HYDROUSA

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Water in the context of circular economy

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Demonstration of water loops with innovative regenerative business models for the Mediterranean region

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Data Management Plan

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Brief Description	The current document aims to be a master plan and a manual to guide and facilitate the Consortium on how to collect, produce, manage and reuse data of the Project "Demonstration of water loops with innovative regenerative business models for the Mediterranean region, HYDROUSA" Grant Agreement No 776643.
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EXECUTIVE SUMMARY

The current document aims to provide a guide on how to collect, produce, manage and reuse data of the Project "*Demonstration of water loops with innovative regenerative business models for the Mediterranean region, HYDROUSA*" Grant Agreement No 776643 for the HYDROUSA Consortium.

This document was formed in line with the "*Guidelines on Data Management in Horizon 2020*" (version 3 issued in July 2016) and the "*Guidelines on Open access to Scientific Publications and Research data in Horizon 2020 (version 3.2 issued in March 2017)"*.

The Data Management Plan (DMP) is not a fixed document but will evolve as the project develops. More specifically, this document is the first version of the DMP, delivered in 6 Month of the project (December 2018). In order to achieve proper management of the project's data, an overview of the datasets to be generated by the HYDROYSA project, and the special terms accompanying them is presented. Subsequent versions of the DMP will include more details and will describe the practical data management processes applied by the HYDROUSA project. DMP will be updated at least on Month 18 (D1.4) and Month 54 (D1.5) of the project, respectively.

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ABBREVIATIONS

CO	Coordinator
DMP	Data Management Plan
DPO	Data Protection Officer
ExC	Executive Committee
GDPR	General Data Protection Directive
QRs	Quarterly Reports
WP	Work Package

1. INTRODUCTION

1.1. What is DMP

Figure 1 illustrates the Data Management Plan (DMP) the complete life cycle of data generated throughout the project. The DMP describes the different types of data that will be generated and collected over the lifetime of the project, the standards to be used, the way in which the research data and parts of the datasets will be preserved and then distributed and reused.

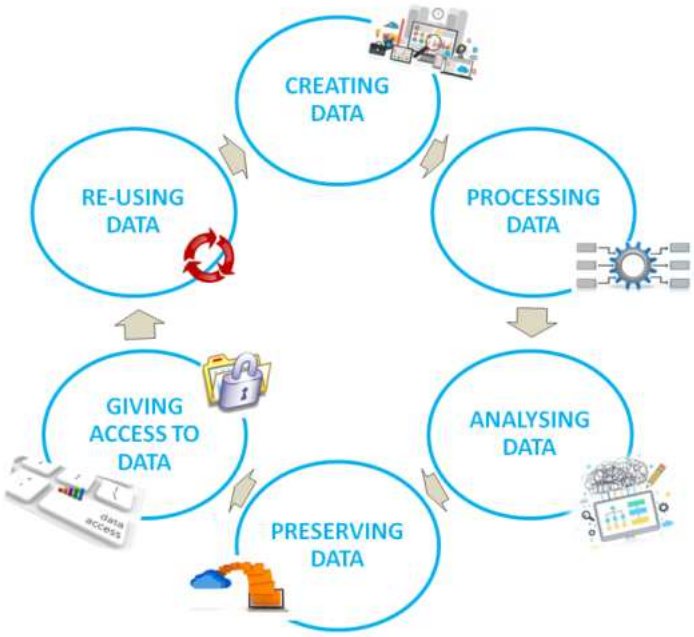

Figure 1. Data life cycle

1.2. Purpose of Data Management Plan

The DMP aims to provide an analysis of the key elements of the data management policy that will be applied in the HYDROUSA project and will be used by the Consortium regarding project data.

