SESAME

Smart European Space Access through Modern Exploitation of data science

D7.2 Data Management Plan and Research Ethics

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Glossary

CNIL	Commission nationale de l'informatique et des libertes
CNQ	Cost of Non-Quality
CSG	Guiana Space Center
DMP	Data Management Plan
DPO	Data Protection Officer
FSW	Friction Stir Welding
GDPR	General Data Protection Regulation
IoT	Internet of Things
NQE	Non-Quality Exportet
PEO	Project Ethics Officer
TRL	Technology Readiness Level
WP	Work Package

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1 Executive Summary

The D.7.2 Data Management Plan and Research Ethics (DMP&RE) sets out guidelines for the management of data during SESAME project, including detailed research ethics guidelines. The Data Management Plan is a necessary part of H2020 research projects as it enables accountability, encourages a mindful approach to data management and use, and assists partners with the determining and planning of the practical aspects of research throughout the project.

In order to be easy to use by consortium partner, the documents has two parts:

- D7.2.1 Data Management Plan
- D7.2.2 Research Ethics Guidelines and Protocol

The D7.2.1 Data Management Plan exists for the purpose of indexing the data that is generated or obtained throughout the project and managing how, for what purposes and through which procedures it shall be analysed, processed, accessed and archived or deleted. As such, it covers the entire life cycle of research data as described below.

The D7.2.2 Research Ethics Guidelines and Protocol provides an overview of issues and guidelines related to conducting ethical research under the SESAME project. It sets out the basic principles and responsibilities that result from European Commission regulation on research ethics in H2020. It describes the ethics review processes and gives specific guidelines on where responsibilities lie and how they can be fulfilled. It describes procedures for assessing the need for ethics issue mitigation and provides tools for the practical work of managing research ethics issues (The Research Ethics Protocol).

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2 SESAME overview

The SESAME project aims to harness digital technologies, processes and methods for automation of the European launchers' manufacturing and operations. SESAME will provide the European launcher industry with a framework composed of a digital, open, intelligent, secure and standards-based platform, and human in the loop processes enabling engineers and operators in launcher development, production, testing and operations to implement proactive risk management. "Proactivity" in the context of information systems refers to the ability to avoid or eliminate undesired future events or exploit future opportunities by implementing prediction and automated decision making technologies. Proactivity is leveraged with novel information technologies (Internet Of Things, Big Data, and Machine Learning) that enable decision making and support human actions before a predicted critical event occurs. The platform will optimize the use of data from numerous sensors within company management system, based on data analysis and Machine Learning.

The usefulness of the SESAME results will be validated in a series of Use Cases deployed at the premises of the SESAME end user partners and operated with real technical data (anonymised as required). Such demonstrators will be representative of the functional needs of the use case and will reach TRL 5-7.

The main objectives of the project are:

1. Develop a complete data management framework to proactively manage risks in new automated production and operations;
2. Develop new Predictive Maintenance and Quality components to implement new automated launcher production and operations maintaining quality and reliability. The global project technical progress objective is to pass from TRL 3 to TRL 7;
3. Implement new logistic processes (adaptive operations) that allows an optimal management of resources in an environment where resources are shared among different organisations and products;
4. Evaluate the benefit of these new capabilities in realistic operational scenarios developed based on two Use Cases;
5. Accompany the consequent transformation of human competencies, create new job profiles;
6. Evaluate other possible sectors for which the proposed predictive framework could be applied to create a large eco-system with tools for Predictive Maintenance and Quality.

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The SESAME framework aims at achieving cost reduction through improved production and control operations effectiveness, reduction of Cost of Non-Quality (CNQ), elimination of Non-Quality Exported (NQE), improved working environment and operator's safety, thus contributing to the strategic objective of the European launcher sector, as of Ariane 6 and CSG spaceport.

3 D 7.2.1 SESAME Data Management Plan

The Data Management Plan (DMP) sets out guidelines for the management of data during the SESAME project. It exists for the purpose of indexing the data that is generated or obtained throughout the project and managing how, for what purposes and through which procedures it shall be analyzed, processed, accessed and archived or deleted. As such, it covers the entire life cycle of research data as described below. The Data Management Plan is a necessary part of H2020 research projects as it enables accountability, encourages a mindful approach to data management and use, and assists partners with the determining and planning of the practical aspects of research throughout the project. There are other advantages of a good governance of data management:

- Provide reliable, consistent and compliant data for all systems and business processes
- Reduce complexity and costs
- Promote transparency and access to data
- Better control and manage organizational data
- Break down organizational silos and / or system silos
- Act as a catalyst for change management
- Ensure regulatory compliance

According to the European Commission's Directorate-General on Research and Innovation's Guidelines on Data Management, a DMP should therefore include information on:

- "the handling of research data during and after the end of the project
- what data will be collected, processed and/or generated
- which methodology and standards will be applied
- whether data will be shared/made open access and
- how data will be curated and preserved (including after the end of the project)."

After the proposal stage in which the challenges of the research and the necessary data were identified, the SESAME project officially started in M1 (April 2018). The Data Management Plan shall subsequently be completed in M6 (September 2018). The drafting of

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this DMP is headed by the ethical partner (SNSPA) but will necessarily involve the relevant partners involved in the administration, evaluation, testing and development of the project and its datasets. As such, this plan contains decisions made on the form, documentation, content and purposes of the SESAME research data. Due to the fact that research projects continuously evolve and refine their procedures and approach towards data management, the DMP will be updated and amended throughout the project to ensure its adequacy and relevance in light of new developments.

Following the conclusion of the first version of the DMP, the project can start collecting or generating data in a manner that corresponds with the procedures and guidelines as set out by the Plan. This means that during the data collection, whether it is from existing sources or by generating new datasets, the standards in the DMP shall be adhered to regarding aspects such as data storage, access control, security, purpose limitation, backups, quality assurance and disposal. After this collection stage, the data will be analysed and processed in line with the purposes for which it was originally obtained. From a data management point of view, critical aspects to consider here are the ways in which the datasets are actually used and how they are accessed. Due process requires proper documentation of any alterations made and notifications of serious issues. The same applies to the sharing of data. There must be clarity surrounding the availability of the datasets both to the public and within the project itself. Possible restrictions on sharing such as anonymization or aggregation must be considered.

During the final and end stages of the project, the original data life cycle shall come to an end. At this point, the DMP procedures shall determine how the datasets must be managed. This can involve the deletion of the data, for which proper protocols must then be established and followed, or the (restricted) archival and publication of the research findings and datasets for future use and availability to the public or specific actors.

