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Emerging technologies for the Early location of Entrapped victims under Collapsed Structures & Advanced Wearables for risk assessment and First Responders Safety in SAR operations

D10.2 Data Management Plan, 1st version

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Executive Summary

This deliverable presents the initial version of the Data Management Plan, which is directly connected with the work performed under tasks T10.1 – "Project coordination and management" and T10.2 - "T10.2 – Scientific & Technical MGT", in the context of WP10 – "Project Coordination and Quality Assurance". It serves as the initial plan for the collection, organisation, storing and sharing of the knowledge and data created within the project. The described data management plan is formulated based on several inputs, namely: a) the SnR Description of Action (DOA) document, b) the European Commission guidelines for data management of H2020 research projects and c) the input from the project consortium members.

The document contains the appropriate methodologies, tools and repositories for data management and dissemination of all available information generated by the SnR project. Such information includes, but is not limited to, scientific publications issued by the project's consortium members, Open-Source software components along with the generated source code, simulation datasets, anonymous user statistics, project deliverables, etc.

Most of this information will be openly accessed and will be compliant to EC's Horizon 2020 guidelines and regulations regarding Open Research Data. For this reason, a descriptive template has been formulated, based on the FAIR principles, which should be followed by all datasets during their lifetime and should be updated if there is need.

The publishing repositories should be publicly accessible and offer a secure and reliable environment for data storage. Moreover, they should be as popular as possible on their respective field in order to fulfil the project dissemination purposes.

Finally, it is important to underline that the current deliverable will be a living document which will be continuously adapted depending on the needs of the project research and development objectives, and based on the direct input from members of the consortium and actual system users.

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1 Introduction

1.1 Purpose and Scope

The Search and Rescue project aims to design, implement and test, through a series of large-scale pilot scenarios, a highly interoperable, modular open architecture platform for first responders. The governance model of Search and Rescue will be designed to operate more effectively and its architectural structure will allow to easily incorporate next generation R&D and COTS solutions which will be possibly adopted in the future disaster management systems. The Model will also support a unified vision of the EU role and will provide a common framework to assess needs and integrate responses. The framework will enable a supportive approach using a wider range of decisional support features and monitoring systems and will also give to first responders an effective and unified vision of (a) the dynamic changes going on during event's lifetime and (b) the capabilities and resources currently deployed in the field.

In this context, every action pertaining data (from collection, generation and processing to distribution, storage and preservation) is examined and determined in the Data Management Plan (DMP), an early version of which is presented in this deliverable. Due to the Search and Rescue social aspect, the management of all these data that will arise throughout the project's lifecycle is crucial for its success. Protecting confidential or sensitive personal information and complying with the new EU General Data Protection Regulation (GDPR), while at the same time contributing to the open research and innovation, are some of the issues to be addressed.

Search and Rescue project also aims to participate in the Open Research Data Pilot, and as such, it is required to develop an early DMP within the first 6 months of the project. Emphasis should be given on the protection of sensitive data but also on providing a clear description of the access regimes that will apply to collected datasets.

The proposed plan was designed to allow the efficient dissemination of results and the stimulation of research without jeopardising not meeting any ethical requirements of the project.

More specifically the Search and Rescue DMP aims to:

1. Outline the responsibilities for data protection and sharing within an ethical and legal framework;
2. Ensure the protection of the intellectual property created by the project;
3. Support open access to the project's research outcomes and scientific publications;
4. Support the openness of data related to both the publications and the development processes of the project;
5. Define a documentation framework for the annotation of the collected knowledge towards increased discoverability and validation.

Therefore, being more of a preliminary approach, this document is not supposed to answer definitively all requirements set in the H2020 guidelines. On the contrary, it will be regularly updated within the project's lifecycle, whenever significant changes arise (e.g. new data, changes in consortium policies or composition, etc.), in order to lay the foundations for the final DMP release, which will be presented in the D10.3 "Data Management Plan final version, in M35 and will include all data generated in the course of the 3 years.

1.2 Structure of the Document

The document consists of the following sections:

- **Section 1**: Introduction including the purpose and structure of the document.
- **Section 2**: Definition of the Methodological Framework for handling all Search and Rescue data, always in accordance with the EU guidelines and applying the adapted H2020 FAIR DMP Template.
- **Section 3**: Presentation of the infrastructure that will be utilised for data archiving and preservation, allowing data to be findable and re-usable.
- **Section 4**: Definition of all data and data handling procedures expected to arise throughout the Search and Rescue project. Data format, metadata annotations, sharing, storage etc. are examined in this section. The above information is provided in the form suggested by the adapted FAIR template.
- **Section 5**: Summary of the contents of the deliverable with relevant conclusions.
- **Annex I**: The H2020 FAIR Data Management Plan Template.
- **Annex II**: The Adapted FAIR Template, based on the one of Annex II, as modified for the purpose of describing the SnR project datasets/modules.
- **Annex III**: Description Tables for all SnR public deliverables that have been delivered by M6.

2 SnR Data Management Methodological Framework

The role of a DMP is to define a framework concerning the handling of research data generated or acquired as the project progresses, but also after the end of it. Subjects for investigation are: the nature of the data in question, which data will be collected and to whom they will be useful, the use of metadata to render data easily retrievable, standardisation, whether and which data will be open-access, how they will be stored and preserved, etc.

Aiming to actively be part of the Open Research Data Pilot, the Search and Rescue DMP complies with the H2020 guidelines for making data Findable, Accessible, Interoperable, Re-usable (FAIR). To achieve that, the FAIR template provided by the European Commission[1] is followed. This template is mainly a set of questions addressing the four principles and other related issues and can be found in its original form in Annex I of this document.

The components included in FAIR are the following:

- Data Summary;
- FAIR Data Principles;
    - Making data findable, including provisions for metadata;
    - Making data openly accessible;
    - Making data interoperable;
- Increase data re-use (by clarifying licences);
- Allocation of resources;
- Data Security;
- Ethical Aspects;
- Other Issues refer to other national/ funder/ sectorial/ departmental procedures for data management that are used (if any).

The Data Summary and the FAIR Data Principles will be addressed separately for each dataset that is expected to be generated from the Search and Rescue project, in Section 4. In the adapted template, for the sake of readability, all questions under Data Summary and FAIR Data Principles were codified and transformed in a bullet list. This template will be used for all dataset descriptions. In this early stage, it is not required to cover exhaustively all points for each dataset, as this DMP will be updated during the project, whenever new data or other significant changes emerge.

Allocation of resources for storage and archiving is not foreseen, as the selected online storage solutions described below, are available free of charge. As regards publication and other open access costs, they will be provided under the project[2].

By default, Horizon 2020 projects participate in the Open Research Data Pilot and they must deposit the following data in a research data repository:

[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/other/hi/oa-pilot/h2020-hi-erc-oa-guide_en.pdf

1. All data needed to validate the results presented in scientific publications, including the metadata that describe the research data deposited. This is called the "underlying data". These data must be deposited as soon as possible.
2. Any other data (for instance curated data not directly attributable to a publication, or raw data), including the associated metadata, as specified and within the deadlines laid down in the DMP – that is, according to the individual judgement by each project/grantee.
3. Projects should also provide information via the chosen repository about the tools that are needed to validate the results, e.g. specialised software or software code, algorithms and analysis protocols. Where possible, they should provide these instruments themselves, or alternatively, provide direct access to them.

In the Guidelines on FAIR Data Management in Horizon 2020[3], the European Commission states: "Where will the data and associated metadata, documentation and code be deposited? Preference should be given to certified repositories which support open access where possible."

Researchers, information managers and other stakeholders can rely on a framework of various international certification standards for digital repositories to assess and improve the quality of their work processes and management systems. "Trustworthy Digital Repository" (TDR) is a term often used in this respect.

Beneficiaries must also provide open access, through the repository, to the bibliographic metadata that identify the deposited publication. The purpose of the bibliographic metadata requirement is to make it easier to find publications and ensure that EU funding is acknowledged. Information on EU funding must therefore be included as part of bibliographic metadata so that Horizon 2020 can be properly monitored, statistics produced, and the programme's impact assessed.

To monitor any embargo periods, the publication date and embargo period must be provided. The persistent identifier (for example a Digital Object Identifier) identifies the publication. It enables a link to be provided to an authoritative version of the publication.

Open Access is one of the main principles of Horizon 2020; by Open Access we mean the provision of free of charge online access to scientific information for any user. The beneficiaries' obligation to granting open access is differentiated between scientific publications and research data.

- Scientific publication: Publication of academic and research work, most often in the form of an article, research paper and otherwise, in scientific journals or in other forms (e.g. textbook, conference proceedings, etc.).
- Research data: This refers to the recorded factual material commonly accepted in the scientific community as necessary to validate research findings. Examples of research data generated from a project like Search and Rescue could include: Questionnaires, Algorithms, Methodologies, Source Code etc.

All participating projects' beneficiaries are required to ensure open access for their peer-reviewed scientific publications relating to their results, as defined in Article 29.2 of the H2020 - General MGA[3].

There are two routes to open access for scientific publications[4]:

1. Gold open access / open access publishing - the practice of immediately publishing in open access mode (in open access journals or in 'hybrid' journals), shifting the payment of publication costs

[3] H2020 Multi-Beneficiary General Model Grant Agreement v5.0, available at: http://ec.europa.eu/research/participants/data/ref/h2020/mga/gga/h2020-mga-gga-multi_en.pdf

[4] http://ec.europa.eu/research/participants/docs/h2020-funding-guide/cross-cutting-issues/open-Access-data-management/open-Access_en.htm

from readers' subscriptions to author fees. These costs are usually borne by the researcher's university or research institute or the agency funding the research.

2. Green open-access / self-archiving – the practice of depositing of a published article or a final peer-reviewed manuscript in an open-access online repository (by the author or a representative). A 6-12-month embargo period before the data is granted open-access may be considered appropriate by some scientific publishers.

Therefore, the open access to publications process is as follows:

1. Publications are deposited in online repositories.
2. Open access route is selected.
3. Open access is granted to publications.

Note that the steps mentioned above are not strictly successive, but may occur simultaneously, depending on the selected open-access route and a possible embargo period set by the consortium.

Regarding research data for projects participating in the Open Research Data (ORD) pilot, it is obligatory to ensure open-access to all data needed for result validation[5]. Whether other parts of data will be made open-access, is left to the discretion of the beneficiaries, as they must ensure that the main objective of the project will not be jeopardised by the publicity. Ethical and privacy concerns raised by publication of particular data, as well as protection of Intellectual Property Rights (IPR) are also a great deterrent to granting open access. Justification for excluding particular parts of data from being open access must be included in the DMP. The open-access research data must be deposited in online repositories, available for access, mining, exploiting, processing and disseminating, free of charge for any user, accompanied by the appropriate information — via the repository — regarding the specific tools and instruments that beneficiaries have at their disposal, considered to be necessary for validating the results. Where possible, these tools or instruments should be provided.

