



Climate-Resilient Development Pathways in Metropolitan Regions of Europe

Deliverable 8.11 Project Handbook - Version 2

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Disclaimer

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TABLE OF CONTENTS

Executive Summary.....	10
Introduction.....	11
1 General information	12
1.1 Scope and Objectives of the CARMINE project	12
1.2 Purpose of the Deliverable D8.11	13
2 Consortium Organisation	14
2.1 Project Management Strategy	14
2.2 Project Management Structure	14
2.3 Project Contact List	17
3 Legal Documents	18
3.1 GRANT AGREEMENT (GA).....	18
3.2 CONSORTIUM AGREEMENT (CA)	18
4 Communication	19
4.1 Internal communication.....	19
4.1.1 Project Team Directory/Repository.....	19
4.1.1.1 Emails and Mailing lists	20
4.1.1.2 Online Platform Meetings	20
4.1.1.3 Organization of Meetings	21
4.2 External communication	22
4.3 Communication with CINEA	23
5 Scientific/Technical Reporting.....	24
5.1 Internal Technical Reporting	24
5.2 Use of resources reporting	24
5.3 WP internal progress monitoring.....	25
5.4 Deliverable Preparation.....	25
5.5 Progress Reports to EC	27
6 Financial Reporting	29
6.1 Preparation of financial statements	29
6.2 Payment handling	29
6.2.1 Payments from the EC.....	29
6.2.2 Distribution of funds to partners	30
7 Record Keeping.....	31
8 Risk Management	33

9	<i>Quality Assurance and Acceptance Criteria</i>	36
10	<i>Intellectual Property Rights</i>	38
10.1	Background and Access Rights	38
10.2	Ownership of Results	38
10.3	Rights of Use for the Granting Authority	39
11	<i>Gender aspects in publications and research</i>	40
11.1	Commitment to Gender Equality	40
11.2	Gender-Inclusive Research Terms of Reference	41
11.3	Gender-Sensitive Communication	41
11.4	Checklist for Gender-Sensitive Language	41
11.5	Integrating Gender Considerations into Research	42
12	<i>Ethical and security assessment</i>	49
12.1	Issues and Background	49
12.2	Security Measures and Procedures	50
12.3	Security Procedures Accessing, Handling, Processing and Storing Classified and/or Sensitive Data/Information	50
12.4	Ethical Assessment	51
12.5	Data derived from communication and dissemination activities	52
13	<i>Deliverables and Milestones Monitoring Deliverables and Milestones</i>	53
13.1	Management Plan and Breakdown	53
13.2	Status of Deliverables and Milestones	54
14	<i>Conclusions</i>	58
	<i>Bibliography</i>	59
	<i>Annex 1. Acceptance Criteria template</i>	60
	<i>Annex 2. Deliverable/Milestone Acceptance Checklist</i>	61
	<i>Annex 3. Front page template for the Deliverables and Milestones</i>	63
	<i>Annex 4: Project Deliverables and Milestones</i>	66
14.1	Project Deliverables	66
14.2	Project Milestones	69
	<i>Annex 5: Ethics Review Template</i>	71
	<i>Annex 6: Stakeholder Consent Form</i>	74
	<i>Annex 7: Workshop Invitation Template</i>	78

List of figures

Figure 1. Project Management Structure in CARMINE Project	15
Figure 2. CARMINE repository (screenshot)	19

List of tables

Table 1: Type of meetings within CARMINE meetings.....	20
Table 2: List of CARMINE project meetings.....	21
Table 3: Timeline for the deliverable preparation process in CARMINE project	26
Table 4: Tools and formats recommended to be used in CARMINE.....	26
Table 5: EC Report Timeline	28
Table 6. Foreseen risks (The version of the CARMINE Risk Register on 1 st July 2025)	34
Table 7. Unforeseen risks (1 st July 2024).....	35
Table 8: Gender disaggregated data for workshop participants	42
Table 9: Gender disaggregated data in project's research activities.....	47
Table 10: Summary of staff effort	53
Table 11: Deliverables submitted between M1-M17	54
Table 12: Milestones submitted between M1-M17	55
Table 13: Deliverables to be delivered by the end of 2025	56
Table 14: Milestones to be delivered by the end of 2025.....	57
Table 15. CARMINE list of deliverables, as per the GA	66
Table 16. Project Milestones, as per the GA.....	69

Abbreviations

Abbreviations	Full wording
A&M	Adaptation and Mitigation
CA	Consortium Agreement
CC	Climate Change
CINEA	European Climate, Infrastructure and Environment Executive Agency
CSA	Case Study Area
DEC	Dissemination, Exploitation and Communication Strategy
DMP	Data Management Plan
DT	Digital Twin
EC	European Commission
EAB	External Advisory Board
EU	European Union
GA	Grant Agreement
GAs	General Assembly
IAU	Internal Advisory Unit
IEEA	Independent External Ethics Advisor
IDSS	Impact-Based Decision Support
IPR	Intellectual Property Right
LL	Living Lab
MACC	Mission on Adaptation to Climate Change
MRE	Metropolitan Regions of Europe
NBS	Nature-based Solutions
PC	Coordinator
PO	Project Officer
R&I	Research and Innovation
SC-Hub	Stakeholder Community Hub
STEM	Science, Technology, Engineering, and Mathematics
STC	Steering Committee
STL	Storylines
WP	Work Package
WPL	Work Package Leader

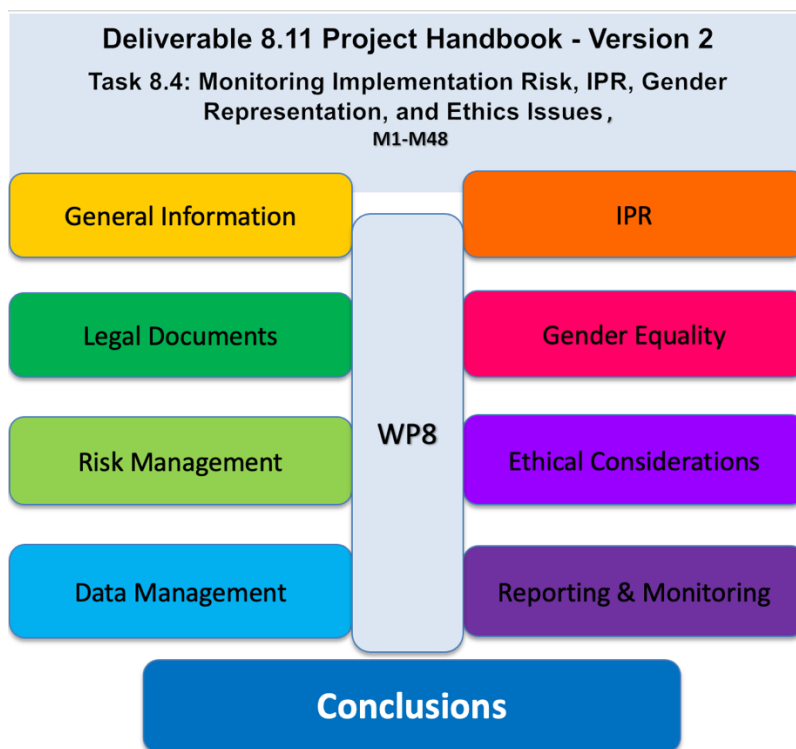
Executive Summary

Deliverable 8.11 – Project Handbook Version 2, developed under Task 8.4, focuses on monitoring key project dimensions including implementation risks, intellectual property rights (IPR), gender representation, and ethical issues throughout the 48-month duration of the CARMINE project. Led by MeteoRo with support from MITIGA, CNR, INCDS, and WMO, this task ensures the timely and high-quality delivery of project milestones and outputs, minimizing potential risks and aligning with EU requirements.

This deliverable builds upon the foundational Project Handbook Version 1 (D8.10), submitted in Month 6 (July 2024), which established internal procedures and guidelines for effective risk management, ethics compliance, gender balance, and IPR coordination. Together, these handbooks serve as central tools for managing a complex, multi-partner initiative, ensuring coherence, compliance, and strategic alignment across the consortium.

With eight metropolitan regions acting as Climate Services Areas (CSAs), CARMINE aims to link over 40 communities by 2027 and prepare them to join the EU Mission on Adaptation to Climate Change (MACC) Charter. The project's progress will be tracked through defined objectives, key performance indicators, and verification methods.

In summary, CARMINE is committed to building resilient metropolitan communities by integrating innovative data solutions, inclusive stakeholder engagement, and ethical, gender-aware practices—ensuring long-term impact and transferability across European regions facing similar climate challenges.



Introduction

This handbook outlines the fundamental policies and procedures for the CARMINE project, emphasizing key areas for its successful implementation. It details processes for identifying, assessing, and mitigating risks that could impact project execution.

This handbook provides comprehensive information on the following critical aspects of the project management:

- **Consortium structure:** This section defines the roles and responsibilities of all consortium partners involved in the CARMINE project.
- **Communication:** It emphasizes the guidelines established in the Dissemination, Exploitation, and Communication Strategy for effective communication within the consortium and with external stakeholders, ensuring timely information exchange and facilitating collaboration throughout the project lifecycle.
- **Reporting Processes:** The handbook outlines standardized procedures for submitting regular progress reports, financial statements, and other required deliverables to the coordinator and funding agency.
- **Record-Keeping:** A robust system for record-keeping is defined, ensuring proper documentation and archiving of all project-related activities, decisions, and data.
- **Quality Plan:** This section details the quality assurance and quality control procedures implemented to guarantee the accuracy, completeness, and reliability of project outputs.
- **Data Management:** Clear guidelines and protocols are provided for the collection, storage, access, and sharing of project data, ensuring effective data management.
- **Intellectual Property Rights (IPR):** The intellectual property rights and responsibilities generated by the project are defined in this section.
- **Ethical and Security Assessments:** Guidance on conducting ethical and security assessments throughout the project lifecycle is provided, ensuring compliance with relevant standards.
- **Gender Mainstreaming:** This section promotes gender mainstreaming in project publications and research activities, reflecting a commitment to gender equality.
- **Data Protection:** Clear procedures are established for data collection, storage, and access, ensuring compliance with relevant regulations and safeguarding data protection.
- **Risk Management:** A comprehensive framework for identifying, assessing, mitigating, and monitoring risks is defined, ensuring sound risk management throughout the project.

As a living document, this handbook will be maintained and updated throughout the lifecycle of the CARMINE project, with changes and revisions made as necessary to reflect the evolving needs of the project and address any emerging issues.

1 General information

1.1 Scope and Objectives of the CARMINE project

The increasing frequency and intensity of climate and weather extremes due to anthropogenic climate change (CC) present significant challenges to local and regional adaptation efforts. Climate resilient development aims to integrate adaptation and mitigation (A&M) measures to ensure equitable, just, and sustainable development. The EU Strategy on Adaptation to CC (SACC) identifies several key issues: insufficient decision-making knowledge, weaknesses in implementing and monitoring adaptation actions, slow adaptation uptake, and unaddressed climate impacts from outside the EU.

With 75% of its population in urban areas, the EU strives to achieve climate resilience by 2030, focusing on 150 regions and communities. Metropolitan Regions of Europe (MRE), defined as NUTS 3 regions with at least 250,000 inhabitants, exhibit complex socio-ecological dynamics and require data-driven A&M plans. There is an urgent need for high-resolution climate data and tools to enhance disaster management systems and support societal responses.

The CARMINE project aims to facilitate climate resilient development by investigating CC impacts, studying societal responses, and developing A&M solutions (including Nature-based Solutions (NBS)) for climate neutrality and socio-ecological changes. The project's vision is to provide knowledge-based pathways for climate resilience in MREs, bridging local and regional scales through impact-based decision support services and multi-level climate governance.

CARMINE will deliver roadmaps of research and innovation (R&I) priorities on A&M, economic modelling, risk assessment, and management tools, focusing on eight MREs as representative Case Study Areas (CSA). These CSAs will adopt Digital Twin (DT) use cases to support transferability and scaling-up. The project will leverage existing data and services from platforms like Climate-ADAPT, Copernicus CC Service, and previous EU projects, combining them with locally sourced data through active stakeholder engagement.

Objectives of the CARMINE project:

Obj. 1. Review the available resources, tools, practices, policies, and methodologies, and identify the gaps, challenges and barriers that hamper the successful advance of the resilience pathways in the Metropolitan Regions of Europe.

Obj. 2. Develop high-resolution risk assessment models linking climate, earth system processes, and socio-economic drivers, for enriched data fusion and effectiveness of adaptation and mitigation actions in the Metropolitan Regions of Europe.

Obj. 3. Co-produce a climate adaptation and resilience framework combining Living Labs and Digital Twins approaches that supports decision making processes for resilience and disaster risk management in the Metropolitan Regions of Europe, including Nature-Based Solutions.

Obj. 4 Provide state-of-the-art Impact-based Decision Support Services blending climate and environmental data into socioeconomic impact and risk assessments, for user-friendly access to high spatially resolved modelling outputs in support of local adaptation assessments and plans.

Obj. 5 Conduct the participatory development of better coordinated and impactful modelling and risk assessment, in support of roadmaps of R&I priorities on adaptation, informed policies, and cross-sectoral plans towards the 2030-2035 timeframe and beyond (i.e., 2050).

1.2 Purpose of the Deliverable D8.11

The current **Deliverable 8.11 Project Handbook - Version 2** developed within “Task 8.4: Monitoring Implementation Risk, IPR, Gender Representation, and Ethics Issues” focuses on monitoring implementation risks, intellectual property rights (IPR), gender representation, and ethics-related issues throughout the project duration. Led by MeteoRo with the participation of MITIGA, CNR, INCDS, and WMO, this task spans over 48 months and aims to ensure that the quality and timely achievement of deliverables and milestones are carefully tracked to minimise potential risks.

