



ARMA

Collaborative Autonomous Robots for eEmergency Assistance

D2.7 ADVISORY BOARD & OPEN COMMUNITY REPORT (V1)

Lead Beneficiary	DRZ
Type of Document	[R]
Dissemination Level	[PU]
Due Date	28/02/2025
Submission Date	28/02/2025
Main Author(s)	Ivana Kruijff (DRZ)
Contributors	Yana Lazarova (CS) End Users: Justin Dourlens (FMI); Harris Georgiou (HRTA); Clara Perez (ADMPOL); Julien Sevé (MARS)

PROJECT INFORMATION

Grant Agreement Number	101168355
Acronym	CARMA
Name	Collaborative Autonomous Robots for eMergency Assistance
Topic	HORIZON-CL3-2023-DRS-01-05 - Robotics: Autonomous or semi-autonomous UGV systems to supplement skills for use in hazardous environments
Funding Scheme	HORIZON-RIA - HORIZON Research and Innovation Actions
Start Date	1 September 2024
Duration	36 months
Coordinator	CS GROUP FRANCE
Grant Agreement Number	101168355

DOCUMENT HISTORY

Version	Date	Author/Organisation	Changes
V0.1	27/01/2025	Ivana Kruijff (DRZ)	ToC Initiated
V0.2	28/01/2025	Ivana Kruijff (DRZ)	AB section
V0.3	29/01/2025	Yana Lazarova (CS)	Comments
V0.4	10/02/2025	Ivana Kruijff (DRZ)	OC section
V0.5	24/02/2025	Ivana Kruijff (DRZ)	CP section; all sections completed; submitted for internal review
V0.6	26/02/2025	Yana Lazarova (CS)	Internal review comments
V0.7	26/02/2025	Ivana Kruijff (DRZ)	Revisions based on comments ; annexes completed
V0.8	27/02/2025	Michalis Angelou (CERTH)	Internal review comments
V0.9	27/02/2025	Ivana Kruijff (DRZ)	Revisions based on comments
V1.0	28/02/2025	Yana Lazarova (CS)	Final version for submission

QUALITY REVIEWERS

Name	Organisation
Yana Lazarova	CS
Michalis Angelou	CERTH

EXECUTIVE SUMMARY

The CARMA project aims to develop **autonomous robotic solutions** to enhance disaster response capabilities. A crucial component of this effort is ensuring **meaningful engagement with key external stakeholders**, which is facilitated through the **Advisory Board (AB), Open Community (OC), and Citizen Panel (CP)**. These bodies provide **strategic oversight, sector-specific feedback, and public perspectives**, ensuring that CARMA technologies align with operational, ethical, and societal needs.

This report presents the **progress made in establishing these engagement bodies** under Task T2.3. It outlines the **objectives, recruitment strategies, and engagement plans** for each group, as well as the planned mechanisms for integrating their feedback into CARMA's development.

Key Findings and Progress :

- The **Advisory Board** is in the final stages of recruitment, with members selected from **first responders, technology experts, ethics specialists, policymakers, and infrastructure stakeholders**. Their role will be to **guide the project strategically, provide expert feedback, and ensure ethical considerations are addressed**.
- The **Open Community** is structured as a **hybrid network**, utilizing LinkedIn, CMINE RTC, and the CARMA website to maximize engagement and sustainability. Recruitment efforts are focused on professionals, including **first responders, industry representatives, policymakers, and researchers**.
- The **Citizen Panel** is being formed with a focus on **trial locations** to facilitate participation in **hands-on workshops and discussions**. This group will provide insights into **public trust, inclusivity, and societal acceptance of robotics in disaster response**.

Challenges and Future Actions

While recruitment and engagement are progressing, challenges such as **ensuring active participation, maintaining long-term engagement, and balancing broad inclusivity with targeted feedback** will likely arise. Strategies to address these include various options, such as **structured onboarding, interactive activities, and lightweight feedback mechanisms** (e.g., polls, moderated discussions).

The next steps involve **finalizing recruitment, launching key engagement activities, and integrating feedback loops** into CARMA's decision-making process. The **first major workshops and engagement sessions** are planned, ensuring that stakeholder insights shape CARMA's technical and operational developments.

By effectively engaging these external bodies, CARMA will **enhance the real-world applicability, acceptance, and impact of its robotic technologies**, ultimately contributing to safer and more efficient disaster response solutions.

DISCLAIMER

The contents of this document are the sole responsibility of the author(s) and do not necessarily reflect the opinion of the European Union.

COPYRIGHT

This document contains original unpublished work except where clearly indicated otherwise. Acknowledgement of previously published material and of the work of others has been made through appropriate citation, quotation or both. Reproduction is authorised provided the source is acknowledged.

ABBREVIATIONS

AB	Advisory Board
OC	Open Community
CP	Citizen Panel
DoA	Description of Action
DTW	Detailed Task Workplan

LIST OF TABLES

Table 1: Related Documents 9

Table 2: Summary of Roles and Requirements Regarding the AB, OC and CP..... 10

Table 3: Initial Representation of Stakeholder Groups in the CARMA AB 14

Table 4: CARMA AB candidates who confirmed interest 15

Table 5: Summary of CARMA AB Involvement..... 19

Table 6: Comparison of Open Community Implementation Options 24

Table 7: Comparison of CARMA OC Components 25

Table 8: Comparison of LinkedIn Page and LinkedIn Group 25

Table 9: CARMA OC Member Engagement Levels 26

Table 10: CARMA OC Platforms and Engagement Modes 28

Table 11: Engagement Tracking Metrics 31

Table 12: Key Milestones..... 37

Table 13: Key Challenges and Mitigation Strategies 38

TABLE OF CONTENTS

1	Introduction.....	8
1.1	Purpose of the Document.....	8
1.2	Intended Audience.....	8
1.3	Structure of the document and roles	8
1.4	Related documents.....	9
2	Objectives and KPIs of Task 2.3	10
3	Advisory Board	12
3.1	Objectives and Role	12
3.2	Advisory Board Composition.....	13
3.3	Recruitment Process and Progress	14
3.3.1	Outreach and Onboarding Process.....	14
3.3.2	Progress to date.....	15
3.4	Plans for Engagement and Activities.....	16
3.4.1	Preliminary Schedule of Interactions	16
3.4.2	Interaction Methods.....	17
3.4.3	Material Provided to the Advisory Board	18
3.4.4	Methods for collecting input	18
3.4.5	Summary of Advisory Board Involvement.....	19
4	Open Community	21
4.1	Objectives and Role	21
4.2	Composition of the Open Community.....	21
4.3	Value Proposition for OC Members	22
4.4	OC Implementation, Structure and Governance	22
4.4.1	A dedicated website or forum hosted by the CARMA project.....	22
4.4.2	Presence on Social Media.....	23
4.4.3	Using Existing Networks	23
4.4.4	Hybrid Approach.....	24
4.4.5	Membership and Participation.....	26
4.5	Recruitment	26
4.5.1	Recruitment Strategy.....	26
4.5.2	Recruitment Process.....	27
4.5.3	Current Progress & Next Steps	27
4.6	Plans for Engagement and Activities.....	28
4.6.1	Approach to Encouraging Engagement	29
4.6.2	Gathering Feedback & Input form the OC.....	29
4.7	Key Engagement Metrics	31

- 5 Citizen Panel 32
 - 5.1 Objectives and Role 32
 - 5.2 Recruitment Plan 32
 - 5.2.1 Existing Local Relationships to General Public 32
 - 5.2.2 Incentives..... 34
 - 5.3 Planned Engagement Activities..... 34
- 6 Integration of Advisory Board, Open Community, and Citizen Panel 36
- 7 Timeline, Next Steps and Addressing Potential CHallenges..... 37
- 8 Conclusions..... 39
- 9 References..... 40
- 10 Annexes 41
 - 10.1 Annex 1: Invitation email 41
 - 10.2 Annex 2 Formal Invitation letter 45
 - 10.3 Annex 3 Formal Acceptance letter..... 47
 - 10.4 CARMA Advisory Board Kick-Off Meeting Preliminary Agenda 49

1 INTRODUCTION

1.1 PURPOSE OF THE DOCUMENT

This document serves to report on the progress made in Task T2.3 of the CARMA project, which focuses on establishing the Advisory Board, Open Community, and Citizen Panel. These entities are designed to engage external stakeholders, gather targeted feedback, and ensure that the project aligns with operational, societal, and ethical considerations.

The report outlines the initial steps taken to organize these bodies, including recruitment strategies, outreach efforts, and plans for their roles and activities within the project. Additionally, it provides an overview of the planned integration and engagement of these groups to support the CARMA project's objectives and deliverables.

As the first report for Task T2.3, this report focuses on documenting the foundation for the Advisory Board, Open Community, and Citizen Panel, along with the strategies in place to ensure their effective involvement throughout the project lifecycle. The second and final version of this report will be delivered in D2.8, due M22, which will document all activities and input received from the Advisory Board, Open Community, and Citizen Panel.

1.2 INTENDED AUDIENCE

The intended audience includes internal project partners, funding agencies, and other relevant stakeholders. Specifically, this report is intended for the following audiences:

- **CARMA Consortium Members:** To provide an overview of the progress made in establishing the Advisory Board, Open Community, and Citizen Panel, as well as to ensure alignment with project goals.
- **Project Coordinators and Work Package Leaders:** To support coordination efforts across related tasks and ensure the integration of external feedback into project deliverables.
- **Funding Agencies and Oversight Bodies:** To demonstrate compliance with the objectives and milestones outlined in the CARMA project's Description of Action (DoA).
- **Advisory Board Members (Future Reference):** As a foundational document that highlights the scope of their role and plans for engagement within the project.

1.3 STRUCTURE OF THE DOCUMENT AND ROLES

This document is structured into three main chapters, each dedicated to one of the above bodies: the **Advisory Board (AB)**, **Open Community (OC)**, and **Citizen Panel (CP)**. Each chapter addresses the **composition, roles, engagement plan, and intended impact** of the respective body. Additionally, the document includes sections on the **integration of these bodies, key milestones, and next steps** to ensure a coordinated and strategic approach.

The main sections of the document are:

- **Introduction** – Outlines the purpose of the document, its intended audience, and its relation to Task T2.3.
- **Advisory Board** – Describes the objectives and role of the AB, the recruitment process and progress to date, and the planned engagement strategy.
- **Open Community** – Details the structure of the OC, the recruitment strategy, and the approaches for engagement and participation.
- **Citizen Panel** – Defines the role of the CP, its recruitment plan, and planned activities, including hands-on engagement sessions.

