ICT-38-2020 | AI for Manufacturing

Human-AI Teaming Platform for Maintaining and Evolving AI Systems in Manufacturing

D9.1 Governance structure, communication flow and methods

Deliverable Lead	SOFTWARE COMPETENCE CENTER HAGENBERG GMBH (SCCH)
Deliverable due date	31/03/2021
Actual submission date	30/03/2021
Version	1.0

This project receives funding in the European Commission's Horizon 2020 Research Programme under Grant Agreement Number 957402.

Document Control Page	
Title	Governance structure, communication flow and methods
Editor	Sabine Stockinger (SCCH)
Contributors	Thomas Hoch, Mario Pichler, Bernhard Moser (SCCH)
Work Package	WP9 Coordination
Description	Setting up of management and quality assurance procedures.
Creation date	19/02/2021
Type	Report
Language	English
Audience	☒ Public ☐ Confidential
Review status	☐ Draft ☐ WP leader accepted ☒ Coordinator accepted
Action requested	☐ to be revised by Partners ☐ for approval by the WP leader ☐ for approval by the Project Coordinator ☒ for acknowledgement by Partners

Document History			
Version	Date	Author(s)	Changes
0.1	01/03/2021	Sabine Stockinger (SCCH)	Initial content
0.2	17/03/2021	Sabine Stockinger, Thomas Hoch, Bernhard Moser (SCCH)	Review
0.3	25/03/2021	Mario Pichler (SCCH)	Review, minor changes and comments
1.0	30/03/2021	Sabine Stockinger, Mario Pichler (SCCH)	v1.0, PDF generated and submitted to EC portal

List of contents

List of Figures

List of Tables

1 Abstract / Executive Summary

The present deliverable (TEAMING.AI D9.1) is produced in the context of WP9 Coordination. Project management is defined by the set of principles, methodologies, procedures and practices used to i) meet the project's objectives according to the budget and schedule, ii) ensure that the available resources are used in a controlled and structured manner, iii) provide the means for efficient information flow and knowledge management, iv) collect, review and submit the defined reports and deliverables (including financial statements and certificates) and v) manage Intellectual Property Rights (IPR) and pave the way towards the further commercialisation of the results. This document outlines the processes and corresponding procedures to be followed during the management of the TEAMING.AI project (GA 957402 / 36 month / 1st January 2021 - 31st December 2023).

The described methodology is a collection of provisions adopted by the Consortium to ensure the quality of the project meetings, activities and generated documents, comprising the deliverables, milestones, technical and financial reports. Then, the deliverable helps ensuring the good delivery of the TEAMING.AI project as well as facilitating the improvement of the relationships within the project. Ultimately, it constitutes a memorandum to be used internally as a reference guide by the Consortium members, communicating all relevant principles of project operation to all TEAMING.AI project members.

2 Introduction

The present deliverable (TEAMING.AI D9.1) is produced in the context of WP9, Task 9.1 Global legal and contractual management. Project management is defined by a set of principles, methodologies, procedures and practices. This document outlines the processes and corresponding procedures to be followed during the management of the TEAMING.AI project (Grant Agreement No. 957402) that commenced on 1st January 2021 and will have 36-month duration, finalizing on 31st December 2023.

D9.1 main goal is ensuring the good delivery of the TEAMING.AI project as well as facilitating the improvement of the relationships within the project. Ultimately, it constitutes a memorandum to be used internally as a reference guide by the Consortium members, communicating all relevant principles of project operation to all TEAMING.AI project members.

This document complements the project's Grant Agreement (GA) and the Consortium Agreement (CA) with respect to management and project organization aspects, and quality assessment and control. The main objectives of this deliverable are to describe the internal rules and quality procedures to increase the consortium's internal efficiency and to increase the quality of the project results. This deliverable and all related documents (forms/templates) will be available to the project participants on the project repository (SCCH Teams provided by the Project Coordinator (PC)).

2.1 Description of the document

The first part of the document is devoted to the description of the project organization and management, including information about management bodies, decision making process and meetings, which is basically available in the GA and CA.

Then, procedures and tools supporting the communication within the project are described afterwards. The last part of the document includes the main information about the procedures and tools supporting conflict, deviation and risk management.

In addition, at the end of the document, there is a section with some annexes with related templates.

