

REEFLEX

REplicable, interoperable, cross-sector solutions and Energy services for demand side FLEXibility markets

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Abbreviations and Acronyms

Acronym	Description
C&D	Communication and Dissemination
CA	Consortium Agreement
COO	Coordinator
DER	Distributed Energy Resources
DLV/dlv	Deliverable
DoA	Description of Action (annex I of the Grant Agreement)
DSO	Distribution System Operator
EC	European Commission
EV	Electric Vehicles
FEID	Fog Enabled Intelligent Device
GA	Grant Agreement
GDPR	General Data Protection Regulation
ICT	Information and Communication Technology
KPI	Key Project Indicator
MS	Milestone
P2P	Peer-to-peer
PC	Project Coordinator
PMP	Project Management Plan
PMV	Performance Measure and Verification
PO	Project Officer
TL	Task Leader
ToC	Table of Contents
TSO	Transmission System Operator
WP	Work Package
WPL	Work Package Leader



Executive summary

Deliverable 1.2, Data Management Plan is the first version of its kind, which overviews procedures for data sharing of the REEFLEX Project, both before and after the Project, discusses the kind of data that will be collected, processed and synthesized, methodologies and standards to be applied during data recollection and the procedure in relation to the General Data Protection Regulation (GDPR).

This Data Management Plan (DMP) details what kind of research data will be created during the project's lifespan and prescribes how these data will be made available - and thus re-usable and verifiable - by the larger research community. The project's efforts in the area of open research data are outlined giving particular attention to the following issues:

- The types of open and non-open data that will be generated or collected by the consortium, via research, during the project's lifespan.
- The technologies that will be used to securely preserve the data long-term.
- The standards used to encode the data.
- The data exploitation plans.
- The sharing/access policies applied to each dataset.

The present document is a living one that will be updated on M24, reflecting the current state of the consortium's agreements regarding data management and handling, exploitation and protection of rights and results.



1 Introduction

REEFLEX is focused on delivering higher participation of energy consumers in demand side flexibility markets and demonstrating niches of opportunities for new services provided by SMEs and start-ups, seeing a growing number of distributed energy resources (DERs) connected to the network.

These DERs come from an ample variety of energy carriers and sectors, accompanied by the introduction of new digitalized assets. This decentralization poses significant challenges for the resilience of the system, and uncertainty in traditional control routines.

To ensure replicability of REEFLEX solutions, they will be demonstrated and cross-tested in 4 main demonstrators (Spain, Greece, Switzerland, Bulgaria). The services catalogue will be further replicated in three additional replicators to achieve wider coverage (Turkey, Portugal, Denmark).

This first version of the Data Management Plan (DMP) facilitates an overview regarding the data collection, creation and management throughout and after the REEFLEX Project.

The DMP will also link these activities to the REEFLEX partners and establish their responsibilities with respect to all the data handling aspects. In essence, the aim of the Data Management Plan is to consider the different aspects of data management since the beginning of the project to ensure that outcomes are well managed in the present and prepared for preservation in the future. An overview on Open Access will be given and different repositories will be investigated in order to find the most appropriate modality for ensuring open access to discoverable data and scientific publication generated throughout the project lifecycle. This plan will establish the measures for promoting the findings during the REEFLEX's lifecycle and will set the procedures for the sharing, collections, storage, protection, retention and destruction of data and certainty they comply with national and EU legislation. Addressing FAIR principle for research data (Findable, Accessible, Interoperable and Re-Usable) REEFLEX's DMP will consider:

- Data set reference and name
- Data set description
- Standards and metadata
- Data sharing and handling during and after the end of the project
- Archiving and preservation (including after the end of the project)

This is the first version of the Data Management Plan (DMP), to be revised during the course of the project within WP1 Management and Coordination, including new data, changes in consortium policies regarding innovation potential or decision to file a patent, and changes in the consortium composition and external factors. Moreover, this deliverable reports a preliminary strategy for the ethic and correct management of some data generated in the framework of REEFLEX project activities that incidentally can come from the related sensible data. The following deliverable has made use of the Horizon Europe FAIR Data Management Plan Template and was written with reference to the Guidelines to FAIR data management in



Horizon Europe and the GDPR (Regulation (EU) 2016/679) OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 27 April 2016.

1.1 Definitions

Important definitions followed in this document are:

- **Data** under the frame of the REEFLEX project should be understood as the needed inputs to create the software tools, models, apps, technologies (research outputs), and exploitable results of the project. Can be re-used or generated.
- **Research outputs** under the frame of the REEFLEX project should be understood as software, codes, workflows, protocols, models, algorithms, and any other tentative result created by project partners.

This document has been prepared by REEFLEX Project Partners between M1-M3 and thus, at this stage all the data related issues may not be defined and solved. It is expected to be properly defined and covered by M24, for the update of this document: *D1.7, Data Management Plan Update*.

There are three main different categories within the project.

- **General Data Protection Regulation covered data:** All the needed personnel data that will be collected for the project needs. The personal data must be collected according to the GDPR and the different national rules, and the data collector is responsible of its handling. These personal data cannot be shared without prior notification to the involved parties and without an agreement. Thus, this data cannot be included in the general repository and its share must be performed only in specific situations and in accordance with the regulation.
- **Restricted Scope:** Data, metadata, restricted documents, and other information that is reused and generate to fulfil the developments of the different tasks but with a need of limited access. These materials should be covered by different repositories and specific rules may apply for each situation. This category allows the partners to have restricted access to specific data and metadata if needed.
- **General Scope:** Data, metadata, deliverables, working documents, lists of bibliographic research and common information needed for the proper development of the collaborative tasks and work of the project. All partners (as well as external entities) may have access to this data and the relevant repositories where the data will be included.



