholders: Experts, Producers, Consumers, Policy makers	UU, RINA-C, others	T2.2	Text documents, spreadsheets	< 100MB
HARMONITOR platform	All	WP2, WP4, WP5	Text documents, spreadsheets	< 100MB
• Project methodology hub		T2.3	Text documents, spreadsheets	< 100MB
• Inventory of key aspects of CSLs		T2.1, T4.1-4.3, T5.2	Text documents, spreadsheets	< 100MB
• Comparative analyses of selected CSL		T4.2	Text documents, spreadsheets	< 100MB
• Project methodology hub		T2.3	Text documents, spreadsheets	< 100MB
• Application of HARMONITOR system and indicators on CSLs		T2.4, T5.2	Text documents, spreadsheets	< 100MB
• Development of Monitoring System		T5.1, T5.3	Text documents, spreadsheets	< 100MB
Trade flow data of bio-based materials from Eurostat, Comext, UN Comtrade, STIX, or FAOSTAT	BTG, UU, RINA-C	T3.1-3.4, T4.2, T5.2	Text documents, spreadsheets, FlowmapBlue online data visualization tool	< 100MB
Bio-based material product certification information and volumes		T3.3-3.4	Text documents, spreadsheets	< 100MB
Economic feasibility of certification, more specifically:		T4.2, WP6	Text documents, spreadsheets	< 100MB
• Direct costs of certification	Preferred by Nature, others	T4.2, T6.1	Text documents, spreadsheets	< 100MB
• Indirect costs of meeting sustainability criteria	SRU, others	T4.2, T6.2	Text documents, spreadsheets	< 100MB
• Externalities	SRU, others	T6.3	Text documents, spreadsheets	< 100MB

• Cost Benefit Analysis	SRU, others	T6.4	Text documents, spreadsheets	< 100MB
Communication, dissemination, outreach	All	WP7	Various document formats, audiovisual files	< 100MB
• Data Management Plan	SQ, others	T7.1	Text documents, spreadsheets	< 100MB
• Certification	Agrovet	T7.2	Text documents, spreadsheets	< 100MB

Re-use of existing data

The HARMONITOR project generated original data (see the table above) and build on existing knowledge and data. A significant part of this data is available in the public domain, in which case data sources will be clearly referenced. Some existing data is confidential, was generated internally by partners or previous projects, or usage is limited due by licences. The following list contains the identified instances of existing data re-used in the project.

- SQ: HARMONITOR builds on work from Star-ProBio project, a Horizon 2020 funded project that SQ participated in. SQ does not foresee any other reuse of existing data. Acquiring data or a licence is not foreseen
- DBFZ: We used the inventory of the certification schemes and their criteria and indicators from the STAR-ProBio project, a Horizon funded project that DBFZ (and SQ and Agrovet) were a partner in. Acquiring data or a licence is not foreseen.
- BTG built on previous work in this project, earlier work has been published and will be duly cited. Key sources include the BTG-led JRC study "Insight into the European Market for bio-based chemicals", (which contains a longlist of bio-based products) and on the JRC technical report "Bio-based value chains for chemicals, plastics and pharmaceuticals" which describes details of some interesting bio-based value chains.
- UU: UU built on previous work in this project, this earlier work which has been published and will be duly cited. Acquiring data or a licence is not foreseen. Trade flow data is important for WP3 but relied on open and free data access.
- RINA-C did not reuse or acquire existing data for the HARMONITOR project
- RINA-S built on previous experience with other research project it has taken part and did not acquire or licence further existing data. Existing data used is publicly available and/or requiring registration but free of charge) apart the latest version of specific ISO/EN Standards.
- Preferred by Nature: used existing work from model benchmarking of some schemes against the Preferred by Nature Sustainability framework, and other associated and supply chain traceability and legality work.
- AGROVET: HARMONITOR built on work from the STAR-ProBio project, an earlier Horizon 2020 funded project. AGROVET work also relied on the latest version of specific ISO/EN Standards.
- GRAS: did not reuse or acquire existing data for the HARMONITOR project
- SRU: SRU will not re-use existing work. SRU did not acquire data, all used existing data is publicly available and/or requiring registration but free of charge.

Identification and description of data sets

The original data generated by the HARMONITOR project is summarised in Table 1 above, as the project progressed, individual data sets were identified, their metadata recorded (see Annex I), and assessed whether they can be published, during the project or after an embargo period.

Defining individual data sets

Deciding where one dataset ends and another begins may be subjective and depends on the nature of the research. Generally, a new dataset begins when the data being collected is of a different type or is collected in a different way. It is important to document how project data and other research materials are organized and refer and update this documentation often. At the project level, this is achieved by periodically reviewing this DMP. Ultimately, the decision on where one dataset ends and another one begins should align with the research context and objectives, promoting clarity, reproducibility, and effective data sharing. The most relevant guidelines on how HARMONITOR colleagues can organize their data into datasets and make decisions on delineating one dataset from another are as follows:

1. WP/task Research Question and Objectives:
    - Define the research question and objectives of the WP or task. Each dataset should be associated with a specific aspect of the research question or a particular objective.
2. **Data Types:**
    - Categorize data based on types (e.g., survey responses, literature data, original data). Each data type is considered a separate dataset.
3. **Data Quality or Resolution:**
    - If data quality or resolution varies across different aspects of the research, consider creating datasets that reflect these variations. This is particularly relevant in cases where certain data may be of higher quality or resolution than others.
4. **Sources or Methodology:**
    - If different instruments or methodologies are used to collect data, consider organizing datasets based on these differences. This helps maintain clarity regarding the source and collection method of the data.
5. **Data Format:**
    - If data is stored in different formats (e.g., text, documents, numerical data), consider organizing datasets based on these formats.
6. **User Accessibility:**
    - Consider the needs of potential users who might access the data. Organize datasets in a way that makes it intuitive and user-friendly for others to understand and utilize.
7. **Documentation:**
    - Provide detailed documentation for each dataset. Clearly describe the content, context, and any specific considerations associated with each dataset to facilitate understanding and reuse.
8. **Versioning:**

- Implement version control, especially if data undergoes changes over time. Clearly mark different versions of datasets to ensure reproducibility and transparency.

List of HARMONITOR datasets

A table was created to identify each dataset, completed by the leading partner of each dataset, and revised throughout the project as necessary. Table 2 below displays the identified datasets.

Table 2 List of HARMONITOR datasets

Identifier	WP/task(s)	Dataset name
BTG dataset 1	T3.2-3.4	Comext and Comtrade data used in online trade flow tool
BTG dataset 2	T3.2-3.4	Comext and UN Comtrade trade data used in Pivot table
BTG dataset 3	T6.2, 6.4	Data collected from interviews on cost and benefits of wood and cotton sustainability certification
DBFZ dataset	WP2	HARMONITOR D2.1 dataset
UU dataset 1	WP2	Open public consultation, survey, and interview responses
UU dataset 2	T5.2	Results from the monitoring tool testing
RINA dataset 1	T4.1	Inventory collection of CSLs (WP4)
RINA dataset 2	WP4	Develop and apply a monitoring system for all CSLs reviewed (WP5)
PbN dataset 1	WP4	Inventory of key aspects of CSLs
PbN dataset 2	WP4	Comparative analysis of selected CSLs
PbN dataset 3	WP4	Comparative analyses of selected CSL with incorporated feedback from CSLs
SRU dataset 1	WP6	(in)direct costs and benefits certification
SRU dataset 2	WP6	Modelling environmental impacts of the EU bioeconomy
SRU dataset 3	WP6	Text analysis policy initiatives
SRU dataset 4	WP6	6.2 deliverable dataset case studies

Information template per dataset

In order to capture all relevant information per dataset in a structured way, a template for a metadata information table per dataset was developed, to be filled in for each HARMONITOR dataset, and periodically reviewed by the dataset's primary contact person and the project's data manager. The template is shown below in Table 3. The filled tables were maintained on the project's Teams site, in the Data management folder of the WP7 channel, and the final versions have been included is Annex I in this report.

Table 3 Template information table per data set

Category	Topic	Per data set
Data description	Data set #	
	Dataset name	
	Description	

	Comments	
	Status	
	Collected or created?	
	Primary contact person for data set	
	Task(s) and partner(s) creating the data set	
	Task(s) and partner(s) using the data set	
File description	Data set file name(s), inc version	
	Explanation of data set file and version naming convention	
	Dataset version history	
	Dataset file format and file size	
Data security	Current data set storage location (DOI if available)	
	Repository after the project, inc duration	
	Data set security summary (reference to any data management procedures, quality assurance, data recovery, secure transfer, long term storage)	
Data usability	To whom outside the project could (part of) the data set be useful?	
	Keywords	
	Metadata	
	Dataset can be made public? (fully, partially, no, under discussion)	
	Justification	
	Repository(-ies) and link(s) to published data set, License	

The following list summarizes the guidance provided for filling the dataset metadata information template shown in Table 3:

- Data description
    - Data set #: Lead partner code and running index number
    - Dataset name: descriptive name for the data set
    - Description: Provide a short description of the data set. Including it's purpose and main data sources/methods
        - Comments: Optional field for any additional information or messages between the data manager and researchers
    - Status
    - Collected or created?: Collected: data gathered from existing sources or calculated from these. Created: data gathered from own work

- Primary contact person for data set
- Task(s) and partner(s) creating the data set
- Task(s) and partner(s) using the data set

- File description
  - Data set file name(s), inc. version
  - File and version naming convention: Explanation of data set file and version naming convention: See DMP section 2.1 on file naming and versioning
    - Optional: Dataset version history
  - Dataset file format and file size: Formats (.xls /.pdf /.docx, for any others include the name of the software package needed)

- Data security
  - Data set storage location, repository
    - Current data set storage location (DOI if available): E.g. project's MS Teams, partner's file storage system, Zenodo data repository. Include the back-up frequency
    - Repository or other location where persons with the appropriate access can find the data set, and duration of preservation (in years)
  - Data set security summary (reference to any data management procedures, quality assurance, data recovery, secure transfer, long term storage): Brief description of data security. In most cases it is best to refer to the lead partner's section of the DMP's chapter 4. In this row include any considerations that are unique to the data set or not mentioned in DMP chapter 6.