The document structure is split to meet specifically the following objectives:

i) meet the project's objectives according to the budget and schedule,

ii) ensure that the available resources are used in a controlled and structured manner,

iii) provide the means for efficient information flow and knowledge management,

iv) manage risks

2.2 WP and Tasks related with the deliverable

Figure 1 shows documents that feed this deliverable and subjects of the project that will be ruled by it.

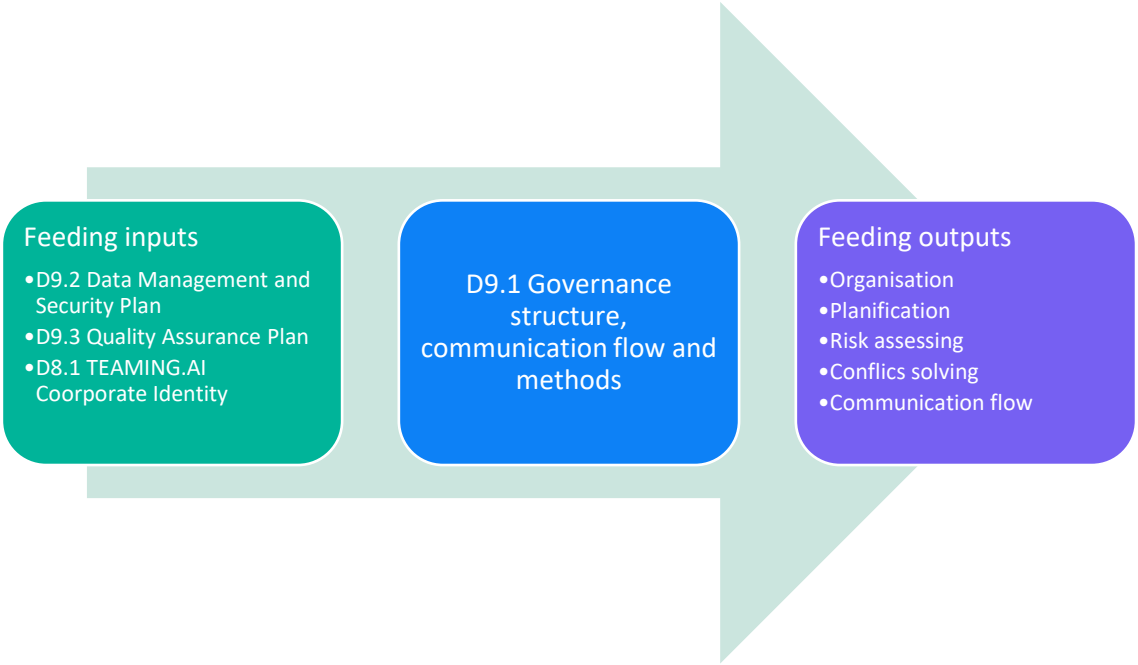

Figure 1. Teaming.AI D9.1 Inputs and outputs

3 Project management organisation

The PC, SCCH, provides the TEAMING.AI project management and coordination. The PC is in charge of following up the implementation of the project, in terms of management procedures and quality assurance. However, all the partners must be involved in the management system and contribute to the achievement of the objectives. Furthermore, a Project Management Office at SCCH will support the PC in the administrative and financial management tasks.

The partners of the TEAMING.AI Consortium are shown in Table 1.

Nº	Participant organisation name	Short name	Comp. type	Country	Main role in TEAMING.AI
1	SOFTWARE COMPETENCE CENTER HAGENBERG GmbH	SCCH	RTO	AT	PC and WPL on the development of the Teaming Engine as Software Framework
2	IDEA-informatics, domotics, environment, automation - SOCIETA COOPERATIVA	IDEA	SME	IT	Developer of Decision Support System for manufacturing to support operators' online productions
3	UNIVERSITAET MANNHEIM	UMA	RTD	DE	KG methodology WP, (construction, refinement, and mining)
4	IDEKO S COOP	IDK	RTD	ES	Market technology transfer. Support to GOIMEK´s use case

