



D5.2 Data Management Plan

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SAFELAND

SAFE LANDING THROUGH ENHANCED GROUND SUPPORT

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Abstract

The Data Management Plan describes the data management life cycle for the data collected, processed and generated by the project. The Deliverable is the outcome of T5.1. The DMP will be updated over the course of the project whenever significant changes arise (e.g. new data or new policies).

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1 Introduction

This deliverable provides the **SAFELAND** data management plan. The Deliverable:

- outlines how the research data collected or generated will be handled during and after the action,
- describes which standards and methodology for data collection and generation will be followed, and
- describes whether and how data will be shared.

This document presents an overview of SAFELAND approach to data management. More detailed information on specific aspects can be found in:

- D6.1: H - Requirement No. 1: procedures and criteria for participants recruitment
- D6.2: H - Requirement No. 2: informed consent procedures and forms
- D6.3: POPD - Requirement No. 3: Data Protection Officer (DPO), data protection policy, data minimisation procedure, technical and organisational measures for the safeguard of rights and freedoms

This deliverable focuses on the data management internal to the project. The raw data collected will not be made public, as SAFELAND has requested an opt-out from the Open Research Data Pilot of the European Commission for the data generated in the frame of the project.

1.1 Purpose and scope of this document

In this deliverable, it is shown how the project data are collected and managed. Following sections of this document will cover the different DMP components, based on the outline suggested in the Guidelines **Errore. L'origine riferimento non è stata trovata.** They are based on input from project partners.

1.2 Structure of the document

- Section 1 provides a short introduction to the purpose of this document and its structure.
- Section 2 introduces main points regarding relevant to the project primary and secondary data, means of collecting them, and data utility.
- Section 3 summarises SAFELAND approach regarding data security (including secure storage, access, and data transfer).
- Section 4 discusses key ethical aspects associated with data collection with human participants.
- Section 5 addresses remaining considerations (other aspects).

2 Research data collection

2.1 Purpose of data collection and generation

SAFELAND aims at designing and evaluate an improved ATM concept providing support to single piloted flights in case of pilot incapacitation.

Data collected by the project will consist in feedback from experts (gathered through workshops and interviews) and operators' data on the use of the concept (gathered during the simulations with several different means).

2.2 Types and formats of data collected and generated as part of the project

The project will collect both quantitative and qualitative data, from both primary and secondary sources.

The data collected aims at understanding the impact of the preliminary SAFELAND concepts (lower level of detail) and the final one (higher level of detail) on:

- Human Factors
- Safety
- Security and Cybersecurity
- Legal aspects
- Economic aspects (e.g. costs)
- Regulatory aspects
- Concept feasibility

Depending on the phase of the project, that information will be collected with different means:

- Advisory Board workshops
- Workshops
- One-to-one interviews with relevant experts
- Dissemination events
- Questionnaires
- Human in the loop simulations

During the simulations, collected data may include:

- Behavioral data (reaction times, time on task, task frequency, and physical movements)
- Questionnaires
- Debriefing sessions
- System log analysis
- Observation

Data recorded may vary: transcription of interviews and debriefings, questionnaires results, photos and videos, behavioral data or system logs.

All the data used by researchers for concept definition and evaluation will not be associated with names. Participants' real names will not be used when filling out the questionnaires. With the exception of the consent form, data will be anonymized; it will not be possible to match the raw data with actual names. Raw data may include relevant information like level of experience, background, nationality.

2.3 Re-use of existing data

SAFELAND will not make use of publicly available or confidential datasets.

3 Data security

The storage of the data in SAFELAND will depend on the type of data, that is, whether they are public or confidential. For confidential data a repository in the **cloud provided by Deep Blue** will be used.

On the other hand, for the dissemination of public information, a web page has been created where the public deliverables will be uploaded as they are available, so the interested audience can follow the evolution of the project. Additionally, social networks profiles have been created, such as LinkedIn and twitter, where news are shared, not only of the project but also in the research field.

Access to the data will be controlled by the person/s in charge of this task, who will manage not only the users' permissions, but also restricting the computer authorized to access the data.