The above described procedures are summarised in the following diagram:

[5] Article 29.3, H2020 Multi-Beneficiary General Model Grant Agreement

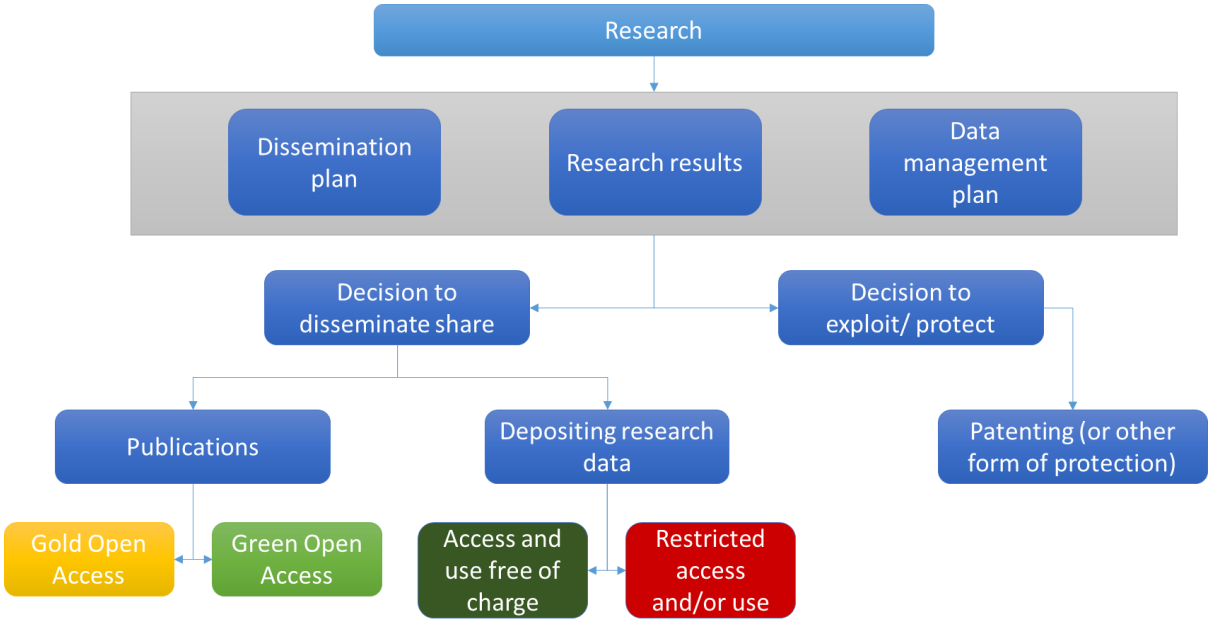

Figure 2-1: Granting Open Access Diagram

Provision for the GDPR[6], the newly enacted EU regulation about data, is also included, as described in the GDPR compliance section of the Search and Rescue DMP.

GDPR is a unified regulatory framework that took effect from the 25th May 2018 and is implemented across the European Union. Due to its regulatory nature, it is directly binding and applicable for all EU members and does not require an individual enabling state legislation. Intended to replace the 1995 EU Data Protection Directive[7] in the light of the growing need for clarifying and safeguarding the "digital rights" of all natural persons in EU, GDPR harmonises the relevant national EU States legislations and opens up the scope to cover even companies without physical presence in the EU.

Organisations acquiring and/or processing data of natural persons are required to adopt more robust data management and security systems. At the same time GDPR empowers citizens, by enhancing monitoring and control over their own data. As stated[8]:

1. This Regulation lays down rules relating to the protection of natural persons with regard to the processing of personal data and rules relating to the free movement of personal data.
2. This Regulation protects fundamental rights and freedoms of natural persons and in particular their right to the protection of personal data.
3. The free movement of personal data within the Union shall be neither restricted nor prohibited for reasons connected with the protection of natural persons regarding the processing of personal data.

As previously noted, significant changes on data, which may arise in the course of the project and the development of the platform, are to be reported in the form of new versions of the present deliverable.

[6] General Data Protection Regulation, available at: https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32016R0679&from=EN

[7] Data Protection Directive, OJ 1995 L 281, available at: http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:31995L0046

[8] Article 1, GDPR

Finally, all generated and collected project data will be described in detail in the end of the project in the second and final iteration of this deliverable D10.3 "Data Management Plan final version" [M35].

2.1 Data Management Process

The Search and Rescue Data Management Process is a set of steps aiming to classify (i.e. identify the access regimes for) the various datasets according to the analysis presented in the previous section. Each step of the process contains a question requiring a reply. The reply given in each step defines the actual status, and the respective handling, for each dataset generated or acquired during the project. Data storage, preservation and sharing were intentionally not included in the questionnaire, as all the datasets produced and used in the Search and Rescue project will be stored, preserved and shared through the selected platforms (section 3), and thus, these aspects of data management are common for all datasets.

For the Search and Rescue project, the following questions were selected to classify the datasets:

Table 2-1: The Data Management Process approach for each dataset

Issues to be addressed for dataset	Positive Answer (yes)	Negative Answer (no)
Needed for result validation?	Public	Private
Produces added value to third parties?	Public	Private
Can the created data - which may be derived from third-party data - be shared?	Public	Private
Contains personal data as referred to in GDPR - Article 4?	Private	Public
Contains data back traceable to private individuals?	Private	Public
Contains data that could be used in activities raising ethical issues or constitute a danger to the society?	Private	Public
Contains sensitive data or a security threat for one or more partners of the project (e.g. confidential information)?	Private	Public
Either a Licence restriction or an embargo is applied?	Private	Public
Contains data jeopardising a project patent?	Private	Public

2.2 Responsibilities and Decision Making

Each and every organisation in the Search and Rescue project is solely responsible for their own data they create and upload. These data are not accessible to other organisations or individuals without prior permission. The decision of what data to store, how to process them and to whom they will permit access and under what conditions, befalls that organisation. Since the collection of mostly personal data within Search and Rescue coincides with the same data collection in the day-to-day operations of the pilot organisations, the responsibility cannot and should not be transferred to other parties.

Within this framework, the consortium as a whole will be permitted access to aggregated and *anonymised* data from the repositories of the pilot partners for research and dissemination purposes. The data that will be allowed to be used, the type and the extent of the anonymisation and aggregation algorithms that will be used will need to be approved by the organisations that will provide the data. A final approval for the dissemination of the aggregated and anonymised data from the pilot operation of the platform and for any use will be provided by the Innovation/Scientific Manager and the Technical Manager of the project.

2.3 Data Security and GDPR Compliance

In D10.6, as well as in D11.1-D11.4 the data subjects and the GDPR framework will be presented. In these deliverables an analytical description of how the Search and Rescue project implements the GDPR regulations is/will be included, along with the data subjects involved in testing and pilot operations, the types and sources of data that will be collected and processed, the data controllers, the data processors, the processing activities of the personal data that are taking place in the Search and Rescue platform, and how the use of such technologies will protect the rights of both tested subjects and end-users (data recipients) in general.

According to Article 4 of the EU GDPR, the Data Controller, the Data Processor and the Data Recipient are defined as follows:

- Controller – "means the natural or legal person, public authority, agency or other body which, alone or jointly with others, determines the purposes and means of the processing of personal data".
- Processor – "means a natural or legal person, public authority, agency or other body which processes personal data on behalf of the controller".
- Recipient – "means a natural or legal person, public authority, agency or another body, to which the personal data are disclosed, whether a third party or not".

2.4 Ethical and Legal Issues

The Search and Rescue project will acquire highly sensitive information. For this reason, it is necessary to design a DMP adhering to the legal frameworks presented in deliverables D7.7 "SnR Legal and Security infrastructure 1st Version" [M14] and D7.8 "SnR Legal and Security infrastructure final" [M26] and foreseeing all possible data usage and protection against potential misuse.

The ethical aspects related to data of the project and further details on the regulatory framework are set out in the context of deliverables D2.2 - "Report on the SnR social and ethical assessment" [M18], D2.7 – "Report on the SnR social and ethical assessment, final version" [M36] and D10.6 - "Ethical protocol" [M3].

Any personal / sensitive data will be identified in DMP (both versions) and will be assessed in D2.1 – "PIA report for the SnR design and development, pilots and platform [M12] and D2.6 – "PIA report for the SnR design and development, pilots and platform, final version" [M36], which are relevant to the GDPR DPIA requirement.

Account must also be taken for all the deliverables (to be) submitted in the context of WP11 setting out the "ethics requirements" that the project must comply with, in particular D11.4 – "POPD - Requirement No. 4" [M6].

3 Data Archiving and Preserving Infrastructure

Brief descriptions of the platforms and repositories chosen for the SnR data storage and dissemination are included in the following section. An outline of their structure and functionalities regarding open access, storage, backup and charging policy is drawn and justifies their selection, as all of them fulfil the requirements elicited from the FAIR data principles and ORD pilot.

3.1 Alfresco Platform

Alfresco Share is built on Alfresco's innovative Enterprise Content Management (ECM) repository and delivers out-of-the-box, collaborative content management. Alfresco Share simplifies capturing, sharing, and retrieval of information across virtual teams, boosts productivity and reduces network bandwidth requirements and email volumes between project team members. The platform is hosted by NTUA and offers a plethora of features such as document locking, online preview and editing and version control. SnR partners use Alfresco as the main document repository of all the files exchanged within the consortium, including intermediate versions of the deliverables, meetings' material (agenda, notes, presentations, demos, minutes, etc.) and any other documents used for gathering inputs from the project's partners. Credentials are needed to access any of the Alfresco material, as the platform usage is restricted only to the SnR consortium and to the EC (if access is requested).

Link: https://alfresco.epu.ntua.gr/

3.2 Project Website

The SnR website can be considered as the main online public information point of the project and can be found under this web address: https://search-and-rescue.eu/. The website holds some static text information, such as the brief presentation of key project facts and figures, the rationale and ambition of the latter and the expected impact, while it also offers some dynamic textual data such as the communication of news and events.

There is also a dedicated section (Project Content) outlining the proposed work plan and holding all public data concerning the project and its progress (e.g. public deliverables), as well as a section dedicated to relevant material (Publications and Presentations), encompassing the respective documents using the portable document format (PDF). In case a file is deposited on a social media or data repository platform, a link to the respective source will be provided, enriched with simple metadata information like the title, a short description and the type of the document. The possibility to also provide an online discussion forum for practitioners on the scientific and technical fields addressed by SnR will also be investigated in relation with the clustering activities (T9.3).

All public information on the SnR website is available with no restrictions and can be accessed by any visitor with no need to create an account or give any personal data. This information and all webpage-related data is backed on a regular basis.

3.3 Data and Document Repositories

Two services will be used for archiving project data and documents, Zenodo and ResearchGate, which are presented below.

a. Zenodo

Following the EC recommendation, SnR is going to use the Zenodo platform as a data and document repository. Zenodo is a free, open research data repository created by OpenAIRE[9] and CERN[10] that launched its services in 2013. It is compliant with the open data requirements of Horizon 2020, the EU Research and Innovation funding programme and the Open Access policies of the European Union.

The platform not only supports the publication of scientific papers or white papers in all scientific disciplines, but also the publication of any structured research data (e.g. using XML format) and the collaboration with open source code repositories such as GitHub. All uploaded data and documentation are structured using metadata, licensed under CC license (Creative Commons 'No Rights Reserved'). An important parameter to note is that the property rights or ownership of a data asset do not change by uploading it to Zenodo.

As far as security and availability is concerned, Zenodo guarantees both. All data files are stored in CERN Data Centres, primarily in Geneva, with replicas in Budapest. Data files and metadata are backed up on a nightly basis. Files are regularly checked against their checksums (using MD5 algorithm) to assure that file content remains constant. In case of closure of the repository, Zenodo ensures that all content can be easily integrated into other suitable repositories without this affecting citations and links.

Regarding the SnR data management, all public results generated or collected during the project will be uploaded to Zenodo for open access, long-term storage and dissemination, including public deliverables, software documentation, research papers, presentations, and datasets. At the end of the project, the option of using an institutional research data repository to further disseminate the project outcomes will be considered.

b. ResearchGate

Along with the establishment of Zenodo as the primary data and document repository, SnR will create a ResearchGate project profile to further promote the dissemination of scientific publications.