The **D8.10 Project Handbook – Version 1** was developed under Task 8.4, focused on monitoring implementation risks, intellectual property rights (IPR), gender representation, and ethics-related issues throughout the project lifecycle. This first version of the handbook outlined the foundational procedures and internal guidelines to ensure proper risk management, adherence to ethical standards, promotion of gender balance, and effective coordination of IPR issues. The deliverable was submitted as planned in Month 6 (July 2024), in line with the project timeline.

These deliverables are critical to ensuring the **efficient, compliant, and impactful** execution of the project. It serves as the backbone for coordinating complex, multi-partner research initiatives and aligns all activities with EU expectations and contractual obligations.

CARMINE’s overarching goal is to enhance climate resilience in metropolitan communities by co-producing knowledge-based tools, strategies, and plans for A&M actions. The project focuses on the 2030-2035 timeframe with longer-term perspectives up to 2050, aiming to co-create decision-support services, collaborate with local communities and policymakers, and deliver science-based R&I roadmaps for multi-level climate governance.

The project includes eight metropolitan regions as CSAs, which are prepared to join the EU Mission on Adaptation to Climate Change (MACC) Charter by the end of the project. CARMINE aims to connect over 40 communities within these CSAs by 2027, with potential transferability to additional MREs (Metropolitan Regions of Europe) facing similar challenges. The project's success will be measured through specific objectives, means of verification, and key performance indicators, addressing identified EU-level challenges and needs.

In conclusion, CARMINE strives to build climate resilient metropolitan communities by integrating advanced data, tools, and stakeholder engagement, ensuring a sustainable future in the face of climate uncertainties.

2 Consortium Organisation

2.1 Project Management Strategy

Project management encompasses all essential tasks to ensure the project's successful completion according to the technical and financial specifications outlined in the Grant Agreement. Work package (WP8), led by MeteoRo, focuses on managing and coordinating the project to maintain alignment with scope, costs, resources, and quality. Any necessary modifications or optimizations are discussed with partners, and decisions are made with their consent.

Effective communication management is vital for ensuring accurate information transmission and prompt decision-making. Quality management enhances collaboration and results delivery among consortium partners through relevant quality control and assurance activities. Risk management involves processes and techniques for assessing and controlling potential project risks, emphasizing early detection and handling.

2.2 Project Management Structure

The Consortium Agreement (CA) outlines a multi-layered governance structure for this project (Figure 1). This structure ensures proper oversight, execution, control, and monitoring.

Here is a breakdown of the different bodies involved:

- **General Assembly (GAs):** Holds the ultimate decision-making power for the consortium.
- **External Scientific Advisory Board (ESAB):** Shall assist and facilitate the decisions made by the General Assembly.
- **Steering Committee (STC):** Provides advice on the Project implementation, ensure delivery of the Project outputs and the achievement of Project outcomes.
- **Internal Advisory Unit (IAU):** Focuses on quality control, gender balance, risk management, and ethical considerations.
- **Coordinator (PC):** Acts as the legal representative, facilitating communication between consortium members and the funding agency. They fulfil responsibilities outlined in both the Grant Agreement and the Consortium Agreement.

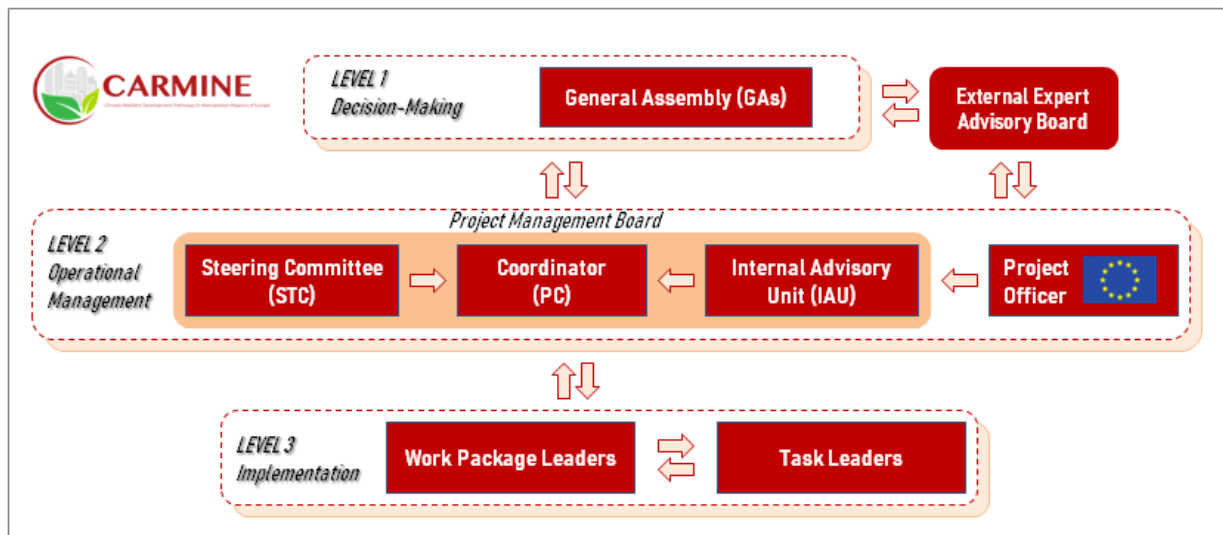


Figure 1. Project Management Structure in CARMINE Project

The **GAs** shall consist of one representative of each Party (hereinafter referred to as “Member”). Each Member shall be deemed to be duly authorised to deliberate, negotiate and decide on all matters listed in Section 6.3.7 of the CA.

The Coordinator (PC) shall chair all meetings of the GAs unless decided otherwise by the GAs.

The Parties agree to abide by all decisions of the GAs.

The following decisions shall be taken by the GAs:

- **Content, finances and intellectual property rights**
 - Proposals for changes to Annexes 1 and 2 of the Grant Agreement (GA) to be agreed by the Granting Authority
 - Changes to the Consortium Plan
 - Modifications or withdrawal of Background in Attachment 1 of the CA
 - Additions to Attachment 3 (List of Third Parties for simplified transfer according to Section 8.3.2) of the CA
 - Additions to Attachment 4 (Identified entities under the same control) of the CA
- **Evolution of the consortium**
 - Entry of a new Party to the Project and approval of the settlement on the conditions of the accession of such a new Party
 - Withdrawal of a Party from the Project and the approval of the settlement on the conditions of the withdrawal
 - Proposal to the Granting Authority for a change of the PC
 - Proposal to the Granting Authority for suspension of all or part of the Project
 - Proposal to the Granting Authority for termination of the Project and the CA

- **Breach, defaulting party status and litigation**

- Identification of a breach by a Party of its obligations under the CA or the GA
- Declaration of a Party to be a Defaulting Party
- Remedies to be performed by a Defaulting Party
- Termination of a Defaulting Party's participation in the consortium, including the steps to be taken for litigation purposes and the coverage of litigation costs in case of joint claims of the parties of the consortium against a Party (Section 4.2, Section 7.1.4 of the CA).

- **Appointments**

Based on the Grant Agreement, the appointment, if necessary, of:

The **ESAB** has been appointed and steered by the General Assembly. The ESAB assists and facilitates the decisions made by the General Assembly.

The **STC** is the Project internal advisory body. The STC's role is to provide advice on the Project implementation, ensure delivery of the Project outputs and the achievement of Project outcomes. The STC is formed by all work package leaders and work package co-leaders and is chaired by the PC. The STC meets bi-monthly (mainly online meetings).

The **PC** shall be the intermediary between the Parties and the Granting Authority and shall perform all tasks assigned to it as described in the Grant Agreement and in this Consortium Agreement.

In particular, the PC shall be responsible for:

- monitoring compliance by the Parties with their obligations under the CA and the GA
- keeping the address list of Members and other contact persons updated and available
- collecting, reviewing to verify consistency and submitting reports, other deliverables (including financial statements and related certification) and specific requested documents to the Granting Authority
- preparing the meetings, proposing decisions and preparing the agenda of GAs meetings, chairing the meetings, preparing the minutes of the meetings and monitoring the implementation of decisions taken at meetings
- transmitting promptly documents and information connected with the Project to any other Party concerned
- administering the financial contribution of the Granting Authority and fulfilling the financial tasks described in [Section 6](#)
- providing, upon request, the Parties with official copies or originals of documents that are in the sole possession of the Coordinator when such copies or originals are necessary for the Parties to present claims
- providing a copy of the Grant Agreement and its Annexes to the Associated Partners.

By way of exception to Section 6.4.4 in CA, the Parties hereby mandate the Coordinator to execute, in their name and on their behalf, a non-disclosure agreement (hereafter “NDA”) with each member of the ESAB, in order to protect Confidential Information disclosed by any of the Parties to any member of the ESAB. The NDA for the ESAB members is enclosed in Attachment

5 of the CA. The mandate of the Coordinator comprises solely the execution of the NDA in Attachment 5 of the CA.

The Coordinator shall write the minutes of the ESAB meetings and submit them to the GAs. The EEAB members shall be allowed to participate in GAs meetings upon invitation but have not any voting rights.

To ensure project success and integrity, an **Internal Advisory Unit (IAU)** comprising experts in quality control, gender, risk, and ethics will be established and overseen by the project manager. The IAU will convene bi-annually to review progress, identify challenges, and propose corrective measures, with detailed meeting minutes submitted to the PC for transparency and accountability. This strategic move aims to uphold best practices, regulatory standards, and ethical integrity throughout the project.

2.3 Project Contact List

To streamline communication and enhance collaboration within our consortium, the management team has established a comprehensive contact list specifically tailored to the CARMINE project. This list acts as a centralized repository of essential contact information for all individuals involved, making it a critical tool for efficient communication.

It includes key details such as names, roles within the consortium, email addresses, and optionally, relevant contact numbers, enabling team members to connect readily as needed. The contact list is meticulously curated and regularly updated to reflect any changes in personnel or contact details.

To ensure accessibility for all consortium members, the contact list is securely stored in a shared file within the project repository on Teams. This centralized location fosters transparency and collaboration by providing everyone involved in the project with the most up-to-date contact details. The shared file is accessible to all consortium members, promoting a collaborative environment where communication barriers are minimized and allowing team members to quickly reach out to relevant stakeholders without unnecessary delays.

3 Legal Documents

3.1 GRANT AGREEMENT (GA)

The GA is signed between the coordinator and the EC and is the official and legal base of the project.

The Grant Agreement is composed of different Annexes:

- Annex 1: Description of the Action (DoA):
 - Overall description of the project for the full duration of the contract.
 - The objectives and expected impacts.
 - An outline of the work plan, including the list of deliverables and milestones; a description of the role of the participants; ethical provisions.
 - A description of the organisational, management and governance structure of the project; the plan for using and disseminating knowledge.
- Annex 2: Estimated budget for the action; Annex 2a: Additional information on the estimated budget.
- Annex 3: Accession Forms.
- Annex 4: Model for the financial statements.
- Annex 5: Model for the certificate on the financial statements (CFS).
- Annex 6: Model for the certificate on the methodology.

3.2 CONSORTIUM AGREEMENT (CA)

The Consortium Agreement establishes internal rules and specifies and/or supplements the provision of the Contract. Currently, the version 4 of the Consortium Agreement (CA) was signed by all Project Partners on 8 February 2024 and is stored in the shared repository on Teams.

4 Communication

4.1 Internal communication

CARMINE will employ a communication framework, comprising processes and tools, to streamline information exchange throughout the project. This framework is adaptable to evolving project needs. The PC will take the lead in fostering effective communication among partners, ensuring the project progresses smoothly.

Microsoft Teams serves as the primary collaboration platform for the project. It offers instant messaging, video conferencing, and file sharing capabilities. Dedicated project channels facilitate focused discussions and information exchange. All project meetings will be scheduled and conducted through Microsoft Teams.

Email is the primary channel for formal project communications, including announcements, document sharing, and meeting documentation.

4.1.1 Project Team Directory/Repository

A dedicated CARMINE Microsoft SharePoint workspace serves as the central platform for project-related information sharing among project personnel. This platform hosts documents, written materials, and meeting minutes. To ensure seamless integration, it is linked to Microsoft365 and other compatible digital tools. The specific structure of this workspace is outlined in Figure 2.

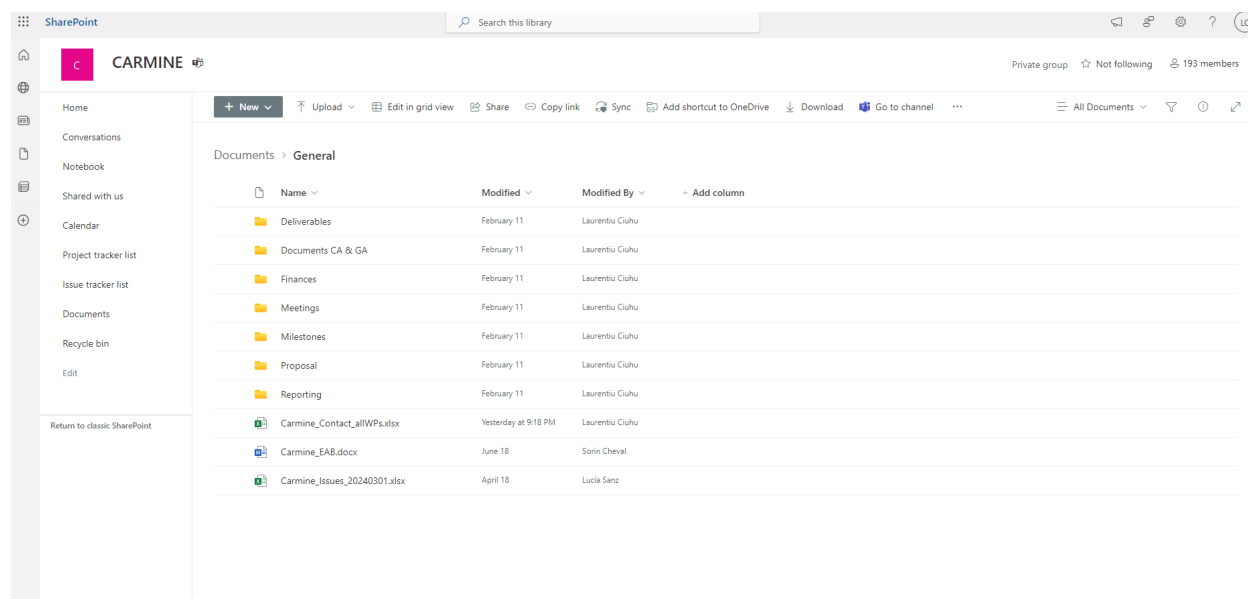


Figure 2. CARMINE repository (screenshot)

4.1.1.1 Emails and Mailing lists

To further streamline communication within the consortium, a dedicated group email has been established: "carmine-general" <carmine-general@carmine-project.eu>, ensuring that all members can easily exchange information and updates. This group email complements the existing integration of SharePoint Conversations with Office 365 applications, including Outlook, Teams, and OneDrive, providing a centralized platform for efficient communication across the consortium.