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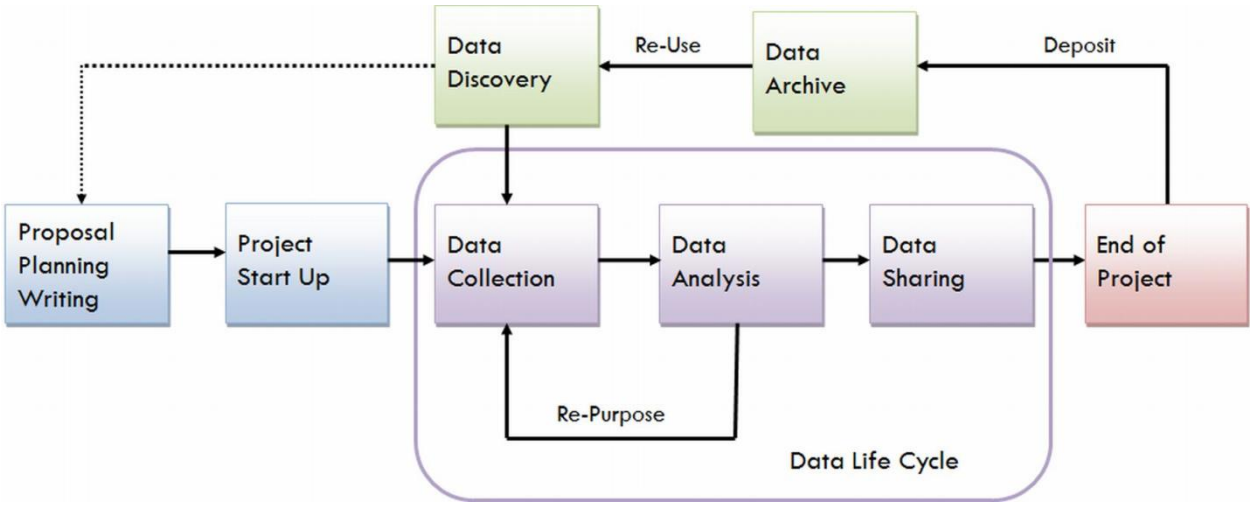

Source: University of Virginia Library

4 Ethical and legal principles regarding protection of personal data

4.1 Key concepts

Under the current legal framework, three key definitions are of particular importance in order to understand how and when certain actors are bound by data protection requirements[1]. First is the concept of **personal data**. Data is considered personal when it relates to an identified or identifiable natural person (the 'data subject') who can be known either directly or indirectly, by reference to an identifier such as a name, an identification number, location data, an online identifier or to one or more factors specific to his or her identity. Anonymized data or information that simply does not refer to natural persons is therefore excluded from the scope of the legislation and can be processed freely. Whether a person is identifiable or not needs to be assessed in each specific situation by using tools that usually allow for the identification of a data subject.

Second is the notion of **processing** which refers to any operation or set of operations which is performed on personal data such as collection, analysis, storage, adaptation, disclosure or deletion. In simple terms, any action relating to personal data is considered processing under data protection law.

Third is the concept of the data **controller**, being every natural or legal person who, alone or jointly with others, determines the purposes and means of the processing of personal data. Every SESAME partner that collects personal data is therefore a controller under the GDPR.

[1] Apud D9.1Data Management Plan and Protocol, H2020 Project MAGNETO (786629), December 2018

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In the event that a controller involves another actor to process data on its behalf and only in specific ways for clearly specified purposes, this actor shall be known as the data **processor** who, while not subject to the same degree of responsibility as the controller, must still comply with certain rules.

In summary, the relevant data protection legislation applies to any action relating to information which can identify a natural person. The person or entity who is in charge of these actions is known as the controller and has to follow a set of legal requirements, while the person whose data is being processed is known as the data subject and has the opportunity to exert considerable influence over how and what data of his or hers can be utilized. In the SESAME project, several partners take on the role of the controller and must therefore respect the data subjects' rights and exercise due diligence in processing their data.

4.2 Management of personal data

In light of the above, it is relevant to summarize the major obligations that fall on the controllers of personal data in research projects such as SESAME. As described earlier in this section, these controllers are the members of the consortium who determine the purposes and means of the processing of personal data provided or obtained in the project. These can be technical partners relying on their own or publicly available datasets, or other members relying on volunteers participating in the project.

First, it is crucial that the data is obtained or generated in a lawful manner and for appropriate purposes. In the event that human actors would be involved for testing, simulation or review, this requires that they are sufficiently informed of the management of their data, the purposes for which it will be used, and their right to withdraw or refuse to further participate. Following this, they can freely provide their informed consent to participate in aspects of the SESAME project. The appropriate information sheet and contractual consent forms have been drafted and are available to the consortium for this purpose. If the personal data is obtained or generated elsewhere, it is equally important that this is done on the basis of the legal grounds for processing as specified in the GDPR. The data can only be used for the purposes for which it was originally gathered and must only be processed in fair, lawful and adequate ways that minimize the impact of the processing as far as possible. Once the data is no longer relevant for the project or SESAME has come to a close, the data must be deleted.

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Second, once the data has been obtained and undergoes further processing, the controllers must ensure that the data is protected and secured. Security risks must be mitigated and security breaches must be detected and duly notified. Access controls must be in place to guarantee that only the persons authorized to view, analyse or delete data have the capability of doing so. No data shall be shared or made public without approval of the participating parties.

Third, the controllers must keep sufficient records of their activities and document the processing of the data. It is for this purpose that those providing, creating or analysing data in the SESAME project shall contribute to this data management plan and detail all relevant aspects of the management of research data throughout the project. As the policy is a living document, updates and alterations shall be made in light of new developments.

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6 Data Collection: types of data

6.1 Personal Data

The end users will be involved in project activities project under the coordination of two WPs:

- WP1, *Specification* (T1.3. and T1.4).
- WP5 *Case Studies (production and operation)* (T5.2 and T5.3*).*

The names and functions of participants in questionnaires or interviews will remain strictly confidential. Only the partners in charge of the organisation of the workshops will have access to these data.

The data collection activities that will be performed within SESAME will strictly adhere to the EC regulation as well as the legislation of individual Member States and Associated Countries. The following specific cases for data collection are immediately identified:

The collection of personal, non-sensitive data within the Workshops/Interviews/Questionnaires: SESAME will use questionnaires, interviews and workshops as a means to receive valuable feedback within the project's lifecycle. The collection of data will only entail the collection of personal, non-sensitive data.

Written and Audio/Visual documentation of the Workshops and/or Interviews: As previously stated, the participants of the project's interviews and workshops will be debriefed and fully notified of data collection activities, including audio/visual documentation. Consent forms will be made available to the participants. Volunteers will be able to withdraw from these activities at any given time. Other types of consent (such as informed, unanimous consent, etc.) are not currently foreseen. The data will be appropriately anonymised prior to any processing. Furthermore, participants will be fully informed about information handling during all the stages of the data lifecycle, including:

- where and how this information will be stored;
- who will have access rights to it;
- how long it will be stored;
- how it will be anonymised and processed;
- how it will be disposed of once the project concludes;
- the responsible data controller.

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Any collected personal data will be promptly deleted at the end of the project lifetime. The data collected in the project will not be used further for any purpose incompatible with the original purpose of collection. All the rights of the data subjects, e.g. right to object, right of access, and right to rectify, erase or block will be ensured.

Moreover, following a disclaimer agreement, any SESAME project member has the right to be mentioned on the SESAME website. Personal data hosted on the website will be :

- First name,
- Second name,
- Photo,
- Company

Furthermore, the SESAME project does not involve research concerning elements that may cause harm to humans, including research staff.

AG, as leading partner, will manage the personal data of project participants (name, profession, email address, work phone number). No sensitive information about project participants will be collected. By 'project participants' SESAME project defines the members of the SESAME consortium partners and members of end user and advisors board, in addition to end users from AG and CNES.

