



TECHONEY

Development of a **blockchain-based ecosystem** that allows an **improved positioning of small producers of honey** on local and international markets

DELIVERABLE

D8.3 Data Management Plan Update

DUE DATE OF DELIVERABLE	31.October.2025 (M42)
START DATE OF PROJECT	01.May.2022
DURATION	36 months – Extended to 42
LEAD PARTNER FOR DELIVERABLE	UNINA
DISSEMINATION LEVEL	PU (Public)

The TECHONEY project is part of the **PRIMA** programme (Project ID: 1711, Call: 2021, Topic ID: 2.3.1) with support from the European Union’s Horizon 2020 research and innovation programme and the national research and innovation funding agencies of Spain (AEI, *PCI2022-132917*), France (ANR), Algeria (DGRSDT), Luxembourg (FNR, *16735444*), Tunisia (MESRS), Morocco (MHESRI-M), Italy (MUR), and Turkiye (TÜBİTAK).



DOCUMENT CHARTER

PROJECT	PROJECT FULL TITLE	DEVELOPMENT OF A BLOCKCHAIN-BASED ECOSYSTEM THAT ALLOWS AN IMPROVED POSITIONING OF SMALL PRODUCERS OF HONEY ON LOCAL AND INTERNATIONAL MARKETS		 TECHONEY
	PROJECT ACRONYM	TECHONEY		
	EC PROGRAMME	PRIMA	GRANT AGREEMENT NO	+++.
		PROGRAMME	Partnership on Research and Innovation in the Mediterranean Area	
		SECTION 2	Multitopic 2021	
		THEMATIC AREA 3	Agrofood chain	
		TOPIC 2.3.1	Increasing the resilience of small-scale farms to global challenges and COVID-like crisis by using adapted technologies, smart agri-food supply chain and crisis management tools	
		FUNDING SCHEME	"Collaborative Project"	
		TYPE OF ACTION	"Research and Innovation Actions (RIA)"	
	COORDINATOR	Tiziana de Magistris · Principal Investigator Centro de Investigación y Tecnología Agroalimentaria de Aragón (CITA) · (Spain)		
START DATE	01.May.2022	DURATION	42 months	
PROJECT URL	TECHONEY.org	E-MAIL	info@techoney.org	
DELIVERABLE	DELIVERABLE	D8.3 Data Management Plan - Update		
	WORK PACKAGE	WP9: Project Management		
	DATE OF DELIVERY	M42 (October 2025)		
	NATURE	R (Report)	DISSEMINATION LEVEL	PU (Public)
	LEAD BENEFICIARY	Prof. Fabio Verneau University of Naples Federico II (UNINA) - Italy		
	AUTHOR	Prof. Fabio Verneau (UNINA)		
	REVIEWER	Dr. Christoph Stahl (LIST)		
	APPROVER	Dra. Tiziana de Magistris (CITA)		
	FILENAME	TECHONEY-D83-DMPlan		
	ABSTRACT OF THE DELIVERABLE	<p>This report constitutes the Data Management Plan of the TECHONEY project. This document sets out the project's Data Management procedure, regarding research data collection, re-use of existing data, processing, organization, and publication. In order to assure shared procedures, this DMP incorporates the proper methodologies on how this data will be shared, made accessible, open or preserved during and after the project.</p>		

VERSION TRACKER

VERSION	REVIEWER	PARTNER	DATE	STATUS
0.1	Mario Amato	UNINA	07.September.2022	Initial draft
0.2	Mario Amato	UNINA	14.September.2022	Check
0.3	Mario Amato	UNINA	30 September 2022	Check
1	Tiziana De Magistris	CITA	28 October 2022	Peer review
1.1	Christoph Stahl	LIST	28 October 2022	Final version
1.2	Mario Amato	UNINA	15 October 2025	Update
1.3	Tiziana De Magistris	CITA	17 October 2025	Peer review

1.4	Fabio Verneau	UNINA	28 October 2025	Final Version
-----	---------------	-------	-----------------	---------------

STATEMENTS

DISCLAIMER

- *All intellectual property rights are owned by the **TECHONEY** consortium members and are protected by the applicable laws.*
- *Except where otherwise specified, all document contents are: “© **TECHONEY** Project - All rights reserved”.
Reproduction is not authorised without prior written agreement.*
- ***TECHONEY** consortium members have agreed to full publication of this document. The commercial use of any information contained in this document may require a license from the owner of that information.*
- ***TECHONEY** consortium members are committed to publish accurate and up to date information. However, the **TECHONEY** consortium members cannot accept liability for any inaccuracies or omissions nor do they accept liability for any direct, indirect, special, consequential or other losses or damages of any kind arising out of the use of this information.*
- *This publication reflects only the **TECHONEY** consortium members view and the European Commission is not responsible for any use that may be made of the information it contains.*

© 2022 **TECHONEY** Consortium – All rights reserved.