5	TYRIS SOFTWARE SL	TYR	SME	ES	Optimization models and dashboards definition on TEAMING.AI platform. Support to IAL´s use case
6	INDUSTRIAS ALEGRE SA	IAL	LE	ES	Quality production use case
7	CORE INNOVATION AND TECHNOLOGY OE	CORE	SME	GR	WP8 leader and communication and dissemination tasks
8	ITUNOVA TEKNOLOJI ANONIM SIRKETI	ITU	SME	TU	Development of artificial intelligence algorithms. Support to FARPLAS´s use case
9	FARPLAS OTOMOTIV ANONIM SIRKETI	FAR	LE	TU	Production and network equipment use case
10	Global Equity & Corporate Consulting SL	SDP	SME	ES	TL on Exploitation strategy and IPR Management
11	TIME LEX	TIM	SME	BE	Coverage of legal aspects of data use and sharing
12	GOIMEK S COOP	GOI	LE	ES	High precision machining use case
13	WIRTSCHAFTSUNIVERSITAT WIEN	WU	RTD	AT	KG and process modelling, mining, and orchestration
14	TECHNOLOGICAL UNIVERSITY DUBLIN	TU Dublin	RTD	IE	Mapping of the tacit knowledge and guiding the necessary step to adopt an Active Learning Approach for the AI algorithm
15	PROFACTOR GmbH	PRO	RTO	AT	Analysis of worker paths and ergonomics

Table 1. TEAMING.AI Consortium

3.1 Governance structure

The PC will be the intermediary between European Commission and the TEAMING.AI project consortium and the responsible for the continuous follow-up of the project development. The PC will oversee the project progress, dissemination and communication and exploitation activities as well as management of knowledge and IPRs. Ultimately, the PC will manage and approve the deliverables and milestones as well as monitor risks mitigation measures. The project will be coordinated by SCCH, the PC, which appointed a representative, namely Mr. Bernhard Moser. Additionally, Ms. Sabine Stockinger (SCCH) will be the Administrative and Financial Manager (AFM), and Mr. Thomas Hoch (SCCH) will be the Technical Manager (TM) who will support the PC for ensuring the correct performance of the project technical tasks.

The **General Assembly (GA)** is the highest-level management body of the TEAMING.AI project, being responsible for ultimate decision making and the approval of the management structure and project direction. This PGA will be led by the PC and will count on the participation of one representative of each partner. The PC will assume responsibility for liaison among the parties by analysing, administrating and implementing results and provisions according to the Grant Agreement and the Consortium Agreement. Moreover, the PC will make the final decisions in situations such as alteration of the Grant Agreement or the Consortium Agreement, exclusion of project partners and modification of management structure, among others.

The GA will rely on the **Steering Committee (SC)**, to ensure technical coordination. The SC will be led by the TM and it will support the definition of the strategy for completing the project objectives and will assure the technical consistency and maximum synergy between WPs. The SC will be in charge of the approval of all the project deliverables and of the implementation of peer-review procedures when required. Self-assessment and the definition of the corresponding corrective actions will be also their responsibility, and they will act as first level of conflict resolution. Regarding the composition, the SC is composed by the Work Package Leaders (WPL) as well as several key management roles already designated as indicated in Table 2.

Management role	Designated person	Entity
Innovation Manager (IM)	Laura Zacarés	SDP
Dissemination Manager (DM)	Ilia Kantartzi	CORE
Quality Manager (QM)	Georg Buchgeher	SCCH
Risk Manager (RM)	Gernot Stübl	PROFACTOR
Legal, Ethical, Privacy and Policy Issues Officer (LEPPI)	Hans Graux	TIMELEX

Table 2. SC Key management roles

3.1.1 Description of SC key management roles

Innovation Manager (IM) role will be held by Laura Zacarés from SDP, as partner expert on exploitation. The IM will provide guidance and support to maximize the impact of the results and ensure that innovation reach the market. Innovation management will be taking into consideration among the project through: Identification and contributions to on-going and future standardization developments, identification of projects results and IPR management, business models definition and validation, exploitation strategies and business plans, risks analysis towards market impact to overcome technical and non-technical barriers.

Dissemination Manager (DM) role will be held by Ilia Kantarzi from CORE, as partner expert on communication. The DM will lead the preparation of a detailed Dissemination and Communication strategy of the project on commencement of the project. In order to prepare the market for the TEAMING.AI system, a comprehensive dissemination strategy (as part of the overall TEAMING.AI communication strategy) will be developed and implemented.

Quality Manager (QM) role will be held by Georg Buchgeher from SCCH, as part of the Coordination roles of SCCH. The QM will set up the quality management plan (QMP) which will include elaboration of quality standards, quality monitoring, quality assurance, change control process, corrective measures and stakeholder's requirement capture.

Risk Manager (RM) role will be held by Gernot Stübl from Profactor, as partner expert on Research and Development activities on Industry. The RM will develop a Risk Management Plan that will include identification of potential risks, definition of mitigation measures and their implementation, on technical, time, resource competence and budget risks.