6.2 Research data

The data created by project SESAME will be in the form of qualitative data (interviews and focus-groups, think-thanks workshops, dissemination workshops) (WP1 and WP5), simulation results, performance models, and experimental measurements (OR methodology) (WP2, WP 3 WP4, WP5, WP6) relating to the efficiency, use and performance of the SESAME tools and methodologies.

7 Data description: data and metadata standards

7.1 Data Capture

How will you capture your data? *e.g. transcribing hand written notes / electronic files – text, spreadsheet, database / audio files or tapes / videos / research diary. For each explain the capture process. For instance, if you're doing observations, how will they be recorded, on what media? (e.g. in a dated and numbered paper field notebook.) What kind of equipment will you*

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use and what software. If you plan to use proprietary software, could you export to an Open format so the data can be reused more widely? You may also wish to cover: content selection; instrumentation; technologies and approaches chosen; file naming conventions; versioning; meeting user needs.

The proposed procedure for capturing data will be as follows:

- Research diary: paper notebook of team meetings, actions, thoughts, ideas
- Literature review: references in an Endnote database; Word documents with search details (databases, strategies, results) and reviews.
- Questionnaires: paper originals; responses captured in an Excel spreadsheet. Analysis (e.g. charts) within the spreadsheet.
- Focus groups: paper notebook of focus group meetings or audio tapes (analogue), transcribed to Word documents (anonymised). Analyzed data: synthesis of themes captured in Word documents
- Consent forms: signed paper documents
- Audio files/tapes/ videos during interviews/simulations

Also, technical data will be collected, such as welding data. Raw data will directly be collected within the industrial mean, before being translated and processed in an Excel file, in order to be shared with partners. Data will also be collected thought IoT devices and Information Systems, dealing with 2nd use case identified yet – the one in French Guyana, focused mobile gantries resources. All shared data will be labelled following the SEAME Export Control Licence.

7.2 Document format

For each type of capture method, what digital file formats will you use and why? *e.g. electronic text/word document (.doc/.docx); MS Excel (.xls/.xlsx) or MS Access (.mdb/.accdb) for capturing questionnaire responses; NVivo (.nvp / .rtf / .txt) or ATLAS.ti (.hpr6) for analysis, as these are in widespread use, the Partner has the relevant software licenses or they're accepted standards in your field, etc. Decisions relating to file formats may also be made with recourse to staff expertise, a preference for Open formats, accepted standards, or widespread usage with a given community.*

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Project SEAME will use:

- Analogue formats – paper; audio tapes, videos (.mp3, .wav, .mp4, .mov)
- Endnote database (.enl)
- MS Excel spreadsheet (.xls; and comma-delimited .csv)
- MS Word for text documents (.doc) Portable Document Format (.pdf)
- Images and pictures (.jpg, .png)
- Code scripts (.py, .html, …)
- Jupyter notebooks,
- JSON files,
- The technical data (e.g. general inputs, model parameters, training and/or test data sets, etc.) needed for the algorithms being developed will be stored in interoperable formats, such as Excel formats, JSON, formats of the technical computing languages used (e.g., MATLAB, Python, Julia, etc.), common database formats, etc.

These formats are in widespread use, the project partners have the relevant software licenses or they are accepted standards in research programmes. We use Excel and HTML formats to publish the unclassified results online, for dissemination purposes Excel is the easiest program for keeping track of this kind of data. Also, there are open source equivalents and data can be easily exported to these for sharing.

7.3 Contextual information

What contextual details will be needed to make your data meaningful? *e.g. project information sheet, methodology description, characteristics of participants, description of research setting, research instruments, organisational / social / political background*

How will you produce/capture this contextual information, and in what format? *e.g. writing project information sheet in Word format, obtaining some participant characteristics during interviews (via audio records then transcription into a Word document, then transferring the details into a database,) obtaining background information from reading and discussion and keeping it in your head*

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Project SESAME will use contextual information in order to make the data meaningful: project information sheets, methodology description including description of research setting and data collection instrument. The project will capture all contextual information in MS Word documents.

7.4 Metadata

Metadata is information that makes your new data usable. This includes: (i) descriptive metadata i.e. information used to search for, identify and locate objects such as the title, author, keywords; (ii) structural metadata i.e. information that enables the objects to be displayed and navigated such as file formats, character sets used, hardware/software, information to establish meaning of the data (e.g. raw numbers are dates, temperature in degrees Celsius); (iii) administrative metadata i.e. management/technical information such as rights management.

Metadata related to research results will be stored internally in the same file or structure as the data (embedded metadata). No external storage of metadata is envisage to be created.

AG will create and manage a central data repository for all data collected as part of the project. This will consist of an internal data repository for all project data as they are developed. The repository will hold unclassified files with dissemination level RE (Restricted to a group specified by the consortium, including the Commission Services), and PP (Restricted to other programme participants including the Commission Services), CO (Confidential, only for members of the consortium including the Commission Services).

AG will back up locally all files uploaded to the internal and external data repositories on a monthly basis throughout the project duration.

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9 Ethical and legal compliance

The beneficiaries must carry out the action in compliance with ethical principles (including the highest standards of research integrity) and applicable international, EU and national law.

Obligation to comply with ethical and research integrity principles[2] :

9.1 Privacy and data protection

The SESAME project team is aware that data privacy is based on sharing data whilst protecting personal identity in the information being processed.

AG, as leading partner, will manage the personal data of project participants. As regards Personal Data Protection, AG will abide by the rules in the Data Protection Laws and Regulations (2019) which is based on the (Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data (General Data Protection Regulation - GDPR). The French Data Protection Authority (*Commission nationale de l'informatique et des libertes* – CNIL) is the supervisory authority under the French law no 78-17 on Information Technology, Data Files and Civil Liberty.

AG will comply with its obligations following the principles outlined in Article 5 of GDPR[3] mentioned below: Data will be:

1. processed lawfully, fairly and in a transparent manner in relation to the data subject ('lawfulness, fairness and transparency');
2. collected for specified, explicit and legitimate purposes and not further processed in a manner that is incompatible with those purposes; further processing for archiving purposes in the public interest, scientific or historical research purposes or statistical purposes shall, in accordance with Article 89(1)[4], not be considered to be incompatible with the initial purposes ('purpose limitation');

[2] SESAME Grant Agreement, Article 34

[3] Article 5 of GDPR: *Principles relating to processing of personal data*, available at https://gdpr-info.eu/art-5-gdpr/

[4] Article 89 of GDPR: *Safeguards and derogations relating to processing for archiving purposes in the public interest, scientific or historical research purposes or statistical purposes*, available at https://www.privacy-regulation.eu/en/89.htm

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3. adequate, relevant and limited to what is necessary in relation to the purposes for which they are processed ('data minimisation');
4. accurate and, where necessary, kept up to date; every reasonable step must be taken to ensure that personal data that are inaccurate, having regard to the purposes for which they are processed, are erased or rectified without delay ('accuracy');
5. kept in a form which permits identification of data subjects for no longer than is necessary for the purposes for which the personal data are processed; personal data may be stored for longer periods insofar as the personal data will be processed solely for archiving purposes in the public interest, scientific or historical research purposes or statistical purposes in accordance with Article 89(1) subject to implementation of the appropriate technical and organisational measures required by this Regulation in order to safeguard the rights and freedoms of the data subject ('storage limitation');
6. processed in a manner that ensures appropriate security of the personal data, including protection against unauthorised or unlawful processing and against accidental loss, destruction or damage, using appropriate technical or organisational measures ('integrity and confidentiality').