- **Integration of Advisory Board, Open Community, and Citizen Panel** – Explains how these bodies will complement each other to provide strategic guidance, sector-specific feedback, and societal perspectives.
- **Timeline, Next Steps and Addressing Potential Challenges** – Summarizes the upcoming milestones, including finalizing recruitment, launching key engagement activities, and integrating feedback.
- **Conclusions** – Recaps progress made, reaffirms the importance of these bodies, and outlines the path forward for their engagement.
- **Annexes** – Includes supporting materials such as outreach templates, lists of stakeholder groups, and workshop plans.

Roles of contributors

- **DRZ** as the Leader of Task 2.3 has been responsible for spelling out the roles and responsibilities of the CARMA AB, OC and CP bodies, proposing their composition, designing the recruitment and engagement plans, and collecting AB nominations and handling recruitment, in close exchange with CS as the CARMA Coordinator and Leader of WP2, as well as incorporating inputs from the CARMA consortium. As task and deliverable leader DRZ coordinated the deliverable and wrote all sections, with the exception of Section 5.2.1.
- **CS** as the CARMA Coordinator and Leader of WP2 has been responsible for ensuring coherence with the overall CARMA project plans and the CARMA dissemination strategy as well as liaising with external partners, such as CMINE. CS discussed the approach and commented on early versions of the deliverable text.
- **HRTA, MDPOL, FMI and MARS** as the pilot Leaders provided initial plans for reaching out to the local citizen communities and networks and wrote texts in Section 5.2.1.
- **All CARMA partners** provided nominations and helped selecting the CARMA AB members.

1.4 RELATED DOCUMENTS

Table 1 lists the related documents and briefly explains their relevance:

Table 1: Related Documents

Document title	Short description
CARMA DoA	Defines the scope of the work, objectives and overall project timeline
D2.7 Advisory Board & Open Community Report (V1)	Describes the role and expertise of the CARMA Ethics Advisor.
D7.1 – OEI – REQUIREMENT NO.1	Describes the role of the Ethics Advisor who is part of the Advisory Board.

2 OBJECTIVES AND KPIS OF TASK 2.3

In this section we Summarize the objectives of Task T2.3 as outlined in the DoA and the key goals of this task, which include engaging stakeholders, ensuring representation, and enabling feedback loops. We also overview the KPIs related to the advisory board, open community and citizen panel.

The objective of Task 2.3 is to establish and engage with the following CARMA project bodies:

- Advisory Board (AB)
- Open Community (OC)
- Citizen Panel (CP)

Task description from DoA (for reference): Task 2.3 aims at organising the CARMA Advisory Board [cf. also DoA §1.2.3] that will assist the consortium in steering the project, gaining rich and targeted feedback from interested stakeholders and external experts from outside the consortium. It will also organize the Open Community [§1.2.3], comprised of a number of relevant and complementary external participants (first responders, CI operators, authorities, industrials), and the Citizen Panel, thus offering an even greater multi-cultural representation of interested parties including from the general public. This task will animate these entities, organising dedicated sessions during meetings and workshops, inviting high profile members to specific events, circulating information and newsletters, and handling requests to join the community, paying due care to confidentiality and security issues. The three workshops [§1.2.3] organised at key milestones of the project will be used to exchange information among partners and Open Community, citizen panel and advisory board members as well as to disseminate project results, in strong collaboration with T2.1.

Table 2 summarizes the roles of the three bodies and the requirements and related KPIs according to the DoA:

Table 2: Summary of Roles and Requirements Regarding the AB, OC and CP

Body	Role	Composition	Size	Add'l requirements	Comments
Advisory Board	Assist in steering the project, help enrolling interested stakeholders and external experts, serve as multipliers	External experts and stakeholders	>= 10	include ethics expert(s)	Access to selected internal project material; NDA
Open Community	Provide feedback & input	External first responders, CI operators, authorities, industrials; citizen panel	>= 30	> 6 EU countries	Use existing networks and communities for recruitment
Citizen Panel	Provide feedback & input; participate in trials	Interested representatives of the public	>= 30	Diverse demographics	Mostly from trial locations so that can participate

The involvement of these bodies helps to ensure that the CARMA platform and the project outputs address real-world operational needs, integrate effectively into current practices, and meet ethical, legal, and societal standards. This is part of the CARMA project's broader aim to ensure that its solutions are practical, adoptable, and sustainable in diverse operational contexts.

The CARMA Open Community is one of the expected results of the project (cf. Impact Canvas, DoA Part B, p. 31).

In the following sections we address each of these bodies individually in more detail.

3 ADVISORY BOARD

3.1 OBJECTIVES AND ROLE

The CARMA Advisory Board (AB) has the following roles, in order to optimize the projects outcomes:

- Provide strategic guidance and expert feedback:
 - Advising on the project's direction to align with real-world needs and priorities.
 - Providing input on technical, operational, and ethical aspects during the project lifecycle, in support of the development of technologies and processes that enhance disaster response capabilities.
 - Sharing expertise and experience to enhance the CARMA project's outcomes.
 - Identifying opportunities for collaboration with related initiatives.
- Provide advice on ethical aspects:
 - Helping to ensure that CARMA technologies adhere to societal, legal, and ethical standards.
 - Providing recommendations to address trust, inclusivity and social acceptance challenges in the deployment of robotic solutions.
- Facilitate dissemination and advocacy
 - Acting as multipliers, promoting CARMA technologies and outcomes.
 - Helping to identify additional stakeholders or collaborators and to enrol interested stakeholders and external experts in the CARMA Open Community.
 - Promoting the adoption of CARMA results beyond the project boundaries.

The CARMA AB includes a dedicated **Ethics Advisor**, whose role specifically includes ensuring that the project appropriately addresses ethical considerations and establishes robust processes for compliance. This includes overseeing the ethical handling of participant data (e.g., sensitive health information), monitoring informed consent procedures, ensuring that gender and diversity issues are addressed (such as voice recognition biases), and safeguarding human-centric decision-making in human-AI interactions.

In order to fulfil the above roles of the AB, we define its tasks and involvement as follows:

- Reviewing project goals, directions and key deliverables, offering feedback, connecting with resources, and advising on ethical concerns.
- Attending and contributing to key project workshops, contributing to cross-disciplinary dialogue among stakeholders.
 - Participating in co-design to help define user requirements, align technological developments with user needs and ensure that robotic systems are user-friendly and adaptable to operational environment.
 - Engaging in testing and evaluation of CARMA technologies, operational doctrines and technology deployment strategies to provide feedback on technical, operational, ethical & social feasibility and offering insights on doctrines, tools, and operational use cases.
- Contributing to the assessment of CARMA outcomes and exploitation strategies.

3.2 ADVISORY BOARD COMPOSITION

When nominating and selecting the CARMA AB candidates, it has been taken into account that in order to fulfil the purpose and maximize the impact of the CARMA AB, it should be:

- multidisciplinary, diverse, and representative of all the key stakeholders involved in disaster response, the targeted robotics technology and ethics.
- a good complement to the organizations and expertise that are already included as partners in the consortium, while avoiding a conflict of interest.
- well-equipped to provide holistic and actionable insights to guide and support the CARMA project.

The following list identifies the stakeholder groups considered for inclusion in the AB, in line with the target groups defined in the DoA:

First Responders

- **Who:** Professionals and volunteers with direct operational experience in disaster scenarios, including firefighters, police officers, urban search-and-rescue teams.
- **Why:** Provide practical insights into real-world disaster response needs, operational challenges, and technology integration, in particular integration of UGVs.

Infrastructure Security Stakeholders

- **Who:** Representatives from critical infrastructure, private security, and other relevant domains. For example, managers of critical infrastructure, such as ports, airports, railways, energy grids, and industrial facilities.
- **Why:** Offer insights into the integration of UGVs in protecting and managing infrastructure during emergency scenarios.

Technology Experts

- **Who:** R&D representatives from academia or industry, specializing in areas relevant for the CARMA technologies (i.e., UGVs; environment sensing and analysis; autonomous navigation; network infrastructure; human-robot operations; mission orchestration; doctrine visual authoring and doctrine engine; interaction and control; first responder skills supplementations, e.g. manipulation, remote fire extinguishing), e.g., experts in:
 - robotic systems for disaster scenarios with focus on practical and operational usability.
 - multi-sensor data fusion, mapping, and autonomous navigation.
 - natural user interfaces, symbiotic cooperation, and intuitive control systems.
 - multi-robot coordination and AI for decision-making in dynamic environments.
- **Why:** Bring cutting-edge knowledge an external perspective on the CARMA technologies.

Ethics Experts

- **Who:** Specialists in responsible AI, legal compliance, and societal impacts of technology.
- **Why:** Provide oversight to ensure CARMA technologies meet ethical, legal, and societal expectations and foster public trust.

Authorities and Policy Makers

- **Who:** Representatives from governmental or international agencies overseeing civil protection, disaster response, and public safety.
- **Why:** Ensure alignment with regulatory frameworks and policy goals. Foster impact.

Each stakeholder group should be represented by one or multiple members in the AB, with complementary profiles. Initial (orientation) targets for the distribution shown in Table 3:

Table 3: Initial Representation of Stakeholder Groups in the CARMA AB

Stakeholder Group	AB Members
First Responders	3
Infrastructure Stakeholders	2
Technology Experts	4
Ethics Experts	2
Policy Makers	2

Based on suggestions elicited from the CARMA consortium and additional research a list of candidates per stakeholder group has been compiled by the Task 2.3 leader (DRZ).

3.3 RECRUITMENT PROCESS AND PROGRESS

This section details the process and status of the initial setup of the CARMA AB.

3.3.1 OUTREACH AND ONBOARDING PROCESS

Initial Outreach. The AB candidates are contacted by email sent either by DRZ or by the partner who nominated the AB candidate. The outreach email typically has the subject line "Invitation to Join the Advisory Board for the CARMA Project" and contains a brief introduction of the CARMA project, including an abstract and a pointer to the project website; a high-level description of the AB purpose and contributions, presenting it as an opportunity; a personalized connection stating the candidate’s expertise relevant to CARMA and a call to action inviting the candidate to respond positively, upon which a formal invitation with more details would follow, or to request a follow-up online meeting or call to discuss further details before commitment. The initial outreach can alternatively be done by a shorter informal email or personal communication.

Formal Invitation. After an email or verbal confirmation of interest to join the AB, DRZ or a relevant partner sends a personalized formal letter of invitation per email, describing: the AB appointment; the role, responsibilities and expected contributions; the expected time commitment of up to 3 day per quarter, emphasizing flexibility (e.g., virtual options, limited in-person meetings); logistical details, such as a list of key meetings and contact information; nondisclosure clause.

Formal Acceptance. A template for a formal acceptance letter is included with the formal invitation, and the candidate is asked to return it filled in with their contact details and signed within a week as a formal confirmation of their commitment.