SOMMARIO

DOCUMENT CHARTER	2
VERSION TRACKER	2
STATEMENTS	3
GLOSSARY: ACRONYMS AND TERMS.....	6
PROJECT ABSTRACT	7
EXECUTIVE SUMMARY OF THE DELIVERABLE	9
INTRODUCTION.....	10
DATA SUMMARY	11
DEFINITION AND DESCRIPTION OF DATASETS CREATED.....	12
TABLE 1.....	12
DATA MANAGEMENT	13
<i>Standards used by the project</i>	<i>¡Error! Marcador no definido.</i>
<i>Data collection procedure.....</i>	<i>¡Error! Marcador no definido.</i>
<i>How data will be created?</i>	14
<i>Data Format and Volume</i>	14
<i>File naming and new versions.....</i>	14
<i>Methodologies for data collection and software used for processing.....</i>	15
<i>Data sharing and dissemination</i>	15
<i>Data storage, security and preservation.....</i>	15
GUIDE TO ETHICS ASPECTS.....	16
ANNEX I – ETHICAL APPROVAL FORM PROFORMA	19
ANNEX II – CONSENT FORM	21

GLOSSARY: ACRONYMS AND TERMS

- **DMP:** Data Management Plan
- **DPO:** Data Protection Officer
- **EC:** European Commission.
- **ICT:** Information and Communication Technologies
- **HCLL:** Honey Community Living Lab.
- **HILE:** Honey Innovation and Learning Ecosystem.
- **WP:** Work Package

PROJECT ABSTRACT

TECHONEY project's main objective is to identify strategies and establish lines of resilience to the new challenges determined by the COVID-19 pandemic for beekeepers in the Mediterranean (Med) agricultural systems through the implementation, definition, enhancement and transfer of competitive, profitable, efficient and trustful honey supply-chain alternatives that address beekeepers' capacities and attractiveness to fulfil consumer needs on unexpected food market changes.

TECHONEY project proposes the development of a **traceability system to guarantee the quality and safety of honey within the supply chain** for more effective communication to consumers and to strengthen access to different markets (e-commerce, direct sales, etc.). This approach will be unfolded by the joint creation of two levels of interaction: **[1] physical**: characterization of honey; **[2] "living laboratory"**: creation of a *Honey Community Living Lab (HCLL)* and a *Honey Innovation and Learning Ecosystem (HILE)* that will be the arena to collect information from beekeepers, stakeholders, and consumers to transfer and apply the new optimized models.

TECHONEY is structured in 4 main technological pillars: **[1] creation of a consortium IoT (Internet of Things) Blockchain platform** that involves various actors in the honey supply chain to ensure transparency and traceability, in addition to reducing costs and ensure the traceability in the honey supply chain; **[2] creation of a transformative learning community** to ensure a smart-short-resilient shared supply chain; **[3] characterization of the quality of honey** to guarantee its traceability within the Blockchain directly by consumers; **[4] ICT tools** for honey supply chain participants and consumers.

TECHONEY will be committed not only to promote the continuation of the direct sales of honey from producers to consumers even after the COVID crisis but also **develop a common methodology and clear new optimized resilience protocol** to be used by small-scale farmers, beekeepers, smallholders as a new business model with a more efficient added-value chain, sustainable with fair profit, accepted by final consumers, which will be replicable to other food products and supply chains.

TECHONEY will **help beekeepers to**: **[1] generate a traceability mechanism** for honey produced in the Med. Area; **[2] diversify markets and distribution channels** offers business flexibility and freedom from dependence on a single market, which will reduce risk in the event of a crisis; **[3] cooperate and pool resources** among themselves (pooling of the workforce, etc.) for logistical flexibility and solidarity in the supply chain, which will also reduce the risks in the event of a crisis.

