



High voltage, room temperature single-ion polymer electrolyte for safer all solid state lithium metal batteries

D7.2 - “Data Management Plan Prepared and Maintained”

Work Package 7 – Project Management

Task 7.3 – Research knowledge and data management mechanism

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ABBREVIATIONS AND ACRONYMS

DMP	Data Management Plan
GA	Grant Agreement
WP	Work Package
IPR	Intellectual Property Rights
BMS	Battery Management System
EV	Electric Vehicle
DSC	Differential scanning calorimetry
TGA	Thermogravimetric analysis
SICPs	Single-ion conductive polymers
DFT	Density functional theory
MD	Molecular dynamics
FEM	Fine elements software
HEDTM	High energy density transition metal
NCM	LiNi _{0.83} Co _{0.1} Mn _{0.07} O ₂ cathode material
EIS	Electrochemical impedance spectroscopy
SEM	Scanning electron microscopy
TEM	Transmission electron microscopy
FTIR	Fourier-transform infrared spectroscopy
LCA	Life Cycle Assessment
GDPR	General Data Protection Regulation
PSI	Public Sector Information



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EXECUTIVE SUMMARY

The present deliverable outlines the Data Management Plan (DMP) of the PSIONIC Project that was funded from the European Union under the Grant Agreement (GA) number 101069703.

The document contains the elements on how the data generated in the PSIONIC project will be managed by the partners during and after the implementation phase. The document applies to all the partners in the consortium.

The present text will evolve during the execution of the project, being accordingly updated.

The content is structured as follows: after a brief introduction, the second chapter states the purpose of the data collection and generation and a brief description of the data.

The third section introduces the concept of FAIR data as a management principle that guides the data storage, topic that is deepened in chapter 4.

Chapter 5 concerns open science and innovation practices.

The last two chapters, 6 and 7, touch some points on the allocation of resources and data security and ethics.

The methodology through which partners collected the data management linked issues is represented by a questionnaire enclosed in the last section.

In the Annex, the single data identification forms from each partner are attached.





1 INTRODUCTION

This deliverable, developed in the framework of WP 7-Project Management, aims at defining a preliminary strategy for the management of data that will be generated during the project activities.

Specifically, this DMP gives an overview on the types of data that will be generated and/or gathered during the execution of the project, the standards that will be used, the ways in which data will be exploited and eventually shared, and in which way some data will be preserved.

Since the present document has to be delivered at M6, and being the project at its beginning, the prepared DMP will function as a living document, expected to expand along the PSIONIC lifespan. Updates will occur as soon as data are generated, and in case significant changes happen along the project duration -i.e. New data/Changes in consortium policies (e.g. new innovation potential, decision to file for patent/Changes in consortium composition and external factors). Therefore, the document is expected to be reviewed at least for every reporting period.

The Data Management Plan has received contributions from all the partners of the Consortium, under the form of a tailored questionnaire.

The present DMP has been structured by following the Guidelines on FAIR Data Management in Horizon EU provided by the European Commission in May 2019. For this purpose, all PSIONIC Partners were asked to contribute through the compilation of an individual questionnaire that addresses all data issues identification that each Partner at this point envisages that will occur (Annex I).

Issues concerning ethics and data protection will be shortly mentioned in this text, being they fully addressed in other deliverables (D6.5-Final Exploitation Roadmap including Business Plan and IPR report, and D7.5- Ethics assessment report).





2 Data Summary

2.1 Purpose of Data Collection and Generation

The PSIONIC Project expects to generate and collect technical, commercial and personal data. All these data will be managed in compliance with all the relative national, EU ethics and legal requirements contained in the following activities:

- specification of cell(s) components, their quantities and workflow of materials preparation
- definition of conditions for electrochemical characterisation for the automotive industry
- benchmarking of new literature reports
- definition of the characterisation of the cells for non-automotive applications
- polymer-based electrolyte synthesis and scale-up
- formulation of electrodes and throughout characterisation of interphases and interfaces
- rapid screening and evaluation of the polymer electrolytes and other composite materials
- extrusion processing of cathode composites, metallic lithium, and polymer electrolyte films
- assembling lab-scale cells
- assembling modules with corresponding BMS
- dissemination, communication and exploitation of results

The data generation and collection configure itself as a necessary tool to reach WP specific objectives, therefore ensuring the fulfilment of the main goals of the project.

The data will be generated by the consortium partners, being at their internal disposal by virtue of their interdependent activities.

According to what unanimously stated in the Grant Agreement, some data will be at the disposal of the scientific community, in order to increase the efficiency and stimulate the creation of new technologies having the potential to transform the European EVs and Battery sector. The publicity of data will also represent a resource for the general public, by raising awareness on the topic and for the public sector, by increasing the quality of the services dedicated to citizens.

2.2 Data description

For the purpose of designing all-solid-state batteries and prototype cells (the integral unit of the PSIONIC battery) with solvent-free, cost-effective extrusion processes in order to achieve unprecedented levels of safety and high ionic conductivity/transport while simultaneously attaining higher energy and power density, the PSIONIC project will gather the following data:

- Data regarding specification of cells components and cell design
- Metadata for the assembling battery cells
- Manufacturing data for cathodes and electrolyte films
- Cells cycling data, electrochemical data, analysis data
- Data on electrochemical test protocols for cells and test result analysis





- Data on aligning and benchmarking the planning activities with the latest available reports in the area of solid-state batteries/cells.
- Data from lab equipment (chemical and mechanical characterization of polymers and electrochemical methods like impedance, galvanostatic cycling and cyclic voltammetry, as well as flame retardancy, decomposition products data and DSC/TGA measurements).
- Data regarding the synthesis of SICPs and crosslinked polymer electrolytes, physico-chemical and electrochemical characterization, lab-scale cell assembly
- Data on benchmarking of new reports on lithium protection, cell configurations and accessible results from other projects
- Data on characterization of the obtained polymers' thermal, mechanical, surface, ion transport, electrochemical stability, and dielectric properties.
- Data on multiscale modelling including DFT, MD, and FEM of the newly developed cell that consists of several novel materials and a variety of interfaces (Li-metal/polymer, polymer/polymer, polymer/cathode).
- Data regarding the scale-up of 50-60 kg of the most interesting polymer electrolyte formulations and the evaluation of deviations, risks, and other non-desired parameters during the up-scaling.
- Data from testing of different loadings of components (polymer, HEDTM NCM and conductive carbon) in the cathode composite
- Data regarding lithium metal anode engineering
- Data for testing innovative cell component (alone and in systems)
- Data about electrochemical performances (galvanostatic cycling, EIS,...), electrode formulation (milling step, proportion, film formation condition, extrusion parameters,...), electrode characterization (SEM/TEM, DSC/TGA, FTIR,...)
- Data from characterization of cells (electrochemical test, post mortem, thermal test, ...)
- Scientific data *via* literature review and lab experiments
- Data from the investigation of the recycling process of PSIONIC batteries
- Data on safety protocols and LCA tests
- Data involving the project identity toolkit (public reports, public presentation) and communication and dissemination materials.
- Data including agreements, minutes of meeting, presentations, monitoring reports, planning, technical reports, communication exchanges between the partners and the Project Officer.
- Data relating to administrative, financial and technical management of the project.

A detailed overview of what data will be collected by each partner can be found in Annex I.

All data collected and processed will be strictly compliance with GDPR Regulation (Regulation 2016/679 of the European Parliament and of the Council, 27th April 2016) and, when applicable, also with national laws of the origin of the data gathered.





3 Fair Data

Data management in PSIONIC project is guided by the principles of FAIR data, implying that the data should be “open just enough in order to be fair”. The principle of “as open as possible, as closed as necessary” is taken into account when dealing with concerns relating to intellectual property rights, personal data protection and confidentiality, security and legitimate commercial interest.

As outlined by the PSI Directive, fair data principles seek the reuse of data and other digital research output and objects (algorithms, tools and workflows that led to that data), making them Findable, Accessible, Interoperable, and Reusable [1].

According to those principles, applications and computational agents are considered as stakeholders with the capacity to find, access, interoperate and reuse data with none or minimal human intervention. The principles also recognize the importance of automated process to do that because humans increasingly rely on computational support to deal with intensive data processes. As such the Open Science ecosystem ideally strives for institutes, researchers and citizens to have immediate access to published articles, data, software and other research products under FAIR principles. This, ideally without cost and with the possibility of reusing everything as deemed convenient.

Under the GDPR, ‘Controllers’ must comply with, and demonstrate compliance with, all the data protection principles as well as the other GDPR requirements. They are also responsible for the compliance of the its ‘Processor’ [2].

All personal data that will be collected and processed within the PSIONIC project will take into consideration the following key principles of the GDPR:

- lawfulness, fairness and transparency
- Purpose limitation
- Data minimisation
- Accuracy
- Storage limitation
- Integrity and confidentiality (security)
- Accountability

Under the GDPR ‘Controllers’ must comply with, and demonstrate compliance with, all the data protection principles as well as the other GDPR requirements namely address “data subject rights” and the evaluation of if processor activities comply with the contract establish between them.

In order to access eventual property rights, personal data protection and confidentiality, security and legitimate commercial interests all potential scientific publications should circulated among all Partners for a period of time agreed before any action to present and/or submit in any scientific paper or presentation in open Platforms. Data exchange securities between PSIONIC Partners to exchange data will be establish and implemented in order to maximize the security needed for each case.





4 Data storage and preservation along the project

4.1 Data storage

The storage of data within the PSIONIC project reflects the established GDPR rules, stating that collected data shall be:

“kept in a form which permits identification of data subjects for no longer than is necessary for the purposes for which the personal data are processed; personal data may be stored for longer periods insofar as the personal data will be processed solely for archiving purposes in the public interest, scientific or historical research purposes or statistical purposes in accordance with Article 89(1) subject to implementation of the appropriate technical and organisational measures required by this Regulation in order to safeguard the rights and freedoms of the data subject (‘storage limitation’).”[3]

As from the GA, datasets will be stored on ZENODO automatically becoming part of OpenAIRE, the EC-funded initiative supporting the Open Access policy. Each will be assigned a unique identifier. Each dataset will contain, at least the work package to which it belongs and data typology, with a short description.