The invitation and formal acceptance letter for the Ethics Advisor contain an additional paragraph describing their specific role and responsibilities. This is the text of the paragraph :

As an Ethics Advisor, your role will include ensuring that the project appropriately addresses ethical considerations and establishes robust processes for compliance. This includes overseeing the ethical handling of participant data (e.g., sensitive health information), monitoring informed consent procedures, ensuring that gender and diversity issues are addressed (such as voice recognition biases), and safeguarding

human-centric decision-making in human-AI interactions. Beyond this, your expertise will be invaluable in exploring and addressing the emergent ethical implications of human-robot interaction (HRI) within the domain of robot-assisted first response, shaping innovative yet responsible solutions for this critical field.

Follow-Up Communication. If no response to the initial outreach or the formal invitation is received within a week, a follow-up with a polite reminder is sent. For high-priority candidates, a direct call would be made after the email. In case of no response after the reminder, the candidate would be removed and a substitute determined.

Onboarding. Upon receipt of the formal acceptance letter signed by the candidate they are given access to a Microsoft SharePoint folder dedicated to the AB members, containing the project overview, meeting schedules, deliverables and further relevant documentation. A personal online meeting or call is scheduled, should the candidate wish to have one. Such a meeting would optionally also involve the CARMA Project coordinator and/or technical coordinator and key relevant CARMA consortium member(s) or WP/Task leader(s) to demonstrate commitment and provide detailed insights. The standard next step to start the AB engagement is the **AB Kick-Off meeting**. It is expected to take place by the end of M08. The kick-off meeting will include introductions of the AB members and the project partners, and present the project overview and current status, including the outcomes of the first codesign workshop and the status of the requirements analysis and pilot planning.

The main contact point for the AB is Ivana Kruijff, as the currently appointed representative of DRZ who leads Task 2.3 and is the CARMA AB Coordinator. The CARMA AB input and feedback is addressed to the CARMA project coordinator and the GA.

Templates of email texts, the formal invitation and the formal acceptance letter are included in the annex, Sections 10.1, 10.2, 10.3.

3.3.2 PROGRESS TO DATE

The process of setting up the AB is ongoing. We have contacted candidates from the stakeholder groups first responders, technology experts and ethics experts. Contacting infrastructure stakeholders and policy makers is withstanding. From the 14 candidates whom we have contacted, 12 have confirmed interest and been formally invited (cf. Table 4). A scheduling poll for the Kick-Off meeting to take place in the following weeks is ongoing.

Table 4: CARMA AB candidates who confirmed interest

Stakeholder Group	Name	Organization	Country
First Responders	Uwe Kippnich	Red Cross Germany	DE
	Steve Gadsdon	INSRAG	Int'l
	Florian Cuhe	ECA/Vaud	CH
	Hendrik Frese	FD Hanau	DE
Technology Experts	Damien Sallé	TECHNALIA	ES
	Tomáš Svoboda	ČVUT/CIRC	CZ
	Catholijn Jonker	TU Delft	NL
	Paul Lukowicz	DFKI	DE
	Tony Belpaeme	Ghent University	BE
	Elpiniki Papageorgiou	University of Thesalony	GR
	Robin Murphy	Texas A&M University	US
Ethics Advisor	Virginia Dignum	Umeå University	SE

3.4 PLANS FOR ENGAGEMENT AND ACTIVITIES

This section describes how the AB will operate once fully established.

The AB engagement has the following components:

1. **Initial Welcome:** The kick-off meeting with the AB members serves to build rapport and provide a unified understanding of the project (see above).
2. **Regular Updates:** Keeping members informed with progress reports and tailored updates related to their expertise and responsibility.
3. **Recognition of Contributions:** Acknowledging the AB members' participation in project outputs (e.g., reports, presentations, publications, website, LinkedIn page); offering certificates of appreciation or public recognition at key events.

The following sections detail the schedule and modes of interactions with the CARMA AB, the materials to be provided to them and the methods for collecting feedback and ensuring actionable insights. The aim is to give the AB members good insight into the project, keep them updated about progress and elicit input from them on regular basis and at crucial decision points.

3.4.1 PRELIMINARY SCHEDULE OF INTERACTIONS

- **Kick-Off Meeting of/with the AB (by M08):**
 - Introduction of AB members and consortium.
 - Introduction to the project, its scope, and the advisory board's role.
 - Overview of current status and achievements to date.
 - Discussion to gather initial feedback on priorities.
- **Regular Check-Ins (e.g., M12, M15, (M18), M22, M26, (M32), M36):**
 - Brief virtual meetings to provide updates and receive quick feedback.
- **Major Workshops (3 planned in DoA over the project lifecycle: M04 (postponed to M10; the justification follows in the next paragraph), M18, M32):**
 - Workshop 1: Focus on co-design and initial doctrine development.
 - Workshop 2: Focus on prototype evaluation and pilot planning as well as and dissemination strategies.
 - Workshop 3: Focus on final evaluation, doctrine refinement, dissemination and exploitation strategies.
- **Ad Hoc Consultations:**
 - When critical decisions or challenges arise (e.g., ethical dilemmas, technological bottlenecks).

Justification for Postponing Advisory Board Involvement in Codesign

According to the DoA, the first co-design workshop at M04 was intended to include participation from the Advisory Board (AB). However, upon further assessment of the workshop's objectives and project needs at that stage, it was determined that AB involvement would be more effective at a later phase.

The first workshop primarily focused on internal alignment and direction-setting regarding the operational framework within the consortium (cf. Deliverable D3.1 Operational Framework V1). Key activities included:

- Conducting internal scenario development and requirements analysis, laying the foundation for later co-design activities.
- Aligning technological capabilities with operational needs before seeking external validation.

At this early stage, input from the AB would have been premature, as key project parameters were still being refined. Engaging the AB without a sufficiently developed foundation could have resulted in inefficient discussions or misaligned expectations, reducing the impact of their contributions.

To maximize the effectiveness of the AB's involvement, their participation is planned for subsequent co-design sessions when:

- Preliminary system concepts and use cases are better defined and more elaborated, allowing for meaningful expert evaluation.
- Technical and ethical questions have been sufficiently scoped to enable targeted input from AB members.
- The consortium has identified specific areas where AB guidance will have the highest strategic value.

This approach ensures that AB members are engaged at the right time, allowing them to provide substantive, high-value input that will meaningfully influence project outcomes. Their first structured involvement is now planned at M10, aligning with a more mature phase of co-design and pilot planning.

3.4.2 INTERACTION METHODS

- **Virtual Meetings** using video conferencing tools for regular updates and feedback sessions.
- **Workshops** in hybrid format (in-person and virtual) to accommodate geographical diversity.
- **Collaborative Platform** with a shared workspace for ongoing document review and feedback, whenever needed: a private channel in Microsoft Teams with shared file space appears to be the most practical option.
- **Direct Communication** via email updates and one-on-one consultations for specific expertise.

3.4.3 MATERIAL PROVIDED TO THE ADVISORY BOARD

The following is an initial list of materials that we plan to provide to the AB members:

1. Project Overview Materials:

- Initial briefing documents based on the DoA and DTWs, which provide an overview of the project objectives, expected outcomes, and timelines.
- Descriptions of CARMA technologies and scenarios.

2. Progress Reports:

- Regular progress updates summarizing achievements, intermediate results, challenges, and next steps.
- Selected project deliverables or selected content from the latter.
- Summaries of feedback received during testing phases.

3. Pilot Plans and Results:

- Designs of CARMA pilot scenarios and relevant operational procedures.
- Outcomes of CARMA pilot evaluations and real-world deployments (if any).

3.4.4 METHODS FOR COLLECTING INPUT

To effectively gather **expert insights and recommendations** from the AB, CARMA will employ **multiple complementary input collection methods**, ensuring that feedback is both **strategic and actionable** while respecting the limited time availability of AB members. These methods align with the engagement plan and support CARMA's **iterative development process**.

1. Structured Feedback in Meetings & Workshops, e.g.,

- **Moderated Discussions:** AB members will provide input during **scheduled check-ins, milestone workshops, and targeted consultation sessions**. These discussions will be structured around **key project questions**, ensuring focused, high-value contributions.
- **Breakout Sessions for In-Depth Exploration:** When needed, **smaller expert groups** will engage in more detailed discussions on **specific aspects**, such as ethical considerations, technological feasibility, and operational integration.

2. Written Input & Document Review, .e.g.,

- **Asynchronous Feedback on selected Documents:** AB members may be asked to review and comment on selected project documents shared with them on the collaborative space .
- **Targeted Questions for Input:** **concise questions** designed to elicit **specific, structured feedback** may be used to avoid overly broad or unfocused responses.

3. Quick Polls & Surveys, e.g.,

- Ab members may be asked to **review and comment** on selected project documents shared with them on the collaborative space
- **Short Targeted Polls:** To efficiently gauge expert opinions on **strategic decisions or technology directions**, CARMA may circulate **brief surveys with multiple-choice or ranked-choice questions** (e.g., prioritizing key risks, evaluating use-case feasibility).

- **Post-Workshop Feedback Forms:** **short structured surveys** may be distributed to AB members after major workshops, to capture insights that may not have been fully addressed during discussions.

4. Direct Consultations & Expert Interviews, e.g.,

- **One-on-One Expert Consultations:** For critical topics requiring specialized input, **targeted interviews or calls** with relevant AB members may be conducted to gather in-depth insights.
- **Follow-Up Q&A Sessions:** Where necessary, AB members will be invited to provide clarifications or additional perspectives in follow-up conversations after key meetings.

5. Passive Input Collection & Thematic Analysis

- **Tracking Discussion Trends:** (If feasible) AI-assisted sentiment and **keyword analysis** may be used to **identify key themes** in AB discussions and feedback, ensuring that **recurrent topics or concerns** are systematically addressed.
- **Synthesis of Feedback for Iteration:** Input from different methods will be **summarized and synthesized**, allowing the CARMA team to **identify patterns and adjust project priorities** based on expert recommendations.

By combining **various methods**, CARMA ensures that **AB input is efficiently collected, synthesized, and incorporated into project decision-making**. These methods maintain **flexibility and accessibility**, enabling **both strategic oversight and agile responsiveness** to expert recommendations.

3.4.5 SUMMARY OF ADVISORY BOARD INVOLVEMENT

The plan for the CARMA AB involvement is summarized in Table 5. This plan ensures the AB is meaningfully integrated throughout the CARMA project lifecycle, providing actionable insights while being respectful of their time and expertise.

Table 5: Summary of CARMA AB Involvement

Phase	Timeframe	Interaction Type	Materials Provided	Expectations
Kick-Off	M08	Virtual meeting and workshop	Project overview, goals, timelines	Provide strategic guidance on priorities.
Regular Check-Ins	See above	Virtual meetings	Progress updates, challenges	Offer input on progress and suggest adjustments. Ensure ethics compliance.
Workshops	3 planned	Hybrid (in-person/virtual) workshops	Prototypes, draft doctrines, scenario reports	Evaluate prototypes, refine doctrines, and suggest dissemination strategies.
Ad Hoc Consultations	As needed	Email, direct meetings	Relevant documents or queries	Provide expertise on critical issues (e.g., ethics, operational barriers).