1.3. Objective of the initial DMP

The basic objective of the current document is to specify how data will be collected, processed, monitored, catalogued and disseminated. It will address: (i) data set reference and name, (ii) data set description, (iii) confidentiality, (iv) standards and metadata, (v) data dissemination and policies for data sharing and public access, (vi) plans for archiving and preservation, (vii) IP protection roadmap, including selection of data streams for external publication, to avoid conflicts with IP protection.
The DMP is not a fixed document, but will be evolved as the project develops. More specifically, this document is the first version of the DMP, delivered in 6 Month of the project (December 2018). In order to accomplish proper and effective management of the project's data, an overview of the datasets to be generated by the HYDROYSA project, and the special terms accompanying them is presented. Subsequent versions of DMP will

include more details and will describe the practical data management processes applied by the HYDROUSA project The DMP reports will be updated in Month 18 (D1.4) and Month 54 (D1.5) of the project, respectively.

2. DATA SET NO 1: HYDROUSA MANAGEMENT DATA

2.1. Data Summary

The purpose of data collection is to document all data generated during the project's implementation by the HYDROUSA consortium. The file formats to be generated and collected in this dataset are expected to be:

Presentations: Since the beginning of the project, many PowerPoint presentations have already been developed (project meeting presentations, presentation at conferences, presentation at workshops etc.), and many presentations are expected to be created during the project's lifetime. Usually these presentations are in the context of management, dissemination and exploitation activities. The files created by the responsible member of the project for each presentation will be sent to the coordinator in the form of .pptx files using the Microsoft PowerPoint software. The size of presentations cannot be estimated, as it varies depending on the media it contains.

Meeting minutes: Ten project management meetings will be held, once every 6 months. During these meetings, there must be at least one representative from each partner, as important decisions are made on the technical, financial, legal, administrative, dissemination and communication activities of the project, as well as to resolve any conflict. Moreover, Skype Executive Committee (ExC) meetings will be held every 2 months, attended by the leaders of all work packages (WPs) and chaired by the coordinator (CO). These meetings are aimed at monitoring the progress of the project and avoiding any risk. It is understood that during these meetings, minutes should be kept as the official document of all the decisions taken, the members involved, the venue and the discussions that took place during the meeting. The minutes will be saved as word (.docx) and PDF (.pdf) files, stored by the CO in a private server and used by the members of HYDROUSA project as a reference on what has been discussed and decided. The size of these documents will not exceed 2Mb each in storage space.

Deliverables: Project management (WP1) contains 7 deliverables that will be produced during the project, which are presented in Table 1.

Table 1. Deliverables of Project Management (WP1)

Deliverables	Title	Dissemination level	Scope
D1.1	Consortium Agreement	Confidential	The signed agreement among partners which specifies in detail the following: Monitoring project progress, Partner communication, Risk assessment and contingency planning, Decision making and conflict resolution, intellectual property rights and distribution of resources.
D1.2	Project Management Plan	Confidential	It consists of the project plan and structure, project governance, quality standards for project deliverables and procedures.
D1.3	Data Management Plan	Public	It will specify how data will be collected, processed, monitored, catalogued and disseminated. It will address: (i) data set reference and name, (ii) data set description, (iii) confidentiality, (iv) standards and metadata, (v) data dissemination and policies for data sharing and public access, (vi) plans for archiving and preservation, (vii) IP protection roadmap, including

			selection of data streams for external publication, to avoid conflicts with IP protection.
D1.4	First Update of the Data Management Plan	Public	Since the DMP is expected to mature during the project, more developed versions will be included as additional deliverables.
D1.5	Second Update of the Data Management Plan	Public	Since the DMP is expected to mature during the project, more developed versions will be included as additional deliverables
D1.6	Green event leaflet	Public	It supports all partners to hold green events for at least internal meetings. It will set guidelines for internal (among partners) but also external use.
D1.7	Risk management Plan	Public	It will identify the project risks, their probability of occurrence and their severity. It will also describe proposed risk mitigation measures to achieve successful project implementation.

The responsible partner for each deliverable will document it and deliver it to the Consortium in the form of a document (.docx) for review before submitting to the EU portal, while the final version will be saved as a PDF (.Pdf) document and stored in the private server by the CO. The expected size of each deliverable is estimated to be about 5Mb.

Quarterly reports (QRs): The leader of each work package (WP) together with the leaders of each task should develop a quarterly report every three months, so as to present the progress of their WP. All quarterly reports will be delivered to the Coordinator in the form of a document (.docx) for review. Then, the final version will be stored in the private server as a PDF (.Pdf) document so that each partner has the opportunity to be informed about the progress of the project. The expected size of each QR is estimated not to exceed 15 Mb.