- Data usability
  - To whom outside the project could (part of) the data set be useful?: Cover data usefulness, now and in the future
  - Keywords: Provide keywords for the data set, to optimize findability and possibilities for re-use (see section 2.1 of DMP)
  - Metadata: What metadata will be created in such a way that the data set can be harvested and indexed? See DMP section 2.1
  - Dataset can be made public? (fully, partially, no, under discussion): In HORIZON EUROPE, data must be made public unless there is a clear reason not to-
  - Justification, publication: If not fully public, justification why not.

- Repository(-ies) and link(s) to published data set, Licence: If public, include Repository(-ies) and link(s) to published data set. See DMP section 2.1 on repositories and licencing (Default: Zenodo repository, Creative Commons Share Alike and Attribution licence)

2 FAIR DATA

2.1 Making data findable, including provisions for metadata:

- Outline the discoverability of data (metadata provision)
- Outline the identifiability of data and refer to standard identification mechanism. Do you make use of persistent and unique identifiers such as Digital Object Identifiers?
- Outline naming conventions used
- Outline the approach towards search keyword
- Outline the approach for clear versioning
- Specify standards for metadata creation (if any). If there are no standards in your discipline describe what metadata will be created and how

Data discoverability

The primary focus of this section is on the HARMONITOR data sets that can be made public. The HARMONITOR policy on publishing data sets follows the HORIZON EUROPE principle of "as open as possible, as closed as needed": make fully finalized datasets publicly available, unless there is a clear reason not to.

Regarding data discoverability, HARMONITOR has a multi-pronged approach:

- All HARMONITOR publications will be added to the HARMONITOR community on Zenodo:
  https://zenodo.org/communities/HARMONITOR/

  Zenodo is the default repository for HARMONITOR, and the Community section for HARMONITOR allows Zenodo users to easily find all other HARMONITOR publications.

  - In addition, if a consortium partner typically uses a specific repository, then the HARMONITOR data sets will be deposited there as well, and per deliverable it will be checked if a topic- or sectoral repository exists (by consulting the experts involved in the data creation or http://rd-alliance.github.io/metadata-directory/), for example Utrecht University's Yoda repository. Its primary advantages include:

- Metadata using the DataCite v4 standard
  - Uses doi.org persistent identifiers

- In addition to being searchable on Yoda, data is indexed on DataCite.org
- Utrecht University has a large staff and student body that uses Yoda to find and build on colleagues' data or otherwise cooperate

- Lastly, the HARMONITOR website www.HARMONITOR.eu will list all types of project publications during and after the project.

Data identification

Metadata standards will be followed in order make files indexable, easy to find and clearly linkable to the HARMONITOR project. Several distinctions should be made, depending on the purpose of the file or data set:

- For files used internally within the Consortium, the Dublin Core standard is used to ensure all files have a required minimum metadata record, and so authors, titles, dates, descriptions, identifiers, and rights are known for each dataset.

- For all published files and data sets, the DataCite v4 standard is used as it is the metadata standard of Zenodo and Utrecht University's Yoda platform. DataCite metadata is an interoperable and established format that can be handled by many data indexing services.

- Each published HARMONITOR dataset will have a unique Digital Object Identifier (DOI) attributed to it. Unless a different platform is deemed more appropriate (such as in the case of scientific publications, which have a DOI provided by the publisher), the DOI is generated using the HARMONITOR community on the Zenodo repository.

File naming convention and versioning

In order to ensure transparency of file contents and versioning, the Readme.txt file that accompanies each data set should explain the file naming and versioning approach that was used. Each data set may have somewhat different requirements, general guidance for each element that the file name can contain:

HARMONITOR	Project name, fixed
D[x.y]	Deliverable identifier, if relevant
[Short Title]	Short descriptor for easy identification, maximum 40 characters
V[Version]	Version number in x.y format, should match a version number with a short description inside the document, such as the Document History table in the beginning of the HARMONITOR report template
[Type]	Describes the type of data (e.g. publication, inventory, etc.)

[Date]	Date in format YYYY-MM-DD
[Status]	Draft, Final, Public, Restricted, Confidential
optional	Free text field for internal communication purposes, at the end of the file name, immediately before the extension (e.g. initials of reviewer). This field should not be included in the name of published files.

Example: "HARMONITOR D7.3 Final Data Management Plan v1.9 Report Draft.docx"

For further advice on naming conventions, the "An Elevator Pitch for File Naming Conventions" article is a helpful starting point.

Approach towards keywords

For specific data sets, the responsible beneficiary indicated a set of selected keywords aiming to maximise findability. The keywords were included whenever a data set was uploaded to the HARMONITOR repository on Zenodo, as well as any other repository used. Keywords will be used to summarise main themes of a dataset, the individual CSLs that are being evaluated or considered in a dataset, countries and other geographies, methods of evaluation used, and other relevant words or phrases.

2.2 Making data openly accessible:

Specify which data will be made openly available? If some data is kept closed provide rationale for doing so

Specify how the data will be made available

Specify what methods or software tools are needed to access the data? Is documentation about the software needed to access the data included? Is it possible to include the relevant software (e.g. in open-source code)?

Specify where the data and associated metadata, documentation and code are deposited

Specify how access will be provided in case there are any restrictions

As set out in the HARMONITOR Consortium Agreement, each beneficiary has the right to publish the outputs it generates. This also means that partners have to explicitly agree to the publication of datasets to which they have contributed. The HARMONITOR project applies the open access clause in the Grant Agreement and the Horizon Europe principle of "as open as possible, as closed as needed." In practise, this meant that the default approach is to make data sets public. Not

publishing, or under embargo or other restrictions is allowed, but only if there are sufficient grounds to do so. A prime example of this type of case is commercially sensitive data, which were relevant in multiple HARMONITOR datasets. These included unpublished documents from certification scheme owners or specific trade flow data. Additionally, confidential, or sensitive data obtained from consultations or data gathered through interviews may needed to remain confidential; via the HARMONITOR form for informed consent (see Annex II), the project guarantees anonymity to respondents. For any data from an interview were to be made public via open access, each respondent would need to sign a second informed consent regarding this step.

It was the duty of the lead partner of a data set to:

- Determine if a data set can be made public
    - in its entirety or partially,
- immediately or after an embargo period
- Explain the decision dataset information table.

2.3 Making data interoperable:

- Assess the interoperability of your data. Specify what data and metadata vocabularies, standards, or methodologies you will follow to facilitate interoperability.
- Specify whether you will be using standard vocabulary for all data types present in your data set, to allow inter-disciplinary interoperability? If not, will you provide mapping to more commonly used ontologies?

It is essential that published datasets are unequivocally interpretable by third persons without any link to the project. Therefore, each dataset needed to be accompanied with a description of the methodology, sources, definitions, and scope of the data contained in it. By default, this is done by including such information in a readme.txt file, unless a more appropriate means of including such information was available.

Whenever possible, datasets were structured in such a way that it can, in full or in part, be combined with another dataset, from the project or any other data source. For some fields of research specific definitions, metadata and/or vocabulary exists to enable this (see RDA's Metadata Standards). For each dataset, the responsible beneficiary needs to determine if this exists for the relevant field(s) of research and comply with the relevant standards.

In order to ensure good interoperability of datasets, it is imperative that standards and methods commonly used in the same research field are used. Fairsharing.org is a valuable resource where researchers can identify relevant standards, as well as databases and repositories.

None of the HARMONITOR datasets were in research fields with established, dedicated metadata vocabularies, standards or methodologies, thus each dataset includes a description in the data set file package. Additionally, publishable datasets used FAIR and open data formats that provide the most functionality and most interoperability of the data.

2.4 Increase data re-use (through clarifying licenses):

- Specify how the data will be licenced to permit the widest reuse possible
- Specify when the data will be made available for re-use. If applicable, specify why and for what period a data embargo is needed
- Specify whether the data produced and/or used in the project is useable by third parties, in particular after the end of the project? If the re-use of some data is restricted, explain why
- Describe data quality assurance processes
- Specify the length of time for which the data will remain re-usable

HARMONITOR has chosen the Zenodo repository (https://zenodo.org/communities/HARMONITOR) for making non-confidential datasets publicly and permanently available.

Zenodo has a built-in mechanism to select the appropriate licence, as well as a permanent DOI that can be used to refer to any dataset. Data created by the HARMONITOR project is licensed under the Creative Commons Share Alike and Attribution license by default unless there is a specific reason to deviate from this approach.