Phase	Timeframe	Interaction Type	Materials Provided	Expectations
Evaluation and Wrap-Up	Final month	Virtual meeting	Pilot results, evaluation data	Contribute to final assessments, help refine outputs, and promote CARMA results.

4 OPEN COMMUNITY

4.1 OBJECTIVES AND ROLE

This section reviews the purpose of the Open Community according to the CARMA DoA.

The **CARMA Open Community (OC)** is established to **support the consortium and foster the adoption of its results** by engaging external stakeholders in a collaborative, knowledge-sharing environment. The OC serves as a key mechanism to **amplify CARMA's impact beyond the project boundaries** through dissemination, evaluation, and participatory engagement.

Its key objectives and roles include:

- **Sharing knowledge, presenting the project results, and gathering feedback** to refine CARMA's methodologies and ensure their usability. *(cf. DoA KPIs)*
- **Supporting the consortium and fostering the adoption of CARMA results**, enabling external stakeholders to actively contribute to and benefit from the project's outputs. *(cf. DoA WP2 Objective 2)*
- **Acting as multipliers to promote the adoption of CARMA results beyond the project boundaries**, ensuring that the tools and methodologies developed are widely disseminated and utilized. *(cf. DoA EO1, Section 2.1.1)*
- **Participating in the codesign process**, allowing external members to engage in refining CARMA technologies through a user-centered approach. *(cf. DoA Section 1.2.3)*
- **Assessing the technical and operational performance of CARMA results, as well as their social and operational acceptability**, through real-world testing and evaluations. *(cf. DoA Section 1.2.5).*

4.2 COMPOSITION OF THE OPEN COMMUNITY

The OC will embrace a **diverse group of external participants**, ensuring a **multi-sectoral and interdisciplinary** engagement. It will include **at least 30 representatives** from the **robotics and crisis management industry, researchers, stakeholders, and civil protection representatives** from **at least six EU countries**. *(cf. DoA KPIs)*

The OC is **open to a broad range of stakeholders**, with its composition closely aligned to the **CARMA Target Groups (TG1-TG6)** *(cf. DoA Section 2.3, Target Group Definition)*:

- **TG1 - First Responders – Professional firefighters, rescue teams, law enforcement officers (LEA), special units, and volunteer rescuers** who play a key role in disaster response and crisis management.
- **TG2 - Authorities & Critical Infrastructure Operators – Local, regional, and national authorities** in charge of disaster response, as well as **critical infrastructure (CI) operators** responsible for ensuring infrastructure resilience.
- **TG3 - Technology Providers – Industrials in robotics, sensor manufacturers, autonomous vehicle manufacturers, and SMEs providing crisis management solutions**, contributing technological expertise to CARMA's methodologies.
- **TG4 - Scientific Research – Academic and industrial researchers** working in **robotics, risk management, and civil protection technologies**, fostering innovation and scientific advancements in CARMA.
- **TG5 - Wider Audience & Citizen Panel – General citizens and NGO representatives**, ensuring public participation and engagement in CARMA's evaluation and validation activities.

- **TG6 - Other Sectors – Stakeholders from industries such as mining, construction, dismantlement, transportation, and healthcare**, representing diverse application domains for CARMA technologies. *(DoA Task 2.3, TG6 Target Group Definition)*

This **broad and inclusive composition** ensures a **balanced representation of operational, technological, scientific, governmental, and public stakeholders**, fostering **effective collaboration in the co-development, validation, and adoption** of CARMA methodologies and tools.

4.3 VALUE PROPOSITION FOR OC MEMBERS

The OC is an **inclusive, broad-based community** that provides a platform for knowledge sharing and contribution. The OC members have the following benefits when they **join the community**:

- **Early access to public CARMA innovations** – stay informed about publicly available CARMA methodologies, tools, datasets and other results.
- **Participation in Workshops and Events** – Join **public workshops, co-design sessions, and pilot evaluations** to exchange insights and contribute to discussions on robotics and crisis management.
- **Opportunities for Contribution** – Provide **feedback on CARMA developments**, share use cases, and contribute **general insights** into the application of robotics in crisis response.
- **Contributing to Best Practices** – Play a role in shaping **ethical and practical discussions** on robotics deployment, influencing future guidelines.
- **Networking with Experts** – Engage with a **broad international network** of researchers, technology providers, policymakers, and first responders.

4.4 OC IMPLEMENTATION, STRUCTURE AND GOVERNANCE

To **deliver on its value proposition**, the CARMA Open Community (OC) requires an **online platform** to ensure broad accessibility, sustained engagement, and structured collaboration among stakeholders. Given the **geographical dispersion** and the interdisciplinary nature of the community, a **physical network would be impractical** as the primary interaction space.

An online platform enables:

- **Flexible participation**, accommodating different levels of involvement from stakeholders.
- **Wider reach** across Europe and globally.
- **Scalability**, allowing gradual growth over time.
- **Sustained engagement beyond project duration**, supporting CARMA's long-term impact.

Three main options exist for implementing the CARMA OC online:

- Dedicated website or forum hosted by CARMA
- Social media presence
- Using existing networks

We discuss the pros and cons in the next sections and ensuing propose a hybrid approach.

4.4.1 A DEDICATED WEBSITE OR FORUM HOSTED BY THE CARMA PROJECT.

A dedicated CARMA website with an integrated forum or discussion board might serve as a **self-contained OC platform**. This would allow full control over content, membership, and discussions. However, standalone project-based forums have **limited visibility**, require **continuous effort** to attract and retain members and are unsustainable after the end of the project. Moreover, there may be

reluctance to join yet another forum. We conclude that the impact of a standalone forum would be too low in relation to the effort needed to maintain it.

4.4.2 PRESENCE ON SOCIAL MEDIA.

Social media provides **an effective and scalable way** to build and maintain the **CARMA Open Community (OC)** by enabling **broad visibility, stakeholder engagement, and real-time interaction**. Compared to a standalone website or a dedicated forum, social media offers **several key advantages**:

- **Broad Accessibility** – Social media platforms are widely used by **professionals, practitioners, policymakers, and the general public**, making it easier to reach **diverse stakeholder groups**.
- **Lower Entry Barriers** – Unlike a dedicated forum that requires users to create new accounts, social media allows people to **engage with minimal friction**, leveraging their existing profiles.
- **Active Discussions & Knowledge Sharing** – Social media encourages **two-way interaction**, where members can **share insights, discuss challenges, and collaborate** in real-time.
- **Built-in Networking Capabilities** – Social media facilitates **direct connections between experts, policymakers, researchers, and practitioners**, fostering cross-sectoral collaboration.
- **Effective Dissemination** – News, updates, and key findings from CARMA can be **easily shared and amplified**, reaching a **wider audience faster** than traditional dissemination methods.
- **Integration with Other Platforms** – Social media complements **CARMA’s website and CMINE RTC presence**, ensuring that updates and discussions are synchronized across multiple platforms.

Among various social media platforms, **LinkedIn is the best option** for CARMA. While other social media platforms (e.g., X, Facebook) have large user bases, **LinkedIn remains the most suitable** for CARMA due to:

- Focus on **professional networking**, ensuring relevant stakeholder engagement, while being open to any citizen;
- **Existing ecosystem** of robotics, AI, and crisis management professionals;
- Dual visibility model supporting **broad visibility (LinkedIn Page)** and **interactive discussions (LinkedIn Group)**.

4.4.3 USING EXISTING NETWORKS

Several relevant **online networks and groups** exist, covering topics such as disaster response, robotics, and emergency management (cf. **D2.1 -- Awareness Raising and Branding Strategies (V1)**).

Leveraging existing networks is beneficial because of:

- Immediate access to relevant stakeholders – Instead of building a community from scratch, CARMA can engage with already active groups of experts, first responders, and technology providers.
- Better alignment with EU-funded projects – Many existing networks (such as CMINE) serve as collaborative spaces for EU-funded initiatives, enabling easier knowledge sharing, cross-project collaboration, and access to relevant policy discussions.
- Increased sustainability – Embedding the OC within an established community increases the likelihood of long-term engagement beyond the CARMA project’s lifetime.

Among existing networks, **CMINE (Crisis Management Innovation Network Europe)** is the most relevant due to the following factors:

- **Established network** – Reduces the effort needed to attract participants and strengthens impact.

- **Strong thematic alignment** – CMINE RTC is focused on disaster resilience and first responder technologies, subsuming CARMA’s objectives.
- **EU Project Ecosystem** – Provides direct links to the CERIS Disaster Resilient Societies (DRS) framework and related EU-funded projects.
- **Long-term Sustainability** –CMINE RTC will continue beyond CARMA’s project lifecycle, ensuring lasting impact. This has been shown by the predecessor project INTREPID, which was also a member of RTC and continues to be visible there.

Given these factors, embedding the CARMA OC within CMINE, and more specifically within the **CMINE Responder Technology Cluster of Projects (RTC)** is the most **strategic choice**. The main advantages of embedding the CARMA OC in CMINE RTC are:

- **Strong alignment with CARMA’s mission** – RTC is a **CMINE-based initiative** focused on advancing technologies to **enhance the safety, efficiency, and effectiveness of first responders** during crises.
- RTC includes experts in **disaster resilience, crisis response, and technology innovation**
- **Connection to related EU projects** – RTC facilitates collaboration with related initiatives under the **CERIS DRS framework**.
- **Sustainability beyond CARMA** – The RTC will continue after the project ends, ensuring **long-term engagement**.

Although CARMA focuses on **(semi-)autonomous robotics**, a **broader thematic scope**, as provided by CMINE RTC, is **beneficial** for several reasons:

- **Technologies in disaster response are interconnected** – Robotics, AI, sensor networks, and communication systems all contribute to **first responder efficiency**.
- **Stakeholder engagement is broader** – A wider scope attracts **diverse experts**, leading to **richer insights**.
- **Greater collaboration opportunities** – CARMA can align with **other EU-funded innovations**, extending its impact.

Thus, integrate CARMA OC with a **broader community on responder technology** in the CMINE RTC cluster ensures **high engagement, provides thematic alignment** and strengthens **collaboration, innovation, and stakeholder engagement** as well as **long-term sustainability**. This is a natural extension of the already existing active involvement of the CARMA project in the RTC cluster, including also a contribution to one policy Brief led by the DIRECTION project.

4.4.4 HYBRID APPROACH

While CMINE RTC provides the best long-term value , each option discussed above has advantages, as shown in Table 6.

