Towards the sustainable giga-factory: developing green cell manufacturing processes

Work Package 1
D1.1 – Data Management Plan

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This document is the GIGAGREEN project Data Management Plan (contract no.101069707) corresponding to D1.1 (M6) led by SIE. This document contains the description of the methodology and standards to be followed on data collection, storage, and preservation, and will also consider their potential exploitation, watching over to guarantee their accessibility for verification and re-use.

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1. Acronyms and abbreviations

APCS	Article processing charges
ATP	Advances threat protection
CA	Consortium agreement
DMP	Data management plan
DOI	Digital object identifier
DTM	Design to manufacture
EC	European Commission
EU	European Union
GA	Grant agreement
GDPR	General data protection regulation
IP	Intellectual property
IPR	Intellectual property rights
OA	Open access
OS	Open science
DDP	Digital Data Platform

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2. Executive summary

This report contains the Data Management Plan developed for the GIGAGREEN project, which considers the procedures, guidelines that the consortium and its members are recommended to follow concerning the collection, processing, and archiving of the data to be produced during the project lifetime, going from September 2022 until August 2026.

The data will be classified in different datasets created by the owner party, and it is responsibility of all partners to ensure compliance with the FAIR (Findability, Accessibility, Interoperability and Reusability) data policy that is detailed throughout this report.

The GIGAGREEN project is funded by the Horizon Europe program, which means the project must adhere to the European Commission's policies, especially relevant for this report: matters on data security, ethics, resource allocation. Due to the project still being in its initial phase, it is not clear yet how many datasets will be produced, and how many of those will be confidential. However, any public datasets will be made available through a public repository in due time.

The objectives for the first 6 months of the project regarding data management have been met with no deviations, including the definition of the data management plan, the upload of the data repository to a shared platform (private for the consortium), as well as the fulfilment of said repository by each partner to keep track of the data generated throughout the project.

The Data Management strategy, as well as the data repository, will be updated every 6 months to ensure compliance with this plan.

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3. Introduction

The **Data Management Plan** (DMP) delivered as deliverable number 1.1 in M6, has been customized for the GIGAGREEN project funded by the European Union's Horizon Europe program under the Grant Agreement No. 101069707.

The purpose of the DMP is to ensure that the data generated and collected during the GIGAGREEN project complies both with the **FAIR** data management policy (making data findable, accessible, interoperable, and reusable), and with the **General Data Protection Regulation (GDPR)** which was officially enforced on May of 2018, aiming to protect and empower all EU citizens' personal data privacy and to reshape the way organizations manage data.

According to the DMP guideline provided by the Horizon Europe program, the report should include the information such as [1]: **(1)** methods to handle the research data during and after the end of project, **(2)** descriptions of the datasets that will be collected, processed, and/or generated, **(3)** methodologies and standards that were adopted for the data management, **(4)** level of accessibility/confidentiality of the data, and **(5)** methods to curate and preserve the data during and after the end of the project.

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4. Data Summary

4.1 Purpose of data generation and collection

The GIGAGREEN project's data generation and collection goals are to **(1)** produce design to manufacture (DtM) guidelines to make sure cell designers and factory managers can design and operate factories following sustainability, safety, cost competitiveness, and flexibility principles, and **(2)** rely on data-driven solutions for quality control, in order to assemble and model the best knowledge of the interdisciplinary aspects involved in cell design and manufacturing.

The information and knowledge produced by GIGAGREEN will include use case specifications (for cells, their parts, and their manufacturing processes), all the information produced for the creation and application of cutting-edge tools based on advanced characterization testing, physics modelling, autonomous robotics, and artificial intelligence, among other things.

4.2 Data generation and collection

The data collected during the GIGAGREEN project will be gathered via surveys, questionnaires, webinars, newsletters, testing and modelling activities, artificial intelligence methods, among others, therefore several databases are expected to be created throughout the project lifetime.

Description of the datasets will be categorized both considering qualitative and quantitative aspects, following the model on Table 1

Table 1: Dataset simplified template.

Responsible Partner Name	Name of the responsible partner.
Dataset Name	The name of the dataset, should be easy to find.
Relation to WP	Detailing which WP the dataset is related to.
Data Source	Origin of the data (is it original or re used?).
Dataset Description	Brief description of the dataset and its relation to the project.
Category Type	Category of the data contained in this dataset (e.g.: experimental data, publication, personal data, environmental data, etc).
Data Format	Format of the file(s) that contain the dataset (e.g. XLSX, DOCX, PDF, PPT, JPEG, OPJ, TIFF, among others).
Data Size	Approximate size of the file containing the dataset (e.g. 10MB, 6KB).

