NEXOGENESIS
STREAMLINING WATER RELATED POLICIES

D.4.6 Data management plan – **WP4**

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Project Deliverable

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Data Management Plan – initial version

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Abstract
This document is mainly devoted to present the initial version of the data management plan. Thus, this document defines and specifies the strategy to handle data in the NEXOGENESIS framework. Moreover, this document also describes the strategy about how to manage privacy and Ethics aspects. Finally, the document is envisioned to be a live document for the entire project. So, it will be incrementally enhanced at different stages of the project.

Keywords
Data source, accessibility, interoperability, allocation, security, ethics, IPR

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Abbreviations / Acronyms

API	Application programming Interface
BDG	BUSINESS DEVELOPMENT GROUP SRL
BEF	BALTIJAS VIDES FORUMS
CMCC	CENTRO EURO-MEDITERRANEOSUI CAMBIAMENTI CLIMATICI
DMP	Data Management Plan
EOSC	European Open Science Cloud
EOSC	Open Science Cloud
EURAC	ACCADEMIA EUROPEA DI BOLZANO
EUT	Eurecat Technology Centre
FAIR	Findable, accessible, interoperable, and re-usable
FTP	File Transfer Protocol
HTTP	Hypertext Transfer Protocol
ICO	Information Comissioner's office
IHE	STICHTING IHE DELFT INSTITUTE FOR WATER EDUCATION
JAWS	JONES AND WAGENER (PTY) LTD
JSON	JavaScript Object Notation
KWR	Water Research Institute
NTUA	NATIONAL TECHNICAL UNIVERSITY OF ATHENS
OA	Open Access
OGC	Open Geospatial Consortium

ORD	Open Research Data
UTH	PANEPISTIMIO THESSALIAS
UU	UPPSALA UNIVERSITET
WEFE	water-energy-food-ecosystem
XML	eXtensible Markup Language

1. Executive summary

This document presents the initial version of the Data Management Plan (DMP) on open access data handling (see box 1) defined for NEXOGENESIS. The aim of the document is to consider the many aspects of data management, data and metadata generation, data preservation- maintenance- and analysis, whilst ensuring that data is well managed at present and prepared for preservation in the future. This Data Management Plan is compiled according to the Guidelines on FAIR Data Management in H2020[1], and the Guidelines to the Rules on the Open Access to Scientific Publications and Open Data Access to Research Data in H2020[2]. Complementary to this document, we have decided to use the Argos Tool to maintain the DMP online and dynamic for the entire duration of NEXOGENESIS. Specifically, the corresponding online version of the datasets utilised in NEXOGENESIS will be available in the following URL corresponding to the public online version of the DMP (see Box 2)

Box 1. Open Access

Open access (OA) refers to the practice of providing online access to scientific information that is free of charge to the end-user and reusable. 'Scientific' refers to all academic disciplines. In the context of research & innovation, 'scientific information' can mean: (1) peer-reviewed scientific research articles (published in scholarly journals) or (2) research data (data underlying publications, curated and raw data).

Box 2. NEXOGENESIS DMP IN ARGOS TOOL

ARGOS Tool is an online tool to create, link and share a data management plans. It is developed by OpenAire and permit to automate the process of cataloguing and sharing data between researchers, communities and funders. Moreover, ARGOS TOOL permit also to share data according to common standards and at the end, make the DMP machine-actionable. For NEXOGENESIS, we have elaborated a data management in the following URL: **https://argos.openaire.eu/plans/overview/99b7e81a-38cb-46e2-a42f-8eed4f10fd42**

Thus, the sections below present the lifecycle, responsibilities, review processes and management policies of research data, produced during the execution of NEXOGENESIS. The DMP reflects the agreement of the NEXOGENESIS consortium as well as the adopted measures concerning the control, protection, distribution and maintenance of the produced data.

For NEXOGENESIS, the DMP is defined as "*the development, execution and supervision of plans, policies, programmes and practices that control, protect, deliver and enhance the value of data and information assets*" obtained. Since the beginning of the project, the following processes and procedures for data management procedures are established:

- Data governance, such as standards management and guidelines.
- Data architecture, analysis, and design including data modelling.

1 http://ec.europa.eu/research/participants/data/ref/h2020/grants_manual/hi/oa_pilot/h2020-hi-oa-data-mgt_en.pdf

2 http://ec.europa.eu/research/participants/data/ref/h2020/grants_manual/hi/oa_pilot/h2020-hi-oa-pilot-guide_en.pdf

- Data maintenance, administration, and data mapping across building blocks and solution modules.
- Data security management including data access, archiving, privacy, and security.
- Data quality management including query management, data integrity, data quality, and quality assurance.
- Reference and master data management including data integration, external data transfer, master data management, reference data.
- Document, record, and content management.
- Metadata management, i.e., metadata definition, discovery, publishing, metrics, and standardization.

2. Introduction

2.1. Scope

This document is devoted to the description and publication of the initial version of the Data Management Plan, a work performed inside WP4- "Nexus self-learning assessment engine development", and specifically, in Task 4.6 entitled "Data Management Strategy". The present document corresponds to the series of deliverables derived from D4.6.- "Data Management Plan – initial version" in which the initial version is published in M03.

Box 3. Data Management Plan

A Data Management Plan (DMP) is a key element of good data management; it describes the data management life cycle for the data to be collected, processed, and generated by a Horizon 2020 project.

As part of making research data findable, accessible, interoperable, and re-usable (FAIR), a DMP should include information on: (i) the handling of research data during and after the end of the project, (ii) what data will be collected, processed, and generated, (iii) which methodology and standards will be applied, (iv) whether data will be shared/made open access, and (v) how data will be curated and preserved (including after the end of the project). A DMP is required for all projects participating in the extended ORD pilot unless they opt out of the ORD pilot; however, projects that opt are encouraged to submit a DMP on voluntary basis.

The DMP provides a description about the procedures on how the research data is collected, processed, and generated. The DMP (see Box 3) establish the procedures on how to handle these data along the project and lastly, after finalization. Hence, the document (and the subsequent versions of it), represents the consortium agreement on the data plan and also a description of the main standards and methodologies that has been established for data collection, generation, sharing and preservation.

This document follows the template provided by the European Commission on DMP structure and guidelines[3]. This documented DMP is complemented also, by the publication of the datasets under the Argos Tool (see Box 2) published by Open Aire. The interrelation of the DMP with Open Aire allows NEXOGENESIS to be part also in the Open Research Data Pilot[4] contributing as well to the Open Science Cloud (EOSC)[5]. All of these aspects have been materialized in this initial version of the DMP since the M03, where following action will be done:

[3] Guidelines on Data Management in Horizon 2020, http://ec.europa.eu/research/participants/data/ref/h2020/grants_manual/hi/oa_pilot/h2020-hi-oa-data-mgt_en.pdf

[4] Open Access to Scientific Publications and Research Data in Horizon 2020 Guidelines, https://ec.europa.eu/research/participants/data/ref/h2020/grants_manual/hi/oa_pilot/h2020-hi-oa-pilot-guide_en.pdf

[5] European Open Science Could, https://eosc-portal.eu/

- Regular update of the DMP (online and the present document) will be provided at **M6** with iterations on **M18, M30, M42.**
- The online DPM will add datasets at time as a Dataset is ready to be published.

