



AI-informed Holistic Electric Vehicles Integration Approaches for Distribution Grids

D11.2

Data Management Plan

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EXECUTIVE SUMMARY

This deliverable presents AHEAD's project Data Management Plan (DMP), which is designed to support effective data management within the AHEAD project. The DMP covers principles and provides guidelines regarding the management of project's datasets, metadata, and data processes. Specifically, this document describes how and which data are collected, produced, and used inside the scope of the project, and which metadata should be attached to the datasets to ensure proper data handling, following the most common best practices and FAIR principles. The DMP provide guidance also related to data storage, backup, security, and protection of sensitive data, facilitating data sharing, the exploitation of the results, and safeguarding long-term preservation of public research data.

This deliverable has been prepared by the leader of Work Package (WP) 11 – POLIMI.

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Glossary

APC	Article Processing Charge
CA	Consortium Agreement
CERN	European Organization for Nuclear Research
CORDIS	AHEAD page on the EC Cordis portal
DMP	Data Management Plan
DSO	Distribution System Operator
EB	Executive Board
EC	European Commission
GA	Grant Agreement
GDPR	General Data Protection Regulation
IPR	Intellectual Property Rights
OA	Open Access
PC	Project Coordinator
PM	Project Manager
PrivDataRep	Private data repositories
PrivSharePoint	Private file sharing cloud storage
PubDataRep	Public data repositories
WebSite	AHEAD public website
WP	Work Package

1. INTRODUCTION

1.1. Context

The AI-informed Holistic Electric Vehicles Integration Approaches for Distribution Grids (AHEAD) project aims to develop an advanced simulation platform to optimize the placement of electric vehicle (EV) charging stations, enhancing the efficiency of both power grid resources and charging infrastructure in urban and rural contexts. This simulation environment will employ state-of-the-art AI models organized into two layers: spatial mapping and grid compatibility. The spatial mapping layer will pinpoint high-demand areas, placing chargers in locations of greatest utility to users, while the grid compatibility layer will identify areas where the grid can adequately support new chargers without inducing stress on network capacity.

AHEAD will also develop and validate innovative smart charging algorithms within this model to mitigate the effects of concentrated EV charging on the grid, while offering economic benefits by optimizing the timing and location of charging events. These smart charging algorithms will undergo extensive testing across seven demonstration sites, each dedicated to evaluating the technical and economic feasibility of charging solutions for a spectrum of electric vehicles, including light-duty and heavy-duty EVs, as well as electric boats. These real-world trials will provide critical insights into the practical deployment and scalability of smart charging infrastructure.

The project convenes a consortium of 21 beneficiaries and 5 associated partners from across the EV value chain, including technology providers testing their equipment in real-world environments, grid operators aiming to optimize resource use and manage EV charging impacts, and research institutions striving to advance knowledge and provide value to end users and society.

In accordance with the European Commission's Open Research Data Management policy, AHEAD is committed to enhancing access to and reuse of research data generated throughout the project. Concurrently, the project maintains a balanced approach that safeguards scientific information, commercial interests, Intellectual Property Rights (IPR), privacy, security, and data management. This balanced approach is guided by the principle of "as open as possible, as closed as necessary," ensuring that sensitive information is protected while also fostering knowledge-sharing and transparency.

This Data Management Plan (DMP) document comprehensively outlines the data lifecycle, covering collection, processing, generation, and storage. Following the FAIR principles (Findable, Accessible, Interoperable, Reusable), the DMP provides detailed information on

data management during and after the project, including the types of data collected or generated, methodologies and standards applied, data accessibility, and long-term curation and preservation strategies.

1.2. Document structure

This deliverable is structured in four parts. Section 1 introduces the document and provides the general context of the deliverable. Section 2 presents the background useful for the understanding of this DMP, specifically the Open Science approach in the Horizon Europe programme, FAIR principles, privacy, Open Access paradigm, data and software licenses, and repositories that can be used to store research outputs. Section 3 presents the main aspects and guidelines of the DMP regarding the handling of research data in the AHEAD project, including: data sources, data types and format, storage systems, compliancy to the FAIR principles, security, roles and rules. Finally, Section 4 concludes the document.

