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INFINITE

Aerospace composites digitally sensorized from manufacturing to end-of-life

D8.2
Data Management Plan

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ABSTRACT / EXECUTIVE SUMMARY	
Abstract	This deliverable focuses on the Data Management Plan (DMP) defined by the INFINITE project to manage the data produced in the context of the project. For that, it describes the plan and processes followed in accordance with the General Data Protection Regulation (GDPR) and applicable legal framework. In addition, to make data openly accessible, interoperable and reusable, INFINITE DMP will apply the processes formalized for FAIR (Findable, Accessible, Interoperable, Reusable) data management based on European Commission directions and will enrich it with metadata to ensure their reusability. So, the purpose of the INFINITE DMP is to: • comply with the Horizon Europe Open Data Access Guidelines. • follow EU policy on data management in INFINITE project, providing open access to data funded by the EU. • ensure that all possible data is accessible to other researchers, helping to streamline the research process from start to finish and maximize the benefit to society. This DMP Deliverable describes the types of data created or collected by the project and the entire lifecycle followed by them. Moreover, it details which data would be suitable for open access following project closure and the standards that will be used for data representation. In this process, special attention will be put to protect personal data in compliance with GDPR covering, including any ethics considerations as well as the consent forms and internal processes that INFINITE plans to apply. This INFINITE DMP deliverable is a public document that will be updated during the project duration, capturing and reflecting the evolution in the form of dataset updates and/or changes in Consortium policies. The final version, planned for the end of the project, will present the details of all INFINITE datasets, validate compliance with the different data protection regulations and ensure full access and reusability of the project generated data.
Keywords	INFINITE, Data Management Plan, Data sharing, Data privacy, GDPR, Data sets, FAIR Management, Open Data Access guidelines

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List of Abbreviations

Abbreviation	Description
DMP	Data Management Plan
GDPR	General Data Protection Regulation
EC	European Commission
FAIR	Findable, Accessible, Interoperable, Reusable
WP	Work Package
ORDP	Open Research Data Pilot
TLS	Transport Layer Security
VNA	Vector Network analyser
IPR	Intellectual Property Rights
GA	Grant Agreement
EEA	European Economic Area

1. INTRODUCTION

This report is part of WP8 Management activity, and it encloses the INFINITE processes for Data management and internal General Data Protection Regulation (GDPR) compliance policies.
This report is the first of two deliverables that will be sent to the European Commission (EC) during the life of the INFINITE project. So, it will be a living document and all final data sets and followed procedures will be collected in the ¨Data Management Plan¨ deliverable to be submitted in month 36.

1.1 CONTEXT, SCOPE AND OBJECTIVES

This Data Management Plan (DMP) outlines the life cycle of the research data generated in the INFINITE project. The project is funded by the Horizon Europe programme under the grant agreement 101056884 and it has a duration of 36 months.
The objective of this deliverable is to give an overview of the data that will be collected during the runtime of the INFINITE project and it defines how data will be stored, published, distributed and reused if required. This will provide a greater impact for society and longer legacy of the work in projects funded by the European Commission.
This deliverable is the first of two reports that will be submitted during the duration of the project. So initially, this report describes the datasets that INFINITE project will create, process and share and how these data relate to the project objectives and the WP structure.

1.2 STRUCTURE OF THE DOCUMENT

The structure that this deliverable follow is:
Section 1 is the introductory section of the deliverable
Section 2 is the analysis of the Data Management Plan
Section 3 is the description of the data sets per WP
Section 4 outlines the FAIR principles and contributions to Open Research Data Pilot (ORDP)
Section 5 reports any Ethics considerations related to INFINITE´s data
Section 6 Summarizes the INFINITE GDPR policy
Section 7 Conclusions

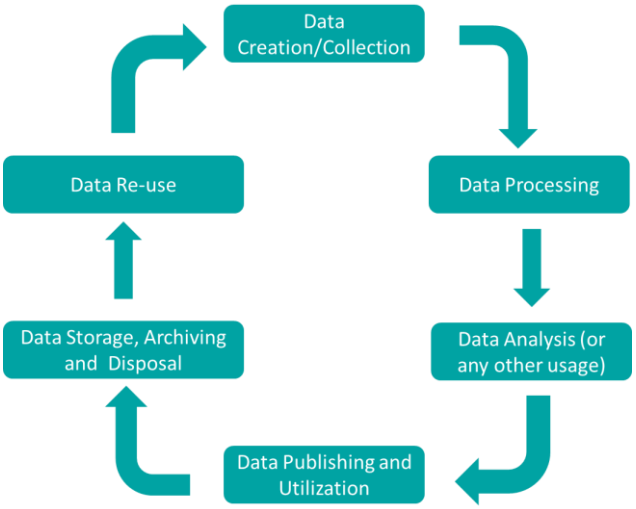
2. INFINITE DATA MANAGEMENT PLAN

The INFINITE DMP describes the data management life cycle for the data to be collected, processed and/or generated during the life of the project and after the end of it. It includes data flows in the context of specific use cases, structured reports for the evaluation of the process and information on:

- The handling of research data during & after the end of the project
- What data will be collected, processed and/or generated
- Which methodology & standards will be applied
- Whether data will be shared/made open access and
- How data will be curated & preserved (including after the end of the project).