Table 6: Comparison of Open Community Implementation Options

Aspect	Dedicated Website&Forum	LinkedIn Presence	CMINE RTC Cluster
Thematic Focus	Limited to CARMA’s scope	General discussions, AI & robotics professionals	Broader crisis management & first responder tech
Connection to Similar Projects	Requires active outreach	Some overlap with robotics & AI projects	Direct links to CERIS DRS & EU-funded projects
Stakeholder Groups Reached	Only those who visit the site	Robotics, AI, and industry professionals	First responders, crisis managers, tech developers

Aspect	Dedicated Website&Forum	LinkedIn Presence	CMINE RTC Cluster
European & Worldwide Reach	Low (depends on SEO & promotion)	High (global LinkedIn user base)	Strong European focus with global engagement
Sustainability Post-CARMA	Content is lost after project end, because of lacking long-term hosting & moderation	Page remains, but engagement may decline	Embedded in a lasting network with ongoing activity
Pros	Full control, customizable platform	High visibility, easy interaction	Strong thematic fit, EU project ecosystem
Cons	Hard to attract members, maintenance-heavy	Less structured engagement, LinkedIn limitations	Requires integration & alignment with CMINE structure

Given the above considerations, CARMA follows a hybrid approach to setting up the OC, in order to capitalize on the advantages of all three options. The **CARMA Open Community thus consists of three interconnected components** described in Table 7.

Table 7: Comparison of CARMA OC Components

Component	Function	Role in OC
Dedicated Website	Official project updates, repository for CARMA outputs, and signposting to other community spaces.	Provides a central hub for public engagement.
CMINE RTC	Core discussion & collaboration space for experts in responder technologies.	Thematic focus, access to stakeholders, and sustainability post-project.
LinkedIn Presence	Public outreach (LinkedIn Page) and interactive discussions (LinkedIn Group).	Visibility, networking, and engagement beyond CMINE RTC.

This **hybrid model** provides **maximum reach, engagement, and sustainability**, ensuring the CARMA OC continues its existence beyond the project’s lifetime, particularly through the CMINE RTC and the LinkedIn group. An additional advantage is that this approach facilitates **collaboration with sister projects** ([TRIFFID](#), [HURRICANE](#)) and potentially **other EU and non-EU initiatives with a comparable scope**.

CARMA’s **LinkedIn presence** will consist of both a **LinkedIn Page** (already existing) and a **LinkedIn Group** (to be set up, after liaising with CMINE RTC and the sister projects, cf. Section 4.5.3). Table 8 compares their features & that add value to the CARMA OC.

Table 8: Comparison of LinkedIn Page and LinkedIn Group

Feature	LinkedIn Page	LinkedIn Group
Purpose	Public-facing updates & announcements	Interactive discussions & networking
Visibility	Open to all LinkedIn users	Members-only (moderated access)
Control	CARMA admins post content	Members can post and engage freely
Best Use Case	Sharing CARMA’s progress, inviting new members	Engaging experts in deeper discussions

Since **CARMA already has a LinkedIn Page**, and so do other related projects as well as the **CMINE** network, the **LinkedIn Group** will serve as a **joint open discussion space** for the OC, **dedicated to (semi-)autonomous robots for disaster response**.

4.4.5 MEMBERSHIP AND PARTICIPATION

A CARMA OC Member is anyone who:

- Follows the CARMA LinkedIn page, or
- Joins the CARMA LinkedIn Group, or
- Joins the CMINE RTC Cluster
- External subscribes of the CARMA Newsletter

This means membership is open and voluntary—anyone who participates in any of these platforms and engages with the community is automatically considered part of the OC.

By its open nature the OC allows different **voluntary levels of participation** (cf. Table 9). General Members act as **Observers**, who access materials and updates but do not actively contribute. Members who become **Active Contributors** actively engage in knowledge exchange, codesign and evaluation of the CARMA solutions and some optionally also participate in CARMA events. The members of the CARMA Advisory Board are automatically also part of the OC. Besides the information shared with the OC, the AB members receive deeper insight into the project and have a closer involvement and the additional role of providing strategic input.

Table 9: CARMA OC Member Engagement Levels

Membership Level	Description	Example Contributions
General Members	Anyone who follows the CARMA LinkedIn page, joins the LinkedIn Group or joins the CMINE RTC.	Reading posts, reacting to content.
Active Contributors	Members who engage regularly in discussions, contribute insights, or share resources.	Posting topics, answering questions, sharing articles, commenting, attending events.
Moderators & Core Community Leaders	Members responsible for facilitating discussions, moderating content, and coordinating activities.	Organizing discussions, eliciting engagement, cross-posting content.

The OC is coordinated by Ivana Kruijff, appointed by DRZ as the Leader of Task 2.3.

4.5 RECRUITMENT

The recruitment of CARMA Open Community (OC) members follows a **targeted dissemination approach**, ensuring that relevant stakeholders are informed about the community and encouraged to join. The strategy builds on existing networks, partnerships, and communication channels to maximize outreach with minimal administrative burden, and uses the dissemination channels established in T2.1.

4.5.1 RECRUITMENT STRATEGY

To effectively reach and engage potential OC members, the recruitment approach is based on the following key principles:

Utilizing Existing Networks & Partnerships

- The CARMA consortium and its partners have well-established connections with **first responders, critical infrastructure (CI) operators, industry representatives, policymakers, and researchers**. These networks are being mobilized to spread information about the OC.

- The **CMINE RTC Cluster**, which already serves as a collaboration hub for experts in responder technologies, provides a natural entry point for promoting the CARMA OC.
- Advisory Board members, consortium partners, and affiliated projects are also key multipliers in spreading awareness.

Strategic Use of CARMA Dissemination Channels

- **CARMA Website:** The OC will be advertised on the project's website as the main hub for engagement, signposting visitors to relevant community spaces (CMINE RTC, LinkedIn Group, Newsletter).
- **CMINE RTC:** An announcement will be made in the CMINE RTC cluster, inviting its existing members to join the CARMA OC.
- **LinkedIn Presence:**
 - A **CARMA LinkedIn Page** already exists and will be used to promote the OC.
 - A **dedicated CARMA LinkedIn Group** will be launched as an open discussion space on (semi-)autonomous robotics for disaster response.
- **Partner & Project Networks:** Consortium members will share OC information through their organizational channels, conferences, and professional networks.
- **Newsletters & Social Media:** Announcements and updates about the OC will be disseminated across CARMA's outreach platforms, ensuring continued visibility.

4.5.2 RECRUITMENT PROCESS

As specified in the DoA, the OC will consist of **at least 30 members from at least 6 EU countries**. The recruitment process is straightforward, focusing on **announcing the OC through the CARMA dissemination channels and providing easy access to membership**:

1. **Announcement & Visibility:**
 - Publish OC information on the CARMA website.
 - Announce the OC in CMINE RTC and encourage members to engage.
 - Launch the CARMA LinkedIn Group and invite relevant stakeholders.
 - Distribute announcements through newsletters, project events, and partner channels.
2. **Invitation to Join:** any interested professional can become an OC member by:
 - Following the CARMA LinkedIn Page
 - Joining the CARMA LinkedIn Group
 - Subscribing to the CARMA Newsletter
 - Engaging in the CMINE RTC Cluster
3. **Ongoing Engagement & Growth:**
 - Regular updates and discussions will be posted to maintain engagement.
 - Partners and Advisory Board members will act as multipliers to encourage participation from their networks.
 - The OC will remain open for new members throughout the project, ensuring continuous expansion.

4.5.3 CURRENT PROGRESS & NEXT STEPS

Current Progress:

- The CARMA website is in place and provides a central hub for project updates and engagement.
- The CARMA LinkedIn Page has been established and is actively sharing project-related updates.

- The CMINE RTC Cluster already exists, providing an established platform for expert discussions on responder technologies.

Next Steps:

- Coordinate with CMINE RTC to formally announce the CARMA OC and invite members to engage.
- Coordinate with sister projects TRIFFID and HURRICANE regarding the launch of the LinkedIn Group as the primary interactive discussion space for the OC.
- Advertise the OC across all dissemination channels, including:
 - CARMA website (dedicated OC section).
 - LinkedIn Page (announcements directing people to the group).
 - CMINE RTC (formal announcement and engagement push).
 - Partner networks and mailing lists to ensure wide outreach.
- Encourage Advisory Board members and consortium partners to act as multipliers, inviting relevant stakeholders from their professional networks.

By implementing this **efficient, low-barrier recruitment strategy**, the CARMA Open Community will establish a dynamic and self-sustaining network of professionals contributing to the project’s success and impact.

4.6 PLANS FOR ENGAGEMENT AND ACTIVITIES

Given the structure of the CARMA Open Community (OC), engagement naturally aligns with the **broader dissemination strategy established in T2.1**. The OC is designed to be a **low-barrier, flexible and open network**, allowing members to participate in ways that suit their level of interest and availability. However, to maximize meaningful engagement, we will explore and implement a range of **onboarding and activity strategies** tailored to the different platforms.

The OC will be active across three primary platforms, each serving different functions and encouraging a range of engagement modes for the OC members, as summarized in Table 10.

Table 10: CARMA OC Platforms and Engagement Modes

Platform	Participation Expectation	Examples of Member Activities
LinkedIn Page and Group	Open participation, occasional engagement.	Commenting on posts, sharing updates, posting relevant articles.
CMINE RTC	Thematic discussions and structured engagement.	Participating in working groups, attending RTC discussions, contributing to collaborative initiatives.
CARMA Website	Public-facing information hub.	Reading about the OC, accessing reports & updates.

4.6.1 APPROACH TO ENCOURAGING ENGAGEMENT

A key challenge with open communities is ensuring that members engage actively rather than just joining and remaining passive. To **encourage active participation**, we will consider a variety of **onboarding and engagement strategies** based on interest and feasibility, and regularly reevaluate.

1. Facilitating Onboarding & Initial Engagement

- **Welcome Posts:** New members may be invited to introduce themselves.
- **Starter Discussion Threads:** Pinned posts with key questions could help initiate discussions and set themes.

2. Encouraging Interaction Through Light Moderation

- **Call-to-Action Posts:** We may (periodically) post discussion prompts, open-ended questions, or occasional polls to encourage responses.
- **Tagging Members in Discussions:** Moderators might tag specific members for insights, helping to spark conversation.
- **Themed Discussions & Expert Spotlights:** Highlighting relevant topics and periodically inviting domain experts to share insights could add value.

3. Leveraging Key Stakeholders to Broaden Participation

- **Advisory Board Members & Consortium Partners** will be encouraged to share information about the OC with their networks.
- **Promotion at Events & Workshops:** We will use project-related events as an opportunity to raise awareness and invite participation.
- **Collaboration with CMINE RTC Admins:** We plan to coordinate with CMINE RTC (via the Project Coordinator CS Group representing CARMA during RTC meetings) to align discussions with ongoing themes and leverage the existing network.

4. Maintaining Long-Term Engagement

- **Regular Content Updates:** We will ensure that new discussions and updates are posted periodically to maintain engagement.
- **Highlighting Contributions:** Recognizing active members and featuring key insights in updates or newsletters could help sustain interest.
- **Encouraging Member Referrals:** Engaged members may be invited to recommend relevant colleagues to join the OC.