1.3. Relationship with other deliverables

The DMP is part of WP 11 – Project Management. This deliverable is linked to all activities and deliverables concerning data collection and data analysis from all WPs. This document is also closely linked to D11.1 – Project Management Plan [1] and its future scheduled updates (i.e., D11.3 and D11.4).

2. BACKGROUND

2.1. Horizon Europe and Open Science

The Horizon Europe Programme Guide by the European Commission presents a transition from the *Open Access* approach of Horizon 2020 to a broader *Open Science* framework, incorporating mandatory and recommended practices detailed in Article 17 and Annex 5 of the Grant Agreement (GA) [2], [3]. Article 17 of the GA mandates that beneficiaries “*must ensure open access to peer-reviewed scientific publications related to their results*” [3].

To comply, beneficiaries are encouraged to share their research promptly through pre-prints, open-access journals, and trusted repositories. In addition, beneficiaries should follow the principle of making data “*as open as possible, as closed as necessary,*” and when feasible, make other research outputs available for third-party use in exploitation, reproduction, and dissemination at no cost.

Article 17 also stipulates that all information, tools, and resources required to validate research findings must be made accessible unless doing so would conflict with the legitimate interests of the beneficiaries, such as those related to commercial exploitation.

In cases of public emergency, the granting authority may require the immediate open access of all relevant research outputs to support urgent societal needs.

2.2. FAIR principles

The FAIR (Findable, Accessible, Interoperable, and Reusable) principles ensure that research data is easily exploitable through standardized best practices and proper licenses. This approach facilitates the identification and management of original research data, primarily aiming to ensure data reuse [4]. FAIR principles emphasize machine-readability to allow automated data discovery and ease the data ingestion process, while supporting the reuse by researchers, at the same time [5], [6]. For these reasons, these principles have quickly gained global adoption as a foundation for data management and research policy [7].

Furthermore, FAIR principles extend beyond data to include algorithms, tools, and workflows that contribute to the data generation. Except where the legitimate interests of beneficiaries are involved, all research components should be accessible to promote transparency, reproducibility, and maximize the exploitation of the project.

2.3. Data privacy

Privacy and personal data management have become key issues in modern society, prompting many nations and international bodies to implement strict regulations to prevent misuse and protect individual rights. One of the most comprehensive frameworks in this area is the European Union's General Data Protection Regulation (GDPR), which came into force on May 25, 2018, and is widely recognized as one of the strongest privacy laws globally [8].

The GDPR provides clear rules that safeguard the rights of individuals in relation to personal data processing and support the free movement of data within the EU. It states that *"the free movement of personal data within the Union shall be neither restricted nor prohibited for reasons connected with the protection of natural persons with regard to the processing of personal data"* [9].

To comply with GDPR, any organization or individual handling personal data must observe principles and rights outlined in the regulation. Within the AHEAD project, each partner is required by the Grant Agreement (GA) and the Consortium Agreement (CA) to ensure that personal data is managed responsibly: specifically, the Consortium agreed that operational datasets used to pursue the aim of the project must not contain any personal information. Partners providing access to data are responsible for the anonymization process.

The one exception to the anonymization of data relates to the AHEAD project newsletter sign-up¹, which is operated via an online marketing automation platform, Mailchimp. The Mailchimp sign-up form allows subscribers to receive email updates on the status of the AHEAD project including news, events, and available results.

The Mailchimp newsletter sign-up form is directly linked to from the AHEAD project website and prompts subscribers to put in four mandatory fields (email address, company, country, and stakeholder designation) and two optional (first and last name). The form is made GDPR compliant² and includes an additional tick box users must select to specify they consent to the marketing permissions that will be sent to them via email, with an explicit clause that users can unsubscribe at any time by clicking the link in the footer of the newsletter emails. Following the end of the project's duration, these contacts will be deleted by the communication and dissemination lead, AVERE.