4.2 Data re-use

As mentioned in the PSIONIC GA, Open Access will be implemented in peer-review publications, conference proceedings and workshop presentations.

The duration of the time where data will be open and re-usable will be established by the PSIONIC Consortium.





5 Data Management Responsibilities and Resources

5.1 Open science: research data management

If the data produced in the context of the project is not subject to commercial exploitation or access restrictions it will be made available as open data, following the FAIR principle. In order to improve the quality and efficiency of core research in the project, the PSIONIC consortium will employ the Open science and innovation practices, by implementing the following actions—as per Art.17 GA:

- Establish a data management plan to be regularly updated
- as soon as possible and within the deadlines set out in the DMP, deposit the data in a trusted repository; if required in the call conditions, this repository must be federated in the EOSC in compliance with EOSC requirements
- as soon as possible and within the deadlines set out in the DMP, ensure open access —via the repository — to the deposited data, under the latest available version of the Creative Commons Attribution International Public License (CC BY) or Creative Commons Public Domain Dedication (CC 0) or a license with equivalent rights, following the principle ‘as open as possible as closed as necessary’, unless providing open access would in particular:
 - be against the beneficiary’s legitimate interests, including regarding commercial exploitation, or
 - be contrary to any other constraints, in particular the EU competitive interests or the beneficiary’s obligations under this Agreement; if open access is not provided (to some or all data), this must be justified in the DMP
- provide information via the repository about any research output or any other tools and instruments needed to re-use or validate the data.

Additionally, metadata of deposited data is required to be open under a Creative Commons Public Domain Dedication (CC 0) or equivalent (to the extent legitimate interests or constraints are safeguarded), in line with the FAIR principles (in particular machine-actionable) and provide information at least on: datasets (description, date of deposit, author(s), venue and embargo); Horizon Europe or Euratom funding; grant project name, acronym and number; licensing terms; persistent identifiers for the dataset, the authors involved in the action, and, if possible, for their organisations and the grant. Where applicable, the metadata must include persistent identifiers for related publications and other research outputs.

5.2 Open science: additional practices

The beneficiaries shall also comply with eventual additional obligations established by the call regarding the open science practices. Specific conditions are listed in the Art. 17 of the GA.





6 Allocation of Resources

The resources dedicated to the implementation of the data management along the PSIONIC Project are based on the relative Grant Agreement.

PSIONIC coordinator will implement all the necessary measure to ensure continuous updates and coordination according to what has been established herein by the project Consortium.





7 Data Security & Ethics

7.1 Protection of personal data

Personal data is defined by Article 4 of the GDPR as the following:

“Personal data” - means any information relating to an identified or identifiable natural person ('data subject'); an identifiable natural person is one who can be identified, directly or indirectly, in particular by reference to an identifier such as a name, an identification number, location data, an online identifier or to one or more factors specific to the physical, physiological, genetic, mental, economic, cultural or social identity of that natural person.”

In line with the GDPR regulation personal data protection will be a responsibility at the designated Controller, which is defined in article 4 of GDPR as such:

“Controller” means the natural or legal person, public authority, agency or other body which, alone or jointly with others, determines the purposes and means of the processing of personal data; where the purposes and means of such processing are determined by Union or Member State law, the controller or the specific criteria for its nomination may be provided for by Union or Member State law;
and

“Processor” means a natural or legal person, public authority, agency or other body which processes personal data on behalf of the controller;

According to article 24 of the GDPR, it is a responsibility of Controllers to “implement appropriate technical and organisational measures to ensure and to be able to demonstrate that processing is performed in accordance with GDPR Regulation” taken “into account the nature, scope, context and purposes of processing as well as the risks of varying likelihood and severity for the rights and freedoms of natural persons”.

Furthermore, the GA of PSIONIC project established that partners must ensure that personal data is:

- “processed lawfully, fairly and in a transparent manner in relation to the data subjects
- collected for specified, explicit and legitimate purposes and not further processed in a manner that is incompatible with those purposes
- adequate, relevant and limited to what is necessary in relation to the purposes for which they are processed
- accurate and, where necessary, kept up to date
- kept in a form which permits identification of data subjects for no longer than is necessary for the purposes for which the data is processed and
- processed in a manner that ensures appropriate security of the data”.





7.2 Sharing data with confidential access

Data sharing across stakeholders from different countries of the EU should always guarantee security and the trust between them.

Several instruments like cybersecurity certification scheme for cloud services taking into account existing and relevant schemes and standards will be carried out at a European level. Trust in secure cloud infrastructures and services is an essential requirement to make data mobility a reality in Europe, as aimed at by the Free Flow of non-personal Data Regulation.

Data sharing with confidential access within the PSIONIC Project will be in accordance with the necessary measures of Protection established by each Controller.

Each Controller will establish, as part of its responsibilities, security measures needed in order to maintain integrity and confidentiality of data gathered and will establish the necessary orientations and measures required regarding transmission of the confidential data.

7.3 Archiving confidential information

Article 5 of GDPR states that personal data shall be “kept in a form which permits identification of data subjects for no longer than is necessary for the purposes for which the personal data are processed; personal data may be stored for longer periods insofar as the personal data will be processed solely for archiving purposes in the public interest, scientific or historical research purposes or statistical purposes in accordance with Article 89(1) subject to implementation of the appropriate technical and organisational measures required by this Regulation in order to safeguard the rights and freedoms of the data subject (‘storage limitation’).”

The article further underlines the procedure for processing personal data and establishes that personal data should be “processed in a manner that ensures appropriate security of the personal data, including protection against unauthorised or unlawful processing and against accidental loss, destruction or damage, using appropriate technical or organisational measures (‘integrity and confidentiality’).”

The responsibility for defining the storage retention periods and responding by any breach in regard to personal data within PSIONIC project falls upon the Controllers. Other confidential data will be in line with EU laws and when applicable national laws.



8 Other Issues

Ethical standards established by the GDPR shall be considered during the stages of gathering, processing, storage and use/re-use of data within the PSIONIC project.

Further processes and procedures regarding issues concerned with ethics and data protection will be fully addressed in other deliverables (D6.5-Final Exploitation Roadmap including Business Plan and IPR report, and D7.5- Ethics assessment report).



9 DMP Questionnaire

The table below illustrates the template provided to each PSIONIC partner in order to address the related Data management issues.

DMP Component	Issues to be addressed	Explanation/Description
Data summary	<ul style="list-style-type: none"> • State the purpose of the data collection/generation • Explain the relation to the objectives of the project • Specify the types and formats of data generated/collected • Specify is existing data is being re-used (if any) • Specify the origin of the data • State the expected size of the data (if known) • Outline the data utility to whom will it be useful 	
1. FAIR Data 2.1 Making data findable, including provisions for metadata	<ul style="list-style-type: none"> • Outline the discoverability of data (metadata provision) • Outline the identifiability of data and refer to standard identification mechanism. Do you make use of persistent and unique identifiers such as Digital Object Identifiers? • Outline naming conventions used • Outline the approach towards search keyword • Outline the approach for clear versioning • Specify standards for metadata creation (if any). If there are no standards in your discipline describe what type of metadata will be created and how 	
2.2 Making data openly accessible	<ul style="list-style-type: none"> • Specify which data will be made openly available? If some data is kept closed provide rationale for doing so • Specify how the data will be made available • Specify what methods or software tools are needed to access the data? Is documentation about the software needed to access the data included? Is it possible to include the relevant software (e.g., in open-source code)? • Specify where the data and associated metadata, documentation and code are deposited 	

	<ul style="list-style-type: none"> Specify how access will be provided in case there are any restrictions 	
2.3 Making data interoperable	<ul style="list-style-type: none"> Assess the interoperability of your data. Specify what data and metadata vocabularies, standards or methodologies you will follow to facilitate interoperability. Specify whether you will be using standard vocabulary for all data types present in your data set, to allow interdisciplinary interoperability? If not, will you provide mapping to more commonly used ontologies? 	
2.4 Increase data re-use (through clarifying licences)	<ul style="list-style-type: none"> Specify how the data will be licenced to permit the widest use possible Specify when the data will be made available for re-use. If applicable, specify why and for what period a data embargo is needed Specify whether the data produced and/or used in the project is useable by third parties, in particular after the end of the project? If the re-use of some data is restricted, explain why Describe data quality assurance processes Specify the length of time for which the data will remain re-usable 	
Allocation of resources	<ul style="list-style-type: none"> Estimate the costs of making your data FAIR. Describe how you intend to cover these costs Clearly identify responsibilities for data management in your project Describe costs and potential value of long-term preservation 	
Data security	Address data recovery as well as secure storage and transfer of sensitive data	
Ethical aspects	To be covered in the context of the ethics review, ethics section of DoA and ethics deliverables. Include references and related technical aspects if not covered by the former	
Other	Refer to other national/funder/sectorial/departmental procedures for data management that you are using (if any).	



10 External documents

[1] Directive (EU) 2019/1024 of the European Parliament and of the Council of 20 June 2019 on open data and the re-use of public sector information (recast) (OJ L 172 26.06.2019, p. 56); <http://data.europa.eu/eli/dir/2019/1024/oj>

[2] 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) (OJ L 119, 4.5.2016, pp. 1–88).; <http://data.europa.eu/eli/reg/2016/679/oj>

[3] Directive (EU) 2019/1024 of the European Parliament and of the Council of 20 June 2019 on open data and the re-use of public sector information (recast) (OJ L 172 26.06.2019, p. 56); accessed on 09/12/2022 <http://data.europa.eu/eli/dir/2019/1024/oj>





CONCLUSION

D7.2 Data Management Plan attempts to describe the data management life cycle for the data to be collected, processed and created in the framework of PSIONIC project. To ensure that the produced and collected data during the entire duration of the project is of added value to other EU initiatives, the data management process will follow the principles of FAIR data.