4.1.1.2 Online Platform Meetings

For the effective communication among the partners, regular online video-calls were held. Partners were requested to use the Teams platform. In case technical issues arise, the CARMINE working groups may move to other platforms i.e. Google Meet, Webex, Zoom etc.

To enhance transparency and maintain a clear record of discussions and decisions, all meetings are recorded and securely stored. Following each session, detailed minutes are drafted and distributed to relevant stakeholders. This practice not only ensures that absent team members remain informed but also serves as an effective means of internal communication, reinforcing accountability and supporting continuity throughout the project's lifecycle.

Table 1 presents the type of meetings, their schedule, the organizers, participants, location and related documents in the CARMINE project.

Table 1: Type of meetings within CARMINE meetings

MEETING	TIME	ORGANIZER	PARTICIPANTS	LOCATION	DELIVERABLES
Kick-off meeting	M1 (31/01-01/02/24)	PC	All project partners	Face-to-face meeting	Agenda Meeting presentations Minutes
Project progress meetings	Every 2 months	PC	All project partners	Online meeting	Agenda Minutes
General Assembly	At least every 12 months	PC	Members of the General Assembly	Face-to-Face meeting/online meeting	Agenda Minutes
Ad hoc meeting	Whenever needed	All project partners based on topic and need	Project partners based on topic and needs	Face-to-Face meeting/online meeting	Agenda Minutes

4.1.1.3 Organization of Meetings

For the organization of online meetings, the service Doodle (<https://doodle.com/en/>) was used to agree upon the most convenient date and time of the meeting.

The project held numerous meetings in the first 17 months. A detailed overview of these meetings, including their type, timeframe and relevant description, is outlined in Table 2.

Table 2: List of CARMINE project meetings

Meeting	Date	Description
Kick off Meeting	12 - 13 March 2024	The meeting provided an overview of the project with the following agenda: context, consortium, vision, goal, specific objectives, methodology (including an overview, concepts, models, and assumptions), case study areas, links to the Climate Adapt Platform, Impact (including results, key performance indicators, dissemination, exploitation, and communication), and implementation.
1-st General Assembly Meeting	13 March 2024	The meeting informed the Project Partners on practical matters related to the project management and discussed project budget and resourcing, reporting practices, status of deliverables and milestones, progress monitoring, risk register, project working methods and communications. The meeting discussed on the membership of the Scientific Advisory Board and External Expert Advisory Board.
2-nd General Assembly Meeting	22 October 2024	The Extraordinary General Assembly meeting was called to discuss proposed amendments to project deliverables and tasks, reiterating proposed changes brought to the GA.
CSA Meeting (WP1, WP2, WP3, WP4)	16 May 2024	The meeting was centred on various topics related to the project's cross-disciplinary nature and the need for a comprehensive data management plan. The coordinator led the discussion on cross-working packages and project objectives, emphasizing the importance of addressing issues affecting activities in all working packages. Participants expressed the need to clarify data collection and management for the project's data management plan and understanding the focus areas for digital twins within the case studies.
Project Progress Meeting 1	09 May 2024	Meeting for the follow up of the WPs' progress: objectives, tasks, achievements, main issues, and the work plan for the next two months.
Project Progress Meeting 2	02 July 2024	WPs' progress covered WPS objectives, tasks, achievements, main issues in months 1-4, and the work plan for the next two months.
Project Progress Meeting 3	11 September 2024	Highlight the key activities completed in the WPs during month 6-7.

Project Progress Meeting 4	05 November 2024	WPs' progress covered WPS objectives, tasks, achievements, main issues. Highlight the key activities completed in the WP during month 8-9.
Amendment Meeting -new PO	12 December 2024	Meeting to discuss the 1st Amendment review and timelines
Project Progress Meeting 5	16 January 2025	WPs' progress covered objectives, tasks, achievements, and main issues. Highlight the key activities completed in the WPs during month 10-11.
3-rd General Assembly Meeting	19 March 2025	The 3-rd General Assembly convened to review the progress and strategic direction of the project. The meeting began with the official opening, followed by verification of quorum and voting rights. The Assembly confirmed the chair and secretary and acknowledged the minutes of the previous extraordinary meeting. Key updates were provided on project implementation, budget and resourcing, communication activities, and the current risk register. Members discussed and endorsed the composition of the External Expert Advisory Board. The session also included a review of the upcoming 2025 deliverables and milestones, along with planning for future meetings. The meeting concluded with any other business and the formal closing of the Assembly.
Project Progress Meeting 5	04 June 2025	WPs' progress covered WPS objectives, tasks, achievements, main issues. Highlight the key activities completed in the WP during month 15-17.

4.2 External communication

The consortium established a dedicated project website and uses email, and social media platforms (X, Facebook, LinkedIn, Instagram) to engage with external stakeholders. To amplify project impact, partners created high-quality materials such as presentations, scientific papers, and press releases. All communication materials followed the project's branding guidelines, including the CARMINE acronym and grant number. The primary goal is to enhance the project's visibility and reach a broad audience.

The CARMINE website was launched in late April 2024 and can be accessed via <http://carmine-project.eu>.

A comprehensive communication and dissemination strategy detailed in Deliverable D7.1: DEC strategy - Version 1, guides these efforts. To monitor communication activities, the consortium employs a dedicated tracking tool. Each partner is responsible to oversee the implementation of the communication plan.

The first version of the Dissemination, Exploitation & Communication (DEC) Strategy has been elaborated, outlining a comprehensive plan of activities targeting all relevant stakeholders and target groups (TGs) across the project. This initial DEC strategy, delivered in M3, established key tools, activities, and target audiences, while setting measurable KPIs and a detailed schedule for outreach efforts.

It also defines the project's visual identity and emphasizes the connection between research findings and policy adoption, thereby promoting the broader visibility of the project within the international climate community. Aligned with Open Science policies, the DEC strategy is a living document that will be regularly updated to ensure continuous engagement and the uptake of the project's results. Within the project, four versions of the DEC Strategy are foreseen: Versions 1, 2, 3, and the final version. The first CARMINE DEC Strategy was delivered by Month 6 (M6), with updates scheduled every 12 months thereafter. This strategy will continue to evolve in parallel with the project's progression to maximise its uptake potential.

4.3 Communication with CINEA

The PC is the sole point of contact between the project consortium and the European Commission (EC). The PC is responsible for maintaining an up-to-date project portal, which includes information on communication activities, project milestones, deliverables, and progress reports. All communication with the EC must be channelled through the PC, except in extraordinary circumstances that have been previously agreed upon. The PC will disseminate relevant EC communications to project partners.

5 Scientific/Technical Reporting

5.1 Internal Technical Reporting

WP leaders are required to submit technical progress reports for their respective WPs to the PC every 9 months, with an increased frequency of reporting during the last period, occurring at the end of each semester (i.e., months 9, 18, 27, 36, 42, and 48). These reports should be completed using the "Internal Technical Report Template" available in the CARMINE document repository and must include the following information:

1. Work performed and main results achieved during the reporting period
2. Status of each WP task and details on work carried out by each beneficiary
3. Upcoming activities and updated planning for the next reporting period
4. Status of ongoing deliverables and delivery dates for the next reporting period
5. Progress towards milestones planned for the next reporting period
6. Status of risks and updated risk analysis for the WP
7. Critical assessment of technical progress, including deviations from the original plan and proposed measures

Additionally, the report contains information about the organizational aspects of the WP, as reflected in the performance indicators ([Section 5.3 WP internal progress monitoring](#)). The Technical Internal Report for periods M9-M18, M27-M36, and M42-M48 will cover only the performance indicators section, while other sections will be included in the Progress Report ([Section 5.5 Progress Reports to EC](#)).

As part of the continuous efforts to ensure efficient project delivery and track our progress effectively, we emphasize the importance of maintaining and updating CARMINE internal management tools regularly. These tools are vital to the coordination and successful execution of project activities and are stored in the CARMINE Teams SharePoint – WP8.

Two key tools are:

- **CARMINE Monthly Reporting Planner (CARMINE 2024):** This file serves as a monthly log, capturing and showcasing the activities within each Work Package (WP).
- **CARMINE General Overview of Partner Responsibilities (v1):** A comprehensive spreadsheet that centralizes information about deliverables, milestones, datasets, responsible authors, assigned reviewers, and key project results (the final version will be ready at the end of the project).

5.2 Use of resources reporting

The PC requests that each Beneficiary provide the following information every 9 months, except during the final reporting period when this should be done at the end of each semester (i.e., Months 9, 18, 27, 36, 42, and 48). This information should be submitted using the template available in the CARMINE document repository and personnel timesheets ([Section 6.1 Preparation of financial statements](#)):

- Personnel efforts (staff and consultants) worked in each WP and Task, along with corresponding costs.

- Costs and brief notes on WP task activities carried out by the Beneficiary (such as travel, consumables, equipment, etc.), including personnel and subcontracting costs.
- Templates for interim financial and technical reporting (M9) were distributed to partners in M8 along with detailed guidelines for completing the forms. Additional video-calls were held with partners in order to communicate these guidelines. This process aimed to keep financial oversight in check while ensuring that the technical progress of the project is adequately recorded and shared among consortium members.

The distribution of person-months (PMs) and the incurred costs reported in M9 were consistent with the initial budgetary allocations for this timeframe, ensuring both financial and technical progress remained on track.

5.3 WP internal progress monitoring

The PC will evaluate the progress of each WP and the effectiveness of the WP Team using several performance indicators that encompass technical, economic, and organizational aspects. At a minimum, the following indicators will be considered:

- **Technical:**
 - Delivery date of due Deliverables
 - Achievement of foreseen Milestones
 - Interactions with other WPs
 - Time planning for individual Tasks
 - Identification of risks, countermeasure proposals, and contingency management
- **Economic:**
 - Dedicated efforts by each partner
 - Progress of costs compared to the forecasted budget for the WP in the entire project
- **Organizational:**
 - Number of physical meetings in the period
 - Number of remote meetings (Teams, Zoom, Google Meet, etc.) in the period
 - Meeting participants
 - Availability of meeting notes
 - WP publications

5.4 Deliverable Preparation

According to the GA, CARMINE has 67 deliverables, each one assigned to the responsible partner. The partner in charge of the deliverable is responsible for its timely and high-quality submission to the PC. After the quality review, the final version of the deliverable is uploaded by the PC to the EC portal. The timeline for the deliverable preparation process, which is specific to CARMINE project is depicted in Table 3.

To ensure consistency in the CARMINE project when communicating with external stakeholders or interested parties, a set of standard templates for various communications activities has been developed. These templates include:

- Deliverable/Milestone template
- Meeting minutes template
- Standard PowerPoint presentation template
- Standard logos and colors for the project.

They are all available for download in CARMINE document repository.

Table 3: Timeline for the deliverable preparation process in CARMINE project

Action	Due Date
Table of Content sent for feedback	45 days before deadline
Final Table of Content in place	40 days before deadline
First draft for internal review ready	20 days before deadline
Final draft with internal reviews ready	15 days before deadline
Review by the Quality Manager and provision of feedback to the deliverable leader	10 days before deadline
Approval of the draft by the PC and preparation of finalized version	5 days before deadline

Any deviations from the time plan should be communicated by the deliverable leader to the PC as soon as possible. The time plan can be adjusted if previously agreed between the author, the reviewers, and the PC. The deliverables marked as “public” will be uploaded to the CARMINE website while the deliverables marked as “sensitive”, will be only made available to the EC and the consortium partners via the project’s repository ([CARMINE repository – section 4.1.1](#)).

Document formats and naming conventions

A lot of material will be prepared and shared during the implementation of the project. Table 4 shows the recommended formats and tools that shall be used.

Table 4: Tools and formats recommended to be used in CARMINE

Type	Format	Production Tool	Version
Documents	.docx	Microsoft Word	“Word 2010 or later”, Google Docs
Data in tabular form and graphics	.xlsx	Microsoft Excel	“Excel 2010 or later”, Google Docs
Scientific papers	various	various	Any desktop or online release
Images	.jpeg, .png etc	Any software tools that can produce images	various

Portable Document Format	.pdf	Any software tools that can produce .pdf files	various
Presentations	.pptx	Microsoft PowerPoint	"PowerPoint 2010 or later", Google Docs
Compressed files	.rar & .zip	WinRAR	WinRAR 5.60 or later

To ease the communication process and the identification of documents and versions all partners are advised to use some naming conventions based on the principle of self-explanatory titles and versions. The general file name conventions are as follows:

CARMINE_deliverable_milestone_Dx.x_MSy_name_Vxy_date_[partner acronym/person name]

The name of the document shall be as concise as possible but also self-explanatory i.e., ***Kick_Off_Project_Meeting_Minutes***.

The date should be presented in the form ***ddmmyyyy i.e., 15022024***.

The partner acronym or person name should be used as defined in the GA i.e., ***MeteoRo for the "Administratia Nationala de Meteorologie", Bucurest, Romania***.