Any ethical issues that may arise throughout the project will be discussed within the Executive Board meetings, ensuring adherence to both ethical and regulatory standards at every stage.

2.4. Open Access

Open access (OA) refers to the free, immediate, and unrestricted online availability of research outputs, such as journal and conference articles, books, datasets, and other academic publications. The main goal of OA is to remove barriers (such as subscription fees and licensing restrictions) that limit the accessibility of research findings, making scientific knowledge widely available to researchers, practitioners, policymakers, and the general public.

The two main OA models are [10]:

1. **Gold Open Access:** the research is immediately published in an open-access journal or platform where readers can freely access it. To support the publishing process, some journals charge an Article Processing Charge (APC) to the authors or their institutions. In the Horizon Europe programme, APC for OA peer-reviewed venues can be reimbursed.
2. **Green Open Access (Self-Archiving):** researchers deposit a version of their work in a publicly accessible repository, such as an institutional or subject-specific repository. This option is free for the authors.

¹ <https://horizon-ahead.us17.list-manage.com/subscribe?u=a46623bf5d5729b39c57467f9&id=9a5d70da1b>

² <https://mailchimp.com/gdpr/>

In addition to enhancing access, open access is associated with several benefits, including accelerating scientific progress by facilitating rapid dissemination of knowledge, fostering collaboration, and increasing the likelihood of interdisciplinary research. Open access also contributes to greater transparency and reproducibility, as researchers can readily verify, build upon, and extend existing work.

2.5. Licenses

2.5.1. Creative Commons (CC)

Creative Commons (CC) licenses [11] are a set of standardized, open licenses that allow creators to grant specific permissions for others to use, share, and build upon their work. Widely used for data and research publications, CC licenses help balance copyright protection with the openness that promotes accessibility, reuse, and transparency in research.

The following list describes the most common CC licenses for datasets and publications:

- **Attribution (CC BY):** it allows others to distribute, remix, adapt, and build upon the work, even for commercial purposes, as long as they credit the original author. This license is the most used for open access research data and publications, since it maximizes the reusability and exploitation of results.
- **Attribution ShareAlike (CC BY-SA):** it is similar to CC BY, but this license requires that new creations using CC BY-SA material are licenses under identical terms. This license is used when the authors desire to maintain open access and reuse across derived works.
- **Attribution NonCommercial (CC BY-NC):** it allows others to distribute, remix, adapt, and build upon the work, for non-commercial purposes only, as long as they credit the original author.
- **Attribution NoDerivatives (CC BY-ND):** it allows others to distribute the work as is, as long as they credit the original author.
- **Attribution NonCommercial ShareAlike (CC BY-NC-SA):** it is similar to CC BY-SA, but this license restricts the use to non-commercial purposes.
- **Attribution NonCommercial NoDerivatives (CC BY-NC-ND):** it allows other to distribute the work as is, as long as they credit the original author, for non-commercial purposes only.

- **Universal – Public domain (CC 0):** it allows others to distribute, remix, adapt, and build upon the work, with no limitations.

Horizon Europe policies advise that peer-reviewed research publications are licensed using the latest version of CC BY (currently, CC BY 4.0), or a license providing equivalent rights [3]. Additionally, metadata should be licensed under CC 0, or an equivalent license, to ensure unrestricted access.

2.5.2. Software licenses

Software licenses can be categorized into Permissive, Copyleft (Strong and Weak), and Proprietary licenses, each of which defines how software can be used, modified, and distributed.

Permissive licenses are the most accommodating ones, allowing nearly unrestricted use, modification, and redistribution, requiring only basic attribution to the original authors. These licenses are popular in open-source communities as they enable integration with both open-source and proprietary software. Common permissive licenses are Massachusetts Institute of Technology (MIT) license, Apache license, Berkeley Software Distribution (BSD) license.

