engAGE

Managing cognitivE decliNe throuGh theatre therapy, Artificial intelligence and social robots drivEn interventions

D5.1 Project Quality Control Plan

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0.5	Tudor Cioara, Ionut Anghel (TUC)	17-01-2022	First full draft
0.8	Cristina Pop (TUC)	18-01-2022	1st iteration of contents
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0.99	Tudor Cioara, Cristina Pop (TUC)	27-01-2022	Quality check ready version
1.0	Ionut Anghel (TUC)	27-01-2022	Final version

Contents

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List of acronyms

Acronym	Description
AAL	Ambient Assisted Living
AB	Advisory Board
CA	Consortium Agreement
CB	Consortium Body
CMU	Central Management Unit
DoW	Description of Work
IPR	Intellectual Property Rights
IoT	Internet of Things
MTR	Midterm review
NFA	National Funding Agency
PDF	Portable Document Format
PM	Project Manager
QC	Quality Check
SC	Steering Committee
ToC	Table of Contents
WP	Work Package

Executive summary

The present deliverable is the first document produced by Work Package 5 (WP5), which covers the project management duties. The report describes the quality assurance and project management plan detailing the procedures and rules for quality assurance in project communication, collaboration, and deliverables preparing, in accordance with the definitions and regulations of the Consortium Agreement (CA). The report also contains a description of the risk strategy and the associated risk register table. This document is the natural evolution and combination of all the initial project description documents, namely Description of Work (DoW) and the CA.

The deliverable addresses the following topics: (i) the overall project management plan, including a schedule for the activities, (ii) the description of project management structure and responsibilities, (iii) the description of collaboration tools and document handling procedures, (iv) project reporting and (v) risk management procedures.

Once approved by the consortium, the quality assurance plan will be used for day-to-day management of the project and for quality control by all partners responsible for preparing and producing deliverables.

1   Introduction

The goal of deliverable "D5.1 - Project Quality Control Plan" is to describe the methods and techniques that will be used to promote efficiency and quality of work and to provide administrative and scientific coordination in engAGE.

1.1   Intended Audience

While the dissemination level of the present document is marked as public, the intended audience of D5.1 is the engAGE consortium and the AAL Central Management Unit (CMU) representatives tasked with reviewing the project and its progress towards meeting the specified milestones and raised awareness.

1.2   Relations to other activities

WP5 main objectives are to monitor the scientific and technical progress of the project and to establish an effective project management structure to plan, monitor and coordinate the project. As illustrated in Figure 1, WP5 is a vertical WP, its activities being active throughout the project lifetime and interacting basically with all other project WPs.
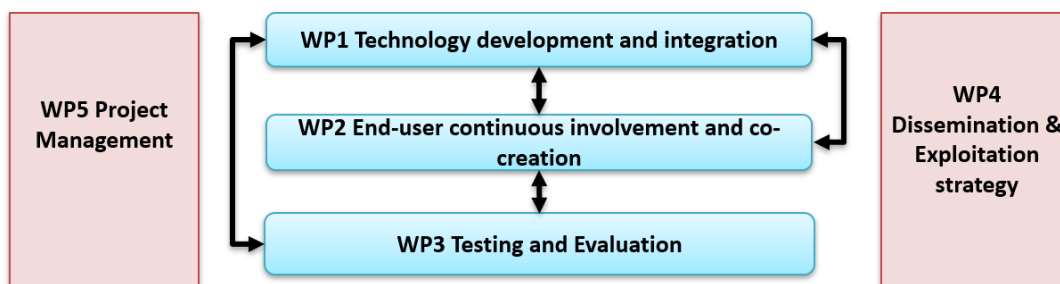

Figure 1: WP interactions in engAGE.

Deliverable D5.1 is an output of WP5 - "Task 5.3 Quality assurance, risks and IPR management" and contains the procedures and methods to be used for efficient work plan implementation, being relevant for all project future activities.

1.3   Document overview

The remainder of the deliverable is organized as follows:

- Section 2 briefly describes the engAGE workplan;
- Section 3 presents an overview of the engAGE project management structure;
- Section 4 shows how project meetings will be organized and handled;
- Section 5 shows the methods and techniques for engAGE collaboration and communication quality control;
- Section 6 presents the policies to be used for producing high quality documents;
- Section 7 shows the envisioned risk monitoring strategy;
- Section 8 deals with project monitoring and reporting aspects;
- Section 10 concludes the deliverable.

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2   engAGE project workplan overview

The goal of the engAGE project is to combat and slow down cognitive decline progression, to enhance the intrinsic capacity of the users, and to support the wellbeing of older adults with mild cognitive impairment by providing an ecosystem of services that integrates: (1) holistic monitoring of the ability to conduct activities of daily living and wellbeing using Internet of Things (IoT) devices, (2) machine learning for detecting the potential cognitive decline and (3) social robot driven interventions using coaching and cognitive stimulation. The interventions will be done by engaging the older adults (and their caregivers) in theatre and storytelling by sharing narratives about lived events and memories or by dialog and drama role playing. Theatre and storytelling may improve the quality of life and well-being allowing older adults to preserve their identity, to reduce stresses, memory loss, or communication challenges.

To bring to market the innovative system envisioned a co-creation development methodology will be adopted involving over 200 end-users such as older adults with mild cognitive impairment, family caregivers and healthcare professionals. The evaluation trials will be set up and run by University Hospitals of Geneva in Switzerland, Karde AS in Norway and by the National Institute for the Care of the Elderly in Italy. The Consortium (Table 1) has defined a detailed plan for the project implementation.

Table 1: engAGE consortium

ID	Full name	Short name	Country	Type
1 (Coord)	Technical University of Cluj-Napoca	TUC	RO	UNIVERSITY
2	Iris Robotics	IRIS	RO	SME
3	Tellu IoT AS	TLU	NO	LARGE ENTERPRISE
4	KARDE AS	KRD	NO	SME
5	Hôpitaux Universitaires de Genève	HUG	CH	END-USER
6	Istituto Nazionale di Riposo e Cura per Anziani	INRCA	IT	END-USER

Considering the complexity of the proposal, engAGE project has been structured in 5 WPs following a logical development of the project phases and involving the project partners according to their competencies (Table 2).