HARMONITOR's data quality assurance processes are guided by this DMP. In summary:

- **Documentation and Metadata**: Each dataset is accompanied by detailed documentation, including a description of the methodology, sources, definitions, and scope of the data. This ensures that the data is unequivocally interpretable by third parties without any link to the project.
- **Version Control**: Implementing version control is crucial, especially if data undergoes changes over time. Different versions of datasets are clearly marked to ensure reproducibility and transparency.
- **Data Security**: Data security measures include storing data on encrypted hard drives, using secure transfer methods like Microsoft SharePoint or encrypted email, and ensuring that sensitive information in paper format is stored in locked cabinets or offices.
- **Periodic Reviews**: The Data Management Plan is periodically reviewed to document how project data and other research materials are organized. This promotes clarity, reproducibility, and effective data sharing.
- **Quality Assurance Procedures**: The data quality assurance processes involve regular backups, secure storage, and structured organization of data. Each partner in the consortium is responsible for implementing a policy to

prevent data loss due to equipment failure, theft, ransomware, natural disasters, etc.

- **Compliance with Standards**: The project follows established standards and methodologies commonly used in the relevant research fields to ensure good interoperability of datasets.

- **Ethical Considerations**: Ethical principles and applicable international, EU, and national laws are rigorously followed in the implementation of research activities. This includes obtaining informed consent from participants and ensuring the confidentiality of personal information.

Data sets published on Zenodo will remain accessible indefinitely. As of the project's conclusion, no HARMONITOR data set has been identified for which establishing an end date to its public availability is appropriate. Additionally, some datasets have been published on the HARMONITOR website or other online platforms, where they will continue to be available until the respective website owners decide to remove them.

3 ALLOCATION OF RESOURCES

Explain the allocation of resources, addressing the following issues:

- Estimate the costs for making your data FAIR. Describe how you intend to cover these costs
- Clearly identify responsibilities for data management in your project
- Describe costs and potential value of long-term preservation

Public project deliverables and datasets will be published on the Zenodo repository; therefore no additional costs are foreseen. The HARMONITOR website can host deliverables and data sets, or their links. The Teams site of the project is hosted by partner SQ. No additional financial resources for storage, cloud, hosting, IT infrastructures etc. are required specifically for research data management or publication.

Work Package 7 leader SQ Consult's Sjors van Iersel acts as Data Manager for the HARMONITOR project, in cooperation with Utrecht University Data Steward Garrett Speed. Sjors van Iersel is the primary contact point regarding data management and supported partners regarding implementation of the Data Management Plan, as well as the lead author of the data management plan and its updates. The compilation of individual data sets is an integral part of the data collection work; as such, no resources are allocated specifically to this part of the work.

Per consortium partner, at least one person has been appointed as the contact person for data management and data set coordination questions:

Number	Short name	Data contact
1	SQ	Sjors van Iersel
2	DBFZ	Stefan Maier, data curator Kai Radke
3	BTG	Martijn Vis
4	UU	Martin Junginger, data steward Garrett Speed
5	RINA-C	Andrea Leoncini
5.1	RINA-S	Stefano Lauro
6	Preferred by Nature	Ciara McCarthy
7	AGROVET	Gernot Unger
8	GRAS	Pia Rothe
9	SRU	Birka Wicke

4 DATA SECURITY

Address data recovery as well as secure storage and transfer of sensitive data

Prevention of data loss and data recovery

Regarding secure data storage, a distinction can be made between data used during the execution of the project and data published by the HARMONITOR project. Regarding the latter, published datasets were deposited into Zenodo, an open digital repository operated by CERN. In Zenodo's infrastructure, the uploaded files are stored on CERN's EOS service—a disk cluster currently encompassing around 18 petabytes—where each file is stored with two independent replicas located on separate disk servers to ensure data redundancy and higher reliability. Moreover, the metadata (including persistent identifiers and file checksums) is maintained in a PostgreSQL database hosted on CERN's Database on Demand infrastructure. This metadata is backed up incrementally every 12 hours, with one of these backups transferred to tape storage on a weekly basis for long-term preservation.

Regarding data security during the execution of the project and beyond, each partner is responsible for implementing a policy to prevent loss of results and resources from data loss due to equipment failure, digital or physical theft, ransomware, natural disasters etc. The project recommends using the project's Microsoft Teams site, which has comprehensive backup and recovery options. The project recommends a maximum time that only one copy of any research data exists is 48 hours. Within that period, the data must be backed up somewhere, even while working outside the office or while traveling. Data must be stored in a structured and traceable way, so that in case one or more people in a partner's team leave or are unreachable, other partner personnel with the right credentials can access the data. HARMONITOR does not impose any specific backup or cloud solution to its partners. In the subsections below, a short summary of each partner's approach to data storage and prevention of data loss are given:

- SQ relies on Microsoft Teams for storing files in shared folders, co-editing documents, cloud storage and recovery of accidentally deleted or overwritten files. This allows to share folders only upon invitation to specific persons. SQ also supplies and maintains the Microsoft Teams site for the HARMONITOR project.

- DBFZ uses an institutional data management plan, and an internal repository structure, which has regular automated backups. To share information with external partners and consortium members, the DBFZ is using an edms SharePoint with an account-based permission system, which restricted to only members of the consortium that need access to the data. DBFZ will also store data on the internal SharePoint storage system, which has access control for data, and automated data backup.

- BTG makes use of a SharePoint drive, which has automated backups. The project information is only accessible for BTG Consultancy staff.

- UU: Data will be stored on the institutional repository Yoda, which has automated backups following the 3-2-1 data protection rule. Yoda restricts access to data with an account-based permission system and will be restricted to only members of the consortium that need access to the data. UU will also store data on the university's SharePoint storage system, which has access control for data, and automated data backup. UU can also use a local network drive (O-drive) which is backed up daily, and only members of the department can access this drive. So far the O-drive has not been used for the project and the UU team expects rely on Yoda/SharePoint storage only. Email correspondence is also securely stored for the long term.

- RINA-C and RINA-S rely on Microsoft SharePoint for the safe management of project documentation which ensures automated data backup and prevents unauthorized access on data.

- Preferred by Nature: the internal data system uses OneDrive and MS SharePoint for file management. Communication is typically via MS Teams which additionally has the function for file share and collaboration. The back-up of project files is on a cloud-based served that is password secured and protected, requiring a double identification process to log-in.

- AGROVET: Data backup is performed by "EASY CERT GROUP". All data is stored on a redundant storage systems and backups are performed daily. A full backup is stored weekly on USB disks as an offline backup. Permissions are managed via groups in Active Directory. Each employee gets only the specifically needed permissions (read/write. Without the correct Windows/Active Directory login data, there is thus no possibility of access. Data for external people is shared via Owncloud with a password protected link.

- GRAS uses Microsoft Teams for sharing files and co-editing documents. It requires a password to access the files and allows only authorised users to access the content. A backup of the project files and information is done locally on a server which is password-secured and protected against external access.

- SRU: Radboud University data will be stored on the Radboud Data Repository of the project where data can be published, safely archived if data cannot be publicly shared, made available to collaborate inside and outside Radboud University, made findable by assigning a digital object identifier, and managed to provide access to view and/or edit data. The Radboud Data Repository complies with data management policies of Radboud University’s policy on findability, accessibility, interoperability, and reusability (FAIR) of research data. Radboud University will also store raw and processed intermediate data on the science faculty’s server, where data is regularly backed-up and access can be controlled.

Secure storage and transfer of sensitive data

The HARMONITOR project recommends the following restrictions to the storage and transfer of sensitive data. Each partner is responsible for implementing and execution safe practices for sensitive data.

- For information in digital format:
- Must be stored only on hard drives with encryption, such as BitLocker
- Transfer of sensitive data to occur only via Microsoft SharePoint, by encrypted email, or equivalently safe transfer method
- For information in paper format:
- To be stored in a locked cabinet or office, with only a restricted, known number of people have access to it;
- Once the information has been processed and the storage of raw data is no longer required, appropriate long-term storage or destruction measures need to be taken.

5 ETHICAL ASPECTS

To be covered in the context of the ethics review, ethics section of DoA and ethics deliverables. Include references and related technical aspects if not covered by the former

The HARMONITOR grant agreement foresees interactions with external people. The general policy is not to identify individual names and organisations in the research. If individuals agreed to be quoted, researchers first will verify the accuracy of quotes with the individual before they are used.

In some cases, such as interviews, consultations, meetings with experts or external advisory board, personal information and views will be recorded. In such cases, individuals needed to be asked to sign the HARMONITOR informed consent form, see Annex II for the template. The template could be adapted as needed.

The HARMONITOR project complies with the ethical principles and applicable international, EU and national law in the implementation of research activities. Compliance with ethical principles and relevant legislations of research activities not originally envisaged (or not described in detail in the project's Description of Action) will also be ensured. Any ethical concerns raised by those activities would be handled by rigorously following the recommendations provided in the European Commission Ethics Self-Assessment Guidelines.

Individual partners each have their own policies regarding ethics and data confidentiality. These are included in Section 6 below, as part of the key data management policy aspects per partner.