Copyleft licenses can be divided into Strong Copyleft and Weak Copyleft: the first subcategory enforces that derivative works must remain fully open source and under the same license, while the second one allows the integration with proprietary software, but it requires that open-source components remain as such, even if modified. Examples of Copyleft licenses are GNU General Public License (GPL - Strong), GNU Lesser General Public License (LGPL - Weak), Mozilla Public License (MPL - Weak).

Proprietary licenses restrict modification, redistribution, and access to source code. Users purchase or subscribe for limited usage rights without any rights to alter or share the software.

2.6. Repositories

Research repositories are extensive data infrastructures designed to facilitate the management, sharing, access, and archiving of datasets, software, and scientific publications. The Horizon Europe programme strongly encourages researchers to make open data available through trusted and certified repositories, which ensure quality and reliability in data storage and accessibility [12].

The AHEAD consortium decided to use Zenodo³ as repository for public datasets and publication, and GitHub⁴ for public software.

Zenodo is a widely used open-access repository developed by CERN and launched in partnership with the OpenAIRE, supporting open science. Designed to store, share, and preserve a wide range of research outputs, Zenodo provides researchers across disciplines with a platform to upload and publish datasets, research papers, presentations, software, and other scientific outputs. Zenodo freely provide access to research artifacts in compliance with the FAIR principles. The project will publish data in the Zenodo community <https://zenodo.org/communities/ahead>.

GitHub is a free web-based platform crucial in modern software development; it is used for version control, collaboration, and hosting software projects. Built around the Git version control system, it offers powerful tools for managing and tracking code changes, facilitating teamwork, and creating open and accessible repositories of code and documentation. The project will publish code in the GitHub community <https://github.com/AHEAD-EU>.

3. DATA MANAGEMENT PLAN

This DMP report is supported and complemented by the Data Definition Catalogue (DDC) that is available in the AHEAD private file sharing cloud storage (see Section 3.2.2) and will be maintained by the Project Manager (PM). The DDC is an Excel file that supports a consistent and systematic definition of all the deliverables and data elements used (input) and /or produced (output) in the scope of the project. Deliverables are the formal reports that summarize the main results of the project WPs. Data elements are other elements used or generated in the project during the research activities.

3.1. Data summary

3.1.1. Data types

The data used or produced in the scope of the AHEAD project are classified according to the following general categories. Formal and informal materials produced within the project scope are identified, managed, and may be shared or reused by project partners or, when publicly accessible, by target groups.

Deliverables – Formal reports generated within the project framework and assigned to specific WPs are submitted by the Coordinator to the EC portal and formally approved by the EC

³ <https://zenodo.org/>

⁴ <https://github.com/>

project officer. Once submitted and approved, these deliverables will be stored and made available on the AHEAD project website and CORDIS website.

Publications – book, book chapter, conference paper, journal article, patent, preprint, report, thesis, technical note, working paper. Research papers are the ones submitted to conferences and journals, peer-reviewed scientific papers are the ones that underwent peer-review process by peers and pre-prints are research papers not yet submitted or accepted by journals or conferences but available in arXiv or Zenodo.

Software – A collection of source code and technical documentation files, typically maintained in a version-controlled repository that also supports various software development tools, including file hosting, bug tracking, and issue tracking.

Datasets – Datasets are collections of data derived from research activities, presented as numerical data or, in some cases, text. All data shared within the project must be fully anonymized. Sharing data without prior complete anonymization is strictly prohibited. Each partner supplying the data will be responsible for ensuring its anonymization.

Other – other types of resources that may be produced and shared are posters, videos, images, and presentations.