Table 2: engAGE WPs

WP no.	WP title	Lead partic.nº	Lead partic. short name	Start Month	End month
1	Technology development and integration	2	IRIS	6	30
2	End-user continuous involvement and co-creation	5	HUG	1	26
3	Testing and Evaluation	6	INRCA	4	26
4	Dissemination & Exploitation strategy	4	KRD	1	30
5	Project Management	1	TUC	1	30

The project Gantt diagram is illustrated in Figure 2 while the task level responsibilities are presented in Table 3.
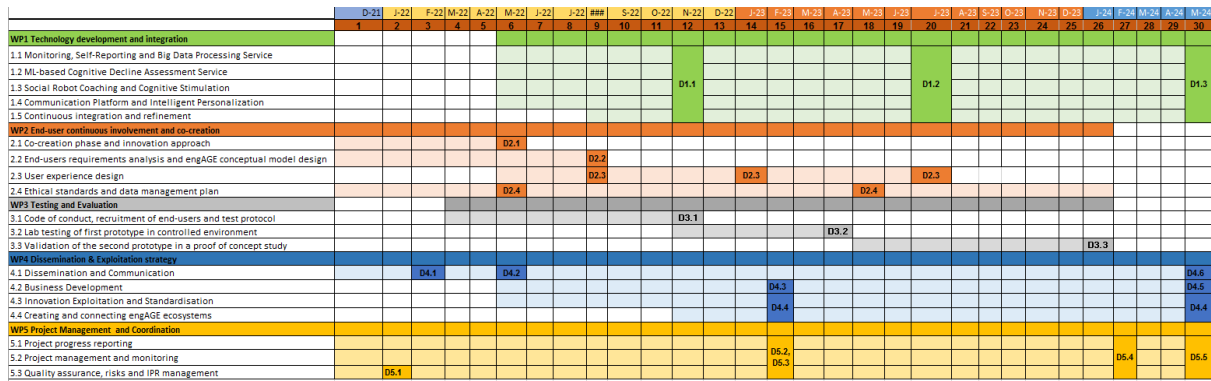
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Figure 2: engAGE Gantt.

Table 3: engAGE tasks and responsibilities

Task ID	Task name	Parent WP	Lead	Partic.	Timeline	Related Deliverable
1.1	Monitoring, Self-Reporting and Big Data Processing Service	WP1	TLU	TUC, KRD, IRIS	M6-M20	D1.1-D1.3
1.2	ML-based Cognitive Decline Assessment	WP1	TUC	ALL	M6-M20	D1.1-D1.3
1.3	Social Robot Coaching and Cognitive Stimulation	WP1	IRIS	ALL	M6-M20	D1.1-D1.3
1.4	Task Communication Platform and Intelligent Personalization	WP1	KRD	TLU, TUC, IRIS	M6-M20	D1.1-D1.3
1.5	Continuous prototype integration and refinement	WP1	IRIS	TUC, TLU, KRD	M9-M30	D1.1-D1.3
2.1	Co-creation phase and innovation approach	WP2	HUG	INRCA, KRD	M1-M6	D2.1
2.2	End-users req. analysis and engAGE conceptual model design	WP2	TUC	ALL	M1-M9	D2.2
2.3	User experience design	WP2	HUG	ALL	M6-M20	D2.3
2.4	Ethical standards and data management plan	WP2	KRD	ALL	M1-M26	D2.4
3.1	Code of conduct, recruitment of end-users and test protocol	WP3	INRCA	KRD, HUG	M4-M12	D3.1
3.2	Lab testing of 1st prototype in controlled environment	WP3	HUG	ALL	M12-M17	D3.2
3.3	Validation of the 2nd prototype in a proof of concept study	WP3	INRCA	ALL	M18-M26	D3.3
4.1	Dissemination and Communication	WP4	KRD	ALL	M1-M30	D4.1-4.2, 4.6
4.2	Business Development	WP4	TLU	ALL	M6-M30	D4.3, 4.5
4.3	Innovation Exploitation and Standardisation	WP4	IRIS	ALL	M6-M30	D4.4
4.4	Creating and connecting engAGE ecosystems	WP4	KRD	ALL	M12-M30	D4.4
5.1	Project progress reporting	WP5	TUC	-	M1-M30	D5.2-5.5
5.2	Project management and monitoring	WP5	TUC	ALL	M1-M30	D5.2-5.5
5.3	Quality assurance, risks and IPR management	WP5	TUC	-	M1-M30	D5.1-5.5

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3 Project management structure

In this section an overview of the project management structure is described, highlighting the key roles and their responsibilities. This structure is also detailed in the CA signed by all project partners.

The general project management structure defined in engAGE includes four major management roles as illustrated in Figure 3:

- Project Coordinator
- Technical Manager
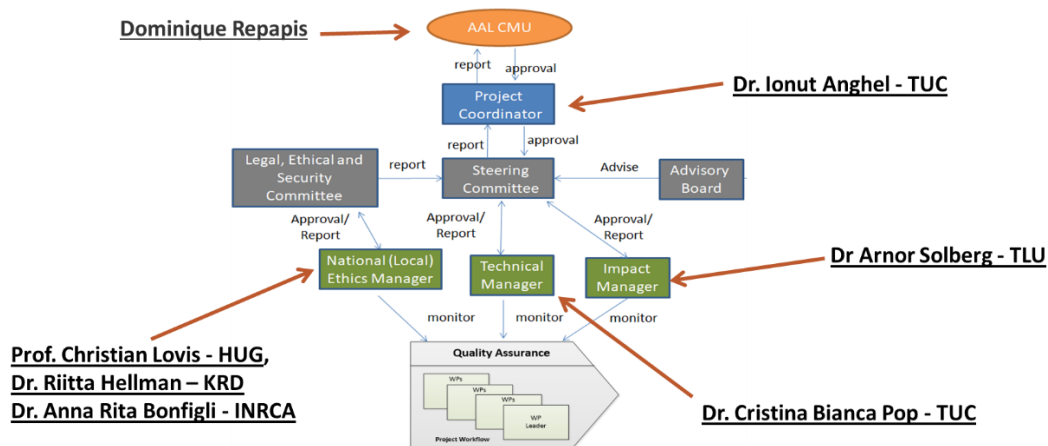- Impact Manager
- National (Local) Ethics Manager

Figure 3: engAGE management structure.

More details about the specific roles are presented in the following section.

3.1 Roles and responsibilities

engAGE **Coordinator, Dr. Ionut Anghel from TUC,** is the intermediary between the partners and the AAL CMU being responsible for:

- Overall legal, contractual, ethical, financial and administrative management of the consortium;
- Monitoring compliance by the partners with their obligations and the implementation of corrective decisions;
- Collecting, reviewing and submitting reports and other deliverables (including financial statements and related certifications) to the AAL CMU;
- Providing, upon request, the partners with official copies or originals documents which are in the sole possession of the Coordinator, when such copies or originals are necessary for the parties to invoke claims;
- Preparing, updating and managing the consortium agreement between the partners.