From the data included in this set and described above, they will not be reused; on the contrary, new data will be generated during the project's lifetime. In addition, these data will be useful mainly among HYDROUSA partners as a reference tool.

2.2. Fair Data

2.2.1 Making data finable, including provisions for metadata

The data that will be collected in this set will be saved as a PDF form, so these data cannot accept changes and formatting in the future (no versioning). Subsequently, metadata is not expected to be used, as it is confidential data that will be stored on a private server and cannot be findable. The data of deliverables D1.3, D1.4, D1.5 and D1.6 will be available to access since according to the Grant Agreement No 776643 these deliverables are classified as public. The aforementioned deliverables will be uploaded to the project's website (www.hydrousa.org) and any interested party will be able to access them either from the navigation menu. The name convection of the data determined to be given is as follows:

- **HYDROUSA – Data management plan.pdf**
- **HYDROUSA – First update of data management plan.pdf**
- **HYDROUSA – Second update of data management plan.pdf**
- **HYDROUSA – Green event leaflet.pdf**

2.2.2 Making data openly accessible

As already mentioned, the data of this collection will be confidential and will be stored on a private server by the project coordinator. Only members of the consortium will have access to this dataset. On the contrary,

the deliverables that are openly available will be stored in a pdf file format and then can be opened with the use of the "Adobe Acrobat Reader" software (free) without any restriction.
For example deliverable D1.6 (Green event leaflet) is already submitted and flagged on the European Union portal as **submitted**. The CO of HYDROUSA project expects the official labelled of the deliverable as approved**,** so that it can then be uploaded to HYDROUSA website, where it will be available to the public.

2.2.3 Making data interoperable

Not applicable

2.2.4 Increase data re-use (through clarifying licenses)

As specified in the Grant Agreement the data from Deliverables D1.1, D1.2 and D1.7 is confidential; in extend, there can be no data re-use for it. The following deliverables are not confidential: D1.3, D1.4, D1.5 and D1.6. The aforementioned deliverables will be openly available and can be freely used by any interested party, once they are uploaded in HYDROUSA website (www.hydrousa.org) for at least 4.5 years (duration of the project). This way data reuse can be enhanced. As far as the public deliverables are concerned the HYDROUSA consortium has not yet decided the specific license according to which the files of this data set will be hosted on HYDROUSA website.

2.3. Allocation of resources

The cost of data collection has been included in HYDROUSA budget, specifically in Work Package 1 as personnel cost.

2.4. Data security

The management dataset will be stored on a private server and will only be shared with members of the HYDROUSA consortium. The publicly available deliverables will be hosted on the server's website, following the host's security protocols. Periodically, the private server will back up all the files externally to ensure that the dataset is recovered safely.

2.5. Ethical aspects

The minutes of the project's meetings falls into the "ethical aspect" area, as the positions of each member are recorded. Accordingly, at the beginning of each meeting, all members are informed and, after giving their consent, the minutes are recorded.

2.6. Other issue

Not applicable

3. DATA SET NO 2: USER REQUIREMENTS AND OTHER WORKSHOPS

3.1. Data summary

This section concerns the data that will be collected through co-creation workshops as well as other workshops/seminars and will aim to define user requirements. The purpose of the user-requirement dataset is to take into account the requirements of end-users as well as stakeholders located in demonstration sites, regarding the concepts of agroforestry and fertigation, in terms of the online monitoring and control of irrigation systems. These requirements will be used in the design, performance and control of the aforementioned systems so that they truly meet the needs of end-users. Three workshops will be held in demonstration sites to specify user requirements during which (and not only) questionnaires will be answered by water authorities, regional authorities, municipalities, farmers, industries, environmental companies, water and wastewater treatment plant operators, water utilities but also other end-users and stakeholders. These questionnaires will be designed by AGENSO and ALCN.
These questionnaires will provide the consortium with important information regarding:

- The measurements parameters and the automation capabilities that the various stakeholders are interest
- The platform functionalities
- The technical characteristics of the ICT components

The other twelve seminars/workshops that will be implemented will explain the benefits arising by HYDROUSA technologies bringing together:

- Decision makers including water authorities, regional authorities, municipalities bringing their perspective on the current status quo, and
- Other stakeholders including industries, environmental companies, water and wastewater treatment plant operators, water utilities

The formats of the files to be generated and collected in this dataset are expected to be:

- Microsoft Word documents (.docx) for questionnaires
- Microsoft Excel documents (.xlsx) that will be the result of the questionnaires processing.