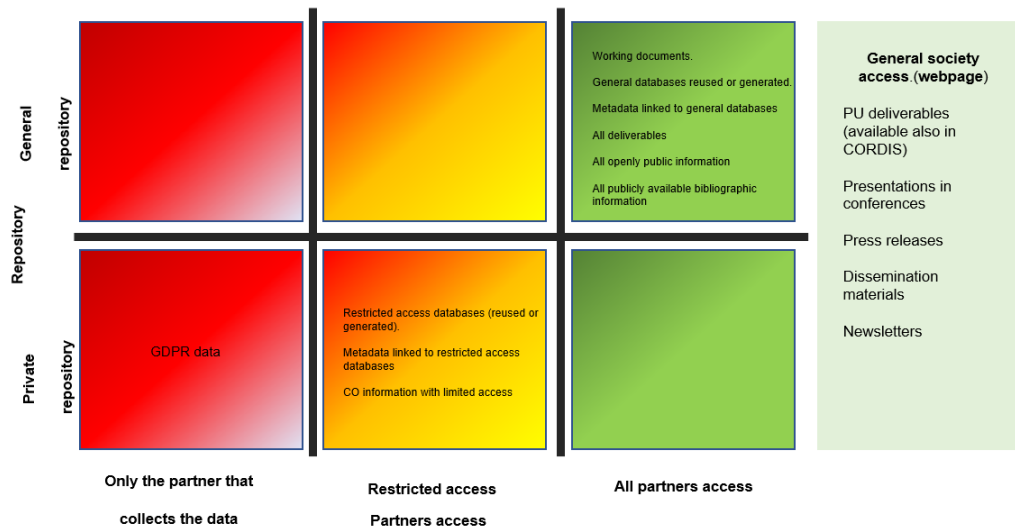


Figure 1: Categories classification as function of the access and the type of repository

To collect the information for the different partners tasks, technological developments and demonstrators, a living-working approach has been introduced. CIRCE has shared with documents a template document to fill. The approach is the following one:

- CIRCE has translated the Horizon Europe Data Management Plan template into a excel file and shared it with all the partners of the project.
- All the partners are expected to fill the applicable questions regarding their plans with data and metadata at the current stage of the first iteration (M3). Once all the information has been filled, partners must return the information to CIRCE.
- CIRCE collects all the information and prepares a final complete version. This final version is included in the project Microsoft SharePoint as a tab (accessible to every partner).
- When a partner requires to update said excel, it must contact the coordinator and communicate the change via e-mail.

By following this procedure, all partners are aware at any moment of the different approaches for the Data management within the REEFLEX project and the information will be updated to the latest version.

The living working document can be found in the next link, available only to REEFLEX Consortium Partners: [DMP Survey Template](#)



2 GDPR Treatment

2.1 Grant Agreement and Consortium Agreement on GDPR

REEFLEX Consortium Partners agreed and signed the following clauses related to General Data Protection Regulation (GDPR):

Grant Agreement:

Article 15.1 Data Processing by the granting authority

Any personal data under the Agreement will be processed under the responsibility of the data controller of the granting authority in accordance with and for the purposes set out in the Portal Privacy Statement.

For grants where the granting authority is the European Commission, an EU regulatory or executive agency, joint undertaking or other EU body, the processing will be subject to Regulation 2018/1725 16.

Article 15.2 Data Processing by the authorities

The beneficiaries must process personal data under the Agreement in compliance with the applicable EU, international and national law on data protection (in particular, Regulation 2016/679 17).

They 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.

The beneficiaries may grant their personnel access to personal data only if it is strictly necessary for implementing, managing and monitoring the Agreement.

The beneficiaries must ensure that the personnel are under a confidentiality obligation. The beneficiaries must inform the persons whose data are transferred to the granting authority and provide them with the Portal Privacy Statement.



Consortium Agreement:

Article 4.1 When Personal Data are introduced to the Action by or on behalf of a Party, such Party must ensure that:

(1) the Personal Data are processed in accordance with all laws, rules, regulations and guidelines applicable to their collection, use, handling, disposal and further Processing, including – without limitation – data protection legislations, such as General Data Protection Regulation 2016/679 (GDPR) all as updated from time to time (“Data Protection Legislation”)

(2) the Personal Data are collected and treated following the lawful base as per art. 6 GDPR (EU) 679/2016 and relevant information are given to the Data Subjects of the Personal Data covering the activities of the Action, including the collection, processing, storage, use and transfer including the addressees of the transfer of the Personal Data as provided for under the Action, the option to the Party to opt-out from the treatment with effect for the future, should always be included, REEFLEX Consortium Agreement, version 1, [22/07/2022] 71 / 99

(3) Data Protection concept is agreed upon, including the minimum requirements for consents, such as that (i) the purpose of use in consent must cover activities under the Action, (ii) consent must always be requested to Data Subjects to allow for transfer of data inside and outside EU, and (iii) the consent must be voluntary with a right to withdraw at any time,

(4) the Data Subjects of the Personal Data have not withdrawn their informed consents, opt-out from the initiatives, or exercise any other of their rights.

2.2 Expected GDPR data to collect and handle

The consortium partners will ensure compliance with Regulation (EU) 2016/679 (GDPR) and its application at national and regional level in the member states involved in the REEFLEX project. All partners directly involved with the use of personal data have prior experience and expertise sufficient to carry out the activities of the project in compliance with GDPR.

There are two main activities to be performed in the project that may require personal data use: (i) technical activities of the project at the development of the technology or at the demo sites and (ii) any further dissemination activities that will enrol external entities in project activities.