Technical Manager, Dr. Cristina Bianca Pop from TUC, ensures that the conduction of the work will follow the plan, being responsible for:

- Coordination of the overall scientific, technical and integration activities of the project;
- Ensuring the high technical quality of the reports and deliverables submitted to the AAL CMU;

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- Consortium level coordination of knowledge management and innovation-related activities;
- Monitoring and reporting to the Steering Committee and the Coordinator of the progress of work packages covering scientific and technical issues;
- Ensure the integration of new and re-used technical solutions.

Impact Manager (Dr. Arnor Solberg from TLU) leads the general dissemination and exploitation actions of engAGE to maximize the exploitation potentials for project results, having the following responsibilities:

- Coordinate the exploitation and dissemination activities;
- Identification of conferences, workshops, magazines and journals for dissemination;
- IPR definition and data maintenance and harmonization of the partners' policies;
- Coordination of the effort to develop marketable products;
- Release of a business plan covering one solutions concerning the partnership in the exploitation, the royalties, market estimates and risks;
- Market analysis, identification of key stakeholders and commercialization channels for successful market outcomes of project results;
- Planning of exploitation strategies and joint initiatives.

The **National (Local) Ethics Managers (Prof. Christian Lovis from HUG, Dr. Riitta Hellman from KRD, Dr. Anna Rita Bonfigli from INRCA)** will monitor project ethics in the countries in which pilots will undergo, making sure that the local regulations are respected. The National Ethics Managers are assigned the following responsibilities:

- Supervising the process of applying for ethical approvals from national ethics boards and committees, according to each participating country's research ethical regime, appropriate and necessary for the project's domain;
- Supervising the process of making all necessary self-declarations and the like, in each participating country, in line with national rules and regulations for data security arrangements and that of handling personal sensitive data, and privacy.

A **Legal, Ethical and Security Committee** will be comprised from all the National (Local) Ethics Managers and will work with the project Steering Committee to ensure that all EU ethics are respected and to harmonize potential local (national) ethics related differences. The committee will:

- Define the project's daily ethical guidelines (Code of Conduct) to be followed by all researchers and practitioners participating in the project;
- Ensure that researchers' interactions with end-users are ethical and best practices of ethical management has been applied.

The **Steering Committee (SC)** includes members of the consortium according to their reputation and area of expertise, its main role being to audit all the scientific, technical and exploitation work conducted in the project. The Technical and Impact Managers must be part of the SC. The structure of the SC is illustrated in Table 4, below being detailed the responsibilities:

- Checking / ensuring that the progress of the work meets the project functional requirements;
- Supporting the Coordinator in preparing meetings with the AAL CMU and in preparing related data and deliverables;
- Monitoring the effective and efficient implementation of the project;

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- Collecting information at least every 6 months on the progress of the project and examining it to assess the compliance with the consortium plan and, if necessary, proposing modifications and corrective actions;
- Preparing the content and timing of press releases and joint publications.

Table 4: SC structure

Partner / Role	Representative
Coordinator (chair)	Ionut Anghel
Technical Manager	Cristina Bianca Pop
Impact Manager	Arnor Solberg
TUC	Tudor Cioara
IRIS	Andrei Marin
TLU	Lars Thomas Boye
KRD	Riitta Hellman
HUG	Alexandra Villaverde
INRCA	Roberta Bevilacqua

The **Advisory Board (AB)** will be a board with a direct link to the engAGE management team and will consist of 4 independent experts with wide recognition in their respective fields, and with different backgrounds and areas of expertise such as:

- accessibility research platforms and initiatives;
- care or Alzheimer associations;
- cognitive processes;
- market and commercialization.

The advisory board will be consulted at each critical step within the project, concerning end-users, technical aspects, and issues where commercial exploitation and standardization of the results.

At the time of releasing this report, the following potential AB members have been identified:

- Prof. Patrick Van Gelder, Funding manager, UGent, Belgium;
- Dr. Rainer Wieching, University of Siegen, Germany;
- Vincent Jimenez, Ataraxia Care, Switzerland;
- Prof. Helianthe Kort, Eindhoven University of Technology (TU/e), The Netherlands.

WP leaders have been nominated to coordinate the WP level activities thought the project lifetime:

- WP1: Marin Iulian-Andrei (IRIS);
- WP2: Alexandra Villaverde (HUG);
- WP3: Roberta Bevilacqua (INRCA);
- WP4: Riitta Hellman (KRD);
- WP5: Tudor Cioara (TUC).

As stipulated in the CA, each Consortium Body (CB) shall not deliberate and decide validly unless two-thirds (2/3) of its members are present or represented (quorum). Each member of a CB present or represented in the meeting shall have one vote. A Party which can show that its own work, time for performance, costs, liabilities, intellectual property rights or other legitimate interests would be

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severely affected by a decision of a Consortium Body may exercise a veto with respect to the corresponding decision or relevant part of the decision. Decisions shall be taken by a majority of two-thirds (2/3) of the votes.

3.2 Resolution of problems and conflicts

The Consortium recognises that the resolution of problems and conflicts must be handled systematically. Identification of any conflicts which arise in the project is the responsibility of all project participants.

Any signs of disagreement between project participants should be notified to the WP Leader. If the WP leader is unable to resolve the conflict the Technical & Impact Managers (as appropriate) are notified, to instigate the conflict resolution procedure, escalating to higher levels only if necessary. The notified manager should separately contact all parties either in person or by telephone, to identify the different viewpoints. (It is important not to use email: that medium very often leads to a rapid escalation of disagreements). Based on clarification of viewpoints, the coordinator should try to propose a solution. If one is achieved, it should be recorded in a short report; if not, no documents should be produced, and the problem escalated.

If first-level fails, the matter should be taken up by the project management board (SC). At this level, all work should be in writing. If necessary, partner representatives will be required to vote on the issue. The SC will take the final conflict resolution decision which will be communicated to the involved parties.
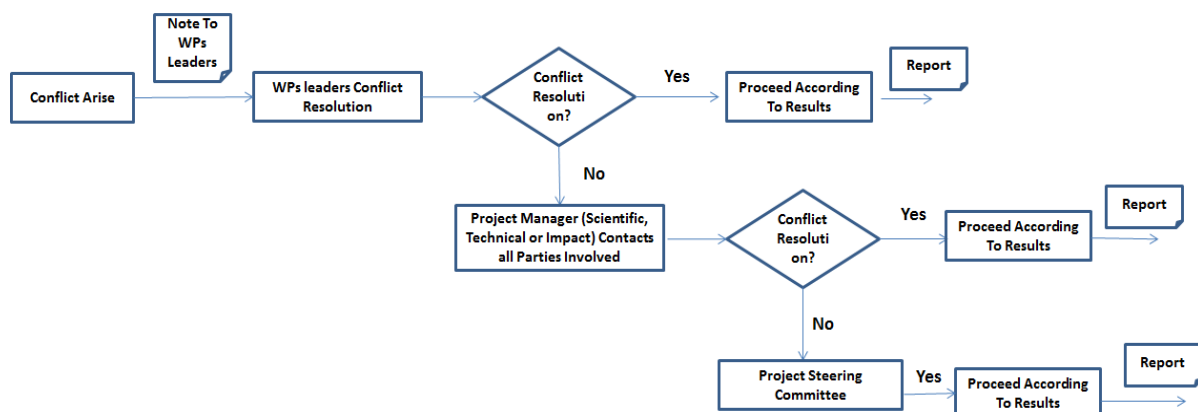

Figure 4: Conflict resolution flow.