2.2. Structure of the document

The DMP document has been structured according to the following sections:

- **Section 1** is the executive summary of the document.
- **Section 2** is the introductory chapter, which provides the scope of the deliverable and the main outline of the document.
- **Section 3** contains information about digital datasets generated or collected in NEXOGENESIS for each of the WPs and also, the sections also devoted to the preservation data mechanisms established within the project.
- **Section 4** Contains information about the FAIR data for NEXOGENESIS and will be updated at same time as the project evolves.
- **Section 5** Focuses on the allocation of resources to maintain the datasets and digital assets elaborated within NEXOGENESIS.
- **Section 6** Section devoted to the data security aspects.
- **Section 7** Address issues related to ethical aspects.
- **Section 8** Contains other related issues related to the data management.
- **Section 9** Focuses on the identification and description of external applications and services to ensure the correct elaboration of a DMP.
- **Section 10** Description of main conclusions and future work.

3. Data Summary

The main intention of the DMP is to present data management plan to the NEXOGENESIS Work Packages. The information listed below reflects the initial conception and thoughts of the individual Work Packages during the proposal stage corresponding to the datasets and their management flows in order to provide fast results and evidences. For that aim, the intention is to apply a fast-track application over an initial case study to be selected during the initial months of execution (Figure 1). The objective of the fast-track is to:

- Identify difficulties related to datasets collection from the different stakeholders and projects to run models and have a comprehensive view of all components in the area.
- Identify the obstacle and find solution to harmonize data at level of scale and spatial distribution.

After fast track application, NEXOGENESIS will apply the developments for the rest of case studies, applying the experience to the rest of case-studies.

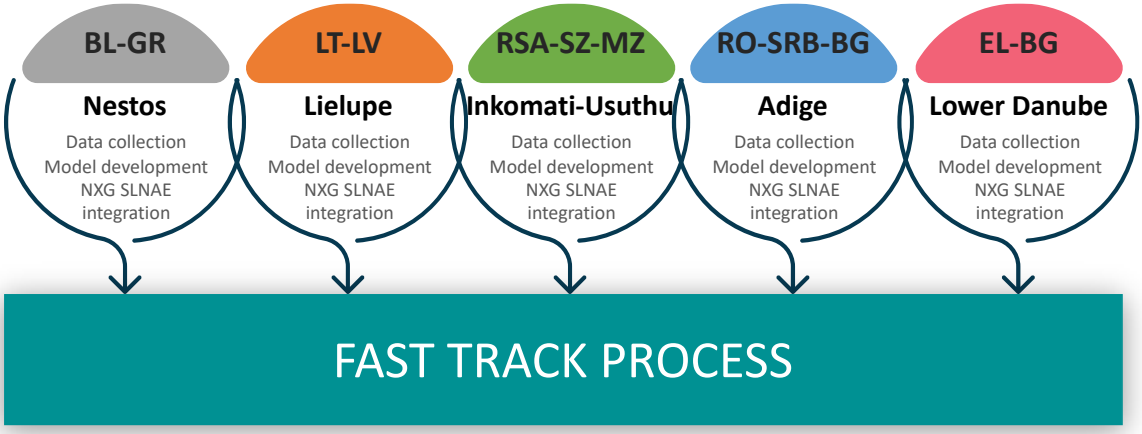

Figure 1. Fast-track development process

Considering this process, EUT will manage all data used for the implementation of NEXOGENESIS. The information flow is depicted in the following figure:

Figure 2. Preliminary Information Flow

Based on the image (see Figure 2), the case studies will develop socio-economic, bio-physical and complexity science models at a conceptual stage (Conceptual Model) to show interlinkages and synergies among the NEXUS components. The conceptual model will be developed at a higher level of integrating including lower level of detail, as needed for WP2-

4. Hence, the conceptual model will be transformed into different complexity science methodologies (System Dynamics Modelling, Cellular Automata, Fuzzy Cognitive Mapping and Material Flow Analysis) to be analysed and selected within the execution ("Task 3.1-Complexity Science Tools—Conceptual modelling"). This kind of modelling will be fed with climate, socio-economic, geospatial and other relevant information coming from the case-studies (derived from the national authorities, organizations, institutes and programmes like Eurostat, GISCO, GEOSS, Copernicus, INSPIRE, JRC (CORINE, USGS, etc.). The Complexity science models will be integrated, and the output will be provided through an API (application programming interface) to the NEXOGENESIS self-learning nexus assessment engine.

EUT will be responsible to communicate with the WP Leaders, co-leaders, case study leaders, modellers and the complexity science developers the different needs for data collection and information requirements. Assigned people for reporting and updating the above-mentioned datasets are shown in the following Table 1:

Table 1. NEXOGENESIS Work Packages leaders

WP	Assigned Institution
WP1	CMCC
WP2	KWR
WP3	UTH
WP4	EUT
WP5	UU
WP6	GAC
WP7	IHE

Table 2. Case-Study leaders

Case Study	Assigned Institution
Nestos River (Bulgaria/Greece)	NTUA
Lielupe River Basin (Latvia/Lithuania)	BEF
Inkomati-Usuthu (South Africa)	JAWS
Adige River (Italy)	EURAC
Lower Danube River Basin (Roma-nia/Serbia/Bulgaria)	BDG

Considering this strategy to collect the information and put on demonstration the NEXOGENESIS tools, the purpose of this section is to provide a summary of the different NEXOGENESIS data addressing the following aspects:

- State the purpose of the data collection/generation
- Specify the types and formats of data generated/collected
- Specify if existing data is being re-used (if any)
- Specify the origin of the data
- State the expected size of the data (if known)
- Outline the data utility: to whom will it be useful
- Defines how this data is going to be accessible both for internal and/or public use

3.1. Data Assets and Preservation Procedures

This part of the document is mainly devoted to specifying the data assets that will be generated in NEXOGENESIS work-packages and the corresponding preservation procedures after the project ends. At this stage of the project, it is needed to mention that most of the information described corresponds to the consortium intention to publish/generate information. It is also worthy to mention that the datasets that are going to be generated during the project will be published in the following places:

Table 3 Repositories in which the generated NEXOGENESIS information is published

Data Repository	URL of the repository	Brief description of the datasets to be published
Zenodo	NEXOGENESIS Project Datasets | Zenodo	A data repository to share datasets and other digital assets in open source.
European Open Science Cloud	TBD within next iterations. It's required to have an e-mail account and website to create a repository in https://marketplace.eosc-portal.eu/projects/new	A repository to share datasets and help NEXOGENESIS in the elaboration of digital assets through trusted datasets
Argos	https://argos.openaire.eu/plans/overview/99b7e81a-38cb-46e2-a42f-8eed4f10fd42	A tool used as a virtual data management plan. The main advantage is the publication of datasets directly on Zenodo and Open Aire.
Github	TBD within next iterations	A code repository for the digital tools. This will serve to publish in open access the NEXOGENESIS digital tools.
Gitlab	TBD within next iterations	A code repository for the digital tools. This will serve to publish in open access the NEX-

		OGENESIS digital tools.