ResearchGate, launched in 2008, is a networking site for scientists and researchers, free to join, with more than 3 million users. Sharing publications, connecting with colleagues, asking or answering questions and finding collaborations from around the world are only some of the services the platform has to offer. A ResearchGate project is actually a dedicated place of research results related to a common cause that other researchers can opt to follow, interact and stay in touch with its progress.

In this public area, SnR partners will upload their research publications, fill-in the necessary metadata and try to respond to any questions coming from the community.

Both the aforementioned tools hereby defined will act as the platforms for accessing SnR project public results and can be found by following the respective links:

Zenodo Link: N/A yet

ResearchGate Link: N/A yet

3.4 Code Repository

SnR software components will be divided into Open and Closed Source components. The classification will be decided on terms which ensure the project's security and protection of partners' business secrets and at the same time reinforce scientific knowledge.

[9] https://www.openaire.eu

[10] https://home.cern

Moving towards this goal, all Open Source Components will be deposited in a public Git based web repository, where they will be in the disposal of the community for exploitation and expansion. Closed Source Components can be stored into private repositories. Git is a distributed version control system and as such, it is promoting sharing and collaboration among users but also offers the creator versioning control.

There are two main options for Git based hosting providers to consider: GitLab and GitHub.

GitLab[11] is a Git-based fully integrated software development platform that integrates a great number of essential tools for software development and deployment, and project management:

- Code hosting in repositories with version control;
- Issue Tracker for new implementations, bug reports, and feedback;
- Issue Boards for organisation and prioritisation;
- Code review in Merge Requests with live-preview changes per branch with Review Apps;
- Built-in Continuous Integration, Continuous Deployment, and Continuous Delivery support to build, test, and deploy the application. For each pull or push a CI pipeline is triggered and a group of jobs gets executed in stages (batches). All the jobs in a stage are executed in parallel and if they all succeed the pipeline moves on to the next stage. If one of the jobs fails, the next stage is not (usually) executed. The pipeline usually consists of four stages: build, test, staging, production. The status of the current and historical pipeline is visualised in a specific Pipelines tab to assist the end user in monitoring the deployment process;
- Integration with Docker with GitLab Container Registry. Thus every project can have its own space to store its Docker images.

Apart from GitLab the consortium also considers the option to use GitHub for collaborative software development for open source components.

GitHub[12] is also a Git based online repository hosting provider. Although mainly used for code storage, the GitHub platform supports other formats and features too. Being one of the first Git hosting providers, it enjoys a large share of the market, with 24 million connected developers (March 2018). GitHub services are similar to those of GitLab and as such, they also meet the needs of the SnR project.

Both code repositories provide private repositories. Public and private repositories on GitLab are unlimited, don't have a transfer limit and they include unlimited collaborators. GitHub provides free plans for open-source projects and paid plans offering unlimited private repositories. The final selection between the two repositories will take place as soon as the implementation tasks will start.

3.5 SnR Platform

The SnR platform will collect and provide data not only from the SnR components' databases, but also from other relevant organisations, open data repositories and any other open data source.

Concerning the data that are to be generated within the SnR platform along the course of the project, these will be identified and described as in Table 3-1. The latter shall provide an overview of the various data (or combinations of data) that are created, accessed or processed within each and every function/ process /module of the project. The SnR platform generated data will be updated throughout the execution of the project.

Table 3-1: Generated datasets

[11] https://about.Gitlab.com

[12] https://github.com

Function/process/module	Data Set	Data Type	Details
		e.g. •No personal data •Personal data •Encrypted data •Etc.	

4 SnR Datasets and Publications

All data anticipated to be generated during the lifespan of the SnR project are presented in this section. They are divided into four categories: public deliverables, software components (open and closed source), research datasets and publications. The adapted FAIR Template (available in Annex II), will be used to describe every category in general as well as every individual dataset that will be generated in the course of the project.

Guidelines for deciding on the points made in the context of this template are provided through FAIR itself and its four principles pertaining research data, meaning that eventually data should be made easily Findable, Accessible, Interoperable and Re-usable.

4.1 SnR Public Deliverables

The public deliverables of the SnR project are presented in the following Table:

Table 4-1: SnR Public Deliverables

Deliverable Identifier	Deliverable Title	Due Date	
D1.1	Report on user requirements, existing tools and infrastructure	M4	October 2020
D1.2	Report on the functional specifications of SnR	M4	October 2020
D1.3	Definition, evaluation and refinement of the SnR CM governance model	M12	June 2021
D1.4	Establishment of SnR Concept of operations	M12	June 2021
D1.5	Report on user requirements, existing tools and infrastructure, V2	M16	October 2021
D1.6	Report on the functional specifications of SnR, V2	M12	June 2021
D1.7	Definition, evaluation and refinement of the SnR CM governance model, V2	M24	June 2022
D1.8	Definition, evaluation and refinement of the SnR CM governance model, V3	M36	June 2023
D2.3	Report on the role of civil society involvement in Crisis Management	M36	June 2023

Deliverable Identifier	Deliverable Title	Due Date	
D2.4	Report on safety and security issues of emergency and crisis management field Actors	M24	June 2022
D2.5	Citizens and volunteer organisations involvement in Crisis Management	M24	June 2022
D2.8	Citizens and volunteer organisations involvement in Crisis Management, final version	M36	June 2023
D3.1	Requirements to knowledge management and SA Model	M6	December 2020
D3.2	Situation Awareness Model – specification	M9	March 2021
D3.3	BIM based services and applications – review and service design	M15	September 2021
D3.4	BIM based visualisation support integrated with VR interface	M30	December 2022
D3.5	Data-driven analytics applied on UAV imagery using deep learning	M18	December 2021
D3.6	Multi sensors data fusion and Object detection algorithms for in-disaster scene situation awareness	M18	December 2021
D3.7	Requirements to knowledge management and SA Model, V2	M12	June 2021
D3.8	Situation Awareness Model - specification, V2	M18	December 2021
D4.1	Data aggregation	M6	December 2020
D4.2	Situational Analysis & Impact Assessment	M12	June 2021
D4.3	Design of SOT DSS components	M14	August 2021

Deliverable Identifier	Deliverable Title	Due Date	
D4.4	Design of PHYSIO DSS component	M14	August 2021
D4.5	Development of SOT DSS components	M14	August 2021
D4.6	Development of PHYSIO DSS component	M14	August 2021
D4.7	DSS Validation	M16	October 2021
D4.8	Data aggregation, V2	M12	June 2021
D4.9	Design of SOT DSS components, V2	M22	April 2022
D4.10	Design of PHYSIO DSS component, V2	M22	April 2022
D4.11	Development of SOT DSS components, V2	M22	April 2022
D4.12	Development of PHYSIO DSS component, V2	M22	April 2022
D4.13	DSS Validation, V2	M26	August 2022
D5.1	Design & development of the RESCUE MIMS	M10	April 2021
D5.2	First responder prototype uniform and first aid for kids' device design	M16	October 2021
D5.3	Testing and validation of the RESCUE MIMS	M14	August 2021
D5.4	Testing of RESCUE MIMS on-board robotic platforms and drones	M16	October 2021

Deliverable Identifier	Deliverable Title	Due Date	
D5.5	Design & development of the RESCUE MIMS, V2	M18	December 2021
D5.6	First responder prototype uniform and first aid for kids' device design, V2	M32	February 2023
D5.7	Testing and validation of the RESCUE MIMS, V2	M30	December 2022
D5.8	Testing of RESCUE MIMS on-board robotic platforms and drones, V2	M30	December 2022
D6.3	Presentation and analysis of the designed SnR interoperability framework	M24	June 2022
D6.5	Establishment of technical components and legacy systems taxonomy	M18	December 2021
D6.6	Report on legacy systems and their connection to the SnR related technical characteristics	M16	October 2021
D6.9	Report on legacy systems and their connection to the SnR related technical characteristics, V2	M32	February 2023
D7.2	Architecture and Design Specifications of SnR platform	M6	December 2020
D7.5	Integrated SnR platform 1st version	M16	October 2021
D7.6	Integrated SnR platform 2nd version	M26	August 2022
D7.9	SnR platform Test Cases and overall system evaluation results 1st version	M18	December 2021
D7.10	SnR platform Test Cases and overall system evaluation results Final version	M30	December 2022
D7.12	Architecture and Design Specifications of SnR platform, V2	M22	April 2022

Deliverable Identifier	Deliverable Title	Due Date	
D8.1	SnR Pilot guidelines and User's Handbook	M12	June 2021
D8.2	SnR Use Case 1: Victims trapped under rubble (Italy) – Pilot plan	M12	June 2021
D8.3	SnR Use Case 2: Plane crash, mountain rescue, non-urban (Greece) - Pilot plan	M12	June 2021
D8.4	SnR Use Case 3: Earthquake / heavy storms between Vienna Rail Station & Kufstein railway station heavy damages in the rail station (Cross-border pilot, Austria-Germany) - Pilot plan	M12	June 2021
D8.5	SnR Use Case 4: Forest fire expanded and threat to industrial zone (Kineta, Agioi Theodoroi, Greece) - Pilot plan	M12	June 2021
D8.6	SnR Use Case 5: Victims trapped under rubbles (France) – Pilot plan	M12	June 2021
D8.7	SnR Use Case 6: Resilience Support for Critical Infrastructures through Standardised Training on CBRN (Romania) - Pilot plan	M12	June 2021
D8.8	SnR Use Case 7: Chemical substances spill (Spain) - Pilot plan	M12	June 2021
D8.9	SnR Evaluation Framework	M18	December 2021
D8.10	SnR Pilot Implementation and Evaluation Report 1st version	M28	October 2022
D8.11	SnR Pilot Implementation and Evaluation Report Final version	M35	May 2023
D8.12	Systems performance assessment manual	M36	June 2023
D9.1	SnR dissemination plan	M6	December 2020
D9.2	SnR dissemination activities report 1st version	M18	December 2021

Deliverable Identifier	Deliverable Title	Due Date	
D9.3	SnR dissemination activities report final	M36	June 2023
D9.4	SnR web-site and Online dissemination and communication infrastructure	M1	July 2020
D9.5	SnR Exploitation and Innovation MGT planning	M16	October 2021
D10.1	Project Handbook, Quality Plan & Risk Management	M1	July 2020
D10.2	Data Management Plan 1st version	M6	December 2020
D10.3	Data Management Plan final version	M35	May 2023
D10.6	Ethical protocol	M3	September 2020

The FAIR template has been modified, in line with the FAIR data principles, so as to accommodate the required details for all the public deliverables. Resulting is the following table, which contains a general description of the SnR Public Deliverables, addressing all relevant issues indicated originally. Management of all deliverables will be implemented using this table.