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4   Project meetings

The kick-off meeting held on 12.01.2022, chaired by the Project Manager (PM), marked the actual launch of the project and aimed to strengthen the sense of common purpose between all partners, identify responsibilities, initiate cooperation between WPs, confirm/improve the work plan for the whole duration of the project. The PM illustrated what is expected from each partner in terms of results, performance, and reporting. The meeting was held online using Microsoft Teams platform due to COVID19 pandemic restrictions.

Different types of meetings can be arranged to check the progress of the project, to discuss technical issues or choices, to take strategic decisions, to apply changes to the consortium, etc.:

- **Plenary meetings** – at least twice a year, where all the work done will be presented, and future action points will be discussed mainly to track the status, progress and quality of the project;
- **Bi-weekly virtual meetings** – every 2 weeks for discussing ongoing activities in the work plan in order to keep all consortium partners up to date with ongoing project activities, and to make sure all partners are involved in the day-to-day collaborative project work;
- **Legal, Ethical and Security Committee Meetings** – to monitor and discuss project related ethics in the countries in which pilots will undergo, making sure that the local regulations are respected;
- **Technical meetings** – organized at technical WP levels for clarifying the existing technology related activities and assuring that the work for engAGE envisioned platform and services is on track;
- **SC meetings** – held on yearly basis for liaison among the Parties in relation to the project, for analysing and approving the results, for proper administration of the project and for implementation of the provisions included in the CA;
- **AB Meetings** – physical or virtual meetings with the AB members to show the status of the project and gather feedback and advice for improving project activities;
- **Project review meetings** – online/physical review meetings with AAL CMU experts for evaluating the work done in the project. It is envisioned a half-project review meeting around month 15 (February 2023).

The chairperson of a meeting shall prepare and send each participant a meeting agenda no later than 7 calendar days preceding the meeting. Also, the chairperson of a meeting shall produce written minutes of each meeting which shall be the formal record of all decisions taken or action points planned. The chairperson shall send the minutes to all participants within 10 calendar days of the meeting. Both agenda and minutes documents will follow the templates provided by the coordinator at the beginning of the project, available into the project web repository.

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5 Collaboration environment

This section describes the main tools and procedures that will be adopted in the project to ensure clear, transparent, and efficient internal communication and collaboration such as the internal management website, e-mail group and audio/video conferencing.

5.1 Web repository

A Microsoft Teams-based internal management repository was adopted inside the project, mainly as a central document repository, cooperative working area and project management tool.

It acts as primary means of communication for the delivery and interchange of documents and media (see Figure 5). It is accessible only by the authorized consortium members included in the project team.

Each project partner is responsible to notify the coordinator about any changes of project participants in their organisation. Project partners may add additional folders to the repository where appropriate, the coordinator being in charge to define the structure of the repository and to periodically refine it. As a general principle, the documents should be uploaded to the internal website (in the right folder) and send e-mail notifications (this method is preferred to attaching the documents to e-mails).
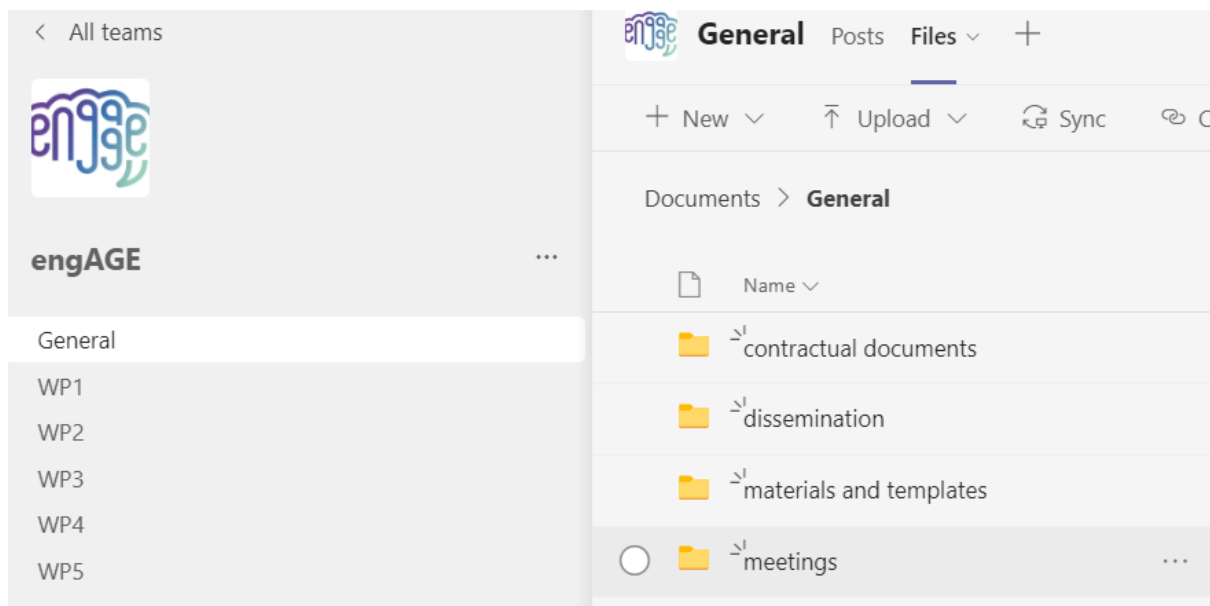
Figure 5: Teams repository.

The engAGE web repository will be used for the overall project management, especially in what concerns the day-by-day activities. This way, Project Coordinator, as well as WP leaders, can monitor the advancement of each activity, assign tasks to people involved in the project, check if some delays occur in deliverable preparation and release, take note of project deadlines, meetings, events in the calendar, and so on. The opportunity to take advantage of other project management platforms will be evaluated.