Note: Collection of sensitive data as it is defined in the GDPR is not required within the project activities.

Considering the personal data use within the project technical and demonstration activities (and in line with what has been defined in the Grant Agreement), a series of action points have been defined:

- Personal data will be stored in secure server systems with protected user access control. Given that this data is usually held only by the original partner, the partner responsible should have its own secure storage. Data access will be restricted to only those directly using the data for project purposes, usually the partner with initial contact with the users. But in any case, a data controller/responsible must be



assigned. Currently, the personal data that is collected for dissemination actions is secured at WP leader server and no other party has access to the data.

- Where data sharing related to activities with specific users is required, data will be anonymised prior to sharing. With the user being represented only by an anonymised ID.
- Personal or confidential data will be kept for an absolute minimum of time, and should be destroyed at the earliest opportunity (depending on use, or legitimate continued use for which permission has been granted by the subject). Collected data for dissemination purposes at REEFLEX will be deleted at the ending of the project.

Prior to any data gathering process, an informed consent required for the end users that will get voluntarily enrolled in project activities. As stated also in the relevant regulation, *“data cannot be collected without the explicit informed consent of people under observation; therefore no person unable to express a free and informed consent for age-related reasons, on-going medical and/or psychological conditions, mental incapacity, should be enrolled in any study/activity. Consent should be freely given, specific, informed and unambiguous by way of a request presented in clear and plain language. Consent should be given by an affirmative act, such as checking a box online or signing a form. When someone consents to the processing of their personal data, the processing of data must be strictly for the purposes for which consent was given.”*

The REEFLEX project partners will adopt a data minimisation policy at all levels of the project.

Any personal data collected cannot be sold or used for any purposes outside the project needs. Moreover, all the person that has provided personal data have the right and must be informed of their right to withdraw consent at any time during the project period.

For the data (personal and technical data) related with technical activities of the project at the development of the technology or at the demo sites, in order to ensure the transparency of this process, an informed consent procedure will be performed following the next steps:

- Initial communication from the technological partner to the external person to present the project and explain in detail the data collection purposes, the data that will be collected, the privacy risks and the outcome of the processing of collected data.
- The external person's that have explicitly mentioned that they do not wish to be informed or voluntarily participate in the technical activities will be excluded from any further activity (and the personal data already gathered will be deleted)
- Collecting potential participants contact details on a list must be approved by them.
- Provision of the consent form to the participants that have declared that they would consider their participation in the technical activities and data collection processes of the REEFLEX project, ensuring that they are given enough time to read and sign it.

An example of the documentation to get used as the informed consent material for the users can be found in [Annex I – Consent form for externals](#).



In the field of the dissemination activities of the project and the usage of personal data, Communication and Dissemination leader may collect the following information:

- Mail
- Name
- Organisation
- Job Title
- Country
- Other

SIN will store the data for dissemination purposes and this data will not be shared without written notice. Moreover, SIN will store the data, as **Figure 1** has presented, in a separate repository. The data collection is made by means of a form in the webpage.

3 FAIR Data

The Horizon Europe FAIR DATA MANAGEMENT PLAN TEMPLATE highlights the importance of the FAIR DATA. This principle applies to the data that must be “findable”, “accessible”, “interoperable” and “re-usable”. This means using standards and metadata to make data discoverable, specifying data sharing procedures and which data will be open, allowing data exchange via open repositories as well as facilitating the reusability of the data. Making data and metadata findable

3.1.1 Dataset description

- Microsoft Office formats: .doc, .docx, .xls, .xlsx, .ppt, .pptx
- Illustrations and graphic designs: Microsoft Visio (.vsd), Adobe Photoshop, Illustrator and InDesign (format: mostly .jpg, .tiff and .ai files)
- PDF: final DLV versions, variety of other documents such as reports and leaflets
- Audio/Video files: MP3 or WAV and Windows Media Video or Quicktime Movie
- Regarding the size of the data, a size not to generate conflicts with email recipients will be set (at 15MB). In case of larger files, REEFLEX Teams repository will be used.

3.1.2 Naming conventions

Data searchability can be greatly enhanced following a consistent set of naming conventions. Because of this, REEFLEX creates consistent data file names that provide clues to their content, status and versioning, while also increasing their discoverability. In doing so, project partners as well as interested stakeholders can easily identify a file as well as classify and sort them.

Best practice in naming convention, is to create brief yet meaningful names for data files, that facilitate classification. The naming convention should avoid the utilisation of spaces, dots and



special characters (such as & or !), whereas the use of underscores is endorsed, to separate elements in the data file name and make them understandable. At the same time, versioning should be a part of a naming convention to clearly identify the changes and edits in a file.

The naming convention employed by the project is described below:

REEFLEX_[Name of the document]_[Number of the data]_[date]_[Version number]

- REEFLEX: The name of the project.
- Name of Study: A short version of the name of the activity for which the dataset is created.
- Number of the dataset: An indication of the number assigned to the dataset.
- Date: The date on which the latest version of the dataset was modified (YYYY.MM.DD.).
- Version number: The versioning number of a dataset

When possible, Digital Object Identifier (DOI) will be used to identify content and provide a persistent link to its location on the Internet. DOI is a unique alphanumeric string assigned by a registration agency (the International DOI Foundation). The publisher assigns a DOI when an article is published and made available electronically.

All DOI numbers begin with a 10 and contain a prefix and a suffix separated by a slash (/). The prefix is a unique number of four or more digits assigned to organizations; the suffix is assigned by the publisher and was designed to be flexible with publisher identification standards.