Table 4-2: Description of SnR Public Deliverables

1. Public Deliverable Summary	
Purpose	The purpose of the specific deliverable
Relation to the objectives of the project	Relation of the specific deliverable to the project objectives
Types/Formats	All public deliverables are (or are accompanied by) reports in the cross-platform portable document format (PDF)
Re-use of any existing data	Source of re-used datasets, IRP issues etc.
Origin	How the included data was generated (or mention source, if collected)
Size	Size of the public deliverable
Utility for others	To whom and how the deliverable will be useful.
2. FAIR data	

2.1. Making data findable, including provisions for metadata	
Metadata provision	Metadata is added manually and includes name, author, all consortium partner organisations, relevant keywords
Metadata standards	No specific metadata standard used
Unique identifier	The public deliverables are assigned URLs by upload on the official SnR website
Naming conventions	• Naming convention used: SnR_[Deliverable Code]-[Deliverable Title]-vA.BB. • Version numbering convention used: vA.BB, where A is a major version of the deliverable (Submission to European Commission) and BB is minor version of the deliverable for updates during the preparation phase.
Search keywords	Metadata keywords serve as search keywords
Version control	All changes are reported in the document history section.
2.2 Making data openly Accessible	
Classification	Confidentiality level: PU (public)
Sharing and access regimes	Before submission: available only to consortium partners through the Alfresco platform After submission: publicly available through the official SnR website
Needed method/software	No special software needed for the PDF format
Repository	Alfresco platform and SnR official website
Access authorisation	Before submission: accessible only by authorised consortium partners After submission: upload on the website, no authorisation needed
2.3. Making data interoperable	
Data/metadata vocabularies and other I/O standards	-
Mapping to common ontologies	-
2.4. Increase data re-use (through clarifying licences)	
Licence	No licence needed
Re-use availability schedule	After submission: immediately granted free open Access for mining, exploiting, processing and disseminating
Re-use by third parties	After submission: Accessible and re-usable by third-parties. No access and time limitations apply
Quality assurance	Internal quality audit control by the Quality Manager (NTUA) and two assigned reviewers (consortium partners)
Availability period	No time limitation scheduled after the end of the project

This template will be completed individually for each and every public deliverable generated in the project, in order for them to be described in detail. At the time of submission of the document at hand, the following deliverables have also been prepared and submitted: D1.1 (M4), D1.2 (M4), D3.1 (M6), D4.1 (M6), D7.2 (M6), D9.1 (M6), D9.4 (M1), D10.1 (M1), D10.6 (M3). The relevant description tables

for the specific deliverables are analytically presented in Annex III. The description tables of all public deliverables will be eventually presented in the context of the Final DMP Release.

4.2 SnR Components

The software components of the SnR Platform are provided below.

4.2.1 Open Source components

The open source components of the SnR and the involved partners are listed in Table 4-3.

Table 4-3: SnR Open Source components

Component Name	Involved Partners
Situation Awareness Model - Knowledge based visualisation support	UBITECH
Data-driven analytics applied on UAV imagery using deep learning	KT
The Decision Support System (DSS) Component	CNR, KT
The Physiological modelling of the victim (PHYSIO DSS) component	CNR, KT
Learning Management System (LMS)	CERTH
Platform for data gathering, homegenisation and data brokering	ATOS, KT

The relevant FAIR analysis of the software components are provided in the following tables.

Table 4-4: Situation Awareness Model - Knowledge based visualisation support

1. Open Component summary	
Purpose	Semantic model enrichment
Relation to the objectives of the project	T3.2 – Situation Awareness Model It will provide interfaces towards a comprehensive overview of the building and their surroundings during rescuer operations
Types/Formats	RESTful API service
Re-use of any existing data	empathi (2019 IEEE 13th International Conference on Semantic Computing (ICSC)), POLARISCO (ISCRAM 2019), IMPRESS, Concorde, beAWARE (H2020 semantic models), EDXL interoperability models, ICECI (WHO Family of International Classifications), BIM (IFC model, BIM Collaboration Format), EM-DAT, PROV-O
Origin	N/A
Size	N/A
Utility for others	Available interfaces for VR and mobile devices

2. FAIR data	
2.1. Making data findable, including provisions for metadata	
Metadata provision	Through REST API
Metadata standards	Yes
Unique identifier	Yes
Naming conventions	Yes
Search keywords	No
Version control	No
2.2 Making data openly Accessible	
Classification	Yes
Sharing and access regimes	No
Needed method/software	No
Repository	Yes
Access authorisation	No, only if required
2.3. Making data interoperable	
Data/metadata vocabularies and other I/O standards	Yes
Mapping to common ontologies	Yes
2.4. Increase data re-use (through clarifying licences)	
Licence	Proprietary
Re-use availability schedule	Semantic model will be published and available through a public repository. BIM based services will be closed source and the API will be open
Re-use by third parties	Yes
Quality assurance	Unknown
Availability period	Publicly available after the end of the project

Table 4-5: Data-driven analytics applied on UAV imagery using deep learning

1. Open Component summary	
Purpose	Deep learning detection algorithm for search and rescue operations which will combine spatial, thermal and spectral information, generating a multi-channel image in the pre-processing stage.
Relation to the objectives of the project	The resulted multichannel image will form an enhanced data representation capable of capturing all kinds of spectral and spatial image features, to ensure that a continuous information coming from various sources as well as information obtained from infrastructure affected by disaster (e.g. BIM) can be integrated into a complete and comprehending picture and used in a risk-conscious manner.
Types/Formats	A collection of algorithms, functions and CNN models with input/output data.

Re-use of any existing data	First responders, government, agencies.
Origin	N/A
Size	N/A
Utility for others	Support rescue operations.
2. FAIR data	
2.1. Making data findable, including provisions for metadata	
Metadata provision	Open as possible
Metadata standards	Data Package
Unique identifier	Accession Number (AN)
Naming conventions	purpose/function/service
Search keywords	Related to data
Version control	Distributed
2.2 Making data openly Accessible	
Classification	Shared data
Sharing and access regimes	Open access
Needed method/software	Depends on file extension
Repository	Zenodo
Access authorisation	NO
2.3. Making data interoperable	
Data/metadata vocabularies and other I/O standards	FAIR Data Point (FDP)
Mapping to common ontologies	Thesauri, ontologies, formal ontologies
2.4. Increase data re-use (through clarifying licences)	
Licence	Freemium
Re-use availability schedule	Non-commercial reuse or reuse with attribution
Re-use by third parties	Non-commercial reuse or reuse with attribution
Quality assurance	Yes
Availability period	During project lifespan and 3 years after the end of the project

Table 4-6: DSS Component

1. Open Component summary	
Purpose	The Decision Support System (DSS) will offer a series of algorithms and decision rules to provide support to decision in emergency situation, by integrating several information from the field about the incident and the physiological conditions of the victims.

Relation to the objectives of the project	Provides support to the decision for resource allocation, victim treatment and prioritisation
Types/Formats	A collection of algorithms, functions and mathematical models with input/output data
Re-use of any existing data	Specific available resources with their capacity (Organisations, users, health services); use of data from existing databases collecting information about different types of disasters (number of victims, types of lesions, severity of victim's conditions, therapies to be delivered, medical resources)
Origin	CONCORDE DSS and IMPRESS PATEVO
Size	-
Utility for others	Improvement of emergency response plans, in particular with regard to the allocation of health resources, based on of the victim prioritisation provided internally by the DSS
2. FAIR data	
2.1. Making data findable, including provisions for metadata	
Metadata provision	Open as possible
Metadata standards	Data Package
Unique identifier	Accession Number (AN), an internet address to be specified
Naming conventions	purpose/function/service
Search keywords	Related to data
Version control	All the versions of the component are reported in the corresponding descriptive deliverables
2.2 Making data openly Accessible	
Classification	Confidentiality level: RE (restricted to partners)
Sharing and access regimes	Available for use only to consortium partners through a Web-Services
Needed method/software	Depends on file extension, anyway the following software/methods could be necessary: Machine-to-Machine, Human-to-Machine (internet connection)-Matlab,PHP, C++
Repository	Zenodo/ Private server at a private address (will be made available at a later stage)
Access authorisation	accessible only by authorised consortium partners
2.3. Making data interoperable	
Data/metadata vocabularies and other I/O standards	FAIR Data Point (FDP) / SOAP protocols, XML language, Web Services Description Language (WSDL)
Mapping to common ontologies	Thesauri, ontologies, formal ontologies
2.4. Increase data re-use (through clarifying licences)	
Licence	Freemium/Matlab
Re-use availability schedule	Non-commercial reuse or reuse with attribution and usable for testing and exploiting

Re-use by third parties	Non-commercial reuse, reuse with attribution by partners and not accessible and re-usable by third-parties. For partners no access up to 12 months after the end of the project
Quality assurance	Yes, Internal quality audit control
Availability period	During project lifespan and 3 years after the end of the project

Table 4-7: PHYSIO DSS Component

1. Data summary	
Purpose	It takes information from the fields, observations and victim measurements and symptoms, and uses them to provide a prediction of a subject's physiological state over time. Based on of the severity of the conditions and the predictions of the physiological status, a series of outputs will be provided, such as the estimated time of death or the evolution of their status under different type of treatments. The aim is to make suggestions on the allocation of medical resources and on the prioritisation of victims.
Relation to the objectives of the project	Provides support to the decision for victim treatment and prioritisation in emergency medical situation
Types/Formats	A collection of interconnected functions with input/output data
Re-use of any existing data	Use of data from existing databases collecting information about different types of disasters (number of victims, types of lesions, severity of victim's conditions, therapies to be delivered, medical resources)
Origin	The starting point is the PATEVO component developed within the IMPRESS project
Size	N/A
Utility for others	Embedded into the DSS of SnR for a supervised allocation of medical resources and for victim prioritisation
2. FAIR data	
2.1. Making data findable, including provisions for metadata	
Metadata provision	**Deterministic version of the PHYSIO model** • X (Physiologic State Variable vector X, containing the values of each physiological variable for a victim at each required time) • V (Physiologic State Variable vector V, containing the values of the rates of worsening, for each physiological variable for a victim, at each required time) **Bayesian version of the PHYSIO model** • State Nugget (Containing the set of Physiologic State Distributions for each victim at each required time) • The automatically generated color_code from the predicted physiological state variables (The colours black, red, yellow or green) **Common data** • RTS_val (The value of the Revised Trauma Score) • EDT_val (The Expected Time to Death) • GCS_val (The Glasgow Coma Scale)

	• PPS (The vectors containing the estimated values and rate of worsening of the Physiological State Variables) • ET90 (Vector of Expected Time to 90% or greater of ALL Physiologic State Variables for the victim when a therapy is administered) Therapies_amount (Vector reporting the amount of therapies to administer to the victim in case of best treatment)
Metadata standards	Not applicable
Unique identifier	An internet address to be specified
Naming conventions	All the functions and modules within the PHYSIO component will be given the name in the following format: **PHYSIO_FunctionName**(input1,input2,…) Example: PHYSIO_SCENGEN (event_type, num_bystanders, event_size, event_dimension, event_min_latency); [event_type (example: earthquake), num_bystanders (total number of people present at the disaster site), event_size (a value which influences the number of affects people among the bystanders), event_dimension (radius of the event), event_min_latency (time to arrival of first responders)]
Search keywords	Not applicable
Version control	All the versions of the component are reported in the corresponding descriptive deliverables
2.2 Making data openly Accessible	
Classification	Confidentiality level: RE (restricted to partners)
Sharing and access regimes	Available for use only to consortium partners through a Web-Services
Needed method/software	Machine-to-Machine, Human-to-Machine (internet connection)-Matlab/PHP, C++
Repository	Private server at a private address (will be made available at a later stage)
Access authorisation	accessible only by authorised consortium partners
2.3. Making data interoperable	
Data/metadata vocabularies and other I/O standards	SOAP protocols, XML language, Web Services Description Language (WSDL)
Mapping to common ontologies	-
2.4. Increase data re-use (through clarifying licences)	
Licence	Matlab only for developers
Re-use availability schedule	After delivering immediately usable for testing and exploiting
Re-use by third parties	Not accessible and re-usable by third-parties. For partners no access up to 12 months after the end of the project