3.1.2. Data sources

Data utilized and generated in the AHEAD project will be gathered from various sources. Whenever feasible, the AHEAD consortium will reuse data from public databases or partner contributions. Additionally, new data will be generated at the demonstration sites to evaluate the solutions and management strategies proposed in the project. Currently, the primary planned data sources are as follows:

- Publicly available datasets:
 - Public databases on electric vehicle stock and sales, the number of charging points, electric vehicle battery demand, electricity demand, and incentives plans—available globally, across Europe, and specifically for each country where demonstrations will take place—will be used to define electric road mobility scenarios.
 - Literature review and corresponding open data.
- Data manually connected:

- Data about the consortium (names, emails, role, institution). This database will be restricted to the consortium members.
- Dataset covering meetings, workshops, events attended by AHEAD, scientific publications, and media coverage. This dataset is restricted to consortium members and the EC.
- Market surveys.
- Feedback from participants.
- Data automatically collected:
 - Data provided by partners, primarily Distribution System Operators (DSOs) and public transportation companies, includes information on grid topology, EV charging times, time of day for charging, charging consumption, and total energy consumed. As previously stated, all data will be fully anonymized before being submitted to the project.
 - Data generated in the demonstration sites located in Denmark, Italy, Portugal, and Slovenia, during the execution of the project under WP7, WP8, and WP9 (e.g., data on energy consumption, time of charging, grid planning).
 - Available data allowed from relevant projects

3.1.3. Formats

When possible, open data formats will be used. The following list highlights the formats we expect to use for the AHEAD project:

- Internal documents, deliverables (when drafting the document): .docx
- Publications (when drafting the document): .docx / .tex
- Internal documents, deliverables, publications (final version): .pdf
- General datasets: .csv / .json / .parquet
- Datasets on distribution grid topologies: .json / .xml
- Spreadsheets: .xlsx
- Images: .jpg / .png / .tif
- Geographical data: .geojson / .shp

- Videos: .avi / .mp4

3.1.4. Storage

Two solutions were designed to store data: one for documental purposes and another for large datasets.

- To write documental deliverables together, to share information, notes and slides, a dedicated SharePoint folder has been established among the partners.
- For large datasets each partner will notify all the participants about the datasets in their possessions and will grant a dedicated access to whom is interested in accessing them. Additionally, each participant will notify the others when and if a dataset becomes available and will track the type of data in the dedicated catalogue. This approach follows the FAIR principle and will help in tracking the availability of datasets and simplify communication among partners regarding data availability.

This strategy will help in keeping the data safe in the data owners' storage and will also reduce the effort and time needed to transfer all the datasets to a centralized storage.

According to the privacy policy of each file, and coherently with General Data Protection Regulation, no personal and sensitive data will be shared, while the partners will anonymize data before sharing it.

3.1.5. Size

The expected size for documents, notes and slides that are shared among the partners, including the documental deliverables, is in the orders of MBs. The datasets and geographical data may be in the order of GBs: this is also a reason supporting the choice of having private data repositories locally at each partner.

3.1.6. Utility

A variety of stakeholders (identified in D10.3 - Stakeholder's list [13]) could be interested in the public data generated by the AHEAD project (e.g., deliverables, publications, datasets).

3.2. Compliancy to the FAIR principles

The AHEAD consortium will maximize data accessibility and reusability, while safeguarding specific data to protect the legitimate interests of the partners, related to commercial exploitation.

It is crucial that public and private data follow the FAIR data principles to ensure Findability, Accessibility, Interoperability, and Reusability. Since some internal operational data will be stored in several repositories, distributed at each partner, and made available on-demand when requested by another partner, it is crucial that FAIR principles hold also for data that will be kept private at consortium level, to safeguard and ease the data integration process.

3.2.1. Findability

Our strategies to make data more findable are:

- Data uploaded to the AHEAD community in Zenodo will be linked to the European Commission Funded Research (OpenAIRE) community.
- All data uploaded to Zenodo will be associated with a persistent identifier, the digital object identifier (DOI).
- Data uploaded in Zenodo will be enriched with metadata to facilitate discovery. The metadata will include information regarding the data, mainly the Grant Number, Project Acronym, WP number, Task leader, file name, version, date, file type, DOI, description, access and licensing info, associated publications, keywords.
- Keywords associated with metadata will be descriptive. A set of general keywords provided are Planning of distribution grids, Artificial Intelligence, Flexibility services, Spatial mapping models, and Threat modelling.