In addition, based on the results obtained from these surveys, the following deliverables will be created and stored as pdf format (Table 2).

This data collection is expected to be particularly helpful for the project consortium but also for the efficient operation of HYDROUSA systems.

Table 2. Deliverables related to data set No 2: User requirements and other workshops

Deliverables	Title	Dissemination level	Scope
D5.2	User requirements and specifications definition	Public	It presents the conducted survey and focus groups results and focuses on the most important aspects users find useful.
D5.3	Updated user requirements and specifications definition	Public	It presents an updated version of D5.2 including the findings from the co-creation activities.
D9.6	Report on the co-creation and training activities	Public	We will build social and physical on-site learning environments aiming to engage and connect directly the local community with the HYDROUSA project. These co-creative activities (info points, summer schools, Hackathon, Residencies and workshops) will be our point of monitoring and collecting user requirements that would shape future development and scaling decisions. D9.6 will provide information on all the workshop activities implemented for HYDROUSA.

3.2. Fair Data

3.2.1 Making data findable, including provisions for metadata

The data collected here will be confidential and will be stored on a private server by the project coordinator. Only members of the consortium will have access to this dataset. However, the deliverables that will result by the analysis of the questionnaires will be openly available. Specifically, D5.1 and D5.2 will be stored in pdf file format and can then be opened with the use of the "Adobe Acrobat Reader" software (free) without any restriction. Each interested party will be able to locate the desired document using the navigational menu of the website (www.hydrousa.org).

No metadata will be created, since this dataset will not to be changed in the future, thus, no versioning is required.

The name convection of the data decided to be given is as follows:

- **HYDROUSA – User requirement and specification definition.pdf**
- **HYDROUSA – Updated user requirement and specification definition.pdf**
- **HYDROUSA – Report on the co-creation and training activities**

3.2.2 Making data openly accessible

As already mentioned, this dataset will be confidential and will be stored on a private server by the project coordinator. Only members of the consortium will have access to the file of questionnaire results, as it will contain confidential information. However, the analysis of these results will be a part of D5.1 and D5.2, which will be openly available and will be stored in a pdf file format and can then be opened with the use of the "Adobe Acrobat Reader" software (free) without any restriction. Finally, the template of the questionnaires that will be designed during the project lifetime will be available to public via HYDROUSA website.

3.2.3 Making data interoperable

The deliverables file will stored as pdf format and can only be used as a reference. However, the template of the questionnaire will be in a Word document format, which is the most commonly used text format and also allows the user to export it in multiple formats and further processes.

3.2.4 Increase data reuse (through clarifying licenses)

At present the consortium has not yet decided the specific license according to which the files of this data set will be hosted on HYDROUSA website. However, it was decided by all partners that the data will be open to the public to view and download, but without sharing or reproducing them, as these data will be provided to the project by third parties with specific permissions. For example, completed questionnaires by stakeholders which have been distributed and collected

3.3. Allocation of resources

The cost of this data collection has been included in HYDROUSA budget, specifically in the personnel cost of Work Package 5.

3.4. Data security

The publicly available deliverables will be hosted on the server's website, following the host's security protocols. The data will also be stored on the private server, which will back-up all files externally at regular intervals to ensure that the data set is safely retrieved.

3.5. Ethical aspects

The data obtained from the results of the questionnaires fall into the ethical area. The initial results of the questionnaire contain personal information of the participant and cannot be made public. In order to maintain the anonymity and confidentiality of the participants, the results of the questionnaires will be private on the server and will be even limited among the members of the consortium. Mr Zisis Tsiropoulos from the company AGENSO has been appointed as Data Protection Officer (DPO) of HYDROUSA project. According to the General Data Protection Directive (GDPR) 2016/679 he is responsible of maintaining the anonymity and distributes the file in the interested partners with caution. The SME AGENSO is a project partner and is dealing with the development of platforms for the management of data in the project. AGENSO has significant experience in the implementation of procedures for data management within existing HORIZON2020 projects.