The SESAME project has issued Research Ethics and Data Protection Guidelines (second part of this document) setting out the ethical procedures to follow during research activities. The Guidelines include:

- Ethics-Privacy-Data Protection Guidelines
- Ethics Protocol Coversheet
- Consent Form Specimen
- Information Sheet Specimen

A copy of the *Research Ethics and Data Protection Protocol* with Task number (cover sheet, questionnaire/ interview guide, consent form, risk assessment and any other documents) shall be submitted to the SESAME Project Ethics Officer, Irina Marsh (irina.marsh@comunicare.ro) for approval one week prior to use.

10 Activities involving dual-use goods or dangerous materials and substances

Non applicable.

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11 Misuse

Potential misuse of data will be avoided by appropriate anonymisation and segmentation. In doing this, SESAME partners will adhere to strict rules defined by the data management and ethics procedures, as defined in the project through this document and approved by the Project Ethics Officer.

12 Classification level

Documentation and data directly linked to the FSW process will be classified. Thus, raw data coming from any other use case will be classified.

13 Copyright/Intellectual Property Right

Copyrighting and IP rules remain per the Project SESAME Grant Agreement (Subsection 3 *Rights and obligations related to results*). The consortium partners will jointly own the data generated. Online and archival sources will be cited and clearly acknowledged in the database and research outputs. Permission will be sought from secondary sources to share the findings of the research on public websites.

14 Personal data and research data sharing, storage, and back-up

During research activities, research and personal data will be collected by different partners within the project. The data collection activities that will be performed within SESAME will strictly adhere to the General Data Protection Regulation (GDPR) as well as the legislation of individual Member States and Associated Countries.

The SESAME project will collect personal data under:

- WP1 *Specification* (T1.3. and T1.4).
- WP5 *Case Studies (production and operation)* (T5.2 and T5.3*).*

The collection of personal data does not include any personal sensitive data (e.g., health, lifestyle, ethnicity and sexual orientation).

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Consent in written form will be required of participants to activities that require feedback and data collection through questionnaires, interviews etc. The data will be appropriately anonymised prior to any processing. Furthermore, participants will be fully informed about information handling during all the stages of the data lifecycle, including:

- where and how this information will be stored, who will have access rights
- how long it will be stored,
- how it will be anonymised and processed, and,
- how it will be disposed of, once the project concludes.

It is important to note that consent means consent to join the investigation as described in a protocol approved by the Project Ethics Officer (PEO). Informed consent does not obviate a volunteer's right to withdraw.

To ensure that the personal data is being lawfully processed, it is important to implement data protection procedures. A copy of the research protocol with WE number (cover sheet, questionnaire/ interview guide, consent form, risk assessment and any other documents) shall be submitted to the SESAME Project Ethics Officer (Irina Marsh irina.marsh@comunicare.ro) for approval two weeks prior to use.

14.1 Datasets

Key aspects of personal data and research data management at project SESAME activities are described below:

In order to minimise the risk of malevolent use of data, the data has to be handled restrictively. Therefore, the relevant organiser of the research is responsible for ensuring that data processors provide an appropriate level of security for the data which they are processing. Datasets[5] are recommended to be filled in as follows:

SESAME Dataset	
Data identification	
Dataset description	What's in the dataset?
Data source & provenance	Where does the data come from? What steps has the data been through?
Data purposes and uses	What will the data be used for?

[5] Apud D9.1 Data Mangement and Protocol, H2020 Project MAGNETO (no.786629), December 2018

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Partner roles	
Data owner & users	Who owns the dataset and holds the copyright (if applicable)?
Data collection	Which partner is in charge of collecting the data?
Data analysis	Which partner is in charge of analysing the data?
Data storage and deletion	Which partner is in charge of storing and deleting the data?
Related WP(s) and Task(s)	What are the relevant WP(s) and Task(s)?
Standards and methodology	
Metadata and documentation	What metadata (timestamps, storage, transfers…) and documentation will exist or be used?
Standards	What are the applicable ISO / technical / operational standards?
Access controls & security	What access controls and security measures will be implemented?
Anonymization and encryption	Will the data be identifiable and how will it be encrypted or secured?
System information	What are the formats, software/hardware and file types that will be used?
Data availability and exploitation	
Data access policy	What is the access policy and dissemination strategy? What partners can have access to what data and under which conditions? What is the dissemination level of the data and the research based on it?
Data availability	Will the data be shared outside of the project? For what purposes can it be re-used? Are there embargoes or restrictions?
Personal data protection	Are the data personal data (relating to an identified or identifiable natural person)? Has consent been obtained or are other legal grounds applicable? Have the relevant legal principles been respected? Do the persons have control over their data?
Archiving and preservation	
Data storage and backups	How, how long and where will the data be stored and/or backed up?
Data deletion and archiving	When will data be deleted? What will happen after the project? Will research data be saved and archived for public access?

Datasets should be sent to PEO and Data protection officer of SESAME (William Lacheny, AG) prior one weeks of the start of the data collection activity.

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14.2 Storage of data

The data collected is only allowed to be stored for as long as it is assessed to be necessary, with a time limit of maximum 5 years for academic purposes, unless mandatory laws, regulations or a court or administrative order says otherwise. The partners who are collecting and storing data from the research activities are responsible to ensure that the data is being destroyed after the time limit, unless mandatory laws, regulations or a court or administrative order says otherwise.

- Data will be classified if this should correspond to the French laws;
- Data is only allowed to be shared within the SESAME project consortium, and should be anonymous before being transferring securely between partners;
- Data cannot be transferred to anyone outside the SESAME consortium.
- The personal data collected during research activities and demonstrations will be kept in secure facilities by AG as coordinator.

14.3 Use of data

Research data collected in Project SESAME is only allowed to be used for the following specified functions:

- Dissemination activities like pictures and film footage that can be used in brochures, stakeholders' workshops and conference presentations, EU bodies
- Academic publication

Data can however be disclosed in order to comply with applicable laws or regulations or with a court or administrative order.

AG is the lead partner for dissemination and data archiving. This organisation will thus be the project partner primarily responsible for data management, including dissemination.

AG will create and manage a central data repository for all data collected as part of the project. This will consist of an internal data repository for all project data as they are developed. The repository will hold unclassified files with dissemination level RE (Restricted to a group specified by the consortium, including the Commission Services), and PP (Restricted to other programme participants including the Commission Services), CO (Confidential, only for members of the consortium including the Commission Services).

AG will back up locally all files uploaded to the internal and external data repositories on a monthly basis throughout the project duration. As the partner responsible for dissemination

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with groups outside of the project team, FOI will handle all enquiries and requests for results.

Expected difficulties in data sharing: No major difficulties are anticipated in terms of data sharing within the confines of the stakeholders signed up to the project – that is, members of the SESAME consortium partners and members of end user and advisors board, in addition to end users from AG and CNES. Data will be made available to entities identified by the EC as additional stakeholders with right and need to access.

15 Plans for archiving and preservation of access

AG has plans for archiving data, samples, and other research products, and plans for preservation of access to them. The long-term strategy for maintaining, curating and archiving the data is via regular backup of AG servers to a central data storage and an internal archive for printed reports and documents. AG will internally archive this data for 5 years or otherwise in accordance with mandatory laws, regulations or a court or administrative order.