3.2.2. Accessibility

Data will be stored in the key systems provided below:

- **Public website (WebSite):** a customized Wordpress installation, detailed in D11.1 – Project Website [14] www.horizon-ahead.eu.
- **Private file sharing cloud storage (PrivSharePoint):** hosted on SharePoint, providing a centralized platform for project-related technical information to facilitate online collaboration. Partners are required to use this storage system to share updates, upload draft deliverables, and store intermediate reports and roadmaps. Additionally, the storage includes a well-organized repository of officially released documents, along with all contractual information, templates, and related materials.
- **Private data repositories (PrivDataRep):** data and code that are to be shared with the partners will be maintained by the respective owners and will be shared only with the partners that need them or collaborate. Code review and merge will be executed

offline on the owner's private repository in case of collaborative development. Data and code that are property of a partner but are used to create a deliverable or to produce data needed for the project, instead, will remain on their original repositories.

- **Public data repository (PubDataRep):** The Zenodo community associated to the project <https://zenodo.org/communities/ahead>
- **Public code repository (PubCodeRep):** The GitHub organization associated to the project <https://github.com/AHEAD-EU>
- **Publications:** arXiv <https://arxiv.org/>, publisher's website, and University repositories.
- **Project page at the EC CORDIS portal (CORDIS):** <https://cordis.europa.eu/project/id/101160665>

Data and software identified by the AHEAD consortium as IPR protected will not be published and will only be stored in private repositories. The same holds when the publication of assets would conflict with the legitimate interests of the beneficiaries.

3.2.3. Interoperability

The AHEAD consortium will use open file formats whenever possible, and standardized metadata to describe the data.

3.2.4. Reusability

Following the principle of “*as open as possible, as closed as necessary*”, AHEAD partners will enable third parties to access, mine, exploit, reproduce and disseminate all public data sets with Creative Commons Licenses

. Open software will be made available through free software licenses.

Data published in scientific journals will be made available as soon as the paper is published, shared through Zenodo or/and as a preprint through arXiv.org or university repositories.

Data associated with public deliverables or scientific papers will be shared as soon as the document is approved by the EC or journal through Zenodo.

All non-anonymous data, if exists, will be deleted when the project finishes.

3.3. Other research outputs

The FAIR principles described for public data will also apply to any other public research output produced by AHEAD.

3.4. Allocation of resources

AHEAD will use free-of-charge research data repositories (Zenodo, GitHub, websites, CORDIS) to make AHEAD public data open and FAIR. Data management will be the responsibility of POLIMI (PC and PM), with the support of the WP leaders that will ensure that datasets are in accordance with the guidelines. Each partner is responsible for the data (own and retrieved from other partners) stored in PrivDataRep.

3.5. Data security

All documents including confidential data related to AHEAD are shared among the consortium via PrivSharePoint. Only AHEAD members can access PrivSharePoint after being granted access to the folder.

All public data and software will be stored in Zenodo and GitHub respectively, which also have their own measures for security.

3.6. Roles

The project has the direct and indirect participation of several stakeholders, including (i) participant partners (organizations directly participating and beneficiaries of the project); (ii) associated partners (organizations that formally manifested interest in the project's results); (iii) EC project funder; (iv) people associated with these organizations; and (v) stakeholders that have been identified in D10.3 [13], which are people and organizations that have interest in the project's results.

From all these stakeholders, the DMP identifies the following organization roles that have the most direct impact on the responsibilities regarding project data management:

- Project Coordinator (PC)
- Project Manager (PM)
- Partners: AHEAD consortium.
- WP Leader (WPLeader)
- Task Leader (TaskLeader)

- General Assembly: PC, PM and one representative per partner.
- Executive Board (EB):
 - Project Coordinator
 - Scientific Director
 - Integration Director
 - Pilot Manager
 - Impact Director
 - Communication and Dissemination Director
- Correspondence Author (CAuthor), the author responsible for submitting a publication to a conference or journal.