Legal, Ethical, Privacy and Policy Issues Officer (LEPPI) role will be held by Hans Graux from Timelex, as partner expert on legal and ethical policies. The LEPPI will take care of all legal aspects of data use and sharing within the consortium, all legal aspects of the use cases and ensure the application of ethical principles to the implementation of the Action, both those already

present under Horizon 2020 in general, as well as the ethical principles relating to AI as defined by the high level expert group on AI.

The **Work Package Leaders (WPL)** will be responsible of coordinating, planning, monitoring and reporting to the PC about the individual work package progress. The WPL ensure the completion of WP activities and on time submission of the corresponding deliverables. They are in charge of the coordination of the activities in terms of resources. The WPL review the deliverables, milestones, risks and contingency plans related to every WP. Moreover, they coordinate Task Leaders' (TL) roles, tasks and responsibilities as well as the WP budget. Table 3 lists the TEAMING.AI WPL.

No	WORK PACKAGE TITLE	LEADER	RESPONSIBLE
WP1	Requirements and Prerequisites	PRO	Gernot Stübl
WP2	Knowledge Graph	WU	Elmar Kiesling
WP3	Teaming Model	UMA	Heiko Paulheim
WP4	Machine Learning	ITU	Nazim Kemal Üre
WP5	Teaming.AI Engine (Software Platform)	SCCH	Georg Buchgeher
WP6	Technology Integration	IDK	Javier Dominguez
WP7	Proof of Concept	TYR	Manuel Suarez
WP8	Dissemination and exploitation	CORE	Ilia Kantartzi
WP9	Coordination	SCCH	Sabine Stockinger
WP10	Ethics requirements	SCCH	Thomas Hoch

Table 3. TEAMING.AI Work packages and work package leaders

Each task is assigned to a specific partner, the **Task Leader (TL)**, who will be in charge of the task execution and the reporting to the WPL. Each WPL will be able to identify which tasks of his/her responsibility have been advanced or delayed, helping the TL in the activities and budgetary control. The WPL should identify and communicate regularly with the responsible people in each institution who are taking the roles of TLs and DL (Deliverable Leaders) in order to recover all the data required for the SC meetings, the submissions of deliverables (by following the review process described later) and the WP reports for the SC meetings (specially, when implementation issues should be solved).The TEAMING.AI TLs are listed in Table 4:

Nº	TASK TITLE	LEADER
T1.1	As-is-analysis	PRO
T1.2	Enabling Factors	TU Dublin

T1.3	Modelling of policies	TIM
T1.4	Data requirements	ITU
T1.5	Envisioning of Teaming Engine	SCCH
T2.1	KG Design	WU
T2.2	KG Population, Curation	WU
T2.3	Extension of KG by manufacturing context	SCCH
T2.4	KG Updating	UMA
T3.1	Design of Teaming Model	WU
T3.2	Patterns and Meta Models	SCCH
T3.3	Teaming Dynamics	UMA
T4.1	ML for Knowledge Extraction	ITU
T4.2	Relational ML	UMA
T4.3	Transfer learning	SCCH
T5.1	Architecture of Teaming engine as Generic Software Platform;	SCCH
T5.2	Authoring Tool	IDEA
T5.3	Teaming Engine	SCCH
T5.4	Open Source Project	IDK
T5.5	Test and Validation	ITU
T6.1	Design for Integration into Application Platforms;	IDEA
T6.2	Test Planning and Validation in Simplified Tasks	PRO
T6.3	Preliminary Recreation of Mockup Use Cases	TYR
T6.4	Integration of modules and components	IDK
T7.1	Digitalization of use cases;	PRO
T7.2	Validation test campaign and commissioning	FAR
T7.3	Training	ITU

T7.4	Validation of results	SCCH
T8.1	Design and Implementation of Communication Strategy;	CORE
T8.2	Design and Implementation of Dissemination Strategy	CORE
T8.3	Exploitation strategy and IPR Management	SDP
T8.4	TEAMING.AI Strategic management and replicability	CORE
T8.5	Legal and ethical requirements definition	TIM
T9.1	Global Legal and contractual management	SCCH
T9.2	Financial and administrative management	SCCH
T9.3	Organization of Kick-off and periodic meetings	SCCH
T9.4	Monitoring of project progress	SCCH
T9.5	Data management and Security	SCCH
T9.6	Quality and Risk Management	SCCH
T10.1	Ethics	SCCH

