



TorPropel

Toroidal Propellers for Efficient and Sustainable Aviation

Deliverable Number	D6.3
Deliverable title	RP1 update of the Data Management Plan
Lead beneficiary	UOI
Version	2.0
Number of pages	27
Due date of deliverable	31/01/2026
Actual submission date	31/01/2026
Type	DMP-Data Management Plan
Dissemination level	PU-Public

Project number: 101187800

Start Date: 01/02/2025

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■ Revision History of the Document:

<i>Version</i>	<i>Date</i>	<i>Description of Modification</i>	<i>Authors</i>	<i>Reviewers</i>
0.1	23/01/26	First draft of updated DMP shared with the consortium	Tsirka K. (UOI)	All
1.0	31/01/26	Final version of document	Tsirka K. (UOI)	-

■ Distribution list:

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■ General introduction and updates applied to the DMP in comparison to the first version

This document is the updated version of the DMP for TorPropel project. The first version of the DMP was submitted on M6 (31/07/25) of the project. The first DMP version was a complete document covering all aspects relevant to the data handling, curation, sharing, preservation, reuse, respect of FAIR principles, data security and ethics for TorPropel. Only minor changes were applied to this updated DMP version including:

- In section 2:Executive Summary section, the first paragraph

“This Data Management Plan (DMP) outlines the strategy adopted by the TorPropel consortium for handling all types of research data that will be generated, collected, processed and stored throughout the lifecycle of the project. The DMP is a living document which will be updated and refined as the project implementation progresses and/or significant changes occur. Two revisions are foreseen by the GA of TorPropel, as new public type deliverables, on M12 and M36.”

was replaced by the following paragraph

“This updated Data Management Plan (DMP) outlines the strategy adopted by the TorPropel consortium for handling all types of research data that will be generated, collected, processed and stored throughout the lifecycle of the project. The DMP is a living document which will be updated and refined as the project implementation progresses and/or significant changes occur. One more revision is foreseen by the GA of TorPropel, as new public type deliverables, on M36.”

- In Section 6.2: Making data accessible, the sentence

“An EU project community will be created for TorPropel in the Zenodo repository.”

was replaced by the sentences

“An EU project community was created for TorPropel in the Zenodo repository. The community is part of the EU Open Research Repository.”,

since the community is now available.

- In Section 12: Conclusions, the sentences

“This document is the first version of the DMP of TorPropel project.”

and

“Two revisions are foreseen by the GA of TorPropel, as new public type deliverables, on M12 and M36.”



were replaced by the sentences

“This document is the updated version of the DMP of TorPropel project.”

and

“One more revision is foreseen by the GA of TorPropel, as new public type deliverables, on M36.”

No data have been produced yet that can be publicly available, while the first version and the second version of the DMP will be soon available on the repository for public access.

The current version of the document was revised and accepted by all the consortium partners and no further change was identified.



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1. Glossary

Term	Description
CA	Consortium Agreement
CC	Creative Common
CFD	Computational Fluid Dynamics
DMP	Data Management Plan
DOI	Digital Object Identifier
EC	European Commission
EISMEA	European Innovation Council and SMEs Executive Agency
EU	European Union
FAIR	Findable, Accessible, Interoperable, Re-usable
GA	Grant Agreement
GDPR	General Data Protection Regulation
HE	Horizon Europe
IPR	Intellectual Property Rights
SHM	Structural Health Monitoring
WP	Work Package



2. Executive Summary

This updated Data Management Plan (DMP) outlines the strategy adopted by the TorPropel consortium for handling all types of research data that will be generated, collected, processed and stored throughout the lifecycle of the project. The DMP is a living document which will be updated and refined as the project implementation progresses and/or significant changes occur. One more revision is foreseen by the GA of TorPropel, as new public type deliverables, on M36.

During TorPropel, data will be generated by a wide range of R&D activities ranging from structural and aerodynamic design, material production and characterisation, standardized coupon testing to demonstrator testing under controlled conditions. All these technical activities except for data will also produce other types of research outputs, which are also considered in this DMP along with a summary of the datasets with types, formats and sources (WPs and partners names) and specific conditions to be applied for sharing and reuse.