Quality assurance	Internal quality audit control
Availability period	No time limitation scheduled after the end of the project

Table 4-8: Learning Management System (LMS)

1. Open Component summary	
Purpose	eLearning platform
Relation to the objectives of the project	Related to task T2.4 – Promoting safety and security of emergency personnel. The latter will be addressed by increasing awareness of the personnel through the provision of an e-learning based platform.
Types/Formats	Web based platform
Re-use of any existing data	Courses will be addressed on same task.
Origin	-
Size	-
Utility for others	-
2. FAIR data	
2.1. Making data findable, including provisions for metadata	
Metadata provision	Through third party plug-in
Metadata standards	Yes
Unique identifier	Yes
Naming conventions	No
Search keywords	Yes
Version control	Not applicable
2.2 Making data openly Accessible	
Classification	No
Sharing and access regimes	No
Needed method/software	No
Repository	No
Access authorisation	No
2.3. Making data interoperable	
Data/metadata vocabularies and other I/O standards	No
Mapping to common ontologies	No
2.4. Increase data re-use (through clarifying licences)	
Licence	GNU General Public License
Re-use availability schedule	Supports content export for easy reusability
Re-use by third parties	Available

Quality assurance	-
Availability period	Project period plus two more years

Table 4-9: Platform for data gathering, homegenisation and data brokering

1. Open Component summary	
Purpose	Data gathering, homegenisation and data brokering
Relation to the objectives of the project	T6.1 Communication Interoperability framework between first responders, drones and rescue robots T6.2 SnR Data Communication Interoperability framework
Types/Formats	NGSIv2 NGSI-LD
Re-use of any existing data	No
Origin	-
Size	-
Utility for others	-
2. FAIR data	
2.1. Making data findable, including provisions for metadata	
Metadata provision	-
Metadata standards	-
Unique identifier	-
Naming conventions	-
Search keywords	-
Version control	-
2.2 Making data openly Accessible	
Classification	-
Sharing and access regimes	It will be provided
Needed method/software	Http or mqtt
Repository	-
Access authorisation	It will be provided
2.3. Making data interoperable	
Data/metadata vocabularies and other I/O standards	NGSI data models: https://github.com/FIWARE/data-models Expected to be extended to new data models about the project
Mapping to common ontologies	No mapping to ontologies but aligned with GSMA IoT Big Data
2.4. Increase data re-use (through clarifying licences)	
Licence	Mainly build using FIWARE technologies. 100% Opensource. It is platform build with different components, each one different license. But always 100% Opensource
Re-use availability schedule	-
Re-use by third parties	-
Quality assurance	-

Availability period	-

4.2.2 Closed Source components

The following components are considered closed source due to the fact that they either store private and sensitive data (database) or they are implemented under proprietary software licence.

Table 4-10: SnR Closed Source components

Component Name	Involved Partners
Backend service of semantic enrichment	UBITECH
SnR Training System Framework	SIMAVI
MySQL Database Service	CERTH
Emergency response health condition monitoring device and information system	CERTH
3D Mixed Reality Command Centre	CERTH
Multi sensors data fusion and Object detection algorithms for in-disaster scene situation awareness	THALIT
Emergency Communication App	KT

Table 4-11: Backend service of semantic enrichment

1. Closed Component summary	
Purpose	Data handling and alignment with predefined ontologies. Semantic model/data exposure.
Relation to the objectives of the project	T3.2 – Situation Awareness Model Semantic data enrichment and exposure
Types/Formats	JAVA, JSON
Re-use of any existing data	No
Origin	-
Size	-
Utility for others	BIM visualisation support and semantic enrichment of situation awareness model
2. FAIR data	
2.1. Making data findable, including provisions for metadata	
Metadata provision	Through REST API
Metadata standards	JSON
Unique identifier	Yes
Naming conventions	Yes
Search keywords	No
Version control	No

2.2 Making data openly Accessible	
Classification	Yes
Sharing and access regimes	No
Needed method/software	No
Repository	Yes
Access authorisation	No
2.3. Making data interoperable	
Data/metadata vocabularies and other I/O standards	Yes
Mapping to common ontologies	Yes
2.4. Increase data re-use (through clarifying licences)	
Licence	License by IP owner
Re-use availability schedule	Backend services will be closed source and the API will be open
Re-use by third parties	No
Quality assurance	Unknown
Availability period	Until the end of the project

Table 4-12: SnR Training System Framework

1. Closed Component summary	
Purpose	To develop and adapt to the SnR needs the training framework of CONCORDE that will serve as a basis to build the SnR training system
Relation to the objectives of the project	Allow first responders personnel to make use of the physical environment and digital information at the same time
Types/Formats	Network centring
Re-use of any existing data	No
Origin	UE
Size	TBD
Utility for others	Simultaneous communication between trainers located in training facilities and operational trainees located on the field
2. FAIR data	
2.1. Making data findable, including provisions for metadata	
Metadata provision	Closed as necessary
Metadata standards	Data Package
Unique identifier	Accession Number
Naming conventions	TBD
Search keywords	Related to data
Version control	Distributed

2.2 Making data openly Accessible	
Classification	Shared data
Sharing and access regimes	Controlled Open access
Needed method/software	Depends on file extension
Repository	TBD
Access authorisation	Yes
2.3. Making data interoperable	
Data/metadata vocabularies and other I/O standards	FAIR Data Point (FDP)
Mapping to common ontologies	Formal ontologies
2.4. Increase data re-use (through clarifying licences)	
Licence	Free
Re-use availability schedule	Non-commercial reuse
Re-use by third parties	Non-commercial reuse
Quality assurance	Yes
Availability period	During project life and 3 years after the end of the project; in request after this period

Table 4-13: MySQL Database Service

1. Closed Component summary	
Purpose	Store data for volunteer application
Relation to the objectives of the project	T2.5 – Involvement of volunteer organisations / citizens • Define the role, responsibilities of citizens and communities, which are the first line of defence and must first take responsibility for their own safety and must be prepared to respond to and possibly endure a crisis: civil protection starts and ends with the citizen • Introducing the role of citizens as early receptors of the disaster and participants of the response efforts-Understanding disaster risk
Types/Formats	sql
Re-use of any existing data	No
Origin	Oracle
Size	-
Utility for others	-
2. FAIR data	
2.1. Making data findable, including provisions for metadata	
Metadata provision	Based on keyword and phrases
Metadata standards	UTF-8
Unique identifier	Yes

Naming conventions	No
Search keywords	Yes
Version control	Yes
2.2 Making data openly Accessible	
Classification	No
Sharing and access regimes	No
Needed method/software	No
Repository	No
Access authorisation	Yes
2.3. Making data interoperable	
Data/metadata vocabularies and other I/O standards	No
Mapping to common ontologies	No need
2.4. Increase data re-use (through clarifying licences)	
Licence	For developers of Free Open Source Software ("FOSS") applications under the GPL that want to combine and distribute those FOSS applications with MySQL software, Oracle's MySQL open source software licensed under the GPL is the best option. For developers and distributors of open source software under a FOSS license other than the GPL, Oracle makes its GPL-licensed MySQL Client Libraries available under a FOSS Exception that enables use of the those MySQL Client Libraries under certain conditions without causing the entire derivative work to be subject to the GPL.
Re-use availability schedule	Yes
Re-use by third parties	No
Quality assurance	Unknown
Availability period	Until end of the project

Table 4-14: Emergency response health condition monitoring device and information system

1. Closed Component summary	
Purpose	The device will collect vital sign data of the wearer, display it on the screen and transmit it with a pseudonymised id code to the data aggregation centre.
Relation to the objectives of the project	The device will be used for monitoring the health state of the victims
Types/Formats	Timeseries and indicators of biosignals/ MQTT messages
Re-use of any existing data	No
Origin	Disaster victims' vital signs
Size	TBD

Utility for others	Use on the data aggregation centre
2. FAIR data	
2.1. Making data findable, including provisions for metadata	
Metadata provision	Not Applicable
Metadata standards	Not Applicable
Unique identifier	Not Applicable
Naming conventions	Not Applicable
Search keywords	Not Applicable
Version control	Not Applicable
2.2 Making data openly Accessible	
Classification	Not Applicable
Sharing and access regimes	Not Applicable
Needed method/software	Not Applicable
Repository	Not Applicable
Access authorisation	Not Applicable
2.3. Making data interoperable	
Data/metadata vocabularies and other I/O standards	Not Applicable
Mapping to common ontologies	Not Applicable
2.4. Increase data re-use (through clarifying licences)	
Licence	Not Applicable
Re-use availability schedule	Not Applicable
Re-use by third parties	Not Applicable
Quality assurance	Not Applicable
Availability period	Not Applicable

Table 4-15: 3D Mixed Reality Command Centre

1. Closed Component summary	
Purpose	The device will use Mixed Reality technology for presenting an overview of the situation to the decision makers.
Relation to the objectives of the project	The device will access data available from the data aggregation centre and display it to the user. Additionally, it will register images from UAVs and robots.
Types/Formats	Information collected in the data aggregation centre
Re-use of any existing data	GIS and BIM data of the area
Origin	Data aggregation centre

Size	TBD
Utility for others	Coordination of the search and rescue operation
2. FAIR data	
2.1. Making data findable, including provisions for metadata	
Metadata provision	Not Applicable
Metadata standards	Not Applicable
Unique identifier	Not Applicable
Naming conventions	Not Applicable
Search keywords	Not Applicable
Version control	Not Applicable
2.2 Making data openly Accessible	
Classification	Not Applicable
Sharing and access regimes	Not Applicable
Needed method/software	Not Applicable
Repository	Not Applicable
Access authorisation	Not Applicable
2.3. Making data interoperable	
Data/metadata vocabularies and other I/O standards	Not Applicable
Mapping to common ontologies	Not Applicable
2.4. Increase data re-use (through clarifying licences)	
Licence	Not Applicable
Re-use availability schedule	Not Applicable
Re-use by third parties	Not Applicable
Quality assurance	Not Applicable
Availability period	Not Applicable

Table 4-16: Multi sensors data fusion and Object detection algorithms for in-disaster scene situation awareness

1. Closed Component summary	
Purpose	The data fusion and object detection algorithm collect data from sensors (e.g. LiDAR, Camera and Radar) and fuses them and send the output results to the external systems.
Relation to the objectives of the project	The device will support the robotic ground vehicle platform during its movements in the disaster scene in the context of the pilots.
Types/Formats	Proprietary communication protocol.

Re-use of any existing data	No
Origin	Sensors data
Size	TBD
Utility for others	Use by robotic platforms and remote driver
2. FAIR data	
2.1. Making data findable, including provisions for metadata	
Metadata provision	Not Applicable
Metadata standards	Not Applicable
Unique identifier	Not Applicable
Naming conventions	Not Applicable
Search keywords	Not Applicable
Version control	Not Applicable
2.2 Making data openly Accessible	
Classification	Not Applicable
Sharing and access regimes	Not Applicable
Needed method/software	Not Applicable
Repository	Not Applicable
Access authorisation	Not Applicable
2.3. Making data interoperable	
Data/metadata vocabularies and other I/O standards	Not Applicable
Mapping to common ontologies	Not Applicable
2.4. Increase data re-use (through clarifying licences)	
Licence	Not Applicable
Re-use availability schedule	Not Applicable
Re-use by third parties	Not Applicable
Quality assurance	Not Applicable
Availability period	Not Applicable

Table 4-17: Emergency Communication App

1. Closed Component summary	
Purpose	Alert first responders to life-threatening conditions by monitoring vital signs of multiple trauma patients.
Relation to the objectives of the project	Support the design of the common interoperability framework of SnR focused on the various type of information transmitted and exchanged during a crisis.
Types/Formats	Proprietary communication protocol.