3.1.3 Search keywords

The project's data will be provided with easy-to-use search keywords with a view to optimize its re-use by interested stakeholders during its entire lifetime. With that in mind, the metadata standards employed by REEFLEX provide opportunities for tagging the data collected / generated and its content with keywords. In general, keywords are a subset of metadata and include words and phrases used to name data.

In the context of REEFLEX, keywords are used to add valuable information to the data collected / generated as well as to facilitate the description and interpretation of its content and value. Along these lines, the project's strategy on keywords is underpinned by the following principles:

- The who, the what, the when, the where, and the why should be covered.
- Consistency among the different keyword tags needs to be ensured.
- Relevant, understandable, and clear keywording ought to be sought.

In general, the keywords will comprise terms related to innovation to finance, information asymmetries, Technology Rating System, investors as well as SMEs. The keywords will accurately reflect the content of the datasets and avoid words used only once or twice within them.

Every deliverable that produces core output will be tagged with keywords following the JEL Classification System (<https://www.aeaweb.org/econlit/jelCodes.php>).



3.1.4 Version numbers

Versioning of information makes a revision of datasets uniquely identifiable and can be used to determine whether and how data changed over time and to define specifically which version the creators / editors are working with.

Effective data versioning enables understanding if a newer version of a dataset is available and which are the changes between the different versions allowing for comparisons and preventing confusion.

In this context, a clear version number indicator is used in the naming convention of every data file produced during REEFLEX in order to facilitate the identification of different versions.

3.1.5 Generated metadata

At this early stage of the project is expected that REEFLEX generates/collects data regarding simulations in terms of energy balance, mapping of cases of interest etc.

It is on the aim of the project to fully complete this section on following DMP updates.

3.2 Making data and metadata openly accessible

Being the REEFLEX Project a part of the ORDP, the project aims to “make the data collected / generated by selected projects openly available with as few restrictions as possible, while at the same time protecting sensitive data from inappropriate access”.

The project adopts the good practice encouraged by the ORDP, namely making data as open as possible and as closed as necessary. This calls for project partners to disseminate the project’s data that have the potential to offer long-term value to external stakeholders and do not harm the confidentiality and privacy of the stakeholders that contributed to the collection/generation of this data, with a view to maximising the beneficial impact of REEFLEX.

Only anonymised and aggregated data will be made open to ensure that data subjects cannot be identified in any reports, publications and / or datasets resulting from the project. Public access to the open data will be made possible through the REEFLEX project website:

www.reeflexhe.eu

3.3 Repository of documents

All the data gathered and generated during the project will be stored and preserved in an online data repository linked to the project website with access limited to the REEFLEX Consortium, managed by CIRCE. Specific metadata related to the project (i.e. personal data for dissemination purposes) will be managed by the WP leader in the first place.

Sensible and confidential information will not be disclosed outside the REEFLEX Consortium.

Concerning the open access of the data, online repositories will be used, like Zenodo. A small tutorial on the Zenodo repository can be found in [Annex II](#).



3.4 Non-sharable datasets

Closed data are intended to be sorted and shared among authorised members of the consortium through REEFLEX MS Teams platform and/or cloud storage and file sharing providers which constitute structures that maintain and manage data and make this data accessible over the internet.

On the next table, sensitive / confidential (and thus, non-sharable with REEFLEX Consortium non-authorised external members) DLVs are listed.

DLV Title	Type	Due Date
D1.1 Project Handbook	Report	M3
D1.4 Project Management Plan	Report	M2
D1.5 First revision of the Project Management Plan	Report	M18
D1.6 Second revision of the Project Management Plan	Report	M30
D2.3 Privacy and cybersecurity	Report	M12
D2.3 Privacy and cybersecurity	Report	M12
D3.1 Initial set of algorithms	Other	M14
D3.3 Innovative second-life storage solution	Demonstrator	M25
D4.1 Fundamental Data Analytics and Handling	Report	M20
D4.2 REEFLEX Platform: 1st version	Demonstrator	M24
D5.4 P2P trading platform	Other	M32
D5.5 Simulation testbed for REEFLEX innovations	Other	M42
D8.3 Exploitation strategy and IPR management	Report	M12
D8.9 Exploitation strategy and IPR management (first update)	Report	M30
D8.10 Exploitation strategy and IPR management (second update)	Report	M48

Table 1 - List of confidential deliverables

3.5 Making data interoperable

Following the FAIR principle, the data interoperability is another issue to consider. That is, that the data produced and/or generated is allowing data exchange and re-use between researchers, institutions organisations, countries, etc. (i.e. adhering to standards for formats, as much as possible compliant with available (meaning open) software applications and in particular facilitating recombination's with different datasets from different origins).



REEFLEX has adopted in its data management examples of interoperability that may include:

- Format used by the Provider to represent an Information Object differs from the format expected by the Consumer/User to support a processing activity
- Interface through which the Information Object access function is supported by the Provider differs from the one the Consumer/User is expected to use for content fetching
- Semantic of search function implemented by the Provider is different from the semantic the Consumer/User aims at relying on to support a cross system search
- Policy governing Information Object consumption supported by the Provider is different from the Policy expected by the Consumer/User.

In order to avoid interoperability issues, which occurs when the resource does not meet customer or users' expectations, interoperability solutions aiming to reconciling the differences captured by an interoperability issue are designed. In this sense:

- Solution 1: the transformation and exposure of metadata objects through the harvesting protocol and format expected by the Consumer
- Solution 2: the implementation of a search client based on a search interface specification implemented by the Provider
- Solution 3: the implementation of policies client-side and server-side to guarantee the agreed quality of service on a distributed search operation.

The DL or Digital Library and Methodological Cookbook contains a rich array of best practices and pattern solutions to common interoperability issues faced when building interoperable Digital Libraries.