6 OTHER

Refer to other national/funder/sectorial/departmental procedures for data management that you are using (if any)

Data management policies and procedures

The HARMONITOR consortium is made up of a complementary, disciplinary set of partners, with varying backgrounds and organisational structures, ranging from small private companies to large research organisations. Per partner, the key aspects of their individual data management policies and procedures are listed below:

- SQ: SQ Consult has an Information security policy, a company privacy policy and an anti-bribery and anti-corruption policy. Furthermore, employment contracts contain clauses with explicit arrangements regarding cover confidentiality and integrity. In addition, SQ Consult personnel follow the GDPR.

- DBFZ: The DBFZ has introduced a data policy with guidelines on research data management: https://www.dbfz.de/fileadmin/user_upload/Download/Extern/Data-Policy_EN.pdf

- The use of a data management plan is encouraged, and a template is offered, in addition to instructions, process descriptions and e.g. a checklist regarding data protection.

- BTG follows Dutch and EU regulations on data protection, including GDPR/AVG.

- UU: Utrecht University has policies for data management, oversight, and integrity:

- A list of data policies is listed on this webpage: Policies, codes of conduct and laws - Research Data Management Support - Utrecht University (uu.nl)

- Code for Scrupulous Academic Practice and Integrity (UU)

- University Policy Framework for Research Data (UU)

- Information Security Policy (UU)

- In addition, UU researchers follow Dutch and EU regulations including:

- The GDPR and its Dutch implementation the AVG

- The Netherlands Code of Conduct for Research Integrity (VSNU, 2018)

- RINA-C and RINA-S: Information security controls are implemented within RINA's Corporate ICT services in line with the Information Security Management System whose principles, guidelines and rules are articulated according to the structure suggested by Annex A of ISO/IEC 27001. Accordingly, RINA-C has in force policies, codes, and procedure for data management, among which:

- Code of Ethics

- Organizational Privacy and Data Protection Model

- Security Policy

- Information Security Manual

- Information Security Controls Manual

- In addition, RINA-C refers also to external references, in particular to GDPR and national legislations.

- Preferred by Nature has the following policy and procedures in place for all staff members in relation to data management.

- Contracts (internal and external) referencing explicit requirements for conduct including data management.

- Staff training on system management

- Technology risk assessment procedures

- AGROVET

- A list of data policies cis listed on this webpage: ABG, agroVet - Datenschutzerklärung (bio-garantie.at)

- In our SharePoint you can find the official GDPR-Regulations and the name of the data Austrian authority regarding data protection: Startseite - Datenschutzbehörde (dsb.gv.at)

- agroVet is member of EASY-CERT group AG (ECG): ECG has a signed Intra group data transfer agreement.

- Contracts (employment contracts, contracts with clients and partners contain clauses with explicit arrangements regarding cover confidentiality and integrity.

- In addition, our personnel follow the Guidelines regarding data protection: https://intranet.easy-cert.com/qm/Shared%20Documents/2000238EN.docx Guideline regarding data protection

- There are also internal Regulations and trainings regarding data leaks in our company.

- GRAS employees are dedicated to data security and confidentiality throughout their work contracts and additional explicit contract supplements. Every employee is trained regarding the GDPR and follows its requirements.

- SRU: Radboud University has policies for data management, oversight, and integrity:

- Data policies are listed on the Radboud University Research Data website https://www.ru.nl/rdm/vm/policy-documents/ and include

- General research data management policy

- Findability, accessibility, interoperable and reusable of research data

- The Radboud Institute of Biological and Environmental Sciences also has an additional, more specific research data management policy, which guides research data management of Radboud University employees in this project. https://www.ru.nl/ribes/organisation/data-management/

- Radboud University researchers follow Dutch and EU regulations including:

- The GDPR and the Dutch GDPR Implementation Act

- The Netherlands Code of Conduct for Research Integrity (VSNU, 2018)

Annex I: HARMONITOR Final info and metadata tables for each dataset

This section presents the metadata tables for the dataset produced in the project lifetime.

Category	Topic	Meta data for BTG dataset 1
Data description	**Data set #**	BTG dataset 1
	Dataset name	Comext and Comtrade data used in online trade flow tool
	Description	An assessment of trade flows data of biological resources, bio-based materials and products, both intra-EU and extra-EU was carried out. The trade data assessed includes imports and exports of the different products from selected value chains, from, to and within the EU, for three years: 2015, 2018 and 2021. To make the data of 2021 more accessible and interactive, an online trade flow tool was used to visualize trade flows. All data origins from Comext and UN Comtrade
	Comments	
	Status	Completed (Aug 2024)
	Collected or created?	Collected
	Primary contact person for data set	Martijn Vis
	Task(s) and partner(s) creating the data set	T3.2, BTG, UU
	Task(s) and partner(s) using the data set	T3.2-3.4, BTG, UU, DBFZ
File description	**Data set file name(s), inc version**	HARMONITOR - Trade flow data of bio-based value chains
	Explanation of data set file and version naming convention	No version numbering was applied
	Dataset version history	All data used is from Comext and Comtrade, covering the year 2021
	Dataset file format and file size	Original Comext and UN Comtrade data downloaded in excel, and inserted in the online Flow map Blue tool, size unknown

Data security	**Current data set storage location**	Flow map blue
	Repository after the project, inc duration	Flow map blue (no end date)
	Data set security summary	Data is stored and prepared for publication at BTG's protected SharePoint drive. Base data is collected from Comext and Comtrade, where it is already stored in a secure way.
Data usability	**To whom could (part of) the data set be useful?**	Companies, bio-based industry, policy makers, scientists.
	Keywords	Bio-based trade data wood, biological resources, drop-in, dedicated, bio-based chemicals, fibre crops
	Metadata	Flow map Blue tool
	Dataset can be made public? (fully, partially, no, under discussion)	Fully, it is already publicly available at Comext and Comtrade
	Justification	n.a.
	Publication	Stored at flow map blue website; www.flowmap.blue; Flow map Blue can be used for non-commercial purposes.

Category	Topic	Meta data for DBFZ dataset 1
Data description	**Data set #**	DBFZ dataset 1
	Dataset name	HARMONITOR_D2.1_dataset.ods
	Description	The dataset contains the certification schemes and labels selected in the HARMONITOR project as well as some preliminary information.
	Comments	
	Status	Completed
	Collected or created?	Created
	Primary contact person for data set	The dataset contains the certification schemes and labels selected in the HARMONITOR project as well as some preliminary information.
	Task(s) and partner(s) creating the data set	T2.1, DBFZ, UU, BTG, AGR, PbN, SQ, RINA, GRS
	Task(s) and partner(s) using the data set	T3.2-3.4, BTG, UU,DBFZ
File description	**Data set file name(s), inc version**	HARMONITOR - Trade flow data of bio-based value chains
	Explanation of data set file and version naming convention	No version numbering was applied
	Dataset version history	
	Dataset file format and file size	.ods, 20.9 kB
Data security	**Current data set storage location**	https://zenodo.org/records/10731003
	Repository after the project, inc duration	Zenodo - unlimited

	Data set security summary	
Data usability	**To whom could (part of) the data set be useful?**	researchers, other WPs
	Keywords	CSLs, bioeconomy, cetification
	Metadata	README_D2.1.txt
	Dataset can be made public? (fully, partially, no, under discussion)	Fully
	Justification	
	Publication	https://zenodo.org/records/10731003

Category	Topic	Meta data for BTG dataset 2
Data description	**Data set #**	BTG dataset 2
	Dataset name	Comext and UN Comtrade trade data used in Pivot table
	Description	Using the combined data from Comext and the UN Comtrade databases, a comprehensive dataset was created for EU trade data of the selected bio-based value chains, covering 2015, 2018 and 2021. This dataset is presented in a pivot table format, offering enhanced filtering options for products, import and export data, and intra- and extra-EU trade.
	Comments	
	Status	Completed (Aug 2024)
	Collected or created?	Collected
	Primary contact person for data set	Martijn Vis
	Task(s) and partner(s) creating the data set	T3.2, BTG, UU
	Task(s) and partner(s) using the data set	T3.2-3.4, BTG, UU, DBFZ
File description	**Data set file name(s), inc version**	D3.3 PIVOT_HARMONITOR_TradeFlows_online_v3.xlsx

	Explanation of data set file and version naming convention	Internal version number 3
	Dataset version history	All data used is from Comext and Comtrade, covering the year 2015,2018 and 2021
	Dataset file format and file size	Excel pivot table, 6 MB
Data security	**Current data set storage location**	https://www.harmonitor.eu/_files/ugd/e39b13_24d0e5baa41544dab8cb36adca8e17d8.xlsx?dn=D3.3
	Repository after the project, inc duration	ZENODO (no end date), HARMONITOR website (foreseen: 5 years)
	Data set security summary	Data is stored and prepared for publication at BTG's protected SharePoint drive. Base data is collected from Comext and Comtrade, where it is already stored in a secure way.
Data usability	**To whom could (part of) the data set be useful?**	Companies, bio-based industry, policy makers, scientists.
	Keywords	Bio-based trade data wood, biological resources, drop-in, dedicated, bio-based chemicals, fibre crops

	Metadata	Pivot table
	Dataset can be made public? (fully, partially, no, under discussion)	Fully, it is already publicly available at Comext and Comtrade
	Justification	n.a.
	Publication	HARMONITOR website