2.1 DATA LIFECYCLE

This section describes the data lifecycle in the INFINITE project. This data lifecycle comprises next steps:



1. Figure - Data Lifecycle

2.1.1 DATA CREATION AND/OR COLLECTION

The first stage is the data creation and/or collection since it relates to the different data generated within the INFINITE activities and demonstrations, as well as the project reports and other documents/spreadsheets. Moreover, it also includes the creation of the data by each owner and the collection in a structured approach, appropriate format, and layout to enable their processing by the rest of the project components/modules. Specific evaluation criteria at this stage relate to the following:

1. Table - Evaluation criteria for Data creation and/or collection

Performance Indicator	Means of verification	Target Values
Format	Compliance with existing standards of data exchange	CSV, XLS, XML, etc.
Availability and Readability	Whole package of data available, non-corruption, whole percentage collected (e.g. verifiable by hash functions)	100% received 100% accessible
Fit for Use	Data follow data compliancy for proper processing and review	100% usable by intended beneficiary/ies
Consistency and Completeness	Data are consistent and complete for the intended purpose	Including 100% of information for the intended purpose
Relation	Data following a precise relation to their purpose	100% purpose precision

2.1.2 DATA PROCESSING AND ANALYSIS

This section is focused on the actual data processing by the different project partners (data processors) who will have access to the data for management following the project needs and outcomes. The processing of the data in an appropriate way by the required partner is essential to fulfil the INFINITE needs. So, this stage includes all steps towards data verification, organization, transformation, integration and extraction for the expected use.
After the Data Processing, the next step is Data Analysis and this is very connected with the data processing previously described, since it includes all the actions/methodology executed on the actual data to describe the existing facts, identify outlines, develop data clarifications, etc. Specific evaluation criteria at this stage are:

2. Table - Evaluation criteria for data processing and analysis

Performance Indicator	Means of verification	Target Values
Data logic	Data can be and are processed following a concise logic and approach	New and processed data follow precise data logic
Organization and Utility	Suitable content organization of data under processing	100% organized data
Validation	Ensuring that the data under processing are correct and relevant	100% validated and relevant data
Aggregation	Whenever multiple data need to be aggregated ensure that this is done in a concise approach	100% aggregate-able data
Transformation	Transformation of data to the proper format(s) for processing	Capability of data for transformation (if needed)
Calibration	Calibration of data for their intended purpose	Data properly calibrated

2.1.3 DATA PUBLICATION AND UTILIZATION

This stage refers to both internal and external (open) data sharing in the INFINITE project, while the stage of utilization includes the steps towards internal INFINITE data sharing. The objective of this stage is to ensure that the data are shared based on the appropriate controlling mechanisms to ensure the protection of proprietary data as well as the data integrity itself. This stage is closely linked to the following one (Data Storage and Archiving) as far as metadata is related to ensure data search-ability (as another feature of the FAIR data treatment, see FAIR Data management). Specific evaluation criteria at this stage relate to the following:

3. Table - Evaluation criteria for data publication and utilization

Performance Indicator	Means of verification	Target Values
Means-independent	Transferring of the data in a means-independent approach	100% means independent transferability
Security (a)	Data stored in a secure server	By minimum access control provided over a TLS protocol

2.1.4 DATA STORAGE ARCHIVING AND SECONDARY USE OF DATA

Another critical stage is the storage and archiving since they are related to data access, sharing, storage, archiving (including search capabilities), disposal and secondary use of data. Important metrics here include the updated status of the data so that no later version exists (unless is clearly indicated). This stage also takes into account actions to ensure accidental data losses, corruption and unauthorized access. Finally, data storage and archiving are also strongly linked to data re-usability which is also within the scope of the FAIR data management. Specific evaluation criteria at this stage relate to the following:

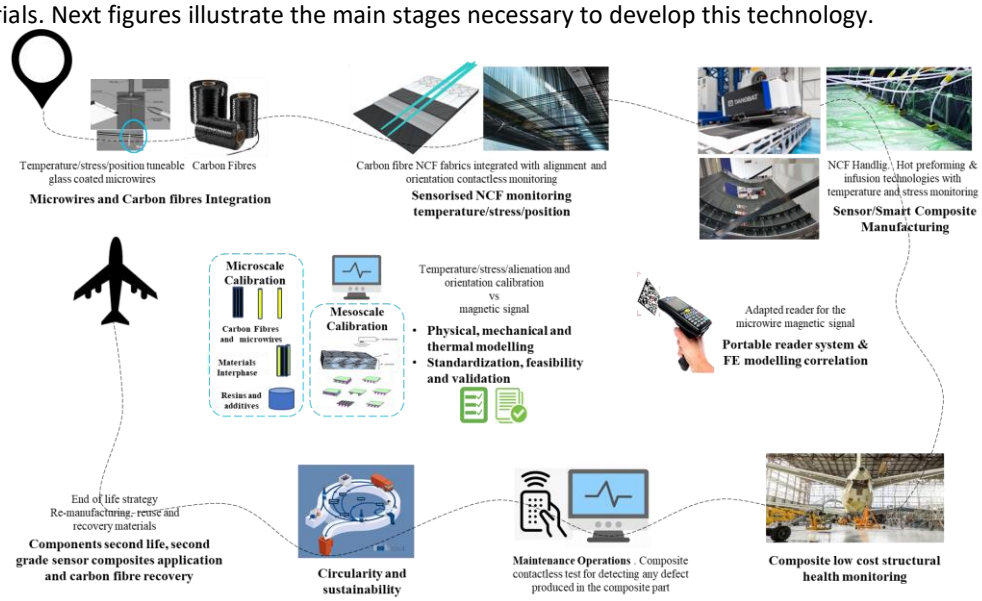
4. Table - Evaluation criteria for data storage archiving and secondary use of data