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16 D 7.2.2 Research Ethics Guideline and Protocol

16.1 Purpose of the Research Ethics Guidelines and Protocol

The Research Ethics Guidelines and Protocol aims to support the consortium partners in project SESAME to recognise, understand and mitigate ethical issues inherent in their work. It provides an overview of issues and guidelines related to conducting ethical research within the SESAME project. It sets out the basic principles and responsibilities resulting from European Commission regulation on research ethics in H2020 and describes the ethics review processes and gives specific guidelines on where responsibilities lie and how they can be fulfilled. It describes concrete procedures for assessing the need for mitigating ethical issues and provides tools for the practical work of managing research ethics issues (The Research Ethics Protocol).

16.2 Legal and ethical foundation

The **EU Regulation** passed by the European Parliament, **Establishing the Horizon 2020**, Article **19** ('Ethical principles')[6] sets out that:

All the research and innovation activities carried out under Horizon 2020 shall comply with ethical principles and relevant national, Union and international legislation, including the Charter of Fundamental Rights of the European Union and the European Convention on Human Rights and its Supplementary Protocols.

Attention shall be paid to the principle of proportionality, the right to privacy, the right to the protection of personal data, the right to the physical and mental integrity of a person, the right to non-discrimination and the need to ensure high levels of human health protection.

The primary obligation to comply with principles of ethics in all Horizon 2020 projects is enshrined in the **Article 34** of the SESAME Grant Agreement (no 821875):

[6] REGULATION (EU) No 1291/2013 Establishing the Horizon 2020, Article 19, 2013, available at https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2013:347:0104:0173:EN:PDF

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34.1 Obligation to comply with ethical principles: The beneficiaries must carry out the action in compliance with: (a) Ethical principles (including the highest standards of research integrity — as set out, for instance, in the European Code of Conduct for Research Integrity — and including, in particular, avoiding fabrication, falsification, plagiarism or other research misconduct) and (b) applicable international, EU and national law.

Funding will not be granted for activities carried out outside the EU if they are prohibited in all Member States. The beneficiaries must ensure that the activities under the action have an exclusive focus on civil applications.

The beneficiaries must ensure that the activities under the action do not: (a) Aim at human cloning for reproductive purposes; (b) intend to modify the genetic heritage of human beings which could make such changes heritable (with the exception of research relating to cancer treatment of the gonads, which may be financed), or (c) intend to create human embryos solely for the purpose of research or for the purpose of stem cell procurement, including by means of somatic cell nuclear transfer.

34.2 Activities raising ethical issues: Activities raising ethical issues must comply with the 'ethics requirements' set out in Appendix 1.

Before the beginning of an activity raising an ethical issue, each beneficiary must have obtained: (a) any ethics committee opinion required under national law and (b) any notification or authorisation for activities raising ethical issues required under national and/ or European law needed for implementing the action tasks in question.

16.3 Research Ethics Guidelines and Protocol's structure

The Research Ethics Guidelines and Protocol document:

- describes the ethical and research integrity principles that should guide the research activity (Section 17)
- set out the terms of reference for Project Ethics Officer (PEO) (Section 18)
- establishes the ethical and legal governance framework for development of SESAME, tools, methodologies and solutions (Section 19)
- provides a summary of SESAME ethics screening process for deliverables (Section 20)
- establishes the Research Ethics Guideline and Protocol as the main tool for the practical work of managing research ethics issues (Section 21 and Appendix 1).

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17 Ethical and research integrity principles

The SESAME project's partners must carry out the research actions in compliance[7] with:

a) ethical principles (including the highest standards of research integrity) and
b) applicable EU and national law and conform to the ethics standards and guidelines of H2020.

The SESAME project's partners must respect the highest standards of research integrity — as set out in the European Code of Conduct for Research Integrity[8]. Notably, this implies compliance with the following essential principles:

- honesty
- reliability
- objectivity
- impartiality
- open communication
- duty of care
- fairness and
- responsibility for future science generations.

This means that beneficiaries must ensure that persons carrying out research tasks:

- present their research goals and intentions in an honest and transparent manner;
- design their research carefully and conduct it in a reliable fashion, taking its impact on society into account;
- use techniques and methodologies (including for data collection and management) that are appropriate for the field(s) concerned;
- exercise due care for the subjects of research — be they human beings, animals, the environment or cultural objects;
- ensure objectivity, accuracy and impartiality when disseminating the results;

[7] Article 34.1 Obligation to comply with ethical and research integrity principles, SESAME Grant Agreement document, pp 53-54
[8] All European Academies (ALLEA) *The European Code of Conduct for Research Integrity*, Berlin 2017, available at http://ec.europa.eu/research/participants/data/ref/h2020/other/hi/h2020-ethics_code-of-conduct_en.pdf

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- allow — as much as possible and taking into account the legitimate interest of the beneficiaries — access to research data, in order to enable research to be reproduce;
- consider the potentially sensitive nature of the research and refrain from publishing or disseminating research results, datasets or protocols that might be misused, infringe on the rights of others or cause harm to the persons involved;
- make the necessary references to their work and that of other researchers;
- refrain from practicing any form of plagiarism, data falsification or fabrication;
- avoid double funding, conflicts of interest and misrepresentation of credentials or other research misconduct.

18 Project Ethics Officer terms of reference

The duties of the PEO include establishing a **Research ethics and data protection protocol** (M6) to ensure that the ethical issues are considered throughout the entire life of the project (across all work packages) and that any problems identified are discussed with the WP leaders and the corresponding stakeholders. Situations in which ethical approval may be required will then be addressed as they arise and before the relevant research is carried out. The PEO will check the compliance with the H2020 ethical review procedures, report to the general assembly, monitor all of the tasks within the Project at regular intervals and report situations in which members of the public might become involved in the research or where the nature of the data required changes.
Dr Irina Marsh (formerly Stănciugelu), of project partner SNSPA was appointed to act as Project Ethics Officer (PEO) during the SESAME Kick Off meeting, 6th -7th of June, 2019.

19 Ethical and legal governance framework for development of SESAME methodologies, tools and solutions

The use of Big Data in SESAME (WP3 and WP4) will raise challenges concerning the protection of the fundamental rights to privacy and data protection, and other fundamental values, such as reliability and transparency. It is important to note that no personal data are needed for the development and the use of tools and methodologies proposed by SESAME. The SESAME platform and the associated methodologies will use only technical data.

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The main ethical notable issue relevant for project SESAME is that the way in which Big Data techniques operate, by means of inferences, raises uncertainties in terms of the reliability of the results (the human bias can occur at several levels: in the selection of the dataset for SESAME open data platform (WP2), in the design of the architecture specification), or of the transparency/opacity of the decision-making process related with metadata management and data governance (WP2 and WP4).

Aware of the potential ethical issues of the use of the Big Data (WP2 and WP4), SESAME will proceed carefully in the development of the platforms. Two main safeguards are built in the project:

- A detailed Ethical Risk Assessment is to be carried out throughout the project, involving technical partners and end users in the design of SESAME platform and solutions and the related methodologies (WP6, T6.2: *Ethics Guidelines for development and use of SESAME tools and methodologies*). Health and Safety issues and environmental impact will be considered. This task will provide input to WP4, WP5 and remains active during development and testing of the tools. The task will also establish ethics and compliance guidelines for professionals working with the tools and solutions developed by the project. These Guidelines are aimed at both technology developers and End Users.

