

AWARE

ENABLING EWS GALILEO MARKET UPTAKE IN WIDESPREAD PWS

D1.06 DATA MANAGEMENT PLAN



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WP1 – Project management and coordination

D1.06 – Data Management Plan

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*PU = Public — fully open (automatically posted online), SEN = Sensitive — limited under the conditions of the Grant Agreement,
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CHANGE RECORD

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LIST OF ABBREVIATIONS

AD: Applicable Document	IVV: Integration Verification Validation
CAP: Common Alerting Protocol	KOM: Kick-Off Meeting
CDR: Critical Design Review	OS: Open Service
CNES: Centre National d'Etudes Spatiales	PDR: Preliminary Design Review
DMP: Data Management Plan	PMP: Project Management Plan
EC: European Commission	PWS: Public Warning System
EENA: European Emergency Number Association	Q&A: Question & Answer
EFAS: European Flood Awareness System	RD: Reference Document
ESA: European Space Agency	REGINA: REseau GNSS pour l'IGS et la Navigation
ETSI: European Telecommunications Standards Institute	SAR: Search And Rescue
EU: European Union	SBAS: Space Based Augmentation System
EUSPA: European Space Programme Agency	SDD: Service Definition Document
EWM: EWS Message	SIS: Signal-in-Space
EWSS: Emergency Warning Satellite Service	STELLAR: demonSTRations of thE upcoming gaLiLeo emergency wArning seRvice
FAIR: Findable, Accessible, Interoperable, Reusable	SW: Software
FR: Final Review	TPZF: Telespazio France
GDPR: General Data Protection Regulation	UC: Use Case
GNSS: Global Navigation Satellite System	URSZR: Administration of the Republic of Slovenia for Civil Protection and Disaster Relief
GSC: GNSS Service Centre	WP: Work Package
HW: Hardware	WPL: Work Package Leader
ICD: Interface Control Document	

1 INTRODUCTION

1.1 SCOPE OF THE DOCUMENT

This Data Management Plan describes the data management processes that shall be applied in the frame of the AWARE project.

The document identifies the data collected and generated, how it will be exploited, made accessible for verification and re-use, and how it will be archived.

According to the Guidelines and Data Management in Horizon Europe recommendations, a comprehensive view of the data life cycle should be provided with appropriate definitions of terms being used and assumptions under which the plan has been devised, with a description of stakeholders groups. In this context, the present DMP provides information on the data sources in use and alternative data sources that may be used during the project. The list of data and data sources will be revised during the project lifetime. Other possible updates will be reflected in the iterated process for data provision.

The present DMP also specifies a generic policy and methodology for associating data sources being used and datasets devised with metadata, together with a specific initial policy for version control. The specific aspects related to data integration for every dataset iteration - addressing the temporal and geographical coherence of each dataset - will be described in the document linked to every dataset iteration. Additionally, this DMP provides information on data sharing, considering partner's limitations, IPR, legal issues, and licensing.

Finally, the DMP concludes with issues concerning security and privacy of the data.

It is noted that the scope of this document is limited to the data that will be used within the project, and therefore not to potential data that may be collected after the project when AWARE product will enter into operation (*e.g.* data collected by the AWARE Service Centre).

1.2 APPLICABLE DOCUMENTS

AD	Document title & reference
AD1	Consortium Agreement: AWARE-D1.01-CA-v1.0.pdf
AD2	Grant Agreement: AWARE-D1.02-GA-v1.0.pdf
AD3	Grant Agreement Amendment A: AWARE-D1.02a-GAAa-v1.0.pdf
AD4	Grant Agreement Amendment B: AWARE-D1.02b-GAAb-v1.0.pdf
AD5	Project Management Plan: AWARE-D1.03-PMP-v1.1.pdf
AD6	Initial AWARE C&D Plan - AWARE-D6.01-Initial C&D Plan-v1.1.pdf

Table 1 – Applicable documents

1.3 REFERENCE DOCUMENTS

RD	Document title & reference
RD1	H2020 Programme – Guidelines on FAIR Data Management in Horizon 2020
RD2	Regulation (EU) 2016/679 - General Data Protection Regulation. General Data Protection Regulation (GDPR) Compliance Guidelines
RD3	The FAIR Guiding Principles for scientific data management and stewardship Scientific Data (nature.com)
RD4	NIS Directive IT Governance Ireland
RD5	HOME European GNSS Service Centre (GSC) (gsc-europa.eu)

Table 2 – Reference documents

2 DATA SUMMARY

2.1 DATA COLLECTION AND DATA GENERATION

2.1.1 Data collection

AWARE project will not require the collection of extensive amounts of data. Indeed, only 2 types of data sets are identified, and each of them are rather small in term of volume. Therefore, the handling of these data can be human-made and does not require specific data analyst tools.