Performance Indicator	Means of verification	Target Values
Up to date	Ensuring that the stored data are up to date for the specific purpose and no later version exists	100% updated
Meta Data	Existence of meta data in stored files	Relevant metadata have been included into the archive per data set
Security (b)	Access control provided	Access control setup

Security (c)	Server is considered as safe enough (TLS connection protocol)	At least TLS connection configuration
Bandwidth	Control of server bandwidth	Effective storage server bandwidth > 2 MBPS
Expiration	Properly setting expiration dates for all data after which the data will be deleted	Expiration date noted

2.2 DATA FLOWS IN INFINITE

The innovation of INFINITE is based on the development of digitally sensorised NCF fabrics. These fabrics will provide an efficient real-time monitoring system through a self-sensing fibre by wireless monitoring of the fibre position, strain-stress and temperature throughout the life of the component. The self-sensing system will support the future development of cost-competitive and environmentally friendly Aerospace products and services in line with Circular Economy concepts. INFINITE will improve the efficiency of the manufacturing process; facilitating the maintenance operations, providing a novel capability for repair technologies and developing a suitable end-of-life strategy to close the circular economy project approach for new composite materials. Next figures illustrate the main stages necessary to develop this technology.



2. Figure - Approach of INFINITE project

In each of this stages, significant data will be created and managed following the rules described in this DMP.

2.3 DATA MANAGEMENT REPORT

In order to ensure the compliance of this Data Management plan and a proper management of data elements by INFINITE WP leaders (for each WP), the table in Annex I: Data Management report will act as a formal auditory. It will also be included in the final version of the DMP in the D8.3 Data management update.
Moreover, in tasks of WP6, task leaders will explicitly declare and confirm that data created, processed, stored and shared during WP6 integration, testing and validation activities follow the principles of Data Management Plan.

2.4 METADATA

The owners of each data component will be responsible for using the proper naming and tagging conventions following INFINITE Project Handbook and quality plan (see D8.1 Project Handbook and quality plan), so the respective metadata information can be easily kept, extracted and referenced for all purposes of data handling and utilization within INFINITE.
INFINITE considers metadata provisioning and searching capabilities of primal importance and will be used as the channels to enable data interoperability. Interoperability aspects of the INFINITE data have been included in section 3 Data sets in INFINITE as well as the summarizing table in section 3.1 INFINITE Data Description per WP as far as usage and utilization are concerned. Well agreed and proper data/file naming conventions combined with file tagging and advanced search capability will enable and maximize data interoperability inside INFINITE.

Mention that Data interoperability is considered only for internal purposes of INFINITE and includes data re-use, interchanges and general utilization. For data interoperability outside the consortium, INFINITE will follow IPR rules to ensure no INFINITE foreground is released. For more details on data sharing outside the consortium as far as Ipr are related, see section 6 General Data Protection Policy (GDPR) of this report.
As far as filename conventions are concerned to maximize data interoperability, the consortium seeks to comply with commonly used filenames such as .XML, .XLS(X) etc. Apart from the aforementioned, commonly used standards (relating to commonly used filenames). If need to, INFINITE will investigate the possibility to follow other (internationally recognized) standards for both actual data and software produced. Metadata standards (such as ISO 19115 (GIS data), 14721 (Open Archival Information Systems (OAIS), 16363 (audit and trustworthiness of digital repositories)). Compliance to these will support digital data management in a longer-term mentality. Other (software related) ISO standards will be also investigated (such as ISO 25010: ref systems and software engineering) and SQuaRE (systems and software quality requirements and evaluation).

3. DATA SETS IN INFINITE AND THE INFINITE DEMONSTRATIONS

This section describes the data collection concepts and data purposes as they relate to the project´s work-breakdown structure. Means of data collection, types of data that will be collected and formatting of the actual data are some of the items that are described based on the WP leader´s input.

Following is described a definition of the data that will be created/distributed for each of the INFINITE WPs. Data types may include narrative texts, numbers, images, audio files, video files and internal/external reports.