The DMP complies with the European Commission's guidelines on FAIR data principles—Findable, Accessible, Interoperable, and Reusable—and supports open science, data security, GDPR compliance, IPR protection and protection of results for exploitation. The document is based on HE Guidelines and the HE project reporting template V1.1 – 01.04.2022 available on the EC Funding and Tenders Portal.

To ensure good data management, all the TorPropel consortium partners have been involved in the development of this DMP and will continue to be involved in updating it throughout the duration of the project.



3. Deviations

No deviations need to be reported in comparison to the DoA of TorPropel.

4. Introduction

TorPropel is a three-year research project, funded by the European Innovation Council and SMEs Executive Agency (EISMEA) with project number 101187800. TorPropel aims to advance aircraft propulsion technology by developing and upscaling propellers of toroidal geometry utilising advanced carbon composites and state-of-the-art robotic manufacturing processes. This technology has the potential to significantly improve the performance of light aircraft, by reducing weight and noise emissions and increasing thrust efficiency, while also prioritising the propellers' recyclability and repairability. Moreover, TorPropel will develop sophisticated condition monitoring integrated within the propeller structure, to assess in real-time the structural health of the propeller, thus ensuring safety, and considerable reduction of time and costs associated with maintenance. Overall, the TorPropel technologies are expected to contribute to the scientific field of aircraft propulsion technologies, improving upon the operational effectiveness and environmental sustainability of short-distance air travel.

The following sections summarise the policies and principles that will be used for collection, processing, curation, protection, sharing and preservation of the project's data during and after the project. TorPropel efforts will be implemented in six work packages which will produce all the relevant project data and research outputs. The expected datasets and their characteristics are summarised in the Appendix of this DMP. The final version of this DMP was reviewed and approved by all partners.



5. Data Summary

5.1. Purpose of data collection/generation in relation to TorPropel objectives

The aim of TorPropel is to advance aircraft propulsion technology by developing and upscaling propellers of toroidal geometry, utilising repairable and recyclable carbon fibre reinforced vitrimer composites, state-of-the-art robotic manufacturing processes and integrated structural health monitoring (SHM) technologies.

To achieve this global goal, the consortium has identified the following general objectives:

- O1. Optimising toroidal composite propellers for enhanced aerodynamic efficiency and noise reduction.
- O2. Development and testing of vitrimer based carbon fibre prepreg tapes suitable for Rapid Tow Shearing (RTS).
- O3. Development of RTS manufacturing process for toroidal propeller with vitrimer tapes.
- O4. Propeller integration of structural health monitoring systems for real-time condition assessment.
- O5. Minimising environmental impact and developing a framework for the repairability and recyclability.

Data collection and generation during TorPropel ensure the achievement of those general objectives. The following Table summarised a more detailed scheme of the expected data and research outputs in relation to the project objectives.

Purpose of data/research output collection or generation	Relevant project objectives
Definition of performance goals and technical requirements based on engineering standards and stakeholder requirements.	O1, O2, O3, O4, O5
Establishment of manufacturing process, equipment and materials.	O1, O2, O3, O4, O5
CFD modelling for optimisation of propeller topologies for aerodynamic efficiency and noise emissions.	O1
Optimisation of composite layup and validation of propeller structural and aeroelastic performance to ensure durability under operational conditions.	O1, O2, O3, O4
Development of suitable vitrimer resin and prepreg tapes for the manufacturing of composite toroidal propellers by Rapid Tow Shearing.	O2



Development and refining of a precise automated manufacturing processes using the Rapid Tow Shearing (RTS) technology.	O3
Selection of suitable a sensor network and development of integration process in composite materials, data acquisition protocols and data evaluation procedure.	O4
Manufacturing and characterisation of composite coupons to validate manufacturing techniques and assess material properties against specifications.	O1, O2, O3, O4
Fabrication of toroidal composite propeller demonstrators.	O1, O2, O3, O4
Implementation of a testing campaign in simulated operational conditions to achieve TRL 4.	O1, O2, O3, O4, O5
Presentation of scientific findings in international conferences and peer reviewed journals.	O1, O2, O3, O4, O5
Development of a roadmap for standardisation and commercialisation, for further exploitation of the project's outcomes towards TRL 9.	O1, O2, O3, O4, O5
Assess the competitiveness and environmental impacts of the TorPropel solution.	O1, O5

5.2. Re-use of existing data

A reference propeller was selected in WP1 to act as a design initiation point, efficiency and mechanical properties benchmark for the advanced composite toroidal propeller that will be designed, manufactured and tested under controlled conditions during TorPropel. Data for this reference propeller became available to the consortium through the end-user EVE for use during the project for comparison purposes.