These solutions are described as to highlight the following aspects:

- overview: a description of the context of the proposed item including a characterisation in terms of the Interoperability Framework and providing the reader with pointers to extensive descriptions of it;
- requirements: a description of which settings for Organisational, Semantic and/or Technical aspects should occur in order to make it possible to use the solution;
- results: a description of the changes resulting from the exploitation of the solution in Organisational, Semantic and/or Technical aspects;
- implementation guidelines: a description of how the solution has to be implemented;
- assessment: an evaluation of the quality of the proposed approach including an estimation of its implementation cost and effectiveness. A brief overview of the analysed issues and the proposed practices and solutions is described in the remainder of this booklet.



3.5.1 Standards

In this sense, standard vocabularies for all data types will be present in the data set, allowing interdisciplinary interoperability. For example, when an acronym is used for the first time, an explanation between brackets will be drafted.

Besides, every deliverable includes a list of acronyms and abbreviations in which all necessary definitions to guarantee a proper interoperability among users and consumers

The following [typographic conventions](#) are used in this specification:

- A variable in pseudo-code or in an algorithm description is in italics (*variable*).
- A definition of a term, to be used elsewhere in this or other specifications, is in bold and italics (**definition**)
- A reference to a definition in this document is underlined and is also an active link to the definition itself ([definition reference](#))
- A reference to a definition in this document, when the reference itself is also a markup, is underlined, red-orange monospace font, and is also an active link to the definition itself ([markup definition reference](#))
- A reference to a definition in another document is underlined, in italics, and is also an active link to the definition itself.
- A hyperlink is underlined and in blue ([hyperlink](#)).
- A document reference (normative or informative) is enclosed in square brackets and links to the references section [[reference](#)]

3.5.2 Data quality assurance

Quality Assurance (QA) and Quality Control (QC) activities are an integral part of REEFLEX Data Management methodology and are implemented prior to the publication of any data to REEFLEX website, safeguarding the transparency, consistency, comparability, completeness and accuracy of the data.

To this matter, a process to ensure data is properly treated prior to release is establish. This process consists of a series of reviewers determined on the DLV (Deliverable) D1.4, Project Management Plan First version, The deliverable review process, which has been presented and accepted by the whole consortium, is detailed in D1.4, and indicates the partner(s) responsible of reviewing each project DLV. Below is summarized the Quality Assurance REEFLEX follows:

- QA is a planned system of review procedures conducted outside the framework of developing a dataset, by personnel not directly involved in the dataset development process. In the context of REEFLEX, it takes the form of peer-reviews of methods and/or data summaries to assess the quality of the dataset and identify any need for improvement, ensures that the dataset correctly incorporates the scientific knowledge and data generated.
- QC is defined as a system of checks to assess and maintain the quality of the dataset being compiled. The relevant procedures of REEFLEX are designed to provide routine



technical checks as they measure and control data consistency, integrity, correctness, and completeness as well as identify and address errors and omissions. In this context, everything from data acquisition and handling, application of approved procedures and methods, and documentation is covered. Some of the general quality checks undertaken in the framework of the project include checking.

- (i) for transcription errors in data input;
 - (ii) that generated data is within the range of acceptable values;
- and (iii) whether proper naming conversions are used.

3.6 Increase data re-use

Data re-usability constitutes a key element of the REEFLEX FAIR Data Management methodology. Making data available for re-use ensures interested stakeholders, can benefit from this data, contributing towards maximising the impact of the project.

For REEFLEX itself, it's expected that non-disclosure data will become available for re-use 4 years after the end of the project (i.e. collection, anonymisation, aggregation, etc.) to ensure that any additional data management activities required to this end do not compete with the timely delivery of the project's planned outputs.

Regarding the data re-use REEFLEX will make use of, the project aims at making use of as much previous research effort, existing literature and experiences as possible.

Due to the important nature of this project, it is precise that all generated information and data in the project can be reused at some point in further projects and experiments.

During the project lifetime and beyond, the public data will be licensed to allow the widest re-use, making it available by following the tools, platforms and standards defined in this document.

In a further version, the results of these tools will permit to evaluate if further procedures will be needed to address the reusability of data.

4 Allocation of resources

4.1 Data management responsibilities

As Coordinator of the REEFLEX Project, CIRCE is ultimately responsible for data management. Nonetheless, for the proper, effective and secure handling of the REEFLEX collected and/or generated data on the different Work Packages, an establishment of specific data management roles is required. To this regard, responsibilities roles have been managed:

- Project Coordinator (PC): The PC, CIRCE, is responsible for the overall data management in the framework of REEFLEX, including the elaboration of the DMP



and its updates (when necessary and with support of all partners). At the same time, the PC is responsible for the elaboration of proper templates for the informed consent form and information sheet to be appropriately adjusted and utilised by project partners during the relevant activities of the project.

Finally, the PC works closely with Work Package and Task Leaders, in order to determine whether and how the collected and/or generated data during the lifespan of the project is shared, and how it will become available for re-use.

- Work Package Leaders (WPL): The WPL is responsible for coordinating the implementation of the data processing activities performed under the WPs they are leading. They align with the PC and the respective Task Leader on whether and how the data gathered and/or produced under the tasks that fall within the WP they are leading will be shared and/or reused. Finally, the WPL are the main responsible for assuring the quality of the data stemming from the activities of the WP they are leading, including assessing their quality and indicating any need for improvement to the respective Task Leaders.

4.2 Estimated costs

Regarding the costs related to make data FAIR in the project as well as open access to research data are eligible as part of the Horizon Europe Grant, as long as they compliant with the Grant Agreement conditions. Resources for long term preservation, associated costs and potential value, as well as how data will be kept beyond the project and how long, will be discussed by the whole consortium during General Assembly meeting.