We will remain flexible in our approach, testing and adjusting various strategies based on participation levels and community needs. The goal is to create an interactive but low-pressure environment where members can engage in ways that are useful to them.

4.6.2 GATHERING FEEDBACK & INPUT FROM THE OC

The CARMA OC brings together a diverse network of professionals, including first responders, industry experts, and researchers, and potentially also interested citizens. To maximize the value of this collective expertise, it is essential to create **efficient and accessible ways** for members to provide feedback and input without overwhelming them with time-consuming commitments. Feedback mechanisms should be **easy to engage with, relevant to members' expertise, and directly contribute to CARMA's development**. By using targeted and streamlined approaches, we ensure that members can share valuable insights in a way that feels natural and beneficial to them, while CARMA gains actionable input to refine its solutions. We plan to use the following methods :

1. Quick Polls & Surveys, e.g.,

- **Short, Focused Polls:** Posting **one-question polls** in the LinkedIn Group and CMINE RTC to gauge opinions on key topics (e.g., "What are the biggest barriers to adopting robotics in disaster response?")
- **Occasional Short Surveys:** A **2–3 minute survey** sent via LinkedIn, CMINE RTC, and newsletters to collect structured input without overwhelming respondents.
- **Event Feedback Surveys:** After workshops or online events, a **simple feedback form** to capture useful insights.

Advantage: Engages members without requiring deep commitment.

2. Comment-Based Input, e.g.,

- **Discussion Starters:** Posting **open-ended questions** (e.g., "What are the key challenges in human-robot interaction during disaster response?") and encouraging members to share insights.
- **Call for Opinions:** Occasionally inviting OC members to comment on **specific CARMA developments or concepts** (e.g., "Does this proposed use case align with real-world needs?").

Advantage: Generates qualitative insights within existing discussion spaces.

3. Leveraging Existing Events & Discussions, e.g.,

- **LinkedIn or CMINE RTC Discussions:** Use ongoing discussions to collect feedback and/or spontaneous insights and concerns without needing separate OC-specific sessions.
- **Webinars & Panel Discussions:** Organize short virtual Q&A sessions where members can ask questions and share insights.

Advantage: Uses existing engagement opportunities instead of creating extra meetings.

4. Selective Expert Engagement, e.g.,

- **Targeted Questions to Active Contributors:** Instead of mass outreach, periodically ask specific active members (e.g., a first responder or industry expert) for brief input on a specific topic via LinkedIn direct message or tagged comments.
- **"Expert Takes" Feature:** Highlight select insights from OC members in a newsletter or discussion post to incentivize engagement.

Advantage: Involves key voices without requiring broad engagement from all members.

Engaging the CARMA OC for input and feedback presents valuable opportunities but also comes with certain challenges. To ensure participation remains meaningful and sustainable, feedback mechanisms must be **accessible, focused, and aligned with CARMA's objectives** without overwhelming members.




A key challenge is balancing **open participation with targeted input**—while the OC allows broad engagement, not all members may actively contribute, discussions can sometimes drift away from CARMA's priorities and contributors may not fully reflect all stakeholder perspectives. Another consideration is managing **contradictory or overwhelming feedback**, where differing viewpoints need to be synthesized into actionable insights. Finally, since some discussions may involve sensitive topics, **clear participation guidelines** should help maintain appropriate boundaries.

By keeping engagement **lightweight and structured**, leveraging existing discussions, and encouraging **gradual but continuous participation**, CARMA aims to gather valuable input while ensuring that the OC remains an active and beneficial space for all members.

4.7 KEY ENGAGEMENT METRICS

To assess the effectiveness of the CARMA Open Community (OC) and ensure that it remains an active and valuable space, key engagement metrics will be tracked across its main platforms. The metrics, described in Table 11 will help measure **participation levels, interaction trends, and content engagement**, allowing for adjustments in outreach and engagement strategies as needed. The focus is on monitoring **both qualitative and quantitative indicators**, such as the number of discussions, contributions, and interactions across LinkedIn, CMINE RTC, and the CARMA website.

Table 11: Engagement Tracking Metrics

Platform	Tracking Method	Key Metrics to Measure	Tools/Methods
LinkedIn Group	Measure discussions & participation	Number of posts, comments and reactions per month Number of members Engagement per post (likes, shares, comments)	 LinkedIn Group analytics (available for admins)
CMINE RTC Cluster	Measure collaboration & contributions	Number of active discussions and comments Number of contributions to working groups Participation in CMINE RTC events & workshops	 CMINE activity logs (manual tracking or provided by CMINE)
Website	Measure content engagement & visits	Number of visitors & page views Most viewed/downloaded content (reports, guidelines, news)	 Google Analytics, website traffic reports
CARMA Newsletter	Measure interest in information	Number of subscribers	No special tools needed.

By regularly reviewing these metrics, we can ensure that the OC remains dynamic, relevant, and aligned with CARMA’s objectives. We plan to track LinkedIn and website activity as well as CMINE RTC engagement quarterly, while also ensuring consistency with Task 2.1. If participation declines, content strategies may be adjusted, or interactive events introduced to re-engage members, as described above.

5 CITIZEN PANEL

5.1 OBJECTIVES AND ROLE

The CARMA Citizen Panel (CP) is designed to ensure that the perspectives and concerns of the general public are actively considered in the development and deployment of CARMA technologies. As an integral part of the Open Community, the Citizen Panel will:

- **Represent public interests** in relation to robotics for disaster response.
- **Provide feedback** on societal acceptance, inclusivity, and real-world applicability.
- **Participate in trials**, where feasible, to experience and assess CARMA's solutions firsthand.

By involving a diverse group of citizens, CARMA aims to **identify potential barriers to public trust and acceptance** and ensure that the technology aligns with societal needs and ethical expectations.

5.2 RECRUITMENT PLAN

As specified in the DoA, the Citizen Panel will consist of **at least 30 members**, selected to ensure **diversity in demographics** and **practical feasibility of participation**. The recruitment strategy includes:

- **Focusing on trial locations** – To facilitate participation in hands-on activities, most Citizen Panel members will be recruited from areas where trials take place, ensuring proximity and logistical feasibility.
- **Ensuring demographic diversity and inclusivity** – Efforts will be made to include citizens of **different ages, genders, cultural backgrounds, levels of familiarity with technology** and accessibility demands, to gather a broad spectrum of perspectives.
- **Leveraging local networks** – Recruitment will be carried out through **local municipalities, community organizations, NGOs, and social media**, ensuring outreach to a wide range of potential participants.
- **Open Call for Interest** – Where feasible, an **open invitation** will be issued to encourage broader participation, potentially through the CARMA website and local partner networks.

To ensure inclusivity, efforts will be made to **accommodate different backgrounds and needs**, including:

- Providing **materials in multiple languages** or in simplified formats for those less familiar with robotics.
- Selecting **easily accessible venues** to accommodate individuals with mobility challenges.
- Tailoring explanations and activities to **varying levels of technical familiarity**, ensuring meaningful participation for all.

By following this approach, CARMA will establish a **Citizen Panel that is both representative and practically engaged** in shaping the project's outcomes.

5.2.1 EXISTING LOCAL RELATIONSHIPS TO GENERAL PUBLIC

The following local networks and existing relationships with the public will be leveraged by the respective trial leaders:

Madrid Local Police (MPOL) is a public institution deployed in 21 district police stations, in each of Madrid's neighbourhoods. All these police stations have police patrols to guarantee public safety, as well as a Citizen's Assistant Office where citizens' demands and complaints are managed and resolved, holding **regular meetings with the district's associative network and citizen representatives**. We can

count on representatives of this associative network to take part in the CARMA Citizen Panel. We also plan to involve them as intermediaries to engage additional members of the public.

Hellenic Rescue Team of Attica (HRTA) is a Non-Governmental / Non-Profit Organization (NGO) specialized in Search and Rescue (SAR) operations, emergency response, disaster relief and humanitarian assistance. Additionally, across the three main fields of SAR missions (land/mountain, rivers/sea/underwater, urban/USAR), our team provides emergency medical response and first aid to victims, with more than 1.000 active members (volunteers) having various trainings and certifications.

One of the primary goals for HRTA is **capacity building** and public awareness at the local and regional level, organizing presentations, trainings, tutorials and field visits for schools and community organizations, as well as policy recommendations and proposed guidelines for decision-makers. As a very active and mission-ready NGO with international USAR deployments over the years, HRTA can provide operational insights and crisis management practices that can be used pre-emptively in the preparedness phase, bringing together the society and the experts in a bottom-up way.

Based on this experience, it is expected that proper training, preparatory planning and social awareness are the key factors for mitigating large-scale disasters, man-made or natural. For this reason, we are always in contact with **local and regional authorities, other NGO with first-aid or relevant expertise, schools, municipalities and the Civil Protection hierarchy**, all of which can be used and promoted towards engagement to specific project-related activities, trainings and hands-on demonstrations of the technologies being developed in the CARMA project.

Fire Department Paris (BSPP) is a public institution from the French Ministry of the Interior (FMI) deployed in Paris and its inner suburbs. It ensures the protection of property and people over an area of about 800 km², with a very high population density of 7 million inhabitants, to which are added 2 million French people and tourists visiting Paris every day. The protection of this area, provided by 71 fire and rescue centres, goes beyond the simple level of the local authority to become a national issue.

To do this, in addition to the permanent firefighters, it can rely on its **operational reserve**. They are committed civilians who can be lawyers, engineers, or jurists and come to bring their specific skills to the brigade a few days a year. In addition, there are **students** from prestigious schools, often passionate about the brigade, **who come to do an internship** for a few months.

The BSPP also offers the opportunity to young people from the Ile-de-France region, aged 18 to 25, to live a unique experience as a **Young Firefighter of Paris**, being at the service of population by doing a 10-month civic service in one of its fire stations. The brigade also intervenes in **schools** and is in contact with the **local authorities, like district councils or Paris city councilors**. All these people can be used and promoted towards engagement to specific project-related activities, trainings and hands-on demonstrations of the technologies being developed in the CARMA project.

Marseille Marine Fire Brigade (BMPM) is a unique military unit in France, composed of about 2,500 military and civilian personnel. Placed under the direct authority of the mayor of Marseille, BMPM operates in an area of 240 km² including the city, the port and the airport of Marseille.

In order to constitute the citizens' panel, BMPM plans to rely on the vast network of agents of the city of Marseille, which has more than 12,000 employees. A call for applications will be circulated on the internal network of the city of Marseille to recruit participants from among the agents.

We will aim to include agents of different ages, genders, cultural backgrounds, and levels of familiarity with technology. The panel will reflect the diversity of municipal services, ensuring a variety of perspectives on the technology solutions to be evaluated.