- A task that provides the definition of the specifications for the functional requirements of the Big Data management infrastructure for inclusion in the global architecture of the project, including authorization among other features (WP2, T2.3 Prototype 2: Platform Administration, Cybersecurity, Data Information Lifecycle).

20 Ethics screening of the SESAME research and deliverables

Project SESAME attributes equal importance to the ethics, legal and scientific aspects of the research process. The PEO aims to inform and advise project participants of the ethics issues which might impact the research process. Furthermore, ethical, privacy and data protection issues relevant to research and development activities must be accurately identified and addressed throughout the duration of the project.

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The PEO also aims to provide guidance concerning appropriate ethics approaches, should any uncertainties arise during the project time: the PEO will organise a teleconference with the project participants at request. In addition, PEO reviews the selected final deliverables to assure proper handling of ethical issues.

For SESAME project partners the following points apply:

- The task leader should make a preliminary assessment of the task work from ethics point of view, based on the D 7.2 *Data Management Plan and Research Ethics* (available month 6 of the project) for deciding if there are ethical issues that have to be discussed with PEO during project meetings.
- When addressing the PEO during the time in-between consortium meetings the correspondence should be copied to the project coordinator Igor Girard-Carrabin, AG.
- All deliverables of SESAME should be developed under the ethical guidance of PEO.
- When uncertain if there are ethical issues, check with the PEO [Dr Irina Marsh, SNSPA].

For the SESAME PEO the following points apply:

- The PEO should confer in conjunction with SESAME consortium meetings to be efficient in carrying out the ethics screening for the upcoming deliverables.
- The PEO can organise teleconferences with the WP leaders at their request.
- The PEO should be efficient in replying to ethics related questions as they arise in-between meetings. The response to received questions should be given without undue delay.

The procedure for contacting the PEO in case of matters arising in-between consortium meetings is by email.

21 Research Ethics Protocol

21.1 Research ethics requirements: informed consent, privacy and data protection

All research studies undertaken which involves direct contact with human participants should be subject to ethical review. The research must also confirm to all legal requirements,

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which includes informed consent, compliance with relevant data protection legislation and undergoing appropriate risk assessment to prevent misuse of research findings.

The end users will be involved in project activities project under the coordination of two WPs:

- WP1, *Specification* (T1.3. and T1.4).
- WP5 *Case Studies (production and operation)* (T5.2 and T5.3*).*

The SESAME project does not aim to collect sensitive personal data from the participants. However, some personal data regarding age, gender, country of residence, professional background and job specification might prove useful.

The data collection activities that will be performed within SESAME will strictly adhere to the EC regulation as well as the legislation of individual Member States and Associated Countries. The following specific cases for data collection are immediately identified:

The data collection activities that will be performed within SESAME will strictly adhere to the EC regulation as well as the legislation of individual Member States and Associated Countries. The following specific cases for data collection are immediately identified:

- ***The collection of personal, non-sensitive data within the Work-shops /Interviews/ Questionnaires:*** SESAME foresees the organisation of questionnaires, interviews and workshops as a means to receive valuable feedback within the project's lifecycle. The collection of data will only entail the collection of personal, non-sensitive data.
- ***Written and Audio/Visual documentation of the Workshops and/or Interviews:*** As previously stated, the participants of the project's interviews and workshops will be debriefed and fully notified of data collection activities, including audio/visual documentation. Consent forms will be made available to the participants. Volunteers will be able to withdraw from these activities at any given time.

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The participants in the research study will do so on a voluntary basis, with a permanent right of review or withdrawal. A Consent form will be used for all interviews, questionnaires, and workshops (e.g. [Appendix A *SESAME Research Ethics Protocol*]). The names and functions of participants in workshops, interviews and questionnaires will remain strictly confidential. Only the partners in charge of the organisation of the research study will have access to these data. The partners in charged with the research study will have to complete the SESAME Dataset Description Form (template available in Appendix 1 to this document) and to attach it to the Research Ethics Protocol.

Furthermore, the data collected in the project will not be used for any purpose incompatible with the original purpose of collection. All the rights of the data subjects, e.g. right to object, right of access, and right to rectify, erase or block will be ensured.

The procedure for storing data and the length of time for which it will be kept is part of the Internal Data Management and described in the Data Management Plan and Protocol. In general, data will be aggregated and made anonymous as soon as possible with regard to the research activities. SESAME will implement all the necessary security measures to ensure that the processing of personal data within the project is not used for improper or unauthorised purposes. Detailed description of these security measures will be provided to the EC in the Data Management Plan and Research eEhics (D7.2).

Members of the SESAME consortium may have their own internal regulations and procedures on ethics, privacy and data protection, storage and movement of data during research activities – these should also be observed and mentioned to the PEO where it is the case.

21.2 Research Ethics Protocol approval procedure

Prior to the collection of any data, the research coordinator is required to complete the appropriate Research Ethics Protocol (Appendix 1) and to obtain any necessary ethical approvals for the research. The research coordinator must then undertake the research in strict accordance with the ethical approval received. The PEO will advise the research coordinator of the correct procedures. If the researchers wish to change any of the procedures described in the Research Ethics Protocol or add any others, then it must be

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discussed with the PEO and submit an amended Research Ethics Protocol. The research coordinator cannot proceed until the amendment is approved.

A copy of the Research Ethics Protocol with the task number (Cover Sheet, Questionnaire/ Interview Guide, Consent Form, Information Sheet, Risk Assessment to prevent the misuse of research findings, Dataset Description Form, and any other documents) shall be submitted to the SESAME PEO (Dr Irina Marsh irina.marsh@comunicare.ro (CC: Igor Girard-Carrabin) for approval one week prior use.

The following templates of the Research Ethics Protocol are attached for use for SESAME research activities:

- A1: SESAME *Research Ethics Protocol Cover Sheet*
- A2: SESAME *Informed Consent Form*
- A3 SESAME *Information Sheet*
- A4 SESAME *Dataset Description Form*.

22 Summary and conclusions

The Data Management Plan (DMP) is an important part of European research initiatives as it enables accountability, encourages a mindful approach to data management and use, and assists partners with the determining and planning of the practical aspects of research throughout the project. This holds equally true for the SESAME project. As a living and continuously updated document, the D7.2. *Data Management Plan and Research Ethics (DMP&RE)* sets out guidelines for the management of data during the SESAME project, including research ethics and legal guidelines. In doing so, it accomplishes several main goals. First, it sets out basic legal, ethical and practical guidelines for the management of research data throughout the project. These guidelines reflect data protection law and ethical research standards to advise partners on issues such as obtaining consent, storing and re-using data, and sharing personal information with other entities. Second, it contains an overview of the SESAME datasets. These datasets can include both personal and non-personal data. The DMP describes the contents, origins, uses and details of these datasets to give a clear picture of the project's research activities and the data involved therein. Third, it sets out the responsibilities of the partners involved in the collection, creation, sharing, processing and deletion of the data. The document reflects the agreements on the use of the datasets and illustrate how, when, where and to what ends data can be utilized. Finally, it

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contains guidelines for the research ethics and integrity of the project data management and processing.