Table 4. TEAMING.AI Tasks and task leaders

Finally, a **Scientific Advisory Board (SAB)** consisting of external experts will be built and invited to specific sessions to provide feedback, mainly about scientific and technical aspects and exploitation paths. They will have only an advisory role and will not directly participate as members of the consortium. During the first six months of the project, the SAB will be formed. We are aiming at setting up an SAB that includes representatives of Industry 4.0, experts in ethical and societal aspects as well as in patent and IPR issues and Legal data protection issues, and members of relevant groups like the High-Level expert group (HLEG) on Artificial Intelligence set up by the European Commission, and the European AI-on-demand Platform (AI4EU). Additionally, to exploit synergies between the ICT-38 projects and increase their impact, we will also invite participants of the other funded ICT-38 projects to become TEAMING.AI SAB members. We are aiming at an SAB that is composed of about eight well-qualified members. SAB members will be updated every 6-months during GA. Starting round of contacts is shown in Annex 1.

The above presented governance structure is graphically represented in the following Figure 1.

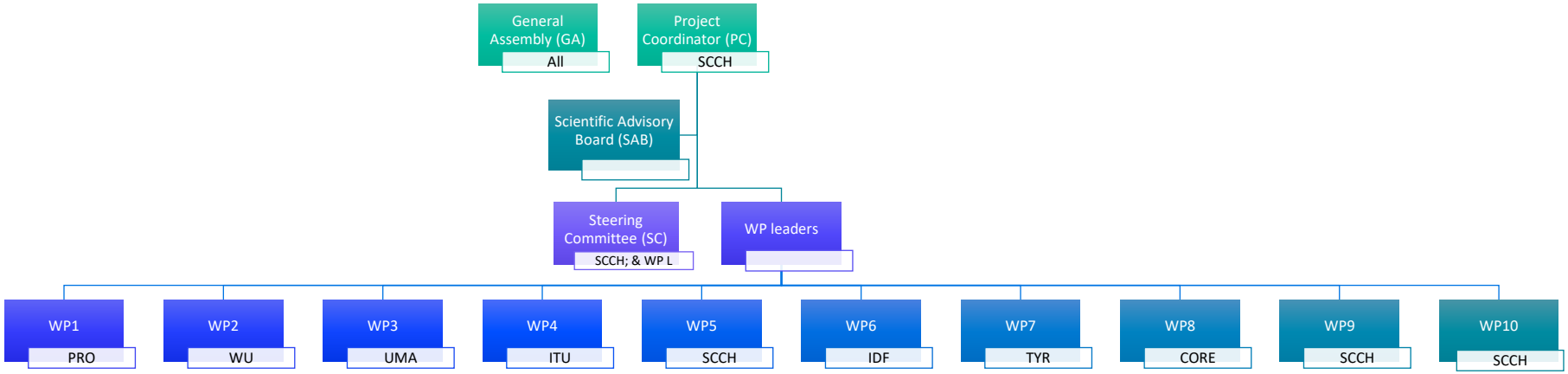

Figure 2. TEAMING.AI Management structure

3.2 Decision making process

According to the Consortium Agreement (CA), the consortium shall not deliberate and decide validly unless two-thirds (2/3) of its Members[1] are present or represented. If the quorum is not reached, the chairperson of the consortium shall convene another ordinary meeting within 15 calendar days. If in this meeting the quorum is not reached once more, the chairperson shall convene an extraordinary meeting, in which the chairperson shall be entitled to decide even if less than the quorum of members are present or represented.

Each member of the consortium present or represented in the meeting shall have one vote. Decisions shall be taken by a majority of two-thirds (2/3) of the votes cast.

4 Communication management

4.1 General communication rules

4.1.1 Communication language

Communication within the Consortium will be made in **English**. Any communication activity related to the action (including in electronic form, via social media, etc.) and any infrastructure funded by the grant must:

(a) display the EU emblem (see Figure 3 below)

Figure 3. EU logo

and (b) include the following text:

“This project receives funding in the European Commission’s Horizon 2020 Research Programme under Grant Agreement Number 957402”.

4.1.2 Electronic communications

A distribution list of project participants has been elaborated by the PC including their members, their roles in the project, and their contact information. This file is available in SCCH Teams in the folder called **General: TEAMING.AI_Project Management**. Each partner will be responsible to communicate to SCCH any updates of their own organization contacts, so that SCCH can add/ cancel access to SCCH Teams.