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5.2 Mailing list

The mailing list is the core mean of communication within the engAGE project being preferred to listing the e-mail addresses. The project mailing list has been defined on Google Groups: aal-engage@googlegroups.com.

As a general policy, each person posting to the e-mail list should ensure that the content of the message is appropriate for the recipients, thus avoiding unintended and unnecessary e-mails. Individual e-mails can be used for informing specific recipients in certain situations.

The options of creating internal e-mail lists for specific purposes (e.g., one for each WP) and automatically adding an appropriate prefix to the e-mail header to ensure that they can easily be identified as e-mails to specific lists, will be evaluated.

5.3 Online / virtual meetings and conferences

Microsoft Teams services for voice and video communications have been chosen for periodic virtual meetings and for plenary meetings due to COVID19 pandemic. Teams is a professional tool that allows audio, video interaction and screen sharing. If someone among the partners cannot attend a virtual conference (for instance because of internal security policies), phone conferences can be arranged. The coordinator has created a virtual team in the platform allowing for scheduling and attending web meetings (see Figure 6).
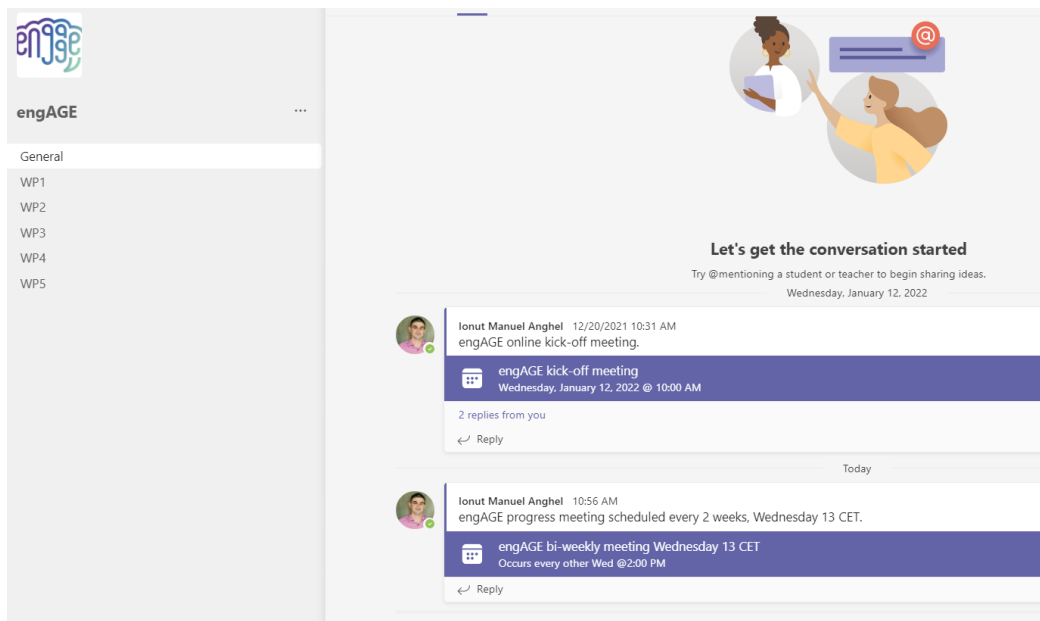

Figure 6: Teams environment for engAGE collaboration.

The coordinator has scheduled a virtual meeting link that will be used for bi-weekly virtual meetings in the project on a recurring basis.

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6   Quality assurance for documentation

The aim of this chapter is to describe the documentation management procedures for the engAGE project. It defines standard rules and procedures related to documentation production that all partners should apply throughout the project.

The documentation management procedure is applicable to all partners, for all deliverable documents sent to the AAL CMU and for all documents exchanged among partners. It is recommended that the internal Consortium documents should also follow these guidelines.

6.1   Tools for documentation editing

To assure the documentation quality it is recommended to use standardised tools. In engAGE the following tools will be used:

- Word processing: Microsoft Word 2013+;
- Spreadsheet: Microsoft Excel 2013+;
- Slides presentation: Microsoft PowerPoint 2013+;
- Document for web publication: Portable Document Format (PDF), Adobe DC or similar tool.

6.2   Documents quality assurance

A guiding template to be used for the Microsoft Word reports has been defined and is available in the Materials and Templates subfolder of the engAGE Web repository. According to this template, each document contains:

- a title page, with contractual info and the document identifier;
- a presentation page, including other document info, a document status sheet and change record table;
- table of contents;
- a glossary and list of acronyms if necessary;
- an executive summary;
- the main sections;
- the references, if any;
- annexes, if applicable.

The deliverable reports naming convention for engAGE is: **engAGE.DX.Y.PPP.Vk.j.docx** where:

- **DX.Y** is deliverable number according to the CA;
- **PPP** is partner's abbreviation;
- **Vk.j** is the version number, with V1.0 the one to be sent to the AAL CMU.

For example, document with title "engAGE.D5.1.TUC.V1.0.docx" indicates Final version (v1.0) of the deliverable D5.1 which is delivered under WP5 by partner TUC.

A document may exist in one of the following states:

- Table of Contents (ToC), V0.1, that is the structure of the document;
- Draft, V0.x, incomplete version of the deliverable (it strongly suggested to use v0.xy format, especially for non-major changes, such as internal reviews or small contributions);

- Consolidated V0.9, first complete draft to be submitted for peer-review;

- Reviewed, V0.9y, after peer-review;

- Release Candidate, V0.95, indicating that the author has applied corrections, suggestions and comments from peer reviewers;

- Quality Checked, V0.99, after applying the quality check from the quality checker;

- Final, V1.0, indicating PM approval, the document being ready to be submitted to the AAL CMU.

The above status values should be included in the document change history section. Optionally, V1.1 and following versions may be used for further refinements and enhanced versions.

To facilitate the Quality Check (QC), all members must adopt the following procedure for writing reports using MS Word:

- All members must use the template posted in the web repository;
- Set the Word language to "English UK";
- Pay attention to text formatting (font, dimension, colour, indentation, line spacing, titles, text, references and captions) according to template;
- A list of acronyms used in the text must be reported. When an acronym is used for the first time, the extended name must be reported too;
- Each figure and each table must have its key-caption;
- In order to add/insert a reference into a text, the MS Word "cross reference" functionality in "Captions tab" must be used;
- Ensure that the links to external resources are still accessible before adding them in the text;
- When the document is complete, the author must create the table of contents through "Table of Contents" functionality in "References" menu. If the table exists, the author must update it;
- The figures and texts in the document must be legible and must have a good resolution;
- Provide references in the main text where required, in order to give the reader the option to investigate further some concepts;
- Check over the accuracy of the Executive summary and Conclusions.

