DATA MANAGEMENT PLAN

PROJECT	
Project number:	[101086325]
Project acronym:	[Bio-Acouis]
Project name:	[Bio-based Solutions for Improved Acoustic Applications]

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Date:	[11/02/2025]
Version:	[Data Management Plan]

1. Data Summary

The project will re-use existing data where applicable, particularly from previous research or publicly available datasets, to avoid duplication of effort and ensure efficient use of resources. The re-used data will support baseline studies, comparative analyses, and validation processes within the Bio-Acouis project. However, if the existing data is found to lack relevance, accuracy, or compatibility with the project objectives, its re-use may be discarded. In such cases, new data will be generated to meet the specific requirements of the project.

The project will generate diverse types of data, including experimental outcomes, test and analysis results, articles, videos, and acoustic solution models. These datasets will be structured in various formats such as spreadsheets, textual documentation, audiovisual content, and numerical datasets. Existing datasets from reliable sources will also be re-used if compatible with the project objectives.

The primary purpose of data generation and re-use is to facilitate the development of acoustic solutions to noise problems, which is the ultimate goal of the Bio-Acouis project. The data will ensure knowledge integration, effective collaboration, and the validation of project outcomes. By organizing, analyzing, and sharing the data, the project will achieve its objectives and contribute to scientific progress in noise management.

The data generated and re-used during the project is expected to encompass hundreds of gigabytes, considering the scope of experimental and analytical activities, documentation,

and multimedia content. The size will depend on the volume of tests, experiments, and collaborative materials shared among project partners.

The data generated by Bio-Acouis will be valuable to researchers, policymakers, industry professionals, and other stakeholders working in fields such as acoustics, noise management, and environmental science. The publicly accessible data will foster advancements in related scientific disciplines, while the confidential data will benefit consortium members by ensuring streamlined collaboration and innovation.

2. FAIR data

The project ensures that all data generated or collected will be assigned a persistent identifier through deposition in a trusted repository such as Zenodo. Metadata will adhere to disciplinary and general standards, including the FAIR principles, and will include comprehensive details such as keywords, classifications, and data sources to ensure discoverability. In cases where no established metadata standards exist, descriptive elements such as methodology and relevant keywords will be created.

To optimize the possibility for data discovery and reuse, search keywords will be embedded in the metadata, which will also be designed for harvesting and indexing by repositories and search engines. This approach guarantees that metadata remains accessible and contributes to the long-term usability of the data.

2.1. Making data findable, including provisions for metadata

One of the fundamental aspects of the FAIR principles is making data findable. Metadata will play a crucial role in achieving this goal for the Bio-Acouis project, serving as a bridge. Metadata will include key details such as keywords, subject classifications, data sources, and dataset descriptions, making it easier for users to find and access the data. Academic publications, oral presentations at conferences, and posters, where all this information is presented as a whole, will be provided to facilitate access to the data.

Each academic output will be clearly and easily searchable on open platforms such as Google Scholar, Scopus, or Web of Science, with author names, keywords, and other relevant data. Publications will be made openly accessible in accordance with the Creative Commons Attribution International Public License (CC BY). Metadata in academic

publications will adhere to the most common standards, and articles will be stored using DOI numbers assigned to them and unique ISBN numbers of journals.

The Bio-Acouis project will ensure that all generated and collected data is stored in reliable repositories such as the digital archiving platform Zenodo. By using Zenodo, data will be discoverable and accessible to all users. Metadata will be provided in accordance with general standards, and the project will include search keywords to optimize data discovery. These keywords will enhance the visibility and accessibility of the data, making it easier for researchers interested in the project's outcomes to find relevant information. Accessibility on these platforms will be unlimited in duration.

2.2. Making data accessible

Bio-Acouis is committed to ensuring Accessible data in line with the grant agreement requirements. The data produced will be accessible through secure and trusted repositories, such as Zenodo, institutional repositories, OpenAIRE, and other recognized open-access data platforms in compliance with the Bio-Acouis project requirements. Access will be granted without restrictions for non-sensitive data, allowing stakeholders, researchers, and the public to use and build upon the data freely.

As part of the dissemination strategy, all partners will share project data on these platforms, with appropriate measures in place to protect sensitive information where necessary.

2.3. Making data interoperable

For data to be Interoperable, it must be able to work seamlessly across different systems and with other datasets. Bio-Acouis partners will use standardized formats for data collection, storage, and sharing. By integrating internal and external data repositories, Bio-Acouis will facilitate the integration of project results with other datasets, tools, and technologies. This approach will promote collaboration and allow Bio-Acouis results to be leveraged alongside other research efforts, enhancing the project's impact.

In the event that the project generates project-specific ontologies or uses uncommon vocabularies, mappings to widely used ontologies will be provided. Additionally, these ontologies will be openly published to allow others to reuse, refine, or extend them. The

Bio-Acouis project will also include qualified references to other datasets, ensuring that the project's results are interconnected with other relevant research.

2.4. Increase data re-use

The Bio-Acouis project is dedicated to ensuring that its data can be reused by third parties, both during and after the project. To achieve this, the project will provide comprehensive documentation that facilitates the validation and reuse of data. This documentation will include details about the methodology, codebooks, data cleaning processes, and variable definitions. Additionally, the data will be licensed under standard reuse licenses, in line with the obligations set out in the in the signed grant agreement number 101086325.

Provenance tracking will be a crucial part of the data management process. The project will document the origin and history of the data using appropriate standards, ensuring that the data's quality and lineage are transparent. Data quality assurance processes will be implemented throughout the project, ensuring that the data meets the necessary standards for reuse.