Due to the large amount of information and the relevance of it, several security measures will be taken to avoid the loss of it by making regular backup copies (including incremental backups and regular full backups). In addition, the access to these physical copies will be controlled and restricted. On the other hand, to protect information from cyberattacks it will be encrypted. In addition to software and hardware security standards, data will be protected by applying strict data protection procedures. Any personal data will be processed legally and fairly: collection of data will be adequate, relevant and not excessive in relation to the purposes of the project; data that identifies individuals (personal data) will not be kept any longer than necessary: once the project has finished, data will be completely anonymised if possible, meaning irreversibly preventing identification of the data subject. Any personal data will be destroyed two years past the termination of the project. The Consortium will comply with European (i.e. GDPR) and national legislation relevant to the countries where data collection is taking place.

Data collected for research purposes (including questionnaires, interviews, field observations, audio/screen recordings (where applicable)), as well as promotional materials gathered during data collection activities and SAFELAND events that may be video recorded or photographed, will be subjected to current European regulations on matters of data handling and privacy (GDPR, Regulation (EU) 2016/679). The research outcomes will always be reported without contravening the right to privacy and data protection. More details regarding these aspects will be reported in Ethics deliverables.

- **Secure Access Policy:** Data will be encrypted, and password protected. Only members of the team directly working with the data ("need to know") will have authorisation to access the data. Each Data Controller will be responsible for de-identification of the data or establishing a procedure to be followed by other partners in charge of personal data. This data might be transferred for further processing to other project members.
- **Secure Storage:** Location and Hardware. All personal data will be stored on digital hard disks on computers that are not connected to WAN Internet or on removable hard disks. Removable storage will include large capacity hard drives that will be kept in locked cabinets.
- **Monitoring of Data Transfer:** The data will not be transferred outside the SAFELAND Consortium without prior authorisation.

4 Ethical aspects

Ethical aspects relevant to research data in SAFELAND include collection and preservation of personal data of participants. All project partners will respect the EU legal requirements on privacy and data protection, and adhere to the research ethics standards applicable to Horizon 2020 research programmes. Please also refer to relevant sections of the Consortium Agreement **Errore. L'origine riferimento non è stata trovata.** for the general principles regarding partner responsibilities, non-disclosure of information (Section 10), software, technology and technical information (Section 11.0), and applicable law (Section 11.7).

The Consortium does not envisage any ethical or data privacy issues to arise in relation to data collection and Consortium dissemination activities. The involvement of employees of the end-user organisation in data collection activities will comply with the legal and ethical requirements for participation in EU research and H2020 guidelines. Any activities involving and engaging people outside of the Consortium will abide by European and national guidelines with considerable focus on recent General Data Protection Regulation (GDPR). SAFELAND research will not include children, adults unable to give informed consent, nor vulnerable individuals/groups. Individuals participating in SAFELAND research activities will be volunteers.

In particular, SAFELAND will aim to ensure respect for people and human dignity, fair distribution of research benefits and burden, and protecting the values, rights and interests of the research participants. The informed consent documents are provided in the Ethics deliverables.

The Consortium partners will be made aware of the necessity to obtain the consent forms from each and single individual participating in this research.

5 Other issues

Once the decisions regarding the plan for data collection are finalised, the relevant national procedures for data management will be included in the plan if applicable.

Data will be processed complying with GDPR and other local legislations respecting the following provisions:

- Compliance with institutional, national, and European legislation. The protection of data collected during SAFELAND research studies will comply locally with the participants' policies and Horizon2020 guidelines.
- Each partner will process only the data necessary for SAFELAND specified purposes, and will make sure that they keep data accurate, up to date, and retained only for as long as is deemed necessary for the purpose of the collection and process thereof.
- Each partner will choose, for the data processing, employees with relevant professional qualifications, providing sufficient guarantees in terms of technical expertise and personal integrity to ensure such confidentiality. For data processing being carried out on behalf of the Controller, by other members of the Consortium, the relevant assignment will be made in writing.
- Each partner of the SAFELAND project will be responsible for the correct implementation of data protection procedures for its own organisation.

6 References

- [1] Project Handbook (Programme Execution Guidance) Edition date: 8th June 2020
- [2] SAFELAND Consortium Agreement