Additionally, the background knowledge on the individual technologies brought to the project by the consortium partners will be used during the project to combine and further develop the technologies for the project specific application. This background knowledge is usually based on available data from material and technology development from each entity and may be assessed or used during TorPropel to assist in further advancing the involved concepts. The background knowledge of each partner has been documented in the CA signed by all the partners of TorPropel and access to this knowledge will be granted to project partners when needed for implementation of the action and production of the foreground knowledge and results, respecting Intellectual Property Rights and protection of ownership.



5.3. Types, formats, origin and size of data to be generated by TorPropel

Several data types will be generated during design and simulation activities, material development, coupon testing, SHM and demonstrator testing under controlled conditions. Those data types include physico-chemical, mechanical, spectroscopic, microscopic and imaging, data from non-destructive evaluation which will accompany mechanical testing, design files and technical documentation, simulation data, metadata files accompanying datasets, sensor data, deliverables, scientific publications and presentations. Data from literature will also be collected according to the project needs.

The raw data will be recorded via suitable methods and further analysed and curated, while the cured data will be used for producing the deliverables, scientific publications and presentation. The raw data will be collected in numerical, image and text formats and recorded in files with extensions defined by the equipment/software used for generation and collection. Expected raw data formats include but are not limited to .csv, .xlsx, .jpg, .ppt, .avi, .step, .stl, and .txt. Reports including research data, processed data, descriptive data, graphs and images will be created using common data and image formats: .docx, .xlsx, .pdf, .png, .jpg, .tif, .ppt, etc.

Personal data (name, affiliation and contact details) will be collected from individuals who wish to be contacted by the project (e.g. via the newsletter, or for attending the workshops) with their explicit consent. All personal data collection and use will be compliant with the General Data Protection Regulation (GDPR) (EU) 2016/679.

It is not possible to have an accurate estimation of the expected size of the collected/generated data at this stage of the project since this depends on technical choices made during TorPropel (e.g. selection, duration and sampling rate of tests). However, the total expected data size produced during the project will be in the range of some hundreds of Gigabytes, while single datasets will range from some kB to a few GB. More detail on the expected size of the different data sets can be found in Annex 1.

The naming convention proposed below will be used in order to easily store and retrieve data within TorPropel. Use of the relevant information in the naming of data will help the user understand and re-use it within the project:

“Project”_“Date”_“Name”_“Task”_“Type”_“Creator”_“Extension”

where:

- “Project” is the project name (TorPropel).
- “Date” is the date in format “YYMMDD”. This date format was chosen to allow data that was taken at similar dates to be stored in close locations.



- “Name” is a short name for the data.
- “Task” describes the task the work was performed according to the DoA
- “Type” describes the type of data (e.g. publication, measured data, simulation data, etc.).
- “Creator” defines the partner who generated the data.
- “Extension” describes the data file extension.

For example:

TorPropel_250708_D6.1_T6.3_DMP_UOI_.txt is a file named D6.1 which is the DMP of TorPropel that was created on 8 July 2025 by partner UOI. The file has a .txt extension.

Regarding clear version numbers, TorPropel uses an internal convention with each file having a release number, identified by VX.X at the end of the filename.

5.4. Data utility outside TorPropel

The data that will be produced from TorPropel and especially the resulting reports will be useful for researchers, industry, standardisation and regulation organisations working within the fields of propeller manufacturing, propeller usage, design of composite structures, carbon fiber reinforced composites, thermoset vitrimer resins, prepreg manufacturing technologies, automated composite manufacturing processes, structural health monitoring technologies, repair and recycling technologies, life cycle assessment and costing processes relevant to composite materials, especially within aeronautics and more especially relevant to light aircraft applications.

6. FAIR data

The following processes and methods will be applied during TorPropel in order to make its data FAIR.