Re-use of any existing data	N/A
Origin	CONCORDE
Size	N/A
Utility for others	First responders, dispatch centres.
2. FAIR data	
2.1. Making data findable, including provisions for metadata	
Metadata provision	Closed as necessary
Metadata standards	Data Package
Unique identifier	Accession Number (AN)
Naming conventions	purpose/function/service
Search keywords	Related to data
Version control	Distributed
2.2 Making data openly Accessible	
Classification	Shared data
Sharing and access regimes	Open access with limitations
Needed method/software	Depends on file extension
Repository	Zenodo
Access authorisation	YES
2.3. Making data interoperable	
Data/metadata vocabularies and other I/O standards	FAIR Data Point (FDP)
Mapping to common ontologies	Thesauri, ontologies, formal ontologies
2.4. Increase data re-use (through clarifying licences)	
Licence	Free
Re-use availability schedule	Non-commercial reuse or reuse with attribution
Re-use by third parties	Non-commercial reuse or reuse with attribution
Quality assurance	Yes
Availability period	During project lifespan and 3 years after the end of the project

4.3 SnR Research Datasets

This chapter is about the datasets that are/ will be extracted from Search and Rescue and will be used for academic research purposes. In order to train the platform, in conjunction with data acquired from external resources (e.g. existing databases), the pilot partners will provide data from real incidents to train the predictive algorithms, but those data will be bound by the confidentiality of the consortium, will be anonymised to the degree that is decided by the pilot partners and will not be included in any disseminated material.

Regarding the results from the pilot operation of the platform, any anonymised and/or aggregated datasets that may become available outside the consortium will follow the approval procedure described in Section 2.2 of this deliverable and will be formed in a manner that will make them potentially useful without allowing any personal identification of specific cases.

In this Section, these datasets will be reported as they become available using the relevant FAIR analysis table.

Table 4-18: Name of Research Data set

1. Data summary	
Purpose	
Relation to the objectives of the project	
Types/Formats	
Re-use of any existing data	
Origin	
Size	
Utility for others	
2. FAIR data	
2.1. Making data findable, including provisions for metadata	
Metadata provision	
Metadata standards	
Unique identifier	
Naming conventions	
Search keywords	
Version control	
2.2 Making data openly Accessible	
Classification	
Sharing and access regimes	
Needed method/software	
Repository	
Access authorisation	
2.3. Making data interoperable	
Data/metadata vocabularies and other I/O standards	
Mapping to common ontologies	
2.4. Increase data re-use (through clarifying licences)	
Licence	

Re-use availability schedule	
Re-use by third parties	
Quality assurance	
Availability period	

4.4 SnR Publications

4.4.1 Scientific Publications

Along with the dissemination of project deliverables and datasets, we are considering as part of the DMP the further dissemination of project Scientific Publications.

Each publication will be added here using the following structure:

4.4.1.1 [Title of publication]

Publication reference and name

Publication abstract

Table 4-19: Title of Publication

1. Data summary	
Purpose	
Relation to the objectives of the project	
Types/Formats	
Re-use of any existing data	
Origin	
Size	
Utility for others	
2. FAIR data	
2.1. Making data findable, including provisions for metadata	
Metadata provision	
Metadata standards	
Unique identifier	
Naming conventions	
Search keywords	
Version control	
2.2 Making data openly Accessible	
Classification	
Sharing and access regimes	
Needed method/software	

Repository	
Access authorisation	
2.3. Making data interoperable	
Data/metadata vocabularies and other I/O standards	
Mapping to common ontologies	
2.4. Increase data re-use (through clarifying licences)	
Licence	
Re-use availability schedule	
Re-use by third parties	
Quality assurance	
Availability period	

4.4.2 Other Publications

Other publications refer to any published material created by the consortium members during the project's lifetime that do not fall under the academic research field. Such publications may include press releases, presentations, software documentation, or produced multimedia for dissemination purposes (e.g. a Search and Rescue video).

All of this material will be available at the Search and Rescue website, either in their original form or as a link to a related social media/data repository platform (e.g. YouTube or Zenodo link) or as embedded multimedia frame (e.g. embedded radio interview). Their metadata should be available on the source.

When such material is created, special attention should be given on providing references on the various sources used. In case a source is not publicly available, consent should be required.

Publications from third parties that refer to Search and Rescue (e.g. a special article on a blog post or an extensive tv reportage on the Search and Rescue approach), or are in any other way related to Search and Rescue, should go through the project's Coordinator and the Dissemination leader for approval and will be also kept in a dedicated section of the Search and Rescue website as a reference.

5 Conclusions

The present deliverable attempts an early approach on the definition of the SnR DMP. Described are the main principles and regulations which the DMP is aligned with, as well as the methodology deriving thereof. Following the EU guidelines regarding open access to scientific publications and research data, and FAIR Data Management, we used consistently the adapted FAIR Data template for presentation of all expected data. These data are categorised in four main groups: public deliverables, software components, research datasets and publications. The relevant storage solutions are set out in a dedicated section along with the characteristics that made them an appropriate choice. In the light of the changes in EU data protection regulation, identification of the GDPR roles (controllers, processors, recipients) even among the consortium partners is crucial for clarifying data protection responsibilities. Personal data that will be acquired for the SnR needs and the relevant data processing activities are, to the extent possible, foreseen and described.

All the above mentioned approaches and methodology will mainly serve as a guideline for handling the data that will stem from the project. As stated before, this document is intended to be a living document; the here presented version of the DMP is not the final and during the project may be subject to minor or major amendments and additions, if need be. A final version of the DMP will be included towards the end of the project [M35], where all data that are generated and processed during the project will be presented.

Annex I: FAIR Template

The FAIR Template is presented in the following table. Details on the content of the table can be found in the Guidelines on FAIR Data Management in Horizon 2020[13].

Table I-1: H2020 FAIR DMP Template

DMP component	Issues to be addressed
1. Data summary	• State the purpose of the data collection/generation • Explain the relation to the objectives of the project • 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
2. FAIR Data	
2.1. Making data findable, including provisions for metadata	• Outline the discoverability of data (metadata provision) • Outline the identifiability of data and refer to standard identification mechanism. Do you make use of persistent and unique identifiers such as Digital Object Identifiers, URL etc.? • Outline naming conventions used • Outline the approach towards search keyword • Outline the approach for clear versioning • Specify standards for metadata creation (if any). If there are no standards in your discipline describe what type of metadata will be created and how
2.2 Making data openly Accessible	• Specify which data will be made openly available? If some data is kept closed provide rationale for doing so • Specify how the data will be made available • Specify what methods or software tools are needed to access the data? Is documentation about the software needed to access the data included? Is it possible to include the relevant software (e.g. in open source code)? • Specify where the data and associated metadata, documentation and code are deposited • Specify how access will be provided in case there are any restrictions
2.3. Making data interoperable	• Assess the interoperability of your data. Specify what data and metadata vocabularies, standards or methodologies you will follow to facilitate interoperability. • Specify whether you will be using standard vocabulary for all data types present in your data set, to allow inter-disciplinary interoperability? If not, will you provide mapping to more commonly used ontologies?

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

2.4. Increase data re-use (through clarifying licences)	• Specify how the data will be licensed to permit the widest reuse possible • Specify when the data will be made available for re-use. If applicable, specify why and for what period a data embargo is needed • Specify whether the data produced and/or used in the project is useable by third parties, in particular after the end of the project? If the re-use of some data is restricted, explain why • Describe data quality assurance processes • Specify the length of time for which the data will remain re-usable
3. Allocation of resources	• Estimate the costs for making your data FAIR. Describe how you intend to cover these costs • Clearly identify responsibilities for data management in your project • Describe costs and potential value of long term preservation
4. Data security	• Address data recovery as well as secure storage and transfer of sensitive data
5. Ethical aspects	• To be covered in the context of the ethics review, ethics section of DoA and ethics deliverables. Include references and related technical aspects if not covered by the former
6. Other	• Refer to other national/ funder/ sectorial/ departmental procedures for data management that you are using (if any)

Annex II: Adapted FAIR Template

Below is the Adapted FAIR Template, as modified for the purpose of describing the SnR project datasets/modules.

Table II-1: Adapted FAIR Template

1. Data summary	
Purpose	
Relation to the objectives of the project	
Types/Formats	
Re-use of any existing data	
Origin	
Size	
Utility for others	
2. FAIR data	
2.1. Making data findable, including provisions for metadata	
Metadata provision	
Metadata standards	
Unique identifier	
Naming conventions	
Search keywords	
Version control	
2.2 Making data openly Accessible	
Classification	
Sharing and access regimes	
Needed method/software	
Repository	
Access authorisation	
2.3. Making data interoperable	
Data/metadata vocabularies and other I/O standards	
Mapping to common ontologies	
2.4. Increase data re-use (through clarifying licences)	
Licence	
Re-use availability schedule	

Re-use by third parties	
Quality assurance	
Availability period	

Annex III: Public Deliverables Description Tables

Table III-1: Description of the deliverable D1.1-"Report on user requirements, existing tools and infrastructure"

1. Public Deliverable Summary	
Purpose	The main objective of D1.1 is to gather information on existing technologies used in SAR operations relevant to the location of entrapped victims; the identification of limitations and gaps, as well as of future needs. Benchmarking of available commercial products will also be included.
Relation to the objectives of the project	D1.1 will conduct a state-of-the-art review on existing SAR technologies for the early location of entrapped victims.
Types/Formats	Report/ PDF
Re-use of any existing data	No re-use of existing data
Origin	Information was collected from questionnaires
Size	Approximately 6.06 MB, 159 pages
Utility for others	All consortium partners
2. FAIR data	
2.1. Making data findable, including provisions for metadata	
Metadata provision	D1.1 metadata: - Name: "Report on user requirements, existing tools and infrastructure" - Author: PROECO - Consortium partners: All - Keywords: SnR, Search and Rescue, State-of-the-Art, SotA, Tools, Infrastructure, SAR Operations, Entrapped Victims, limitations, Gaps, Future Needs
Metadata standards	No specific metadata standard used
Unique identifier	Not yet available, DOI to be added when uploaded to Zenodo
Naming conventions	SnR_D1.1 Report on user requirements, existing tools and infrastructure_v1.00
Search keywords	SnR, Search and Rescue, State of the Art, SotA, Tools, Infrastructure, SAR Operations, Entrapped Victims, limitations, Gaps, Future Needs
Version control	All changes are reported in the document history section. The final version is v1.00
2.2 Making data openly Accessible	
Classification	Confidentiality level: PU (public)
Sharing and access regimes	Before submission: available only to consortium partners through the Alfresco platform After submission: publicly available through the official SnR website
Needed method/software	No special software needed for the PDF format
Repository	Alfresco platform and SnR official website

Access authorisation	Before submission: accessible only by authorised consortium partners After submission: upload on the website, no authorisation needed
2.3. Making data interoperable	
Data/metadata vocabularies and other I/O standards	-
Mapping to common ontologies	-
2.4. Increase data re-use (through clarifying licences)	
Licence	No licence needed
Re-use availability schedule	After submission: immediately granted free open Access for mining, exploiting, processing and disseminating Publicly available for re-use from November 2020
Re-use by third parties	After submission: Accessible and re-usable by third-parties. No access and time limitations apply
Quality assurance	Internal quality audit control by the Quality Manager (NTUA) and two assigned reviewers, JOAFG and KT
Availability period	No time limitation scheduled after the end of the project