3.6. Other

Not applicable

4 DATA SET NO 3: DESIGN DATA OF HYDRO 1-6

4.1 Data summary

The purpose of this dataset is to collect the data required for the development of the HYDROUSA systems in the 6 demonstration sites, HYDRO 1-6. The origin of these data will be personal work by the members of the consortium and therefore data cannot be re-used. The data contained in this set will be technical descriptions and methodologies, calculations and flow charts.

The expected file size of this dataset cannot be yet accurately estimated. This data will be saved in the project's private server and accessed only by the consortium members. This dataset is extremely valuable to the members of the consortium in general.

The formats of the files to be generated and collected in this dataset are expected to be:

- Microsoft Word documents (.docx) for the technical descriptions
- Microsoft Excel documents (.xlsx) for the calculations and for the flow charts (potentially)
- AutoCAD files (.dwg) for the drawings which are produced for the design of the systems.

From this set of data, 6 deliverables will be developed as listed in Table 3. From these deliverables, D2.1, D2.3, D3.6 and D4.2 are confidential, while D3.1 and D3.2 are public. Confidential deliverables will be accessible only by members of the consortium. All the deliverables will be stored on the private server as pdf format. The Deliverables which are public will be available on the project's website freely available for download by the public.

Table 3. Deliverables that include design data

Deliverables	Title	Dissemination level	Scope
D2.1	Design of rainwater management system	Confidential	It consists of the development of the design methodology and drawings of the rainwater management systems HYDRO3&4, including technical description, methodology, calculations and drawings of the systems. The design concepts i.e. technical description, methodology, calculations, pictures and drawings will be different for the two proposed rainwater management systems. The exact amount of recovered rainwater and surface runoff, the precise infrastructure location, the upgrade and maintenance of the configuration, the necessary treatment activities, as well as remote monitoring installations will be determined in the scope of this deliverable report.
D2.3	Design of the Mangrove Still Upgrade	Confidential	The design concepts and prototypes will be conceived according the problem-solving method Biomimicry. Thinking an iterative process of four

			main steps: the scoping phase to frame the issue, the discovery phase to identify the most relevant biological analogies to be emulated, the creating phase to concept the design and the prototype and finally the evaluating phase to iterate the optimization. The results from the workshop following this methodology and drawings of the Mangrove Still Upgrade, including technical description, methodology, calculations and drawings of systems will be included in this deliverable.
D3.1	Design of the UASB and biogas upgrade	Public	D3.1 will comprise the detailed design methodology of the upflow anaerobic sludge blanket, including sizing, electrical connections and preliminary control manoeuvres. It will include the technical description with methodology including a section on the benefits and limitations of the technology, preliminary design calculations with adequate explanations and drawings of the system. A list of the elements required for the build-up (brand, model, materials, main characteristics, power, etc.), as well as a P&ID will be included as well. The design of the equipment attached to the UASB (namely the biogas storage and the biogas upgrade system), will be considered herein as well. Finally, a list of considerations for the operation of the systems (serving as a preliminary operation manual) and safety instructions will be included.
D3.2	Design of the constructed wetlands	Public	D3.2 consists of the detailed design methodology and drawings of the full scale wetland including technical description with methodology, detailed design calculations and drawings of the system. A list of the elements/materials required for the build-up as well as a P&ID will be included as well. Furthermore a description of the two pilot scale wetlands (bio-electrified wetland and aerated wetland) will be included.
D3.6	Design of the composting system	Confidential	The composting system will be designed within a biomimicry design workshop, where biological processes will be applied in technological systems. At this workshop many disciplines and academic levels come together to be initiated and further facilitate the innovation process. In D3.6 the methodology of this workshop together with the outcome will be reported together with the technical drawings of the composting system, including technical description with calculations

D4.2	Design of the preparation of sites	Confidential	D4.2 consists of a report that will cover the design methodology for the preparation of the sites for the agricultural activities of the project. The design will include drawings showing the irrigation system and the placement of trees, bushes, and other crops. The report will determine the different agricultural activities based on the different sources of water (e.g. collected rainwater, treated wastewater, desalination, etc.) available as well as the soil in the different regions.