5.5 Progress Reports to EC

Periodic progress reports must be submitted to the European Commission (EC) according to the CARMINE Grant Agreement (GA, Art. 20) at months 18 (+ max 60 days), 36 (+ max 60 days), and 48 (+ max 60 days). These reports include both technical and financial components and must be prepared using the forms and templates provided in the electronic exchange system (GA Art. 52).

The technical report is created in collaboration with the WP leaders, drawing on internal technical periodic reports ([section 5.1 – Internal technical reporting](#)) and activities conducted during months 9-18, 27-36, or 42-48. The PC is responsible for submitting this report via the Participant Portal.

WP leaders are required to prepare and submit internal technical reports at months 18, 36, and 48. They also provide information for evaluating organizational performance indicators during this period as part of the internal reporting ([section 5.1 – Internal technical reporting](#)). The WP leaders' contributions will encompass all activities conducted in the preceding 18 months of the project.

Timeline for the preparation of the progress reports to the EC (relative to the periodic report deadlines at Month 18, Month 36, and Month 48) is presented in Table 5.

Table 5: EC Report Timeline

Timing	Action
1 month prior to deadline	PC sends requests to WPL
Deadline	WPL gather input from Task leaders
15 days after deadline	WP leaders send draft report to PC and receive feedback
1 month after deadline	Final reports submitted to PC

The technical report is reviewed by the General Assembly / Executive Board in a dedicated virtual meeting. Each Beneficiary must submit information for the financial report directly through the Portal, detailing declared costs, requested reimbursement, and use of resources. The PC will compile the report digitally using this information. Partners are required to provide their financial data in the Participant Portal within 45 days following the periodic report deadline. The rules of cost eligibility and the procedures for calculating them are thoroughly outlined in the GA (Art. 6).

6 Financial Reporting

6.1 Preparation of financial statements

The PC is responsible for gathering, verifying, and organizing the financial statements for the project. They will keep the Project Officer informed about any hindrances or complications encountered during the preparation and arrangement of the financial statements, such as delays in obtaining information from a partner or significant discrepancies. If necessary, the PC will suggest a backup plan.

Financial statements should be submitted, along with other reporting documents ([Section 5](#)), to the PC within 45 days after each 9-month internal reporting period.

To ensure a timely response, the following procedure will be applied for the preparation of the Financial Statements:

- 30 calendar days after the end of the Internal Reporting Period, partners should have completed their Financial Statements (use of resources and personnel).
- 30 calendar days after the end of periods 1, 2 and 3 of the CARMINE project (M18, M36, M48), partners should have completed their Financial Report in the SyGMA portal.
- The PC will compile all financial reports and check them for compliance.
- In the case of a partner not submitting their Financial Statements on time, the PC can decide whether or not to include that partner's financial statement in the submission to the EC. Excluding a partner's financial statement will result in them having to wait until the next reporting period for further funds, but would allow the payments to all other partners to be delivered on schedule, avoiding payment delays for the majority of the consortium.

6.2 Payment handling

6.2.1 Payments from the EC

The European Commission (EC) will disburse all funds for the Horizon Europe project to the PC, which is the National Meteorological Administration (MeteoRo). The PC is then responsible for distributing these funds to the other project partners.

The maximum total EC financial contribution for CARMINE is set at €10,174,699.00.

Prefinancing

This was done at the start of the project, except for the Ministry of Digital Governance (MoDG). The amount that should have been distributed to MoDG was €48,330.00. This amount will be distributed to a new partner GRNET after the situation will be clarified through an amendment to the GA.

The pre-financing payment to the PC is 53.33% of the Maximum EC Financial Contribution (as CARMINE has three reporting periods: months 1-18, 19-36, and 37-48), including the 5% contribution to the Guarantee Fund. This translates into pre-financing of €5,426,166.98. Of this amount, €4,917,432.03 is transferred to the consortium, while €508,734.94 is retained by the Commission for the Guarantee Fund.

Interim payments

These payments are made after the financial reports for each period are submitted and accepted by the EC. Payment is contingent upon the approval of the periodic report. Approval does not imply recognition of the report's compliance, authenticity, completeness, or correctness. The interim payment amount is calculated by the Agency through the following steps:

- Step 1 – Application of the reimbursement rates.
- Step 2 – Limitation to 90% of the maximum grant amount.

Final payment

This is made at the end of the project once EC has accepted all deliverables and reports and will include any final payment due to the project. This will include the Guarantee Fund payment.

Guarantee fund

The Guarantee Fund represents a percentage of the budget. For CARMINE, the EC withholds 5% of each partner's budget at the project's onset. If the project proceeds without issues, this 5% is released by the EC with the final payment. The EC utilizes the funds in this account to reimburse the project if a partner declares bankruptcy and retains funds exceeding the reported costs.

6.2.2 Distribution of funds to partners

The PC is responsible for receiving the European Commission financial contribution on behalf of the consortium. These funds are disbursed to the project partners in accordance with the terms outlined in the Consortium Agreement and Grant Agreement.

The initial pre-financing payment is distributed equally among the partners, with each receiving 48.33% of their allocated EC funding. Subsequent payments are contingent upon the successful delivery of project deliverables, as verified by the EC. Any budget modifications must be approved by both the Project Management Board and the CARMINE Project Officer before being implemented.

7 Record Keeping

Project partners maintain detailed records and supporting documentation for a period of five years following the final project payment. These records are essential for demonstrating the proper execution of the project and the eligibility of declared costs, as stipulated in Article 18 of the Grant Agreement.

All documentation, including original and digital formats (where legally permissible), must be readily available for inspection upon request by the European Commission (EC) for audits, reviews, or investigations.

Record-keeping practices should align with the partner's standard accounting procedures and internal controls. All project-related costs must be supported by corresponding accounting entries.

Specific record-keeping requirements include:

- **Actual costs:** Detailed documentation (contracts, invoices, etc.) to substantiate declared expenses.
- **Unit costs:** Records to verify the number of units claimed, without the need for detailed cost breakdowns.
- **Flat-rate costs:** Evidence supporting the eligibility of costs to which the flat rate is applied.

Non-compliance with record-keeping obligations may result in severe penalties, including cost recovery, project termination, or exclusion from future funding opportunities. While the EC generally expects rigorous documentation, there may be instances where additional costs can be justified and approved.

To ensure the accurate and compliant reporting of project expenses, detailed records must be maintained for the following cost categories:

Direct Personnel Costs

- **Proof of employment:** Employment contracts or appointment letters for all project personnel.
- **Time records:** Detailed time sheets, signed and verified by appropriate personnel, indicating hours worked on project activities.
- **Payroll documentation:** Evidence of salary payments, including tax and social security contributions.
- **Absence records:** Documentation to verify absences, such as sick leave or vacation time.

Direct Subcontracting Costs

- **Procurement process:** Documentation of the procurement process, including purchase orders, tenders, and comparative offers.
- **Subcontracts:** Signed subcontracts with relevant details (acronym, Grant Agreement number).
- **Payment evidence:** Invoices and bank statements to verify payments made to subcontractors.

- **Cost eligibility:** Documentation to support the tax-deductible nature of costs (e.g., non-deductible VAT).

Other Direct Costs

- **Goods and services:** Invoices, bank statements, and evidence of competitive procurement (e.g., three comparative offers).
- **Travel:** Travel itineraries, boarding passes, agendas, signed attendance lists, and receipts. For unexpected delays, additional supporting documentation may be required.
- **Conferences and workshops:** Evidence of active participation (e.g., program, presentation, poster).
- **Restaurant expenses:** Documentation of attendees and signed attendance lists.

Equipment Costs

- **Purchase documentation:** Invoices and bank statements for equipment purchases.
- **Depreciation records:** Documentation of depreciation rates and usage of equipment within the project.
- **Procurement process:** Evidence of competitive procurement (e.g., three comparative offers).

Note: All records must be retained for a period of five years following the final project payment and be made available for audit upon request.

8 Risk Management

The project management approach includes mechanisms to identify and address various potential project risks, whether internal or external, thereby ensuring efficient implementation of corrective actions as needed. While it's impossible to foresee all potential risks, it's prudent to identify and assess a range of potential risks related to the project so that the consortium can promptly respond and implement corrective actions if necessary.

The CARMINE project board will oversee the execution of a contingency plan based on ongoing project progress assessments. Regular reviews will occur during General Assembly meetings to ensure the consortium meets its intended objectives. Should unexpected project underperformance arise, a set of potential actions described in the Contingency Plan section (refer to Part A) will be activated by the CARMINE General Assembly and implemented accordingly by the consortium. They serve as examples of measures to be implemented and will be reassessed after the initial 9 months of the project's duration. Adjustments and additions to these actions will be made as necessary.

The project's risk management strategy encompasses the following components:

- Risk identification: Identification of potential risks that could impact the project and understanding their implications.
- Risk analysis: Compilation of identified risks into a matrix, assessing them, and prioritizing based on their potential impact.
- Risk mitigation: Development and implementation of solutions aimed at reducing the potential impact of identified risks and ensuring the project's objectives are achieved.

Table 6 presents the Critical risks as per Annex 1 of the CARMINE Grant Agreement, and Table 7 introduces an unforeseen risk.

Table 6. Foreseen risks (The version of the CARMINE Risk Register on 1st July 2025)

Risk No	Category	Description	WP No	Mitigation Activity	Probability	Impact	Score
1	Personnel risk	Large Consortium; Internal collaboration problems; Partner leaving; [Medium/Medium]	WP1, WP2, WP3, WP4, WP5, WP6, WP7, WP8	Many partners collaborated in prior projects which minimizes this risk. Multiple levels of risk identification and intervention (WP & coordination level); Multiple partners experts in each domain	3	3	9
2	Implementation risk	Data management, storage doesn't comply with GDPR or national regulation [Low/High]	WP1, WP2, WP3, WP4, WP5, WP6, WP7, WP8	The STL and case studies start based on more aggregated existing data, and are afterwards adjusted with better data	2	4	8
3	Implementation risk	Major changes in the political commitment of the participating sites [Low/High]	WP1, WP2, WP3, WP6	Most of selected regions are committed to climate resilience with dedicated plans. In case of changes, the consortium will negotiate with any new authority to keep principal objectives and ensure their fulfilment with necessary adjustments.	2	4	8
4	Implementation risk	The digital infrastructure and tools do not address stakeholder needs and limit replicability, i.e. too case-specific [Medium/Medium]	WP2, WP3, WP4	WP1 starts from mapping existing tools to benchmark good practices and challenges in prior implementations. A co-design process with stakeholders will permit embedding user needs stepwise (design, first verification, final validation); replicability of approaches will be enabled by comparative synthesis.	3	3	9
5	Benefit risk	Reluctance of stakeholders to strategies, lack of trust in local planning [Medium/Medium]	WP1, WP2, WP3, WP4, WP5, WP6, WP7	WPs leaders will draw an engagement strategy to identify target groups, avoid stakeholder fatigue and build trust with key stakeholders. Innovative tools for stakeholders' engagement will be explored and applied.	3	3	9
6	Benefit risk	Dissemination not reaching KPIs and has lower impact than	WP7	WP7 will regularly measure the success of the D&C activities to check whether the project meets its expected KPIs. This allows us to take swift remedial action (if needed) and adjust the	3	3	9

		expected. [Medium/Medium]		dissemination strategy and communication measures.			
7	Implementation risk	Digital twin deployments already require significant technology, much of which is relatively new. [Medium / Medium]	WP4	The consortium has partners with appropriate expertise in R&I who will contribute to the development of the DT and link it to scientific data.	3	3	9
8	Implementation risk	Not enough / not adequate local data available for the DT implementation [Low/Medium]	WP4	The consortium employs a combination of approaches, including data collection, data augmentation, simulation, collaboration, and prioritization.	2	3	6
9	Implementation risk	The associated partner MM does not receive funding from the Swiss Agency. [Medium / Medium]	WP2, WP5	The activities allocated to the partner MM (T2.1, T5.1, T5.2, T5.3, T5.4, WP8) will be covered by the project partners. The cost will be shared between all the project partners. The activities involving the use of the UAS will not be performed, and this will not affect significantly the project results.	0	0	0

Table 7. Unforeseen risks (1st July 2024)

Risk No	Category	Description	WP No	Mitigation Activity	Probability	Impact	Score
10	Implementation risk	Chosen technical solutions do not support operations: (i) Low; (ii) Medium	WP1, WP2, WP3, WP4	Consideration of different options will be performed at design phases, and the selected solution will be considered also from the maintenance point of view.	2	4	8

9 Quality Assurance and Acceptance Criteria

The acceptance criteria for each project deliverable and milestone are established by the WP Experts in close collaboration with their WP Lead before the work begins. This process includes defining specific metrics for evaluation, identifying the acceptance activities to be performed, and determining the processes, tools, and techniques for implementing the acceptance procedure.

The acceptance criteria are derived from the project objectives, approach, deliverables, quality requirements, expectations, and available resources. This enables the WP Leads to monitor progress according to predefined requirements and allows the PC to approve the final results.

A template for documenting acceptance criteria is provided in [Annex 1](#) and is available in the MeteoRo CARMINE SharePoint folder titled "**Acceptance Criteria**". The completed template should be saved in the respective WP working folder in SharePoint within the first three months of starting the activity. These criteria may be refined during the development phase, with new criteria added as necessary.

The criteria are documented and tracked throughout development, with final statements reported through the completion of the Deliverable/Milestone Acceptance Checklist found in [Annex 2](#), also available in the MeteoRo CARMINE SharePoint folder "Acceptance Criteria." The final approval of a Deliverable/Milestone is documented on the front page provided in [Annex 3](#).