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Metadata & Standards	If there is use of metadata to produce this dataset, explain how it is used and its standards (if any).
Data Utility	To depict who may find this data useful.
Use of Standard Vocabulary	To detail any specific vocabulary used (e.g.: business terms, scientific terms, etc.).
Access Level	Is the information contained in this dataset public, restricted, or confidential?
Requirements of Methods/software to Access this Dataset	Related to previous section, if there is a specific software or other requirement to be able to access the information stored, please specify.
Available for Sharing?	Yes/No.
Reasons for not Sharing	If previous section is marked as "No," provide the reasons.
Ethical/legal Issues or Impact on Sharing	Yes/No. If yes, please explain.
Data Collector	Partner of the consortium or external entity that collects the data.
Procedures to Assure **1) Data quality** **2) Archiving/preservation** **3) Security**	Procedures related to maintaining the data quality and to archive the information.
How/where to Archive and Preserve?	Where is the data archived?
Storing Period	For how long it will be stored?
Associated Costs	Any costs related to software, platforms, etc needed to store and preserve this data.

The total number of identified datasets will be included in the data repository of the project, which will be a living document located in the Project SharePoint, ran by project coordinator POLITO.

Following the Horizon Europe program's open science policy, which calls for "*making data as open as possible, and as closed as necessary*," **the public datasets will be published in OpenAire** (or any other reliable public repository) when made available and will also be included in SEDIA as knowledge produced by the project. The datasets that the project partners deem confidential, will be handled as sensible information, and not disseminated unless otherwise approved.

The data owner (in this case, the relevant project partner) will decide and establish the terms under which these datasets can be shared as well as the requirements for doing so. Due to restrictions for ethical, confidentiality, IPR, and commercial exploitation reasons, some datasets may not be shared.

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The GIGAGREEN data repository was then established in order to identify and manage all new data produced by the project, to keep track of the retention and destruction strategy, to report any restrictions on their secondary use and disclosure to third parties, and to specify how the data is stored, who is in charge of it, and its openness for sharing. Every six months, SIE will act as the repository's data protection officers, but the project partners in charge of data production and collecting will update and modify the material as necessary.

5. Making GIGAGREEN's Data FAIR

The European Commission's DMP guidelines [2] focus on the importance of keeping data **FAIR**. The GIGAGREEN project compromises to making the datasets generated and collected in the project comply with the FAIR data policy (making data "Findable, Accessible, Interoperable, and Reusable"). This includes both metadata, documentation, standards, personal information, and any other data produced during the project's lifetime.

5.1. Findability

For published articles or other publication papers, a Digital Object Identifier (DOI) will be used as a unique and permanent code to identify the article and the corresponding journal.

In Table 2 are the naming conventions and style recommended to follow to secure the findability and consistency for all files stored on the project archive.

During data handling in the SUNDIAL platform, the metadata will be generated automatically in .txt format, containing the previously described information regarding the data inserted, as presented in the following example: Title of the metadata file:

YYYY_MM_DD_HH_MM_SS_USERNAME_NAME_OF_DATA.txt

Information inside:
- Name of data;
- Creator;
- Date of creation;
- Description;
- SOPs;
- Data-specific information (if applicable)

Table 2: Naming convention criteria

"DX.Y"	***Deliverable number, e.g. "D1.1" for Deliverable 1.1***
"WPX"	Related work package number, e.g. "WP1" for work package 1
"TX.Y"	Task number, e.g. "T1.1" for task 1.1
"Title"	Short description of the document

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"Version"	Version number, e.g. "v0.1" for first version
"Date"	Date in "YYYYMMDD" format

Example: GIGAGREEN_D1.1_ Data Management Plan_v1_20230203.docx.

5.2. Accessibility

According to Article 17 in the Grant Agreement (GA) **each beneficiary must disseminate the public project results as soon as possible** by disclosing them to the public through appropriate means, **unless their legitimate interests would be infringed**.

In **Error! Reference source not found.** are the key aspects about GIGAGREEN's data accessibility.