4.2 Fair data

4.2.1 Making data findable including provisions for metadata

As described above, some of the deliverables (D2.1, D2.3, D3.6 and D4.2) that will be developed from this dataset will be confidential and will be stored on a private server by the project coordinator. Only members of the consortium will have access to these data. However, D3.1 and D3.2 will be saved in pdf format and will then be opened using the "Adobe Acrobat Reader" (free) software without any limitations. Any interested party will be able to locate the desired document using the site's navigation menu (www.hydrousa.org). Metadata will not be created, since this data set will not change in the future, so no version is required.

4.2.2 Making data openly accessible

As already mentioned, this data set includes both confidential and public data. The confidential data will be kept on a private server by the project coordinator and only members of the HYDROUSA consortium will have access to them. However, D3.1 and D3.2 deliveries will be openly available and will be saved in pdf format and then be opened with the use of "Adobe Acrobat Reader" (free) software without any limitation.

4.2.3 Making data interoperable

The publicly deliverables file will be stored as pdf format and can only be used as a reference.

4.2.4 Increase data re-use (through clarifying licenses)

Regarding the deliverables that will be available to the public, the consortium has not yet decided on the specific license under which the files of this data set will be hosted on the HYDROUSA website. However, it was decided by all partners that the data would be open to the public for viewing and downloading but without sharing or reproducing them.

4.3 Allocation of resources

The cost of data collection has been included in HYDROUSA budget, specifically in Work Package 2 & 3 as personnel cost.

4.4 Data security

The publicly available deliverables will be hosted on the server's website, following the host's security protocols. The data will also be stored on the private server, which will back-up all files externally at regular intervals to ensure that the data set is safely retrieved.

4.5 Ethical aspects

Not applicable

4.6 Other

Not applicable

5 DATA SET NO 4: DISSEMINATION DATA

5.1 Data summary

The main purpose of this data set is the development and collection of the data that will be used for the dissemination and communication activities of HYDROUSA project.
In particular, the following file types will be produced and reused during the program:

- **Electronic PDF Documents:** leaflets, brochures, roll-ups, banners and educational material in general that will be created and will be available in PDF format
- **Video:** description of HYDROUSA systems but also a storytelling video and interviews will be available in .avi format for download. Videos will also be uploaded to the YouTube platform of HYDROUSA project for viewing and sharing.
- **Images:** images will be provided with the most used formats, JPEG, PNG and GIF.
- **Presentations:** HYDROUSA will be presented in several Conferences, workshops, trade fairs, pitch events and other activities. The presentations will be available either in PPT or PDF format.

From this dataset, 7 public deliverables will be developed as listed in Table 4. All deliverables will be stored on the private server as a pdf format and will be available on the project website, which will be free to be downloaded from the public.

Table 4. Deliverables of Communication, community building, dissemination (WP9)

Deliverable No	Title	Dissemination level	Scope
D9.1	Dissemination and Communication plan	Public	We will be conducting a detailed study of the identified stakeholders groups and of the strategic activities and channels that will use towards them and towards the wide public. The vision for the activities undertaken as part of dissemination and communication is that they effectively engage a wide range of stakeholders, from senior levels in industry, regulation and government, to local people and schoolchildren. To achieve this, the strategy and plan for delivery is reported in D9.1 to ensure that project partners communicate a focused, coordinated message regarding the project to targeted stakeholders.
D9.2	HYDROUSA Brand Identity	Public	We will build a common narrative by designing: (a) a visual identity, (b) the storyline that reflects on the innovative approach and the methodology of HYDROUSA and (c) a website that will act as the point of reference for the dissemination of the core values and objectives, for the dissemination of the progress – success stories and of plug-ins that citizens can act or participate.
D9.3	Report on Dissemination and Communication	Public	It is the 2-year evaluation describing the dissemination and communication activities implemented during the period M1-M24 and