The deliverables and milestones are prepared by the WP Experts in close collaboration with their WP Lead and are handled as follows:

- WP Experts, in collaboration with the WP Lead, define the acceptance criteria before work begins.
- The responsible Project Partner develops the deliverable/milestone in collaboration with the WP Lead and other contributing Project Partners.
- The deliverable/milestone is prepared using the front-page and documentation tracking template provided in [Annex 3](#).
- The PC conducts a review process of deliverables/milestones.
- Based on recommendations from WP Experts and audit reports (where available), the PC confirms the deliverable/milestone meets the acceptance criteria and submits it to the EU Portal.

Several best practices are followed to support the successful delivery of expected results on time and with high quality:

- Establishment and review of sub-milestones to ensure WPs remain under control and aligned with the plan and CARMINE objectives.
- Regular analysis and review of resources, activities, outputs, and emerging outcomes.
- Regular reviews of the integrated risk register and mitigating actions.
- Action and intervention, including escalating issues to the GA when necessary.

- Reviews of ongoing alignment with the strategic priorities of the EU and CARMINE partners, and their ability to realize the benefits.
- Independent audits linked to major decision points.
- A process for capturing and sharing lessons learned.

To streamline the development and review of deliverables, all the partners comply with the following guidelines:

1. **Task Leads** are responsible for coordinating with *all partners* listed in the Grant Agreement (GA) to develop the respective deliverables collaboratively.
2. **WP Leads and Task Leads** must ensure the development of deliverables is harmonized across the board, maintaining consistency between related outputs.
3. For every deliverable, the **Project Manager** assigns at least two and experts from the partner organisations, to carry out quality reviews on project's deliverables. These assignments are made in consultation with the WP and Task Leads.
4. Deliverables are developed in **strict alignment with the GA**, ensuring that all commitments are addressed comprehensively.
5. Reviewers evaluate the deliverables **against the GA requirements**
6. Each deliverable **must include a graphical abstract**, helping to convey key information visually.
7. The use of content generated by AI platforms (e.g., ChatGPT, GitHub Copilot) in **copy-paste format is strongly discouraged** and should be avoided.

These instructions are essential to uphold the quality and integrity of our work

10 Intellectual Property Rights

10.1 Background and Access Rights

The CARMINE project fosters collaboration among beneficiaries. Beneficiaries are obligated to provide one another and other participants with access to relevant background information necessary for project implementation.

Background refers to any data, expertise, or information, tangible or intangible, encompassing intellectual property rights (IPR), that:

- Was possessed by beneficiaries before joining the Agreement.
- Is essential for project execution or exploiting the project's outcomes.

If the background information involves third-party rights, the beneficiary holding that information must ensure adherence to their obligations under the Agreement.

10.2 Ownership of Results

The granting authority does not claim ownership of the results generated by the CARMINE project.

Results encompass any tangible or intangible outcome of the project, including data, expertise, or information, regardless of its form or potential for protection, along with any associated rights, including IPR.

Ownership of project results are defined through agreements among partners, with strategies in place to protect these results from unauthorized use or infringement.

This section outlines strategies to ensure that project results are fully leveraged, intellectual property is properly managed, and key results continue to generate value. While the consortium is currently focused on dissemination rather than commercial exploitation, partners are committed to identifying appropriate pathways — whether through open licensing, policy influence, or follow-up research — to maximise the project's relevance and ensure continued collaboration beyond its lifetime.

As the work on designing the exploitation plan continues, it is essential to not only identify the Key Exploitable Results (KERs) but also to map out the intellectual property rights (IPRs) associated with them. To do this effectively, we will gather detailed information from the project partners involved in producing the KERs, regarding the foreground or ownership of the results. Essentially, we need to understand what each partner is contributing to the production of the results and how the IPRs are being handled.

To facilitate this process, the responsible partners collect this information, using open-ended questions and predefined templates for the survey.

10.3 Rights of Use for the Granting Authority

The granting authority has the right to utilize non-sensitive information pertaining to the project and materials or documents received from the beneficiaries (such as publication summaries, deliverables, and any other electronic or paper-based materials like images or audiovisual content) for policy development, information sharing, communication, dissemination, and publicity purposes, both during and after the project's duration.

This right to utilize the beneficiaries' materials, documents, and information is granted as a royalty-free, non-exclusive, and irrevocable license, encompassing the following permissions:

- **Internal Use:** The right to use the materials for the granting authority's internal purposes (including making them accessible to personnel working for the granting authority or other EU entities (such as institutions, agencies, offices, etc. or EU member state institutions or bodies; copying or reproducing them entirely or partially, in unlimited quantities; and distribution via press information services).
- **Public Distribution:** The right to distribute the materials to the public (including publication in print and electronic or digital formats, publication on the internet, as downloadable or non-downloadable files, broadcasting through any channel, public display or presentation, communication through press information services, or inclusion in publicly accessible databases or indexes).
- **Editing and Redrafting:** The right to edit or modify the materials (including shortening, summarizing, inserting additional elements [e.g., metadata, captions, other graphic, visual, audio, or text elements], extracting portions [e.g., audio or video files], dividing into parts, using them in a compilation).
- **Translation:** The right to translate the materials.
- **Storage:** The right to store the materials in paper, electronic, or other formats.
- **Archiving:** The right to archive the materials according to applicable document management regulations.
- **Sub-licensing:** The right to authorize third parties to act on the granting authority's behalf or sub-license the modes of use outlined in points (b), (c), (d), and (f) to third parties, if necessary for the granting authority's information, communication, and publicity activities.
- **Processing and Analysis:** The right to process, analyse, aggregate the received materials, documents, and information, and create derivative works.

11 Gender aspects in publications and research

11.1 Commitment to Gender Equality

The CARMINE project is firmly committed to upholding gender equality and eliminating discrimination in all facets of our research and publication endeavours. This translates to:

- Gender Integration throughout the Research Lifecycle: We advocate for the seamless integration of a gender perspective across all research stages, from crafting research questions to disseminating the final results.
- Adherence to EU Gender Equality Legislation: CARMINE adheres to all applicable European Union legislation on gender equality. This includes Directive 2006/54/EC, promoting equal opportunities and equal treatment in employment and occupation, and Regulation (EU) 2016/679, safeguarding individuals' data privacy (General Data Protection Regulation - GDPR).
- The impacts of CC are not neutral. Men and women, older people, persons with disabilities, displaced persons (migrants, climate migrants), or the socially marginalised have different adaptive capabilities, and the project's A&M pathways consider such contexts.

In response to the EU demand, CARMINE develops strategies and policies that enable workers to requalify and move towards green growth sectors through improving the understanding of the effects of CC on workers, working conditions, health and safety, assessing the related distributional effects, and involving social partners (WP1-WP3, WP7). Specific project activities tackling vulnerable communities in the selected CSAs are:

- Enhance community resilience - vulnerable communities are provided with the necessary knowledge, skills, and resources to adapt to the impacts of cc, through training, education, and capacity-building programs (WP1, WP7);
- Co-develop adaptation and mitigation pathways and plans with input from vulnerable communities, considering their specific needs and vulnerabilities, and provide a clear framework for responding to disasters (WP1-WP3, WP5);
- Promote plans for sustainable urban development, to reduce the impacts of CC on vulnerable communities living in urban areas, through initiatives such as green building design, public transportation, and waste management programs (WP1-WP2, WP5).

These measures are tailored to the specific needs and circumstances of each community and developed with their participation. for knowledge development (contents and framework), stakeholder participation (citizen science and community interaction as well as digital environment), management, and project governance, carmine ensures a gender- neutral environment. gender-balanced user panels are used for CSAs. CARMINE engages the communities associated with its CSAs by building a gender equality plan on the basis of the findings of a co-designed digital survey, and address intersectional and context-specific difficulties, re-evaluating the workplace, integrating previously effective strategies, developing new techniques where appropriate, and combining focused training sessions. In addition, efforts

to include women in outcomes exploitation are made, specifically by reaching out to them through women in STEM activities (WP7).

Integrating an equality and inclusivity culture on training and designing decision-making processes are placed in the core of our activities with established methodologies that adhere to the European Institute for Gender Equality (EIGE) guidelines for gender mainstreaming. The long-term impact evoked by CARMINE equality strategy and actions can contribute to addressing inequalities in the climate adaptation and mitigation plans, a need put forward by the Gender Equality Strategy 2020-2025.

11.2 Gender-Inclusive Research Terms of Reference

Specific research terms of reference are established by CARMINE, mandating the incorporation of a gender perspective. These terms of reference will address crucial aspects such as:

- **Gender-Disaggregated Data:** The necessity of separating data by gender for analysis.
- **Gender Considerations in Research Design and Outcomes:** The significance of recognizing and addressing gender disparities throughout research design, implementation, and the resulting outcomes.
- **Gender-Neutral Language:** The utilization of gender-neutral language to ensure inclusivity.

11.3 Gender-Sensitive Communication

CARMINE is dedicated to employing gender-sensitive communication in all publications and dissemination activities. This entails:

- **Eliminating Gender Bias and Stereotypes:** Avoiding language that reinforces gender stereotypes or is sexist in nature.
- **Inclusive Language:** Employing inclusive language that encompasses all genders.
- **Balanced Presentation of Findings:** Presenting research results in a balanced manner, emphasizing the implications for various gender groups.

11.4 Checklist for Gender-Sensitive Language

A comprehensive checklist for gender-sensitive language are developed by CARMINE for researchers and editorial staff. This checklist will offer recommendations on:

- **Gender-Neutral Pronouns:** The appropriate use of gender-neutral pronouns.
- **Avoiding Discriminatory Language:** Identifying and eliminating discriminatory words and phrases.
- **Fair Representation in Imagery:** Ensuring fair and balanced representation of men and women in figures and illustrations.

11.5 Integrating Gender Considerations into Research

CARMINE encourages researchers to consider gender throughout all research stages. This includes:

- **Gender-Inclusive Research Questions:** Formulating research questions that explore gender-based variations or the impact on different genders.
- **Gender-Responsive Methodologies:** Developing research methodologies that consider gender perspectives.
- **Gender-Disaggregated Data Analysis:** Analysing data by gender to uncover any inequalities or variations.
- **Gender Implications of Research Findings:** Discussing the ramifications of research findings for achieving gender equality.

Gender-disaggregated data were collected following a series of project events listed in the *table 8* below, reflecting the type of event (e.g., online, on-site, or hybrid stakeholder consultations), as well as the total number of participants disaggregated by gender, country, and type of organization. The data are supported by appropriate means of verification, including presence lists (name, organization, country), attendance logs from online platforms, audio-video recordings or photos (where explicit consent was provided), and chat logs, Q&A sessions, or polling results. “In addition, data obtained during events and workshops such as participant lists, discussion summaries, and interactive inputs is systematically archived and linked to stakeholder profiles in alignment with the methodologies defined in deliverables D1.1 and D1.7. This ensures traceability of stakeholder engagement and allows for the informed planning and adaptation of LL-related activities and communication strategies across CSAs.” - *DMP version 2, page 16*.

Table 8: Gender disaggregated data for workshop participants

Name of the event	Type (online/on-site/hybrid stakeholder consultation)	No of participants and gender	Means of verification
Preliminary Meeting CSA Braşov	On-site activity June 20, 2024 (Braşov) Lead: UB, Co-hosts: INCDS, MeteoRo, CNC, PMBV	Out of 41 participants, 21 identified as females (51%), 20 identified as males (49%).	Attendance list with name, organization stored in local partner (INCDS BV) secure internal drive
1st Workshop LL CSA Braşov	On-site activity November 28, 2024 (Braşov) Lead: UB, Co-hosts: INCDS, MeteoRo, CNC, PMBV	Out of 54 participants, 32 identified as females (59%), 20 identified as males (37%) and 2 (4%) chose not to disclose their gender.	Attendance list with name, organization stored in local partner (INCDS BV) secure internal drive

2nd Workshop LL CSA Braşov	On-site activity September 25, 2025 (Braşov) <i>Lead: UB, Co-hosts: INCDS, MeteoRo, CNC, PMBV</i>	Out of 49 participants, 30 identified as females (61%), 18 identified as males (3%) and 1 (2%) chose not to disclose their gender.	Attendance list with name, organization stored in local partner (INCDS BV) secure internal drive
Youth workshops Brasov	On-site activity, January 29, 2026 (Braşov), <i>Lead: UB, Co-hosts: INCDS, MeteoRo, CNC, PMBV</i>	Out of 101 participants, 58 identified as females (57%), and 43 identified as males (43%).	Attendance list with name, organization stored in local partner (INCDS BV) secure internal drive
Youth activities Braşov	On-site activity, November 20, 2026 (Braşov), <i>Lead: UB, Co-hosts: INCDS, MeteoRo, CNC, PMBV</i>	Out of 185 participants, 94 identified as females (51%), and 86 identified as males (46%), and 5 choose not to disclose their gender (3%).	Attendance list with name, organization stored in local partner (INCDS BV) secure internal drive
Older people workshop Braşov 1	On-site activity, January 28, 2026 (Braşov), <i>Lead: UB, Co-hosts: INCDS, MeteoRo, CNC, PMBV</i>	Out of 35 participants, 24 identified as females (68%), and 11 identified as males (32%).	Attendance list with name, organization stored in local partner (INCDS BV) secure internal drive
Older people workshop Braşov 2	On-site activity, November 21, 2026 (Braşov), <i>Lead: UB, Co-hosts: INCDS, MeteoRo, CNC, PMBV</i>	Out of 12 participants, 6 identified as females (50%), and 6 identified as males (50%).	Attendance list with name, organization stored in local partner (INCDS BV) secure internal drive
Workshop Climate services – strategic tools for enhancing climate resilience in Romanian	On-site activity, October 23, 2026 (Bucharest), <i>Lead: UB, Co-hosts: INCDS, MeteoRo</i>	Out of 56 participants, 21 identified as females (38%), and 25 identified as males (62%).	Attendance list with name, organization stored in local partner (UB) secure internal drive

metropolitan regions			
1st Workshop LL CSA Barcelona	On site activity 3 rd December 2024 (Barcelona). Lead: MITIGA and PCF	Out of 27 participants, 12 identified as females (44%) and 15 identified as males (56%).	Attendance list with name, organization stored in local partner (PCF) secure internal cloud
2nd Workshop LL CSA Barcelona	On site activity 23 rd October 2025 (Barcelona). Lead: MITIGA and PCF	Out of 22 participants, 11 identified as females (50%) and 11 identified as males (50%).	Attendance list with name, organization stored in local partner (pcf) secure internal cloud
1st Workshop LL CSA Birmingham	On site activity 24 November 2024 (Birmingham) Lead: UoBir	Out of 26 participants, 62% identified as females and 38% identified as males	Attendance list with name, organization, job title stored in local partner secure internal cloud
2nd Workshop LL CSA Birmingham	On site activity 16 September 2025 (Birmingham) Lead: UoBir	Out of 32 participants, 54% identified as females and 46% identified as males	Attendance list with name, organization, job title stored in local partner secure internal cloud
1st Workshop - Living Lab A Athens	Urban Heat Resilience and Health: Pioneering Solutions for a Cooler Athens On-site activity 05 December, 2024. NOA, NMA	Out of 14 stakeholder participants, 29% identified as male, 71% identified as female. Total no of participants: 24 Stakeholders: 14 Moderators/Partners: 10 Country: Greece Organization type: - Regions (TG): 2 - Communities (TG2): 5 - Research and Academia (TG4): 3 - Policymakers (TG5): 4	Attendance list with name, organization stored in local partner (NOA) secure internal cloud