Similarly, a template for PowerPoint presentations has been defined, being available in the web repository. It must be adopted for each internal presentations, as well as for external presentations (conferences, workshops, etc.) connected to the project. The responsible partner must ensure that the document name should always include the extended project acronym "engAGE", the title of the presentation, place and date of the meeting, and the version number, with V1.0 for the final released version. For example, the code "engAGE_title_of_the_presentation_Online_2022-01-12_V0.1" indicates an intermediate version of a presentation for an online event in January 2022.

6.3   Deliverable peer review process

Two peer reviews will be performed in parallel by two reviewers from the consortium that will provide their comments or suggestions to the Deliverable responsible person. The designated quality checker will be responsible for the final quality check. The coordinator has proposed and agreed with the consortium the peer reviewer assignment from Table 5.

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Table 5: engAGE deliverables and assigned peer reviewers

Del. n°	Deliverable name	Responsible	Type of del.[1]	Diss. level[2]	Del. date	Reviewer 1	Reviewer 2	Quality Checker
D1.1	First prototype release	IRIS	R/P	RE	M12	TUC	TLU	TUC
D1.2	Second prototype release	TLU	R/P	RE	M20	IRIS	TUC	TUC
D1.3	Final product release	IRIS	R/P	RE	M30	TLU	KRD	TUC
D2.1	User co-creation phase report	HUG	R	PU	M6	TUC	INRCA	TUC
D2.2	User requirements and system specs	TUC	R	PU	M9	TLU	HUG	TUC
D2.3	User experience design document	HUG	R	PU	M9, M14, M20	INRCA	KRD	TUC
D2.4	Ethical standards & data management plan	KRD	R	PU	M6, M18	HUG	INRCA	TUC
D3.1	Code of conduct and evaluation protocol	INRCA	R	PU	M12	KRD	HUG	TUC
D3.2	1st Prototype testing results	HUG	R/DEM	RE	M17	INRCA	KRD	TUC
D3.3	2nd Prototype proof of concept study results	INRCA	R/DEM	RE	M26	KRD	HUG	TUC
D4.1	engAGE website	KRD	OTHER	PU	M3	TUC	TLU	TUC
D4.2	Dissemination plan	KRD	R	PU	M6	TUC	HUG	TUC
D4.3	Intermediate business plan/model	TLU	R	RE	M15	IRIS	KRD	TUC
D4.4	Exploitation plan	IRIS	R	RE	M15, M30	TLU	KRD	TUC
D4.5	Final business plan/model	TLU	R	RE	M29	IRIS	TLU	TUC
D4.6	Final dissemination report	KRD	R	PU	M30	TUC	INRCA	TUC
D5.1	Project Quality Control Plan	TUC	R	PU	M2	KRD	INRCA	TUC
D5.2	First Year Report	TUC	R	RE	M15	TLU	IRIS	TUC
D5.3	Mid-term review questionnaire	TUC	R	RE	M15	INRCA	TLU	TUC
D5.4	Second Year Report	TUC	R	RE	M27	HUG	IRIS	TUC
D5.5	Final Report	TUC	R	PU	M30	IRIS	TLU	TUC

6.4   Preparing and releasing deliverables

Each deliverable will follow the main steps described below.

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[1] R = Report, P = Prototype, DEM = Demonstrator, OTH = Other

[2] PU = Public, RE = Restricted

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1. The person responsible for the deliverable will first define the document table of contents (ToC) and the expected contributions from each partner, by defining a plan that must followed by contributors to avoid delays.

2. The deliverable responsible person circulates the deliverable release plan and may receive feedback from the peer-reviewers assigned to the document. The ToC must include a short description of the expected contributions in each section, together with the associated responsible partners.

3. Once the ToC is approved and consolidated by the deliverable responsible, all ~~the~~ partners are invited to contribute. Contributions are merged by the deliverable responsible, who is in charge to check the consistency and coherency of the content, further clarifications and/or contributions being possible to be required by the delivery responsible from the involved partners. During the production of the deliverable, there may be other intermediate phases where peer-reviewers are asked to check partial drafts, but this is not a rule to be followed, mainly due to time constraints. The deliverable responsible will be the only person in charge for checking the technical quality of the deliverable as it progresses.

4. The deliverable responsible will then prepare a complete draft which will be sent to the assigned peer-reviewers, who may reiterate and re-circulate the deliverable as required, until the necessary quality level is attained.

The peer-reviewers will check the deliverable from the following points of view:

- the deliverable covers the objectives stated in the CA;
- the deliverable is complete (there are no missing parts, non-existing references, topics not covered, arguments not properly explained);
- the quality of the work described in the document is acceptable and in accordance with what was expected.

The Peer-Reviewers are required to apply changes in MS Word track changes mode and to provide comments by creating proper MS Word comments.

5. The peer-reviewed deliverable is sent as release candidate to the quality checker for a final quality check. The quality checker is not required to do an extra review but to simply check that the deliverable responsible has edited the deliverable in compliance with the editing guidelines. **The quality checker may ask the deliverable manager for changes if the deliverable does not comply to the project quality standards**.

6. As a last step, the PM will prepare the deliverable for submission to the AAL CMU.

As mentioned above, the deliverables should not be circulated via e-mails but uploaded on the web repository following a **specific timeline** indicated below:

- ToC and release plan - **at least 30 days** before official deadline;
- Complete draft for peer-review – **at least 10 days** before official deadline;
- Release candidate for QC - **at least 5 days** before official deadline;
- Release for Coordinator - **at least 3 days** before official deadline;
- Release for the AAL CMU (Final) - **within** the official deadline.

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Deliverables are provided to the AAL CMU according to the delivery date specified in the CA or before the mid-term review, by converting the documents into PDF (if not already done before) and uploading them in the indicated web repository or sending them by email.