			measuring the outcomes against the KPI. Potential weak points will be identified to take action and increase the diffusion.
D9.4	Updated report on dissemination and communication	Public	D9.4 consists of the final report on the Dissemination and Communication activities of the project; the report will evaluate all the relevant activities and their impact on the project against KPI; activities of the stakeholder panel will be described along the actual outputs, outcomes and the foreseen impact.
D9.5	Report on the networking and marketing activities	Public	D9.5 will summarize all the networking, clustering and marketing activities which will take place with particular reference to the end users and the impact of these activities. Liaison activities with other H2020 and other EU funded and National projects will be reported.
D9.6	Report on the co-creation and training activities	Public	We build social and physical on-site learning environments aiming to engage and connect directly the local community with the HYDROUSA project. These co-creative activities (info points, summer schools, Hackathon, Residencies and workshops) will be our point of monitoring and collecting user requirements that would shape future development and scaling decisions. D9.6 will provide information on all the workshop activities implemented for HYDROUSA.
D9.7	HYDROUSA game for increased public awareness	Public	A serious game will be developed according to the different social – cultural – environmental challenges that HYDROUSA addresses that are connected to the water loop at the sites of the project. The game will use actual data and performance analytics of the project and will call for action and participation with a solution oriented approach. The HYDROUSA game will be available for Android and iOS devices through the official application stores.

Currently, this dataset is being prepared so its size cannot be estimated. Finally, this data collection will be particularly useful for each interested party but also for stakeholders and potential end-users of HYDROUSA project.

5.2 Fair Data

5.2.1 Making data findable including provisions for metadata

The data collected will be stored both at the private server and at HYDROUSA website, as it will be available for the public. However, each dataset will includ9e the metadata (Table 5), so as to ensure its quality.

Table 5. Metadata of dataset No 4

Creator	The HYDROUSA partner responsible of the creation of this dataset
Title	The label of this dataset
File type	The format of the dataset (pdf, pptx, jpeg etc.)
File Size	The size of the dataset
Version	The version number of the dataset
Date	The creation date

Finally, D9.1 - D9.7 will be saved in pdf format and will then be opened using the "Adobe Acrobat Reader" (free) software without any restriction. Any interested party will be able to find the desired document using the site's navigation menu (www.hydrousa.org). Metadata will not be created, since this data set will not change in the future, so no version is required.

5.2.2 Making data openly accessible

In HYDROUSA website, each interested party will be able to find these data either by following the menu or by using the search bar and querying the name of the dataset as keyword. A general naming convention has been decided by HYDROUSA consortium, where the files will use the following format HYDROUSA-{File Title as in metadata}.{Version as in metadata}.{file type extension} (i.e. HYDROUSA-Leaflet.01.pdf).
The set of these data will be readily accessible through the project website without any restriction. In order to access the material of this collection you will have to find the file in the HYDROUSA website by opening the following programs:

- Adobe Acrobat Reader for .pdf files
- VLC media player for videos
- Windows Photos for images

The interested parties can access the HYDROUSA website through browser such as Firefox, Chrome, Microsoft Edge, etc. and by going to **http://www.hydrousa.org.**

Regarding publicly deliverables (D9.1-D9.7), they will be saved in pdf format and then would be opened with the use of "Adobe Acrobat Reader" (free) software without any limitation.

5.2.3 Making data interoperable

It is not expected to made interoperable operations. The files of the publicly deliverables will stored as pdf format and can only be used as a reference.

5.2.4 Increase data reuse (through clarifying licenses)

HYDROUSA Consortium has set this data collection as available for everyone to view and download as an educational and informative content, but with no right to reproduce it. Moreover, as far as the deliverables that will be available to the public, the consortium has not yet decided on the specific license under which the files of this data set will be hosted on the HYDROUSA website. However, it was decided by all partners that the data would be open to the public for viewing and downloading but without sharing or reproducing them.

5.3 Allocation of resources

The cost of this data collection has been included in HYDROUSA budget, specifically in Work Package 9.