Complementing this information, there is envisioned that most of the tools and data generators were openly available for the community and scientist to future use (code shared through GitHub or Gitlab repositories). Specifically, tools that will be added during the development of the project within next Table 4 will be openly available through open-source repositories portrayed in the next table template:

*Table 4 Summary of the potential tools to be published in open-source repositories**

Digital Tools	Code Repository	Repository URL
Digital tool to be defined within next iterations	Github/Gitlab	TBD

(*) This table will be updated according to the project progress

As described in the abovementioned tables, NEXOGENESIS contribution to provide open-data information, data catalogues and open-source tools are envisioned and agreed by the consortium. This subsequently implies to put hands on the wider community a set of data and digital tools to better understand industrial symbiosis and interlink between internal industrial processes to make efficient use of the resources.
Considering these descriptions, the **Error! Reference source not found.** (Data sets generated in NEXOGENESIS) presents a data summary of all data assets that potentially have been and will be elaborated and delivered through NEXOGENESIS.
Considering the relevant datasets shown in **Error! Reference source not found.**, there is remarkable the intention of the consortium to the high contribution to scientific community and the piloting research with potential reliable and curated information. These aspect will sustain future investigations in industrial symbiosis and zero-waste strategies. Moreover, it will permit the EU to reinforce open research community.
Based on the potential datasets that could NEXOGENESIS produce, it is the intention of the consortium to maintain them after the project completion. Thus, the quality of data will be ensured for future research and studies. Thus, there is also the intention of the consortium to maintain the update of the digital tools in around 2-3 years according to the tasks depicted in the Table 5.

*Table 5 Maintenance and Data preservation of the data assets**

#	Identifier/Name	Responsible partner	Maintenance and data preservation plan (2-3 years)

(*) This table will be updated according to the project progress

As a conclusion of this part of the document, NEXOGENESIS is committed with the open-source science through the initiatives of Open Pilot Research[6], European Open Science

6 OpenAIRE

Cloud (EOSC)[7] and also, the digitalization of the data management plan inside the Argos Tool. Under these initiatives, the intention of NEXOGENESIS is to share relevant digital tools developed within the project, models and also referring output datasets regarding the AI driven tools processes (including curation and quality assurance). Moreover, the project is also committed to the maintenance of this assets during the project. Also, there is the intention to maintain those assets beyond the project span to ensure future research and also awareness of the society in industrial symbiosis and efficient use of the natural resources.

4. FAIR data

This section should be understood as a living section that will be further updated in future iteration as the project evolves, and more input in terms of data and data reporting comes from the NEXOGENESIS partners.

Intellectual Property Rights (IPR) management in NEXOGENESIS is a substantial part of its data management plan. Usually data content and their system are treated as one parameter, but when the matter comes to IPR, a distinction between the databases and data content is of outmost importance. It is imperative for other users to know how they can reuse both the data collected, assembled, or generated and the databases where these are included.

The Open Data Commons group developed the following tools to govern the use of data sets. The three ODC licenses are:

- Public Domain Dedication and License (PDDL): This makes the use of the database and its content free to the public domain.
- Attribution License (ODC-By): Users can make use of the database and its content in new and different ways, but they need to provide an attribution to the source of the data and/or the database.
- Open Database License (ODC-ODbL): ODbL stipulates that any use of the database must provide attribution, and any new outcomes must use the same terms of licensing (also an unrestricted version of the new product must always be accessible).

In addition, it is acceptable to articulate for NEXOGENESIS as a set of “community norms” that can be used complementary to the use of formal licenses.

4.1. Making data findable, including provisions for metadata

This section will be updated during next iterations to provide detailed information on how data will be made discoverable, and more specifically:

- Discoverability of data (metadata provision)
- Identifiability of data and refer to standard identification mechanism
- Use of persistent and unique identifiers such as Digital Object Identifiers
- Naming and conventions used

7 EOSC Portal (eosc-portal.eu)

- Approach towards search keyword
- Approach for clear versioning
- Specify standards for metadata creation
- Type of metadata created and how

4.1.1. Making data openly accessible

All data, information, and knowledge considered relevant for the scientific community will be made accessible under Open Access. In this regard, data will be shared in relation to (i) publications (deliverables and papers) and (ii) curated and/or raw data. For the data linked to scientific publications, the publication will serve as the main piece of metadata documentation for the shared data. When this is not seen as being adequate for the comprehension of the raw data, a report will be shared along with the data explaining their meaning and methods of acquisition. However, for both data categories the metadata standard structure of the data repository (tentative an FTP server) will be used.

4.1.2. Making data identifiable

All the available datasets will be uploaded in Zenodo and EOSC. In this regard, Data set reference and naming will be implemented to employ a standard identification mechanism for each data set according the metadata standard implemented. Zenodo (a popular repository for research data, will be extensively exploited throughout the project) assigns all publicly available uploads a Digital Object Identifier (DOI) to make the upload easily and uniquely citable. Zenodo supports harvesting of all content via the OAI-PMH protocol.

4.1.3. Naming and conventions used

At this stage of the DMP, there is no defined naming conventions for the files due it will depend on the data available in the case-studies. Nevertheless, the following general naming convention will be discussed in the following months:

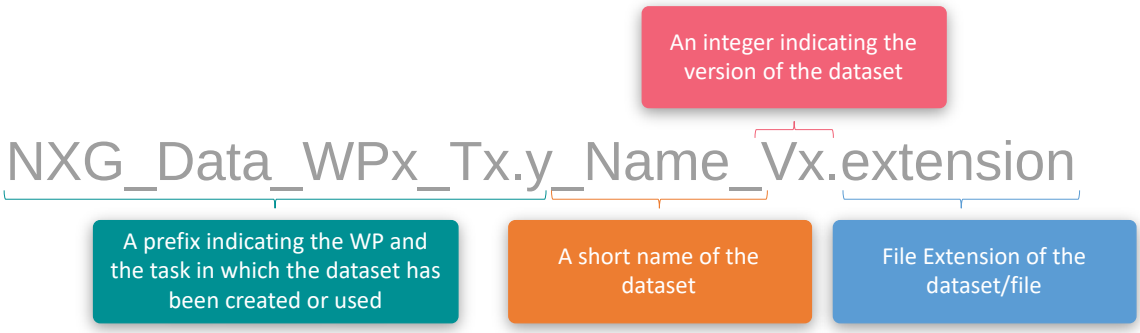

Figure 3. Tentative structure to name the files inside the repository

4.1.4. Approach towards search keywords

In case of data being collected and/or produced by NEXOGENESIS to be optimally re-used, search keywords will be used, in correspondence with the specific field that data concerns. Examples to be referred in the next DMP version.

4.1.5. Approach for clear versioning

Zenodo repository standardization will ensure that data is stored under specific structure to be easily identified on a historical basis.

4.1.6. Specify standards for metadata creation

Metadata standards will be required to (i) establish a common understanding of the meaning of the data, and (ii) ensure correct and proper use and interpretation of the data by its owners and users. To achieve this, a number of characteristics, or attributes of the datasets will be defined and are described in the following section.

4.1.7. Type of metadata created and how

Along with the metadata described in Section 4.1.3 for the name of the datasets, metadata are also created for each dataset to describe the size of the file, its format, the data provider (owner), last update (date), time of update. In addition, a very short description of each dataset is also provided:

Table 6 Metadata Information

METADATA	BRIEF DESCRIPTION
Size (K)	Corresponds to the size of the file.
Format	Indicates the format of the represented information. It could be JSON, CSV, etc.
Short Description	A brief explanation of the dataset.
Data Provider	Name of the company and/or person who provides the information.
Last Update (data)	Date of the last update performed over the dataset.
Time of Update	Hour in which update has been performed.