6.1. Making data findable, including provisions for metadata

The data generated by TorPropel and selected by the consortium partners to become publicly available will be deposited in the ZENODO repository, where they will be assigned with a



persistent identifier and linked to the project reference funding number. These data will be accompanied by the relative metadata to enable other researchers to find them on the online repository. The metadata are considered essential for the reusability of the generated datasets, since they can facilitate other researchers to easily identify whether the dataset is relevant and useful for their own research.

The metadata of each dataset will be created by filling in the accompanying form provided by Zenodo repository, which complies with DataCite's Metadata Schema minimum and recommended terms, with a few additional enrichments (<https://schema.datacite.org/>). In brief, the metadata according to the DataCite's Schema include at least the following:

- A persistent interoperable identifier, e.g. Digital Object Identifier (DOI)
- the authors or individuals or entity name which generated the data
- dataset description or abstract
- date of dataset deposit or publication date
- dataset deposit venue
- dataset license (CC 0 or other creative common license)
- dataset embargo period (if any)
- information on HE funding: grant project name, acronym and number
- keywords

Regarding keywords vocabulary of words and phrases will be selected which are consistent with the project technologies and field of research. For publication data, keywords from the official keywords list provided by the publisher will be selected, while for other data, keywords will be selected by the data owner.

In Zenodo, the metadata of each record is indexed and searchable directly in Zenodo's search engine immediately after publishing and is also sent to DataCite servers during DOI registration and indexed there. This repository offers two harvesting options for the metadata of individual records as well as record collections through the use of OAI-PMH protocol by the record identifier and the collection name, or the public REST API (<https://about.zenodo.org/principles/>).

6.2. Making data accessible

An EU project community was created for TorPropel in the Zenodo repository. The community is part of the EU Open Research Repository. Such a community creation is proposed by the EC since the platform is an EU funded and trusted repository, complying with the open science requirements of HE GA. Zenodo offers free of charge services, and the EU project communities created in Zenodo are integrated with Open Aire to facilitate reporting in the EC Participants



Portal. Such a community also groups all project outputs to increase visibility and impact and enables collaborations among the involved project partners who can review and accept data and research output drafts before final upload or perform individual uploads. Each dataset or research output can be assigned a persistent interoperable identifier, like for instance a DOI, if it is not already associated with one.

TorPropel will follow the ‘as open as possible, as closed as necessary’ principle during the project duration to assess which data and research outputs can be made publicly available, and which on the other hand require protection as they may be relevant to intellectual property rights, GDPR, or have a commercialisation potential. A specific Task of the project is relevant to IPR management to be able to evaluate the needs of each specific dataset or research output as the project evolves. The results of this evaluation will be reported in the next versions of the DMP on M12 and 36 of the project, providing explanations on the nature of protection, and restrictions that may apply to the generated datasets. In case an embargo period needs to be applied during the project for allowing time to publish or seek protection of the intellectual property (e.g. patents) this will also be reported in the next versions of the DMP and accompanied by regular internal review procedures involving by the Data Management Board to ensure that the data are made available as soon as possible.

Specific datasets and research outputs that will be generated during TorPropel and be associated to background knowledge of individual beneficiaries with restricted access rights for exploitation during the action implementation will not be made publicly available nor deposited in Zenodo repository, as they will be protected by patents, or be subject to specific legal restrictions and limits. The background knowledge of all consortium partners has already been identified for protection in the signed CA.

Examples of such data relate to the following patents and consortium partners:

- Patent W02024/008671: Recyclable crosslinked epoxy resins. – CID
- Patent EP3149065B1: Thermomechanically reprocessible epoxy composites and processes for their manufacturing. -CID
- Patent GB2492594 B1: Rapid Tow Shearing (RTS) automated composites manufacturing process. – ICO
- Patent GB2492594 B1: RTS machine integration and deployment. – ICO

The protocols (OAI-PMH and REST) utilised by Zenodo to access the deposited data and research outputs are open, free and universally implementable for information retrieval on the web.

For data that may have restrictions on use, specific licenses that restrict use for a certain amount of time or permit use only after acceptance of request on a case-by-case basis will be implemented. In the latter case, the individual from each entity who participates in the Data



Management Board of the project will be responsible, both during and after the project duration, to approve any data access request for the organisation that they represent or refuse access and justify refusal.