5 Data security

REEFLEX aims to secure any collected and/or generated data, guaranteeing the findability, interoperability and reusability of the said data during the project lifespan and after the end of the project.

Particularly, in case of personal data collection and generation, it will only be accessible by those authorised to do so. By the store of all kind of data (both collected and generated) in the projects intranet (MS Teams), its ensured that no data loss will occur during the course of the project and after the competition of the REEFLEX project ends.

Additionally, public results are set to be stored in a public repository (e.g.: ZENODO) and properly standardize following the FAIR principle. As coordinator, CIRCE will keep a copy of all documentation during and beyond the project's lifetime.

Nonetheless, all project partners are responsible for data being processed within their private servers and will ensure that this data is protected, and any necessary data security controls have been implemented in order to minimize the risk of information leak and destruction.



Regarding confidential data: this type of data refers to the data that will be closed and thus, will not be shared as stated on the **Article 10: Non-disclosure of information**, signed by the REEFLEX Consortium on the Consortium Agreement.

6 Ethical aspects

6.1 Collection, storage and protection of personal data

Ethical aspects of the REEFLEX DMP and the ethical compliance of the underlying data foreseen to be collected and/or generated under the project activities. The project will process data that are not included in any special category of personal data (i.e., non-sensitive data).

The collection and/or generation of data from individuals participating in the project's activities is based upon a process of informed consent. Any personal data collected and/or generated in the framework of REEFLEX is processed according to the principles laid out by the **Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016** as stated on the point 6.2: *Consortium agreement on GDPR*.

Along these lines, collected and/or generated data will be used only for specified, explicit and legitimate purposes relative to project's objectives.

Moreover, all project partners tasked with processing data during REEFLEX fully abide with their respective applicable national as well as EU regulations.

The Consent Form used in the implementation of the project's activities are compliant with the General Data Protection Regulation and can be found in Annex I of the deliverable.

6.2 Consortium agreement on GDPR

REEFLEX consortium agreed and signed the following clauses related to the GDPR (GENERAL DATA PROTECTION REGULATION) within the Consortium Agreement signature:

As per GDPR (EU) 679/2016 the Data Controller is accountable for the determination of the purposes and means for the processing of the personal data involved in the roll out of the specific Action. However, the consortium is committed to the full compliance of all the Parties to the laws.

(...)

the Personal Data are collected and treated following the lawful base as per art. 6 GDPR (EU) 679/2016 and relevant information are given to the Data Subjects of the Personal Data covering the activities of the Action, including the collection, processing, storage, use and transfer including the addressees of the transfer of the Personal Data as provided for under the Action, the option to the Party to opt-out from the treatment with effect for the future, should always be included,



Data Protection concept is agreed upon, including the minimum requirements for consents, such as that (i) the purpose of use in consent must cover activities under the Action, (ii) consent must always be requested to Data Subjects to allow for transfer of data inside and outside EU, and (iii) the consent must be voluntary with a right to withdraw at any time,

(...)



7 References

CERN. (s.f.). *ZENODO*. Obtenido de <https://www.zenodo.org/>

European Commission. (February de 2023). *Funding and Tender's portal*. Obtenido de Reference Documents (europa.eu)

European Union' Horizon 2020 Research and Innovation Programme. (s.f.). *OpenAire*. Obtenido de <https://www.openaire.eu/>

FAIR Sharing Org. (2023). *FAIRsharing.org standards, databases, policies*. Obtenido de <https://fairsharing.org/>

FAIR data management in Horizon Europe and the GDPR (Regulation (EU) 2016/679) OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 27 April 2016



8 Annexes

8.1 Annex I - Consent form for externals

NOTE: The consent form will be provided in their local language to facilitate understanding and remove language barriers that may be introduced due to poor knowledge of English (which will be the language that the consent form will be originally drafted)

8.1.1 Preamble

This Informed Consent Form relates to personal data provided by you to **[NAME OF THE PARTNER RECEIVING THE INFO]**, a **[COMPANY TYPE]**, with registered seat at **[ADDRESS OF THE PARTNER]** (hereinafter “We” or “Us”).

We process certain personal data provided by you for a list of pre-determined purposes. We now wish to ask your additional consent for sharing your Personal Data with participants and members of the consortium in order to validate use cases developed by Us together with other members of the consortium (the “**Purpose**”).

8.1.2 Information on the project REEFLEX

REEFLEX is focused on delivering higher participation of energy consumers in demand side flexibility markets and demonstrating niches of opportunities for new services provided by SMEs and start-ups, seeing a growing number of distributed energy resources (DERs) connected to the network.

These DERs come from an ample variety of energy carriers and sectors, accompanied by the introduction of new digitalized assets. This decentralization poses significant challenges for the resilience of the system, and uncertainty in traditional control routines.

To ensure replicability of REEFLEX solutions, they will be demonstrated and cross-tested in 4 main demonstrators (Spain, Greece, Switzerland, Bulgaria). The services catalogue will be further replicated in three additional replicators to achieve wider coverage (Turkey, Portugal, Denmark).

Hence, REEFLEX’s main scope is to develop a set of viable interoperable solutions and services that increase the participation of energy consumers in demand side flexibility (DSF) markets. Additionally, it will:

- develop a catalogue of bespoke flexibility services and interoperable tools for specific consumer groups.
- develop a services central platform and energy marketplace, reducing entry barriers and transaction cost.
- unify technical, sustainability, environmental, economic, and social parameters, ensuring that privacy, cybersecurity and data management issues are properly managed.