Category	Topic	Meta data for BTG dataset 3
Data description	**Data set #**	BTG dataset 3
	Dataset name	Data collected from interviews on cost and benefits of wood and cotton sustainability certification
	Description	The dataset contains the certification schemes and labels selected in the HARMONITOR project as well as some preliminary information.
	Comments	
	Status	Completed
	Collected or created?	Created
	Primary contact person for data set	The dataset contains the certification schemes and labels selected in the HARMONITOR project as well as some preliminary information.
	Task(s) and partner(s) creating the data set	T2.1, DBFZ, UU, BTG, AGR, PbN, SQ, RINA, GRS
	Task(s) and partner(s) using the data set	T3.2-3.4, BTG, UU, DBFZ
File description	**Data set file name(s), inc version**	HARMONITOR - Trade flow data of bio-based value chains
	Explanation of data set file and version naming convention	No version numbering was applied
	Dataset version history	
	Dataset file format and file size	.ods, 20.9 kB
Data security	**Current data set storage location**	https://zenodo.org/records/10731003
	Repository after the project, inc duration	Zenodo - unlimited

	Data set security summary	
Data usability	**To whom could (part of) the data set be useful?**	researchers, other WPs
	Keywords	CSLs, bioeconomy, certification
	Metadata	README_D2.1.txt
	Dataset can be made public. (fully, partially, no, under discussion)	Fully
	Justification	
	Publication	https://zenodo.org/records/10731003

Category	Topic	Meta data for UU dataset 1
Data description	**Data set #**	UU dataset 1
	Dataset name	Open public consultation, survey, and interview responses
	Description	This dataset, collected in WP2's public consultation, examines factors affecting CSL robustness and effectiveness based on stakeholder input across the bio-based value chain. It includes survey responses, processed data (e.g., charts), and interview transcripts.
	Comments	
	Status	Completed in July 2023
	Collected or created?	Created
	Primary contact person for data set	Martin Junginger
	Task(s) and partner(s) creating the data set	UU, SRU
	Task(s) and partner(s) using the data set	UU, SRU
File description	**Data set file name(s), inc version**	HARMONITOR_D2.3_SurveyReport_v1.0_20230717_Final.pdf HARMONITOR_D2.3_SurveyResults__v1.0_20230717_Final.xlsx HARMONITOR_D2.3_ProcessedSurveyResults_v0.8.xlsx HARMONITOR_D2.3_InterviewTranscript_BBP1_v1.0.docx HARMONITOR_D2.3_InterviewTranscript_TD1_v1.0.docx HARMONITOR_D2.3_InterviewTranscript_CSL1_v1.0.docx HARMONITOR_D2.3_InterviewTranscript_CSC1_v1.0.docx HARMONITOR_D2.3_InterviewTranscript_CSC2_v1.0.docx HARMONITOR_D2.3_InterviewTranscript_NGO1_v1.0.docx

	Explanation of data set file and version naming convention	File names include project name, deliverable, short topic or description, version, and completed date
	Dataset version history	
	Dataset file format and file size	.xlsx, .pdf, .docx total size 1.53 MB
Data security	**Current data set storage location**	SQ and UU SharePoint
	Repository after the project, inc duration	Yoda repository, 10 years
	Data set security summary	See DMP chapter 4, section UU
Data usability	**To whom could (part of) the data set be useful?**	Researchers, scheme owners, policymakers
	Keywords	Credibility; robustness; effectiveness; public consultation
	Metadata	readme file
	Dataset can be made public? (fully, partially, no, under discussion)	Partially
	Justification	Need to remove contact details of interviewees for file HARMONITOR_D2.3_SurveyResults_v1.0_20230717.xlsx
	Publication	Not yet published

Category	Topic	Meta data for UU dataset 2
Data description	**Data set #**	UU dataset 2
	Dataset name	Results from the monitoring tool testing
	Description	This dataset was collected as part of the feasibility testing phase of a monitoring tool designed to assess the outcomes of CSLs (Task 5.2), based on the methodology developed in Task 5.1. The dataset includes Excel-based results, interview transcripts, and feedback from scheme owners, with data sourced from scheme documents, websites, and interviews.
	Comments	
	Status	To be completed in May 2025
	Collected or created?	Created
	Primary contact person for data set	Martin Junginger
	Task(s) and partner(s) creating the data set	Task 5.2 UU: RSB, Nordic Swan Ecolabel, FSC, SBP AGROVET: Bonsucro GRAS: Better Cotton PBN: ISCC RINA-C: EU Ecolabel SQ: Better Biomass
	Task(s) and partner(s) using the data set	Task 5.2 UU: RSB, Nordic Swan Ecolabel, FSC, SBP AGROVET: Bonsucro GRAS: Better Cotton PBN: ISCC RINA-C: EU Ecolabel SQ: Better Biomass

File description	**Data set file name(s), inc version**	HARMONITOR_D5.2_BetterBiomass_OutcomeLevel_2nd Testing_V1.0.xlsx HARMONITOR_D5.2_BetterCotton_OutcomeLevel_2ndT esting_V1.0.xlsx HARMONITOR_D5.2_EUEcolabel_OutcomeLevel_2ndTe sting_V1.0.xlsx HARMONITOR_D5.2_ISCC_OutcomeLevel_2ndTesting_ V1.0.xlsx HARMONITOR_D5.2_Bonscuro_OutcomeLevel_2ndTesti ng_V1.0.xlsx HARMONITOR_D5.2_SBP_OutcomeLevel_2ndTesting_V 1.0.xlsx HARMONITOR_D5.2_BetterBiomass_Interview_V1.0.doc x HARMONITOR_D5.2_BetterCotton_Interview_V1.0.docx HARMONITOR_D5.2_Bonsucro_Interview_V1.0.docx HARMONITOR_D5.2_EUEcolabel_Interview_V1.0.docx HARMONITOR_D5.2_ISCC_Interview_V1.0.docx HARMONITOR_D5.2_SBP_Interview_V1.0.docx HARMONITOR_D5.2_FSC_Interview_V1.0.docx HARMONITOR_D5.2_RSB_Interview_V1.0.docx HARMONITOR_D5.2_NordicSwan_Interview_V1.0.docx HARMONITOR_D5.2_FSC_PreliminaryResult_OutcomeL evel_v.1.1.xlsx HARMONITOR_D5.2_NordicSwan_PreliminaryResult_Out comeLevel_v.1.0.xlsx HARMONITOR_D5.2_RSB_PreliminaryResult_OutcomeL evel_v1.0.xlsx
	Explanation of data set file and version naming convention	File names include project name, deliverable, short topic or description, version, and completed date
	Dataset version history	
	Dataset file format and file size	.xlsx, .docx
Data security	**Current data set storage location**	SQ and UU SharePoint

	Repository after the project, inc duration	Yoda repository, 10 years
	Data set security summary	See DMP chapter 4, section UU
Data usability	**To whom could (part of) the data set be useful?**	Researchers, scheme owners, industries, policymakers
	Keywords	Monitoring system; outcomes; effectiveness
	Metadata	readme file
	Dataset can be made public (fully, partially, no, under discussion)	Fully
	Justification	
	Publication	Not yet published

Category	Topic	Meta data for RINA dataset 1
Data description	**Data set #**	RINA dataset 1
	Dataset name	Inventory collection of CSLs (WP4)
	Description	Literature review and criteria collection of a list of CSLs, with the aim of carrying out a comparative study.
	Comments	
	Status	Completed (February 2024)
	Collected or created?	Collected and created
	Primary contact person for data set	Matilde Festi
	Task(s) and partner(s) creating the data set	Task 4.1 - Develop inventory of key aspects of CSLs. - Subtask 4.1.1: Literature review of sustainability CSLs. (DBFZ, RINA-C) - Subtask 4.1.2: Inventory of certifiable biological resources, bio-based material and products covered by selected CSLs (DBFZ, RINA-C) - Subtask 4.1.3: Inventory of environmental, social, and economic requirements, including control points examined during audit assessments (PbN, RINA-C) Task 4.2 - Conduct comparative analysis of selected CSLs. (PbN, UU, AGR, RINA-C). - Subtask 4.2.1: Environmental, social, and economic impacts and trade-offs. (PbN, RINA-C, AGR)
	Task(s) and partner(s) using the data set	RINA-C, PbN, UU, AGR, DBFZ

File description	**Data set file name(s), inc version**	Task 4.1.1 Literature_Review.docx Task 4.1.2 CSLs Geographic application.xlsx Task 4.1 ASC-MSC Seaweed inputs for inventory review MAY 25.docx Task 4.1 Better Cotton inputs for inventory review MAY 25.docx Task 4.1 Bioplastic Feedstock Alliance (BFA) inputs for inventory review MAY 25.docx Task 4.1 Bonsucro inputs for inventory review June 20.docx Task 4.1 BREEAM inputs for inventory review MAY 25.docx Task 4.1 Cradle to Cradle Certified inputs for inventory review MAY 25.docx Task 4.1 EU Ecolabel - Paper inputs for inventory review MAY 25.docx Task 4.1 EU Ecolabel - Textiles inputs for inventory review MAY 25.docx Task 4.1 Fairtrade International inputs for inventory review MAY 25.docx Task 4.1 Fairtrade International Textile Standard inputs for inventory review MAY 25.docx Task 4.1 Forest Stewardship Council (FSC) inputs for inventory review MAY 25.docx Task 4.1 Global G.A.P. inputs for inventory review 28 JUNE.docx Task 4.1 Green Gold Label (GGL) inputs for inventory review MAY 25.docx Task 4.1 ISCC EU & ISCC PLUS inputs for inventory review JUN 12.docx Task 4.1 PEFC International inputs for inventory review MAY 25.docx Task 4.1 Rainforest Alliance inputs for inventory review JULY 6.docx Task 4.1 REDcert REDcert2 inputs for inventory review MAY 25.docx Task 4.1 Round Table on Responsible Soy Association (RTRS) inputs for inventory review MAY 25.docx Task 4.1 Roundtable on Sustainable Biomaterials (RSB) inputs for inventory review MAY 25.docx Task 4.1 Roundtable on Sustainable Palm Oil (RSPO) inputs for inventory review MAY 25.docx Task 4.1 SAI Platform - Farm Sustainability Assessment FSA inputs for inventory review MAY 25.docx Task 4.1 Sustainable Biomass Programm (SBP) inputs for inventory review MAY 25.docx