2nd Workshop - LL CSA Athens	Urban Heat Resilience and Health: Pioneering Solutions for a Cooler Athens On-site 08 October, 2025. NOA, NMA, GRNET	Total no of participants: 30 Moderators/Partners: 7 Stakeholders: 23 Gender: male 7 female 16 Country: Greece Organization type: - Regions /local gov (TG1): 12 - Communities/ Civil Society/Media (TG2): 6 - Research and Academia (TG4): 3 - Policymakers (TG5): 2	Attendance list with name, organization stored in local partner (NOA) secure internal cloud.
1st Living Lab Workshop CSA Bologna	1 st Workshop-Stakeholder meeting. Online 25.11.2024 Permanent Living Lab at CAAB	Total of participants: 27 Moderators/Partners: 4 Stakeholders: 23 Gender: male 15, female 13 Country: Italy	Attendance list
1st Focus Group – Pre-Workshop 2 CSA Bologna	Solitude and Disability focus group, on-site 10.09.2025 Permanent Living Lab at CAAB	Total of participants: 9 Moderators/Partners: 4 Stakeholders: 5 Gender: male 5, female 4 Country: Italy	Presence list
2nd Focus Group – Pre-Workshop 2	Mobility and Energy focus group, on-site 13.10.2025 Permanent Living Lab at CAAB	Total of participants: 14 Moderators/Partners: 5 Stakeholders: 9 Gender: male 8, female 6 Country: Italy	Presence list
2nd Living Lab Workshop CSA Bologna	Imagining a sustainable future together, On-site, 30.10.2025	Total of participants: 14 Moderators/Partners: 4 Stakeholders: 10	Presence list

		Gender: male 9, female 5 Country: Italy	
1st LL Prague	20.11.2024	29 participants (8 online) 11 female, 18 male Nationality: all Czech Sectors: • Academia -12 • Decision/Policy makers - 5 • Government/city organizations - 10 • Communities - 2	Presence list
2nd LL Prague	5.11.2025	33 participants + 6 online 17 female, 16 male Nationality: all Czech	Presence list
1st Living Lab Workshop – CSA Leipzig	Online activity December 9, 2024 (Leipzig) <i>Lead: UFR, Co-hosts: LSW</i>	14 participants (4 Female, 10 Male)	Attendance list
2nd Living Lab Workshop – CSA Leipzig	On-site activity August 7, 2025 (Leipzig) <i>Lead: UFR, Co-hosts: LSW</i>	43 participants (18 Female, 25 Male)	Attendance list

The following table (Table 9) presents gender-disaggregated data collected within the project's research activities, reflecting efforts to assess whether the topic or thematic domain has different impacts across genders, to ensure the inclusion of diverse perspectives, and to explicitly gather stakeholder input on gender-related aspects.

Table 9: Gender disaggregated data in project's research activities

Name of Work Package / Task /activity/analysis where the gender has been considered	Lead partner	Living Lab analyses.	Means of verification
CSA Athens	Lead: NOA	In workshop discussions, participants considered how the CSA challenge of heat health risk affects women differently, including how they are exposed to heat and in various ways through activities such as taking caregiving, or vulnerable to health impacts during pregnancy, or face the risk of increased domestic violence during extreme heat. The CSA identifies these issues through research on vulnerability to heat as well, and best practices for gender-inclusive approaches to heat health resilience. Some Living Lab participants focus on gender considerations in urban design and participatory community building projects in their work, and bring this perspective to the Living Lab.	D1.2, WP3 Capabilities spreadsheet, and materials for workshop participants.
CSA Bologna	Lead: CNR & CAAB	Focus groups 1 and 2 and WS2 revealed that the city can appear differently depending on gender. Furthermore, regarding the use of parameters derived from the 6-Minute Walk Test, it is generally possible here too to distinguish vulnerability (i.e. walking efficiency) according to gender.	These (predictable) emerging gender differences are coming to light in the context of focus groups aimed at identifying the physiological parameters of frail individuals.

CSA Prague	Lead: ICS	Impacts of heat on mortality and ambulance call risk were analyzed for different population subgroups, divided by age, sex, cause of death/ambulance dispatch. First results presented in D3.2 confirmed higher heat-vulnerability among men than women.	D3.2 CSA1 - Prague
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12 Ethical and security assessment

12.1 Issues and Background

The CARMINE project recognizes the importance of conducting research and publishing findings in a secure and ethical manner. This section outlines potential security and ethical concerns that may arise during the project lifecycle.

The Research Ethics Committee of the University of Bucharest is an external body and acts as Independent External Ethics Advisor (IEEA) for the CARMINE project, playing a vital role in ensuring that all research activities within the CARMINE project comply with the highest ethical standards and European Commission regulations. Its primary responsibility is to oversee the ethical dimension of the project, including data protection, informed consent, and any potential environmental or societal impacts.

IEEA reviews case study methodologies, data collection instruments, and relevant deliverables to identify and mitigate ethical risks. It also ensures compliance with the EU Charter of Fundamental Rights, GDPR, and applicable national and international legislation. In addition, the ethics advisor collaborates closely with the project's management and quality assurance teams, offering guidance on ethical best practices and contributing to risk monitoring.

Where necessary, it may also support communication with the European Commission's ethics reviewers. Through its advisory and oversight functions, IEEA helps maintain transparency, accountability, and integrity across all phases of the project.

The implementation of scientific activities of CARMINE project, presented for ethical validation, were initially approved by the Committee through Decision no. 91/ 02.07.2024 and these activities are performed during the project duration: **February 1, 2024 – January 31, 2028**.

The Commission's decisions are available under the conditions described in the GA. The Commission monitors the activities during the implementation of the approved documents and the study coordinator submit reports on the implementation stage and conduct of the studies semi-annually or at the Commission's request.

From an ethics management perspective, the key actor is the CARMINE Ethical Advisory Board (EAB).

The role of the Ethical Advisory Board (EAB) is to review internal documents as well as provide ad hoc consultancy on ethical issues that emerge during the CARMINE project. The IEEA provides independent input to the Consortium on ethical compliance based on the data collection involving personal data and the reports and project meetings. Their comments are included in the periodic ethics reports. Example of an Ethics Review Form is provided in **Annex 5**.

Security Concerns:

- Data security breaches: Unauthorized access to sensitive project data could compromise its confidentiality and integrity.
- Cyberattacks: Malware or hacking attempts could disrupt project operations and corrupt data.
- Privacy violations: Inadvertent disclosure of personal information collected during research activities.

Ethical Concerns:

- Informed consent: Ensuring participants in research activities are fully informed and provide their voluntary consent.
- Data privacy: Protecting the privacy of individuals whose data is collected during research.
- Fairness and objectivity: Mitigating bias in research design, data analysis, and interpretation of findings.
- Responsible conduct: Upholding ethical principles throughout the research process, from formulating questions to disseminating results.

All the CARMINE project partners commit to upholding ethical research standards, including the European Code of Conduct for research integrity¹. All partners are committed to delivering high-quality scientific outputs and to being transparent, ensuring the deliverables' reliability and impact. These features of the deliverables are validated as part of the quality management procedures.

12.2 Security Measures and Procedures

To safeguard against security threats, CARMINE implemented the following measures:

- Data security protocols: Robust protocols for data encryption, access control, and secure storage will be established.
- Regular security audits: Periodic security audits will be conducted to identify and address vulnerabilities in our systems.
- Cybersecurity awareness training: Researchers and staff will receive comprehensive training on cybersecurity best practices.
- Incident response plan: A well-defined plan will be in place to effectively respond to security incidents.

12.3 Security Procedures Accessing, Handling, Processing and Storing Classified and/or Sensitive Data/Information

For classified or sensitive data, CARMINE will enforce heightened security procedures:

- Access restrictions: Access to sensitive data will be granted on a strict need-to-know basis, with appropriate authorization levels.
- Data handling protocols: Specific protocols will dictate how sensitive data is handled, processed, and analysed to ensure its confidentiality and integrity.
- Secure storage solutions: Sensitive data will be stored using secure storage solutions that comply with relevant data protection regulations.

¹ The European Code of Conduct for Research Integrity, available at <https://allea.org/code-of-conduct/>

12.4 Ethical Assessment

An ethical assessment is conducted for all CARMINE research activities to proactively address potential ethical concerns. This assessment will consider factors such as:

- Informed consent process: Obtaining informed consent from participants in a transparent and comprehensive manner.
- Data anonymization: Anonymising data whenever possible to protect participant privacy.
- Benefits and risks: Evaluating the potential benefits of the research against any potential risks to participants.
- Data minimization: Collecting only the minimum amount of data necessary for the research objectives.
- Independent ethics review: Complex research projects may undergo an independent ethics review for unbiased evaluation.
- An ethical review is established to evaluate project activities, ensuring that all research complies with ethical standards and respects the rights and dignity of participants.

Based on EU regulations on personal data (GDPR), the project creates opportunities for open and transparent dialogue with stakeholders, including formal channels such as stakeholder consultations and informal channels such as social media and community outreach. The stakeholders' feedback is incorporated into decision-making processes, such as conducting stakeholder impact assessments or engaging in participatory decision-making processes. CARMINE staff establishes clear and consistent communication channels to enable stakeholders to report ethical concerns or violations.

The project includes a notable number of interviews, questionnaires and workshops, where personal data are collected. The detailed methodology, the informed consent and the tools used (e.g., questionnaires, focus groups/interview guidelines) are developed within the project and submitted to the Internal Ethics Board by each organization partner (see examples of distributed forms in **Annex 6 and 7**). The informed consent is written in the native language and describes the aims, methods and implications of the study, the nature of the participation and any benefits and risks. Also, it explicitly states that participation is voluntary and that anyone has the right to refuse to participate and to withdraw their participation or samples or data at any time — without any consequences.

All information provided will be kept confidential and private and will be processed according to EU GDPR, and UK GDPR. All information is kept confidential and private, and no information about the sender (name, email, IP address, etc.) will be collected when sending information.

All information provided (name, email, IP address, phone, etc.) is kept confidential by encryption that turns all data into an unreadable format and only authorised persons from the project partners can decrypt the data and read it. Besides, all qualitative and quantitative data collected through surveys will not be assigned at the level of the interviewed person.

Non EU-Countries:

Some activities in all the Work Packages will be carried out in the **UK**. They will follow their national regulations and laws to comply with ethics principles.

12.5 Data derived from communication and dissemination activities

During participation in public events (webinars, final event), registration data (name, email, organization) are collected through a GDPR-compliant online registration form and stored in dedicated archives within the project's SharePoint, accessible only to project consortium members. The data collected will not be used for any purpose other than those explicitly outlined in the disclaimer or terms and conditions of the form, and without prior explicit consent from the user. This data will be collected for tracking and reporting purposes and, with explicit consent from users, for further communication and dissemination activities.

The information shared publicly is limited to the number of participants in the event and the stakeholder and target groups categories they belong to. For external events in which CARMINE consortium partners participate to engage stakeholders and disseminate project's results, data collected will be limited to general information about the events attended on behalf of project partners, along with their outreach, whenever possible.

13 Deliverables and Milestones Monitoring Deliverables and Milestones

13.1 Management Plan and Breakdown

The project workplan is structured into 8 WPs. Table 8 outlines each WP, specifying the responsible beneficiary and the allocated person-month effort.

Table 10: Summary of staff effort

WP	WP TITLE	LEAD BENEFICIARY	EFFORT (PERSON MONTHS)	START MONTH	END MONTH
WP1	Co-designing Adaptation and Mitigation Actions for Climate Resilient Development	ATH-RC	234.50	1	48
WP2	Integrating Climate Physical Risk Assessment Models and Earth System Processes	CMCC	334.25	1	48
WP3	Community-Based Socioeconomic Vulnerability and Risk Assessment for Transformative Adaptation	DTU	191.50	1	48
WP4	Co-developing Digital Twin Simulations to Enhance Cross-Sectoral Climate Resilience Frameworks	ATH-RC	251.00	1	48
WP5	Enabling Impact-Based Decision Support Service for Informed Local Adaptation Plans and Science-Based Decision-Making	MeteoRo	142.00	1	48
WP6	Multi-level Climate Change Governance: Policy Pathways to Support R&I Roadmap	UoBIR	106.00	7	48
WP7	Societal Sharing and Impact Maximisation - Dissemination, Communication, and Exploitation	SDSN	166.00	1	48
WP8	Project Management	MeteoRo	58.00	1	48

The information in *table 8* is provisional and may be updated in the event of GA amendment.