3.1 INFINITE DATA DESCRIPTION PER WP

This section describes the data produced or processed at each WP and elaborates on a number of factors for each of the involved data objects. Each WP´s introductory subsection addresses the intended purpose of use of the provided data from the Data Owner´s perspective and relates them to the INFINITE´s objectives while the table structure below elaborates for each data element, the following information:

- Short description of data content and type
- Data origin/source (where the data come from)
- Data format
- Confidentiality level (Public, Project consortium, data processor(s), Research purpose))
- Processing/Usage preconditions (restrictions)

3.1.1 WP1 - INITIAL REQUIREMENTS DEFINITION

5. Table – WP1 data mapping

Data Description	Data Origin/Source	Data Format	Confidentiality	Restrictions/ Preconditions
Sensors specifications	Partners	.docx	Project Consortium	N/A
Measurement systems specifications	Partners	.docx	Project Consortium	N/A
Monitoring of Manufacturing requirements	Partners	.xlsx	Project Consortium	N/A
SHM specifications	Partners	.xlsx	Project Consortium	N/A
Repair functionalities requirements	Partners	.xlsx	Project Consortium	N/A
EoL specifications	Partners	.xlsx	Project Consortium	N/A
LCA & ECA specifications	Partners	.xlsx	Project Consortium	N/A
Materials specifications	Partners	.xlsx	Project Consortium	N/A
Demonstrators specifications	Partners	.xlsx	Project Consortium	N/A
Deliverables	Partners	.docx	Project Consortium	N/A
Online meetings minutes	Partners	.docx	Project Consortium	N/A

3.1.2 WP2 - SENSOR SYSTEM DEVELOPMENT

6. Table - WP2 data mapping

Data Description	Data Origin/Source	Data Format	Confidentiality	Restrictions/ Preconditions
Specimen data	Partners	.xlsx	Confidential	Only for INFINITE Consortium
Lab set-up data	Partners	.html	Confidential	Only for INFINITE Consortium
Microwires features	Partners	.csv	Confidential	Only for INFINITE Consortium
Microwires distribution data	Partners	.csv	Confidential	Only for INFINITE Consortium

Measurement data sheets	Vector Network analyser (VNA) software	.csv	Public	Anonymised
Mechanical characterization data	Universal testing machine software	.csv	Public	Anonymised
Magnetically characterization data	Vector Network analyser (VNA) software	.csv	Public	Anonymised
Magnetically Simulation data	Simulation software	.csv	Confidential	Only for INFINITE Consortium
Mechanical Simulation data	Simulation software	.csv	Confidential	Only for INFINITE Consortium

3.1.3 WP3 - SENSORISED METHOD OF MANUFACTURE DEVELOPMENT

7. Table - WP3 data mapping

Data Description	Data Origin/Source	Data Format	Confidentiality	Restrictions/ Preconditions
Sensorized NCF features data	Partners	.xlsx	Confidential	Only for INFINITE Consortium
Specimen data	Partners	.docx	Confidential	Only for INFINITE Consortium
Calibration method specifications	Partners	.docx	Confidential	Only for INFINITE Consortium
Initial NCF manufacturing data	Partners	.csv	Confidential	Only for INFINITE Consortium
Initial Laying-up data	Partners	.csv	Confidential	Only for INFINITE Consortium
Initial Preforming data	Partners	.csv	Confidential	Only for INFINITE Consortium
Initial Infusion process data	Partners	.csv	Confidential	Only for INFINITE Consortium
NCF manufacturing processed data	Partners	.csv	Public	Anonymised
Laying-up processed data	Partners	.csv	Public	Anonymised
Preforming processed data	Partners	.csv	Public	Anonymised
Infusion process processed data	Partners	.csv	Public	Anonymised

3.1.4 WP4 - IN-SERVICE HEALTH MONITORING AND REPAIR FUNCTIONALITIES

8. Table - WP4 data mapping

Data Description	Data Origin/Source	Data Format	Confidentiality	Restrictions/ Preconditions
Microwires simulation set-up data	Partners	.csv	Confidential	Only for INFINITE Consortium
Microwires magnetic simulation test data	Partners	.csv	Confidential	Only for INFINITE Consortium
Microwires simulation lab test data	Partners	.csv	Confidential	Only for INFINITE Consortium
Microwires lab set-up data	Partners	.csv	Confidential	Only for INFINITE Consortium
Microwires magnetic lab test data	Partners	.csv	Confidential	Only for INFINITE Consortium
Microwires mechanical lab test data	Partners	.csv	Confidential	Only for INFINITE Consortium

3.1.5 WP5 - END OF LIFE AND ENVIRONMENTAL ASSESSMENT

9. Table - WP5 data mapping

Data Description	Data Origin/Source	Data Format	Confidentiality	Restrictions/ Preconditions
Life cycle inventory to perform the environmental life cycle assessment	Partners, LCA databases and literature review	.xlsx	Confidential	Only for INFINITE Consortium
Life cycle inventory to perform the costing life cycle assessment	Partners, LCA databases and literature review	.xlsx	Confidential	Only for INFINITE Consortium
Results of the environmental life cycle assessment	Partners	.xlsx .docx	Public	N/A
Results of the costing life cycle assessment	Partners	.xlsx .docx	Public	N/A
Design specifications to facilitate and increase the reusability of the microwired composite panels	Partners	.docx	Public	N/A