2.1.1.1 Scientific data

Copernicus EMS and Galileo EWSS

In the objective to define mechanisms and procedures to combine the use of Copernicus EMS and Galileo EWSS, we might be led to use data from European Flood Awareness System of Copernicus EMS to define and generate EWS messages, or on the other hand, we might be led to use data from Galileo EWS to trigger a Copernicus EMS Rapid Mapping.

Monitoring of the AWARE Service

The dissemination of AWARE EWM receivers across Europe will require a centralised Service Center to monitor the good functioning of the deployed PWD. This Service Center will collect data from each module, such as the acknowledgement of EWM reception and the Level of Confidence (trustworthiness) associated to it.

GSC data

AWARE service centre will collect data from the GNSS Service Centre (GSC) that are necessary for the operations of AWARE modules, such as:

- Galileo EWSS libraries which will be used to interpret the EWM binary chain broadcasted by Galileo satellites;
- OSNMA Merkle Tree product which will be used by AWARE modules for Open Service Navigation Message Authentication.

These data are publicly available from the GSC website [RD5].

2.1.1.2 Marketing/Commercial data

Stakeholders consultation

In the purpose of developing the most pertinent solution for AWARE system, we aim to consult targeted stakeholders as defined in AD6 - Initial AWARE Communication & Dissemination Plan.

Online survey

Data Management Plan

In complement to 1-to-1 discussions with the specifically targeted stakeholders, we also plan to propose a more widely accessible online survey to collect information on the interest brought by AWARE products to relevant stakeholders.

Dissemination monitoring

More broadly, we are consolidating data on the level of dissemination reached by AWARE project, such as the number of views on social media, visits of our website, leads addressed during conferences.

Business plan

Aiming at building the most pertinent and accurate business plan, we will collect relevant data from the market.

2.1.2 Data generation

Datasets will be generated during the project, from 2 sources:

- consolidation of existing raw data to produce added value datasets (*e.g.*: business plan);
- creation of new technical datasets (*e.g.*: design of AWARE solution).

Generated data will be of several types:

- Project documents
 - Contractual documents
 - Project monitoring and reporting documents
- Technical documents
 - Solution specifications
 - Solution design
 - Tests and Integration results
- Dissemination and Communication data
 - User and stakeholders' interaction information
 - Dissemination and promotion material
- Business data
 - Market study and business plans
 - Commercial agreements and related contracts

2.2 DATA DESCRIPTION

The tables below answer the following questions for each type of data the project will generate/collect:

- Will you re-use any existing data and how?
- What is the origin of the data?
- What are the expected formats of the data?
- What is the expected size of the data?
- To whom might it be useful ('data utility')?

2.2.1 Projects documents

Data type	Contractual documents, monitoring and reporting documents
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Data Management Plan

Description	Documents authored by AWARE partners, mainly project coordinators, to set the frame of the project, monitor its achievements and report to EUSPA (<i>e.g.</i> , Grant Agreement, Project Management Plan, Quarterly Reports, ...)
Purpose	Set contractual frame between partners, monitor project progress and report to EUSPA
Origins/re-use	AWARE generated data
Formats	.docx, .xlsx, .pptx, .pdf
Size	Typically <100 MB
Utility	AWARE partners, EUSPA/EC

2.2.2 Solution specifications

Data type	System and sub-systems requirements specifications
Description	Project drivers, User Requirements Document, Technical Requirements Document, Advanced Concepts
Purpose	This set of documents aims at specifying the requirements of AWARE system and sub-systems. It defines what missions the system shall ensure and how. It is an input to the design of the solution
Origins/re-use	AWARE generated data + data collected from state-of-the-art guidelines (<i>e.g.</i> NIS2) or CFI specifications (<i>e.g.</i> EWSS System definition document)
Formats	.docx, .xlsx, .pptx, .pdf, .csv
Size	Typically <1 GB
Utility	AWARE partners, EUSPA/EC, potential customers

2.2.3 Solution Design

Data type	System and sub-systems design
Description	System Design Document, Sub-System Design Documents, Interface Configuration Documents
Purpose	These documents describe the design of the system, of each sub-systems as well as the interfaces between them. The purpose is to provide as many details as possible to the developers on what the final system should be, how it should work and behave. These documents are regularly updated.
Origins/re-use	AWARE generated data
Formats	.docx, .xlsx, .pptx, .pdf, .csv
Size	Typically <1 GB
Utility	AWARE partners, EUSPA/EC, potential customers