TECHONEY proposes to design and develop a **multidimensional framework** to analyse 6 full honey supply chains (farm to table) that will integrate economic, social and environmental indicators and a traceability system, with a *bottom-up* approach considering the stakeholders' perspectives. A consortium Blockchain, coupled with IoT (*Internet of Things*), system will be created to offer real-time tracking and complete traceability of honey along the supply chain from the characterization of honey in a certified laboratory, the retailer, until the end consumer.

The characterization of the quality and safety aspects of local honey through **local certified laboratories jointly with the use of e-commerce and quality labelling schemes** will increase the opportunity for beekeepers to be identified locally, and allow them to gain access to new markets (foreign markets). The implementation of e-commerce with the mobile application will enable local honey to be **better traced by consumers who attach more value to local food and local beekeepers**.

TECHONEY contributes to increasing farm profitability and increasing flexibility and risk mitigation capabilities. A shared, short and circular supply chain will allow actors in the honey supply chain to **access markets** and have **higher incomes, share resources and skills** and **save money** by reducing costs (economies of scale) and increase the efficiency, sustainability and flexibility of processes to strengthen resilience and flexibility to face crises and lower risks. The learning community lab and the use of the Blockchain network will secure the storing of records, will **strengthen intellectual property rights**, as well as **bring transparency throughout the supply chain**; it will **reduce frauds, enhance food safety** and **improve the communication** between retailers and beekeepers. The traceability system offered will also allow consumers to give direct feedback to beekeepers.

To reach the overall objective, several **specific objectives** (SO) are set out as intermediate goals:

- **SO1:** Map the current added-value chains and complexity level for honey products in six case studies (Spain, Algeria, Tunisia, Turkey, Luxembourg and Morocco).
- **SO2:** Increase the competitiveness and power of the beekeeping supply chain by understanding consumers' and retailers' opinions and acceptance through non-hypothetical methods.
- **SO3:** To promote the traceability to differentiate local honey and guarantee food safety of honey produced in the Med. area by characterizing it in a reliable, certifiable, and documentable manner.
- **SO4:** Design and explore the feasibility of a new traceability ecosystems and effective business models across different stakeholders.
- **SO5:** Development of a new "Multichannel distribution" e-commerce platform implementing new business model as well as integrating and scaling up the outcomes from WPs 1, 2, 3 and 4.
- **SO6:** Maximize outreach and beneficial influence of the project results and reach the target users (beekeepers, small-scale food manufacturers and local distributors, canteens and retailers, local public authorities) through an effectively established communication and dissemination plan, including innovative training capsules.

Moreover, a **TECHONEY** web ICT tool consumer/farmer-centred will be developed, by testing and evaluating several machine and deep learning algorithms, providing small-scale beekeepers with key information on new markets and opportunities, contributing to a better decision making and to ensure the traceability of their product. Consumers will have exhaustive knowledge of the different honeys of the Med. area, knowing their traceability from the initial producer, guaranteeing the quality and safety of each product.

TECHONEY is a project coordinated by CITA (Spain) and funded through the PRIMA Section 2 Multitopic 2021 – Thematic Area 3-Agrofood chain – Topic 2.3.1 Increasing the resilience of small-scale farms to global challenges and COVID-like crisis by using adapted technologies, smart agri-food supply chain and crisis management tools. (RIA*[5])" under the funding scheme of "Collaborative Project" and type of Action "Research and Innovation Actions (RIA)."

EXECUTIVE SUMMARY OF THE DELIVERABLE

This report constitutes the Data Management Plan of the TECHONEY project. This document sets out the project's Data Management procedure, regarding research data collection, re-use of existing data, processing, organization, and publication. In order to assure shared procedures, this DMP incorporates the proper methodologies on how this data will be shared, made accessible, open or preserved during and after the project.

This document is the first version of the Data Management Plan. Further versions may be uploaded as new datasets, procedures, or other external factors require them. The TECHONEY project is at an early stage, so data management cannot be fully developed –several questions will be detailed as the project moves forward.

Participants of the TECHONEY consortium must follow this DMP when managing project-related data. The DMP, in its turn, follows the European Commission (EC) and national agencies guidelines, ensuring the best open access in consistency with exploitation and Intellectual Property Rights requirements and the respects of the ethical standards in experiments and data collection.