Results of the working conditions, productivity, efficiency and product characterization of the pyrolysis process to treat the waste of the composite/microwires panels	Partners	.xlsx .docx	Confidential	Only for INFINITE Consortium
Results of the working conditions, productivity, efficiency and product characterization of the mechanical process to treat the products obtained in the pyrolysis of the composite/microwires panels	Partners	.xlsx .docx	Confidential	Only for INFINITE Consortium

3.1.6 WP6 - INTEGRATION AND TESTING – VALIDATION

10. Table - WP6 data mapping

Data Description	Data Origin/Source	Data Format	Confidentiality	Restrictions/ Preconditions
Test plan for coupons and demonstrator	Partners, literature review (CMH-17, EASA CS-25, etc)	.pdf	Public	N/A
Validation report of functionality of microwires	Partners, test results	.docx, .xlsx	Consortium Internal, unless agreed to be public	Consortium Internal, unless agreed to be public
Composite manufacturing validation report	Partners, test results	.pdf	Public	N/A
Material qualification test campaign.	Partners, literature review	.docx	Consortium Internal, unless agreed to be public	Consortium Internal, unless agreed to be public
Test request for demonstrator	Partners, literature review (EASA CS-25, OEM specifications, etc)	.docx	Consortium Internal, unless agreed to be public	Consortium Internal, unless agreed to be public
Validation report of final technology demonstrator	Partners, test results	.pdf	Public	N/A
Validation of repair technology. Test plan and test campaign	Partners, literature review (CMH-17, EASA CS-25, etc), test results	.docx, .xlsx	Consortium Internal, unless agreed to be public	Consortium Internal, unless agreed to be public
Validation of non-interference between developed technology with onboard avionics	Partners, test results	.docx, .xlsx	Consortium Internal, unless agreed to be public	Consortium Internal, unless agreed to be public
Validation of recycling, LCC and LCA	Partners, technical data of used material	.docx, .xlsx	Consortium Internal, unless agreed to be public	Consortium Internal, unless agreed to be public

3.1.7 WP7 - DISSEMINATION/COMMUNICATION/EXPLOITATION

11. Table - WP7 data mapping

Data Description	Data Origin/Source	Data Format	Confidentiality	Restrictions/ Preconditions
Posters, flyers	Custom made for INFINITE	Pdf	Public	Design agreed by Project consortium
Website, Social media	LinkedIn, Twitter, youtube, Web		Public	Design agreed by Project consortium Contents agreed with involved partners. Acknowledgements to EU funding is compulsory.
Photo, images, video	Retrieved during physical or virtual project events, Custom made for INFINITE	Common formats for pictures (jpg, png, …) and videos (asf, avi, mpeg)	Public	Explicit consent received from appearing participants, Lawful use-rights granted from media owners

Questionnaires, reports…	Custom made for INFINITE	docx	Public	Contributors details either anonymised or simply consolidated
Presentations (workshops, conferences…)	Custom made for INFINITE	Pdf, pptx	Public	INFINITE template needs to be used. Contents agreed with involved partners. Acknowledgements to EU funding is compulsory
Scientific publications	INFINITE outputs	pdf	Public	Open Access Contents agreed with involved partners. Acknowledgements to EU funding is compulsory

3.1.8 WP8 - PROJECT MANAGEMENT

12. Table - WP8 data mapping

Data Description	Data Origin/Source	Data Format	Confidentiality	Restrictions/ Preconditions
Meeting presentations	Partners and Coordinator	.ppt, .pptx	Consortium Internal, unless agreed to be public	Consortium Internal, unless agreed to be public
Management and financial reports (internal and EC)	Partners and Coordinator, EC	.doc, .docx, .pdf .xls, .xlsx	Consortium Internal	
Deliverables and internal reports	Partners and Coordinator, EC	.doc, .docx, .pdf	Depending on Deliverables' GA defined type, Reports are internal	
File for patents	Partners and Coordinator	.doc, .docx, .pdf	Consortium internal until patent filling	
Other templates (minutes, agendas etc)	Quality management templates	.doc, .docx, .pdf .xls, .xlsx, .ppt, .pptx	Consortium Internal	

3.2 WP LEADERS´RESPONSIBILITIES AND ALLOCATION OF RESOURCES

Work Packages of the INFINITE project include all relevant budget resources, such as technical effort, management of the WP, as well as management of the related data. WP8 has the overall responsibility for the data management and lifecycle monitoring for all datasets to be created, collected, shared or processed by the project.
To ensure the compliance with the previously described data management processes of each WP as they relate to the DMP, the following overall INFINITE measures will apply:

- WP leaders will be responsible for adhering to the specifications above in their WPs.
- The Project Manager of each organization will be responsible for the DMP actions and will be accessible by the rest of the team in case of issues related to the DMP.
- Data owners have the ultimate responsibility of complying with the specifics of the INFINITE DMP, as well as the related GDPR policies.
- The Project Manager and the primary contact from each and every partner should ensure that personnel working on the project have read the DMP and apply/exercise all the principles as described in the INFINITE DMP (this document).