The present document intends to outline a preliminary strategy for the management of data generated throughout the project’s duration, providing the information about:

- Handling of research data during & after end of project
- Type of data to be collected, processed and/or generated
- Methodology & standards to be applied
- Whether data will be shared/made open access and
- How data security will be provided
- How data will be curated & preserved

The document is expected to undergo some changes/adjustments with the progression of the project and creation of more datasets.

The present Data Management Plan has to be considered as a living document and it will be updated over the project development according to any significant changes arising during the project implementation. The updates of the data management plan will be reported in the different periodic reports at the end of each reporting period.





Annex I – Data identification from PSIONIC Partners

This annex gathers the identification of data issues carried out by the project partners using the template table presented in section 9 of this document.



Blue Solutions

DMP Component	Issues to be addressed	Explanation/Description
1. Data summary	<ul style="list-style-type: none"> • State the purpose of the data collection/generation • Explain the relation to the objectives of the project • Specify the types and formats of data generated/collected • Specify if existing data is being re-used (if any) • Specify the origin of the data • State the expected size of the data (if known) • Outline the data utility to whom will it be useful 	<p>The data is collected to reach the objectives of the project and the WP.</p> <p>The data collected include available scientific data via literature review, desk research and data coming from internal repository. The data format is potentially docx, xlsx, jpg and png, as well as text files obtained from QM and MD codes.</p> <p>The expected data is approximately several Gbs. The data can be used by project partners, scientific community, independent experts, and private industrial actors in the relevant energy sector.</p>
2. FAIR Data 2.1 Making data findable, including provisions for metadata	<ul style="list-style-type: none"> • Outline the discoverability of data (metadata provision) • Outline the identifiability of data and refer to standard identification mechanism. Do you make use of persistent and unique identifiers such as Digital Object Identifiers? • Outline naming conventions used • Outline the approach towards search keyword • Outline the approach for clear versioning • Specify standards for metadata creation (if any). If there are no standards in your discipline describe what type of metadata will be created and how 	<p>Electrochemical data will be stored in standardized formats. The original data files contain individual identifiers for each electrochemical cell or sample. The data files will be stored together with xlsx, docx, jpeg format.</p> <p>The raw data from each subproject will be archived using a filename identifying the project (eg XXX 123-1 is the cell referring ti the project XXX, cell batch 123)</p> <p>The metadata will be formatted and documented by the service provider. For example:</p> <ul style="list-style-type: none"> - The metadata for the assembling battery cells will be stored in another relational database on xlsx format - Manufacturing data for cathodes and electrolyte films will be stored in another database (xlsx format) - The manufacturing procedures will be summarized in the above-mentioned cell database

2.2 Making data openly accessible	<ul style="list-style-type: none"> Specify which data will be made openly available? If some data is kept closed provide rationale for doing so Specify how the data will be made available Specify what methods or software tools are needed to access the data? Is documentation about the software needed to access the data included? Is it possible to include the relevant software (e.g., in open-source code)? Specify where the data and associated metadata, documentation and code are deposited Specify how access will be provided in case there are any restrictions 	Cells cycling data, films database and cell database are strategic then confidential and access to these data is restricted to project members only
2.3 Making data interoperable	<ul style="list-style-type: none"> Assess the interoperability of your data. Specify what data and metadata vocabularies, standards or methodologies you will follow to facilitate interoperability. Specify whether you will be using standard vocabulary for all data types present in your data set, to allow inter-disciplinary interoperability? If not, will you provide mapping to more commonly used ontologies? 	To ensure the interoperability, we will keep vigil that we use file formats whose specifications are known and accessible by all. The terminologies can be slightly different, but we will provide a glossary aimed to better understand terms or expressions used.
2.4 Increase data re-use (through clarifying licences)	<ul style="list-style-type: none"> Specify how the data will be licenced to permit the widest use possible Specify when the data will be made available for re-use. If applicable, specify why and for what period a data embargo is needed Specify whether the data produced and/or used in the project is useable by third parties, in particular after the end of the project? If the re-use of some data is restricted, explain why Describe data quality assurance processes Specify the length of time for which the data will remain re-usable 	<p>All relevant data (electrochemical data, analysis data) will be made openly available upon publication. The published data will be linked to the publications or patents.</p> <p>We will provide comprehensive data to allow efficient re-use of the data.</p> <p>All the confidential data will be either protected by patent or kept confidential if not possible.</p> <p>The other types of potentially reusable data will be archived.</p> <p>The re-use of some data is restricted, in particular, the manufacturing</p>



		<p>procedures data (preservation of the company's know-how). The patents will be ensuring the preservation of data as long as it is practically relevant.</p> <p>The data will be stored for 10 years after finalising the project.</p>
3. Allocation of resources	<ul style="list-style-type: none"> Estimate the costs of making your data FAIR. Describe how you intend to cover these costs Clearly identify responsibilities for data management in your project Describe costs and potential value of long-term preservation 	<p>We mostly utilize the computing resources and storage services provided by BlueSolutions. The estimated costs of data collection and processing are included in the project budget.</p>
4. Data security	<ul style="list-style-type: none"> Address data recovery as well as secure storage and transfer of sensitive data 	<p>Activities under PSIONIC for BS do not involve sensible and non-public data, if this would be the case then such data will be stored on projects repository, for PSIONIC it was decided on SharePoint, or relevant folder available only for the consortium members.</p> <p>Overall, BS ensures safety of data storage for long-term preservation and curation</p>
5. Ethical aspects	<ul style="list-style-type: none"> To be covered in the context of the ethics review, ethics section of DoA and ethics deliverables. Include references and related technical aspects if not covered by the former 	<p>No ethical aspects are identified</p>
6. Other	<ul style="list-style-type: none"> Refer to other national/funder/sectorial/departmental procedures for data management that you are using (if any). 	<p>NA</p>

ACCUREC-RECYCLING GMBH

DMP Component	Issues to be addressed	Explanation/Description
1.Data Summary	<ul style="list-style-type: none"> State the purpose of the data collection/generation Explain the relation to the objectives of the project Specify the types and formats of data generated/collected Specify if existing data is being re-used (if any) Specify the origin of the data State the expected size of the data (if known) Outline the data utility to whom will it be useful 	<p>During the project, ACC will investigate the recycling process of PSIONIC batteries. The data format is potentially under docx, xlsx, jpg and png formats. Data should be less than 1 GB. The data can be used by project partners given interdependencies between activities, but also by the scientific community, independent experts, and private industrial actors in the relevant energy sector</p>
2.FAIR Data 2.1 Making data findable, including provisions for metadata	<ul style="list-style-type: none"> Outline the discoverability of data (metadata provision) Outline the identifiability of data and refer to standard identification mechanism. Do you make use of persistent and unique identifiers such as Digital Object Identifiers? Outline naming conventions used Outline the approach towards search keyword Outline the approach for clear versioning Specify standards for metadata creation (if any). If there are no standards in your discipline describe what type of metadata will be created and how 	<p>Mainly the data will be the experimental parameters.</p>
2.2 Making data openly accessible	<ul style="list-style-type: none"> Specify which data will be made openly available? If some data is kept closed provide rationale for doing so Specify how the data will be made available Specify what methods or software tools are needed to access the data? Is documentation about the software needed to access the data included? Is it possible to include the 	<p>The details of the test parameters and results will be closed. We will publish some generical data regarding the test results.</p>



	<p>relevant software (e.g., in open-source code)?</p> <ul style="list-style-type: none"> Specify where the data and associated metadata, documentation and code are deposited Specify how access will be provided in case there are any restrictions 	
<p>2.3 Making data interoperable</p>	<ul style="list-style-type: none"> Assess the interoperability of your data. Specify what data and metadata vocabularies, standards or methodologies you will follow to facilitate interoperability. Specify whether you will be using standard vocabulary for all data types present in your data set, to allow inter-disciplinary interoperability? If not, will you provide mapping to more commonly used ontologies? 	<p>During dissemination activities, we will make part of the data interoperable.</p>
<p>2.4 Increase data re-use (through clarifying licenses)</p>	<ul style="list-style-type: none"> Specify how the data will be licensed to permit the widest use possible Specify when the data will be made available for re-use. If applicable, specify why and for what period a data embargo is needed Specify whether the data produced and/or used in the project is useable by third parties, in particular after the end of the project? If the re-use of some data is restricted, explain why Describe data quality assurance processes Specify the length of time for which the data will remain re-usable 	<p>We will only share important data to project partners, but no more data will be shared to public.</p>
<p>3.Allocation of resources</p>	<ul style="list-style-type: none"> Estimate the costs of making your data FAIR. Describe how you intend to cover these costs Clearly identify responsibilities for data management in your project Describe costs and potential value of long-term preservation 	<p>We didn't intend to share those data to public.</p>

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4.Data security	<ul style="list-style-type: none"> Address data recovery as well as secure storage and transfer of sensitive data 	All sensitive data will only be stored at Accurec company hardware .
5.Ethical aspects	<ul style="list-style-type: none"> To be covered in the context of the ethics review, ethics section of DoA and ethics deliverables. Include references and related technical aspects if not covered by the former 	We will follow the ethics section of DoA.
6.Other	<ul style="list-style-type: none"> Refer to other national/funder/sectorial/departmental procedures for data management that you are using (if any). 	N/A