		Task 4.2 Better cotton benchmark assurance.xlsx Task 4.2 Better Cotton Sustainability benchmark.xlsx Task 4.2 Bonsucro benchmark assurance.xlsx Task 4.2 Bonsucro benchmark sustainability.xlsx Task 4.2 Bonsucro benchmark sustainability.xlsx Task 4.2 EU Ecolabel Textiles.xlsx Task 4.2 FSC benchmark assurance.xlsx Task 4.2 FSC benchmark assurance.xlsx Task 4.2 ISCC benchmark sustainability and Assurance.xlsx Task 4.2 RA benchmark CoC.xlsx Task 4.2 RA benchmark sustainability.xlsx Task 4.2 Rainforest Alliance benchmark assurance.xlsx Task 4.2 RSB benchmark sustainability and assurance.xlsx Task 4.2 RSPO benchmark CoC.xlsx Task 4.2 RSPO benchmark assurance.xlsx Task 4.2 RSPO benchmark sustainability.xlsx Task 4.2 RTRS benchmark assurance reviewed.xlsx Task 4.2 RTRS benchmark CoC.xlsx Task 4.2 RTRS benchmark sustainability.xlsx Task 4.2 RTRS benchmark CoC.xlsx Task 4.2 RTRS benchmark sustainability.xlsx Task 4.2 SBP benchmark assurance.xlsx Task 4.2 SBP Sustainability benchmark.xlsx Task 4.2.3 CSLs Comparative Benchmark Governance System v1.xlsx
	Explanation of data set file and version naming convention	Task number, CSL and type of analysis, date of completion
	Dataset version history	
	Dataset file format and file size	.docs and .xls
Data security	**Current data set storage location**	SQ Consult SharePoint

	Repository after the project, inc duration	On the Project website, until it is active + RINA-C SharePoint
	Data set security summary	Information security controls are implemented within RINA's Corporate ICT services in line with the Information Security Management System whose principles, guidelines and rules are articulated according to the structure suggested by Annex A of ISO/IEC 27001. Accordingly, RINA-C has in force policies, codes, and procedure for data management, among which: - Code of Ethics - Organizational Privacy and Data Protection Model - Security Policy - Information Security Manual - Information Security Controls Manual In addition, RINA-C refers also to external references, to GDPR and national legislations.
Data usability	**To whom could (part of) the data set be useful?**	Pertinent for CSL owners, policymakers, and academia.
	Keywords	CSL, CSL requirements, CSL criteria, sustainability requirements
	Metadata	
	Dataset can be made public? (fully, partially, no, under discussion)	Fully
	Justification	
	Publication	HARMONITOR_D4.1_dataset.odt

Category	Topic	Meta data for RINA dataset 2
Data description	**Data set #**	RINA dataset 2
	Dataset name	Develop and apply a monitoring system for all CSLs reviewed (WP5)
	Description	In-depth analysis of selected CSLs to assess their effectiveness towards selected sustainability goals. Conducted an outcome-level analysis for EU Ecolabel, and collected feedback from scheme owner.
	Comments	
	Status	Completed (February 2025)
	Collected or created?	Collected and created
	Primary contact person for data set	Matilde Festi
	Task(s) and partner(s) creating the data set	Task 5.1: Develop a monitoring system for all CSLs reviewed (UU, PbN, SQ, RINA-C, AGR, GRS) Task 5.2: Apply the proposed monitoring system and indicators on CSLs reviewed (UU, RINA-C, SQ)
	Task(s) and partner(s) using the data set	UU, PbN, SQ, RINA-C, AGR, GRS

File description	**Data set file name(s), inc version**	HARMONITOR_D5.2_BetterBiomass_OutcomeLevel_2nd Testing_V1.0.xlsx HARMONITOR_D5.2_BetterCotton_OutcomeLevel_2ndT esting_V1.0.xlsx HARMONITOR_D5.2_EUEcolabel_OutcomeLevel_2ndTe sting_V1.0.xlsx HARMONITOR_D5.2_ISCC_OutcomeLevel_2ndTesting_ V1.0.xlsx HARMONITOR_D5.2_Bonscuro_OutcomeLevel_2ndTesti ng_V1.0.xlsx HARMONITOR_D5.2_SBP_OutcomeLevel_2ndTesting_V 1.0.xlsx HARMONITOR_D5.2_BetterBiomass_Interview_V1.0.doc x HARMONITOR_D5.2_BetterCotton_Interview_V1.0.docx HARMONITOR_D5.2_Bonsucro_Interview_V1.0.docx HARMONITOR_D5.2_EUEcolabel_Interview_V1.0.docx HARMONITOR_D5.2_ISCC_Interview_V1.0.docx HARMONITOR_D5.2_SBP_Interview_V1.0.docx HARMONITOR_D5.2_FSC_Interview_V1.0.docx HARMONITOR_D5.2_RSB_Interview_V1.0.docx HARMONITOR_D5.2_NordicSwan_Interview_V1.0.docx HARMONITOR_D5.2_FSC_PreliminaryResult_OutcomeL evel_v.1.1.xlsx HARMONITOR_D5.2_NordicSwan_PreliminaryResult_Out comeLevel_v.1.0.xlsx HARMONITOR_D5.2_RSB_PreliminaryResult_OutcomeL evel_v1.0.xlsx
	Explanation of data set file and version naming convention	Project name, reference deliverable, CSL and type of analysis and version
	Dataset version history	
	Dataset file format and file size	.docs and .xls
Data security	**Current data set storage location**	SQ Consult SharePoint

	Repository after the project, inc duration	On the Project website, until it is active + RINA-C SharePoint
	Data set security summary	Information security controls are implemented within RINA's Corporate ICT services in line with the Information Security Management System whose principles, guidelines and rules are articulated according to the structure suggested by Annex A of ISO/IEC 27001. Accordingly, RINA-C has in force policies, codes, and procedure for data management, among which: - Code of Ethics - Organizational Privacy and Data Protection Model - Security Policy - Information Security Manual - Information Security Controls Manual In addition, RINA-C refers also to external references, in particular to GDPR and national legislations.
Data usability	**To whom could (part of) the data set be useful?**	Pertinent for CSL owners, policymakers, and academia.
	Keywords	CSL requirements, outcome, monitoring system
	Metadata	
	Dataset can be made public? (fully, partially, no, under discussion)	Fully
	Justification	
	Publication	https://www.harmonitor.eu/copy-of-publications

Category	Topic	Meta data for PbN dataset 1
Data description	**Data set #**	PbN dataset 1
	Dataset name	Inventory of key aspects of CSLs
	Description	Literature review of sustainability, assurance and governance requirements of 22CSLs.
	Comments	
	Status	Completed in July 2023
	Collected or created?	Collected
	Primary contact person for data set	Gabriela López
	Task(s) and partner(s) creating the data set	Subtask 4.1.1 UU Subtask 4.1.2 RINA-C: Better Cotton, BREEAM, Cradle to Cradle, EU Ecolabel Paper, EU Ecolabel Textiles, Fairtrade International, Fairtrade International Textile Standard, RTRS, RSPO, SBP DBFZ: ASC, BFA, Bonsucro, GlobalG.A.P., GGL, ISCC, PEFC, RA, REDcert, RSB, SAI Subtask 4.1.3 RINA-C: BFA, Cradle to Cradle, EU Ecolabel Paper, EU Ecolabel Textiles, Fairtrade International, Fairtrade International Textile Standard, RTRS, RSPO, SBP PBN: ASC, BFA, Bonsucro, GlobalG.A.P. GGL, ISCC, REDcert, RSB, FSA Subtask 4.1.4 PBN: ASC, Better Cotton, BFA, Bonsucro, BREEAM, Cradle to Cradle, EU Ecolabel Paper EU Ecolabel Textiles, Fairtrade International Fairtrade InternationL Textile International Textile Standard, FSC, GlobalG.A.P, GGL, ISCC, MSC, PEFC, REDcert, RTRS, RSB, RSPO, FSA, SAN, SBP Subtask 4.1.5 UU: ASC, Better Cotton, BFA, Bonsucro, BREEAM, Cradle to Cradle, EU Ecolabel Paper EU Ecolabel Textiles, Fairtrade International Fairtrade International Textile International Textile Standard, FSC, GlobalG.A.P, GGL, ISCC, MSC, PEFC, REDcert, RTRS, RSB, RSPO, FSA, SAN, SBP