4.2. Making data openly accessible

NEXOGENESIS will generate public datasets available as Open Access-(OA) . More specifically, NEXOGENESIS will release OA datasets in reference for socio-economic, biophysical, climatic and geospatial information. All of these mentioned datasets will be uploaded into Zenodo and EOSC. Moreover, the output of the models applied to the case-studies will also published (OA) before the end of NEXOGENESIS. In this regard, permissions will be requested to the specific case-study partners and data providers.
This section will be updated on next iterations to provide detailed information on how data will be made accessible, assessable and intelligible. More specifically:

- Specifics on which data will be made openly available
- Which data is kept closed and provide the rationale?
- How the data will be made available
- What methods and software tools are used to access the data

- Documentation of software needed to access the data included
- Inclusion of relevant software
- Data and associated metadata, documentation and code deposit
- Provision of access provided in case of restrictions

As detailed in Section 4, all data, information, and knowledge considered relevant for the scientific community will be made accessible under Open Access. When a dataset is set to be accessible publicly, this information will be fulfilled and the DMP updated accordingly.

4.2.1. Specifics on which data will be made openly available

In the following Table 7Table 7 we provide an indicative time schedule for all data publications will be provided in open access:

Table 7. Tentative time plan for the fast-track case-studies

INDICATIVE TIMETABLE FOR DATA RELEASE IN OA	
Month 14-16	Initial version of the biophysical, socio-economic and climate models applied in the fast-tracked case-studies
Month 24-26	Initial version of the biophysical, socio-economic and climate models applied in remaining case-studies

As NEXOGENESIS is a multi-beneficiary project it is also possible for specific beneficiaries to keep their data closed according to relevant provisions in the consortium agreement.

4.2.2. Which data is kept closed and provide the rationale?

For the time being no data is considered as closed.

4.2.2.1. How the data will be made available?

Data will be made available through Zenodo Repository, which is compliant with H2020 regulations. In general, for Public Availability of Data, data will be shared when the related deliverable, paper or data set has been made available at an Open Access (OA) repository from the responsible partner/owner of the data. It is expected that data related to a publication will be openly shared. However, to allow the exploitation of any opportunities arising from the raw data and tools, data sharing will proceed only if all co-authors of the related publication agree. The Lead author is responsible for getting approvals and then sharing the data and metadata on Zenodo. The Lead Author will also create an entry on OpenAIRE to link the publication to the data. OpenAIRE is a service built to offer this functionality and may be used to reference both the publication and the data. A link to the

OpenAIRE entry will then be submitted to the NEXOGENESIS Website Administrator by the Lead Author. As described above, pertinent approvals have been received from the data owners.
In view of the precautions for protection of personal data, it is explicitly confirmed that the data collected will be publicly available, after care is taken with regards to rules of confidentiality, anonymity, and protection. Anonymized final data sets will be open access and procedures are set as to how data will be preserved and archived in the repository. We are aware of post-publication risks to local researchers and end-users in our research sites and will mitigate all reasonable risk before publication according to the ethical and IPR requirements set.
However, “Opting Out” remains a choice for data owners, as it is possible that even though comprehensive measures are taken to ensure the safety of participants, researchers and their environment, it is only after a NEXOGENESIS report or peer reviewed article is published and generation of date sets is realized, that the question of open access arises. Open access does not entail an absolute obligation to publish all data, and it is up to researchers and associated organization to decide whether data is suitable and ethical to be published or not.
To ensure archiving and preservation of long-tail research data during the project, a repository with a web catalogue service will be built and maintained after the project completion. The Web Catalogue Services provides the system with a smarter interface to the NEXOGENESIS repository (geo-database compliant with UDPPlus and HIS).

4.2.3. What methods and software needed to access the data included?

There are many technologies that can be exploited and adopted to perform this function. The Web Service API access is based upon the HTTP protocol with client and server requests and responses using XML or JSON. Client applications could use this interface for executing service repository queries and receiving service repository metadata results. The essential purpose of these tools is to enable the following general features:

- Locate, access and make use of resources in an open, distributed system by providing facilities for retrieving, storing and managing many kinds of resource descriptions.
- Model different datasets by considering different types of data.
- Access context-based information from the knowledge repository.

The Web Service API managed by the catalogue could store a multitude of resource descriptions that conform to any standard Internet media type, as:

- XML schemas
- Audio annotations
- Specification documents

- Style sheets for generating detailed topographic maps.

Furthermore, arbitrary relationships among catalogue items can be expressed by creating links between any two resource descriptions. For example, a service offer may be associated with descriptions of the data sets that can be acquired using the service. A catalogue can function as a stand-alone service or it can interact with other affiliated catalogues within a federation that spans multiple administrative domains. The federation then effectively enlarges the total search space within which resource descriptions may be discovered. When a catalogue is linked to a peer catalogue, it makes the resource descriptions managed by the peer implicitly available to its own clients. Each catalogue client connects to a single catalogue service as its main point of contact with the federation. This is the agent node; the propagation of request messages to neighbouring nodes is invisible to the client. It is not necessary to know where the metadata repositories are located or how they are accessed. The repository profile is intended to provide a flexible, general-purpose catalogue service that can be adapted to meet the needs of diverse communities of practice within the geospatial domain. In the NEXOGENESIS framework, the following rules are respected:

- Communicate information adopting standard protocols (e.g. XML/JSON, OGC standards, etc.).
- Try to adopt a solution that allows for the maximum interoperability among actors who will process the data stored.
- State of the art technologies that could be used in the context of the Web Service API could include:
    - pyCSW (http://pycsw.org/)
    - GeoNetwork (http://geonetwork-opensource.org/)
    - Micka (http://micka.bnhelp.cz/)
    - CKAN (https://ckan.org/)

4.2.4. Documentation of software needed to access the data included

This information will be provided in the DMP to be delivered in M06.

4.2.5. Inclusion of relevant software (e.g. in open source code)?

There is no software developed for the data management of the NEXOGENESIS. All existing software used (FTP, Zenodo, etc) is described in previous sections.

4.2.6. Data and associated metadata, documentation and code deposit

Web Service API, Knowledge Repository and Zenodo repositories are both applicable.

4.2.7. Provision of access provided in case of restrictions

Web Service API, Knowledge Repository and Zenodo repositories ensure that an authorization scheme can be applied for accessing the data, depending on the scope of the usage. It is upon the partners to decide what is the most appropriate authorization scheme.

4.3. Making data interoperable

This section will be updated on next iterations of this Deliverable to provide detailed information on how data will be made interoperable to specific quality standards and more in detail:

- Assess the interoperability of project data
- Specifics on data/metadata vocabularies, standards, methodologies followed
- Use of standard vocabulary for all data types present to allow inter-disciplinary interoperability
- Provision of mapping to more commonly used ontologies

To assure data interoperability, NEXOGENESIS will follow state of the art ontologies and standards. The two main elements, which will store and make available information and services in NEXOGENESIS publicly, are the NXG Knowledge Repository in combination with the Web Service API. The Web Service API will be implemented under REST architectures principles. The details about the architecture and the NXG knowledge repository will be provided in the "*D4.5. Final version of the self-assessment nexus engine with the corresponding validation*" (M42). Concerning the NXG Knowledge repository, please refer to Section **Error! Reference source not found.** in this document for more initial information.

4.3.1. Assess the interoperability of project data

All data collected and/or produced in the project will be interoperable, since they follow well documented international standards/formats, like XML, CSV, JSON, JSON-LD, HIS, INSPIRE specification, OGC specification, allowing data exchange and re-use between researchers, institutions, organizations, countries.