ARMOR BATTERY FILMS

DMP Component	Issues to be addressed	Explanation/Description
DMP Component	<ul style="list-style-type: none"> • State the purpose of the data collection/generation • Explain the relation to the objectives of the project • Specify the types and formats of data generated/collected • Specify if existing data is being re-used (if any) • Specify the origin of the data • State the expected size of the data (if known) • Outline the data utility to whom will it be useful 	<ul style="list-style-type: none"> • To test innovative cell components (alone and in systems) • Participation to the objectives of batteries performances and associated processes • Data will be excel, work and ppt files • Origin of data will be the equipment and person from ABF and Armor Group • During the project, the total size of data generated should not exceed 1Go • Data will be used within the consortium with appropriate partners as well as for internal use
1.Data Summary	<ul style="list-style-type: none"> • Outline the discoverability of data (metadata provision) • Outline the identifiability of data and refer to standard identification mechanism. Do you make use of persistent and unique identifiers such as Digital Object Identifiers? • Outline naming conventions used • Outline the approach towards search keyword • Outline the approach for clear versioning • Specify standards for metadata creation (if any). If there are no standards in your discipline describe what 	To be defined within ABF





	type of metadata will be created and how	
<p>2.FAIR Data</p> <p>2.1 Making data findable, including provisions for metadata</p>	<ul style="list-style-type: none"> • Specify which data will be made openly available? If some data is kept closed provide rationale for doing so • Specify how the data will be made available • Specify what methods or software tools are needed to access the data? Is documentation about the software needed to access the data included? Is it possible to include the relevant software (e.g., in open-source code)? • Specify where the data and associated metadata, documentation and code are deposited • Specify how access will be provided in case there are any restrictions 	<p>Tests results will be shared along the consortium as the related R&D and results are confidential</p> <p>Generic data will use classic format and will be made public using the Psionic website</p> <p>Office applications will be needed to access data</p> <p>Data will be stored within the organization network on one side and in the Teams platform on the other side</p>
<p>2.2 Making data openly accessible</p>	<ul style="list-style-type: none"> • Assess the interoperability of your data. Specify what data and metadata vocabularies, standards or methodologies you will follow to facilitate interoperability. • Specify whether you will be using standard vocabulary for all data types present in your data set, to allow interdisciplinary interoperability? If not, will you provide mapping to more commonly used ontologies? 	<p>Public data of the project for this thematic are interoperable by nature.</p>



<p>2.3 Making data interoperable</p>	<ul style="list-style-type: none"> • Specify how the data will be licenced to permit the widest use possible • Specify when the data will be made available for re-use. If applicable, specify why and for what period a data embargo is needed • Specify whether the data produced and/or used in the project is useable by third parties, in particular after the end of the project? If the re-use of some data is restricted, explain why • Describe data quality assurance processes • Specify the length of time for which the data will remain re-usable 	<p>The data will be stored for 1 year after finalising the project</p>
<p>4. Increase data re-use (through clarifying licences)</p>	<ul style="list-style-type: none"> • Estimate the costs of making your data FAIR. Describe how you intend to cover these costs • Clearly identify responsibilities for data management in your project • Describe costs and potential value of long-term preservation 	<p>Costs to make data FAIR will be covered by the project. It is estimated it will cost around 7000 €</p>
<p>5. Allocation of resources</p>	<ul style="list-style-type: none"> • Address data recovery as well as secure storage and transfer of sensitive data 	<p>Data will be stored in our organization database on one side and in the project's SharePoint other side</p>
<p>6. Data security</p>	<ul style="list-style-type: none"> • To be covered in the context of the ethics review, ethics section of DoA and ethics deliverables. Include references and related 	<p>No ethical aspects have been identified</p>

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	technical aspects if not covered by the former	
7.Ethical aspects	<ul style="list-style-type: none"> Refer to other national/funder/sectorial/departamental procedures for data management that you are using (if any). 	NA
8.Other	<ul style="list-style-type: none"> 	



CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE

DMP Component	Issues to be addressed	Explanation/Description
1. Data summary	<ul style="list-style-type: none"> State the purpose of the data collection/generation Explain the relation to the objectives of the project Specify the types and formats of data generated/collected Specify if existing data is being re-used (if any) Specify the origin of the data State the expected size of the data (if known) Outline the data utility to whom will it be useful 	<p>The data is collected and provided in order to reach main objectives of the project and specific objectives of the WP 3 and 4 mainly.</p> <p>Data about electrochemical performances (galvanostatic cycling, EIS,...), electrode formulation (milling step, proportion, film formation condition, extrusion parameters,...), electrode characterization (SEM/TEM, DSC/TGA, FTIR,...) will be collected and provided in order to reach scientific objectives of the project.</p> <p>The expected data is approximately several Mbs for simple data but could reach higher value especially for microscopy micrograph (depending on the image quality). In addition to sharepoint, a specific folder has been made, in a secure cloud provide (Nextcloud), to interconnect all partner members.</p> <p>The data can be used by project partners given interdependencies between activities, but also by the scientific community, independent experts, and private industrial actors in the relevant energy sector.</p>
2. FAIR Data 2.1 Making data findable, including provisions for metadata	<ul style="list-style-type: none"> Outline the discoverability of data (metadata provision) Outline the identifiability of data and refer to standard identification mechanism. Do you make use of persistent and unique identifiers such as Digital Object Identifiers? Outline naming conventions used 	<p>Data will be stored in the directory labeled as PSIONIC which can be accessed/modified only by users (Team member working on PSIONIC). Directory will have subdirectories with a name of researcher (including data type) working on the project and within this additional subdirectory will be made related to WP. Name of the files will be defined with date of creation, initials of the person created data and essential information which will be used for identification of the data. A separate lab book will be created with additional explanations which will make data easier for identification</p>



	<ul style="list-style-type: none"> • Outline the approach towards search keyword • Outline the approach for clear versioning • Specify standards for metadata creation (if any). If there are no standards in your discipline describe what type of metadata will be created and how 	
<p>2.2 Making data openly accessible</p>	<ul style="list-style-type: none"> • Specify which data will be made openly available? If some data is kept closed provide rationale for doing so • Specify how the data will be made available • Specify what methods or software tools are needed to access the data? Is documentation about the software needed to access the data included? Is it possible to include the relevant software (e.g., in open-source code)? • Specify where the data and associated metadata, documentation and code are deposited • Specify how access will be provided in case there are any restrictions 	<p>The data (generic data) is made public. It is made openly available via project website, social media,...</p> <p>There is no need to use any specific software to access the data. Regular office and acrobat software are sufficient to access to them.</p> <p>In general, no restriction of access, except in case of confidential data coming from specific electrolyte under patent protection.</p>
<p>2.3 Making data interoperable</p>	<ul style="list-style-type: none"> • Assess the interoperability of your data. Specify what data and metadata vocabularies, standards or methodologies you 	<p>Public data of the project for this thematic are interoperable by nature.</p> <p>Terminologies can be slightly different but this would not have major impact on interoperability.</p>



	<p>will follow to facilitate interoperability.</p> <ul style="list-style-type: none"> Specify whether you will be using standard vocabulary for all data types present in your data set, to allow inter-disciplinary interoperability? If not, will you provide mapping to more commonly used ontologies? 	
<p>2.4 Increase data re-use (through clarifying licences)</p>	<ul style="list-style-type: none"> Specify how the data will be licenced to permit the widest use possible Specify when the data will be made available for re-use. If applicable, specify why and for what period a data embargo is needed Specify whether the data produced and/or used in the project is useable by third parties, in particular after the end of the project? If the re-use of some data is restricted, explain why Describe data quality assurance processes Specify the length of time for which the data will remain re-usable 	<p>Data reuse before publication is only possible to the project partners for project purposes.</p> <p>Widest reuse will be possible after a careful check-up of the partner.</p> <p>There will be no other restrictions to reuse.</p> <p>The data will be stored for 3 years after finalising the project.</p>
<p>3. Allocation of resources</p>	<ul style="list-style-type: none"> Estimate the costs of making your data FAIR. Describe how you intend to cover these costs Clearly identify responsibilities for data 	<p>Activities under PSIONIC for CNRS/UPJV do not involve sensible and non-public data, if this would be the case then such data will be stored on projects repository, for PSIONIC it was decided on SharePoint, or relevant folder available only for the consortium members.</p>



	<p>management in your project</p> <ul style="list-style-type: none"> • Describe costs and potential value of long-term preservation 	<p>Overall, CNRS and UPJV ensures safety of data storage for long-term preservation and curation.</p>
4. Data security	<ul style="list-style-type: none"> • Address data recovery as well as secure storage and transfer of sensitive data 	<p>Data coming from our team will be store in a specific folder in Nextcloud server (provide by UPJV). This system is fully secure and safeguarding on a second place is realized regularly.</p>
5. Ethical aspects	<ul style="list-style-type: none"> • To be covered in the context of the ethics review, ethics section of DoA and ethics deliverables. Include references and related technical aspects if not covered by the former 	<p>N/A</p>
6. Other	<ul style="list-style-type: none"> • Refer to other national/funder/sectorial /departmental procedures for data management that you are using (if any). 	<p>Data management plan prepared within BIGMAP project</p> <p>https://doi.org/10.1002/batt.202100117</p>

KEMIJSKI INSTITUT

DMP Component	Issues to be addressed	Explanation/Description
1. Data summary	<ul style="list-style-type: none"> • State the purpose of the data collection/generation • Explain the relation to the objectives of the project • Specify the types and formats of data generated/collected • Specify if existing data is being re-used (if any) • Specify the origin of the data • State the expected size of the data (if known) • Outline the data utility to whom will it be useful 	<p>* Consistent data management is highly important for the acceleration of research. Essential direction for the future is an extensive sharing of research data across scales, disciplines and stakeholders, not limited to PSIONIC project and its duration.</p> <p>* Specific and technical objectives defined in the DoW are related to data collection and should be treated with high importance for the project and overall community working on the related fields</p> <p>* formats of data are various and it will be stored as metadata in the original format (format depends on the type of the equipment) and in the XY format within the origin files</p> <p>* NIC has no plan to reuse old data</p> <p>* the size of data will be in the size of several Gb (due to microscopy and potential tomography)</p> <p>* The data can be used by project partners given interdependencies between activities, and upon the request also by the scientific community, independent experts, and private industrial actors in the relevant energy sector if there are no reservations due to IP protection and commercial use.</p>
2. FAIR Data 2.1 Making data findable, including provisions for metadata	<ul style="list-style-type: none"> • Outline the discoverability of data (metadata provision) • Outline the identifiability of data and refer to standard identification mechanism. Do you make use of persistent and unique 	<p>* metadata will be available on demand and they will be safely stored at least two different places (external hard drive and institute hard drive which is self-achieved every 24h)</p>