- classify all assets installed within the grid according to their flexibility potential and SRI, enhancing them with interoperability capabilities.
- carry out a demonstration program up to TRL7 in 4 main demonstration sites with cross-replication covering different energy vectors.
- explore full replication potential of solutions considering cost-benefit analysis in 3 additional replicators.

To this end, you are asked to participate as a **[volunteer/attendee/define the role of the participant expected]** to provide project relevant information, in order to be able to analyze this data and extract some statistics and indicators. That information will further facilitate the demonstration of the benefits of REEFLEX activities and foster continuous information, experience, knowledge, and best practices exchange within the project.

Participants will be able to quit at any point, if they wish, without any consequences. In addition, the participants can exercise their right to access, correct and delete his/her data at any moment.

Duration of the Research Activities: The Research Activities last from January 2023 to December 2026

Risks or Inconveniences: No risks are foreseen. You are only requested to be available to participate.

Privacy and Confidentiality: As a voluntary participant in the REEFLEX project activities, your recorded data will not include any personal identification; hence it will not be possible to identify you afterwards. Information will be held and used on an anonymous basis only for the purpose of the project REEFLEX activities.

Benefits: The EU-funded REEFLEX covers the entire value chain of flexibility management and marketing, from its suppliers (actors and devices) to its management, including the calculation of flexibility needs by the DSO. Your participation in the project will enable the sharing of knowledge and the adoption of the conclusions gathered in the project to facilitate the replication of the solution at industrial levels.

Data destruction: After the end of the project the data **[Please, include here the storing time that you are planning to use]**. After this period the data will be destroyed.

Contact: If you have any further questions or any complaints, you can contact the Project Coordinator on the following e-mail address: **[mail of your entity data officer]** at the attention of the project REEFLEX and **[Name and Last name of the person from the partner leading the activity]. (Include names and e-mails of local representatives)**



8.1.3 Declaration of consent

By signing this Informed Consent Form, you agree to the processing and/or sharing within the purpose of the following personal data relating to you:

[name],

[e-mail address].

-----please adjust based on the relevant personal data that is being shared. -----

Study Information [will be inserted by Partners leading the activity]

1. Study Information

Location of study	
Objective of the study	
Representative of the study	

2. Participant's Questionnaire

I have been informed about the purpose, the expected duration and the procedures of the study from the study manager.	Yes	No
I have read and understood the project information	Yes	No
I have been informed about the potential benefits of the study.	Yes	No
I have been informed about my right to deny participating or to quit from the study and about the corresponding consequences (as documented in the ethics management document).	Yes	No
I have been informed that participation in the project activity does not result in more work.	Yes	No
I have been informed about the contact person in case that I have questions and queries about the study.	Yes	No
I have been given a copy of my consent in digital or physical paper.	Yes	No
I had adequate time to make my decision concerning my participation in the study.	Yes	No
I have been given the opportunity to ask questions	Yes	No
I comprehend that I can opt-out from the study at any time without having to justify my decision.	Yes	No
From the moment of the opt-out, all my personal data collected will be deleted	Yes	No
I have been informed about potential effects, difficulties and dangers from the study manager	Yes	No
I have been informed about the security of the study data and results, along with the procedures regarding confidentiality.	Yes	No



I have been informed about the mechanisms the researchers have put in place to protect my privacy through processes of anonymization and data storage and security.	Yes	No
I have been explained about the use of data in research, publications, sharing and archiving	Yes	No
I have been ensured about the confidentiality of my personal information. Publications of the study results do not allow the personal data recognition, due to the principle of anonymity.	Yes	No
I have been ensured that the data will be used within the scope of the project and no incidental findings are expected within the project.	Yes	No
I have been informed that no extra work is required through my participation and the overall involvement is part of my daily activities.	Yes	No
I understand that other researchers will have data access only if they agree to preserve the confidentiality of the data and to the terms specified in this form	Yes	No

I agree to participate in the study.	Yes	No
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Date: _____ Signature: _____



8.1.4 4. Opt Out Form**REEFLEX Participant's Opt Out Form**

Complete this form to opt-out (decline participation) from the REEFLEX project.
Please print or type clearly.

Section 1: Participant Information

Name of Participant: _____

E-mail: _____

Section 2: Participant Acknowledgement and Signature

By signing this form, I have exercised my rights as the REEFLEX Participant to OPT OUT from the project without any consequences.

I have read the information and understood the above form; I hereby confirm my election to NOT participate in the REEFLEX project.

