

D1.2 Initial Data Management Plan

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1 Executive Summary

This deliverable presents the Initial Data Management Plan to be followed by the DEMETER project. The plan will be revised as the project progresses. The document covers all aspects required within a Data Management Plan, starting with a summary of the currently known data sets within the project. It then presents DEMETER's project response to the FAIR (findable, open, interoperable, reusable) principles required for a plan of this nature. The document also deals with allocation of resources for data management and ethical aspects that need to be taken into account.

2 Abbreviations

DMP	Data Management Plan
FAIR	Findable, Accessible, Interoperable, Re-usable
GDPR	General Data Protection Regulation
NIS	Network and Information Systems
PMB	Project Management Board

3 List of Authors & Reviewers

Company	Author
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UPM	Ramon Alcarria (reviewer)

4 Introduction

Project Abstract: The DEMETER Project is a large-scale deployment of farmer centric interoperable smart farming-IoT based platforms delivered through a series of 20 pilots across 18 countries (15 States in the EU). Involving 60 partners, DEMETER adopts a multi-actor approach across the value chain (demand and supply), with 25 deployment sites, 6,000 farmers and over 38,000 devices and sensors being deployed and participants involved come from different production sectors (dairy, meat, vegetables, fruit and arable crops), production systems (conventional and organic) and different farm sizes and types, optimising the data analysis obtained across multiple farms. DEMETER will demonstrate the real-life potential of advanced standards-based interoperability between IoT technologies by adapting and extending existing standards into an over-arching Agricultural Information Model, concurrently ensuring security, privacy and business confidentiality across the full value chain in multiple agri-food operational environments. DEMETER will encompass a multi system and multi data source integration considering not only IoT but legacy systems, open data, geographical and satellite information, and in general will provide an open and interoperable data integration model. DEMETER displays how an integrated approach to business modelling and user acceptance can support sustainable farming and food production systems, provide safe food and support farmers in their decision-making in 'doing more with less'. DEMETER will bring new business

opportunities on the farm and in the wider agri-food economy, while concurrently contributing to the safeguarding of Europe's precious natural resources. DEMETER's goal is the creation of a secure and sustainable European IoT technology and business ecosystem whose impact could be transformative in the EC food and agriculture sector, and potentially across the world.

Based on the plans for interoperability and service provision across multiple trial sites, which involve human and machine data, a dedicated data management plan is required. This document presents the initial DMP for the project.

5 Data Summary

During the project lifecycle it is planned that multiple datasets will be gathered, from multiple sources and of varying size. Ultimately the purpose of collecting data in DEMETER is to use this data to verify the performance of the proposed pilots, to support data integration across the Agri / ICT supply-chain, to carry out analytical activities (some of which will produce new data to be represented in decision support systems), and to support new business model development.

The DEMETER project has a number of core objectives specified relative to its overall goal. Of these, the following will require the generation/collection of data:

O1. Analyse, adopt, *enhance existing* (and if necessary *introduce new*) *Information Models* in the agri-food sector easing data sharing and interoperability across multiple Internet of Things (IOT) and Farming Management Information Systems (FMIS) and associated technologies. Use the information models to create a basis for trusted sharing / exposure of data between farmers.

O2. Build *knowledge exchange mechanisms*, delivering an Interoperability Space for the agri-food domain, presenting technologies and data from different vendors, ensuring their interoperability, and using (and enhancing) a core set of open standards (adopted across all agri-food deployments thereby) coupled with carefully-planned security and privacy protection mechanisms (also addressing business confidentiality).

O3. *Empower the farmer, as a prosumer*, to gain control in the data-food-chain by identifying and demonstrating a series of new IoT-based, data-driven, business models for profit, collaboration and co-production for farmers and across the value chain, leading to disruptive new value creation models.

O4. Establish a *benchmarking mechanism* for agriculture solutions and business, targeting end-goals in terms of productivity and sustainability performance of farms, services, technologies, and practices based on a set of key performance indicators that are relevant to the farming community.

O5. Reverse the relationship with suppliers, through an innovative model in which suppliers are responsible for ensuring that a final solution is optimal to the farmer's existing context and expressed needs.

The above objectives are primarily met through a suite of project pilots which will be rolled out in multiple sites across Europe. These pilots are clustered as follows (note: information here is extracted from submitted deliverable D5.1):

Pilot Cluster 1 – Arable Crops / Water and Energy Management

Cluster 1 will focus on an efficient water management system, improving the consumption of water, fertilization and energy in irrigated arable crops.