Table 3: Key aspects on GIGAGREEN's data management

Type of data generated and/or collected	Technical data on modelling and testing activities will be collected, as well as data for dissemination purposes, such as personal data on stakeholders, webinars/events attendees, and newsletter recipients, as well as internal questionnaires for project execution purposes.
Data exploitation and accessibility for verification and reuse	Confidential data (such as contact data from stakeholders, internal questionnaire data, and any other data that needs to remain confidential for IPR protection purposes) will be preserved with access restricted to project partners only. Non-confidential data will be published as part of the different reports foreseen in the project (also including scientific papers), and in a public repository.
Data Preservation (through the GIGAGREEN Data Repository)	Data will be curated and preserved in a special repository allocated and stored in the project coordinator's servers, accessible only to project partners. When the project reaches its final months, the datasets approved for public sharing will be published on an online open access repository.

It is important to highlight that the Dissemination, Exploitation and Communication strategy of the project also follows the open science (OS) approach based on:

- ✓ The maximum openness of results and research data allowed by the beneficiaries' obligation to protect their IP.

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- ✓ The involvement of the relevant stakeholder groups in activities such as the definition of requirements, identification of bottlenecks for uptake or the co-assessment of the piloted technologies.

- ✓ The cooperation, especially in the scientific dimension, but also in general dissemination and communication activities, with key European Union (EU) initiatives.

The intention of adopting OS practices is to boost the wider transfer of research results to their intended users, allowing also the continuation of research on the same or similar topics. **The project partners must ensure Open Access (OA) to the scientific publications related to their research outputs**, according to Article 17 of the Grant Agreement. The beneficiaries can choose between:

- ✓ **Green open access:** Authors deposit the manuscripts into their institutional repository or a subject repository with immediate or delayed OA, making the publications freely accessible for all users (also referred to as self-archiving). The deposited version of the publication (usually will be the final version for publication), terms and conditions (e.g. embargo period) for the OA depends on the funder or publisher.

- ✓ **Gold open access:** The author publishes the paper in an OA journal or book, supported by the OA publisher. The terms of publication are the same as in the case of traditional publishers, except that the published paper is freely available to the public. The gold open access does not charge the reader and assigns the costs of article processing charge (APCs) to the author, although it should be noted that an increasing number of OA publishers waive these charges. **The costs partners may incur to publish using this option are eligible for the Horizon Europe framework if and only if the platform is fully OA**, meaning that **hybrid journals** (that offer subscription-based and OA options) **are not eligible** [2].

One potential option of a free of charge OA repository (to avoid APCs) is **the Open Research Europe platform**, created by the EC and intended for the publication of research generated in H2020 and Horizon Europe programs [2].

The GIGAGREEN consortium is responsible for safe keeping the data collected and ensuring that publications do not lead to a breach of agreed confidentiality or anonymity. This will be monitored and controlled by means of keeping datasets within the project data repository up to date and reaching agreements with the involved partners regarding their accessibility and sharing.

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5.3. Interoperability

In order to make the datasets easier to comprehend, reuse, and interoperate across various parties that may be interested in using them, the GIGAGREEN project will strive to collect and describe the data in a consistent manner.

And important point is that It is mandatory to notify other partners with sufficient information on the contents of the dissemination at least 15 days prior to said dissemination, and this also applies to the contents of the project data repository.

Other partners may object within 15 days after receiving the notification and should provide proper justification to explain the reason why its legitimate interests would be significantly infringed. In this case, appropriate steps to solve the conflicts should take place; otherwise, the dissemination would not be able to proceed.

5.4. Reusability

The ease in which data can be used again for research or other purposes is referred to as reusability. The datasets gathered and/or generated for the GIGAGREEN project are initially intended to be highly reusable, allowing other research to continue to advance using the DtM approach for gigafactories in the Li-ion sector. However, this can always be limited, if necessary, by the dataset owner, as described in section 2.2 of this report. For each of the datasets, the data repository will list the prerequisites for access and the justifications for not sharing.

5.5. Data Security

The GIGAGREEN consortium partners will use Microsoft Teams as a platform to store and exchange all project data and materials. Teams enforces a two-factor authentication, single sign-on, and data encryption both in transit and at rest across the whole team and company. The project SharePoint will be used to store all files, which are protected by SharePoint encryption. OneNote encryption is used to protect notes while they are kept in OneNote. Along with SharePoint and OneDrive, other programs that interface with Teams for content management, advanced threat protection (ATP) is accessible for Microsoft Teams [3].