	Task(s) and partner(s) using the data set	WP4 RINA-C, DBFZ, PBN, UU

ile description	**Data set file name(s), inc version**	Task 4.1,1 Literature Review Task 4.1.2 CSLs Geographic application Task 4.1 ASC-MSC Seaweed inputs for inventory review MAY 25 Task 4.1 Better Cotton inputs for inventory review MAY 25 Task 4.1 Bioplastic Feedstock Alliance (BFA) inputs for inventory review MAY 25 Task 4.1 Bonsucro inputs for inventory review June 20 Task 4.1 BREEAM inputs for inventory review MAY 25 Task 4.1 Cradle to Cradle Certified inputs for inventory review MAY 25 Task 4.1 EU Ecolabel - Paper inputs for inventory review MAY 25 Task 4.1 EU Ecolabel - Textiles inputs for inventory review MAY 25 Task 4.1 Fairtrade International inputs for inventory review MAY 25 Task 4.1 Fairtrade International Textile Standard inputs for inventory review MAY 25 Task 4.1 Forest Stewardship Council (FSC) inputs for inventory review MAY 25 Task 4.1 Global G.A.P. inputs for inventory review 28 JUNE Task 4.1 Green Gold Label (GGL) inputs for inventory review MAY 25 Task 4.1 ISCC EU & ISCC PLUS inputs for inventory review JUN 12 Task 4.1 PEFC International inputs for inventory review MAY 25 Task 4.1 Rainforest Alliance inputs for inventory review JULY 6 Task 4.1 REDcert REDcert2 inputs for inventory review MAY 25 Task 4.1 Round Table on Responsible Soy Association (RTRS) inputs for inventory review MAY 25 Task 4.1 Roundtable on Sustainable Biomaterials (RSB) inputs for inventory review MAY 25 Task 4.1 Roundtable on Sustainable Palm Oil (RSPO) inputs for inventory review MAY 25 Task 4.1 SAI Platform - Farm Sustainability Assessment FSA inputs for inventory review MAY 25 Task 4.1 4.1 Sustainable Biomass Programm (SBP) inputs for inventory review MAY 25

	Explanation of data set file and version naming convention	Task number + Task description where relevant + CLS name and date of completion
	Dataset version history	
	Dataset file format and file size	.docs, and .xls.
Data security	**Current data set storage location**	SQ Consult SharePoint
	Repository after the project, inc duration	PbN SharePoint
	Data set security summary	The internal data system uses OneDrive and MS SharePoint for file management. Communication is typically via MS Teams which additionally has the function for file share and collaboration. The back-up of project files is on a cloud-based served that is password secured and protected, requiring a double identification process to log-in.
Data usability	**To whom could (part of) the data set be useful?**	To anyone evaluating the sustainability, assurance, and governance requirements of CSLs.
	Keywords	certification scheme requirements, CSL requirements, sustainabiilty requirements, assurance requirements, governance requirements
	Metadata	readme file
	Dataset can be made public? (fully, partially, no, under discussion)	fully
	Justification	
	Publication	not public yet

Category	Topic	Meta data for PbN dataset 2
Data description	**Data set #**	PbN dataset 2
	Dataset name	Comparative analysis of selected CSLs
	Description	Using methodology defined in task 2.3 and D4.1, inputs from the comparative analysis of 10 selected CSL including sustainability, assurance and governance requirements are gathered. Notable gaps across CSLs are identified.
	Comments	
	Status	Completed on December 2024
	Collected or created?	Created
	Primary contact person for data set	Gabriela López
	Task(s) and partner(s) creating the data set	Subtask 4.2.1 Rina-C: Better Cotton, EU Ecolabel Textiles, SBP PBN: RA, RSPO, RTRS, Bonsucro, FSC Agrovet: RSB, ISCC Subtask 4.2.2 PBN: Better Cotton, Bonsucro, EU Ecolabel Textiles, FSC, RA, RSPO, RTRS, SBP Agrovet: RSB, ISCC Subtask 4.2.3 UU all CSLs
	Task(s) and partner(s) using the data set	WP4 RINA-C, PBN, UU, Agrovet

File description	**Data set file name(s), inc version**	Task 4.2 Better cotton benchmark assurance Task 4.2 Better Cotton Sustainability benchmark Task 4.2 Bonsucro benchmark assurance Task 4.2 Bonsucro benchmark sustainability Task 4.2 Bonsucro benchmark sustainability Task 4.2 EU Ecolabel Textiles Task 4.2 FSC benchmark assurance Task 4.2 FSC benchmark assurance Task 4.2 ISCC benchmark sustainability and Assurance Task 4.2 RA benchmark CoC Task 4.2 RA benchmark sustainability Task 4.2 Rainforest Alliance benchmark assurance Task 4.2 RSB benchmark sustainability and assurance Task 4.2 RSPO bechmark CoC Task 4.2 RSPO benchmark assurance Task 4.2 RSPO benchmark sustainability Task 4.2 RTRS benchmark assurance reviewed Task 4.2 RTRS benchmark CoC Task 4.2 RTRS benchmark sustainability Task 4.2 RTRS benchmark CoC Task 4.2 RTRS benchmark sustainability Task 4.2 SBP benchmark assurance Task 4.2 SBP Sustainability benchmark Task 4.2.3 CSLs Comparative Benchmark Governance System v1
	Explanation of data set file and version naming convention	Task number + CSL name + benchmark + benchmark focus
	Dataset version history	
	Dataset file format and file size	.xls
Data security	**Current data set storage location**	SQ Consult SharePoint
	Repository after the project, inc duration	PbN SharePoint

	Data set security summary	The internal data system uses OneDrive and MS SharePoint for file management. Communication is typically via MS Teams which additionally has the function for file share and collaboration. The back-up of project files is on a cloud-based served that is password secured and protected, requiring a double identification process to log-in.
Data usability	**To whom could (part of) the data set be useful?**	To anyone looking at the coverage and gaps in sustainability, assurance, and governance requirements of CSLs.
	Keywords	certification scheme benchmark, CSL benchmark, sustainability benchmark, assurance benchmark, governance benchmark
	Metadata	readme file
	Dataset can be made public? (fully, partially, no, under discussion)	fully
	Justification	
	Publication	HARMONITOR_D4.2_dataset.odt

Category	Topic	Meta data for PbN dataset 3
Data description	**Data set #**	PbN dataset 3
	Dataset name	Comparative analyses of selected CSL with incorporated feedback from CSLs
	Description	Results of the comparative analysis of sustainability, assurance and governance requirements of 10 CSLs, including incorporated feedback scheme owners, scheme response to EUDR and consistency check.
	Comments	
	Status	Completed on February 2025
	Collected or created?	Created
	Primary contact person for data set	Gabriela López
	Task(s) and partner(s) creating the data set	PBN
	Task(s) and partner(s) using the data set	WP4 RINA-C, DBNZ, PBN, UU, Agrovet
File description	**Data set file name(s), inc version**	Task 4.3 CBT-Better Cotton Task 4.3 CBT-Bonsucro Task 4.3 CBT-EU Ecolabel_Textiles Task 4.3 CBT- FSC Task 4.3 CBT-ISCC Task 4.3 CBT-Rainforest_Alliance Task 4.3 CBT-RSB Task 4.3 CBT-RSPO Task 4.3 CBT-RTRS Task 4.3 CBT-SBP
	Explanation of data set file and version naming convention	Task number + CBT + CSL name
	Dataset version history	
	Dataset file format and file size	.xls

Data security	**Current data set storage location**	SQ Consult SharePoint
	Repository after the project, inc duration	PbN SharePoint
	Data set security summary	The internal data system uses OneDrive and MS SharePoint for file management. Communication is typically via MS Teams which additionally has the function for file share and collaboration. The back-up of project files is on a cloud-based served that is password secured and protected, requiring a double identification process to log-in.
Data usability	**To whom could (part of) the data set be useful?**	To anyone looking at the coverage and gaps in sustainability, assurance, and governance requirements of CSLs and understand scheme update coverage in relation to EUDR.
	Keywords	certification scheme benchmark, CSL benchmark, sustainability benchmark, assurance benchmark, governance benchmark, EUDR
	Metadata	readme file
	Dataset can be made public? (fully, partially, no, under discussion)	fully
	Justification	
	Publication	Deliverable 4.3 - Validation and final comparison study of selected CSLs

Category	Topic	Meta data for SRU dataset 1
Data description	**Data set #**	SRU dataset 1
	Dataset name	(in)direct costs and benefits certification
	Description	This database contains data collected from certification bodies on the direct costs of certification and from scientific literature on the indirect costs and benefits of certification.
	Comments	
	Status	finalised in May 2024
	Collected or created?	collected and created
	Primary contact person for data set	Costanza Rossi (c.rossi@sqconsult.com)
	Task(s) and partner(s) creating the data set	WP6, SRU, PbN, Agrovet, RINA, SQ Consult
	Task(s) and partner(s) using the data set	WP6, SRU, PbN, Agrovet, RINA, SQ Consult
File description	**Data set file name(s), inc version**	HARMONITOR_(in)direct costs benefits certification_D6.1_V1.0_dataset
	Explanation of data set file and version naming convention	File names contain the project name, topic, Deliverable number and Version
	Dataset version history	
	Dataset file format and file size	xlsm, 1,07 MB
Data security	**Current data set storage location**	SQ Consult SharePoint
	Repository after the project, inc duration	Zenodo, no end date