The automated irrigation management in optimizing water quality and quantity is of great importance for the pilots involved in cluster 1 as it considers the crops' water needs or the differences in different parts of the same field. Also early warning systems and advanced visualisations related to measures of nitrogen levels are very significant.

The cluster 1 is composed by different pilots that provide services for maximising water use efficiency in different irrigation crops, through the deployment of appropriate sensor systems and science-based decision making.

The pilots will involve different technologies as IoT Sensors networks, multispectral and thermal images, automated image processing workflow, machine learning algorithms, weather stations, irrigation broker, and advanced Decision Support Systems.

The Cluster 1 will contribute to DEMETER objectives as the pilots will improve the farmers and cooperatives decisions controlling their production more efficiently and managing Farming Information Systems and associated technologies. Also, the pilots will demonstrate the impact of digital innovation and interoperable platforms allowing the farmers to increase the possible combination of tools from different suppliers or providers.

Pilot Cluster 2 – Arable Crops / Precision Farming

Cluster 2 will focus on arable crops and especially on the establishment of precision farming and the usage of agricultural machinery improving the efficiency of data acquisition, data sharing and benchmarking on the productivity. An arable crop farmer is creating manually or automatically a big amount of data. The difficulties lay in the automation of the data integration into a Decision Support System (DSS) and the interpretation of the data.

The cluster 2 will use multiple layers (weather, field data, soil data, Ag machine motion, economic situation...) to integrated them in a unified layer accessible on DSS, analyse them and visualize the results to take action such as production technology and management.

All 4 Pilots in cluster 2 provide services for maximising the farm output from the data collected. To reach this objective, several standards will be used like OGC, W3C, ISOBUS and Ag-Gateway.

Cluster 2 will contribute to Demeter objectives 2 & 3 for 3 pilots, enhancing the interoperability space of the Agri-food domain and empowering the farmer to make the best out of his data.

Pilot Cluster 3 – Fruits and Vegetables

The efficient use of resources for environmental and economic purpose requires complex decision-making processes, playing an important role even in uncertain situations. Cluster 2 will focus on farmer support prospects in protecting the health and the quality of production, considering both woody and vegetable crops in several European countries. These crops include olive, grape, orange, apple trees and potato.

Three of the four pilots will focus on a single crop while the other will focus on three different fruit tree crops. The aim of the pilots is to spread ICT solutions in supporting farmers in the decision-making process to address the following issues:

1. More efficient use of irrigation water;
2. More efficient use of nutrients for crop fertilization;
3. Monitoring tools to estimate plant phenology, status and productivity over time, using remote sensing technologies;
4. Support integrated pest management by forecasting models, IoT sensors and automatic traps;
5. Provide instruments to help farmers in estimating the potential crop yield before harvesting.

To these purposes, several technologies will be integrated: existing farming digital platform, IoT sensor networks, models and decision support systems, remotely sensed data, advanced data analysis tools and techniques.

One of the main constraints in adopting ICT in agriculture is related to the fragmentation of the available solutions when assessing the complex needs of the farmers. The scope of this cluster is to cross-fertilize each pilot with the solutions and results of other pilots. The automatic traps tested in orange groves in pilot 3.3 can be used in olive orchards in pilot 3.1, the remote sensing solution developed for potato farming in pilot 3.4 can be adapted to fruit tree crops in the pilots 3.1, 3.2 and 3.3, the Olive Fruit Fly model in pilot 3.1 can be applied with precision farming tools from pilot 3.2 etc. The final scope is to give input to technology providers on how to integrate the solutions to improve their business and to farmers on how to manage their decision making and to get answers at their own requests.

The cluster groups pilots with different Farm Management Information Systems (FMIS), sensors and related technologies, deployed in different farmers and environments. The cluster will perform several interoperability activities inside and within the pilots, showing to farmers and providers the advantages of the Demeter approach in supporting a trusted data sharing (objective 1) and creating an interoperability space for knowledge exchange (objective 2). The adoption of the same technologies in different environments and farming approaches will help to develop a benchmarking mechanism (objective 4).