INTRODUCTION

According to the EC, the Data Management Plan (DMP) is defined as a key element of proper data management that describes the data management life cycle for the data to be collected, used, processed and/or generated by a research project. As part of making research data findable, accessible, interoperable and re-usable (FAIR), a DMP should include information on:

- What data will be **collected, re-used, processed and/or generated**
- The **handling of research data** during and after the end of the project.
- Which **methodology, procedures and standards** will be applied.
- Whether and when data will be **shared/made open access**
- How data will be **curated, stored, preserved and secured** (including after the end of the project).
- Who will be in charge of ensuring DMP is properly implemented.

A DMP is required for all projects participating in PRIMA Section 2 Multitopic 2021 to submit within the first 6 months of the project. The DMP needs also to be updated over the course of the project and also whenever new data is collected or generated, or significant changes occur in consortium policies (for instance decision to file for a patent), changes in consortium composition or external factors (e.g. new consortium members joining or old members leaving). Accordingly, the DMP of TECHONEY will be reviewed and updated as a minimum in time with the periodic evaluation/assessments (M18 and M36) of the project.

DATA SUMMARY

The TECHONEY project aims to identify strategies and establish lines of resilience to the new challenges determined by the COVID-19 pandemic of Mediterranean beekeepers, through the implementation, definition, enhancement, and transfer of competitive, profitable, efficient and trustful honey supply-chain alternatives that address beekeepers' capacities and attractiveness to fulfil consumer needs on unexpected food market changes. The project's research goal is to develop a traceability system in five countries (Spain, Algeria, Tunisia, Turkey, and Luxembourg), to guarantee the quality and safety of honey within the supply chain for more effective communication to consumers and to strengthen access to different markets. As a result, the project, by seeking the full understanding of the honey supply chains studied, will generate a vast amount of data. Therefore, each partner will collect, produce, process, and retain its own data, as well as share it with the consortium.

This chapter lists the datasets that partners will generate and their characteristics.

DEFINITION AND DESCRIPTION OF DATASETS CREATED

Each work package (WP) will have its own dataset(s), whose provenance information, sources, and description are provided in the following table.

TABLE 1

WP	Partner	Dataset generated	Origin / source	Format / type of data *	Due date
WP1	Leader: CREDA Co-leader: INAT Data Collection: CREDA, INAT, CITA, UNOR, ENAM, UMMTO, LIST	1) Stakeholders mapping (Stakeholder contact lists) 2) Deep interview (D1) 3) Variables collected from the Survey (S1) on the different Stakeholders 4) Price database (at farm and market levels) 5) Reports of Focus Groups (FG1)	<ul style="list-style-type: none"> ▪ Contacts review. ▪ Deep interviews (face to face or on-line). ▪ Structured questionnaire (S1). ▪ Official data. ▪ Focus Groups (FG1) 	<ul style="list-style-type: none"> ▪ Documents* ▪ Audio files* ▪ Databases* ▪ Video files* 	M1-M36
WP2	Leader: ENAM Co-leader: SAPIENZA, UMMTO Data collection: UNSO, USMS, INAT, UNOR, CITA	1) Physio-chemical and sensory analysis 2) Melissopalynological analysis 3) Safety analysis	<ul style="list-style-type: none"> ▪ Analytical tools (MS-spectography) 	Databases*	M36
WP3	Leader: CITA Co-leader: INAT Data collection: CITA, UNINA	1) Consumer acceptance survey (S2) 2) Deep interviews (D2)	<ul style="list-style-type: none"> ▪ Discrete Choice Modeling and Structured questionnaire (S2). ▪ Deep Interviews (face to face or online) 	Databases*	M20
WP4	Leader: LIGM Co-leader: JASSP-SAS-UTM	1) Blockchain based application	<ul style="list-style-type: none"> ▪ Programming 	ICT tool (web/platform service)*	M12-M36
WP5	Leader: UTM Co-leader: CITA, CREDA, JASSP	1) Development of indicators grid 2) Development of market recommendations and good practices	<ul style="list-style-type: none"> ▪ Business plan 	Documents	M36
WP6	Leader: JASSP, SAS Co-leader: CITA	1) IPR Management Plan 2) Economic feasibility	<ul style="list-style-type: none"> ▪ Information gathered from WP1-WP5 	Documents	M1-M36
WP7	Leader: UMMTO	1) Dissemination and communication actions	<ul style="list-style-type: none"> ▪ Publication in journals ▪ Communication or posters in congress 	Documents	M1-M36
WP8	Leader: CITA	1) Management organization	<ul style="list-style-type: none"> ▪ Reports and information provided by all Partners 	Documents	M1-M36

*Dataset that may include personal /sensible information and will be processed in accordance with the General Data Protection Regulation (GDPR).