The metadata that accompany the deposited data and research outputs will be open under a Creative Common Public Domain Dedication (CC 0) or equivalent (to the extent legitimate interests or constraints are safeguarded), in line with the FAIR principles and as an obligation set by the GA rules.

Most the expected datasets will have widely used formats which do not require explanations on how to be accessed, however, if data are produced in less popular formats the metadata will contain information to enable the user to access the data. It is not expected that specialised software will be needed to access the data. However, if this need arises then reference about this software will be included in the metadata.

The data and metadata uploaded on the repository will remain available and findable during and after the project as long as the selected repository remains functional. Zenodo 's lifetime depends on the lifetime of the host laboratory CERN, which currently has an experimental programme defined for the next 20 years at least.

6.3. Making data interoperable

Data will be made interoperable by the use of common data and file formats such the ones mentioned in Section 5.3. For data that will be publicly shared on the repositories, the data format used will be specified in the data set description (metadata of the dataset). Furthermore, for use within the consortium, the file format will be specified in the file name (see section 4.1.2). If deemed necessary, further steps needed to make data interoperable will be defined during the project and the DMP will be updated accordingly.

Community endorsed best practices like the use of searchable repositories, persistent identifiers, standard metadata practices, and controlled vocabularies will be followed by TorPropel to ensure interoperability. More specifically, the DataCite Metadata Schema v4.4 which is used by the Zenodo repository will be followed to improve dataset citation and discovery. This standard uses enhanced metadata as described in section 6.1 which includes the necessary elements for increased interoperability and is implemented automatically during the DOI assignment process.

For the modelling activities, the groups will assess the need to develop interfaces; these are elements that allow information (data) exchange between different tools. They ensure proper, secure and interoperable data sharing between the models. Despite that no IP-sensitivities have emerged up to M6 of the project, the use of Functional Mock-up Interfaces (FMIs) will be considered within TorPropel, whenever two simulation models need to communicate. These are standards used in complex cyber-physical systems and allow for exchange of dynamic simulation data, which is 'encapsulated' in Functional Mock-up Units



(FMUs). Thus, sub-systems (i.e., sub-models such as the parametric geometry and the meshing model) may properly work together and perform specific analyses with efficient computational cost and without compromising any sensitive IP, coming from different organizations.

The use of data qualified references to other data will also be encouraged within the consortium, especially in cases of data associated with publications and deliverables, or data produced within the same work packages.

6.4. Increase data re-use

Comprehensive metadata will be implemented to support data reusability by future researchers. Rich descriptions will include detailed experimental conditions, equipment specifications, processing parameters, and quality indicators such as measurement uncertainty and confidence intervals. Methodological documentation will provide complete protocols for data collection and analysis, enabling other researchers to understand and potentially replicate the experimental procedures.

Clear and accessible data usage licenses will be assigned to all datasets to facilitate reuse, while respecting intellectual property rights and commercial interests. Creative Commons licenses will be the preferred approach, with CC BY 4.0 licenses applied to openly shareable data and CC BY-NC licenses used for data with non-commercial restrictions. Custom licenses will be developed for datasets subject to specific consortium agreements or commercial restrictions, ensuring that usage terms are clearly communicated to potential users.

Detailed provenance information will be maintained for all datasets, documenting the complete processing history from raw data collection through final analysis results. Software versions, processing parameters, and analysis methods will be comprehensively documented to enable reproducibility and quality assessment.

The project will ensure that all produced data meet relevant community and international standards and best practices for the respective research domains. The research that will be performed in TorPropel will respect the European Code of Conduct for Research Integrity to ensure that the required quality is met (ALLEA, 2023, DOI 10.26356/ECOC). Quality control measures will include peer review processes, statistical validation, and comparison with established benchmarks. Documentation will clearly identify any limitations or constraints associated with data reuse, along with recommendations for appropriate applications and potential extensions of the research.



7. Other research outputs

TorPropel expects to produce a physical output, its final demonstrator being a toroidal propeller. This demonstrator will be reported and documented through photos and relevant descriptions in a public type deliverable that will be made publicly available through the Zenodo repository and the project's website. This physical research output cannot be reused by other users outside the consortium, but the report that will be published respecting FAIR principles by following the same procedures like for datasets described in this deliverable. Findability of this expected research outcome will be further increased by disseminating it through the social media and website of the project.