4.3.2. Specifics on data/metadata vocabularies, standards, methodologies followed

The initial description is provided in Section4 of this Deliverable.

4.3.3. Use of standard vocabulary for all data types present to allow inter-disciplinary interoperability

The initial description is provided in Section 4.1 of this Deliverable.

4.3.4. Provision of mapping to more commonly used ontologies

NEXOGENESIS knowledge repository will provide their own ontology that will use terms from the following wide-known and public ontologies[8]:

- SAREF ontology. As a reference ontology for the representation of measures and properties (variables).
- SAREF4WATR extension. As newer standard to represent water variables and information semantically.
- W3C Time ontology to represent timestamps and temporal information.
- GEOSPARQL ontology to represent geographic information compliant with the OGC data exchange information.
- W3C QUDT ontology to represent commonly the units of measure of the corresponding variables.
- SIM4NEXUS ontology to represent nexus components and variables.

4.4. Increase data re-use (through clarifying licences)

This section will be updated on next iterations at M6, M18, M30 and M42, to provide detailed information on how data will be made usable beyond the original purpose for which it was collected, and more in detail:

- Data licensing to permit the widest reuse possible
- Data availability for re-use
- Why and for what period a data embargo is induced
- Data useable by third parties after the end of the project
- Restriction of re-use of some data
- Data quality assurance processes
- Length of time for which the data will remain re-usable

As detailed in Section 4, all data, information, and knowledge considered relevant for the scientific community will be made accessible under Open Access. When a dataset is set to be accessible publicly, this information will be fulfilled and the DMP updated accordingly.

4.4.1. Data Licensing to permit the widest reuse possible

It is proposed to use Creative Commons Attribution Share-Alike 4.0 License as much as is possible and practicable, which allows sharing, remixing, transforming and building upon the material for any purpose. Products should be redistributed under the same license. It is not yet decided at this stage of the Proposal.

[8] This list will be updated in the following version of the DMP.

4.4.2. Data availability for reuse

As envisioned in the Section 4.2.1, some data will be publicly available at M14-16. The rest of dataset information and model outputs will be publicly available at M24-26.

4.4.3. Why and for what period a data embargo is induced?

. It is decided that all publications will be done until month 42 of the project and then data will be published OA.

4.4.4. Data useable by third parties after the end of the project

Open Data used by third parties should be cited accordingly with the rules established by Zenodo/Argos in case of datasets and model outputs. These rules includes the name of the authors, the project, the DOI, the nature of the document and the year of publication:

AuthorSurname1, AuthorName1; AuthorSurname2, AuthorName2; …; AuthorSurnameN, AuthorNameN (year). Title_of_dataset [dataset]. Zenodo. Doi

4.4.5. Restriction of re-use of some data

There will be no restriction of use for the dataset published in open access. For the other datasources it will be assessed with the consortium partners which rules to follow at M42.

4.4.6. Data quality assurance process

Data used for NEXOGENESIS will be derived from well-known complexity science models that will be constructed during the execution. These models to be elaborated will use information coming from available open datasets as Copernicus, DIAS, CORINE, INSIPRE, UDPPlus, EUROSTAT, GEOSS, EEA, etc.

All these databases provide data with identified quality and provenance.

4.4.7. Length of time for which the data will remain re-usable

According to the objectives described in Section 3.1, the data made openly accessible will be updated continuously within 2-3 years after NEXOGENESIS ends. After this period, the data will be maintained in Zenodo without any update. In case of the digital tools, it will be available within the same period. However, the services will be suspended for public use after that period if not acquired any income to maintain it according to the final exploitation plan.

5. Allocation of resources

5.1. Costs for making data FAIR in NEXOGENESIS

The cost is estimated at 1-person month per case study to making data FAIR and maintainable. Thus, the total cost is estimated at 30.100€ including travel, other costs (7 person/months @4.300/p-m). This amount is already covered by the NEXOGENESIS project budget.

5.2. How will these be covered?

During the project life, costs are covered by the NEXOGENESIS budget. Following project closure, this cost will be covered by the pilots or new applications (impact analysis) partners.

5.3. Who will be responsible for data management in your project?

EURECAT (EUT) will be responsible for the data management.

5.4. Resources for long term preservation

Long term preservation resources are:

- **Costs**: estimated as 10% (per year per case study) of the original costs (≈3.010€) for making data FAIR.
- **Potential value**: updated for 2 years after the project's completion. After this timeframe, the value of the preserved database will be questionable. It is a matter of the Project's exploitation.
- **Who decides and how**: the NEXOGENESIS Consortium decides on the duration of the long-term preservation of the data.
- **What data will be kept**: All the data used for the NEXOGENESIS application in the case studies.
- **For how long**: The data will be preserved for 2 years after project completion. After this period, the data has no value, and unless the project is exploited with additional applications, the database will be obsolete.

6. Data security

6.1. Provisions for data security (including data recovery as well as secure storage and transfer of sensitive data)?

All provisions for data security will be established by the following data repositories and digital assets:

- Zenodo: As wide used repository, have their own data securization, backup strategies and also data accessibility and authorship.
- Web catalogue: To ensure archiving and preservation of long-tail research data during the project, a repository with a web catalogue service will be built and maintained after the project completion. The Web Catalogue Services provides the system with a smarter interface to the NEXOGENESIS repository (geo-database compliant with UDPPlus and HIS).

6.2. Is the data safely stored in certified repositories for long term preservation and curation?

According to Zenodo policies on longevity:

- **Versions**: Data files will be versioned. The uploaded data will be archived as a Submission Information Package. Derivatives of data files will be generated, but original content is never modified. Records can be retracted from public view; however, the data files and record are preserved.
- **Replicas**: All data files will be tentatively stored in CERN Data Centres, primarily Geneva, with replicas in Budapest. Data files will be kept in multiple replicas in a distributed file system, which is backed up to tape on a nightly basis.
- **Retention period**: Items will be retained for the lifetime of the repository. This is currently the lifetime of the host laboratory CERN, which currently has an experimental programme defined for the next 20 years at least.
- **Functional preservation**: Zenodo makes no promises of usability and understandability of deposited objects over time.
- **File preservation**: Data files and metadata are backed up nightly and replicated into multiple copies in the online system.
- **Fixity and authenticity**: All data files will be stored along with a MD5 checksum of the file content. Files are regularly checked against their checksums to assure that file content remains constant.

- **Succession plans**: In case of closure of the repository, best efforts will be made to integrate all content into suitable alternative institutional and/or subject based repositories.

7. Ethical aspects

7.1. General

Within NEXOGENESIS, only general ethical issues are concerned such as informed consent, anonymity and confidentiality associated with the voluntary involvement of human participants in the European Union. Types of such data collected in NEXOGENESIS are user interviews, opinions and reviews associated with project's components. Non-exhaustive list is as follows:

- Stored involvement of NEXOGENESIS self-learning assessment engine users to gain insight into the decisions and behaviours of the stakeholders and to allow further analysis for improve decision-making
- The graphical use interface - to collect information from users so that the self-learning assessment engine can learn from user decisions
- A series of interviews with stakeholders and decision makers
- Planned contacts with representative persons of targeted users. Interviews should be carried out by phone/online or face-to-face when convenient. Interviews should help define the expected functionalities/ services to be offered, test the price that could be acceptable and identify distribution channels to access these clients
- The end-users, potential developers, and partners, etc. will be provided the opportunity to test and review the latest products and services
- Methodology and procedures for sensitive data processing and storing will be specified as a part of the ethics. It is important to emphasize that special efforts will be devoted to anonymizing information and securing accessibility. Mechanisms to delete personal data will be provided in an easy and usable manner.