DATA MANAGEMENT

STANDARDS USED BY THE PROJECT

The TECHONEY consortium will hold to ethical principles to ensure respect for people and human dignity, as well as protection of values, rights and interests of persons involved in the TECHONEY project.

- **No discrimination:** The consortium will not discriminate against any persons willing to participate in the network's activities based on race, religion, political belief, age or gender. Moreover, equal opportunities and gender balance will also be ensured, corresponding to the European Charter for Researchers and Code of Conduct for the Recruitment of Researchers.
- **Gender Dimension and inclusiveness:** The consortium will adhere to the EU guidelines for Gendered Innovations in delivering the network. These guidelines will ensure that actions do not favour one gender but provides equal opportunities. The project coordinator will supervise and encourage all consortium partners to promote active participation of both genders in all project activities. The gender balance among participants at events and workshops will be monitored by the consortium partners and effort will be done to actively encourage female participants.
- **No deception:** External stakeholders that will be involved in the project activities will not be deceived by the project consortium. In case of any interaction with the consortium, the stakeholders will know when and for what reason they are involved in the project activities.
- **No invasion of privacy:** Stakeholders will be able to participate in the activities of the project without concerns about any violations of their privacy.
- **Informed Consent:** TECHONEY will work in line with the EU legislation regarding the protection of natural persons with regard to processing of personal data and on the free movement of such data (EU Regulation No 2016/679 on 27 April 2016 and the preceding EU directive 95/46/EC from 24 October 1995). This legislation states that: “

Consent should be given by a clear affirmative act establishing a freely given, specific, informed and unambiguous indication of the data subject's agreement to the processing of personal data relating to him or her, such as by an oral statement. This could include conduct which clearly indicates, in this context, the data subject's acceptance of the proposed processing of his or her personal data.

Specifically, the **Article 39**

Any processing of personal data should be lawful and fair. The principle of transparency requires that any information and communication relating to the processing of those personal data be easily accessible and easy to understand, and that clear and plain language be used...

and the **Article 24**

The processing of personal data of data subjects who are in the Union by a controller or processor not established in the Union should also be subject to this Regulation when it is related to the monitoring of the behaviour of such data subjects in so far as their behaviour takes place within the Union...including processing techniques which consist of profiling a natural person, particularly in order to take decisions concerning her or him or for analysing or predicting her or his personal preferences, behaviours and attitudes.

Furthermore, before any engagement in a network/research activity, participants will be informed about the goals of the TECHONEY project and its specific activities, the type of (personal) data collected, the purpose of its collection, the promise of safe data storage and their right for free withdrawal and deletion of their data at any time without any motivation needed. This informed consent will be given either physically at events, Focus groups or workshops or via digital channels. Consents will be stored by the project.

DATA COLLECTION PROCEDURE

For the Data collection procedure, specifically within the Honey Community and Living Lab (**HCLL**) and the Honey Innovation and Learning Ecosystem (**HILE**); the deep interviews of the main stakeholders, the surveys (farmers, retailers, restaurants, industries and consumers) and the Focus groups guide and approach will follow an **Ethical Clearance Process**. Thus, the partners responsible of case studies should identify a **Data Protection Officer (DPO)**, who should manage the ethical issues related to surveys and focus group organization. When conducting experiments (Focus groups, surveys, etc.), the Principal Researcher and the Project Coordinator needs to get formal approval from the DPO.

At the same time, the protection of personal information and data must be ensured according to the above mentioned General Data Protection Regulation (EU) 2016/679 (EC, 2016) (GDPR), as well as national Data protection rules. Thus, stakeholders and consumers' data extraction methods (focus groups, surveys and personal interviews), which may use audio or video recording, proposed for consumers and stakeholders' data extraction will follow these legal requirements.