8. Allocation of resources

Storage space for the consortium is provided by the coordinator's organisation without additional charges. The selected repository has also free of charge use. Therefore, the only costs associated with the data management plan implementation for TorPropel are relevant to the personnel efforts who will produce, analyse, curate and upload the data to the internal communication platform and make them available on the online repositories. Additionally, some budget has been allocated by specific project partners to cover open access publication costs.

The data management activities of the project are the responsibility of the project coordinator (UOI), who will perform all the required actions and with the assistance of the General Assembly will decide on the project data and research outputs which can be made publicly available, and the ones that require protection.

According to the person months declared by the project partners and associated partners around 10 person months are allocated in Task 6.3 associated with IPR protection and data management. This amount of effort accounts for about 49kEuro to be used for these two activities which are interconnected.

Long term preservation of the produced data will be ensured through their deposition to the Zenodo repository as explained in section 6.2 of this document. Furthermore, long term preservation of data that will not be publicly available is the responsibility of the entity that produces each data set to ensure data availability for at least 2 years after the project end for use in case of reviews and at least 5 years after the project end according to the rule for record keeping described in the signed GA.



9. Data security

The data produced during TorPropel are safely stored on a private permission protected SharePoint cloud platform. Access to the central repository is managed through role-based permissions that reflect the consortium's collaborative structure while maintaining appropriate security boundaries. Work package leaders will have full access to their respective data collections with read access to related work packages, while individual partners will have read and write access to their specific data contributions. The project coordinator maintains administrative access to the entire repository, ensuring overall data governance and coordination across the consortium, while the central administration of the project coordinator's organisation does not have access to the data contents of the collaborative platform.

Local storage at individual partner institutions supplements the central repository, providing working space for data generation and processing activities. Partners maintain their own institutional backup systems according to their local policies and procedures, with regular synchronization to the central SharePoint repository. This distributed approach ensures data availability and resilience while maintaining a centralized coordination point for project-wide data management activities.

10. Ethics

Ethics issues that may affect data sharing are not foreseen to arise during TorPropel.

No ethics issues were identified by the consortium during submission, however the project coordinator undertook the role of the ethics mentor to support the consortium in addressing ethics aspects relevant to the participation of non-EU countries and Environment, Health and Safety, according to the project officer's guidelines. Additionally, there is no specific ethics deliverable included in the project, but ethics aspects will be considered in the project management deliverables.

The project does not include research activities relevant to harvesting and treating personal data. Personal data collection is only foreseen from individuals who wish to be contacted by TorPropel consortium (e.g. via a newsletter or for attending the planned workshops) with their explicit consent in relevant questionnaires, but these activities will not involve data sharing outside the consortium and the EISMEA and the relevant data will only be used during the project to contact those individuals and not maintained after the project. All personal data collection and use will be compliant with the GDPR Regulation (EU) 2016/679 (<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A02016R0679-20160504>).



11. Other issues

GMI is an ISO 9001 certified company, so data management within the organization fully complies with corresponding provisions.



12. Conclusions

This document is the updated version of the DMP of TorPropel project.

The document outlines the strategy adopted by the consortium for handling all types of research data that will be generated, collected, processed and stored throughout the lifecycle of the project. This preliminary DMP also contains an Appendix summarising the expected datasets to be produced during TorPropel per Task and per partner.

The DMP is a living document which will be updated and refined as the project implementation progresses and/or significant changes occur. One more revision is foreseen by the GA of TorPropel, as new public type deliverables, on M36.



13. References

- + Data Management Plan project reporting template , <https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/how-to-participate/reference-documents?programmePeriod=2021-2027&frameworkProgramme=43108390>
- + Guidelines on how to comply with the Horizon Europe mandate for Research Data Management, <https://www.openaire.eu/how-to-comply-with-horizon-europe-mandate-for-rdm>
- + DataCite's Metadata Schema, <https://schema.datacite.org/>
- + Principles of Zenodo Repository, <https://about.zenodo.org/principles/>
- + Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation) (<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A02016R0679-20160504>)
- + ALLEA (2023) The European Code of Conduct for Research Integrity – Revised Edition 2023. Berlin. DOI: 10.26356/ECOC