2.2.4 Tests and Integration results

Data type	Tests material and reports from each sub-systems as well as system level integration results
Description	Data generated from the components, sub-systems and system tests during the development and IVV phases, up to the end-to-end tests
Purpose	These tests data and reports allows to understand how the developed system and each of its sub-systems and components actually behave, and support potential evolutions and anomalies correction.
Origins/re-use	AWARE generated data
Formats	.docx, .xlsx, .pptx, .pdf, .csv

Data Management Plan

Size	Up to several GB depending on the tests types
Utility	AWARE development and IVV teams

2.2.5 User and stakeholders' interaction information

Data type	Stakeholders consultation information (discussions, meetings, conferences, surveys, ...)
Description	Data collection and subsequent treatment of information gathered from the stakeholders
Purpose	Better understanding of the market, stakeholders interests, potential customers, potential commercial partners, potential future partners for evolutions of the system
Origins/re-use	Raw data collected + AWARE generated analysis
Formats	.docx, .xlsx, .pptx, .pdf
Size	Typically <100 MB
Utility	AWARE partners, EUSPA/EC, potential customers

2.2.6 Dissemination and promotion material

Data type	Material generated for dissemination and promotion of AWARE
Description	Different type of material generated to disseminate knowledge of the project and its ecosystem as well as material allowing the promotion of AWARE project, AWARE products
Purpose	Accompanying EWSS market uptake in widespread PWS through AWARE promotion
Origins/re-use	AWARE generated data
Formats	Social media posts, website, leaflets, posters, .pptx, .pdf
Size	n/a for physical and online material / <10 GB for files
Utility	AWARE partners, EUSPA/EC, potential customers

2.2.7 Market study and business plans

Data type	Market and AWARE business analyses and report (business plan)
Description	Added value data generated from analysing existing publicly available raw data, or private (sometime confidential) data obtain through stakeholders consultation.
Purpose	Aiming at building the most pertinent and accurate business plan, we will collect relevant data from the market
Origins/re-use	AWARE generated data + data collected
Formats	.docx, .xlsx, .pptx, .pdf, .csv
Size	Typically <100 MB
Utility	AWARE partners, EUSPA/EC

2.2.8 Commercial agreements and related contracts

Data type	Commercial agreements and contracts between industrial partners of AWARE
Description	Documents that will organise the collaboration of industrial partners for the commercialisation of AWARE solution at the end of the project

AWARE
Enabling EWS Galileo market uptake in widespread PWS solutions

Reference: AWARE-DMP
Version: 1.0
Date: 28/08/2024
Page: 12/19

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Purpose	Contractual
Origins/re-use	AWARE generated data
Formats	.docx, .pptx, .pdf
Size	Typically <100 MB
Utility	AWARE partners, EUSPA/EC

3 FAIR DATA

3.1 MAKING DATA FINDABLE

This section explains how AWARE project intends to make data as easily findable as possible, following 3 main pillars: document management system, templates and metadata.

3.1.1 AWARE document management system

In order to coordinate every partner's work and enhance data accessibility, we decided to implement a document management system based on Atlassian software Confluence. It is used for document management and storage as well as online creation and editing. It includes all administrative information, document templates, planning and documentation of project meetings, action point related information and documents in progress, grouped by work packages.

Confluence Software is accessible online without the need of local installation, through licenses provided by Telespazio. Access is granted via each user email addresses and chosen password.

AWARE Confluence platform is structured as shown in the figure below, applying a hierarchical approach based on workpackages.

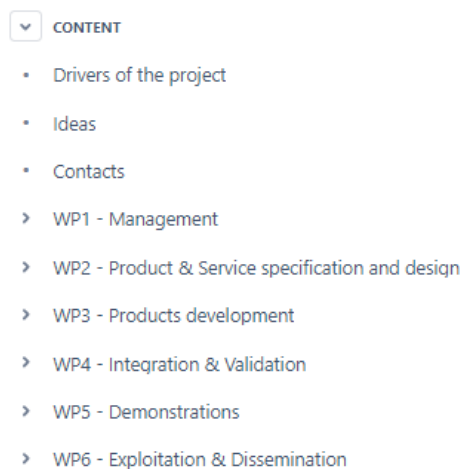


Figure 1 – AWARE Confluence structure

Every deliverables produced in the frame of the project, main sources of data, are stored within this platform using a folder like organization with Confluence Pages:

Data Management Plan

- ▼ WP1 - Management
 - ▶ Minutes of Meetings
- ▼ Documentation
 - ▼ Deliverables to EUSPA
 - ▼ WP1 Deliverables
 - D1.01 - Consortium Agreement
 - D1.02 - Grant Agreement
 - D1.03 - Project Management Plan
 - D1.07 to D1.14 - Quarterly Reports
 - ▶ WP2 Deliverables
 - WP3 Deliverables
 - ▶ WP4 Deliverables
 - WP5 Deliverables
 - ▶ WP6 Deliverables
 - Deliverables and technical documents references
 - Applicable documentation
 - Reference documentation

Figure 2 – Deliverables archiving in Confluence

3.1.2 Templates and versioning

A .docx template has been created and is used for each deliverable and project documents. It is managed in configuration and accessible from Confluence. The template includes mandatory parts that ensure to provide all the necessary information for the document to be easily stored, identifiable and findable.

3.1.2.1 Cover Page

A cover page summarises all pertinent information to identify the document:

- Grant Agreement No;
- Project acronym;
- Project title;
- GA delivery date;
- Deliverable No;
- Submission date;
- Version;

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- Author;
- Lead institution;
- Partners contributing;
- Dissemination Level (PU, SEN, EUCL)
 - There are three different dissemination levels:
 - Public (PU) deliverables, which are publicly available,
 - Sensitive (SEN) deliverables, which are available only for the members of the AWARE consortium and the granting authority. Limited access is granted under the conditions of Grant Agreement [AD4]
 - EU Classified (EUCL) for documents that are EU-RESTRICTED, EU-CONFIDENTIAL or EU-SECRET Under Decision 2015/444. None are expected in the scope of AWARE.
 - The dissemination levels of all AWARE deliverables have been defined in the Grant Agreement and information regarding the respective dissemination level must be marked in each deliverable.

3.1.2.2 Change Record

We follow classic rules for managing the configuration of the documents and storing fixed versions:

- v0.1 is the first draft used for internal reviews;
- v0.x are the different draft versions before first release;
- v1.0 is the first official release of the document;
- v1.x are internal or official versions of the document with minor modifications to the v1.0. It generally does not need a full reviewing process;
- vy.0 are the subsequent official releases of the document;
- vy.z are internal or official versions of the document with minor modifications to the vy.0. They generally do not need a full reviewing process.

A change record is kept up to date in the first page of the document, in the form of a table summarising the issue number, its date, the main modifications made since last issue and the lead authors.

This information is crucial in finding data at relevant maturity level.

3.1.2.3 Table of Contents

A table of contents summarising every chapter of the document up to the third level at least is present the beginning of each document/dataset to allow one to easily find pertinent data.

It is accompanied by lists of figures, tables and annexes when relevant, pursuing the same goal.

3.1.2.4 Abbreviations

An up-to-date list of the abbreviations used in the document is also present at the beginning of each deliverable, to allow the correct understanding of specific terms that may be abbreviated in the document.

3.1.2.5 Applicable and Reference Documents

Tables for Applicable Documents (AD) and Reference Documents (RD) are available at the beginning of each document, this allows to identify the sources of data used within the deliverable (RD) as well as the frame in which they are collected (AD).

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3.1.2.6 Introduction, executive summary

The first chapters of each document can have different titles (introduction, executive summary, overview, scope of the document) but they all contain the same information: a description of what the document is about, how it is organised and what it is made for.

This allows to put the data available in the right context, reducing the probability of misinterpretations and therefore misuse of the data.

3.1.2.7 Naming convention

All document titles within AWARE project are designed to be meaningful and unique. The naming convention defined in the Project Management Plan [AD5] applies:

AWARE-D<N.MMx>-<shortname>-v<x.y>.<ext>

where:

- <N.MMx> is the deliverable number
- <shortname> is the document short name as defined in section 4.2;
- <x.y> is the document version number;
- <ext> is the extension of the electronic document (e.g. doc, pdf, xls, ppt, ...).

For the project review documentation (Agenda, MoM, Slides, DRS, ...) the naming scheme is

AWARE-<review>-<shortname>-v<x.y>.<ext>

where:

- <review> is the shortname of the review as defined in section 4.3
- <shortname> is the document short name among "Agenda", "MoM", "Slides", "DRS", ...;
- <x.y> is the document version number;
- <ext> is the extension of the electronic document (e.g. doc, pdf, xls, ppt, ...).