The coordination of daily project operations is managed through regular online meetings with the WP Leads. These meetings facilitate the continuous exchange of information and promote collaboration across different project areas. The team has jointly addressed shared tasks, including the development of the project website, case study areas, communication efforts, and

stakeholder engagement activities. Additionally, special meetings have been organized as needed to address specific themes.

The **Project Handbook v1** has helped clarify roles, responsibilities, and coordination processes across the project, while also outlining shared principles for effective collaboration.

Work Package Leads have launched the planned activities within their respective WPs, and teams are progressing with a strong sense of cooperation and motivation.

The **first meeting of the External Scientific Advisory Board (ESAB)** took place in **May 2024**, during which the project's scope and objectives were presented, and collaborative approaches were discussed, providing valuable expertise and strategic guidance for the continued success of the project.

The next sections present the status of **Deliverables and Milestones**, highlighting the progress made within each WP, and summarize any deviations from the original plan, along with new elements currently under review by the project team.

13.2 Status of Deliverables and Milestones

Completed Deliverables and Milestones are stored in the project's SharePoint via Teams. All deliverables followed the submission timelines as highlighted in the Project Management Handbook and the internal management rules, first being promptly communicated to all the nominated reviewers and second to all the project members, with an invitation to provide feedback, provide input, or suggest any further revisions if necessary. Each deliverable and milestone reached its scheduled publication date, according to the GA plan. The list of 14 deliverables submitted in the first 17 months of the project are presented in the Table 9. All the project deliverables and milestones are presented in **Annex 4**.

Table 11: Deliverables submitted between M1-M17

No.	WP lead	Deliverable related no.	Deliverable name	Description	Type
1	ATH-RC	D1.1.	Engagement strategy	Participatory approach – Stakeholder Engagement strategy	R
1	ATH-RC	D1.2.	Rep on CC challenges	Assessment of CC challenges in the CSA	R
1	ATH-RC	D1.4.	Rep on geo-designed A&M pathways-version 1	Geo-designed A&M pathways at metropolitan scale	R
1	ATH-RC	D1.7.	Living Labs (LL) creation in case studies	Living Labs (LL) creation in case studies	R
1	ATH-RC (AMD)	D1.8.	Functionalities of a Stakeholder Community Hub (SC-Hub)	Functionalities of a Stakeholder Community Hub (SC-Hub)	R
1	ATH-RC	D1.9	Report on the engagement of 5 target groups for each case study area	Report on the engagement of 5 target groups for each case study area	R

7	SDSN	D7.1.	DEC strategy - Version 1	Reports on the strategy for dissemination, exploitation, communication, including Open Science practices and procedures	R
7	SDSN	D7.8.	Joint activities with other R&I projects - Version 1	Report on joint activities (networking, operational links and synergies) with other on-going and similar EU R&I projects and global initiatives	R
7	SDSN	D7.16.	Project website	Website	DEC
8	MeteoRo	D8.1.	Project Management and Coordination - Version 1	Periodic reports on management and coordination	R
8	MeteoRo	D8.5.	Data Management Plan (DMP) - Interim 1	DMP drafted	DMP
8	MeteoRo	D8.10.	Project handbook - Version 1	Project handbook on risk management, IPR, gender, ethics	R
1	ATH-RC	D1.8.	Functionalities of a Stakeholder Community Hub (SC-Hub)	Functionalities of a Stakeholder Community Hub (SC-Hub)	R
4	ATH-RC (AMD)	D4.1	Data Model and Data Management version 1	Requirement analysis, design concepts, standards and processes of lightweight federated data management solution.	R

CARMINE has reached 9 milestones in the first 17 months, out of 18 milestones throughout its lifetime (as per the GA). However, two of them were added as per the submitted amendment. Four of them are assigned to the Project management WP. They are showcased in table 10:

Table 12: Milestones submitted between M1-M17

MILESTONES	NAME	WP no.	Lead Beneficiary	Means of Verification
1	Engagement of 5 communities (TG1-TG5) per each CSA	WP1	12-ATH-RC	Participation in workshops, focus groups, etc. Track and measure social media campaigns, events, surveys -description changed as per amendment 1 (WP1/T1.1)
10	IDSS architecture and operational flow established	WP5	32-MM	Design and technical architecture, testing of early prototypes by stakeholders. Calibration and validation of IDSS with stakeholders (all TGs). (WP5/T5.1, T5.2)
14	DEC strategy established	WP7	17-SDSN	DEC strategy in place (WP7/T7.1)
15	Project handbook elaborated	WP8	1-MeteoRo	Project handbook in place (management, risk management, IPR, gender, ethics) and shared with consortium and EC (WP8/T8.1)
16	Creation of an External Scientific Advisory Board	WP8	1-MeteoRo	The External Scientific Advisory Board is established and functional. The Board includes the coordinators of the projects funded under the calls HORIZON- MISS-2021-CLIMA-02-03 (ICARIA, MIRACA, RISKADAPT), and

				HORIZON-MISS-2021-CLIMA-02-01 (CLIMAAX). The Board has 7 members, experts in the field of CARMINE. (WP8/T8.1)
17	Kick-off meeting	WP8	1-MeteoRo	Meeting held and approval of project organisation (WP8/T8.1)
18	Yearly general assemblies	WP8	1-MeteoRo	The meetings (at M12, M24, M36 and M48-correct the dates accordingly) inform the Project Partners on practical matters related to the project management and discuss project budget and resourcing, reporting practices, status of deliverables and milestones, progress monitoring, risk register, project working methods and communications. The first meeting decided on an amendment to the Consortium Agreement and the membership of the External Advisory Board (WP8/T8.1).
19 (AMD)	WP1 requirements input to the Modelling Framework of WP2- Task 2.1	WP2	19-JLU	The report contributes to design the modelling chains that will support the modelling activities of WP2, but also the socio-economic vulnerabilities and risk assessments in WP3, and the co-development of the decision-support tools such as the Digital Twins and the Impact-based Decision Support Services in CARMINE.
20 (AMD)	Catalog of Climate Data	WP2	19-CMCC	This catalogue provides a comprehensive overview of climate data relevant to the CARMINE project, serving as a pathfinder for existing datasets, suggested by the CSA. It includes technical details to support statistical model training, benchmark new models, and validate tools for urban modelling and hazard assessment.

Table 11 presents the deliverables set to be finalized by the end of 2025:

Table 13: Deliverables to be delivered by the end of 2025

WP No.	Del	Deliverable name	Type	Lead Beneficiary	Due date	Month
2 AMD	D2.4.	Report on hazard indicators	R	CMCC	Jul.25	18 (M48)
2 AMD	D2.5.	Open-access and local scale datasets	DAT	CMCC	Jul.25	18 (M36)
4	D4.2.	Digital Twin Architecture	OTH	ATHENA-RC	Jul.25	18
5	D5.3.	Operational links with EU MACC and C-A platform - Version 1	R	MeteoRO	Jul.25	18
5	D5.6.	IDSS architecture	R	MM	Jul.25	18
6	D6.5.	Policy review and state of the art of implementation options	R	CNR	Jul.25	18

7	D7.2.	DEC strategy - Version 2	R	SDSN	Jul.25	18
7	D7.5.	Communication framework - Version 1	R	SDSN	Jul.25	18
8	D8.6.	Data Management Plan (DMP) - Interim 2	DMP	MeteoRO	Jul.25	18
8	D8.11.	Project handbook - Version 2	R	MeteoRO	Jul.25	18
1 AMD	D1.3.	Rep on SC-HUB	OTH	ATHENA-RC	Jul.25	46 (M18)
2 AMD	D2.1.	Report on the modelling framework	R	JLU	Jul.25	12 (M18)

Table 12 presents the milestones set to be finalized by the end of 2025:

Table 14: Milestones to be delivered by the end of 2025

MS	NAME	WP NO.	LEAD BENEFICIARY	MONTH	DUE DATE
12	Multi-level climate governance framework functional	WP6	4-CNR	JUL.25	18
21 (AMD)	Hazard indicators assessed from existing data on the CSA area	WP2	19-CMCC	JUL.25	18
2 (AMD)	Stakeholder Community Hub interactive with > 25,000 citizens	WP1	12-ATH-RC	SEP.25	20
5	Socioeconomic vulnerability risk assessment for each CSA	WP3	12-ATH-RC	SEP.25	20
7	Data for Digital Twins available, accurate, reliable	WP4	9-UFR	SEP.25	20

14 Conclusions

The CARMINE project is progressing effectively, underpinned by a well-structured governance framework as outlined in the Project Handbook version 1, which has clarified roles, responsibilities, and coordination processes while promoting shared principles for collaboration. Work Package Leads have initiated planned activities, with teams demonstrating strong cooperation and motivation. The External Scientific Advisory Board (ESAB) held its first meeting in May 2024, providing expert insight into the project's scope and strategic direction. Ethical compliance is a core priority, with all research activities undergoing rigorous ethical assessment, covering informed consent, data anonymization, risk-benefit analysis, and data minimization.

Oversight is provided by the University of Bucharest's Ethics Committee, ensuring adherence to the highest standards and EU regulations. Gender equality and inclusivity are integrated throughout the project's activities, guided by the European Institute for Gender Equality (EIGE) principles, aiming for long-term impact on climate adaptation and mitigation strategies, in line with the EU Gender Equality Strategy 2020–2025. Knowledge management is actively supported through a developing exploitation plan focused on identifying Key Exploitable Results (KERs), mapping Intellectual Property Rights (IPRs), and defining ownership. Although the consortium is currently prioritizing dissemination, efforts are being made to ensure lasting value through open licensing, policy engagement, and future research opportunities.

Project deliverables and milestones are well-managed, with acceptance criteria defined in advance and all outputs submitted on schedule via SharePoint, ensuring timely review and team-wide transparency. Risk management is robust, with mechanisms in place to detect and address both internal and external risks.

Financial and technical progress remain on track, with person-months and reported costs consistent with budgeted allocations. Additionally, comprehensive data security measures—including encryption protocols, regular audits, cybersecurity training, and incident response planning—safeguard project integrity. Overall, CARMINE is a well-coordinated, ethically robust, and forward-thinking initiative that is laying a solid foundation for long-term relevance and impact.

Bibliography

The European Code of Conduct for Research Integrity, available at <https://allea.org/code-of-conduct/>

CARMINE - 101137851 – Grant Agreement

Call: HORIZON-CL5-2023-D1-01, Topic: HORIZON-CL5-2023-D1-01-07 available at <https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-cl5-2023-d1-01-07>

CARMINE Consortium Agreement

Deliverable 8.10 Project Handbook - Version 1

D7.1 - DEC Strategy - Version 1

D8.1- Project Management and Coordination - Version 1

D8.5 - Data Management Plan (DMP) - Interim 1

D1.9 - Report on the engagement of 5 target groups for each CSAs

Annex 1. Acceptance Criteria template

Collaborative efforts between the Project Coordinator, Project Manager, and WP Leads will define the deliverables subject to formal acceptance. The subsequent table provides a comprehensive list of these deliverables and their respective evaluation standards.

The acceptance criteria for deliverables are as following:

WP No & Name				
#	Deliverable Name	Criterion	Metric and Tolerances	Accepted by
	<i><Identify the specific deliverable. Can be an interim deliverable on a way to develop the final deliverable></i>	<i>< Outline the evaluation criteria that will be employed to assess the extent to which project deliverables meet expectations></i>	<i>< Describe the metrics and benchmarks that will be used to verify successful criterion fulfilment. Determine the allowable range of variation from expected results.></i>	<i><Name or role of the person/group responsible for the final acceptance of the deliverable, basically WP Lead. Define the agreed date for sign-off.></i>

Annex 2. Deliverable/Milestone Acceptance Checklist

The Deliverables/Milestones Acceptance Checklist is primarily a verification tool for the Project Coordinator to confirm successful project phase completion. While it assists the project team in defining acceptance criteria, its core purpose is to support the Project Coordinator's validation of completed acceptance activities.

The checklist is completed for Deliverables/Milestones to which this is seen feasible.

Name of Deliverable/Milestone				
#	Deliverables/Milestones Acceptance Checks	Compliant (Yes/No/N/A)	Percentage of full compliance (%)	Comments
Planning				
1	Have specific standards or benchmarks been defined to determine the successful completion of project deliverables and milestones? Has this information been shared with all relevant stakeholders?	No	0	<Please mention here the justification for the answer given.>
2	Did the WP Lead formally endorse the acceptance criteria, procedures, and performance metrics for project deliverables?	No	0	
3	Have the WP Lead and experts approved the planned dates for the deliverable acceptance process?	No	0	
Executing				
4	Were the planned quality assurance and control checkpoints, including acceptance testing, successfully executed?	No	0	
5	Is the assessment of the test results documented in a report?	No	0	
6	Are issues documented and their resolution scheduled?	No	0	
7	Was the initial assessment of deliverables largely positive, with only minor shortcomings noted	No	0	

8	Have the corrected deliverables undergone re-verification by the requesting party	No	0	
9	Are all deliverables (including supporting deliverables such as documentation) ready to be finally approved by the Project Coordinator and/or Project Manager?	No	0	
Coordination				
10	Have the acceptance activities been coordinated within the WP and with relevant other WPs?	No	0	
Quality of deliverables				
11	Do deliverables meet the requirements?	No	0	
12	Have the deliverables passed the initial evaluation stage and received a positive recommendation from the WP for full acceptance?	No	0	
13	Did the Project Coordinator and/or Project Manager formally approve deliverables?	No	0	
Documentation and Communication				
14	Have all deliverables and related artefacts been placed in the project repository? (e.g. test results, sign-offs,...)	No	0	
15	Have all relevant stakeholders been notified of the final approval of the deliverables??	No	0	

Annex 3. Front page template for the Deliverables and Milestones

For the official EU Deliverables and Milestones, this front-page cover shall be used for harmonizing the layout of the Deliverables/Milestones and keeping the record of document acceptance criteria, and review and approval processes.