Pilot Cluster 4 – Livestock

This cluster focuses on supporting farmers for livestock animal health and high quality in the production of animal products with farmers' dashboards with AI-based prediction and decision support for animal Health and animal products. Three pilots are milk cow oriented with one focusing on AI Machine learning for predictive milk production and dashboard including data flow for invoicing, settlement, accounting, bank and insurance. Two pilots focus on milk quality and animal welfare tracking through health and welfare recording protocols which will be applied using various sensor technologies and digitalised records. The fourth pilot is focusing on chicken health and optimal production.

The main aims of the pilots are to contribute to more effective production and animal welfare:

- More efficient methods for measuring production and animal welfare
- More efficient production with AI-based systems and other decision support for farmers and related business.

To these purposes, several technologies and methods will be used: existing digital platform, IoT sensor networks, models and decision support systems, advanced data analysis tools and techniques.

The cluster will work directly with all the six Demeter objectives. Both the work with a full dashboard and the more animal welfare and efficient production approaches in the other pilots, will ensure that.

One of the main constraints is related to the fragmentation of the available solutions when assessing the complex needs of the farmers and the related businesses. This will be addressed in the pilots where different stakeholders and the MMA approach will be used. In the cluster there will also be important to cross-fertilize each pilot with the solutions and results of other pilots.

Pilot Cluster 5 – Full Supply Chain, Interoperability, Robotics

While other clusters are focusing on activities and operations taking place on farms, the goal of Cluster 5 is to address pre and post farm activities, i.e. to address the complete food supply chain.

There are 4 pilots in the cluster focusing on four different areas: fruits & vineyards, apiculture, cattle, and poultry. Both supply and demand sides of the supply chain in addition to the on-farm management activities are addressed, thus contributing to creation of a more transparent supply chain increasingly demanded by consumers as well as legislators.

Cluster 5 pilots will enable validation of interoperability of platforms and solutions used in different sectors as well as validation of interoperability of platforms used for management of on-farm and post-farm (supply chain) activities. The use of distributed ledgers in combination with data exchange protocols designed for the supply chain domain and item level unique identities will be validated in combination with on-farm management solutions.

The complete lifecycle of a product will be covered by inclusion of representatives of the retail, transportation and recycling industries through an open call. This will allow us to expand project's impact and better understand challenges and implications of providing traceable information about the food production throughout the value chain. We will also be in position to engage consumers who are one of the very important stakeholder groups increasingly interested to know what they eat, how the food was produced and what impact that production has on natural resources.

Initial List of Data used in DEMETER

Project deliverable D5.1 "Initial Stakeholder Requirements, Pilots Design, Specification and Planning", Annex 7 provides a comprehensive list of all data sources currently envisioned for the project. Naturally this list will evolve as the project progressed, and this DMP will be updated accordingly.

The template used to catalogue the data per pilot is as follows:

Data Source	
Data Short Description	
Dataset Type	
Purpose in Pilot	
Dataset Owner	

Dataset Provider	
Access License	
Access rights for DEMETER	
Dataset Access	
Version	
Volume	
Velocity	
Variety	
Veracity	
Validity	
Volatility	
Data format	
Encryption	
Data structure description	
For unusual format, tool to read it	
Remote accessibility	Yes/No
Protocol	
Message format	
Pull/Push	
Provided interface	
If data is not yet accessible, how can they be retrieved?	Describe the architecture and where an agent can be deployed
Agent development requirements	
Usable software API on device	
Dataset generation	Was the data monitored in a system with real users?
If no, how the data has been generated?	
Data Sample link	

In addition, other D5.1 annex's are relevant for this DMP:

D5.1 Annex 1 - Identified Relevant Standards

D5.1 Annex 2 - Used Applications

D5.1 Annex 3 - Used Hardware

D5.1 Annex 5 - Used Cloud Services

D5.1 Section 7 provides details of each pilot, including the expected benefits.

6 FAIR data

The following section details DEMETER's plans to address FAIR data [4].

6.1 Making data findable, including provisions for metadata:

To be able to reliably find data, the following basic requirements need to be fulfilled:

DEMETER will provide metadata (data on the research data itself) in the suitable standardised formats requested by the repositories used.

Should DEMETER specific repositories be implemented, their metadata schemas shall follow standardised and community accepted schemas.