Table III-2: Description of the deliverable D1.2-"Report on the functional specifications of SnR"

1. Public Deliverable Summary	
Purpose	The main objective of D1.2 is to gather end-user requirements in order to prepare the configuration of the chemical sensors technologies (portable or wearable) that will be developed inside SnR in terms of ergonomic, power supply, size, weight, end-user interface characteristics and prepare the SnR Use case trials.
Relation to the objectives of the project	The operational requirements input from D1.2, combined with the results of D1.1 will be used for the design and development of the RESCUE MIMS prototype; the SnR artificial sniffing tool will be developed, capable of measuring critical volatiles in the field, either for the early detection of toxic environments or for the localisation of entrapped victims and for ensuring the chemical protection of the First Responder.
Types/Formats	Report/ PDF
Re-use of any existing data	No re-use of existing data
Origin	Information on D1.2 was based on the project's DoA, the experience of the partners contributing and case studies
Size	Approximately 6.39 MB, 212 pages
Utility for others	All consortium partners
2. FAIR data	

2.1. Making data findable, including provisions for metadata	
Metadata provision	D1.2 metadata: - Name: "Report on the functional specifications of SnR" - Author: PROECO - Consortium partners: All - Keywords: SnR, Search and Rescue, End-user Requirements, Chemical Sensors, Societal Values, Gap Analysis, Community Resilience
Metadata standards	No specific metadata standard used
Unique identifier	Not yet available, DOI to be added when uploaded to Zenodo
Naming conventions	SnR_D1.2 Report on the functional specifications of SnR_v1.00
Search keywords	SnR, Search and Rescue, End-user Requirements, Chemical Sensors, Societal Values, Gap Analysis, Community Resilience
Version control	All changes are reported in the document history section. The final version is v1.00
2.2 Making data openly Accessible	
Classification	Confidentiality level: PU (public)
Sharing and access regimes	Before submission: available only to consortium partners through the Alfresco platform After submission: publicly available through the official SnR website
Needed method/software	No special software needed for the PDF format
Repository	Alfresco platform and SnR official website
Access authorisation	Before submission: accessible only by authorised consortium partners After submission: upload on the website, no authorisation needed
2.3. Making data interoperable	
Data/metadata vocabularies and other I/O standards	-
Mapping to common ontologies	-
2.4. Increase data re-use (through clarifying licences)	
Licence	No licence needed
Re-use availability schedule	After submission: immediately granted free open Access for mining, exploiting, processing and disseminating Publicly available for re-use from November 2020
Re-use by third parties	After submission: Accessible and re-usable by third-parties. No access and time limitations apply
Quality assurance	Internal quality audit control by the Quality Manager (NTUA) and two assigned reviewers, KT and PSCE
Availability period	No time limitation scheduled after the end of the project

Table III-3: Description of the deliverable D3.1-"Requirements to knowledge management and SA Model"

1. Public Deliverable Summary	
Purpose	The objective of D3.1 is to define the technical requirements to the knowledge management functionality to enable situation awareness, more efficient context-aware data sharing and presentation to the emergency responding actors, and subsequently more efficient decision-making support.
Relation to the objectives of the project	D3.1 will collect requirements which will address different aspects of the SnR system functionality such as a) knowledge models and information elements required to represent various types of resources used in SnR operations; b) the support required for various types of decision making and decision points during SnR operations; c) the requirements to the overall (semantically enhanced) knowledge management infrastructure to support the achieving of situation awareness. These needs will support the risk awareness in decision making, related to both victims as well as staff on the field.
Types/Formats	Report/ PDF
Re-use of any existing data	No re-use of existing data
Origin	Information has been based on the project's DoA, the experience of the partners contributing and case studies.
Size	Approximately 2.02 MB, 48 pages
Utility for others	To all consortium partners
2. FAIR data	
2.1. Making data findable, including provisions for metadata	
Metadata provision	D3.1 metadata: - Name: "Requirements to knowledge management and SA Model" - Author: KT - Consortium partners: All - Keywords: SnR, Search and Rescue, Knowledge Management
Metadata standards	No specific metadata standard used
Unique identifier	Not yet available, DOI to be added when uploaded to Zenodo
Naming conventions	SnR_D3.1-Requirements to knowledge management and SA Model-v1.00
Search keywords	SnR, Search and Rescue, Knowledge Management
Version control	All changes are reported in the document history section.
2.2 Making data openly Accessible	
Classification	Confidentiality level: PU (public)
Sharing and access regimes	Before submission: available only to consortium partners through the Alfresco platform After submission: publicly available through the official SnR website
Needed method/software	No special software needed for the PDF format
Repository	Alfresco platform and SnR official website
Access authorisation	Before submission: accessible only by authorised consortium partners After submission: upload on the website, no authorisation needed

2.3. Making data interoperable	
Data/metadata vocabularies and other I/O standards	-
Mapping to common ontologies	-
2.4. Increase data re-use (through clarifying licences)	
Licence	No licence needed
Re-use availability schedule	After submission: immediately granted free open Access for mining, exploiting, processing and disseminating
Re-use by third parties	After submission: Accessible and re-usable by third-parties. No access and time limitations apply
Quality assurance	Internal quality audit control by the Quality Manager (NTUA) and two assigned reviewers, SIMAVI and MAG
Availability period	No time limitation scheduled after the end of the project

Table III-4: Description of the deliverable D4.1-"Data aggregation"

1. Public Deliverable Summary	
Purpose	D4.1 will identify, analyse and search existing databases that contain data related to the objectives of the SnR proposal, in order to establish efficient and effective ways of obtaining their content.
Relation to the objectives of the project	The objective is to extract all the relevant information from existing sources and possibly expand those sources, in order to support crisis preparedness activities and provisioning of common information to all interested organisations, thus utilising an agreed unified framework and not by creating another database.
Types/Formats	Report/ PDF
Re-use of any existing data	Existing resources pertaining European/international large-scale disasters and terrorism events.
Origin	Information on D4.1 was based on the documentation of the used resources. All partners contributed to the identification of existing resources.
Size	Approximately 2.16 MB, 52 pages
Utility for others	All consortium partners participating in WP4, WP5, WP6, and WP8.
2. FAIR data	
2.1. Making data findable, including provisions for metadata	
Metadata provision	D4.1 metadata: - Name: "Data aggregation" - Author: NTUA - Consortium partners: All - Keywords: SnR, Search and Rescue, Data Aggregation, Databases
Metadata standards	No specific metadata standard used
Unique identifier	Not yet available, DOI to be added when uploaded to Zenodo

Naming conventions	SnR_D4.1-Data aggregation-v1.00
Search keywords	SnR, Search and Rescue, Data Aggregation, Databases
Version control	All changes are reported in the document history section.
2.2 Making data openly Accessible	
Classification	Confidentiality level: PU (public)
Sharing and access regimes	Before submission: available only to consortium partners through the Alfresco platform After submission: publicly available through the official SnR website
Needed method/software	No special software needed for the PDF format
Repository	Alfresco platform and SnR official website
Access authorisation	Before submission: accessible only by authorised consortium partners After submission: upload on the website, no authorisation needed
2.3. Making data interoperable	
Data/metadata vocabularies and other I/O standards	-
Mapping to common ontologies	-
2.4. Increase data re-use (through clarifying licences)	
Licence	No licence needed
Re-use availability schedule	After submission: immediately granted free open Access for mining, exploiting, processing and disseminating
Re-use by third parties	After submission: Accessible and re-usable by third-parties. No access and time limitations apply
Quality assurance	Internal quality audit control by the Quality Manager (NTUA) and two assigned reviewers, ATOS and SIMAVI
Availability period	No time limitation scheduled after the end of the project

Table III-5: Description of the deliverable D7.2-"Architecture and Design Specifications of SnR platform"

1. Public Deliverable Summary	
Purpose	D7.2 will derive and document the conceptual architecture and detailed specifications of the integrated SnR platform.
Relation to the objectives of the project	The architecture of the SnR platform will describe in detail the integration logic and interfaces between the involved tools and services produced by WP3: Situation Awareness, WP4: Data aggregation, Analysis and Decision Support, WP5: Design and implementation of specialised equipment for first responders, WP6: SnR Component Design & Development.
Types/Formats	Report/ PDF
Re-use of any existing data	No re-use of existing data
Origin	Information has been based on the project's DoA, the experience of the partners contributing and case studies.

Size	Approximately 1.87 MB, 56 pages
Utility for others	All consortium partners involved with WP3, WP4, WP5 and WP6
2. FAIR data	
2.1. Making data findable, including provisions for metadata	
Metadata provision	D7.2 metadata: - Name: "Architecture and Design Specifications of SnR platform" - Author: SIMAVI - Consortium partners: All - Keywords: SnR, Search and Rescue, Conceptual Architecture, SnR Platform, Interfaces, Integration, Components, Open Source Software, Standards
Metadata standards	No specific metadata standard used
Unique identifier	Not yet available, DOI to be added when uploaded to Zenodo
Naming conventions	SnR_D7.2-Architecture and Design Specifications of SnR platform-v1.00
Search keywords	SnR, Search and Rescue, Conceptual Architecture, SnR Platform, Interfaces, Integration, Components, Open Source Software, Standards
Version control	All changes are reported in the document history section.
2.2 Making data openly Accessible	
Classification	Confidentiality level: PU (public)
Sharing and access regimes	Before submission: available only to consortium partners through the Alfresco platform After submission: publicly available through the official SnR website
Needed method/software	No special software needed for the PDF format
Repository	Alfresco platform and SnR official website
Access authorisation	Before submission: accessible only by authorised consortium partners After submission: upload on the website, no authorisation needed
2.3. Making data interoperable	
Data/metadata vocabularies and other I/O standards	-
Mapping to common ontologies	-
2.4. Increase data re-use (through clarifying licences)	
Licence	No licence needed
Re-use availability schedule	After submission: immediately granted free open Access for mining, exploiting, processing and disseminating
Re-use by third parties	After submission: Accessible and re-usable by third-parties. No access and time limitations apply
Quality assurance	Internal quality audit control by the Quality Manager (NTUA) and two assigned reviewers, PROECO and SYNYO
Availability period	No time limitation scheduled after the end of the project

Table III-6: Description of the deliverable D9.1-"SnR dissemination plan"

1. Public Deliverable Summary	
Purpose	D9.1 will generate a detailed dissemination plan to direct the end-user, academic and software partners by providing a detailed dissemination roadmap for: i) the first half of the project and ii) the second half of the project until its end.
Relation to the objectives of the project	D9.1 provides the dissemination plan for the project.
Types/Formats	Report/ PDF
Re-use of any existing data	No re-use of existing data
Origin	Data collected from project partners
Size	Approximately 1.42 MB, 30 pages
Utility for others	All consortium partners
2. FAIR data	
2.1. Making data findable, including provisions for metadata	
Metadata provision	D9.1 metadata: - Name: "SnR dissemination plan" - Author: PSCE - Consortium partners: All - Keywords: SnR, Search and Rescue, Dissemination Plan, Dissemination Roadmap, Publications, Presentations, Journals, Conferences, Exhibitions, Workshops, Events
Metadata standards	No specific metadata standard used
Unique identifier	Not yet available, DOI to be added when uploaded to Zenodo
Naming conventions	SnR-D9.1 SnR dissemination plan-v1.00
Search keywords	SnR, Search and Rescue, Dissemination Plan, Dissemination Roadmap, Publications, Presentations, Journals, Conferences, Exhibitions, Workshops, Events
Version control	All changes are reported in the document history section.
2.2 Making data openly Accessible	
Classification	Confidentiality level: PU (public)
Sharing and access regimes	Before submission: available only to consortium partners through the Alfresco platform After submission: publicly available through the official SnR website
Needed method/software	No special software needed for the PDF format
Repository	Alfresco platform and SnR official website
Access authorisation	Before submission: accessible only by authorised consortium partners After submission: upload on the website, no authorisation needed