4. FAIR DATA MANAGEMENT AND THE ORDP

Following EC guidelines related to FAIR data management (Findable, Accessible, Interoperable, Reused data), in the INFINITE project, data will be created, acquired and collected in all INFINITE´s Work Packages and will include among others: Reports (internal or external to INFINITE) in text, MS Word and other text files, MS XLS or other spreadsheets, MS Power Point files (presentations), audio files (.wav, .mp3, etc.), multimedia files (video recording and other), specification documents (text), software application source code files, software application executable, files, other observation material, survey questionnaires and data, factsheets, project images, etc.
The next section describes the naming conventions followed for FAIR data management and contribution to open data research, data identification and searching, as well as meta-data provisions and data reusability.

4.1 FAIR DATA MANAGEMENT

INFINITE will implement several actions described below to act in accordance with the FAIR principles.

Making data findable, including provisions for metadata:

- The datasets will have very rich metadata to facilitate the findability. Open data format (csv, xml) will be used.
- All the datasets will have Digital Object Identifiers provided by the public repository (ZENODO).

- The reference used for the dataset will follow the format: "INFINITE_Process_Datatype_XX"" (XX: identifier to be added for similar datasets).
- The standards for metadata will be defined for each dataset as described in Section 2.4.

Making data openly accessible:

- The datasets that will be openly available will be described according to Table 9.
- The datasets for evaluation will be accessible via INFINITE's Microsoft Teams Server.
- The datasets will be made available using a public repository (e.g., ZENODO) after the project.
- Table 9 and Table 1 will be used to explain the methods or software used to access the data. Basically, no software is needed to access the data.
- The data and their associated metadata will be hosted in a public repository or in an institutional repository.

Making data interoperable:

- The metadata vocabularies, standards and methodologies will depend on the public repository and use the recommendations of section 2.4.
- The INFINITE will define a common data format or reuse an existing one. This work is being developed in close collaboration with Task 6.4 Security, Data Management and Governance with the goal to follow a single format across the project.

Increase data re-use (through clarifying licenses):

- All data producers will license their data to allow the widest reuse possible. Examples of licenses are available at https://opendefinition.org/licenses/.
- By default, the data will be made available for reuse. If any constraints exist, an embargo period will be mentioned in Table 9 to keep the data for only a period of time.
- The data producers will make their data available for third parties within public repositories. The data will be reused for the scientific publication's validation purpose.

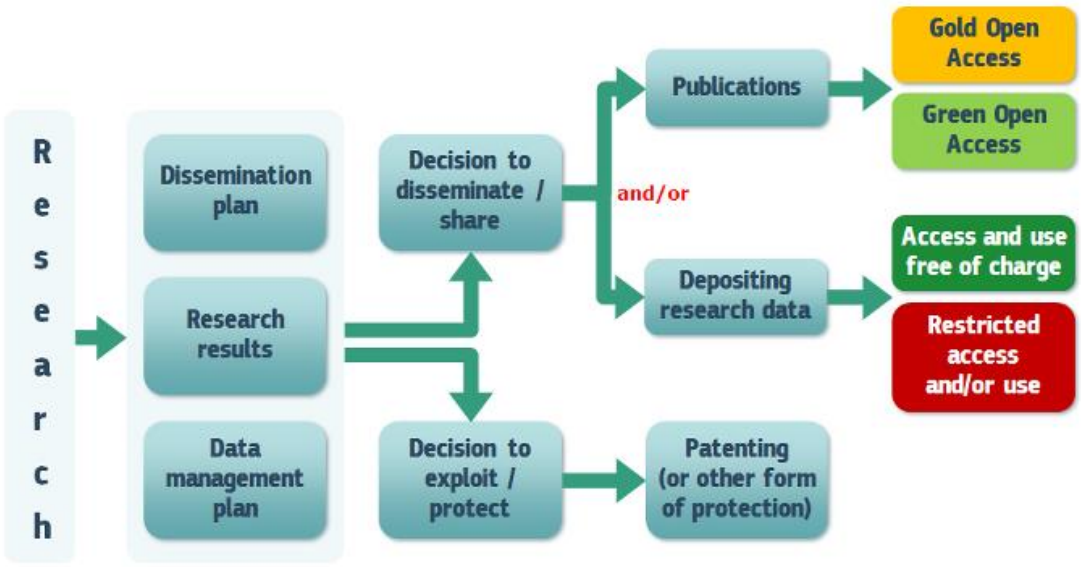
4.1.1 NAMING CONVENTIONS FOR INFINITE DOCUMENTS AND DATA/DOCUMENT VERSIONING

Within the framework of the INFINITE quality plan and control, a series of documents/reports and templates will and have been created to ensure a consistent approach for all INFINITE data and their versions. Details about these reports can be found in INFINITE D8.1 "Project Handbook and quality plan". For purposes of completeness, we have added below some common material to indicate how the data versioning is aligned with the FAIR approach.
Partners use the Microsoft Teams server of the project for the development of the documents, which enable collaborative writing and track changes functionalities. For any case that versioning management is applied, the guidelines below should be followed:

- The file name should start with "INFINITE_**"
- The filename should be descriptive of the contents and the author, e.g. "INFINITE_D8.1_Project handbook and quality plan_IDK_v1.docx"
- When a document is likely to be produced in a similar format by various partners, the partner's short name should be included in the file name.
- When commenting on a document provided by another partner, the filename should be changed to include the initials of the person or short name of the partner making the changes e.g. "INFINITE_**_IDK_v2_AER.docx" if changes to the version 2 have been made by Aeromec.
- When suggesting changes to a document, the use of the track changes feature in Word is recommended to assist the document author/owner.
- Only the originating author or owner of a document should increment the version number, i.e. when the author has received and implemented all changes to the second version of the document, it becomes "INFINITE_**_IDK_v3.docx".