14. Appendix – Expected datasets per Task and per partner

Task	Partner	Data set description	Data type	Data format	Origin of data	Data size (estimation)	Data accessibility	Possibly interested audience	Possible reuse of data
1.2	EVE	Baseline Propeller and Aircraft Specification	Datasheet , technical drawings, report	.docx, Pdf, .pptx	Experimental data and specifications measurements	1 GB	Restricted to the consortium	Other partners of the consortium	Further work in the project
1.2	EVE	Baseline Propeller CAD data	Baseline propeller 3D scan	.ansa, .igs, .step	Baseline propeller 3D scan	30MB – 1GB	Restricted to the consortium	Other partners of the consortium	Further work in the project
1.4	UOI	Inventory of process equipment and consumables	Text, Image, matrix, report	.xlsx, .pdf, .docx, .png, .jpeg, .csv	Experimental study and lab equipment	10 MB	Restricted to the consortium	Other partners of the consortium	Further work in the project
1.4	CID	Experimental data, thermal properties, viscosity, gel time, microscopy	Text, Document	.docx, .pdf, .pptx	Experimental study and lab equipment	1 GB	Restricted to the consortium	UOI, ICOMAT, TUM	Further work in the project
2.1	AUTH	Toroidal Propeller Design	Source code, Text, Mesh	.PY, .STL, .JSON, .TXT	XFOIL, in-house scripts	0.8–2 GB	Open access publications	Researchers, CFD/ML engineers, educators	Validation, ML training, datasets



2.2	AUTH	Toroidal Propeller Aerodynamics	Mesh, Simulation files	.CFX5, .ANSA, .RES, .DEF, .PRE, .CCL, .CSV, .OUT.	BETA CAE, ANSYS, in-house scripts	10–30 GB	Open access publications	CFD analysts, designers, researchers	Validation, ML training, benchmarking
2.2	EVE	V332-3A baseline propeller aerodynamic performance	Simulation files	.ansa, OpenFoam	OpenFoam, Ansys	1-30GB	Restricted to the consortium	AUTH, LMT	Cross-validation
2.3	TUM	Composite Laminate Optimization Results for Toroidal Propellers	Simulation, Graphs, matrices	.dat, .rst, .csv, .txt, .xlsx	ANSYS simulations	30–50 GB	Project consortium	Aerospace engineers, CFD analysts	Validation, surrogate models, benchmarking
2.4	AUTH	Toroidal Propeller Aeroacoustics	Mesh, Simulation, Processed Outputs	.TXT, .CSV, .AVG	ANSYS CFX, CAA simulations	0.5–1.5 TB	Open access publications	Aeroacoustics researchers, regulators	Noise studies, algorithm development
2.5	AUTH	Toroidal Propeller Optimal Design	Source code, Reports	.PY, .TXT, .CSV, .PDF, .DOCX	Multidisciplinary simulations, industry feedback	0.5–5 GB	Open access publications	Researchers, aviation manufacturers	Benchmarking, collaborative design
3.1	UOI	Vitrimer prepreg composition and performance data	Text, Image, Tabular	.xlsx, .pdf, .docx, .png, .jpeg, .csv	Experimental study and lab equipment	100 MB	Restricted to the consortium	Consortium partners, Material scientists	Study, validation, publications



D6.3 – RP1 update of the Data Management Plan



3.1	CID	Experimental data: thermal properties, viscosity, etc.	Text, Document, report	.docx, .pdf, .pptx	Experimental study and lab equipment	100 MB	Restricted to the consortium	Consortium partners	Further work in the project, Study, validation, publications
3.2	BRU	Wireless strain sensing system based on strain gauges	Text, Image, report	.xlsx, .pdf, .docx, .png, .jpeg, .csv	Experimental study and lab equipment /prototype	0.5GB	Restricted to the consortium	Consortium partners, Research community, industry stakeholders	Study, publication, presentations
3.3	UOI	Integrated online SHM system for toroidal propellers	Text, Image, report	.xlsx, .pdf, .docx, .png, .jpeg, .csv	Experimental study and process optimization	100 MB	Restricted to the consortium	Research community, industry stakeholders	Publications, presentations
3.4	LMT	Surface embedded pressure sensors	Text, Image, report	.xlsx, .pdf, .docx, .png, .jpeg, .csv	Experimental study and lab equipment /prototype	100 MB	Restricted to the consortium	Research community, industry stakeholders	Publications, presentations
4.1	UOI	Coupon test results and material validation data	Text, Image, reports	.xlsx, .pdf, .docx, .png, .jpeg, .csv	Experimental study and process optimization	100 MB	Restricted to the consortium	Research community, industry stakeholders	Publications, presentations
4.2	EVE	Baseline demonstrator performance evaluation	Text, Image, report	.csv, .txt, .pdf, .jpeg	Experimental	100 MB- 0.5GB	Consortium only	Consortium partners only	Further work in the project