	<p>identifiers such as Digital Object Identifiers?</p> <ul style="list-style-type: none"> • Outline naming conventions used • Outline the approach towards search keyword • Outline the approach for clear versioning • Specify standards for metadata creation (if any). If there are no standards in your discipline describe what type of metadata will be created and how 	<p>* data will be stored in the directory labeled as PSIONIC which can be accessed/modified only by users (staff working on the project). Directory will have subdirectories with a name of researcher working on the project and within this additional subdirectories will be made related to WP. Name of the files will be defined with date of creation, initials of the person created data and essential information which will be used for identification of the data. A separate electronic lab book will be created with additional explanations which will make data easier for identification</p> <p>*see explanation for the metadata which is given above</p>
<p>2.2 Making data openly accessible</p>	<ul style="list-style-type: none"> • Specify which data will be made openly available? If some data is kept closed provide rationale for doing so • Specify how the data will be made available • Specify what methods or software tools are needed to access the data? Is documentation about the software needed to access the data included? Is it possible to include the relevant software (e.g., in open-source code)? • Specify where the data and associated metadata, documentation and code are deposited • Specify how access will be provided in case there are any restrictions 	<p>* All data will be available for partners within the consortium. The generic data from benchmarking studies from different papers will be public, published data will be available on request and non-published data will be available on request after clarification if there is no IP protection needed</p> <p>* data available on request will be shared with third party upon non-disclosure agreement between PSIONIC and third party</p> <p>* XY files will be available on request along with metadata if needed</p> <p>* data and metadata will be securely stored on the local network hard drive</p> <p>* for critical data, non-disclosure agreement will be required</p>
<p>2.3 Making data interoperable</p>	<ul style="list-style-type: none"> • Assess the interoperability of your data. 	<p>The basic data will be documented, equipped with a</p>





	<p>Specify what data and metadata vocabularies, standards or methodologies you will follow to facilitate interoperability.</p> <ul style="list-style-type: none"> Specify whether you will be using standard vocabulary for all data types present in your data set, to allow inter-disciplinary interoperability? If not, will you provide mapping to more commonly used ontologies? 	<p>unique identifier and transferred to the PSIONIC shared data storage</p> <p>facility where the data will become available and usable for the</p> <p>consortium. Transfer to the shared storage facility shall happen</p> <p>as soon as practically possible after data generation. The basic</p> <p>data shall appear findable, accessible, interoperable and</p> <p>reusable for the project partners as soon as it becomes</p> <p>available via the consortium-wide storage facility. This serves as</p> <p>a test in a restricted forum of how FAIR the data is.</p>
<p>2.4 Increase data re-use (through clarifying licences)</p>	<ul style="list-style-type: none"> Specify how the data will be licenced to permit the widest use possible Specify when the data will be made available for re-use. If applicable, specify why and for what period a data embargo is needed Specify whether the data produced and/or used in the project is useable by third parties, in particular after the end of the project? If the re-use of some data is restricted, explain why Describe data quality assurance processes Specify the length of time for which the data will remain re-usable 	<p>* All research data, irrespective of their form, will be documented to the extent needed. Licenses for data created at NIC are not foreseen, and we don't foresee any embargo</p> <p>* before storing data, several check ups will be done, among else, we will perform in the parallel several measurements to ensure the repeatability. All metadata will be stored for at least 2 years after the end of the project</p>



<p>3. Allocation of resources</p>	<ul style="list-style-type: none"> • Estimate the costs of making your data FAIR. Describe how you intend to cover these costs • Clearly identify responsibilities for data management in your project • Describe costs and potential value of long-term preservation 	<p>Cost cannot be estimated at this stage</p> <p>Responsible for data are owners (everyone who produced data for the PSIONIC project)</p>
<p>4. Data security</p>	<ul style="list-style-type: none"> • Address data recovery as well as secure storage and transfer of sensitive data 	<p>See above where we describe that data will be securely stored at least two places at NIC and some data will be transferred to the PSIONIC storage pace</p>
<p>5. Ethical aspects</p>	<ul style="list-style-type: none"> • To be covered in the context of the ethics review, ethics section of DoA and ethics deliverables. Include references and related technical aspects if not covered by the former 	<p>Ex.</p>
<p>6. Other</p>	<ul style="list-style-type: none"> • Refer to other national/funder/sectorial/departamental procedures for data management that you are using (if any). 	<p>Data management plan prepared within BIGMAP project</p> <p>https://doi.org/10.1002/batt.202100117</p>

POLITECNICO DI TORINO

DMP Component	Issues to be addressed	Explanation/Description
1. Data summary	<ul style="list-style-type: none"> • State the purpose of the data collection/generation • Explain the relation to the objectives of the project • Specify the types and formats of data generated/collected • Specify if existing data is being re-used (if any) • Specify the origin of the data • State the expected size of the data (if known) • Outline the data utility to whom will it be useful 	<ul style="list-style-type: none"> • Synthesis of SICPs and crosslinked polymer electrolytes, physico-chemical and electrochemical characterization, lab-scale cell assembly, dissemination and communication activities • All collected data are needed to evaluate the final mechanical and (electro)chemical properties of the polymeric material and polymer electrolytes, in order to reach the specific objectives of the project. These data are necessary to demonstrate the possible use of the developed and optimized materials in solid-state Li-metal batteries. • Laboratory notes and raw data files (e.g., DSC and TGA analysis, electrochemical characterization, etc.), paper results. The data format is potentially under docx, xlsx, jpg and png formats. • Benchmarking with standard materials developed in the lab and by the partners. • Data from lab equipment (chemical



		<p>and mechanical characterization of polymers and electrochemical methods like impedance, galvanostatic cycling and cyclic voltammetry, as well as flame retardancy, decomposition products data and DSC/TGA measurements).</p> <ul style="list-style-type: none"> • The expected data is normally in the Mbs size but, for e.g. long term measurements can possibly reach several Gbs. • The data can be used by project partners given interdependencies between activities, but also by the scientific community, independent experts, and private industrial actors in the relevant energy sector.
<p>2. FAIR Data</p> <p>2.1 Making data findable, including provisions for metadata</p>	<ul style="list-style-type: none"> • Outline the discoverability of data (metadata provision) • Outline the identifiability of data and refer to standard identification mechanism. Do you make use of persistent and unique identifiers such as Digital Object Identifiers? • Outline naming conventions used • Outline the approach towards search keyword • Outline the approach for clear versioning • Specify standards for metadata creation (if any). If there are no standards in your discipline 	<ul style="list-style-type: none"> • Open access publications will detail the characterization results and original development in the synthesis of new materials for SICPs or for the bulk of the electrolyte for all solid-state Li-metal batteries. Raw data can be made available upon specific and motivated request. • All data underlying journal articles will be





	<p>describe what type of metadata will be created and how</p>	<p>archived on one or several repositories (e.g., PORTO Polito) using e.g. unique Digital Object Identifiers (DOI).</p> <ul style="list-style-type: none"> • No specific system used, naming and structuring of electronic files and folders depend on the user. • Keywords such as “solid-state battery”, “polymeric electrolyte”, “lithium-ion battery”, “Solid polymer electrolytes”, “Ionic conductivity”, and “Single-ion conductors” are the most reported in the literature. • Clear versions are obtained following up on first drafts and confirmed by the WP and project partners. • We are not aware of standards for metadata in our discipline.
<p>2.2 Making data openly accessible</p>	<ul style="list-style-type: none"> • Specify which data will be made openly available? If some data is kept closed provide rationale for doing so • Specify how the data will be made available • Specify what methods or software tools are needed to access the data? Is documentation about the software needed to access the data included? Is it possible to include the relevant software (e.g., in open-source code)? • Specify where the data and associated metadata, documentation and code are deposited 	<ul style="list-style-type: none"> • The generic data is made public. it is made openly available via project website, social media, etc. • No access restriction in the case of scientific publication that will be made available in the open access format, they will be made openly available through selected repositories, project website and social media.



	<ul style="list-style-type: none"> Specify how access will be provided in case there are any restrictions 	<p>Characterization data will be made available to the consortium partners through private cloud sharing.</p> <ul style="list-style-type: none"> There is no need to use any specific software to access the data. Regular Office and Acrobat software is sufficient to access to them. Institutional repository for open access publications and private cloud for partners sharing. In principle, there should be no restriction, except in case of confidential data coming from specific characterization of specific material(s) under patent protection. Anyway, any potential restrictions have to be evaluated and discussed with the partners who would intend to re-use the data, internal discussion and decision on how to proceed.
<p>2.3 Making data interoperable</p>	<ul style="list-style-type: none"> Assess the interoperability of your data. Specify what data and metadata vocabularies, standards or methodologies you will follow to facilitate interoperability. Specify whether you will be using standard vocabulary for all data types present in your data set, to allow inter-disciplinary interoperability? If not, will you 	<ul style="list-style-type: none"> Public data are interoperable by nature. For more detailed data, no specific methodology is needed. Data can be readily exchanged with partners. Usual vocabularies, standards and methodologies are