4.2 CONTRIBUTION TO THE OPEN RESEARCH DATA

Open Access (see Figure 3) is about offering on-line access to scientific information, cost-free to the end-user and in a multiple-use fashion. In the context of research and innovation, 'scientific information' refers to peer-reviewed scientific research articles published in scholarly journals and research data (data underlying publications, curated data and/or raw data) [4].



3. Figure - Open Access in H2020 projects

In order to improve and maximize access to and re-use of research data generated by INFINITE but taking into account the balance between openness and protection of scientific information, commercialization and Intellectual Property Rights (IPR), privacy concerns and security. The INFINITE project, in parallel to the publication of scientific publications, will deposit at the same time the publication of research data needed to validate the results presented in the deposited publications ('underlying data'). Publication of data within INFINITE will be accomplished on a voluntary basis by the stakeholders, and in full alignment with the Intellectual Property (IP) and the patenting activities of INFINITE. It is recognized that some research data cannot be made open and the principle of “as open as possible, as closed as necessary” will be applied.
Considering the above, INFINITE aims at contributing data to the ORDP. Data sets that are candidates for sharing will certainly have been inspected to make sure that:

- They are not confidential, that they do not include commercially sensitive or personal info according to GDPR.
- That permission from the relevant stakeholders and/or data objects has actually been obtained.
- That sharing the data does not damage exploitation or IP protection prospects.

The project will create a public repository in ZENODO to deposit Open Data following the FAIR data principles to ensure findable, accessible, interoperable data and to increase their re-use. The next version of the Data Management Plan (DMP) will explicitly specify what data will be open, how it will be exploited or made accessible for verification and re-use, and how it will be curated and preserved.

Accordingly, datasets will be reviewed by the Data Owners and must be approved before becoming candidates for contribution to the open research. These parties and the respective technical consortium partner(s) will then agree on the licensing (e.g. creative commons or public domain). Following in principle approval, INFINITE will then make the dataset available through the INFINITE user community and upload content to the existing relevant and suitable open access repositories. Where data must be embargoed towards IP protection or exploitation, a timeline for its release will be provided.
The approval of the availability of data in an open approach will need to be sent to the project coordinator from the actual Data Owners via email. For this, consent that the data can be distributed outside the consortium must be included in the approval email to the project coordinator. The following information should be included:

Table 13:Open Data Ownerships

Data Owner	Description of data	Data filenames and version	Consent to publish data outside the INFINITE consortium

Who is the data owner	*What the data include*	*Filenames and depository position*	*[YES/NO]*

4.2.1 STRUCTURE FOR OPEN RESEARCH DATA COMPILATION

Once data sets have been published publicly, this section shows the structure that INFINITE project will follow to present all data made available through the ZENODO platform for Open Research Pilot.

- Title: Title of the openly publicised document
- Overview: Short summary of the publicised document.
- Authors Name of authors and Company
- Publication date: Date of publication
- Digital Object Identifier: Digital Object Identifier of the publication
- Files

Name	Size
Name of files shared by ZENODO	Size (in MB or KB)

- License (For Files):
- References: Reference to the publication (i.e: DOI, etc.)

5. ETHICS CONSIDERATIONS

It is assumed that all data to be collected from stakeholders in the project will be done in accordance with applicable ethical standards and requirements in the respective countries of the data collection, as well will be processed and handled in a secure way and in line with applicable rules and regulations on privacy and data protection.

Specific articles of the Grant Agreement (GA) mandate that all ethical principles comply to the European Code of Conduct for Research Integrity, avoiding fabrication, falsification, plagiarism or other research misconduct. In chapter 4, section 4 of the GA, Article 34 ETHICS AND RESEARCH INTEGRITY and Article 39 PROCESSING OF PERSONAL DATA, dictate the roles and responsibilities of each consortium partner, since they are beneficiaries of the INFINITE. Towards INFINITE's objectives, the beneficiaries have full responsibility for implementing the action and complying with the provisions of the GA. Regarding compliance with Ethics principles, each beneficiary must submit to the coordinator in good time notifications for activities raising ethical issues. Additionally, obligations of all partners related to Data management are described in the other sections of this deliverable.

6. GENERAL DATA PROTECTION POLICY (GDPR)

As of May 2018, the GDPR has been applicable in all Member States in the European Union, as well as in the countries in the European Economic Area (EEA).

Data confidentiality is an overriding concern throughout the INFINITE project and beyond, as the INFINITE framework will continue to be used afterwards, thus INFINITE aims at being fully GDPR compliant. All data to be collected from stakeholders in the project will be done in accordance with applicable ethical standards and requirements in the respective countries of the data collection, as well will be processed and handled in a secure way and in line with applicable rules and regulations on privacy and data protection.