To strengthen further the commitment that the NEXOGENESIS partnership research approach follows good ethical practice and ensures fair and equal power relationships between researchers and participants, the consortium agrees to comply with the principles laid down in the European Code of Conduct for Research Integrity, published by the European Science Foundation. These principles include:

- honesty in communication of the research's goals and intentions, in reporting methods and procedures and in conveying interpretations.
- reliability in performing research.
- objectivity, which requires facts capable of proof, and transparency in the handling of information.
- impartiality and independence.
- openness and accessibility.
- duty of care - all researchers have a duty of care for the humans, animals, the environment, or the objects that they study.
- fairness in providing references and giving credit for the work of others.
- responsibility for the scientists and researchers of the future.
- care will be taken to minimize the potential collection of personal data, i.e. while taking photos and/or videos during events.

In this regard, NEXOGENESIS will not involve any potentially vulnerable groups or people unable to consent (children, those with a learning disability or cognitive impairment, or individuals in a dependent or unequal relationship), and it will not involve sensitive topics

which might induce psychological stress, anxiety or humiliation, deception, or any potential increased danger to participants, or the collection of personal data from participants.

Further, it will not involve the collection or processing of the following types of data:

- Research involving sensitive topics - for example participants' sexual behaviour, their illegal or political behaviour, their experience of violence, their abuse or exploitation, their mental health, or their gender or ethnic status.
- Research involving groups where permission of a gatekeeper is normally required for initial access to members - for example, ethnic or cultural groups, native peoples or indigenous communities.
- Research involving deception, or which is conducted without participants' full and informed consent at the time the study is carried out.
- Research involving access to records of personal or confidential information, including genetic or other biological information, concerning identifiable individuals.
- Research which would induce psychological stress, anxiety or humiliation or cause more than minimal pain.
- Research involving intrusive interventions - for example, the administration of drugs or other substances, vigorous physical exercise, or techniques such as hypnotherapy. Participants would not encounter such interventions, which may cause them to reveal information, which causes concern, in the course of their everyday life.
- Research involving the tracking or observation of participants (e.g. surveillance or localization data, and WAN data, such as IP address, MACs, etc.). However, ‘cookies’ will used in the website and the graphic user interface to help analyse how users behave while interact with the platform.
- A privacy statement will be put on the website regarding the use of services like Google Analytics to track how many people access the project website. A similar privacy statement will be put on the graphical user interface regarding the use of services like Google Analytics to track how many people access the game.
- Except for the privacy statements on the use of the website and of the graphical user interface none of the data collected by NEXOGENESIS will require a notification or authorization for the collection and/or processing of the personal data to authorities or other responsible entities.

In order to ensure that the NEXOGENESIS partnership’s participatory research approach follows good ethical practice and ensures fair and equal power relationships between researchers and participants, the consortium will all agreed that they will sign, make public and implement an ethics agreement, based on the European Code of Conduct for Research Integrity, published by the European Science Foundation.

7.2. Intellectual Property Rights (IPR)

Intellectual Property Rights (IPR) will receive special attention from the beginning. All rules regarding management of knowledge and IPR will be governed by the Consortium Agreement (CA). NEXOGENESIS will be initially based on DESCA (Consortium Agreement Model) H2020 model for the Consortium Agreement (CA). NEXOGENESIS will not act in contradiction with the rules laid down in Annex II of the Grant Agreement. The CA will address background and foreground knowledge, ownership, protected third party components of the products, and protection, use and dissemination of results and access rights.

The following principles will be applied:

- **Confidentiality**: During the project duration and beyond, the contractors shall treat any information, which is designated as property by the disclosing contractors, as confidential. They also shall impose the same obligations to their employees and suppliers.
- **Pre-existing know how**: Each Contractor is and remains the sole owner of its IPR over its pre-existing know-how. The Contractors will identify and list the pre-existing know-how over which they may grant access rights for the project. The Contractors agree that the access rights to the pre-existing know-how needed for carrying out their own work under the project shall be granted on a royalty-free basis.
- **Ownership and protection of knowledge**: The ownership of the knowledge developed within the project will be governed by an open source license.
- **Open data**: Data and results obtained during the project that are based on open public-sector data will be made available free of charge.

The procedures for the dissemination, protection and exploitation of intellectual property rights (IPR) will be covered in the Consortium Agreement (tentatively in Section 6: Governance Structure, Sub-section 6.2.4). The intention has been to balance the requirements necessary to protect such intellectual property and the foreseen dissemination objectives. IPR will be applied according to the rules of the employer under the applicable European and national laws and regulations.

8. Other issues

8.1. Do you make use of other national/funder/sectorial/departmental procedures for data management? If yes, which ones?

At the moment, no other procedures for data management are envisioned. If there are some changes on this, we will update the DMP accordingly.

9. Further support in developing your DMP

Regarding NEXOGENESIS project, external tools to support the definition and publication of open research data has been detailed under the Section 4.

10. Conclusions & Future Work

This section is mainly devoted to the description of the main conclusions of the elaboration of this initial version of the DMP. Furthermore, this section describes future work in relation to the DMP their implicit datasets, ethics and data security.

10.1. Conclusions

The present deliverable has been mainly focused on the elaboration of the initial version of the data management plan of NEXOGENESIS. In this regard, this document have described main strategies and methodologies for the publication open research data. Moreover, the present document has tackled the possibility of having close proprietary data and information that permits to evolve NEXOGENESIS digital tools.
Complementary to the identification of open data information, the document has been focused on the management of the information according to make it compatible and ensure the FAIR principles. Moreover, the present document also tacked the ethics and privacy aspects of the project.
As a main conclusion, the present document establishes the basis for a correct management of data across the entire project. A part of this, the project has established a methodology and guidelines to ensure data privacy an ethics. Another important aspect is the elaboration of a digital version of the DMP (in parallel to this document) just to make it compatible with the FAIR principles and share datasets across main open repositories as Zenodo, Open Aire and EOSC.

10.2. Future Work

As remarked within the document, the DMP is a live document that will be continuously updated within the project. In this regard, the future envisioned actions for the next version (M42) are:

Table 8. Future Work Actions in relation to the DMP

Future Work Actions	Description
Update of the datasets list	Update of the datasets as the evolvement of the demo-cases interaction and also, the development of the NEXOGENESIS digital platform and physical assets.
Maintenance of the virtual version of the DMP	Publication of open NEXOGENESIS datasets in the Argos platform in order to link it with Zenodo and make it available for further research.
Data privacy and Ethics	Ensure the user accessible digital assets (websites, mobile APPs, exploration tools, etc) accomplish the EU regulations in data privacy and ethics.

11. References

[1] European Comission, “Guidelines on Open access to scientific and Research Data in Horizon 2020,” Mar. 2017.
[2] European Science Foundation, “European Code of Conduct for Research Integrity,” 2017.
[3] European Science Foundation, “RepoCode Of Conduct for Research Activities,” 2011.