Security issues caused by account holders are often the weaker link of the system. Below are some good practices to take into consideration to ensure the security of the project data [4]:

- ✓ Create a strong, unique password, different from other accounts.
- ✓ Sign out of your account when you finish the work if you share the computer with others.
- ✓ Do not install Microsoft Teams on a shared or public computer since anyone who uses the computer could potentially access your files.

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- ✓ Use two-step verification as an extra protection layer of defence against hackers.

The SUNDIAL platform will provide tools for data re-use over time. Data will be preserved over a minimum 5 years after the end of the project and then kept in archive with partner restricted access for other 5 years.

6. Ethical Aspects

The Article 14 of the GA specifies the Ethics and Values that must be followed throughout the project, specifically regarding:

- ✓ Ethical principles (including the highest standards of research integrity and applicable international, EU, and national law).

- ✓ Values (commitment to the basic EU values, such as respect for human dignity, freedom, democracy, equality, and human rights).

In the GIGAGREEN project, as previously mentioned, personal data for dissemination purposes will be archived, at both regional and Pan European level. Certain original national laws concerning data protection may apply in some circumstances, however the EU General Data Protection Regulation (GDPR) shall always be considered as the primary legislation governing data protection.

Some legal terms are defined below to ease the understanding of the regulation [5]:

- ✓ **Personal data:** Any information that relates to an individual who can be directly or indirectly identified (e.g., Names, email addresses, location information, ethnicity, gender, religious beliefs, among others).

- ✓ **Data processing:** Any action performed on data, either automated or manual (e.g. collecting, recording, organizing, structuring, storing, etc).

- ✓ **Data subject:** Refers to the person whose data is being processed (e.g. customers or site visitors whose information is being stored).

- ✓ **Data controller:** Person who decides why and how personal data will be processed.

- ✓ **Data processor:** A third party that processes personal data on behalf of the controller.

GDPR aims to protect and empower all EU citizens' personal data privacy as well as to reshape the way organizations across the region manage data and proceed towards data privacy, for this, it is organized around seven key principles [5]:

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- ✓ **Lawfulness, fairness, and transparency:** the processing of the data must be lawful, fair, and transparent to the data subject.

- ✓ **Purpose limitation:** data must be processed for the legitimate purposes specified to the data subject before collection.

- ✓ **Data minimization:** you must collect and process only the necessary data for the specified purposes.

- ✓ **Accuracy:** personal data must be kept accurate and up to date.

- ✓ **Storage limitation:** the time to store data must be only for as long as necessary for the specified purpose.

- ✓ **Integrity and confidentiality:** the necessary steps must be taken so the processing of the data is done with integrity, in a secure and confidential manner.

- ✓ **Accountability:** the data controller is responsible for being able to demonstrate GDPR compliance.

As mentioned above, personal data is information that relates to an identified or identifiable individual (name, number, location, IP address, etc.), however information which has had identifiers removed or replaced to anonymize the data is still personal data for the purposes of GDPR [6].

Hence, if any dataset collected and/or generated in the GIGAGREEN project involves data privacy issues, the responsible partner should take notice of the GDPR requirements and ensure to comply with the regulations [7].

The consortium is subject to comply with but not limited to, the following GDPR regulations when applicable [5]:

- ✓ **Conditions for consent**
  The request for consent, along with the justification for data processing linked to that consent, must be made in a clear and clearly understandable manner. Clear and plain wording must be utilized rather than complex terms or conditions.

- ✓ **Increased territorial scope**
  GDPR is applicable if at least one of the following conditions is met:
  - Personal data processing concerns data subjects in the EU.
  - The personal data controller or processor is based in the EU, regardless of the exact location of processing taking place.

- ✓ **Data subject rights**

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- Breach notification: In case of any data breach that may result in a risk for the rights and freedoms of an individual, the breach notification must be provided within 72 hours after becoming aware of a data breach.

- Right to access: Data subjects are empowered to request confirmation with the data controller that if personal data concerning them is being processed, where and for what purpose, and they shall receive an electronic copy of personal data without additional cost.

- Right to rectification: right to have inaccurate personal data rectified.

- Right to restrict processing: right to restrict the processing of their personal data in certain circumstances.

- Right to data portability: right to receive personal data provided to a controller in a structured, machine-readable format.