	Data set security summary	See Data Management Plan, section 6, SRU
Data usability	**To whom could (part of) the data set be useful?**	researchers, industries, policymakers with an interest in certification
	Keywords	economic feasibility certification, costs benefits certification
	Metadata	read_me file
	Dataset can be made public? (fully, partially, no, under discussion)	fully
	Justification	
	Publication	not public yet

Category	Topic	Meta data for SRU dataset 2
Data description	**Data set #**	SRU dataset 2
	Dataset name	Modelling environmental impacts of the EU bioeconomy
	Description	The database contains data collected on imports/ exports of certain bio-based commodities from the COMTRADE database and a JRC technical report ("Bio-based value chains for chemicals, plastics and pharmaceuticals", 2021)- specifically, products of sectors that are partially bio-based (Chemicals, Furniture, Plastics, Textiles). It also includes the share of bio-based electricity in the total electricity sector of countries (obtained from IEA). The database created contains direct impacts of production of bio-based commodities in the EU-27, as well as direct and indirect impacts of consumption of bio-based commodities in the EU-27, calculated using EE-MRIO. The Exiobase MRIO tables were used.
	Comments	
	Status	finalized in Nov 2024
	Collected or created?	collected and created
	Primary contact person for data set	Birka Wicke (birka.wicke@ru.nl)
	Task(s) and partner(s) creating the data set	WP6, SRU, UU
	Task(s) and partner(s) using the data set	WP6, SRU, UU
File description	**Data set file name(s), inc version**	HARMONITOR_WP6.3_D6.2_dataset__bioshare_sectors; HARMONITOR_WP6.3_D6.2_dataset_Results
	Explanation of data set file and version naming convention	File names contain the project name, WP no., deliverable no. and topic

	Dataset version history	
	Dataset file format and file size	excel files, 44,7 MB; 20,4 MB
Data security	**Current data set storage location**	SRU
	Repository after the project, inc duration	SRU SharePoint
	Data set security summary	Data is stored and prepared for publication with SRU. Base data is collected from Comext and Comtrade, where it is already stored in a secure way; see Data Management Plan, section 6, SRU
Data usability	**To whom could (part of) the data set be useful?**	researchers, industries, policymakers with an interest in environmental impacts of the EU bioeconomy
	Keywords	environmentally extended multi-regional input output analysis, environmental impacts, consumption-based accounting
	Metadata	read_me file
	Dataset can be made public? (fully, partially, no, under discussion)	fully
	Justification	
	Publication	not public yet

Category	Topic	Meta data for SRU dataset 3
Data description	**Data set #**	SRU dataset 3
	Dataset name	Text analysis policy initiatives
	Description	the database contains qualitative information resulting from a text analysis of 8 EU policy initiatives relevant to EU bioeconomy.
	Comments	
	Status	in progress
	Collected or created?	collected
	Primary contact person for data set	Costanza Rossi (c.rossi@sqconsult.com)
	Task(s) and partner(s) creating the data set	WP6, SRU, SQ Consult, UU
	Task(s) and partner(s) using the data set	WP6, SRU, SQ Consult, UU
File description	**Data set file name(s), inc version**	
	Explanation of data set file and version naming convention	
	Dataset version history	
	Dataset file format and file size	-
Data security	**Current data set storage location**	SQ Consult SharePoint
	Repository after the project, inc duration	Zenodo, no end date

	Data set security summary	See Data Management Plan, section 6, SRU
Data usability	**To whom could (part of) the data set be useful?**	researchers, industries, policymakers with an interest in certification
	Keywords	policy initiative, certification use in EU policy, co-regulation
	Metadata	read_me file
	Dataset can be made public? (fully, partially, no, under discussion)	fully
	Justification	
	Publication	not public yet

Category	Topic	Meta data for SRU dataset 4
Data description	**Data set #**	SRU dataset 4
	Dataset name	6.2 deliverable dataset case studies
	Description	The dataset contains the data collected from literature on the costs and benefits of palm oil production, as well as calculations made on the data.
	Comments	
	Status	in progress
	Collected or created?	collected and created
	Primary contact person for data set	Costanza Rossi (c.rossi@sqconsult.com)
	Task(s) and partner(s) creating the data set	WP6, SRU, SQ Consult, UU
	Task(s) and partner(s) using the data set	WP6, SRU, SQ Consult, UU
File description	**Data set file name(s), inc version**	HARMONITOR_costs benefits palm oil_D6.3_V1.0_dataset
	Explanation of data set file and version naming convention	File names contain the project name, topic, Deliverable number and Version
	Dataset version history	
	Dataset file format and file size	-
Data security	**Current data set storage location**	SQ Consult SharePoint
	Repository after the project, inc duration	Zenodo, no end date

	Data set security summary	See Data Management Plan, section 6, SRU
Data usability	**To whom could (part of) the data set be useful?**	researchers, industries, policymakers with an interest in certification
	Keywords	policy initiative, certification use in EU policy, co-regulation
	Metadata	read_me file
	Dataset can be made public? (fully, partially, no, under discussion)	fully
	Justification	
	Publication	not public yet

Annex II: HARMONITOR form for informed consent

The informed consent form template follows on the next pages. The sections highlighted in yellow will be completed prior to use and the template may need to be revised depending on the specific activity for which it will be used.

Participants will be informed of their rights, how to exercise their rights, who is conducting the research, the purposes of the research, the data that will be collected, and outlets where they research will be published through an informed consent form. Participants will not be coerced into participating and will be able to withdraw their personal data upon request. Informed consent forms will be created with the input of privacy professionals from consortium partners. The need for signatures from participants to confirm consent will be evaluated for each data collection process, if signatures are collected the forms will be stored in a secured manner in a locked container. Further information on our approach to informed consent is available on https://geo-data-support.sites.uu.nl/personal-data/assessing-consent/

Informed consent form

HARMONITOR - Harmonisation and monitoring platform for certification schemes and labels to advance the sustainability of bio-based systems

I am being asked to participate in the Circular Bio-based Europe Joint Undertaking (CBE JU)-funded HARMONITOR research project conducted by NAME of ORGANISATION. I am aware that the purpose of this research is to improve the effectiveness of certification schemes and labels in different sectors of the EU Bioeconomy and strengthen their use as a co-regulation instrument. The research may be disseminated more widely, e.g., in academic papers, briefing papers, media etc.

This research will involve an interview/focus group lasting up to 1 hour where I will be invited to discuss my knowledge of this area with particular reference to the experience of my organization.

I understand that I am participating in this research voluntarily and that I am free to terminate my participation at any time. I am also aware that I am free to refuse to answer any questions that I feel are commercially or institutionally sensitive or relate to topics that I do not wish to discuss. I understand that I have the right to ask questions and receive understandable answers before making any decision.

I understand that I will only be asked to provide professional, not personal, information and that if I wish, the record of my involvement in the research will be kept confidential. I have been informed that everything I say will be anonymous and if I wish, I can remain anonymous in future published material. The interview data will be recorded via paper notes/tape recorder, and I understand that I can request a copy of the notes/transcript to review if I wish. I understand that I am also allowed to delete or make any changes to the notes/transcript if I feel my answers could be improved or clarified. I understand that this research will be used to help the project scientists to develop sustainable, circular, bio-based alternatives to fossil-based polymers that will meet the performance demands from the market.

I understand that the inputs I provide will be aggregated with those of other participants, and that the aggregated data can be used in project activities, possibly including public reports and other publications. I understand that disaggregated to the level of my input, or any direct quotations of statements I made as part of my input could be made public only after I agree to this in a second informed consent regarding this step.

I understand that this research conforms to European Commission guidelines. Finally, I have been given the contact details of the research team and I have been informed that I am free to contact ADD CONTACT PERSON HERE (ADD ROLE HERE) ADD EMAIL ADDRESS HERE about any queries relating to my data or the project itself.

Informed consent form – HARMONITOR Project

This form is for you to state that you agree to take part in the research. Please answer every question by adding your initials in the box if you agree with the statement. If there is anything you do not understand, or if you need more information, please ask the lead researcher.

Lead researchers: Insert name of person conducting the research activity

Participant Identification Number for this project: **Please initial box**

1. I confirm that I have read and understand the participant information sheet explaining the research project. ☐
2. I have had the opportunity to ask questions about the project. ☐
3. I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason and without there being any negative consequences. In addition, should I not wish to answer any particular question or questions, I am free to decline. ☐
4. I understand that my responses will be recorded and processed, but not published unless aggregated in a way in which individual responses can no longer be matched to individual persons, or unless I explicitly consent to publication of my individual responses. ☐
5. I give permission for members of the research team to have access to my anonymised responses. I understand that my name will not be linked with the research materials, and I will not be identified or identifiable in the report or reports that result from the research. ☐
6. I agree for the data collected from me to be used in future research ☐
7. I agree to take part in the above research project. ☐

_____ _____ _____

Name of Participant Date Signature

(*or legal representative*)

_____ _____ _____

Name of person taking consent Date Signature

(*if different from lead researcher*)

_____ _____
_____

Lead Researcher Date Signature

Copies:

Once this has been signed by all parties the participant should receive a copy of the signed and dated participant consent form, the information sheet and any other written information provided to the participants. A copy of the signed and dated consent form should be placed in the project's main record (e.g. a site file), which must be kept in a secure location.