Date: _____ Signature: _____



8.2 Annex II - Zenodo – Open Repository

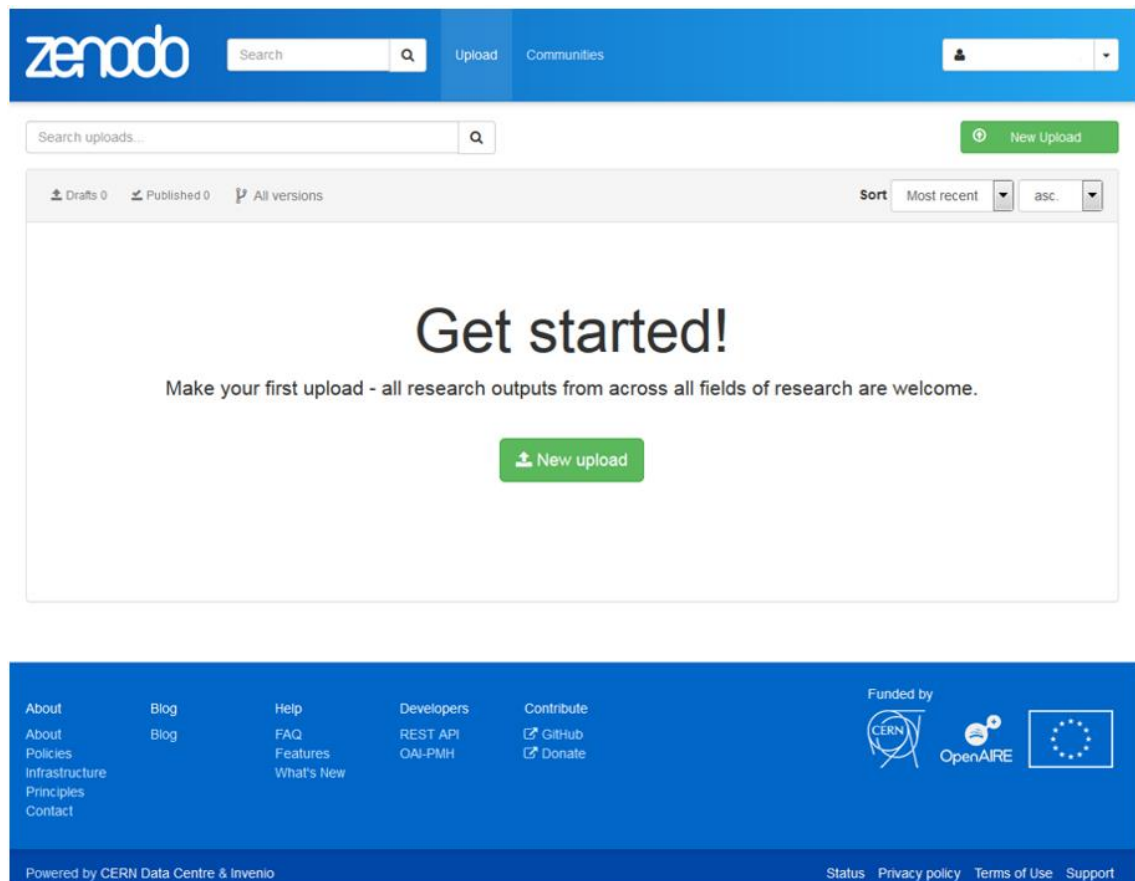
8.2.1.1 Brief introduction

The portal enables researchers, scientists and institutions to share research data and results in a wide variety of formats including text, spreadsheets, audio, video. To each submitted data-set is attached a unique DOI that enables referencing the data in research and institutional contexts. The OpenAIRE project, in the vanguard of the open access and open data movements in Europe was commissioned by the EC to support their nascent Open Data policy by providing a catch-all repository for EC funded research.

8.2.1.2 Submitting research data

The submission of research data to ZENODO can be done through the following steps:

1. The upload procedure starts by prompting the user to select the files that will be part of the dataset and need to be uploaded:



2. Successively the data must be classified according to given categories such as: dataset (i.e., tables of numerical data), image and others:



zenodo Search Upload Communities

Delete Save Publish

New upload

Instructions: (i) Upload minimum one file or fill-in required fields (marked with a red star). (ii) Press "Save" to save your upload for editing later. (iii) When ready, press "Publish" to finalize and make your upload public.

Files Choose files Start Upload

Drag and drop files here
— or —
Choose files

(minimum 1 file required, max 50 GB per dataset - [contact us](#) for larger datasets)

Upload type required

Publication Poster Presentation Dataset Image Video/Audio Software Lesson

Publication type

Basic information required

3. Finally, the portal prompts for additional metadata such as authorship of data and sharing policies. The structure of the dataset must be specified here as well:

Basic information required

Digital Object Identifier
Optional. Did your publisher already assign a DOI to your upload? If not, leave the field empty and we will register a new DOI for you. A DOI allows others to easily and unambiguously cite your upload. Please note that it is NOT possible to edit a Zenodo DOI once it has been registered by us, while it is always possible to edit a custom DOI.

Reserve DOI

Publication date
Required. Format: YYYY-MM-DD. In case your upload was already published elsewhere, please use the date of first publication.

Title
Required.

Authors
Optional.

[+ Add another author](#)

Description
Rich text editor with formatting options: Bold, Italic, Strikethrough, Link, Unlink, List, Code, Source HTML, and Undo/Redo.



License required ▾

Access right *

- Open Access
- Embargoed Access
- Restricted Access
- Closed Access

Required. Open access uploads have considerably higher visibility on Zenodo.

License *

Required. Selected license applies to all of your files displayed on the top of the form. If you want to upload some of your files under different licenses, please do so in separate uploads. If you cannot find the license you're looking for, include a relevant LICENSE file in your record and choose one of the 'Other' licenses available ('Other (Open)', 'Other (Attribution)', etc.). The supported open licenses in the list are harvested from opendefinition.org. If you think that an open license is missing from the list, please [contact us](#).

Communities recommended ▾

Any user can create a community collection on Zenodo ([browse communities](#)). Specify communities which you wish your upload to appear in. The owner of the community will be notified, and can either accept or reject your request.

Communities

[+ Add another community](#)

Funding recommended ▾

Zenodo is integrated into reporting lines for research funded by the European Commission via [OpenAIRE](#). Specify grants which have funded your research, and we will let your funding agency know!

Grants

Optional. OpenAIRE-supported projects only. For other funding acknowledgements, please use the *Additional Notes* field.
Note: a human Zenodo curator will need to validate your upload - you may experience a delay before it is available in OpenAIRE.

[+ Add another grant](#)

Required.

Language

Optional. Primary language of the record. Start by typing the language's common name in English, or its ISO 639 code (two or three-letter code). See [ISO 639 language codes list](#) for more information.

Keywords

[+ Add another keyword](#)

Additional notes

Optional.