- Right to be forgotten: data subjects have the right to demand the data controller to erase their personal data, cease further dissemination, and half third-parties processing it upon condition that the data is no longer applicable for the original purpose, or the data subjects withdraw their consents.

- Privacy by design: data controller shall include data protection into consideration from the very beginning of designing of systems. Appropriate measures shall be taken to protect the rights of data subjects, for instance only data which is considered necessary for completion of the tasks should be held and processed and only relevant personnel would be granted the access rights for data processing.

- Right to be informed:
  - Inform individuals about the collection and use of their personal data.
  - Individuals should be informed of the following: Why their personal data is being processed, how long it will be kept, and with whom it will be shared. It is called the "privacy information."
  - Provide the privacy information to individuals at the time their personal data are collected from them.
  - When you obtain personal data from a source other than the individual, you need to provide the individual with privacy information in less than a month. If you use data to communicate with the individual, you should provide privacy information at the latest when the first communication takes place.
  - When you collect personal data from the individual it relates to, you must provide them with privacy information at the time you obtain their data, you must tell people who you are giving their information to and give them an easy solution to opt out.

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- The information you provide to people must be concise, transparent, intelligible, easily accessible, and it must use clear and plain language.
- It is often most effective to provide the privacy information to people using a combination of different techniques including layering, dashboards, and just-in-time notices.
- User testing is an effective way to get feedback on how effective the delivery of your privacy information is.
- You must regularly review, and where necessary, update your privacy information. You must bring any new uses of an individual's personal data to their attention before you start the processing.

The following checklist shown below gathers all the information to be provided when collecting personal data either from individuals directly or from other sources [8].

Table 4: Information to provide to data subjects.

What information do we need to provide?	What should we tell people?	When is it required?
The name and contact details of your organization	Say who you are and how individuals can contact you.	Always
The name and contact details of your representative	Say who your representative is and how to contact them (a representative is an organization that represents you if you are based outside the EU, but you monitor or offer services to people in the EU).	If applicable
The contact details of your data protection officer	Say how to contact your data protection officer (DPO) (certain organizations are required to appoint a DPO.	If applicable
The purposes of the processing	Explain why you use people's personal data. Be clear about each different purpose (there are many different reasons for using personal data, you will know best the reasons why you use data. Typical purposes could include marketing, order processing and staff administration).	Always
The lawful basis for the processing	Explain which lawful basis you are relying on in order to collect and use people's personal data and/or special category data.	Always
The legitimate interests for the processing	Explain what the legitimate interests for the processing are.	If applicable

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The recipients or categories of recipients of the personal data	Say who you share people's personal data with. This includes anyone that processes the personal data on your behalf, as well all other organizations. Be as specific as possible if you only tell people the categories of organizations.	If applicable
The details of transfers of the personal data to any third countries or international organizations	Tell people if you transfer their personal data to any countries or organizations outside the EU.	If applicable
The retention periods for the personal data	Say how long you will keep the personal data for. If you do not have a specific retention period, then you need to tell people the criteria you use to decide how long you will keep their information.	Always
The rights available to individuals in respect of the processing	Tell people which rights they have in relation to your use of their personal data, e.g. access, rectification, erasure, restriction, objection, and data portability. The rights will differ depending on the lawful basis for processing – make sure what you tell people accurately reflects this. The right to object must be explicitly brought to people's attention clearly and separately from any other information.	Always
The right to withdraw consent	Let people know that they can withdraw their consent for your processing of their personal data at any time. Consent must be as easy to withdraw as it is to give. Tell people how they can do this.	If applicable
The right to lodge a complaint with a supervisory authority	Tell people that they can complain to a supervisory authority. Each EU Member State has a designated data protection supervisory authority. Individuals have the right to raise a complaint with the supervisory authority in the Member State where they live, where they work, or where the infringement took place.	Always
The details of whether individuals are under a statutory or contractual obligation to provide the personal data	Tell people if they are required by law, or under contract, to provide personal data	If applicable

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	to you, and what will happen if they do not provide that data. Often, this will only apply to some, and not all, of the information being collected. You should be clear with individuals about the specific types of personal data that are required under a statutory or contractual obligation.	
The details of the existence of automated decision-making, including profiling	Say whether you make decisions based solely on automated processing, including profiling, that have legal or similarly significant effects on individuals. Give people meaningful information about the logic involved in the process and explain the significance and envisaged consequences.	If applicable

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7. Allocation of Resources

According to the guidelines provided by the EC, costs related to the open access of research data in Horizon Europe program are eligible for reimbursement during the project lifetime if the requirements in article 6 of the Grant Agreement (for eligibility conditions) are met, as long as the publishing is done in an OA repository/journal. This means, as previously mentioned, that **hybrid journals** (journals that offer subscription and OA options) **are not eligible**.