The Principal Researcher needs to fill in an "**ethical approval form**" (**Annex I**) carefully answering the list of questions and briefly explaining the procedure that will be followed for the data collection. Both the model for the consent form as well as the questionnaire should be appended and sent to the DPO and the National Authority responsible for approval.

The interviewing and surveying process will be approved by each National Authority, according to the Ethical rules in social science by avoiding deception issues (i.e. the questions should not deliberately mislead participants in any way) among others aspects (see attached template for ethical approval). Consumers will be randomly selected (using the quota sampling procedure) and informed about the objective of the study, the Programme and the funding entity.

Quota sampling is defined as a non-probability sampling method in which researchers create a sample involving individuals that represent a population. Researchers choose these individuals according to specific traits or qualities. The final subset will be decided only according to the interviewer or researcher's knowledge of the population. In this case, individuals, will be randomly invited (electronically or face to face) to participate in the study. They will be also informed that the information collected will be exclusively used for research and its confidentiality is absolutely guaranteed. Respondents are given the opportunity to omit the questions they don't want to answer and to withdraw from the survey at any time they want.

Data collection and use will be done according to the European regulations 2016/679 data collection, Article 39 and Article 24 (EC, 2016). Therefore, at the beginning of the questionnaires and the participatory focus groups, participants will receive a **Consent Form (Annex II)** where all the previous information is stated.

HOW DATA WILL BE CREATED?

Data will be created from the different questionnaires, the participatory Focus groups and the programming and the deep learning (multi-criteria techniques and optimization approaches will be applied). Table 1 presents a summary of data collected and generated from each WP, its origin and format.

DATA FORMAT AND VOLUME

The raw data from all questionnaire types will be presented in Excel sheets format, while the Data generated from the Focus groups will be storage mostly in Audio File or in video file if available. Taking into account the 3 focus groups meetings developed within each of the 5 Living Lab, the expected total size of the Audio files will be of a maximum of $3 * 5 * 1 \text{ Gb} = 15 \text{ Gb}$. In the case of the Excel file, the expected total size of all data collected from consumers, restaurants, industries, farmers, retailers for the 5 Living Lab will not exceed $200\text{Mb} * 5 \text{ Living Lab} * 5 \text{ stakeholders} = 5,000\text{Mb} (5\text{Gb})$.

FILE NAMING AND NEW VERSIONS

Data will be saved according to the type of stakeholders, country, and product. For instance, data from consumers in Spain will be named as follows: "Consumers_Spain". The versioning of the data file will be done using a "v" letter and the number of each version. For instance, the first version of the previous file will be "Consumers_Spain_v1".

METHODOLOGIES FOR DATA COLLECTION AND SOFTWARE USED FOR PROCESSING

Data will be collected using several approaches. For the consumer questionnaires, data will be collected following quota sampling procedure stratified by gender, age, and postal districts (as a proxy of income level) with intended proportional allocation to each stratum, whenever possible. Personal data will not be requested (address, email, phone number, name and surname, etc.). The selection criteria will be that respondents should be at least 18 years of age and should be the main food purchase decision makers in their household. For the Stakeholder questionnaires and Focus groups procedure (smallholders, restaurants, small retailers and industries), the data will be collected following the stakeholders mapping and ensuring representativeness in term of size of the stakeholders, place and type.

The Quantitative Data will be processed using the Statistical Package for social Science (SPSS) for the descriptive and multivariate analysis, the NLogit and Ngene for the consumers' preferences, Willingness to Pay analysis and Choice Experiment, the Super Decision for the Analytical Hierarchy Process. For the Qualitative data, the Nvivo software will be used.

DATA SHARING AND DISSEMINATION

The original datasets generated within the TECHONEY project will be storage and presented in Excel sheet format, which easily ensures its re-usability and sharing using any open access software to open calculation sheets. Datasets will be restricted, only available under justified request and only be provided after the publication of the results by TECHONEY. The data requesters will fill a data request template reporting their institution and objectives and certifying confidentiality and compliance with data processing regulations.

Furthermore, data will be made available under a clear and accessible usage license, provided that no personal data is contained. Thus, datasets will be covered by Creative Commons (CC) licenses during and after the project.