3.7. Rules

To be aligned with the DMP, project partners must follow the following rules or recommendations concerning the production, publishing and sharing of different data types.

3.7.1. Deliverables

By default, approved deliverables shall be published as open access in EC Portal. If not, reasons shall be stated.

- Deliverable.A.1 (Partners): Produce project deliverable with the tools and environments decided by the partners involved and according to Section 3.1.3..
- Deliverable.A.2 (TaskLeader): no later than fifteen days before the deadline, submit the deliverable for internal review in PrivSharePoint.
- Deliverable.A.3 (PC): At the deadline, submit the deliverable for approval by EC, in EC Portal.
- Deliverable.A.4 (PM): After approval by EC, publish the deliverable on WebSite.

3.7.2. Publications

By default, accepted publications shall be published as open access. If not, reasons shall be stated.

- Publication.A.1 (Partners): Produce publication with the tools and environments decided by the partners involved and according to Section 3.1.3.
- Publication.A.2 (CAuthor): Notify the Consortium, according to Section 8.4 of the AHEAD Consortium Agreement.
- Publication.A.3 (CAuthor): If no objections arise, submit the publication to a journal, conference or other organization.
- Publication.A.4 (CAuthor): If publication is accepted, prepare and submit the proof revision.
- Publication.A.5 (CAuthor): If publication is accepted and published, send information to PC and PM. The publication will be published in the publisher website. The PM will then register reference/citation in WebSite.
- Publication.A.6 (CAuthor, or any authors with an approved arXiv profile): If publication is not accepted or not yet published, and if relevant and possible, share a preprint on arXiv. Ask to register that reference/citation in WebSite.
- Publication.A.7 (PM): Register that reference/citation in WebSite.

3.7.3. Datasets

Research datasets can be published according to different access rights (e.g., Open, Closed, Restricted, or Embargoed) and licensing schemes (Section 2.5) to support a balance between IPR and business interests with data openness, transparency and reusability principles.

- Dataset.A.1 (Partners): Produce a dataset with the tools and environments decided by the partners involved.
- Dataset.A.1a (WPLLeader or TaskLeader): If the dataset involves personal data the data cannot be used in the project as they are, but must be fully anonymized. Request additional support from PC and PM if necessary.
- Dataset.A.2 (TaskLeader): Send a notification to all Partners about the availability of the dataset, stating what is the access right and license schema. Complement the dataset description with additional metadata as supported by PrivDataRep / PubDataRep.
- Dataset.A.3 (TaskLeader): Send information to PM. The PM will keep the data catalogue and will publish it in the WebSite if the dataset is public.

3.7.4. Software

Software code can be published according to different access rights (e.g., Open, Closed, Restricted, or Embargoed) and licensing schemes (Section 2.5.2) to support a reasonable balance between IPR and business interests with openness, transparency and reusability principles.

- Software.A.1 (Partners): Produce a software tool or application (with the tools and computational environments decided by the partners involved). As a good practice of collaborative development, create and setup a public (in PubCodeRep) or private code repository. Define and publish the software license that would be most suitable for the situation.
- Software.A.2 (Partners): Produce technical documentation that can be useful to the software's end-users and developers and add this documentation to the chosen code repository.
- Software.A.3 (TaskLeader): If the code repository is defined as public and has an associated dataset, create a link and reference/citation to it in the PubDataRep. Ask to register that reference/citation on the WebSite.
- Software.A.4 (PM): Keep the records, and, if asked for, add that citation to WebSite.

4. CONCLUSION

In this document, we have presented the DMP for the AHEAD project.

In line with the Horizon Europe policies, the DMP is key to making data open and FAIR. For this reason, the DMP consists of a set of guidelines for data management, that should be followed by all consortium partners, mainly the WP and Task Leaders and monitored by the PM and PC.

This DMP is accompanied by the Data Definition Catalogue (DCC) which consists of a record of the AHEAD data elements that will be filled during the project execution.

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