2.3. Making data interoperable	
Data/metadata vocabularies and other I/O standards	-
Mapping to common ontologies	-
2.4. Increase data re-use (through clarifying licences)	
Licence	No licence needed
Re-use availability schedule	After submission: immediately granted free open Access for mining, exploiting, processing and disseminating
Re-use by third parties	After submission: Accessible and re-usable by third-parties. No access and time limitations apply
Quality assurance	Internal quality audit control by the Quality Manager (NTUA) and two assigned reviewers, VUB and SAN
Availability period	No time limitation scheduled after the end of the project

Table III-7: Description of the deliverable D9.4 - "SnR web-site and Online dissemination and communication infrastructure"

1. Public Deliverable Summary	
Purpose	The purpose of D9.4 is to demonstrate a first version of the SnR website and its architecture.
Relation to the objectives of the project	D9.4 will provide all necessary details of the website's structure, tools, contents and features.
Types/Formats	Websites, patents filling, etc./ PDF
Re-use of any existing data	No re-use of existing data
Origin	Information on D9.4 was based on the project's DoA and the experience of the partners contributing
Size	Approximately 1.60 MB, 20 pages
Utility for others	All consortium partners
2. FAIR data	
2.1. Making data findable, including provisions for metadata	
Metadata provision	D9.4 metadata: - Name: "SnR website and Online dissemination and communication infrastructure" - Author: KT - Consortium partners: All - Keywords: SnR, Search and Rescue, Website, Website Architecture, Dissemination, Social Media, Communication
Metadata standards	No specific metadata standard used
Unique identifier	Not yet available, DOI to be added when uploaded to Zenodo
Naming conventions	SnR_D9.4-SnR website and Online dissemination and communication infrastructure-v1.00

Search keywords	SnR, Search and Rescue, Website, Website Architecture, Dissemination, Social Media, Communication
Version control	All changes are reported in the document history section. The final version is v1.00
2.2 Making data openly Accessible	
Classification	Confidentiality level: PU (public)
Sharing and access regimes	Before submission: available only to consortium partners through the Alfresco platform After submission: publicly available through the official SnR website
Needed method/software	No special software needed for the PDF format
Repository	Alfresco platform and SnR official website
Access authorisation	Before submission: accessible only by authorised consortium partners After submission: upload on the website, no authorisation needed
2.3. Making data interoperable	
Data/metadata vocabularies and other I/O standards	-
Mapping to common ontologies	-
2.4. Increase data re-use (through clarifying licences)	
Licence	No licence needed
Re-use availability schedule	After submission: immediately granted free open Access for mining, exploiting, processing and disseminating Publicly available for re-use from August 2020
Re-use by third parties	After submission: Accessible and re-usable by third-parties. No access and time limitations apply
Quality assurance	Internal quality audit control by the Quality Manager (NTUA) and two assigned reviewers, UGL and PSCE
Availability period	No time limitation scheduled after the end of the project

Table III-8: Description of deliverable D10.1-"Project Handbook, Quality Plan & Risk Management"

1. Public Deliverable Summary	
Purpose	The purpose of D10.1 is to identify the procedures, the metrics and the supporting documents that need to be appropriately established in order to assure the quality of the project's deliverables and project management activities.
Relation to the objectives of the project	D10.1 will ensure that project quality remains at a high level throughout the project cycle. D10.1 aims also to anticipate risky situations that can affect the project's normal progress and act in time to minimise the impact.
Types/Formats	Report/ PDF
Re-use of any existing data	No re-use of existing data

Origin	Information on D10.1 was based on the project's DoA, the experience of the partners contributing and international standards, in particular the Quality Management System, certified under ISO 9001:2015.
Size	Approximately 1.60 MB, 48 pages
Utility for others	All consortium partners in view of the project's coordination
2. FAIR data	
2.1. Making data findable, including provisions for metadata	
Metadata provision	D10.1 metadata: - Name: "Project Handbook, Quality Plan & Risk Management" - Author: NTUA - Consortium partners: All - Keywords: SnR, Search and Rescue, Risk Management, Quality Assurance, Project Handbook, Quality Plan, Document Control Management
Metadata standards	No specific metadata standard used
Unique identifier	Not yet available, DOI to be added when uploaded to Zenodo
Naming conventions	SnR_D10.1-Project Handbook, Quality Plan & Risk Management-v1.00
Search keywords	SnR, Search and Rescue, Risk Management, Quality Assurance, Project Handbook, Quality Plan, Document Control Management
Version control	All changes are reported in the document history section. The final version is v1.00
2.2 Making data openly Accessible	
Classification	Confidentiality level: PU (public)
Sharing and access regimes	Before submission: available only to consortium partners through the Alfresco platform After submission: publicly available through the official SnR website
Needed method/software	No special software needed for the PDF format
Repository	Alfresco platform and SnR official website
Access authorisation	Before submission: accessible only by authorised consortium partners After submission: upload on the website, no authorisation needed
2.3. Making data interoperable	
Data/metadata vocabularies and other I/O standards	-
Mapping to common ontologies	-
2.4. Increase data re-use (through clarifying licences)	
Licence	No licence needed
Re-use availability schedule	After submission: immediately granted free open Access for mining, exploiting, processing and disseminating. Publicly available for re-use from August 2020
Re-use by third parties	Accessible and re-usable by third-parties from August 2020. No access and time limitations apply

Quality assurance	Internal quality audit control by the Quality Manager (NTUA) and two assigned reviewers, VUB and SYNYO
Availability period	No time limitation scheduled after the end of the project

Table III-9: Description of the deliverable D10.2-"Data Management Plan 1st version"

1. Public Deliverable Summary	
Purpose	The purpose of D10.2 is to develop and early Data Management Plan within the first 6 months of the project, giving the Search and Rescue project the ability to participate in the Open Research Data Pilot. It will also examine and determine every action pertaining data (from collection, generation and processing to distribution, storage and preservation). It will address issues relating to the protection of confidential or sensitive information and the compliance with the new EU General Data Protection Regulation (GDPR).
Relation to the objectives of the project	D10.2 serves as the initial plan for the collection, organisation, storing and sharing of the knowledge and data created within the project.
Types/Formats	ORDP: Open Research Data Pilot/ PDF
Re-use of any existing data	No re-use of existing data
Origin	Information on D10.2 was based on the project's DoA, the European Commission guidelines for data management of H2020 research projects, the FAIR principles and the input from the project consortium members.
Size	Approximately 1.73 MB, 68 pages
Utility for others	All consortium partners managing data of the project
2. FAIR data	
2.1. Making data findable, including provisions for metadata	
Metadata provision	D10.2 metadata: - Name: "Data Management Plan, 1st version" - Author: NTUA - Consortium partners: All - Keywords: SnR, Search and Rescue, Data Management, GDPR, Confidentiality, Sensitive Information, Data Archiving, Data Handling
Metadata standards	No specific metadata standard used
Unique identifier	Not yet available, DOI to be added when uploaded to Zenodo
Naming conventions	SnR_D10.2-Data Management Plan, 1st version_NTUA-v1.00
Search keywords	SnR, Search and Rescue, Data Management, GDPR, Confidentiality, Sensitive Information, Data Archiving, Data Handling
Version control	All changes are reported in the document history section. The final version is v1.00
2.2 Making data openly Accessible	
Classification	Confidentiality level: PU (public)

Sharing and access regimes	Before submission: available only to consortium partners through the Alfresco platform After submission: publicly available through the official SnR website
Needed method/software	No special software needed for the PDF format
Repository	Alfresco platform and SnR official website
Access authorisation	Before submission: accessible only by authorised consortium partners After submission: upload on the website, no authorisation needed
2.3. Making data interoperable	
Data/metadata vocabularies and other I/O standards	-
Mapping to common ontologies	-
2.4. Increase data re-use (through clarifying licences)	
Licence	No licence needed
Re-use availability schedule	After submission: immediately granted free open Access for mining, exploiting, processing and disseminating
Re-use by third parties	After submission: Accessible and re-usable by third-parties. No access and time limitations apply
Quality assurance	Internal quality audit control by the Quality Manager (NTUA) and two assigned reviewers, PROECO and CNR
Availability period	No time limitation scheduled after the end of the project

Table III-10: Description of the deliverable D10.6-"Ethical protocol"

1. Public Deliverable Summary	
Purpose	The purpose of D10.6 is to identify and describe the procedures and methodology to ensure that SnR research activities and pilot testing are ethically sound and that data from research participants is stored according to EU and national regulations to ensure their privacy.
Relation to the objectives of the project	D10.6 will provide guidelines to ensure adherence of the project's partners with ethical requirements imposed by the Grant Agreement. It will also provide an information sheet and an informed consent form to the project's partners for the purpose of communicating about the project with third parties and involve third parties in events. Lastly, it will provide recommendations for the establishment of an Ethical Board (EB) of experts.
Types/Formats	Report/ PDF
Re-use of any existing data	No re-use of existing data
Origin	Information on D10.6 was based on the project's DoA and the experience of the partners contributing
Size	Approximately 0.99 MB, 35 pages
Utility for others	All consortium partners who are obliged to comply with its requirements while conducting research activities during the SnR project.

2. FAIR data	
2.1. Making data findable, including provisions for metadata	
Metadata provision	D10.6 metadata: - Name: "Ethical Protocol" - Author: VUB - Consortium partners: All - Keywords: SnR, Search and Rescue, Ethical Protocol, Data Protection, GDPR, Information Sheet, Informed Consent, Ethical Board
Metadata standards	No specific metadata standard used
Unique identifier	Not yet available, DOI to be added when uploaded to Zenodo
Naming conventions	SnR_D10.6 - Ethical Protocol_v1.00
Search keywords	SnR, Search and Rescue, Ethical Protocol, Data Protection, GDPR, Information Sheet, Informed Consent, Ethical Board
Version control	All changes are reported in the document history section. The final version is v1.00
2.2 Making data openly Accessible	
Classification	Confidentiality level: PU (public)
Sharing and access regimes	Before submission: available only to consortium partners through the Alfresco platform After submission: publicly available through the official SnR website
Needed method/software	No special software needed for the PDF format
Repository	Alfresco platform and SnR official website
Access authorisation	Before submission: accessible only by authorised consortium partners After submission: upload on the website, no authorisation needed
2.3. Making data interoperable	
Data/metadata vocabularies and other I/O standards	-
Mapping to common ontologies	-
2.4. Increase data re-use (through clarifying licences)	
Licence	No licence needed
Re-use availability schedule	After submission: immediately granted free open Access for mining, exploiting, processing and disseminating Publicly available for re-use from October 2020
Re-use by third parties	After submission: Accessible and re-usable by third-parties. No access and time limitations apply
Quality assurance	Internal quality audit control by the Quality Manager (NTUA) and two assigned reviewers, PSCE and THALIT
Availability period	No time limitation scheduled after the end of the project