DATA STORAGE, SECURITY AND PRESERVATION

The information collected will be stored securely and confidentially in a previously defined repository, according to European regulations. This data storage will be held by CITA, which will provide its internal institutional servers to guarantee its long-term preservation and security. CITA's Data Protection Officer will supervise this process. Zenodo Open-AIRE compliant repository will be used to register TECHONEY publication as a means for long-term preservation. Each partner is obliged to deposit on this platform their project-related publications to create their persistent digital object identifier (DOI).

GUIDE TO ETHICS ASPECTS

TECHONEY data collection will be conducted, under the supervision of the ethics committee, according to the ethical principles expressed in the Declaration of Helsinki, whose Article 19 introduces the concept of social justice and extends the scope from individuals to the community as a whole by stating that “research is only justified if there is a reasonable likelihood that the populations in which the research is carried out stand to benefit from the results of the research”.

FINAL UPDATE – OVERVIEW OF DATA GENERATED

The TECHONEY consortium generated both primary and secondary data. Primary data originated from field surveys, laboratory analyses, and focus group activities conducted under the Honey Community Living Labs (HCLLs). Secondary data included materials developed during the project, such as blockchain testing files, dissemination outputs, and management documents.

The table below provides an overview of the datasets effectively produced by the end of the project:

Work Package	Type of Data	Main Partners	Access Level	Status at M36
WP1 – Stakeholder Mapping and Surveys	Structured questionnaires with beekeepers, retailers, industry, and hospitality actors	CREDA, INAT, UNOR, ENAM	Restricted	Completed
WP2 – Honey Characterization	Physico-chemical, melissopalynological, and safety analyses of honey samples	ENAM, SAPIENZA, UMMTO, INAT	Restricted (under embargo)	Completed
WP3 – Consumer Behaviour and Willingness to Pay	Survey data from consumers and retailers	CITA, UNINA, CREDA, INAT, LIST, ENAM	Restricted (anonymised internally)	Completed
WP4 – Blockchain Application	Source code and test data for traceability tool	LIGM, JASSP, SAS, UTM	Restricted (technical documentation)	Completed
WP5 – Indicators and Market Recommendations	Summary indicators and good practice guidelines	UTM, CITA, CREDA, JASSP	Internal	Partially completed
WP6 – IPR and Economic Feasibility	Internal management and feasibility reports	JASSP, SAS, CITA	Restricted	Completed
WP7 – Dissemination and Communication	Publications, presentations, posters, and outreach materials	UMMTO, CITA	Public	Completed
WP8 – Project Management	Administrative and financial documentation	CITA	Restricted	Completed

The largest data collections were produced in WP1–WP3, with surveys conducted among hundreds of beekeepers, retailers, and consumers across several Mediterranean regions. These datasets were harmonised at national level and securely stored by the responsible partners. Analytical laboratory data (WP2) and technical data (WP4) were likewise consolidated and archived according to institutional standards.

DATA STORAGE, SECURITY, AND RETENTION

All partners ensured that data were stored in secure environments, typically on institutional servers managed by universities or research centres involved in the project. Each partner was responsible for maintaining appropriate levels of access control, backup, and long-term preservation according to their internal policies.

- CREDA, INAT, and ENAM stored survey and analytical data from WP1 and WP2.
- UNINA and CITA archived project coordination files and documentation from WP3 and WP8.
- UTM and JASSP maintained internal copies of the blockchain application files (WP4).

No data were transferred through unsecured channels or shared with third parties outside the consortium. All storage infrastructures guaranteed controlled access, encryption where necessary, and redundancy through backup systems.

Long-term preservation of the data will rely on the institutional archives of the partners, particularly CITA and UNINA, for at least five years beyond the project's end, as specified in the initial DMP. No open-access publication or external deposition of datasets was implemented during the project period.

DATA SHARING AND ACCESSIBILITY

The TECHONEY consortium prioritised responsible and secure sharing of information over open dissemination of raw data. Given the sensitive nature of the datasets — involving personal opinions, socio-economic information, and experimental results from small-scale beekeepers — unrestricted public access was deemed inappropriate. Data were shared internally among partners on a need-to-know basis, through password-protected institutional platforms.