To this end, this document consists of two primary sections.

- The *Data Management Plan* exists for the purpose of indexing the data that is generated or obtained throughout the project and managing how, for what purposes and through which procedures it shall be analyzed, processed, accessed and archived or deleted in a legally and ethically compliant manner. As such, it covers the entire life cycle of research data.
- The *Research Ethics Guidelines and Protocol* document aims to support the consortium partners in project SESAME to recognise, understand and mitigate ethical issues inherent in their work. It provides an overview of issues and guidelines related to conducting ethical research within the SESAME project. It sets out the basic principles and responsibilities resulting from the European Commission regulation on research ethics in H2020.

The D 7.2. *Data Management Plan and Research Ethics* document should be revised and updated at every 6 months of the project to reflect the research developments in project SESAME. Joined to this document by means of appendices are several important templates and protocols regarding the ethics protocol, informed consent procedures and information sheets.

23 Bibliography and resources

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24 Appendix 1 SESAME Research Ethics Protocol

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24.1 A1 SESAME Research Ethics Protocol Cover Sheet

Please complete this form digitally and send it to the SESAME Project Ethics Officer, Dr Irina Marsh (irina.marsh@comunicare.ro) one week prior use.

Date of Submission: Enter the date here.

Work package/Task number: Enter the title here.

Name(s) of researcher(s): Enter the name(s) here

Name of institution (if applicable): Enter the name of the supervisor here.

Telephone number: Enter your telephone number here.

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E-mail address: Enter your e-mail address here.

RESEARCH

R.1. What is the research question? Please indicate what scientific contributions you expect from the research.
Enter your research question here.

R.2. What type of research is involved?
☐Questionnaire
☐Interview
☐Experiment
Other, namely: Enter the type of research here.

R.3. Where will the research be conducted?
☐Online
☐At the institution
☐Non-institution setting: Enter which setting here.
Other, namely: Enter where the research will be conducted here.

R.4. If the research is experimental, what is the nature of the experimental manipulation?
Enter the nature of the experimental manipulation here.

R.5. Why is the research task important? What benefits may result from the study?
Enter the importance of the research here.

R.6. Are any external partners involved in the research? If so, please name them and describe the way they are involved in the research.
Enter information on external partners here.

PARTICIPANTS

Pa.1. What is the number of participants needed? Please specify a minimum and maximum.
Minimum: Enter the minimum here.

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Maximum: Enter the maximum here.

Pa.2.a. Does the study involve participants who are particularly vulnerable or unable to give informed consent? *(e.g., children, people with learning difficulties, patients, people receiving counselling, people living in care or nursing homes, people recruited through self-help groups)*
Enter whether or not participants can give informed consent here.

Pa.2.b. If yes and unable to give informed consent, has permission been received from caretakers/parents?
Enter if permission from the caretakers/parents can be received here.

Pa.3. Will the participants (or legal guardian) give written permission for the research with an 'Informed Consent' form that states the nature of the research, its duration, the risk, and any difficulties involved? If no, please explain.
Enter your answer here.

Pa.4. Are the participants, outside the context of the research, in a dependent or subordinate position to the investigator (such as own children or students)? If yes, please explain.
Enter the participant's position here.

Pa.5. How much time in total (maximum) will a participant have to spend on the activities of the study?
Enter the amount of time here.

Pa.6. Will the participants have to take part in multiple sessions? Please specify how many and how long each session will take.
Enter how many sessions a participant has to attend here.

Pa.7. What will the participants be asked to do?
Enter your answer here.

Pa.8. What are the possible (reasonably foreseeable) risks for the participants? Please list the possible harms if any.
Enter the risks for the participants here.

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Pa.9. Will extra precautions be taken to protect the participants? If yes, please explain.
Enter which extra precautions will be taken here.

Pa.10. Are there any positive consequences for a participant by taking part in the research? If yes, please explain.
Enter any positive consequences here.

Pa.11. Will it be made clear to the participants that they can withdraw their cooperation at any time?
Enter your answer here.

Pa.12. Where can participants go with their questions about the research and how are they notified of this?
Enter to whom participants can address their questions here.

Pa.13. Will the participants receive a reward?

☐Travel expenses

☐Compensation per hour

☐Nothing

Other, namely: Enter the reward here.

Pa.14. How will participants be recruited?
Enter how participants are recruited here.

PRIVACY

Pr.1. Are the research data made anonymous? If no, please explain.
Enter whether or not the data is made anonymous here.

Pr.2. Will directly identifiable data (such as name, address, telephone number, and so on) be kept longer than 6 months? If yes, will the participants give written permission to store their information for longer than 6 months?
Enter how long the data will be stored here.

Pr.3. Who will have access to the data which will be collected?
Enter who has access to the data here.

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Pr.5. Will covert methods be used? *(e.g. participants are filmed without them knowing)*
Enter if covert methods will be used here.

DOCUMENTS

Please ensure that, where appropriate, the following documents are submitted along with your application:

a) A summary of the research task detailing who is doing what, to whom, to how many, where, when and why in non-technical, lay terms
b) Copy of the Information Sheet for participants (on letterhead)
c) Copy of the Consent Form (on letterhead)
d) Copy of questionnaire/interview content &schedule
e) Copy of the Dataset Description Form
f) Copies of standard letters related to the project (on letterhead)
g) Copy of risk assessment (if applicable)
h) Evidence of insurance cover/indemnity (if applicable),
i) Copy of draft email recruitment advert/poster (remember to include statement confirming favourable ethical opinion) (if applicable)
j) Information concerning any other Ethical Committee (e.g. institutional, national) to which an application for ethical opinion is being /has been made

24.2 A2 SESAME Informed Consent Form

This is an Informed Consent Form in relation to participation in research activity (specify the type of research)[9] being undertaken for Project SESAME (EU H2020 funded project number 821875)

The organisers of the research activity ask if you are willing to sign this Form to confirm your willingness to participate in the interview. You will be given a copy of this Form to keep. The

[9] All highlighted text has to be adapted to the purpose and specific of research activity.

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information generated from the Research will be used as part of Project SESAME **(Smart European Space Access thru Modern Exploitation of Data Science**), an EU-funded project.

By signing this Form, you are also confirming you have read the Information Sheet which forms part of this Informed Consent Form. If you have any questions arising from the Information Sheet or the explanation given to you, you should ask the researcher before you decide to proceed.

The appropriate level of security of information, confidentiality and anonymity will be maintained.

CONSENT

*I _____ (**your name**) agree to take part in* **interview on user requirements as part of project SESAME**. *I confirm that the purpose and scope of the research has been explained to my satisfaction. I have read the above notes and the Information Sheet and understand what the interview involves. I have had the opportunity to consider the Information Sheet, the verbal explanations given and to ask questions and I have had all my questions answered to my full satisfaction.*	Initial
My participation in the interview is entirely voluntary and I understand that I am free to withdraw from further participation at any time during the period of data collection and engagement with the Research team without giving a reason and without my legal rights being affected in any way. I am also free to withdraw any information that I have provided.	Initial
I understand that conclusions reached from the research may be published in academic journals, as well as in project reports. I consent to the processing of my personal information for this research. I understand that such information will be treated in strict confidence and handled in accordance with the provisions of the General Data Protection Regulation (GDPR) Regulation (EU) 2016/679.	Initial

I consent to my participation in the research being recorded/video-recorded and transcribed. The records will be destroyed after three months.