[1] Each member has one vote. Total votes can reach up to 15.

To reduce information exchange effort, only main communications will be made both by email and by the platform SCCH Teams, while the rest of communications will be made through the platform SCCH Teams in order to:

- Ensure that all partners get the information they need in a timely manner.
- Avoid e-mail spamming and information overload.

Note: to allow some flexibility however, only the rules in bold are mandatory.

General rules:

- **Only relevant information (and indeed related to the project) is sent to the appropriate project participants, using the distribution list**.
- **Each e-mail will have a specific subject (field "Subject")**.
- Documents of project-wide relevance are stored on the SCCH Teams. They are not generally and necessarily distributed by e-mail. Project participants are notified by e-mail and invited to consult the documents.

If required, the consortium will use teleconference service for *ad-hoc* meetings and as an alternative to face-to-face meetings.

4.2 Project meetings

In order to coordinate and manage the various activities of the TEAMING.AI project, workshops, GA meetings and SC meetings will be held every 6 months. The SC, chaired by the TM, will work continuously between these meetings, through regular virtual meetings, usually planned monthly.

In relation to the decision making strategy, decisions will be taken by consensus or, failing that, by a qualified majority (two thirds), with all members having a single vote. For decisions that cannot be finally taken, the issue will be referred to the GA. In fact, each WPL will send advancement reports of the WPs (with special descriptions of the difficult issues) to the SC before their physical meetings[2] so that they can take a final decision about these implementation issues.

The Project Coordinator will be in charge of setting up and updating a calendar of meetings and events. Further project meetings may be planned whenever urgent issues arise. The following subsections clarify who will make invitations, how meeting decisions are to be taken, and how meetings are to be recorded.

4.2.1 Meeting format

The project intends to run virtual electronic meetings whenever feasible and appropriate use of information and communication technologies available. Face-to-face meetings will be organised by the partners in turn.

4.2.2 Meeting attendance

In terms of attendance, and for all TEAMING.AI project meetings, members of the consortium not only should be present or represented or may appoint a substitute or a representative to attend and vote, but shall also participate in a cooperative manner in the meetings.

[2] There may be special circumstances in which physical meetings cannot be held. An alternative will be found in each case.

4.2.3 Meeting organisation

For the preparation and organisation of the meetings, either the leader of the GA or the leader of the SC shall convene the meetings. All the Consortium members shall be informed as soon as possible and no later than the minimum number of days preceding the meeting as indicated below:

	Ordinary meeting	Extraordinary meeting
Steering Committee	Every 6 months	At any time upon written request of the Steering Committee or 1/3 of the members of the Steering Committee
General Assembly	Every 6 months	At any time upon written request of any member of the Steering Committee

4.2.4 Meeting notification

The leader of the committee shall give notice in writing of a meeting to each members of the consortium as soon as possible and no later than the minimum number of days preceding the meeting as indicated below.

	Ordinary meeting	Extraordinary meeting
Steering Committee	21 calendar days	14 calendar days
General Assembly	21 calendar days	14 calendar days

4.2.5 Meeting agenda

The leader of the committee shall prepare and send each member of the consortium a written (original) agenda no later than the minimum number of days preceding the meeting as indicated below.

Steering Committee	10 calendar days, 7 calendar days for an extraordinary meeting
General Assembly	7 calendar days

In this agenda, any item requiring a decision by the members of the consortium must be identified as such on the agenda.

Any member of a consortium may add an item to the original agenda by written notification to all of the other members up to the minimum number of days preceding the meeting as indicated below.

Steering Committee	2 calendar days
General Assembly	14 calendar days, 7 calendar days for an extraordinary meeting

During a meeting the members of the consortium present or represented can unanimously agree to add a new item to the original agenda.

4.2.6 Meeting decisions

Decisions will only be effective once the relevant part of the minutes has been accepted. Nevertheless, any decision may also be taken without a meeting if the coordinator circulates to all members of the consortium a written document, which is then agreed by the defined majority (2/3) of all members of the consortium. Such document shall include the deadline for responses.

Those decisions taken without a meeting shall be considered as accepted if, within fifteen calendar days, no member has sent an objection in writing to the chairperson. The decisions will be binding after the chairperson sends to all members of the consortium and to the coordinator a written notification of this acceptance.