When sharing survey data, all partners ensured that personal identifiers were removed and that files contained only anonymised or aggregated information. While the consortium recognises the scientific value of open data, it concluded that ethical and confidentiality concerns outweighed the benefits of immediate public release. Nevertheless, the data are preserved in an accessible form within the consortium and could be shared, upon request, for legitimate research purposes under confidentiality agreements and subject to the approval of the project coordinator.

DEVIATION AND LESSONS LEARNED

The overall implementation of the Data Management Plan proceeded smoothly, though a few deviations occurred in practice. The main differences between the initial plan and the final situation concern the absence of an open-access repository and minor delays in data consolidation caused by administrative constraints or turnover in some partner institutions. These deviations did not affect the scientific quality or ethical compliance of the project. They highlight, however, the practical challenges of implementing FAIR principles in multi-country projects dealing with sensitive socio-economic data.

From this experience, several lessons emerged:

- Data centralisation is not always desirable when national privacy regulations and linguistic contexts differ substantially.
- Local storage combined with harmonised documentation can ensure both security and traceability without compromising compliance.
- Future projects would benefit from a mid-term DMP review and from appointing a dedicated “Data Steward” role in each WP to maintain uniform standards.

Overall, the DMP functioned as an effective coordination and compliance tool, supporting the consortium’s ethical and scientific integrity.

ANNEX I – ETHICAL APPROVAL FORM PROFORMA

Title of project:

Project Acronym: TECHONEY

Application number: XXXXXXXX

Name of Researcher asking for the Ethical Approval: XXXXXXXX

Institution of the Researcher asking for the Ethical Approval:

		YES	NO	N/A
1	Will you describe the main procedures to participants in advance, so that they are informed about what to expect?			
2	Will you tell participants that their participation is voluntary?			
3	Will you obtain written consent for participation?			
4	If the research is observational, will you ask participants for their consent to being observed?			
5	Will you tell participants that they may withdraw from the research at any time and for any reason?			
6	With questionnaires and interviews will you give participants the option of omitting questions they do not want to answer?			
7	Will you tell participants that their data will be treated with full confidentiality and that, if published, it will not be identifiable as theirs?			
8	Will you give participants the opportunity to be debriefed i.e. to find out more about the study and its results?			
9	Will your project deliberately mislead participants in any way?			
10	Is there any realistic risk of any participants experiencing either physical or psychological distress or discomfort?			
11	Is the nature of the research such that contentious or sensitive issues might be involved?			

In relation to question 10 this should include details of what you will tell participants to do if they should experience any problems (e.g. who they can contact for help).

		YES	NO	N/A	
12	Does your project involve work with animals?				
13	Do participants fall into any of the following special groups? Note that you may also need to obtain satisfactory CRB clearance (or equivalent for overseas students)	Children (under 18 years of age)			
		People with communication or learning difficulties			
		Patients			
		People in custody			
		People who could be regarded as vulnerable			
		People engaged in illegal activities (eg drug taking)			
14	Does the project involve external funding or external collaboration where the funding body or external collaborative partner requires the University to provide evidence that the project had been subject to ethical scrutiny?				

Give a brief description of participants and procedure (methods, tests used etc) in up to 150 words.

I also confirm that:

All key documents (**consent form** and **questionnaires**) are appended to this application.

Signed

Print Name **XXXXXX**

Date...XXXXXX

Ethics Committee Approval:

The project has no significant ethical implications. The key documents required for this proposal (consent form and questionnaires) were also approved. This project has been considered using agreed social science procedures and is now approved.

Signed

Print Name **XXXXXXXX**

Date...XXXXXX

ANNEX II – CONSENT FORM

CONSENT FORM

You have been **selected** to participate in a study in which you will be asked to answer a questionnaire of about XXX minutes. The questionnaire consists of different sections regarding XXXXXX.

This study is a part of a European research project called TECHONEY that is financed by the European Union under the PRIMA programme. This project is an academic research and innovation action that may result in a commercialized technology.

The information requested in the survey will be

- **Exclusively used for research**
- **Its confidentiality is absolutely guaranteed**
- **Will never be revealed to third parties.**

It is not necessary to give us information you do not want to provide and you can withdraw from answering at any time you want. In all cases, you can ask the data provided to be removed from the study.

Thanks in advance for participating to our research

DATE: _____20XX

Signature