As required by Article 29.2 of the Grant Agreement, the bibliographic metadata must be in a standard format and must include all of the following:

- the terms "European Union (EU)" and "Horizon 2020";
- the name of the action, acronym and grant number;
- the publication date, and length of embargo period if applicable, and
- a persistent identifier.

For research data to be found and subsequently reused, it is essential to provide a detailed and meaningful description in the metadata.

DEMETER will create metadata based on the project's Information Model, which will be described in the deliverable:

D2.1 Common data models and semantic interoperability mechanisms- Release 1, to be delivered in M8.

The DEMETER document management approach aims at reducing the burden for project partners to synchronise, store, and locate documents. For this, the NextCloud [5] solution for document management and storage is used, it is also referred to as synchronised file storage using the WebDAV protocol. It is similar in operation to the well-known Dropbox solution except that is self-hosted. This is convenient since it avoids issues associated with the geo-location of confidential material. NextCloud is used within DEMETER for the exchange and transfer of documents in progress and documents extensively used by all partners, e.g. the current version of the DOA or the DEMETER templates. Access to NextCloud is personalised via a dedicated username and password.

The Word deliverable template used in DEMETER defines the title of the deliverable, its dissemination levels and submission date. This is followed by the table of content of the deliverable. Microsoft Office allows metadata properties for each document to be entered. In DEMETER, the fields "Author" and "Title" are used. Usually, the author information is filled in automatically, provided the author

(deliverable lead) stated the full name in the Word personalisation properties. The title needs to be filled in manually and should be the same as on the first page of a document.

There are two different dissemination levels for DEMETER project deliverables: Public (PU) deliverables, which are potentially available to everybody and Confidential (CO) deliverables, which are available only for the members of the DEMETER consortium. Information regarding the dissemination levels must be marked in each deliverable as defined in the DEMETER template.

6.2 Making data openly accessible:

DEMETER supports open science and believes in its associated benefits.

Research data linked to exploitable results will not be put into the open domain if they compromise its commercialisation prospects or have inadequate protection. To all other research data or scientific publications open access will be granted according to the HORIZON 2020 requirements.

For the dissemination of the scientific results, the Consortium will establish and promote open access publications and partners will be encouraged to publish open access articles.

Project members will be offered with the option of publishing in journals contained/registered in the Registry of Open Access Repositories (ROAR) and/or the Directory of Open Access Repositories (OpenDOAR). Authors copyrights agreements will determine whether scientific publications, resulted from the project, will adopt the gold or the green model.

The overall principle follows the guidelines on Open Access from the [H2020 online manual](#). [3]

Data access is provided through interfaces based on globally adopted standards. For geospatial or domain specific data, this could be e.g. the OGC Web Feature Service for feature data, OGC Web Coverage Service for coverage data, OGC Web Map Service for maps, or the OGC Sensor Observation Service for sensor data. For most data access requirements a standard already exists. Additionally, DEMETER is preparing what we call the DEMETER HUB – this hub will be the central location where all public project outputs (services and data) can be accessed.

Where additional requirements arise from the research in DEMETER, the requirements shall be used to advance and mature existing standards, rather than re-inventing the wheel. Data can thus be made available to the widest possible range of stakeholders .

Some datasets used for the pilots might be stored in databases which are not available through the Open Data portals. Once the use case specification and requirements have been completed this data may also be needed for the processing and visualisation within DEMETER applications. However, this data – in its raw format – may not be made available to external stakeholders for further use due to licensing and/or privacy issues. Therefore, at this stage, the data management plan will not cover these datasets.

6.3 Making data interoperable:

Data can be made available in many different formats implementing different information models. The heterogeneity of these models reduces the level of interoperability that can be achieved. In principle, the combination of a standardized data access interface, a standardized transport protocol,

and a standardized data model ensure seamless integration of data across platforms, tools, domains, or communities.

When the amount of data grows, mechanisms have to be explored to ensure interoperability while handling large volumes of data. Currently, the amount of data can still be handled using OGC models and data exchange services. We will need to review this element during the course of the project. For now, data interoperability is envisioned to be ensured through compliance with internationally adopted standards.

In particular, DEMETER's Agriculture Information Model (AIM) to be developed in DEMETER Task 2.1 will provide a common information model to represent data in DEMETER providing the basis to support the interoperability of different components/platforms/systems.