	<p>provide mapping to more commonly used ontologies?</p>	<p>reported in the literature.</p> <ul style="list-style-type: none"> The use of formats consultable with free of charge software (e.g., Open Office), common storage tools and templates, and a standard vocabulary for all data types and naming conventions will promote interdisciplinary interoperability.
<p>2.4 Increase data re-use (through clarifying licences)</p>	<ul style="list-style-type: none"> Specify how the data will be licenced to permit the widest use possible Specify when the data will be made available for re-use. If applicable, specify why and for what period a data embargo is needed Specify whether the data produced and/or used in the project is useable by third parties, in particular after the end of the project? If the re-use of some data is restricted, explain why Describe data quality assurance processes Specify the length of time for which the data will remain re-usable 	<ul style="list-style-type: none"> Scientific raw data will be associated to all open access publications and/or their deposit on official repositories. The attribution of unique DOIs will allow their immediate availability for further re-use during and after the end of the project. Data reuse before publication is only possible to the project partners for project purposes. No limitations for open access publications. Patented data will be limited by specific regulations. There will be no other restrictions to reuse. No limitations for open access publications. Patented data will be limited by specific regulations. Data produced or collected will be carefully stored and managed by our organization. Local and central





		<p>repositories are secured using the latest security protocols.</p> <ul style="list-style-type: none"> • In case of "non-gold" open access publication, the embargo period depends on the publisher (normally, from 6 to 24 months for open access publications).
3. Allocation of resources	<ul style="list-style-type: none"> • Estimate the costs of making your data FAIR. Describe how you intend to cover these costs • Clearly identify responsibilities for data management in your project • Describe costs and potential value of long-term preservation 	<p>All costs related to the data collection and processing are covered by the project budget under the *WP and partner* budget.x.</p>
4. Data security	<ul style="list-style-type: none"> • Address data recovery as well as secure storage and transfer of sensitive data 	<ul style="list-style-type: none"> • Activities under PSIONIC for *partner* do not involve sensible and non-public data, if this would be the case then such data will be stored on projects repository, for PSIONIC it was decided on SharePoint, or relevant folder available only for the consortium members. Overall, *partner* ensures safety of data storage for long-term preservation and curation.
5. Ethical aspects	<ul style="list-style-type: none"> • To be covered in the context of the ethics review, ethics section of DoA and ethics deliverables. Include references and related technical aspects if not covered by the former 	<ul style="list-style-type: none"> • Ethical issues, data protection and privacy issues shall be identified and assessed in accordance with EU Regulation, National



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		and Sectorial laws and regulations and will be transmitted to the Consortium via project coordinator/manager.
6. Other	<ul style="list-style-type: none"> Refer to other national/funder/sectorial/departmental procedures for data management that you are using (if any). 	Ex. NA



WESTFAELISCHE WILHELMS-UNIVERSITAET MUENSTER

DMP Component	Issues to be addressed	Explanation/Description
1. Data summary	<ul style="list-style-type: none"> • State the purpose of the data collection/generation • Explain the relation to the objectives of the project • Specify the types and formats of data generated/collected • Specify if existing data is being re-used (if any) • Specify the origin of the data • State the expected size of the data (if known) • Outline the data utility to whom will it be useful 	<p>The data is collected and provided in order to reach main objectives of the project and specific objectives of WP3 and WP4.</p> <p>The data collected include mainly publicly available scientific data via literature review, lab experiments and former activities. Measurement data from WP2 activities will be transformed in reports and more accessible data formats. The data format is Microsoft Office or Origin formats.</p>
2. FAIR Data 2.1 Making data findable, including provisions for metadata	<ul style="list-style-type: none"> • Outline the discoverability of data (metadata provision) • Outline the identifiability of data and refer to standard identification mechanism. Do you make use of persistent and unique identifiers such as Digital Object Identifiers? • Outline naming conventions used • Outline the approach towards search keyword • Outline the approach for clear versioning • Specify standards for metadata creation (if any). If there are no standards in your discipline describe what type of metadata will be created and how 	<p>Not possible at the moment, however keywords and appropriate labelling will be carried out.</p>
2.2 Making data openly accessible	<ul style="list-style-type: none"> • Specify which data will be made openly available? If some data 	<p>Majority of the data will be publicly available via published papers in</p>



	<p>is kept closed provide rationale for doing so</p> <ul style="list-style-type: none"> Specify how the data will be made available Specify what methods or software tools are needed to access the data? Is documentation about the software needed to access the data included? Is it possible to include the relevant software (e.g., in open-source code)? Specify where the data and associated metadata, documentation and code are deposited Specify how access will be provided in case there are any restrictions 	<p>open access journals and via presentation at the conferences or post on the social media with public access.</p>
<p>2.3 Making data interoperable</p>	<ul style="list-style-type: none"> Assess the interoperability of your data. Specify what data and metadata vocabularies, standards or methodologies you will follow to facilitate interoperability. Specify whether you will be using standard vocabulary for all data types present in your data set, to allow inter-disciplinary interoperability? If not, will you provide mapping to more commonly used ontologies? 	<p>Public data of the project for this thematic are interoperable by nature.</p> <p>Terminologies can be slightly different but this would not have major impact on interoperability.</p>
<p>2.4 Increase data re-use (through clarifying licences)</p>	<ul style="list-style-type: none"> Specify how the data will be licenced to permit the widest use possible Specify when the data will be made available for re-use. If applicable, specify why and for what period a data embargo is needed Specify whether the data produced and/or used in the project is useable by third parties, in particular after the end of the project? If the re-use of some data is restricted, explain why Describe data quality assurance processes Specify the length of time for which the data will remain re-usable 	<p>Data reuse before publication is only possible to the project partners for project purposes. Widest reuse will be possible after publication. The exact method of making the data available is not decided, but we plan to use standard ways in combination with the publications.</p> <p>There will be no other restrictions to reuse.</p>



		The data will be stored for 10 years after finalising the project
3. Allocation of resources	<ul style="list-style-type: none"> Estimate the costs of making your data FAIR. Describe how you intend to cover these costs Clearly identify responsibilities for data management in your project Describe costs and potential value of long-term preservation 	All costs related to the data collection and processing are covered by the project budget under the WP7.1 and MEET budget.
4. Data security	<ul style="list-style-type: none"> Address data recovery as well as secure storage and transfer of sensitive data 	<p>Activities under PSIONIC for MEET do not involve sensible and non-public data, if this would be the case then such data will be stored on projects repository, for PSIONIC it was decided on SharePoint, or relevant folder available only for the consortium members.</p> <p>Overall, MEET ensures safety of data storage for long-term preservation and curation.</p>
5. Ethical aspects	<ul style="list-style-type: none"> To be covered in the context of the ethics review, ethics section of DoA and ethics deliverables. Include references and related technical aspects if not covered by the former 	<p>Ethical issues, data protection and privacy issues shall be identified and assessed in accordance with EU Regulation, National and Sectorial laws and regulations and will be transmitted to the Consortium via project coordinator/manager.</p> <p>No ethical issues are identified at the moment.</p>



D7.2 – “Data Management Plan Prepared and Maintained”

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6. Other	<ul style="list-style-type: none">Refer to other national/funder/sectorial/departamental procedures for data management that you are using (if any).	NA
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SPECIFIC POLYMERS

DMP Component	Issues to be addressed	Explanation/Description
1. Data summary	<ul style="list-style-type: none"> State the purpose of the data collection/generation Explain the relation to the objectives of the project Specify the types and formats of data generated/collected Specify if existing data is being re-used (if any) Specify the origin of the data State the expected size of the data (if known) Outline the data utility to whom will it be useful 	Nothing to add
2. FAIR Data 2.1 Making data findable, including provisions for metadata	<ul style="list-style-type: none"> Outline the discoverability of data (metadata provision) Outline the identifiability of data and refer to standard identification mechanism. Do you make use of persistent and unique identifiers such as Digital Object Identifiers? Outline naming conventions used Outline the approach towards search keyword Outline the approach for clear versioning Specify standards for metadata creation (if any). If there are no standards in your discipline describe what type of metadata will be created and how 	Chemical data will be stored in standardized formats (xlsx, docx, pptx, pdf). Each sample sent to the consortium will have a single identifier and will be sent along with technical data sheet and material safety data sheet.
2.2 Making data openly accessible	<ul style="list-style-type: none"> Specify which data will be made openly available? If some data is kept closed provide rationale for doing so Specify how the data will be made available Specify what methods or software tools are needed to access the data? Is documentation about the software needed to access the data included? Is it possible to include the relevant software (e.g., in open-source code)? Specify where the data and associated metadata, documentation and code are deposited Specify how access will be provided in case there are any restrictions 	All data provided by SPECIFIC POLYMERS are strictly confidential.

2.3 Making data interoperable	<ul style="list-style-type: none"> Assess the interoperability of your data. Specify what data and metadata vocabularies, standards or methodologies you will follow to facilitate interoperability. Specify whether you will be using standard vocabulary for all data types present in your data set, to allow inter-disciplinary interoperability? If not, will you provide mapping to more commonly used ontologies? 	Data will be provided in standardized format, in English.
2.4 Increase data re-use (through clarifying licences)	<ul style="list-style-type: none"> Specify how the data will be licenced to permit the widest use possible Specify when the data will be made available for re-use. If applicable, specify why and for what period a data embargo is needed Specify whether the data produced and/or used in the project is useable by third parties, in particular after the end of the project? If the re-use of some data is restricted, explain why Describe data quality assurance processes Specify the length of time for which the data will remain re-usable 	Data provided by SP will be kept secret.
3. Allocation of resources	<ul style="list-style-type: none"> Estimate the costs of making your data FAIR. Describe how you intend to cover these costs Clearly identify responsibilities for data management in your project Describe costs and potential value of long-term preservation 	Nothing to declare – it is common way of working for SP
4. Data security	<ul style="list-style-type: none"> Address data recovery as well as secure storage and transfer of sensitive data 	Data will be stored on internal server and security of data is ensured.
5. Ethical aspects	<ul style="list-style-type: none"> To be covered in the context of the ethics review, ethics section of DoA and ethics deliverables. Include references and related technical aspects if not covered by the former 	Nothing to declare
6. Other	<ul style="list-style-type: none"> Refer to other national/funder/sectorial/departmental procedures for data management that you are using (if any). 	Nothing to declare