According to the Grant Agreement, there is no budget foreseen for data management. Long-term preservation of datasets will be subject to the future availability of partners within the consortium to maintain collaborations within the same sharing platform (Microsoft Teams) and information on changes on their internal privacy policies.

The GIGAGREEN project will assist INEGI in creating a Digital Data Platform (DDP) that corresponds to the DMP's guiding principles. SUNDIAL, a password-protected online platform, enables the secure collecting, organization, and storage of data into life cycle inventories for the sustainability analysis and business model creation being carried out in WP6. SUNDIAL will be built in accordance with the specifications for features and data types.

Partners will provide raw data and findings from each WP important to evaluating the sustainability effectiveness of the GIGAGREEN project solutions on this web portal. The created inventory will meet current ISO 14040/44 criteria, and the exporting format will be compatible with technologies currently on the market (e.g. Ecoinvent database, and Simapro software). A description of the data produced by GIGAGREEN will include bibliographical and factual information (metadata).

For identification, a license and a DOI will be supplied. In order to generate the WP6 conclusions, INEGI will process the collected inventory and verify that SUNDIAL is managed properly inside GIGAGREEN. However, INEGI is not responsible for what data will be submitted or how the data that has already been presented will be changed. To keep the DMP updated concerning SUNDIAL, INEGI will continue to work with partners. Project partners will be granted free access.

After publishing, any data sharing and re-use (e.g. Creative Commons, Open Data Commons) will follow the license agreement assigned to the public repository in which they were stored. The user accepts full responsibility for the use of the data by downloading it. The user will be required to abide by the licensing terms of the relevant data record. In accordance with the guidelines for distribution, the data acquired through GIGAGREEN will also be made available to outside parties through peer-reviewed OA papers, seminars, and conferences.

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8. Conclusions

The Data Management Plan created specifically for the GIGAGREEN project is summarized in this report, and it will serve as the basis for defining the rules that all project developments must follow. Data management's goal is to ensure that data gathering is handled correctly and to standardize its use and reuse both during and after the project. The generated data will be collected into datasets that will be kept on file in the project's data repository and recorded in accordance with the guidelines outlined on this deliverable.

By the end of the project, a set of novel materials will be adapted to cutting-edge dry and wet electrode processing techniques, which will serve as the inspiration for the creation of DtM guidelines and a data-driven digital twin. All the knowledge and data generated through the GIGAGREEN project will comprise the pertinent know-how acquired from the development of new processes that can be adapted for the gigafactory context.

The results from the project will take the form of Key Exploitable Results (KER), and their exploitation after the project will consider the consortium's interests, IP background, IPR landscape and foreground, which highlights the importance of ensuring that the data management stays in line with the IP strategy of the project.

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References

[1] European Commission, "H2020 Onine Manual: Data Management," 2018. [Online]. Available: https://ec.europa.eu/research/participants/docs/h2020-funding-guide/cross-cutting-issues/open-access-data-management/data-management_en.htm.

[2] OpenAIRE, "How to comply with Horizon Europe mandate for publications," 2022.

[3] M. Teams, "Security and Compliance," 2020. [Online]. Available: https://docs.microsoft.com/en-us/microsoftteams/security-compliance-overview#:~:text=Teams%20enforces%20team%2Dwide%20and,are%20backed%20by%20OneNote%20encryption..

[4] M. Teams, "Microsoft Security Guide," 2020. [Online]. Available: https://docs.microsoft.com/en-us/microsoftteams/teams-security-guide.

[5] GDPR.EU, "What is GDPR, the EU's new data protection law?," 2018.

[6] European Commission, "Principles for GDPR," 2018. [Online]. Available: https://ec.europa.eu/info/law/law-topic/data-protection/reform/rules-business-and-organisations/principles-gdpr_en.

[7] GDPR, "GDPR Guidelines and Principles," 2020. [Online]. Available: https://gdpr-info.eu/.

[8] Information Commissioner's Office, "Your privacy notice checklist," 2018.

[9] European Commission, "Your Guide to IP in Horizon 2020," 2019.

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