Examples:

- The Project Management Plan in version 1.0 and PDF format is named: AWARE-D1.03-PMP-v1.0.pdf
- The Slides of the Kick-Off Meeting in version 1.0 and PDF format is named: AWARE-KOM-Slides-v1.0.pdf

3.1.3 Metadata

All the information detailed in §3.1.2 constitutes the metadata of the document.

Metadata describes the content, context, and provenance of the data. A persistent identifier will be assigned to each dataset, so that PU deliverables can be found and accessed more easily by both humans and machines, enabling researchers, professionals and interested people to locate the data they need quickly and efficiently.

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3.2 MAKING DATA OPENLY ACCESSIBLE

Some of the data planned in the lifespan of AWARE project will not be openly accessible (SEN dissemination level):

- Partners proprietary assets/knowledge: Since AWARE project has a strong market uptake aim, the partners need to preserve the advantage given by their assets (source codes, architectures, ...);
- Publicly available data: Some of the data collected in the frame of the project are publicly and freely accessible from the original sources; in this case AWARE project will not duplicate their accessibility;
- Data shared under NDA: AWARE can be led to collaborate with third parties (Alerting Authorities, Standardisation Bodies, Copernicus authorities, business stakeholders...) and these exchanges can include data only available through a specific agreement between the AWARE project and third parties (*e.g.* Non-Disclosure Agreement); in this case, obviously, data will not be made accessible.

However, anytime it is possible, all the other data will be made openly accessible:

- from AWARE website: [AWARE EU PROJECT \(euproject-aware.eu\)](http://euproject-aware.eu),
- from EUSPA platform: [enAbling EWS/GAlileo maRket uptake in widEspread PWS solutions | AWARE | Project | Fact sheet | HORIZON | CORDIS | European Commission \(europa.eu\)](#)
- upon request by the interested party by filling in a data request form on the AWARE website.

The data request form will be added to the website by the end of the project, and will request the following information:

- Name/Institution of the requesting party;
- Contact information;
- Requested data type;
- Time period of interest (from date – to date).

Commented [CF1]: EENA OK ?

3.3 MAKING DATA INTEROPERABLE

AWARE project will not use any specific data analyst tool, data will be human made using very standard tools such as Microsoft Office suite, facilitating the compatibility with available open applications. In this respect, AWARE data will be interoperable, and every data set can be readily used by internal or external parties.

3.4 INCREASE DATA RE-USE

Every openly accessible data set will be readily re-useable by third parties, as defined in §3.2 and §3.3.

Adequate metadata usage enabled by the template and naming convention described in §3.1 renders data findable, which is a key point towards re-usability.

4 OTHER ASPECTS

4.1 ALLOCATION OF RESOURCES

The management of data in AWARE project is carried out through the provisioning of relevant tools and systems, as described in section 3.1. These systems (such as Confluence) provide the required level of fairness towards data sharing, security and privacy. During the AWARE project, the data management systems are provided by the project partners as part of their commitment towards the project.

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

The management of data is the responsibility of data owners who decide which data to share, with whom, for what purpose and under what conditions. The provisioning of data for research purposes is ensured by putting in place the relevant procedures (based on Horizon guidelines [RD1]) and by using open-access repositories. This data will be limited to the purpose of the research, development as well as testing and demonstration activities conducted within the scope of the project. If processing activities of the personal data is needed, an explicit confirmation will be put in place to make explicit that the beneficiary has lawful basis for the data processing and that the appropriate technical and organisational measures are in place to safeguard the rights of the data subjects.

4.2 DATA SECURITY AND PRIVACY

The AWARE project recognises that the data collected, processed, and shared during the project's duration may contain sensitive and confidential information. To ensure that this data is protected, the team has implemented a range of measures, including the use of a state-of-the-art system to store the data (Confluence) and access control.

Although most of the datasets do not contain strictly personal information, the AWARE project is also committed to complying with all relevant data protection regulations and guidelines, such as GDPR [RD2] and NIS2 [RD4], to ensure that the privacy and confidentiality of the individuals involved in the project are respected. This holds especially for the data collected from users' consultation that have been conducted to gather information on how the project's ambitions, activities and results are perceived by external stakeholders.

4.3 ETHICAL ASPECTS

AWARE project does not expose, use or analyse personal sensitive data for any purpose. In this respect, no ethical issues related to personal sensitive data are raised by the technologies to be developed within the scope of the project.

Furthermore, the AWARE consortium considers during the project lifetime the ethical rules and standards of the Horizon programme, and those reflected in the Charter of Fundamental Rights of the European Union. Ethical, social and data protection considerations are crucial and are given all due attention.

END OF DOCUMENT