12. Appendix I. DATA SOURCE DEFINITION TEMPLATE

Table 9 Data Source definition template

DATA SOURCE DEFINITION TEMPLATE	
Data set category	
Data set description	
What is the purpose of data collection/generation? "Data utility": to whom this dataset will be useful?	
Data set reference and name	
Who (partner name) / When (which task and when the data will be available)	
Format (including related standards and metadata). For example, you can check whether any standards listed in the Metadata Standards Directory of Research Data Alliance makes sense for your data (http://rd-alliance.github.io/metadata-directory/)	
In case metadata standards do not exist in your discipline, please outline what type of metadata will be created and how	
Data sharing plan (license) If open, please describe how it will be made available (e.g., submission to a repository?)	
Relation to project Objective(s) - for which objective is this dataset relevant and why?	
Pre-existing dataset or new? (if pre-existing please provide a reference)	
Size / expected size (use a measurement unit that makes sense for	

the dataset)	

13. Appendix II. TRANSFER OF MATERIALS AND DATA

The Supplier (as defined below) agrees to the transfer of or access to the Material and/or Data (described below) to the Recipient (as defined below) for the conducting of the Project in accordance with the terms and conditions of the Consortium Agreement No. …….. signed between XXXX, XXXX and XXXX on …/…/……

Materials	Designation: …… Quantities: ……
Data	Designation: …… Form: ……
Party supplying or giving access to the Material and/or Data (the "Supplier") Name and address of the laboratory supplying or giving access to the Material and/or Data	…… ……
Contact details of the scientist supplying or giving access to the Material and/or Data	Name: …….. Email: …… Tel: …….. Fax: ……
Recipient party for the Material and/or Data (the "Recipient") Delivery address for the Material and/or Data	…… Address …….. …….. Name of recipient …… Email: …… Tel: …….. Fax: ……

Signed in [-](-) original counterparts drafted in the English language, with one (1) for the Supplier and the other(s) for the Recipient

Witnessed, the Scientific Manager of the Laboratory ……	Witnessed, the Scientific Manager of XXXX ……

14. Appendix III. WEBSITE PRIVACY POLICY

14.1. Legal Warning

In compliance with Law 34/2002 of 11 July on Information Society and Electronic Commerce Services, the User is informed that the owner of the website [URL*] WATER EUROPE whose identification information is as follows:
Registered office: Water Europe AISBL. Boulevard A. Reyers 80
Post code: 1030
Town/City: Brussels
Region: Brussels
VAT: BE 0893.349.907
E-mail: info@watereurope.eu
Website hosting provider: *

(*) To be defined within next iterations

14.2. ACCESS TO THE WEBSITE

This legal notice regulates the access and use of the website by Users and aims to inform about the services and products of the entity and allow general access for all Internet users. Any person who accesses or uses the Website is considered a User and accepts, without reservations of any kind, each and every one of these general conditions, as well as of other special conditions that, if applicable, govern the use of the Portal or the services linked to it. The User must carefully read the Legal Notice and the Privacy and Cookies Policies when they intend to use the Website, since WATER EUROPE reserves the right to make, at any time and without prior notice, any modification or update of the contents and services, of the present provisions for access and use and, in general, of all the elements that comprise the design and configuration of its Website. If you do not accept the conditions of access and use, please refrain from using the Website and its content.

14.3. USE OF THE WEBSITE

The User undertakes to make diligent use of the Website, as well as the information relating to its services and/or activities, in full compliance with the applicable regulations, ethics and generally accepted good practices and law and order, the conditions of access and use and any other conditions established on the Website.
In addition, the user agrees to refrain from using any of the content for illegal purposes or effects, prohibited in this document, which may be harmful to the rights and interests of third parties, or that in any way may damage, disable, overload, deteriorate or prevent the normal use of the content (hardware and software) of other Users or of any Internet user in general.

14.4. OPERATION OF THE WEBSITE

In the event of non-compliance with the conditions of the Legal Notice, or the Privacy and Cookies Policies, WATER EUROPE reserves the right to limit, suspend and/or exclude access to its website, adopting any technical measure necessary in this respect. WATER EUROPE will do everything possible to keep the website in good working order, preventing faults, or repairing them and keeping the contents up to date. However, WATER EUROPE

does not guarantee the availability and continuity of access to the Website or the absence of errors in the content.

14.5. LIABILITY

The User is solely liable for the use that they may make of any information or mechanism of the Website.
WATER EUROPE will not be liable for any damage to the hardware and/or software of the User that may arise from access and use of the Website. Likewise, it will be not liable for damages or losses that may be caused by accessing and/or using the information on the Website, and specifically those that may occur in computer systems or those caused by computer viruses/attacks, crashes, interruptions, absence or defects in connectivity and/or the Internet.
The User will be liable for the damages and/or losses that WATER EUROPE may suffer as a result of the breach of any of the obligations to which they are subject to through this Legal Notice, applicable regulations and the Privacy and Cookies Policies.

14.6. POLICY ON LINKS

14.6.1. Web linking:

Third parties who intend to include a link on this website must comply with current legislation and may not host content that is inappropriate, illegal, pornographic, violent, etc.
WATER EUROPE will in no case be liable for the content of that Website, nor promote, guarantee, supervise or recommend the content therein.
If the linking Website fails to comply with any of the above aspects, it will be obliged to delete the link immediately.

14.6.2. Linking website:

This Website may include links to third-party websites that allow the User to access them. Nonetheless, WATER EUROPE is not liable for the content of these linked websites, but rather the User will be responsible for accepting and verifying access each time they connect.
These links or mentions have a use that does not imply the support, approval, commercialization or any relationship of this website and the persons or entities that own the site where they are located.

14.6.3. INTELLECTUAL AND INDUSTRIAL PROPERTY RIGHTS OF THE CONTENT

WATER EUROPE, or its licensors, are holders of all intellectual property rights over the Contents of the Website, understood as all the designs, databases, underlying computer programs (source code, included), as well as the different elements that make up the Website (texts, graphics, photographs, videos, colours, etc.), structure, layout, etc. The

trademarks and trade names ("distinctive signs") are owned by WATER EUROPE or the licensors.
The use of the Website by the User does not imply the transfer of any intellectual or industrial property rights. The User is totally prohibited from reproducing, copying, distributing, making available or publicly communicating, transforming or modifying the Contents or Distinctive Signs in any way, unless the authorization of the owner of the corresponding rights is granted or it is legally permitted.

14.6.4. APPLICABLE LEGISLATION

The Legal Notice will be governed and interpreted in accordance with Spanish legislation. Any conflict that may arise from accessing the website will be submitted to the relevant courts or tribunals for resolution in accordance with consumer and user regulations.

14.6.5. CONTACT

For any questions or comments on this Legal Notice you can contact us at dmp-nexogenesis@eurecat.org

15. Appendix IV. WEBSITE COOKIES POLICY

15.1. COOKIES

Cookies are small files that are downloaded to your computer when you visit a website to improve your experience. Almost all browsers support Cookies; however, you are able to set your preferences (decline or delete them) whenever you like. For more general information on cookies see the ICO's cookie page[9].

15.2. HOW DO WE USE COOKIES?

We use cookies in order to manage functionality on our website and to have insights on how to improve our services for our users. When a cookie is not necessary, we give you the option to opt-out of it and disable it.