6.4 Increase data re-use (through clarifying licenses):

To support re-use of data DEMETER will advertise all the data produced to ensure that they are known to wider audience. In combination with standardized models and interfaces as described above and complemented with metadata and a catalogue system that allows proper discovery, DEMETER can serve as valuable input outside of the project.

At this stage, it is not clear what licensing models need to be applied for the various data products produced in DEMETER. Generally, the focus shall be on public domain attribution and open licenses that maximize reusability in other contexts. All data products produced by DEMETER will be reviewed for FAIR principles annually by the data producing organization. On the other hand, DEMETER is open to any third-party data and process provisioning.

Data quality is a key component for data reuse. Without proper quality parameters, data cannot be integrated in external processes, as the level of uncertainty of the remote processes becomes undefined. DEMETER will review its data outputs for quality information provided as part of the metadata. Currently, ISO quality flags are envisioned to be used.

Additionally, DEMETER will promote data re-use through two rounds of open calls (cascade funding).

7 Allocation of resource

Making data available according to the FAIR principle incurs costs. However, at this early stage it is not possible to provide a reasonable estimate on any additional costs, which -might result from:

- Fees associated with the publication of scientific articles in Gold Open Standards journals
- Web Site and Service Operations
- Data Archiving
- Copyright Licensing
- Data storage solution in the DEMETER platform

This section will be updated once reliable figures are available for the benefit of future activities.

The management of data in the DEMETER project is carried out through the provisioning of relevant tools and systems (such as NextCloud) that provide the required level of fairness towards data sharing,

security and privacy. The management of the data in the DEMETER project is a collective activity of all partners, where the project coordinator takes the lead role of establishing the procedures and monitoring the utilisation of available infrastructure.

The underlying infrastructure is maintained by the respective owners e.g. TSSG is the owner of the NextCloud document management system and therefore responsible for ensuring the continuous provisioning and quality of service of NextCloud system. Similarly, the ownership of the other infrastructure e.g. Enablers repository, Collaboration Environment etc. will be defined during the course of project.

The management of data is the responsibility of data owners who decide which data to share, with whom, for what purpose and under what conditions. The provisioning of data for research purposes will be ensured by putting in place the relevant procedures (based on H2020 guidelines) and by using open-access repositories. This data will be limited to the purpose of the research and prototyping activities conducted within the scope of this project, in accordance with the data minimisation principle. If processing activities of the personal data is needed, an explicit confirmation will be put in place to make explicit that the beneficiary has lawful basis for the data processing and that the appropriate technical and organisational measures are in place to safeguard the rights of the data subjects.

8 Data security

DEMETER has defined a set of templates for procurement of sensitive data.

Active data generated or collected during the project will be stored at the premises of the respective consortium partners.

Datasets collected in relation to humans will be anonymised before use in the project. Furthermore, the DEMETER consortium agreement specifies:

a) The Parties agree that any Background, Results, Confidential Information and/or any and all data and/or information that is provided, disclosed or otherwise made available between the Parties during the implementation of the Action and/or for any Exploitation activities ("Shared Information"), shall not include Personal Data as defined by the General Data Protection Regulation 2016/679 hereinafter referred to as the GDPR [1,7]. However, Shared Information may contain anonymised data according to the applicable data protection laws.

b) A Party shall notify to the other affected Parties in writing, without undue delay, any anticipated change affecting such Party's representation and warranty set forth in Section (a) above. In such a case, neither Party shall deliver or otherwise provide to the other Party with access to any data that may include additional Personal Data (beyond the Business Contact Information) that may be subject to the GDPR or other applicable data protection laws, until the Parties have reached an agreement in writing on the steps to be taken with respect to such data.

c) The Parties agree that the Business Contact Information will be only be processed to the limited extent required to manage the business relation between the Parties and its Affiliated Entities and in compliance with the regulations of the applicable data protection laws.

d) the Parties acknowledge that each Party has no obligation to review the Shared Information provided by either Party to determine if the Shared Information contains any additional Personal Data

beyond the Business Contact information. However, if either Party becomes aware of any additional Personal Data provided by the other Party, it will delete it or return the Personal Data

e) No Party shall during or after the project engage in any activity to re-identify the Shared Information by any means whatsoever, including but not limited to singling out, linking back or matching any dataset with any personal or pseudonymous dataset available to a Party.

f) For the purpose of this Section 10.8, capitalized terms not defined in this Consortium Agreement shall have the meaning ascribed to them in the Data Protection Legislation where they appear as lower-case terms.