This approach will allow us to constitute a representative and engaged citizen panel, capable of effectively contributing to the evaluation of the technologies proposed in the framework of our project. By fostering diversity and inclusion, we ensure that the perspectives and needs of all citizens of Marseille will be considered in the assessment process.

5.2.2 INCENTIVES

As participation in the Citizen Panel is voluntary, CARMA will explore ways to **encourage engagement and recognize contributions**. This may include options, such as:

- **Certificates of participation** for those involved in discussions and trials.
- **Small handouts** for those involved in discussions and trials, such CARMA stickers or other small promotional material.
- **Acknowledgment in project materials**, ensuring participants see how their input helps shape CARMA's technologies.
- Providing a **rewarding experience**, emphasizing the societal impact of their feedback in improving disaster response robotics.

5.3 PLANNED ENGAGEMENT ACTIVITIES

To ensure meaningful interaction with the Citizen Panel, CARMA plans to organize a **hands-on workshop and discussion session**, structured as follows:

Hands-on Demonstration & Experience:

- Citizens will be invited to a **safe location** at or near the trial site (depending on local safety arrangement), allowing for controlled, risk-free engagement.
- A **simplified parcours** will be set up where participants can **remotely operate robots** and experience key system capabilities (to the extent possible based on the technology's maturity).
- Participants will observe how CARMA technologies function in disaster response scenarios, providing an interactive introduction to the system.

Structured Discussion & Feedback Session

- A **World Café** format will be used to facilitate an open yet structured conversation. Small groups will rotate between **thematic discussion stations**, each focusing on **specific aspects of robotics in disaster response**.
- Citizens will be encouraged to share their **expectations, concerns, and insights** on topics such as:
 - Public trust in autonomous disaster response systems.
 - Perceived usefulness and concerns about robotics in emergencies.
 - Ethical considerations, inclusivity, and accessibility.

Follow-up & Continued Engagement

- Insights from the discussion will be recorded and analyzed to **inform CARMA's development**.
- Citizen Panel members may be invited to **participate in additional feedback rounds** or provide reflections after trials.
- Findings from the engagement will be **shared transparently** within the OC and Advisory Board, ensuring that public perspectives are **integrated into the project's evolution**.

This approach balances **active citizen involvement with practical feasibility**, ensuring **a meaningful exchange** while keeping participation accessible and engaging.

To ensure the safety and comfort of all participants, the engagement session will be designed with **clear safety protocols** in place. Trained facilitators will guide citizens in operating the robots within controlled settings, ensuring **no unnecessary exposure to risks** from ongoing trials. Participation will be voluntary, with transparent information provided in advance regarding **the scope of involvement and any safety measures in place**.

To maintain transparency and sustain engagement, **a summary of key citizen insights** will be compiled and shared within the Consortium, the Open Community and the Advisory Board. Additionally, Citizen Panel members will be invited to **join the Open Community** and will also have the option to **stay connected through a mailing list** for future updates, follow-up surveys, or invitations to further engagement activities. This approach ensures that feedback is **not only collected but also acted upon**, reinforcing the value of citizen contributions in the CARMA project.

6 INTEGRATION OF ADVISORY BOARD, OPEN COMMUNITY, AND CITIZEN PANEL

The CARMA Advisory Board, Open Community, and Citizen Panel are designed to work together as complementary engagement bodies, ensuring strategic guidance, sector-specific expertise, and societal inclusivity throughout the project. Their integration supports the objectives of Task T2.3, strengthening CARMA's ability to align technological developments with real-world needs.

- **The Advisory Board (AB)** provides **high-level strategic oversight**, guiding the project's direction, advising on key challenges, and ensuring that CARMA's outcomes are practical, ethical, and operationally relevant.
- **The Open Community (OC)** acts as a broad stakeholder forum, offering **sector-specific feedback from practitioners, industry representatives, and researchers**, ensuring that CARMA technologies align with existing operational and technological landscapes.
- **The Citizen Panel (CP)** ensures **societal acceptance and inclusivity**, providing public perspectives on usability, ethical considerations, and human-robot interaction in disaster response.

To integrate their input into **project decision-making and deliverables**, CARMA will:

- **Align engagement activities** – Feedback mechanisms, workshops, and discussions will be **coordinated across these bodies**, ensuring insights complement one another.
- **Filter and synthesize feedback** – Relevant inputs from the OC and Citizen Panel will be **analysed and presented to the Advisory Board**, informing their strategic recommendations.
- **Incorporate insights into development** – Stakeholder feedback will directly influence **technical refinements, evaluation criteria, and dissemination strategies**.
- **Ensure transparency and responsiveness** – Outcomes of discussions and feedback loops will be shared within the OC, fostering continued engagement and refinement.

By combining **expert guidance, practitioner experience, and public perspectives**, these three bodies collectively enhance CARMA's impact, ensuring that its innovations are **effective, ethical, and widely accepted**.

7 TIMELINE, NEXT STEPS AND ADDRESSING POTENTIAL CHALLENGES

The establishment and engagement of the Advisory Board, Open Community, and Citizen Panel are ongoing efforts aligned with the objectives of **Task T2.3**. The next steps focus on finalizing membership in the AB, engaging CO and CP members, fostering meaningful participation of all three bodies, and integrating their input and feedback into CARMA's development. Table 12 summarizes the main milestones in the first year of the CARMA project. More details of the planned activities were provided in the respective sessions above.

Table 12: Key Milestones

Milestones in Y1	Planned Timeline	Description
Official Launch of CARMA LinkedIn Group	M07	Establish an interactive online space for OC discussions and knowledge exchange.
Engage CMINE RTC for OC Integration	M07	Announce the OC within CMINE RTC and ensure alignment with existing discussions and working groups.
Finalize AB Membership	M07	Complete invitations and confirmations, ensuring representation across key stakeholder groups.
AB Kick-off Meeting	M08	Organize a virtual session onboarding the AB, gathering initial insights, and aligning expectations.
Complete first round of OC Recruitment	M08	Engage target groups through dissemination channels, and partner networks.
Elicit OC Input	M08, M10, M12	Gather insights from OC members.
AB Meetings	M10, M12	Organize a virtual session for status update and gathering feedback on ongoing activities.
Complete CP Recruitment	M12	Engage target groups through local networks at trial locations.
CP Input	M12	Gather initial insights from CP members.

While the CARMA Advisory Board, Open Community, and Citizen Panel are designed to foster meaningful engagement, their successful establishment and sustained participation may face certain challenges. To ensure the effectiveness of these bodies, potential obstacles must be anticipated and addressed through targeted mitigation strategies. Table 13 outlines key challenges and proposed solutions to maintain active involvement and maximize the impact of stakeholder contributions.

Table 13: Key Challenges and Mitigation Strategies

Challenge	Potential Impact	Mitigation Strategy
Low Engagement in OC & CP	Limited feedback & participation	Use structured onboarding, seed discussions, and leverage partners for outreach.
Recruitment Difficulties	Difficulty attracting diverse members	Adjust outreach methods, use targeted local recruitment, and emphasize incentives.
Sustaining Long-Term Involvement	Drop-off in participation after initial engagement	Provide periodic updates, recognize contributions, and host interactive sessions.

By following this timeline and addressing potential challenges, **Task T2.3 will establish a well-integrated engagement** framework, ensuring ongoing stakeholder involvement and meaningful contributions to CARMA’s development.

8 CONCLUSIONS

Significant progress has been made in the initial establishment of the CARMA Advisory Board (AB), Open Community (OC), and Citizen Panel (CP), key bodies designed to provide strategic oversight, sector-specific feedback, and public engagement throughout the project. The Advisory Board is in the final stages of recruitment, ensuring a diverse panel of experts. The Open Community has been structured as a hybrid network, leveraging LinkedIn, CMINE RTC, and the CARMA website to maximize engagement and sustainability. Efforts are also underway to recruit Citizen Panel members, focusing on trial locations and demographic diversity to ensure inclusive participation.

These bodies are essential to achieving CARMA's objectives, as they provide valuable external input that will guide the project's direction, support technology development, and enhance adoption potential. Their involvement will ensure that CARMA technologies align with operational realities, ethical standards, and societal expectations.

The next steps focus on finalizing recruitment, launching key engagement activities, and integrating feedback mechanisms. The first Advisory Board meeting and Open Community interactions are set to take place, along with structured discussions and demonstrations for the Citizen Panel. By ensuring continuous engagement and adapting strategies as needed, CARMA is positioned to benefit from rich, multidisciplinary insights that will enhance the project's overall impact.

9 REFERENCES

Cited websites :

CMINE: <https://www.cmine.eu/>

CMINE RTC: <https://www.cmine.eu/topics/37033/page/home>

EU Project HURRICANE: <https://cordis.europa.eu/project/id/101168017>

EU Project TRIFFID: <https://cordis.europa.eu/project/id/101168042>

10 ANNEXES

- CARMA AB invitation email template
- CARMA AB formal invitation letter template
- CARMA AB formal acceptance letter template
- CARMA AB Kick-Off Meeting preliminary agenda

10.1 ANNEX 1: INVITATION EMAIL

Version 1: short email version, initial approach

Subject Line: [CARMA] Invitation to Join the CARMA Project Advisory Board

Dear [Candidate's Name],

I hope this message finds you well. I am reaching out on behalf of the CARMA project, funded by the European Union (Grant. No. 101168355) to advance robotics technologies for disaster response. See the attached abstract and the CARMA project website www.carmarobots.eu for more details.

We are delighted to invite you to join the CARMA Advisory Board, a distinguished group of experts shaping the future of disaster response. Your expertise in [specific field, e.g., robotics, disaster response, ethics, policy; make as specific as possible] makes you uniquely suited to contribute to this important work.

We would be honored to have you join us on the CARMA journey. If you are interested, please reply to this email to confirm your interest or let us know if you'd like to arrange a follow-up call to discuss further details. Upon confirmation, we will send a formal invitation and outline the next steps.

Thank you for considering this opportunity to contribute to the CARMA project mission. We greatly value your expertise and look forward to your response.

Warm regards,
 [Your Full Name]
 [Your Role in CARMA]
 [Organization]
 [Email Address]
 [Phone Number]

Version 2: short email version where interest already confirmed by informal communication

Dear [Candidate's Name],

I hope this message finds you well. Following up on your communication with [someone], it is my pleasure to contact you on behalf of the CARMA project, funded by the European Union (Grant. No. 101168355) to advance robotics technologies for disaster response. See the attached abstract and the CARMA project website www.carmarobots.eu for more details.

I am delighted to formally invite you to join the CARMA Advisory Board, a distinguished group of experts shaping the future of disaster response. Your expertise in [specific field, e.g., robotics, disaster response, ethics, policy; make as specific as possible] makes you uniquely suited to contribute to this important work.

We will be honored to have you join us on the CARMA journey. As you have already confirmed your interest to [someone], I am hereby sending a formal invitation letter and a formal acceptance letter

template, which I would like to ask you to please complete and return to me at your nearest convenience, ideally within a week.