4.3	TUM	Tooling and Mould Data for Toroidal Propeller Manufacturing	Design, Photos	.STEP, .STL, .gcode, .nc, .txt, .csv, .pdf, .jpg.	CAD, slicers, milling software	2–5 GB	Consortium only	Tooling engineers, manufacturing team	Mould reprinting or redesign
4.3	ICO	Manufacturability of demonstrators	Report	.docx, .pdf, .pptx, .png, .jpeg,	Prototype manufacture	1 GB	Not shared outside consortium	Proprietary internal use only	Non-reusable externally
4.4	GMI	Curing reports including Time, Temperature & Vacuum information	Alphanumeric characters	.csv, .pdf	ANITA hot bonder	10-100kB	Project Partners: Full access. Third-Parties: Further to authorization	End-users performing composite repairs	Yes
4.4	EVE	Toroidal propeller experimental data	Report, Text, Photo, Graphs	.csv, .pdf, .jpeg, .txt	Experimental	100MB-1GB	Project Consortium	Consortium partners	Future work in project
4.5	GMI	Curing reports including Time, Temperature & Vacuum information	Alphanumeric characters	.csv, .pdf	ANITA hot bonder	10-100kB	Project Partners: Full access. Third-Parties: Further to authorization	End-users performing composite repairs	Yes
4.5	CID	Experimental data incl. mechanical properties	Text, Document	.docx, .pdf, .pptx	Experimental study	-	Restricted to the consortium	Partners e.g. GMI	Study, validation, publications



D6.3 – RP1 update of the Data Management Plan



4.6	EVE	Extensive data comparison	Text, Report	.pdf, .docx, .pptx	Experimental	100kB	Consortium Partners	Consortium partners	Continuation of the project
5.1	EVE	Promotional Content	Text, Presentation, Photo	.pdf, .pptx, .jpg	Public workshops, GA, TorPropel reports	100 kB	Public	Materials, Design, and Aerospace community	-
5.2	BRU	Scientific publications and conference presentations	Text, Presentations, Posters	.pdf, .docx, .pptx, .png	Research outputs, conference materials	500 MB	Open access repositories	Scientific community, aerospace engineers, SHM researchers	Citations, further research, educational materials
5.3	EVE	Technology exploitation plan	Text	.pdf	Partners feedback	100kB	Consortium Partners	Consortium Partners	Continuation of the project
5.4	BRU	Life Cycle Assessment (LCA) data and environmental impact analysis	Numerical data, Reports, Graphs	.xlsx, .csv, .pdf, .docx	LCA software simulations, environmental databases	2 GB	Restricted to consortium, summary public	Policy makers, environmental agencies, aerospace industry	Policy development, sustainability benchmarking
5.5	BRU	Cost-efficiency analysis and techno-economic assessment	Financial models, Reports, Comparative analyses	.xlsx, .pdf, .docx, .pptx	Market analysis, cost modelling, industry data	1 GB	Restricted to consortium	Industry stakeholders, investors, consortium partners	Business case development, investment decisions



6.3	UOI	Data Management plan (M6)	Report on Data Management activities	.pdf	Data management activities of TorPropel	150 kB	PU	Other researchers, interested stakeholders from academia and industry	In future projects or from other researchers
6.3	UOI	Data Management plan (M12)	Report on Data Management activities	.pdf	Data management activities of TorPropel	150 kB	PU	Other researchers, interested stakeholders from academia and industry	In future projects or from other researchers
6.3	UOI	Data Management plan (M36)	Report on Data Management activities	.pdf	Data management activities of TorPropel	150 kB	PU	Other researchers, interested stakeholders from academia and industry	In future projects or from other researchers