UPPSALA UNIVERSITET

DMP Component	Issues to be addressed	Explanation/Description
1.Data summary	<ul style="list-style-type: none"> • State the purpose of the data collection/generation • Explain the relation to the objectives of the project • Specify the types and formats of data generated/collected • Specify if existing data is being re-used (if any) • Specify the origin of the data • State the expected size of the data (if known) • Outline the data utility to whom will it be useful 	<p>Typical data will be DFT, MD, and FEM data, using accessible and available software. Input files will also be stored, so that data can be re-generated if necessary. Relevant output files will be stored, displaying simulated energetics and key properties of the systems. This is relevant for other members of the scientific community.</p> <p>1 TB of data can be expected for storage.</p>
2.FAIR Data 2.1 Making data findable, including provisions for metadata	<ul style="list-style-type: none"> • Outline the discoverability of data (metadata provision) • Outline the identifiability of data and refer to standard identification mechanism. Do you make use of persistent and unique identifiers such as Digital Object Identifiers? • Outline naming conventions used • Outline the approach towards search keyword • Outline the approach for clear versioning • Specify standards for metadata creation (if any). If there are no standards in your discipline describe what type of metadata will be created and how 	<p>Data will be described in Readme file which includes the metadata relating to the structure, the standard, the technical details of the content, and the computational method used for generating these data.</p> <p>Data files with me named highlighting the computational method, composition of the system, and the relevant properties.</p>
2.2 Making data openly accessible	<ul style="list-style-type: none"> • Specify which data will be made openly available? If some data is kept closed provide rationale for doing so • Specify how the data will be made available • Specify what methods or software tools are needed to access the data? Is documentation about the software needed to access the data included? Is it possible to include the relevant software (e.g., in open-source code)? 	<p>All computational data will be publically available. Data that associated with the scientific publications will be described in Readme files which includes the metadata relating to the structure, the standard, the technical details of the content, software, and</p>

	<ul style="list-style-type: none"> Specify where the data and associated metadata, documentation and code are deposited Specify how access will be provided in case there are any restrictions 	the computational method used for generating these data.
2.3 Making data interoperable	<ul style="list-style-type: none"> Assess the interoperability of your data. Specify what data and metadata vocabularies, standards or methodologies you will follow to facilitate interoperability. Specify whether you will be using standard vocabulary for all data types present in your data set, to allow inter-disciplinary interoperability? If not, will you provide mapping to more commonly used ontologies? 	<p>Ex.</p> <p>The metadata discussed above will be described in detail and the input files for the calculations will be also provided. In this way, results can be repeated by other research groups in the scientific community. The terminology will be adopted to follow that of other European projects within the same area, e.g. BIG-MAP.</p>
2.4 Increase data re-use (through clarifying licences)	<ul style="list-style-type: none"> Specify how the data will be licenced to permit the widest use possible Specify when the data will be made available for re-use. If applicable, specify why and for what period a data embargo is needed Specify whether the data produced and/or used in the project is useable by third parties, in particular after the end of the project? If the re-use of some data is restricted, explain why Describe data quality assurance processes Specify the length of time for which the data will remain re-usable 	<p>Ex.</p> <p>All computational data is made public, and there will be no restrictions on re-use, including third parties. The output data will be accessible 12 months after the project duration; after this time period the input files are accessible, and output can thus be re-generated, also by third parties.</p>
3. Allocation of resources	<ul style="list-style-type: none"> Estimate the costs of making your data FAIR. Describe how you intend to cover these costs Clearly identify responsibilities for data management in your project Describe costs and potential value of long-term preservation 	<p>Ex.</p> <p>We pay locally at Uppsala University for storage, that can be used for this project, at least 12 months after the project has finished. To ensure that our research output have a wider impact, we will follow the open data initiative to share digitalized materials through the IT platform provided by Uppsala</p>

		University and by Swedish National Data Service (SND). Digital Object Identifier (DOI) will be used for each dataset that we share publicly.
4. Data security	<ul style="list-style-type: none"> Address data recovery as well as secure storage and transfer of sensitive data 	Ex. We do not foresee generation of sensitive data. The storage system employed has automatic back-up functions.
5. Ethical aspects	<ul style="list-style-type: none"> To be covered in the context of the ethics review, ethics section of DoA and ethics deliverables. Include references and related technical aspects if not covered by the former 	Ex. We foresee no ethical issues within the data.
6. Other	<ul style="list-style-type: none"> Refer to other national/funder/sectorial/departmental procedures for data management that you are using (if any). 	Ex. We comply with the Swedish National Data Service (SND).



RENAULT SAS

DMP Component	Issues to be addressed	Explanation/Description
<p>1. Data summary</p>	<ul style="list-style-type: none"> • State the purpose of the data collection/generation • Explain the relation to the objectives of the project • Specify the types and formats of data generated/collected • Specify if existing data is being re-used (if any) • Specify the origin of the data • State the expected size of the data (if known) • Outline the data utility to whom will it be useful 	<ul style="list-style-type: none"> • Data generated by the different WP • Tests protocols in WP1 • Tests results analysis in WP1 • Characterization of cells (electrochemical test, post mortem, thermal test, ...) WP4 • Safety protocols in WP5 (safety test) • LCA documents in WP5 • Achieve the different target of the project inside each WP • Type and formats of data: <ul style="list-style-type: none"> • .xlsx • .pptx • .docx • .pdf • .jpeg • .csv • / • The protocols include Renault internal information • / • Useful for people working inside this project (not sharable with people outside the project)





<p>2. FAIR Data</p> <p>2.1 Making data findable, including provisions for metadata</p>	<ul style="list-style-type: none"> Outline the discoverability of data (metadata provision) Outline the identifiability of data and refer to standard identification mechanism. Do you make use of persistent and unique identifiers such as Digital Object Identifiers? Outline naming conventions used Outline the approach towards search keyword Outline the approach for clear versioning Specify standards for metadata creation (if any). If there are no standards in your discipline describe what type of metadata will be created and how 	<p>All data will be stored in the Psionic SharePoint</p>
<p>2.2 Making data openly accessible</p>	<ul style="list-style-type: none"> Specify which data will be made openly available? If some data is kept closed provide rationale for doing so Specify how the data will be made available Specify what methods or software tools are needed to access the data? Is documentation about the software needed to access the data included? Is it possible to include the relevant software (e.g., in open-source code)? Specify where the data and associated metadata, documentation and code are deposited Specify how access will be provided in case there are any restrictions 	<ul style="list-style-type: none"> All protocols are not public and should stay confidential. Data only shared with partners inside PSIONIC project <ul style="list-style-type: none"> Bureaucratic software is enough to access to the data No specific software except for tests raw data
<p>2.3 Making data interoperable</p>	<ul style="list-style-type: none"> Assess the interoperability of your data. Specify what data and metadata vocabularies, standards or methodologies you will follow to facilitate interoperability. Specify whether you will be using standard vocabulary for all data types present in your data set, to allow inter-disciplinary interoperability? If not, will you 	<p>All data collected during this project will be collected in standard format: .xlsx, .docx, .pdf, .csv, .pptx</p>





	provide mapping to more commonly used ontologies?	
2.4 Increase data re-use (through clarifying licences)	<ul style="list-style-type: none"> Specify how the data will be licenced to permit the widest use possible Specify when the data will be made available for re-use. If applicable, specify why and for what period a data embargo is needed Specify whether the data produced and/or used in the project is useable by third parties, in particular after the end of the project? If the re-use of some data is restricted, explain why Describe data quality assurance processes Specify the length of time for which the data will remain re-usable 	<p>The protocols shared during the project will not be re used after the end of the project.</p> <p>The protocols will be used only during the project.</p>
3. Allocation of resources	<ul style="list-style-type: none"> Estimate the costs of making your data FAIR. Describe how you intend to cover these costs Clearly identify responsibilities for data management in your project Describe costs and potential value of long-term preservation 	All costs related to the data collection and processing are covered by the project budget under the *WP and partner* budget.
4. Data security	<ul style="list-style-type: none"> Address data recovery as well as secure storage and transfer of sensitive data 	<p>Activities under PSIONIC for *partner* do not involve sensible and non-public data, if this would be the case then such data will be stored on projects repository, for PSIONIC it was decided on SharePoint, or relevant folder available only for the consortium members.</p> <p>Overall, *partner* ensures safety of data storage for long-term preservation and curation</p>





<p>5. Ethical aspects</p>	<ul style="list-style-type: none"> To be covered in the context of the ethics review, ethics section of DoA and ethics deliverables. Include references and related technical aspects if not covered by the former 	<p>Ethical issues, data protection and privacy issues shall be identified and assessed in accordance with EU Regulation, National and Sectorial laws and regulations and will be transmitted to the Consortium via project coordinator/manager.</p>
<p>6. Other</p>	<ul style="list-style-type: none"> Refer to other national/funder/sectorial/departamental procedures for data management that you are using (if any). 	<p>NA</p>



CLERENS

DMP Component	Issues to be addressed	Explanation/Description
1. Data summary	<ul style="list-style-type: none"> • State the purpose of the data collection/generation • Explain the relation to the objectives of the project • Specify the types and formats of data generated/collected • Specify is existing data is being re-used (if any) • Specify the origin of the data • State the expected size of the data (if known) • Outline the data utility to whom will it be useful 	<p>CLERENS is the overall leader of WP6: Dissemination & Exploitation, clustering & cooperation with funded projects, as well as the task leader of T6.1 Dissemination and Communication Actions.</p> <p>Data under WP6 will mostly involve the project identity toolkit (public reports, public presentation) and dissemination event materials.</p> <p>In order to ensure highest possible impact for PSIONIC, dissemination and communication of the project results is important and part of project objectives. The knowledge generated by the Consortium partners will be also disseminated to some extent upon approval of the owners.</p> <p>Overall, the data will be originated by the project partners: these are experimental data from relevant activities, presentation and articles as well as press releases from partners. The expected size of data will be in the range of MB to GB.</p>