5.4 Data security

The data will be stored on the private server, which will back up all files externally at regular intervals to ensure that the data set is safely retrieved. However, as these data will be available on the project website no additional protection measures are required.
In addition, the publicly available deliverables will be hosted on the server's website, following the host's security protocols. The data will also be stored on the private server, which will back-up all files externally at regular intervals to ensure that the data set is safely retrieved.

5.5 Ethical aspects

Not applicable

5.6 Other

Not applicable

6 DATA SET NO 5: PERFORMANCE DATA OF HYDRO1-6

6.1 Data summary

The purpose of this data collection is to monitor and evaluate the efficiency and performance of the whole water supply chain that will be developed within HYDROUSA. The source of these data is the sensors, actuators and controllers that will be installed in all of the demonstration sites HYDRO 1-6.
Important parameters will be monitored and related data will be collected such as: i) the water quality parameters required for the management of water and wastewater, ii) crop monitoring and weather data for environmental monitoring and management; iii) parameters required for environmental and economic assessment (life cycle assessment and life cycle costing) such as greenhouse gas (GHG) emissions and energy consumption. In addition, data from controllers and actuators will be collected and installed at the demo sites for: controlling the water loops; achieving efficient irrigation; ensuring the smooth operation of the setting; preventing unexpected events.
The formats of the files to be generated and collected in this dataset are expected to be:

- Raw data in .csv format (semicolon separated)
- Excel files (.xlsx) for grouped (semi-processed data)

The expected file size of this data set cannot be estimated, as the data is not yet collected. Furthermore, it will be saved in the project's private server and accessed only by the consortium members. The operation of HYDRO 1-6 dataset will be reused for investigation purposed only by HYDROUSA Consortium members.
This dataset is the most important, as based on this collection the efficiency of the HYDROUSA systems will be assessed from environmental, economic and social perspective.

From this data set, a public delivery will be developed as shown in Table 6. D5.1 will be stored on the private server in pdf format and will be available on the HYDROUSA website, where any interested party will be able to download it for free.

Table 6. Deliverable that includes performance data

Deliverable No	Title	Dissemination level	Scope
D5.1	Pilot Assessment Report	Public	D5.1 is a report on the 2-year operation of all the demonstration systems. The report shall describe the operating conditions of the systems, the performance in terms of pollutants removal. The report will assess the quantities of recovered water from the different non-conventional water sources, the water quality which is obtained and the crop yields delivered. Furthermore, the report will assess any operating problems which were experienced and how these were resolved.

6.2 Fair Data

6.2.1 Making data findable including provisions for metadata

This dataset is characterized as confidential and it will be accessible only by the members of HYDROUSA Consortium. The data of this collection will be stored in a folder on the HYDROUSA private server, which will available only for HYDROUSA partners. However, D5.1 will be saved in pdf format and will then be opened using the "Adobe Acrobat Reader" (free) software without any limitations. Any interested party will be able to locate the desired document using the site's navigation menu (www.hydrousa.org).

6.2.2 Making data openly accessible

Data set No 5 includes both confidential and public data. The confidential data will be kept on a private server by the project coordinator and only members of the HYDROUSA consortium will have access to them. However, D5.1 will be openly available and will be saved in pdf format and then be opened with the use of "Adobe Acrobat Reader" (free) software without any limitation.

6.2.3 Making data interoperable

The publicly deliverable file will be stored as pdf format and can only be used as a reference.

6.2.4 Increase data re-use (through clarifying licenses)

Regarding D5.1 that will be available to the public, the consortium has not yet decided on the specific license under which the file of this data will be hosted on the HYDROUSA website. However, it was decided by all partners that the data would be open to the public for viewing and downloading but without sharing or reproducing them.

6.3 Allocation of resources

The cost of data collection has been included in HYDROUSA budget, specifically in Work Package 5 & 1 as personnel cost.

6.4 Data security

The publicly available deliverables will be hosted on the server's website, following the host's security protocols. The data will also be stored on the private server, which will back-up all files externally at regular intervals to ensure that the data set is safely retrieved.

6.5 Ethical aspects

Not applicable (Confidential data)

6.6 Other

Not applicable (Confidential data)