Thank you for your interest to contribute to the CARMA project mission. We greatly value your expertise and look forward to your acceptance of the invitation.

Warm regards,
[Your Full Name]
[Your Role in CARMA]
[Organization]
[Email Address]
[Phone Number]

CARMA project abstract:

CARMA aims to develop a modular and intuitive platform offering a complementary set of semi-autonomous and autonomous UGVs capable of working in symbiosis with humans to support and supplement first responders and assist citizens in a variety of situations, including those with very low visibility. CARMA use cases include first response by human-robot teams in various scenarios: road transport incident involving hazardous chemicals, earthquake, fire in an underground parking garage, fire or explosion on a ship in a harbour. Following a co-creative user-centred iterative methodology, the CARMA project will build on advanced research results in the field of disaster-response robotics, increasing autonomy thanks to novel 3D radar-based environment mapping and analysis combined with Artificial Intelligence for enhanced path and mission planning as well as victim and threat detection. Symbiotic operations and natural robot/human interaction will be made possible by exploiting Generative Adversarial Networks for collaborative tasks, Natural Language Processing, and eXtended Reality technologies. The project will evaluate the effectiveness and acceptance of the proposed platform in the frame of four ambitious pilots in complementary operational environments. Coordinated by a large European industrial leader in the crisis management market, the consortium includes world-class research centres in the domain of AI and Social Robotics, robotics manufacturers, professional and volunteer first responders, as well as local authorities.

Version 2: Long email version

Subject Line: [CARMA] Invitation to Join the CARMA Project Advisory Board

Dear [Candidate's Name],

I hope this message finds you well. I am reaching out on behalf of the CARMA project, an innovative initiative funded by the European Union (Grant. No. 101168355). CARMA is advancing robotics technologies to enhance emergency response capabilities, and we are assembling a select Advisory Board to provide strategic guidance and expertise for this critical work. See the attached abstract and the CARMA project website www.carmarobots.eu for more details.

Why Join the CARMA Advisory Board?

Joining the CARMA Advisory Board is a unique opportunity to contribute to a initiative that combines cutting-edge robotics technology with real-world emergency response needs. As an advisory board member, you will:

- Influence the development of innovative technologies that can save lives and improve disaster resilience.

- Collaborate with a network of distinguished experts from diverse fields.
- Gain early access to CARMA’s technological advancements and insights, keeping you at the forefront of emergency response innovation.
- Contribute to ethical and practical standards for deploying robotics solutions in diverse scenarios.

Your expertise as a [specific role or field] uniquely positions you to provide valuable insights into [specific area, e.g., operational integration, ethical considerations, or policy development].

Your Role and Contributions

As a member of the Advisory Board, you will:

- Provide strategic guidance on CARMA’s objectives and deliverables.
- Share expertise on technical, operational, or ethical aspects of the project.
- Participate in evaluating prototypes and shaping deployment strategies.
- Help promote CARMA technologies and outcomes to a broader network of stakeholders.

Commitment Designed for Flexibility

We value your time and have structured the engagement to fit your schedule. Your involvement will include:

- Participation in 2–3 workshops over the project’s duration, with hybrid (in-person or virtual) attendance options.
- Brief virtual check-ins approximately every six months to review progress and provide feedback.
- Occasional consultations to address critical challenges or decisions.

The total expected time commitment is approximately 6 hours per quarter, designed to allow meaningful contributions without placing undue demands on your schedule.

Next Steps

We would be honored to have you join us on the CARMA journey. If you are interested, please reply to this email to confirm your interest or let us know if you’d like to arrange a follow-up call to discuss further details. Upon confirmation, we will send a formal invitation and outline the next steps.

Thank you for considering this opportunity to contribute to the CARMA project mission to advance emergency response capabilities. Please feel free to reach out with any questions.

Warm regards,
[Your Full Name]
[Your Role in CARMA]
[Organization]
[Email Address]
[Phone Number]

CARMA project abstract:

CARMA aims to develop a modular and intuitive platform offering a complementary set of semi-autonomous and autonomous UGVs capable of working in symbiosis with humans to support and

supplement first responders and assist citizens in a variety of situations, including those with very low visibility. CARMA use cases include first response by human-robot teams in various scenarios: road transport incident involving hazardous chemicals, earthquake, fire in an underground parking garage, fire or explosion on a ship in a harbour. Following a co-creative user-centred iterative methodology, the CARMA project will build on advanced research results in the field of disaster-response robotics, increasing autonomy thanks to novel 3D radar-based environment mapping and analysis combined with Artificial Intelligence for enhanced path and mission planning as well as victim and threat detection. Symbiotic operations and natural robot/human interaction will be made possible by exploiting Generative Adversarial Networks for collaborative tasks, Natural Language Processing, and eXtended Reality technologies. The project will evaluate the effectiveness and acceptance of the proposed platform in the frame of four ambitious pilots in complementary operational environments. Coordinated by a large European industrial leader in the crisis management market, the consortium includes world-class research centres in the domain of AI and Social Robotics, robotics manufacturers, professional and volunteer first responders, as well as local authorities.

10.2 ANNEX 2 FORMAL INVITATION LETTER



January 15, 2025

SUBJECT: invitation to join the advisory board of the CARMA project

Dear [Name of the Candidate]

On behalf of the CARMA project team, I am pleased to formally invite you to join the Advisory Board for the **CARMA project**, funded by the European Union (Grant. No. 101168355). CARMA aims to advance disaster response capabilities through the development of autonomous ground robotics solutions designed to address real-world challenges.

The Advisory Board is a select group of distinguished experts who play a vital role in shaping the project's direction and ensuring its outcomes are impactful, ethical, and practical. Your relevant and well recognized expertise in [specific field(s)] makes you an ideal candidate to contribute to this important work.

About the Advisory Board

The CARMA Advisory Board serves to:

- Provide strategic guidance on the project's objectives and deliverables.
- Offer expert insights on technical, operational, and ethical aspects.
- Evaluate prototypes and deployment strategies to ensure practical alignment.
- Support dissemination efforts by acting as an advocate for CARMA outcomes.

Role and Responsibilities

As a member of the Advisory Board, your contributions will include:

- Participating in 2–3 workshops over the course of the project, with options for virtual or hybrid attendance.
- Engaging in brief virtual check-ins approximately every four months.
- Providing feedback and expertise during occasional consultations on critical challenges.

The expected time commitment is approximately 6 hours per quarter.



Benefits of Participation

Advisory Board members gain the opportunity to:

- Influence the development of technologies with significant societal impact.
- Collaborate with a high-profile network of international experts from academia, industry, and first responder organisations.
- Influence the shape and features of future products to be deployed for emergency response.
- Access CARMA's innovations early, staying at the forefront of disaster response advancements.
- Contribute to the establishment of ethical and practical standards for robotics deployment.

Confidentiality and Nondisclosure

All materials and discussions shared as part of the CARMA project are confidential. By accepting this invitation, you agree to uphold this confidentiality and refrain from sharing any project-related information without prior authorization.

Next Steps

To confirm your participation, please complete and sign the attached acceptance letter and return it within a week by email to Ivana Kruijff (see below). If you have any questions or wish to discuss your role further, please do not hesitate to contact us.

We would be honored to have you join the CARMA Advisory Board and look forward to your invaluable contributions to this groundbreaking project.

Warm regards,



Ing. Ivana Kruijff Korbayová, PhD
CARMA Project Advisory Board Coordinator
German Rescue Robotics Center (DRZ)
Email: ivana.kruijff@rettungsrobotik.de
Phone: +49-231-999882-07

Attachment:

1. Formal Acceptance Letter

 10.3 ANNEX 3 FORMAL ACCEPTANCE LETTER

[Please fill in the highlighted sections and adjust this template as needed.]

[Your Organization's Letterhead or Logo]

[Date]

Subject: Acceptance of Appointment to the CARMA Advisory Board

To The CARMA Project Consortium,

I, **[Your Name]**, am pleased to formally accept the invitation to join the Advisory Board of the CARMA project. I understand that the CARMA initiative is committed to advancing robotics technologies for disaster response, and I am honored to contribute to its mission of enhancing societal resilience and safety.

Role and Responsibilities

As a member of the CARMA Advisory Board, I acknowledge my role and responsibilities as follows:

- Providing strategic guidance on the project's goals and deliverables.
- Offering my expertise in **[specific area of expertise, e.g., operational integration, ethical considerations, policy development]**.
- Evaluating prototypes and deployment strategies to ensure practical and ethical alignment.
- Participating in discussions and workshops to share insights and recommendations.
- Acting as an advocate for the CARMA project's outcomes within my professional network.

Logistical Details and Commitment

I understand that my involvement will include:

- Attendance at 2–3 workshops throughout the project, with hybrid options available.
- Participation in brief virtual updates approximately every four months.
- Occasional consultations for critical challenges or decisions.

The total time commitment is estimated to be approximately 6 hours per quarter.

I can obtain information about the CARMA project at the CARMA Project website: www.carmarobots.eu and for further project-related communication, I may reach the CARMA project team by contacting the following persons:

- Ivana Kruijff (CARMA Project Advisory Board Coordinator)
German Rescue Robotics Center (DRZ)
Email: carma_ab@rettungsrobotik.de
Phone: +49 (0)231 99988207
- Yana Lazarova (CARMA Project Coordinator)
CS Group
Email: yana.lazarova@cs-soprasteria.com
Phone: +33 (0)7 72 50 85 45

Confidentiality and Nondisclosure

I acknowledge that all information shared with me as part of the CARMA project is confidential. I

agree not to disclose any project-related materials or discussions to third parties without explicit written permission from the CARMA project team.

Contact Information

[Please insert your details below:]

Name: _____
Address: _____
Email: _____
Phone: _____

Acknowledgment and Signature

By signing below, I confirm my acceptance of this appointment, my commitment to the outlined responsibilities, and my adherence to the confidentiality agreement.

Signature: _____
Date: _____

Thank you for this opportunity. I look forward to supporting the CARMA project mission and collaborating with the distinguished members of the Advisory Board.

Sincerely,
[Candidate's Full Name]

10.4 CARMA ADVISORY BOARD KICK-OFF MEETING PRELIMINARY AGENDA



CARMA ADVISORY BOARD KICKOFF MEETING

Title	
Date	DD/MM/2025
Location	Online [Teams link]
Organiser	DRZ
Classification Level	Confidential

AGENDA

Start time	Duration	Topic	Presenter(s)
TBD	5 min	Welcome Introduction of Advisory Board's Role	DRZ
	15 min	Introduction of Advisory Board Members and CARMA Consortium	AB members, CARMA partners
	40 min	Overview of the CARMA Project: Scope, Objectives, Current state	CS/CERTH
	30 min	Discussion: initial feedback and priorities	all