15.3. WHAT TYPE OF COOKIES DOES THE WEBSITE USE?

[9] https://ico.org.uk/for-organisations/guide-to-pecr/cookies-and-similar-technologies/

We use two main types of cookies:

- Necessary cookies, which are essential for the operation of the website by enabling basic functions like page navigation and access to secure areas of the website.
- Statistic cookies, which allow us to see the number of visitors and they move around our website when they are using it. This helps us to improve the way our website works, for example, by ensuring that users are finding what they are looking for easily. The analytics solution we have opted for preserves our visitor's privacy by e.g. anonymising IP addresses. The information collected by these cookies is aggregated and therefore anonymous.

15.4. HOW TO MANAGE COOKIES?

Most web browsers allow some control of most cookies through the browser settings. To find out more about cookies, including how to see what cookies have been set,
visit www.aboutcookies.org or www.allaboutcookies.org
By following the links below you can find out how to manage your Cookies preferences on popular browsers:

- Google Chrome
- Microsoft Edge
- Mozilla Firefox
- Microsoft Internet Explorer
- Opera
- Apple Safari

15.5. THIRD PARTY COOKIES

Third-party cookies are only generated with your agreement. We use third-party cookies to provide enhanced site functionality.
This site uses Google Analytics which is one of the most widespread and trusted analytics solutions on the web for helping us to understand how you use the site and ways that we can improve your experience. These cookies may track things such as how long you spend on the site and the pages that you visit so we can continue to produce engaging content. For more information on Google Analytics cookies, see the official Google Analytics page.

16. Appendix V. PRIVACY POLICY

16.1. WHO IS THE DATA CONTROLLER FOR YOUR PERSONAL DATA?

Data controller: FUNDACIÓ EURECAT (“EURECAT”)
Tax ID number: G66210345
Address: Parc Tecnològic del Vallès. Avinguda Universitat Autònoma, 23 08290 Cerdanyola del Vallès
Email address: legal@eurecat.org
Telephone: +34 93 238 14 00
Data protection delegate contact: dpo@eurecat.org

16.2. FOR WHAT PURPOSE WILL BE PROCESSED YOUR PERSONAL DATA?

Your personal data received through the contact form will be processed for the purpose of managing your query or request. However, the data collected as the result of the cookies installation, will be used for collecting statistical information on the browsing of users and improve the website based on their browsing habits. You may consult further information about the cookies purposes and its data treatment at the Cookies Policy.

On our website, there may be several forms that collects your personal data for specific purposes. In those cases, you will be previously informed about the specific data treatment information to each case, and your specific consent shall be sought.

16.3. IS IT MANDATORY TO PROVIDE ALL THE INFORMAITON REQUESTED IN THE FORMS ON THE WEBSITE?

The user must complete the fields marked as “required”. Failure to complete the required personal information or to partially do so may mean that Fundació Eurecat cannot meet your requests and, consequently, Fundació Eurecat will be exempt from any liability for the non-provision or incomplete provision of the requested services.

The personal data provided by the User to Fundació Eurecat must be up to date so that the information in our records is current and without errors. The user will be liable for the veracity of the data provided.

16.4. HOW LONG WILL YOUR PERSONAL DATA BE RETAINED FOR?

The personal data obtained, will be kept for the duration of the purposes for which it was collected for and its erasure is not requested, and consent is not revoked. The personal data, also, will be kept, in any case, during the legal term applicable.

16.5. WHAT IS THE LAWFUL BASIS FOR US TO PROCESS YOUR PERSONAL DATA?

The lawful basis for the processing of your data is the consent provided through acceptance of the data processing clause.

16.6. WHAT RECIPIENTS WILL YOUR DATA BE SHARED WITH?

The Personal data received through the forms of the website may be shared with members of the project for the exclusive purpose of managing your query or request and be able to send you the latest news about the project through periodic newsletters. You may consult the list of members here.

The personal data may be shared to third-parties whose develop services to the Data Controller, those ones who has access to the personal data will not treat the personal data fort their own or different purposes and they will not sold or rent them.

The personal data will not be passed on to any other third-parties, unless there is a legal obligation to do so.

16.7. WHAT ARE YOUR RIGHTS REGARDING YOUR PERSONAL DATA?

The user may exercise their right to access their personal data, to request the rectification of inaccurate data and, where applicable, to request the data to be erased if it is no longer necessary for the purposes for which it was collected. The user may also exercise their right to data portability and to the restriction of or opposition to the processing of their data, in certain circumstances and for reasons related to their specific situation.

The user also has the right to revoke their consent at any time, without any retroactive effect on the processing of their personal data carried out until that point.

The user may exercise the aforementioned rights, under the terms provided for in current legislation, at the registered office of Fundació Eurecat or request to do so by sending an email to legal@eurecat.org.

Should the user not receive a satisfactory response, and should they wish to make a complaint or obtain more information on any of these rights, they may contact the Spanish Data Protection Agency (www.agpd.es - C/ Jorge Juan, 6, Madrid).

16.8. AUTOMATED DECISIONS

The personal data shall not be submitted to automated decisions.
The personal data may be processed to create profiles according to the cookies that has been consented to installed by the user.

16.9. INTERNATIONAL DATA TRANSFERS

The personal data shall not be summited to international transfers out of the European Union. However, the Data Controller may have several suppliers that develop services out of the UE, in those cases, Fundació Eurecat shall assure that the personal data shall be treat with the legal requirements through agreement that may include standard contractual clauses or privacy certification.

16.10. WHAT SECURITY MEASURES HAS THE INSTITUTION IMPLEMENTED?

Fundació Eurecat declares that it has implemented the necessary technical and organisational security measures that guarantee the security of the User's personal data and avoid its alteration, loss, processing and/or unauthorised access considering the state of technology, the nature of the stored data and the risks to which it is exposed, whether from human action or from the physical or natural environment, in accordance with the provisions of current regulations.

16.11. SOCIAL MEDIA

NEXOGENESIS, a project coordinated by STICHTING IHE DELFT INSTITUTE FOR WATER EDUCATION (IHE) has a profile on Twitter and LinkedIN for publishing and disseminating information about the services provided through the website, interacting with users and acting as a customer service and social interaction channel.

The following are links to the privacy policies of the social networks on which NEXOGENESIS has an active profile:

Twitter: https://twitter.com/en/privacy

17. Appendix VI. PRIVACY INFORMATION CONTACT FORM

Pursuant to Regulation (EU) 2016/679, of 27 April 2016, on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and the relevant State regulations, FUNDACIÓ EURECAT, the controller, hereby provides the following basic information regarding data protection:

17.1. Controller:

FUNDACIÓ EURECAT
G66210345
Av. Universitat Autònoma, 23 – 08290 Cerdanyola del Vallès (Barcelona), Spain
legal@eurecat.org
Details of the data protection officer: dpo@eurecat.org

- **Purpose of the processing of your personal data**: Managing your request or queries
- **Legal Basis**: The basis for the processing is the specific consent granted by the data subject for this activity.
- **Recipients**: The data will be disclosed to the partners involved in the NEXOGENESIS project; you may consult them at: IHE website, "Partners" section
- **Rights**: You may access, rectify or erase the data and exercise your right to restriction of the processing and portability of the data by contacting the controller at its address or the email address legal@eurecat.org.
- **Storage**: The data will be stored for the term required to render the data treatment purpose

FUNDACIÓN EURECAT hereby informs you that it meets all the requirements stipulated by the data protection regulations and has in place all the technical and organisational measures to ensure the security of personal data. Moreover, in the event of any breach by the controller in the processing of your personal data, you are entitled to file a claim with the Spanish Data Protection Agency.