7 Risk management

According to ISO 31000 [1], a risk management process systematically applies management policies, procedures, and practices to a set of activities intended to establish the context, communicate and consult with stakeholders, and identify, analyse, evaluate, treat, monitor, and review risk (see Figure 7). The main elements of the risk management process are the following:

- **Context identification** – defining the objectives for the risk management process and establishing the risk evaluation criteria considering both internal and external factors;
- **Risk identification** – Identify what could prevent a certain activity, task, etc., to achieve the envisioned objectives;
- **Risk analysis** – For the identified risks, evaluate and document their consequences and estimate their likelihood/frequency;
- **Risk evaluation** – compare estimated levels of risk against pre-established criteria, ranking the risks to identify management priorities;
- **Risk treatment** – accept and monitor low-priority risks and identify options for risk treatment for non-acceptable risks;
- **Monitoring and review** - checking for deviations from the risk management plan and reviewing its effectiveness;
- **Communication and consultation** – find support for verifying that the risk management process is focusing on the right elements and for assessing risk treatment options.
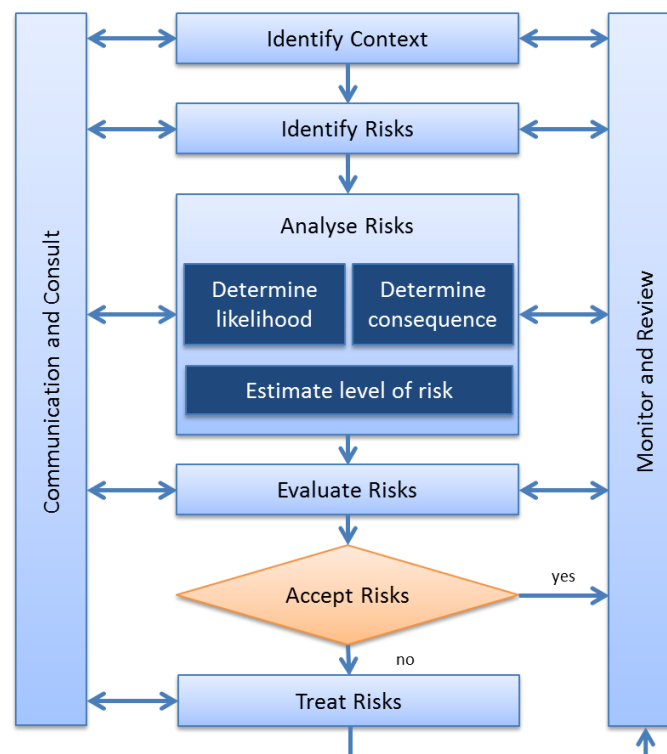

Figure 7: ISO 31000 Risk Management process.

Risks are continuously monitored, throughout the project, keeping track of the risks and evaluating the effectiveness of the contingency actions. Monitoring may also provide a basis for developing

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additional response actions and identifying new risks. Project team members participate in the risk identification process and discuss risk monitoring and mitigation activities at team meetings.

engAGE project will employ the risk management process described above, throughout the project life cycle, to identify, assess, mitigate, monitor and control risks related to administrative, technical and financial issues. Risk management in engAGE is built upon cross-partner risk awareness. Risks, problems and related open issues will be discussed during periodic engAGE meetings.

The partners are fully aware that they take the responsibility of an ambitious, innovative project with major strategic impact. Most of the partners have experience in similar, challenging projects and many of them have successfully collaborated in the past. Therefore, it is foreseen that the project will safely achieve its expected results. However, as an innovative and challenging project, engAGE is expected to confront risks of technological, managerial and administrative nature. The success of the project depends on the timely identification of the risks and the establishment of an efficient risk management process.

Risks will be documented and tracked in the project through a **Risk Matrix excel file** stored in the web repository and containing for each identified risk the following information:

- **Risk ID** – a unique identification number used to identify and track the risk in the risk register;
- **Risk Category** - category where the risk falls (technological, market uptake, external, project management);
- **Risk Description** – A brief description of the potential risk;
- **Linked WPs** – Link to the WP/task;
- **Probability** – The estimated likelihood that the risk will occur at some point and become a project issue. It will be qualitative identified as: *very likely, likely, moderate, unlikely, rare;*
- **Impact** – The potential consequence or impact of the risk if it would become a project issue (*negligible, minor, moderate, major or extreme*);
- **Contingency Plan** –Action plan to address the risk if it does occur;
- **Risk Owner** – The person/partner responsible for managing the risk and implementing the associated contingency plans;
- **Status** – Status of the risk management (open, closed);
- **Dates** - Dates when the risk has been identified and closed.

To properly classify a risk, we will use a risk matrix considering the risk probability and impact to determine its severity in the range {Low, Medium and High} (see Figure 8).

		Impact				
		Negligible	Minor	Moderate	Major	Extreme
Probability	Rare	Low	Low	Low	Medium	Medium
	Unlikely	Low	Low	Medium	Medium	Medium
	Moderate	Low	Medium	Medium	Medium	High
	Likely	Medium	Medium	Medium	High	High
	Very likely	Medium	Medium	High	High	High

Figure 8: Risk matrix [2].

The consortium has identified risks and factors that are critical to its success, and it will continuously follow methods and procedures to identify, assess, monitor and control areas of risk. This list has been defined based on the one that is already presented in the project Description of Work and enhanced to reflect the current project status, the COVID pandemic and the envisioned new risks, along with their associated information. Table 6 presents an overview of the engAGE risk register (the complete version can be accessed in the project repository).

Table 6: engAGE risk register table

Category	Description	WPs	Probability	Impact	Severity	Contingency Plan	Owner	Status	Identification Date	Closure Date
End-user	Poor engagement of end-users in trials / high drop-out rates	WP3	Moderate	Moderate	MEDIUM	Define clear informed consent, recruitment procedures and COVID-19 protection rules. Highlight the benefits of the proposed solution in pre-trials workshops with the end-users. Secure a high number of end-users in the recruitment phase for all the envisioned trials stages.	INRCA	Open	Dec-21	N/A
End-user	Field trials deployment and success indicators assessment problems	WP3	Unlikely	Moderate	MEDIUM	Involve the 3 end-users partner organizations. Initial in-lab testing for ICT services. Use methods such as questionnaires to collect opinions and refer to the state-of-the-art values for defining indicators.	INRCA	Open	Dec-21	N/A
End-user	engAGE fails to produce targeted improvements in quality of life of elders	WPs 1-4	Unlikely	Extreme	MEDIUM	Employ a co-creation approach. Prototypes and services will be piloted to obtain relevant feedback that will be used to improve the innovation process. Select, and evaluate effective quality of life assessment questionnaire from state of the art.	HUG	Open	Dec-21	N/A
End-user	Privacy, reliability, and security concerns	WPs 2-3	Rare	Major	MEDIUM	Build around ethics policies defined in the project domain. Define informed consent, obtain ethical approvals from specialized committees, implement data	KRD	Open	Dec-21	N/A