Table 10 below presents the data and personal information that is planned to be collected and stored throughout the project duration and beyond as well as their access, storage, purpose and retention details.

Table 14: Data and Personal Information from day-to-day activities

Personal Data Description[1]	Access[2]	Storage[3]	Purpose[4]	Duration[5]
Official Contact List of INFINITE contacts	Internal to INFINITE (project partners only)	INFINITE's Microsoft Teams Server (team: INFINITE - Consortium, *folder: INFINITE Contacts*)	Management, organizations contact points	31/05/2025
Meetings' related material (agendas, presentations, signature lists, minutes)	Internal to INFINITE (project partners only)	INFINITE's Microsoft Teams Server (team: INFINITE - Consortium, *folder: Meetings*)	Knowledge sharing, dissemination and management reasons	31/05/2025
Workshops/Conferences and Training sessions	Internal and external to INFINITE	INFINITE's Microsoft Teams Server (team: INFINITE - Consortium, *folder: Meetings*, INFINITE Website)	Large event dissemination	31/05/2025
Reporting (C forms)	Internal to INFINITE (project partners only)	INFINITE's Microsoft Teams Server (team: INFINITE - Consortium, *folder: Project's*	INFINITE reporting and consolidation of financial reports	5 years after the project's end

[1] Overall data description.
[2] Determines who has access to the particular data (internal, external to consortium).
[3] Storage places of actual data.
[4] Intended purpose of data and reasons for keeping.
[5] Duration of stored data (until when they will be kept).

		Official Documents)		

Deliverables, official documents and other INFINITE reports	Depending on deliverable type could be public or consortium restricted	INFINITE's Microsoft Teams Server (team: INFINITE - Consortium, *folder: Project's Official Documents*)	INFINITE documents and deliverables	31/05/2025
Publications	Internal and external to INFINITE	INFINITE's Microsoft Teams Server (team: INFINITE - Consortium, *folder: Project's Official Documents*)	Dissemination and publication of research results	Internal: 31/05/2023 External: Depending on publisher

7. CONCLUSIONS

This document is the first release of the INFINITE's DMP and describes in detail the data and the mechanisms to manage them in the context of the INFINITE project. It includes a detailed introduction of the data that will be produced, processed or used within the INFINITE scope with details on the type and nature of the data involved in each of the INFINITE WPs, as well as their relationship with the project goals. A structured approach has likewise been developed and recorded to make sure that INFINITE's data management follows the FAIR data concepts as specified by the EC.

A full section of this report has been devoted to addressing the security of personal data in compliance with GDPR (regulation) that has been developed to harmonize data privacy legislations throughout Europe, and also protect as well as enable all EU citizens' data privacy, by improving the methods that companies throughout the area approach data privacy. This section also covers all practices that INFINITE will follow to abide by the above, along with consent forms and internal processes that INFINITE prepared to implement and use.

8. ANNEX I: DATA MANAGEMENT REPORT

Indicator	Means of verification	Target Values	Compliance
			WPX
Data Creation			
Format	Compliance with existing standards of data exchange	XLS, XML etc.	√ or ×
Availability and Readability	Whole package of data available, non-corruption, whole percentage collected	100% received 100% accessible	√ or ×
Fit for Use	Data follow data compliancy for proper processing and review	100% usable by intended beneficiary/ies	√ or ×
Consistency and Completeness	Data are consistent and complete for the intended purpose	Including 100% of information for the intended purpose	√ or ×
Relation	Data follow a precise relation to their purpose	100% purpose precision	√ or ×
Data Processing and Analysis			
Data logic	Data can be and are processed following a concise logic and approach	New and processed data follow precise data logic	√ or ×
Organization and Utility	Suitable content organization of data under processing	100% organized data	√ or ×
Validation	Ensuring that the data under processing are correct and relevant	100% validated and relevant data	√ or ×
Aggregation	Whenever multiple data need to be aggregated ensure that this is done in a concise approach	100% aggregate-able data	√ or ×
Transformation	Transformation of data to the proper format(s) for processing	Capability of data for transformation (if needed)	√ or ×
Calibration	Calibration of data for their intended purpose	Data properly calibrated	√ or ×
Data Publication and Utilization			
Means-independent	Transferring of the data in a means-independent approach	100% means independent transferability	√ or ×
Security (a)	Data stored in a secure enough server	At least access control provided over a TLS protocol	√ or ×
Data Storage, Archiving and Re-Use			
Up to date	Ensuring that the stored data are up to date for the specific purpose and no later version exists	100% updated	√ or ×
Meta Data	Existence of meta data in stored files	Relevant metadata have been included into the archive per data set	√ or ×
Security (b)	Access control provided	Access control setup	√ or ×
Security (c)	Server is considered as safe enough (TLS connection protocol)	At least TLS connection configuration	√ or ×
Bandwidth	Control of server bandwidth	Effective storage server bandwidth > 2 MBPS	√ or ×
Expiration	Properly setting expiration dates for all data after which the data will be deleted	Expiration date noted	√ or ×