The project carefully analyses the implications of, and compliance with, the relevant regulations on data management and consumption. This includes ensuring compliance with GDPR (General Data Protection Regulation)[1] and NIS Directive (Directive on Security of Network and Information Systems)[2]. The tasks responsible for data protection (T2.4: Data Protection, Privacy, Traceability and Governance Management) performs the core activities concerned with the management of data and ensuring the compliance with relevant data security and privacy regulations. Furthermore, the DEMETER Consortium Agreement explicitly states that the project partners are GDPR compliant.

9 Ethical aspects

The project has a task dedicated to management of IPR, Ethics and Legal issues.

Ethical issues will be addressed by DEMETER's Project Management Board, in conjunction with the project Advisory Board. Focus will be put on the compliance with existing ethical and legal framework for safeguarding human (European Union Directive 2010/63/EU) and animal welfare and care of experimental animals (European Union Directive 2010/63/EU) [6].

The DEMETER proposed solutions do not expose, use or analyse personal sensitive data for any purpose. In this respect, no ethical issues related to personal sensitive data are raised by the technologies to be employed in the planned pilots. Furthermore, the DEMETER consortium considers during the project lifetime the ethical rules and standards of H2020, and those reflected in the Charter of Fundamental Rights of the European Union. Generally speaking, ethical, social and data protection considerations are crucial and are given all due attention. DEMETER addresses any ethical and other privacy issues in Task 1.4 (Management of IPR, Ethics and Legal Issues) for the investigation, management and monitoring of ethical and privacy issues that could be relevant to its envisaged technological solution and will establish a close-cooperation with the Ethics Helpdesk of the European Commission.

Besides these general conditions, the consortium is aware that a number of privacy and data protection issues could be raised by the activities (i.e. in all pilots planned in piloting activities) to be performed in the scope of the project. Therefore, each individual DEMETER partner will report to their individual ethical authority (Work package leader or assigned individual) on a quarterly basis to identify ethical issues that may arise or have arisen. The PMB will then action this item for review and report back to work package leader as to the necessary recommendations.

10 Other considerations

In the course of the entire project, the fundamental rights of data protection and the right to privacy of the volunteer research participants will be strictly followed. Furthermore, the developments and piloting performed within DEMETER project life will observe the Charter of Fundamental Rights of the European Union 11 (2000/C 364/01). The following articles of this Charter apply directly to this project:

- Article 1: Human dignity is inviolable. It must be respected and protected
- Article 8.1: Everyone has the right to the protection of personal data concerning him or her
- Article 8.2: Such data must be processed fairly for specified purposes and on the basis of the consent of the person concerned or some other legitimate basis laid down by law. Everyone has the right of access to data, which has been collected concerning him or her, and the right to have it rectified
- Article 8.3: Compliance with these rules shall be subject to control by an independent authority – in this case this responsibility lies with the DEMETER Project Manager
- Article 23: Equality between men and women must be ensured in all areas, including employment, work and pay. The principle of equality shall not prevent the maintenance or adoption of measures providing for specific advantages in favour of the under-represented sex

Moreover, all consortium partners, involved in collecting or handling data, will adhere to their internal data management policies.

11 Conclusion

This document sets out the main underlying data management principles to be taken into account within the lifetime of the DEMETER project. At the time of writing the DEMETER project is still in its infancy, and therefore it is planned that this will remain as a live document to be updated as the project progresses.

12 References

- [1] GDPR Official Text - <https://gdpr-info.eu/>
- [2] NIS Directive - <https://www.itgovernance.eu/nis-directive>
- [3] H2020 Online Manual - https://ec.europa.eu/research/participants/docs/h2020-funding-guide/cross-cutting-issues/open-access-dissemination_en.htm
- [4] FAIR Data Principles - <https://www.go-fair.org/fair-principles/>
- [5] NextCloud - <https://nextcloud.com/>
- [6] European Union Directive 2010/63/EU - <https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2010:276:0033:0079:EN:PDF>

[7] General Data Protection Regulation 2016/679 - <https://www.privacy-regulation.eu/en/>

Gran Agreement, D2.1, Nextcloud, Web, DAV, ROAR, OpenDOAR, OGC standards, European Union Directive 2010/63/EU, General Data Protection Regulation 2016/679.