		<p>The data will be saved under the following formats: Formats for web-publishing, pdf, image file formats (e.g. jpg, png etc.), txt, docx, pptx. In general data distributed from WP6 to the public will be web-formats, pdf and similar readable formats.</p> <p>The data can be used by project partners given interdependencies between activities, but also by the scientific community, independent experts, and private industrial actors in the relevant energy sector.</p> <p>CLERENS is also the leader of T7.1: Coordination-Internal communication and contractual, administrative and financial project management in WP7: Project Management.</p> <p>The data is collected and provided in order to reach main objectives of the project and specific objectives of the abovementioned tasks.</p> <p>The data will be shared internally on a closed repository and will be available to partners for access. Formats used are pptx., pdf, excel, docx. The main objective is to share</p>
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		data among partners, store deliverables, and ensure continuous management and monitoring of the project throughout its duration.
<p>2. FAIR Data</p> <p>2.1 Making data findable, including provisions for metadata</p>	<ul style="list-style-type: none"> Outline the discoverability of data (metadata provision) Outline the identifiability of data and refer to standard identification mechanism. Do you make use of persistent and unique identifiers such as Digital Object Identifiers? Outline naming conventions used Outline the approach towards search keyword Outline the approach for clear versioning Specify standards for metadata creation (if any). If there are no standards in your discipline describe what type of metadata will be created and how 	<p>Internally in the project the naming will follow DDMMYYYY_PROJECT_NAME_WP_Document Description_Producer Name.</p> <p>For publications, conference presentations etc. journal name and/or conference name will be included in the name along with at least first author name.</p> <p>Findable data is foreseen in the framework of public deliverables which will be uploaded to the project website.</p>
<p>2.2 Making data openly accessible</p>	<ul style="list-style-type: none"> Specify which data will be made openly available? If some data is kept closed provide rationale for doing so Specify how the data will be made available Specify what methods or software tools are needed to access the data? Is documentation about the software needed to access the data included? Is it possible to include the relevant software (e.g., in open-source code)? 	<p>The data is made public. It is made openly available via project website www.psonic.eu, newsletters, via conference home pages (presentations/posters) and scientific journals (open access) but also through social media the information will be available and accessible.</p> <p>There is no need to use any specific software to</p>





	<ul style="list-style-type: none"> Specify where the data and associated metadata, documentation and code are deposited Specify how access will be provided in case there are any restrictions 	<p>access the data. Regular office software is sufficient to access to them.</p> <p>Some data will be stored in project’s repository and will be accessible by the project partners only.</p> <p>Extra information about the project, involved partners, activity can be requested through the project email address.</p>
<p>2.3 Making data interoperable</p>	<ul style="list-style-type: none"> Assess the interoperability of your data. Specify what data and metadata vocabularies, standards or methodologies you will follow to facilitate interoperability. Specify whether you will be using standard vocabulary for all data types present in your data set, to allow inter-disciplinary interoperability? If not, will you provide mapping to more commonly used ontologies? 	<p>Public data of the project for this thematic are interoperable by nature.</p>
<p>2.4 Increase data re-use (through clarifying licences)</p>	<ul style="list-style-type: none"> Specify how the data will be licenced to permit the widest use possible Specify when the data will be made available for re-use. If applicable, specify why and for what period a data embargo is needed Specify whether the data produced and/or used in the project is useable by third parties, in particular after the end of the project? If the re-use of some data is restricted, explain why Describe data quality assurance processes 	<p>Raw data gathered in and/or as product of/generated by WP6 will be stored and remain re-usable in form of raw data (draft of publications, press releases, presentations etc.) being stored at the project Sharepoint and stored for 5 years after finalizing the PSIONIC project.</p>



	<ul style="list-style-type: none"> Specify the length of time for which the data will remain re-usable 	<p>Data reuse before publication is only possible to the project partners for project purposes.</p> <p>Re-use of data after end of the project by project members and by third parties will be possible, according to Consortium Agreement, and if/when partners provide their written accept for the re-use of data generated as part of WP6, except for data already public.</p>
<p>3. Allocation of resources</p>	<ul style="list-style-type: none"> Estimate the costs of making your data FAIR. Describe how you intend to cover these costs Clearly identify responsibilities for data management in your project Describe costs and potential value of long-term preservation 	<p>All costs related to the data collection and processing are covered by the project budget under the WP6 and CLERENS budget.</p>
<p>4. Data security</p>	<ul style="list-style-type: none"> Address data recovery as well as secure storage and transfer of sensitive data 	<p>Activities under PSIONIC for CLERENS do not involve sensible and non-public data, if this would be the case then such data will be stored on projects repository, for PSIONIC it was decided on SharePoint, or relevant folder available only for the consortium members.</p> <p>Data, news, press-release, articles, presentations will be stored on a Sharepoint repository only open for project members until agreed to be published.</p>



		Overall, CLERENS ensures safety of data storage for long-term preservation and curation.
5. Ethical aspects	<ul style="list-style-type: none"> To be covered in the context of the ethics review, ethics section of DoA and ethics deliverables. Include references and related technical aspects if not covered by the former 	Ethical issues, data protection and privacy issues shall be identified and assessed in accordance with EU Regulation, National and Sectorial laws and regulations and will be transmitted to the Consortium via project coordinator/manager.
6. Other	<ul style="list-style-type: none"> Refer to other national/funder/sectorial/departamental procedures for data management that you are using (if any). 	NA

UNIVERSITA' DEGLI STUDI DI NAPOLI

DMP Component	Issues to be addressed	Explanation/Description
1. Data summary	<ul style="list-style-type: none"> • State the purpose of the data collection/generation • Explain the relation to the objectives of the project • Specify the types and formats of data generated/collected • Specify if existing data is being re-used (if any) • Specify the origin of the data • State the expected size of the data (if known) • Outline the data utility to whom will it be useful 	<p>The data is collected to reach the objectives of the project and the WP.</p> <p>The data collected include available scientific data via literature review, desk research and data coming from internal repository. The data format is potentially docx, xlsx, jpg and png, as well as text files obtained from QM and MD codes.</p> <p>The expected data is approximately several Gbs. The data can be used by project partners, scientific community, independent experts, and private industrial actors in the relevant energy sector.</p>
2. FAIR Data 2.1 Making data findable, including provisions for metadata	<ul style="list-style-type: none"> • Outline the discoverability of data (metadata provision) • Outline the identifiability of data and refer to standard identification mechanism. Do you make use of persistent and unique identifiers such as Digital Object Identifiers? • Outline naming conventions used • Outline the approach towards search keyword • Outline the approach for clear versioning • Specify standards for metadata 	<p>Possible naming could be: "PSIONIC_WPx_Txy_update_dd-mm-yy"</p> <p>so that the structure would ensure clarity, flexibility and easy access to history.</p> <p>Clear versions follow up each time document's first drafts are confirmed by the WP and project partners. Versioning timetable will also be provided at the beginning of the document.</p>



	<p>creation (if any). If there are no standards in your discipline describe what type of metadata will be created and how</p>	
<p>2.2 Making data openly accessible</p>	<ul style="list-style-type: none"> • Specify which data will be made openly available? If some data is kept closed provide rationale for doing so • Specify how the data will be made available • Specify what methods or software tools are needed to access the data? Is documentation about the software needed to access the data included? Is it possible to include the relevant software (e.g., in open-source code)? • Specify where the data and associated metadata, documentation and code are deposited • Specify how access will be provided in case there are any restrictions 	<p>The data is made public and openly available via project website, social media.</p> <p>Large files (e.g., wavefunctions and other output files from job calculations) could be kept close as considered mostly unreadable for a generic user.</p> <p>There is no need to use any specific software to access the data. Regular office software is sufficient to access to them.</p>
<p>2.3 Making data interoperable</p>	<ul style="list-style-type: none"> • Assess the interoperability of your data. Specify what data and metadata vocabularies, standards or methodologies you will follow to facilitate interoperability. • Specify whether you will be using standard vocabulary for all data types present in your data set, to allow inter-disciplinary 	<p>Public data of the project for this thematic area are interoperable by nature.</p> <p>The terminology used will allow interdisciplinary interoperability.</p>



	<p>interoperability? If not, will you provide mapping to more commonly used ontologies?</p>	
<p>2.4 Increase data re-use (through clarifying licences)</p>	<ul style="list-style-type: none"> Specify how the data will be licenced to permit the widest use possible Specify when the data will be made available for re-use. If applicable, specify why and for what period a data embargo is needed Specify whether the data produced and/or used in the project is useable by third parties, in particular after the end of the project? If the re-use of some data is restricted, explain why Describe data quality assurance processes Specify the length of time for which the data will remain re-usable 	<p>Data reuse before publication is only possible to the project partners for project purposes.</p> <p>There will be no other restrictions to reuse.</p> <p>The data will be stored for 10 years after finalising the project.</p>
<p>3. Allocation of resources</p>	<ul style="list-style-type: none"> Estimate the costs of making your data FAIR. Describe how you intend to cover these costs Clearly identify responsibilities for data management in your project Describe costs and potential value of long-term preservation 	<p>All costs related to the data collection and processing are covered by the project budget under the WP and UNINA budget.</p>
<p>4. Data security</p>	<ul style="list-style-type: none"> Address data recovery as well as secure storage and 	<p>Activities under PSIONIC for UNINA do not involve sensible and non-public data.</p>



	transfer of sensitive data	UNINA ensures safety of data storage and preservation.
5. Ethical aspects	<ul style="list-style-type: none"> To be covered in the context of the ethics review, ethics section of DoA and ethics deliverables. Include references and related technical aspects if not covered by the former 	Ethical issues, data protection and privacy issues are identified and assessed in accordance with EU Regulation, National and Sectorial laws.
6. Other	<ul style="list-style-type: none"> Refer to other national/funder/sectorial /departmental procedures for data management that you are using (if any). 	NA