3. Other research outputs

The Project will produce additional research outputs, including software, workflows, protocols, and models. These outputs will be documented and shared in accordance with the FAIR principles. Digital outputs which are to be shared pulicly will be stored in repositories such as Zenodo, while physical outputs will be managed according to guidelines ensuring accessibility and reusability.

Effective data management and sharing are essential to the success of any research project. Bio-Acouis partners will utilize reliable, sustainable, and user-friendly systems for data storage and management to address the increasing complexity of data.

A secure internal platform has been adopted to support the storage of large datasets, taking into account the diversity of data formats and volumes. This platform facilitates seamless data flow between stakeholders, ensures controlled access, and enables efficient file management in shared environments.

For data sharing of sensitive data among beneficiaries, a storage system integrated with the Bürotime database will be established using SharePoint, one of Microsoft's cloud-based file-sharing services. Data will be stored following the principle of "as open as possible, as closed as necessary." In this context, data security will be ensured through ISO 27001 certification, and necessary documents will be protected with an encryption system. Files that do not require encryption will be openly accessible.

A structured filing and documentation protocol has been implemented within this system to ensure consistent data organization, traceability, and collaboration. This infrastructure will serve as the primary platform for the exchange of experimental results, dissemination materials, technical reports, project deliverables, and other relevant documentation.

The following table is created by work package leader, BURO in order to provide information about datasets for users, to facilitate their finding and collection to maintain order.

Bio-Acouis Bio-based Solutions for Improved Acouistic Applications			
Project No:	101086325	www.bio-acouis.eu	48 months

Work Package		**N:**	
Deliverable		**N:**	
Work Package Leader		**Lead Beneficiary**	
Responsible Beneficiaries			
Start Month		**End Month**	

Description

Authors			
Document Type		**Dissemination Level**	

Revision No	Date	Description

Table 1: Dataset Collection Form

4. Allocation of resources

Bio-Acouis DMP will allocate sufficient resources to ensure effective data management in alignment with FAIR principles. In the initial phase of the project, the focus will be on utilizing free repositories (OPEN ORE) and dissemination activities. However, towards the end of the project, if necessary, repository fees and other related costs will be covered by the project resources. Additionally, training sessions will be organized to enhance the project members' capacity to handle data in compliance with FAIR principles.

Data management activities will be supported by specialized team members from non-academic partners, ensuring that data is managed in line with in line with signed grant agreement. These activities will include the deposition, documentation, and accessibility of data, ensuring that all necessary tools and processes are in place for long-term usability and sustainability of research outputs.

The following team members from non-academic and academic partners will support data management activities within the Bio-Acouis project:

Non-Academic Partners

BURO:

Büşra Şimşek – Data Management & Compliance Specialist

Arif Akıllılar – Project Coordinator

BURO IT Team – Technical Support & Infrastructure

KEAS:

Gülşah Balamut – Data Governance & Documentation Lead

Merve Aslan – Research & Development Coordinator

Academic Partner

KKI:

Inese Filipove – Data Management & Research Compliance Advisor

These team members will ensure that data is managed in accordance with the signed grant agreement.

5. Data security

Bio-Acouis prioritizes the security of its data at all stages of the research lifecycle. Sensitive data, including proprietary information and personal data, will be protected through strong encryption protocols, secure storage environments, and access control mechanisms.

The project will use secure cloud services, certified under recognized security standards such as ISO 27001, for data storage and processing. Regular backups will be implemented to prevent data loss, with multiple copies stored in geographically distributed locations.

All Bio-Acouis partners will ensure that data is shared securely and only through trusted channels. Additionally, confidentiality will be maintained for sensitive information, products, and methodologies in accordance with the grant agreement. Open access will be guaranteed via Creative Commons licenses, enabling third parties to access, mine, exploit, reproduce, and disseminate the data free of charge.

6. Ethics

Bio-Acouis adheres to the highest ethical standards, ensuring compliance with relevant regulations, including GDPR for personal data protection. Informed consent will be obtained from participants before data collection, and anonymity will be maintained through the use of anonymization techniques.

Ethics approvals will be obtained where necessary, and ethical reviews will be conducted at various project milestones to address any emerging concerns. The project team will work closely with data protection officers and legal advisors to navigate the regulatory landscape and ensure compliance with all applicable laws.

7. Conclusion

The Data Management Plan (DMP) developed for Bio-Acouis will guide the project partners in implementing best practices for data management throughout the project. By following the **FAIR principles**, Bio-Acouis will ensure that data is accessible, usable, and valuable to a wide range of users, both during and after the project.

The **Project Coordinator**, in collaboration with the **Work Package 6 leader**, **BURO**, and all partners, will continue to work on improving and enhancing the data management system, ensuring that it evolves in line with project needs and ongoing developments. The DMP will also be updated regularly to reflect changes in the project's scope or new findings.

At the conclusion of the project, all Bio-Acouis data will be securely stored and protected in compliance with project requirements. Partners will ensure that appropriate security measures are maintained throughout the project, ensuring that sensitive information is handled with the utmost care. All project results will be shared openly with the scientific community, fostering continued collaboration and innovation.

HISTORY OF CHANGES		
VERSION	PUBLICATION DATE	CHANGE
1.0	30.06.2023	Initial version of deliverable 6.1.
1.1	09.01.2025	Reformatted to align with deliverable 6.1.
2	02.11.2025	Revision of deliverable 6.1.
3	15.04.2025	Revision of deliverable 6.1.