4.2.7 Meeting minutes

Minutes must be recorded for every official project meeting. Minutes will be generated too for SC virtual meetings, in order an adequate monitoring of the project can be carried out. The chairperson of the coordinator's team (i.e. an appointed person of SCCH) assigned in each meeting of the consortium will produce written minutes of each meeting, which will be the formal record of all decisions taken. He/she will send the draft minutes to all members within ten (10) calendar days of the meeting.

The minutes shall be considered as accepted if, within fifteen (15) calendar days from sending, no member has sent an objection in writing to the chairperson with respect to the accuracy of the draft of the minutes. If objections are made within the fifteen calendar days, comments will be shared with all partners and a new period of fifteen (15) calendar days will be opened. If after this new period, there is no agreement, the minutes will be approved following the voting rules.

The chairperson shall send the accepted minutes to the members of the consortium and to the coordinator, who shall safeguard them. If requested, the coordinator shall provide authenticated duplicates to members.

Regarding the content, the minutes must at least contain:

- The attendance list of the meeting;
- The agenda;
- Decisions taken;
- An action list containing for each action a short description, a responsible and a time schedule;
- If appropriate, a list of related documents (annexes).

4.3 Supporting tools

4.3.1 Project Management Tool

SCCH Teams will be used by the consortium and managed by SCCH to monitor the work in process.

SCCH will create folders for each WP and will assign the WPL as responsible for their administration. Each WPL will be in charge of creating the tasks and subtasks according to the DoA (Description of the Action) and will invite the corresponding involved partners to participate. As soon as the WP will deliver final outputs, they will be stored in this repository. PC and SC will be invited to participate in all the WP folders.

A manual on how to use this tool will be provided by SCCH to the consortium and stored in the repository. This manual could change along the project lifetime including the corresponding updates in the procedures as soon as the consortium will decide to modify them.

4.3.2 Data Repository Tool

A Data Repository server will be used by the consortium and managed by SCCH. The purpose of this platform will be to store technical project data, and for the access to the Data Repository server, all partners will have their own password and link as described in D9.2. Partners will be

provided access to the shared folders of their respective WPs and with a webinar session and a basic manual (i.e. some insights of the server and a procedure) to use this Data Repository server. This manual could change along the project lifetime including the corresponding updates in the procedures as soon as the consortium will decide to modify them.

5 Conflict management

Conflict resolution will be carried out from lower to higher project levels (from task to WP level and from WP to the project level bodies), where respective WP leaders will act as mediators. In the case of particular difficulties in solving a conflict, a dedicated working group will be set up by the SC. At last instance, the conflicts will be handled according to the Consortium Agreement established procedures and rules.

6 Deviation management

Deviations, whether technical or coordination, will be tracked every 6-months by the Project Coordinator and the Technical Manager. The corresponding descriptions will be listed in a template generated for this aim, available in *Annex 2 "Deviation table"*, and will be discussed at the organized review meetings as well as their impact on the project in terms of budget and schedule, and scope will be also discussed.

This table, completed by the information requested from partners, will be used in the preparation of the periodic reports. A colour code will be used to track the gravity of the deviation and, in critical cases the PC and/or the TM will inform the responsible partner of its non-conformity issues. The resolution or course of the action will be documented in the table.

7 Risk management

The defined project management approach also provides mechanisms to identify and resolve various potential project risks, which can be considered as particular internal or external factors, ensuring efficient implementation of needed corrective actions. Even it is not possible to predict all possible risks, an initial identification was done during the proposal phase. The result was a set of assessed potential risks that can be consulted in the Section 1.3.5 of the Annex 1 (Part A) of the TEAMING.AI Grant Agreement.

Risk management brings visibility to risks and accountability as to how they are handled and ensures that project risks are proactively dealt with and regularly monitored and controlled. The project risk management process defines the activities to identify, assess, prioritise, manage and control risks that may affect the execution of the project and the achievement of its objectives. This process is divided in the following steps:

Step 1. Risk identification: The purpose is to facilitate the identification and documentation of risks that can impact the project objectives. Risks are continuously identified throughout the project lifecycle. As previously mentioned, an initial risk assessment was already performed at the proposal stage. During the project, the consortium will use the **Risk and Opportunities Register** in order to follow the defined risks and include the new risks identified. This register will contain the risk identifier, risk name and short description, the category and owner as well as strategies, actions and timing to facilitate the monitoring and control during the project.

Additionally, the intermediate activity progress reports (6-months) will define new encountered risks and the planned contingency actions.