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						security and protection measures.				
End-user	Delay in gathering end-user requirements at the beginning of the project due to pandemic situations (e.g. COVD19)	WPs 2	Likely	Moderate	MEDIUM	End-user partners will make use of virtual interaction tools with end-users for gathering user requirements and capturing their needs. Start the requirements shaping process from an in-depth state of the art. Use online questionnaires, forms and other web-based tools for interacting with end-users. Use online mockups and presentations for acquiring valuable inputs from the end-users involved in the project.	HUG	Open	Dec-21	N/A
End-user	Delays in carry out the trials	WP3	Likely	Major	HIGH	Analyse and update the trials planning and the proposed protocols. Reschedule trials, delay deliverables. Request project extension to cover the delays.	INRCA	Open	Jan-22	N/A
Market uptake risks	engAGE services do not match end-user needs and business models	WPs 1-4	Unlikely	Major	MEDIUM	Involve end-users and domain experts in the co-creation and exploitation plans. Early feedback from piloting evaluation. Revision of suitable business models with community and end-users.	TLU	Open	Dec-21	N/A
Market uptake risks	Dissemination not effective	WP4	Rare	Moderate	LOW	Dedicate enough resources to dissemination. Dissemination planning. Monitor and evaluate the dissemination results. Adapt the dissemination strategy to pandemic contexts by focusing on online and remote channels.	KRD	Open	Dec-21	N/A
Market uptake risks	New legislative barriers reduce services viability	WP4	Rare	Moderate	LOW	Technical and user-related partners will provide a continuous link to legislative bodies to be	TLU	Open	Dec-21	N/A

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						informed at an early stage on any barriers. Start from analyzing consortium countries' barriers and extend to their network of sales. Analyze medical device regulation.				
Market uptake risks	engAGE services do not achieve the requested maturity for market uptake	WPs 1-4	Moderate	Minor	MEDIUM	Develop the configurable services based on existing previous projects solutions. Adopt continuous integration methodology and iterative development cycles based on user feedback. Trials focused on business development including willingness to pay.	TLU	Open	Dec-21	N/A
Market uptake risks	engAGE pricing strategy doesn't correlate with technology position	WP4	Unlikely	Moderate	MEDIUM	Initial business plan and price estimation were conducted. Estimated costs of engAGE will be continuously revised. Conduct cost-benefit and willingness to pay analysis. Define engAGE suites for different end users target groups.	IRIS	Open	Dec-21	N/A
Project management risks	Shortage of resources and/or change of personnel	WP5	Moderate	Negligible	LOW	Keep close contact with all partners. Early communication of budget and personnel problems. Adjust goals and responsibilities. Find replacement for personnel.	TUC	Open	Dec-21	N/A
Project management risks	Lack of communication among the partners	WP5	Rare	Moderate	LOW	Close contact among partners by regular teleconferences, virtual meetings, plenary and technical meetings at different partners' sites or online.	TUC	Open	Dec-21	N/A
Project management	Consortium partners change	WP5	Rare	Major	MEDIUM	Evaluate constantly partners' involvement in the project. If a partner leaves the consortium, distribute their efforts to other members of the	TUC	Open	Jan-22	N/A

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Techno logical	engAGE services not effective - social robot integration problems	WP1	Rare	Medi um	LO W	Involving end-users' partners in innovation development. Involve technical partners that are highly experienced in developing AAL solutions. Organize regular technical meetings to track progress.	IRIS	Ope n	Dec-21	N/A
Techno logical	Robot-based coaching shows low effectiveness for MCI	WPs 1-2	Unlikel y	Majo r	ME DIU M	High-level engagement of end-users in evaluation. Early in-lab validation (M12). Consider equivalent solutions and leverage on complementary competencies for development. Technical partners assure development of missing functionalities.	IRIS	Ope n	Dec-21	N/A
Techno logical	Monitoring and assessment fails to capture the senior cognitive decline	WPs 1-2	Unlikel y	Mod erate	ME DIU M	Focus on of-the-self sensors and self-reporting. Involving partners providing MCI knowledge in innovation development. Organize regular meetings with technical partners to track progress against milestones, and to assure successful knowledge transfer.	TLU	Ope n	Dec-21	N/A
Techno logical	engAGE ICT solutions cannot be integrated, or interfacing problems are detected	WPs 1	Rare	Majo r	ME DIU M	Define interfaces for ICT solutions integration in services early, check consistency and low coupling of services integration architecture. Leverage on open APIs to integrate solutions. Adopt and follow integration guidelines and best practices.	IRIS	Ope n	Dec-21	N/A

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Tech nolo gical	Lack of standards	WP1 -4	Unlikel y	Mino r	LO W	engAGE will continuously watch relevant standards and open APIs to consider them in implementation	TLU	Ope n	Jan-22	N/A

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8 Project monitoring and reporting

Periodic reports issued to AAL CMU should describe the work done, issues, achievements, effort, and relevant events for dissemination. The Project Coordinator will collect internal reports specific to every reporting period, in which each project partner will indicate the work done and effort expenditure. To collect the reports from the partners, the Project Coordinator will circulate specific templates.

The Project Coordinator must submit the periodic reports within 60 calendar days after the end of each calendar year (usually in February), on behalf of the consortium. Each periodic report should consist of:

- Explanation of the work carried out;
- Overview of progress (milestones and deliverables);
- Summary for dissemination;
- Efforts spent and comparison with initial plan.

Considering the starting date of the project the following periodic reports will be issued:

- D5.2 First Year Report - M15;
- D5.4 Second Year Report - M27;
- D5.5 Final Report - M30.

A special case for the AAL projects is the **National Funding Agency (NFA) reporting** (specific to each participant country)**,** usually required for each calendar year. Each consortium partner will be responsible for the local NFA reporting process and will inform the coordinator if problems or issues arise in these processes.

The project will undergo a half project lifetime **Mid-term Review (MTR)** meeting with AAL experts (M15) where a detailed evaluation of work done until M15 (deliverables, prototypes, validation trials, business planning, dissemination, etc.) will be carried out together with verification of the planning of the second project lifetime activities. The coordinator will organize the meeting, will prepare all MTR required documents (e.g. D5.3 - Mid-term review questionnaire, agenda) and will send all released deliverables and documents to AAL CMU at least 30 days before the planned review.

Finally, after the project ends, a remote **final review** will be organized by the coordinator together with the AAL experts to check the second project lifetime achievements. All documents for the final review will be prepared by the coordinator with support from all the consortium members.

9 Conclusions

This report defines the procedures and rules that the engAGE project participants must follow to produce high quality results during the project lifetime. The project governance bodies were defined based on what was already established and accepted by all the participants by signing the CA. Also, the procedures for document preparation, quality assurance and delivery as well as for collaboration among partners are explained. Risk management strategy is presented including a first version of the risk register table that will be continuously monitored and updated during the project implementation. Project reporting plans are also detailed in the deliverable. In conclusion, this document aims to be a reference for the daily management of the project activities and the guide for all procedures the project partners must be compliant with.

References

[1] ISO 31000, https://risk-engineering.org/ISO-31000-risk-management/

[2] https://en.wikipedia.org/wiki/Risk_matrix