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Signed……Name…… …… Date____/____/____

Researcher's Statement: I **(Name)** confirm that I have carefully explained the nature, demands and foreseeable risks of participating in the SESAME research to the volunteer.

Signed……Name:…… Date____/____/__

24.3 A3 Information sheet for participants in the research activity

(INTERVIEWS ON USER REQUIREMENTS)[10]

We invite you to participate in the SESAME research project. You should only participate if you want to; choosing not to take part will not disadvantage you in any way nor will it affect any aspect of your employment. Before you decide whether you want to take part, it is important that you understand why the research is being carried out and what your

[10] All highlighted text has to be adapted to the purpose and specific to the research

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participation will involve. Please read the following information carefully and discuss it with others if you wish and ask if there is anything that is not clear or if you would like more information.

The SESAME project aims to harness **digital technologies, processes and methods for automation of the European launchers' manufacturing and operations** by (a) develop new Predictive Maintenance and Quality components to implement new automated launcher production and operations maintaining quality and reliability, (b) implement new logistic processes that allows an optimal management of resources in an environment where resources are shared among different organisations and products, and (c) accompany the consequent transformation of human competencies, and to create competency framework for newly established positions.

The usefulness of the SESAME results will be validated in a series of Use Cases deployed at the premises of the SESAME end user partners and operated with real technical data (anonymised as required). Such demonstrators will be representative of the functional needs of the use case and will reach TRL 5-7

The SESAME project is funded by the Horizon 2020 SPACE – 16TEC- 2018: Access to Space b) *Launch system advanced manufacturing and modern infrastructures,* and coordinated by the Ariane Group, France. The partners in the consortium are listed below.

Consortium partners

No	Name	Short Name	Country
1	ARIANEGROUP SAS	ARIANEGROUP SAS	France
2	CENTRE NATIONAL D'ETUDES SPATIALES - CNES	CNES	France
3	VITROCISET SOCIETA PER AZIONI	VITROCISET	Italy
4	PREDICT SAS	PREDICT	France
5	FUNDACIO EURECAT	EURECAT	Spain
6	CONSORZIO PER LA RICERCA NELL' AUTOMATICA E NELLE TELECOMUNICAZIONI C.R.A.T.	CRAT	Italy
7	CAPGEMINI TECHNOLOGY SERVICES	CAPGEMINI TS	France
8	SCOALA NATIONALA DE STUDII POLITICE SI ADMINISTRATIVE	NUPSPA	Romania

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If you agree to take part, you will be interviewed by one of our researchers. The interview should take no longer than one hour. There are no right or wrong answers to the questions. Anonymity will be maintained at all stages of the study. You can ask questions about the study before deciding whether or not to participate. If you do agree to take part, you may withdraw yourself (and your data) from the study at any time, without giving a reason and without penalty, by advising the researchers of this decision. The data controller for SESAME project is AG, France. The Data Protection Officer of SESAME is William Lacheny, AG.

Personal information will be held in accordance with the provisions of the SESAME Data Management Plan observing the General Data Protection Regulation (GDPR), Regulation (EU) 2016/679. The information provided will be stored for as long as relevant for the research within the project and scientific audits (5 years after the project is completed). Interview transcriptions may be shared with other researchers, but this will be anonymous.

- The **research data** will be stored confidentially and will be retained securely for the duration of the project and beyond, in accordance with the GDPR. The researchers will keep all study records, including any codes to your data, in a secure location. Research records will be labelled with a unique code instead of names, that only the researchers of this team will be able to relate to the information. The records will be destroyed after the close of the study (5 years). All electronic files (include all the types of electronic files that are used, such as databases, spreadsheets, etc.) containing identifiable information will be password protected. Any computer hosting such files will also have password protection to prevent access by unauthorized users. These computers will be off-line (not connected to the internet) for security purposes. Only the members of the research staff will have access to the passwords. At the conclusion of this study, the researchers may publish their findings. Information will be presented in summary format and you will not be identifiable in any publications or presentations.

- The authorized research team will be the sole entity to have access to personal/sensitive data/ research data. If applicable, we will ask all participants for their permission to use direct quotes.

This study has been reviewed by, and received ethics clearance through the SESAME Project Ethics Officer. If you have any concerns about any aspect of this study, please speak to the relevant researcher, who will do their best to answer your query [*insert contact details here].* The researcher should acknowledge your concern within 10 working days and give you an

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indication of how they intend to deal with it. If you remain unhappy or wish to make a formal complaint, please contact the Project Ethics Officer at the SESAME consortium [Dr. Irina Marsh, irina.marsh@comunicare.ro] who will seek to resolve the matter as quickly as possible. If you would like to withdraw consent at any time, you are free to do by contacting the project coordinator Igor Girard-Carrabin, ArianeGroup (igor.girard-carrabin@ariane.group) and the Technical Leader of SESAME, William Lacheny ArianeGroup (william.lacheny@ariane.group).

Notes and transcripts of interviews will be retained and destroyed in accordance with national law. If you agree, and in accordance with the General Data Protection Regulation (GDPR), Regulation (EU) 2016/679, the secondary use of research data is possible and may occur.

If you decide to take part you will be given this information sheet to keep and asked to sign an Informed Consent Form. We hope that your involvement in this research will be both interesting and enjoyable. If you have any further questions or comments related to this project then please contact the project coordinator Igor Girard-Carrabin, ArianeGroup (igor.girard-carrabin@ariane.group) or the Technical Leader of SESAME, William Lacheny ArianeGroup (william.lacheny@ariane.group).

24.4 A4 SESAME Dataset description form

SESAME Dataset	
Data identification	
Dataset description	What's in the dataset?
Data source & provenance	Where does the data come from? What steps has the data been through?
Data purposes and uses	What will the data be used for?
Partner roles	
Data owner & users	Who owns the dataset and holds the copyright (if applicable)?
Data collection	Which partner is in charge of collecting the data?
Data analysis	Which partner is in charge of analysing the data?

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Data storage and deletion	Which partner is in charge of storing and deleting the data?
Related WP(s) and Task(s)	What are the relevant WP(s) and Task(s)?
Standards and methodology	
Metadata and documentation	What metadata (timestamps, storage, transfers…) and documentation will exist or be used?
Standards	What are the applicable ISO / technical / operational standards?
Access controls & security	What access controls and security measures will be implemented?
Anonymization and encryption	Will the data be identifiable and how will it be encrypted or secured?
System information	What are the formats, software/hardware and file types that will be used?
Data availability and exploitation	
Data access policy	What is the access policy and dissemination strategy? What partners can have access to what data and under which conditions? What is the dissemination level of the data and the research based on it?
Data availability	Will the data be shared outside of the project? For what purposes can it be re-used? Are there embargoes or restrictions?
Personal data protection	Are the data personal data (relating to an identified or identifiable natural person)? Has consent been obtained or are other legal grounds applicable? Have the relevant legal principles been respected? Do the persons have control over their data?
Archiving and preservation	
Data storage and backups	How, how long and where will the data be stored and/or backed up?
Data deletion and archiving	When will data be deleted? What will happen after the project? Will research data be saved and archived for public access?

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