Step 2. Risk assessment: The purpose is to assess the likelihood and impact of the identified risks in terms of their influence to the project objectives. The product of their likelihood and impact defines the Risk Level, and is used as a reference for their prioritisation and risk response development.

Step 3. Risk Response Development: The purpose is to select the best risk response strategy and identify and plan the actions to control the risks. The selection of the risk response strategy will be based on the results of the risk assessment, the type of risk, on the effects on the overall project objectives, as well as on the cost of the strategy and its benefits. This strategy will be also documented on the abovementioned register as well as on the intermediate activity progress reports.

There are four strategy possibilities: Reduce, Avoid, Transfer or Accept the risk. Once selected, the specific actions to implement will be defined, described, scheduled and assigned, while a risk owner will assume the responsibility for its implementation.

Step 4. Risk Control: The purpose is to monitor and control the implementation of the risk response activities while continuously monitoring the project environment for new risks or changes in the risks already identified.

During the Project Follow-up Meetings to be organized on a 6-months basis, the status of the risks and the related actions will be revised. Additionally, the Risk Owner will report periodically the status of the risk and any response activities to the Risk Manager (RM), member of the SC. The RM will, in turn, report to both the Project Coordinator and to the Technical Manager and, finally, the GA, the status of the major risks. All this can be graphically summarized as shown in Figure 4.

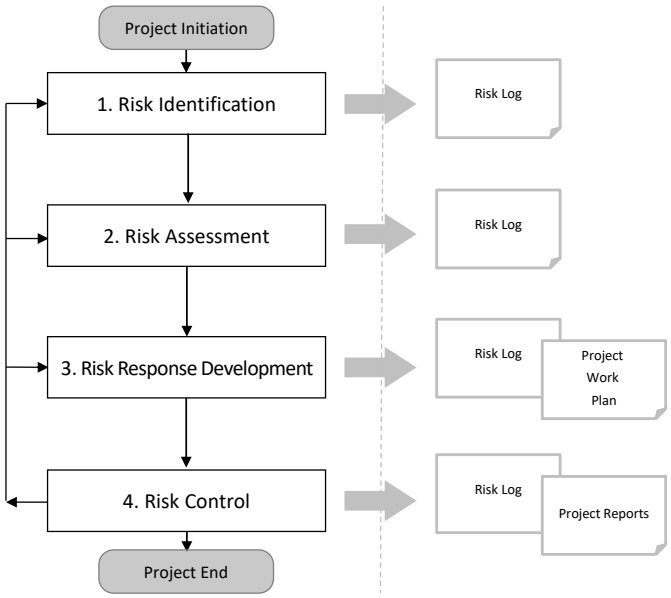

Figure 4. Risk management flow

The Risk Manager, namely Gernot Stübl, is the person responsible for identifying, assessing, managing and monitoring the risks of the project with the collaboration of the TEAMING.AI Consortium. New risks and related actions, as well as changes to identified risks and actions will

be approved by the Project Coordinator and the Technical Manager, and reported to the SC and the GA, according to the escalation procedure. Together with the Project Coordinator and the Technical Manager, the Risk Manager is also responsible for assigning resources to the risk management process.

8 Acronyms

Acronym	Name
CA	Consortium Agreement
DL	Deliverable Leader
DoA	Description of the Action
GA	Grant Agreement
GA	General Assembly
IND	Industrial
PAB	Project Advisory Board
PC	Project Coordinator
SC	Steering Committee
RTD	Research and Technical Development
SME	Small and Medium Enterprise
TL	Task Leader
TM	Technical Manager
UNI	University
WP	Work Package
WPL	Work Package Leader
RTO	Research and Technology Organisation

9 Annex 1: Scientific Advisory Board. Starting list (confirmed)

Member	Selection criteria, justification
Daniel Calvo Head of Artificial Intelligence and Robotics Atos Research and Innovation	Participating in AI4EU project
Sergio Gusmeroli Research Coordinator Politecnico di Milano, Department of Management, Economics and Industrial Engineering	Coordinator of DIH4AI AI-on-demand-Platform, coordinator of I4MS BEinCPPS project, member of XMANAI ICT-38 project
Santiago Muiños Landin Artificial Intelligence and Data Analytics department Team leader AIMEN Technology Centre	Member of MAS4AI ICT-38 project

10 Annex 2: TEAMING.AI_Deviation table Template

Deviation	Cause	WP	Impact	Mitigation	Outcome	Closing	Gravity level (Green=Adequate, Yellow=Worrisome, Red=Dangerous)