The document shall be named:

“CARMINE_deliverable_milestone_Dx.x_MSy_name_Vxy_date_[partner acronym/person name]”
and saved to the MeteoRo CARMINE SharePoint folder Final Deliverables and Milestones.



Climate-Resilient Development Pathways in Metropolitan Regions of Europe - Deliverable

After the cover page, it shall include the following information:

Grant Agreement Number 101137851

Deliverable No:	
Deliverable nature:	
Work Package and Task:	
Dissemination level:	
Authors:	
Contributors:	
Contractual submission date:	
Actual submission date:	

Technical References

Project title	Climate-Resilient Development Pathways in Metropolitan Regions of Europe
Project acronym	CARMINE
Grant agreement number	101137851
Funding Programme	HORIZON EUROPE
Call	HORIZON-CL5-2023-D1-01
Starting date of the project	1 st February 2024
Project duration	48 Months

Document history

Version	Date	Description

Disclaimer

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or European Climate, Infrastructure and Environment Executive Agency (CINEA). Neither the European Union nor the granting authority can be held responsible for them. Every effort has been made to ensure that all statements and information contained herein are accurate, however the CARMINE Project Partners accept no liability for any error or omission in the same.

UK participants in this project are co-funded by UK Research and Innovation (UKRI).

The work of Meteomatics partner (Switzerland) has received funding from the Swiss State Secretariat for Education, Research and Innovation (SERI).

Annex 4: Project Deliverables and Milestones

14.1 Project Deliverables

The work of the project will be documented in 67 deliverables, presented in Table 8.

Table 15. CARMINE list of deliverables, as per the GA

WP	DELIVERABLE NUMBER AND SHORT NAME	LEAD PARTNER	TYPE	DL	DD(M)
WP1	D1.1 Target groups (stakeholders) engagement strategy	ATH-RC	R	PU	6
WP1	D1.2 Report on climate change challenges	UoBIR	R	PU	15
WP1	D1.3 Stakeholder Community Hub (SC-Hub)	ATH-RC	OTHER	PU	46
WP1	D1.4 Geo-designed A&M pathways - Version 1	LUH	R	PU	12
WP1	D1.5 Geo-designed A&M pathways - Version 2	LUH	R	PU	42
WP1	D1.6 Living Labs (LL) Handbook	ATH-RC	R	PU	45
WP1	D1.7 Living Labs (LL) creation in case studies	ATH-RC	R	PU	6
WP1	D1.8 Functionalities of a Stakeholder Community Hub (SC-Hub)	UoBIR	R	PU	18
WP1	D1.9 Report on the engagement of 5 target groups for each case study area	ATH-RC	R	PU	12
WP2	D2.1 Report on the modelling framework	JLU	R	PU	12
WP2	D2.2 Report on climate modelling	CMCC	R	PU	42
WP2	D2.3 Report on local modelling	ICS	R	PU	42
WP2	D2.4 Report on hazard indicators	CMCC	R	PU	18
WP2	D2.5 Open-access and local scale datasets	CMCC	DATA	PU	18
WP2	D2.6 Dataset based on fine scale modelling and NBS applications	ICS	DATA	PU	24
WP3	D3.1 Report on the SE vulnerability profiles	ATH-RC	R	PU	24
WP3	D3.2 Report on the climate risks and models in the CSA - Version 1	DTU	R	PU	24
WP3	D3.3 Report on the climate risks and models in the CSA - Version 2	DTU	R	PU	42
WP3	D3.4 Report on risk transfer solutions	MITIGA	R	PU	42
WP3	D3.5 Atlas of Climate Resilience	CMCC	R	PU	48

WP4	D4.1 Data Model and Data Management	UFR	R	PU	42
WP4	D4.2 Digital Twin Architecture	ATH-RC	OTHER	PU	18
WP4	D4.3 Digital Twins Specifications	ATH-RC	DEM	PU	24
WP4	D4.4 Digital Twins Delivery	ATH-RC	DEM	PU	40
WP4	D4.5 Digital Twins Transferability Guidelines	ATH-RC	R	PU	42
WP4	D4.6 Specification of linkages to the DestinE infrastructure	NOA	R	PU	48
WP5	D5.1 IDSS operational framework and data flow	MM	R	PU	24
WP5	D5.2 IDSS validation	MeteoRo	R	PU	42
WP5	D5.3 Operational links with EU MACC and C-A platform - Version 1	MeteoRo	R	PU	18
WP5	D5.4 Operational links with EU MACC and C-A platform - Version 2	MeteoRo	R	PU	36
WP5	D5.5 Operational links with EU MACC and C-A platform - Final	MeteoRo	R	PU	48
WP5	D5.6 IDSS architecture	MM	R	PU	18
WP6	D6.1 Multi-level climate change governance framework	CNR	R	PU	24
WP6	D6.2 R&I roadmaps for climate change adaptation and mitigation in the 8 CSAs - Interim	CNR	R	PU	30
WP6	D6.3 R&I roadmaps for climate change adaptation and mitigation in the 8 CSAs - Final	CNR	R	PU	48
WP6	D6.4 Climate policy recommendations	UoBIR	R	PU	48
WP6	D6.5 Policy review and state of the art of implementation options	CNR	R	PU	18
WP7	D7.1 DEC strategy - Version 1	SDSN	R	PU	3
WP7	D7.2 DEC strategy - Version 2	SDSN	R	PU	18
WP7	D7.3 DEC strategy - Version 3	SDSN	R	PU	36
WP7	D7.4 DEC strategy - Final	SDSN	R	PU	48
WP7	D7.5 Communication framework - Version 1	SDSN	R	PU	18
WP7	D7.6 Communication framework - Version 2	SDSN	R	PU	36
WP7	D7.7 Communication framework - Final	SDSN	R	PU	48

WP7	D7.8 Joint activities with other R&I projects - Version 1	WMO	R	PU	12
WP7	D7.9 Joint activities with other R&I projects - Version 2	WMO	R	PU	24
WP7	D7.10 Joint activities with other R&I projects - Version 3	WMO	R	PU	36
WP7	D7.11 Joint activities with other R&I projects - Final	WMO	R	PU	48
WP7	D7.12 Exploitation and Sustainability Plan (ESP) - Interim	ICLEI	R	PU	36
WP7	D7.13 Exploitation and Sustainability Plan (ESP) - Final	ICLEI	R	PU	40
WP7	D7.14 Training and educational activities - Interim	UoBIR	R	PU	30
WP7	D7.15 Training and educational activities - Final	UoBIR	R	PU	48
WP7	D7.16 Project website	MeteoRo	DEC	PU	3
WP8	D8.1 Project Management and Coordination - Version 1	MeteoRo	R	PU	12
WP8	D8.2 Project Management and Coordination - Version 2	MeteoRo	R	PU	24
WP8	D8.3 Project Management and Coordination - Version 3	MeteoRo	R	PU	36
WP8	D8.4 Project Management and Coordination - Final	MeteoRo	R	PU	48
WP8	D8.5 Data Management Plan (DMP) - Interim 1	MeteoRo	DMP	PU	6
WP8	D8.6 Data Management Plan (DMP) - Interim 2	MeteoRo	DMP	PU	18
WP8	D8.7 Data Management Plan (DMP) - Interim 3	MeteoRo	DMP	PU	36
WP8	D8.8 Data Management Plan (DMP) - Final	MeteoRo	DMP	PU	48
WP8	D8.9 IMS reporting	MeteoRo	R	PU	48
WP8	D8.10 Project handbook - Version 1	MeteoRo	R	PU	6
WP8	D8.11 Project handbook - Version 2	MeteoRo	R	PU	18
WP8	D8.12 Project handbook - Version 3	MeteoRo	R	PU	36
WP8	D8.13 Project handbook - Final	MeteoRo	OTHER	PU	48
WP8	D8.14 Project final conference	MeteoRo	R	PU	48

The information in this table is provisional and may be updated in the event of GA amendment.

14.2 Project Milestones

CARMINE has 18 milestones throughout its lifetime, which are summarised in Table 9.

Table 16. Project Milestones, as per the GA

MILESTONE NUMBER AND NAME	WP	DD(M)	MEANS OF VERIFICATION
1. Engagement of 5 communities (TG1-TG5) per each CSA	WP1	12	Participation in workshops, focus groups, etc. Track and measure social media campaigns, events, surveys. (WP1/T1.1)
2. Stakeholder community Hub interactive with >25,000 citizens	WP1	20	The platform is user-friendly, easy to use by anyone, its interactivity is an incentive to attract more people. (WP1/T1.3)
3. Modelling framework for risk assessment functional	WP2	24	Review the documentation of the modelling framework to ensure that it is complete and clearly defines the methodology, inputs, outputs, and assumptions. Test the modelling framework by running it through a series of scenarios and use cases to ensure that it produces accurate and reliable results. Get feedback from stakeholders (WP2/T2.2)
4. Post-processing tools developed	WP2	24	Check the documentation for the post-processing tools and determine if they meet the required standards and include all the necessary information. Test the post-processing tools to ensure they meet the functional and nonfunctional requirements. Run the tools with different types of data to ensure they can handle different inputs and produce accurate outputs. Get feedback. (WP2/T2.4)
5. Socioeconomic vulnerability risk assessment for each CSA	WP3	20	The data collected as part of the assessment is accurate and relevant to the assessment. Review the findings and conclusions of the assessment to ensure they are supported by the data and methodology. The recommendations and actions proposed as a result of the assessment are reasonable and practical. (WP3/T3.1)
6. Cost-effective adaptation measures and solutions for enhancing CC resilience	WP3	36	Comprehensive assessment of the objectives, progress, impact, and results achieved, by engaging stakeholders, reviewing data and evidence, and verify the effectiveness of the solutions. (WP3/T3.3)
7. Data for Digital Twins available, accurate, reliable	WP4	20	Data for Digital Twins is available, accurate, reliable (WP4/T4.1)
8. Digital Twins (DT) transferability guides for 8 MRE developed	WP5	24	The DT transferability is relevant to other MREs (WP4/T4.4)
9. Coordination with DestinE Data Lake	WP4	36	Established communication to DestinE partners and collaborators, so that CARMINE solutions

			are compatible and built with the potential to be added as an advanced service in the DestinE platform (WP4/T4.5)
10. IDSS Architecture and operational flow established	WP5	12	Design and technical architecture, testing of early prototypes by stakeholders. Calibration and validation of IDSS with stakeholders (all TGs). (WP5/T5.1, T5.2)
11. Operational links with EUMACC and C-A platform established	WP5	24	Operational links established with the EU Mission Adaptation to CC Implementation Platform and Climate-ADAPT Platform. (WP5/T5.4)
12. Multi-level climate governance framework functional	WP6	18	Harmonised framework for CC multi-level governance for 8 CSAs established. (WP6/T6.1)
13. R&I roadmaps developed	WP7	30	R&I roadmaps for climate adaptation and resilience in 8 CSAs developed (WP6/T6.2)
14. DEC strategy established	WP8	6	DEC strategy in place (WP7/T7.1)
15. Project handbook elaborated	WP8	6	Project handbook in place (management, risk management, IPR, gender, ethics) and shared with consortium and EC (WP8/T8.1)
16. Creation of an External Scientific Advisory Board	WP8	3	The External Scientific Advisory Board is established and functional. The Board includes the coordinators of the projects funded under the calls HORIZONMISS-2021-CLIMA-02-03 (ICARIA, MIRACA, RISKADAPT), and HORIZON-MISS-2021-CLIMA-02-01 (CLIMAAX). The Board has 7 members, experts in the field of CARMINE. (WP8/T8.1)
17. Kick-off meeting	WP8	3	Meeting held and approval of project organization (WP8/T8.1)
18. Yearly general assemblies	WP8	12	The meetings (at M12, M24, M36 and M48-correct the dates accordingly) inform the Project Partners on practical matters related to the project management and discuss project budget and resourcing, reporting practices, status of deliverables and milestones, progress monitoring, risk register, project working methods and communications. The first meeting decided on an amendment to the Consortium Agreement and the membership of the External Advisory Board (WP8/T8.1).

The information in this table is provisional and may be updated in the event of GA amendment.

Annex 5: Ethics Review Template



UNIVERSITY OF BUCHAREST
Research Ethics Committee
<http://cometc.unibuc.ro>
cometc@unibuc.ro



Research Ethics Committee,
President
Assoc. Prof. Dr. Text

Reg. No. :.....
Date:.....

Annex 4

- Amendment to the Request for Endorsement – Further Review

SECTION 1. Identification data of the Research Coordinator/Principal Investigator	
Name of Research Coordinator/Principal Investigator	The coordinator of the research activity is an employee of the University of Bucharest (teacher, researcher). The amendment of research activities cannot be requested by students or doctoral students. The request is submitted by the Coordinator of the research activity, according to Art. 24 and 25 of the Functioning Regulations of the Research Ethics Commission. https://cometc.unibuc.ro/wp-content/uploads/2021/07/regulament-functionare-CEC.pdf Prof. dr.
Faculty	Geography
E-mail address	
Telephone	
SECTION 2. Research/study identification	
Title of the research/study	Climate-Resilient Development Pathways in Metropolitan Regions of Europe
Number of the CEC decision for which you are requesting renewal	CEC Decision no from
SECTION 3. Description of the research/study and the requested amendments	
Type of research/study	☐ Study on human embryos/human fetus ☒ Study on human subjects ☒ in Social and human sciences ☐ in behavioral sciences ☐ in life sciences ☒ Study in which researchers meet face-to-face with the participants ☒ Study applying online tools ☐ Study on human cells/tissues ☐ Animal study ☐ Study in animal cells/tissues ☐ Study on environmental protection and security ☐ Study carried out in partnership with non-EU countries
Period of implementation of the study/project	from 01.02.2024 until the date of 31/01/20208
What is the current status of approved research activities?	Please briefly present what stage you have reached with the implementation of the approved research activities. (max. 250 characters)
If it is a project/ contract approved for financing, who requests the change?	University of Bucharest ☒ Partner ☐ If the change request comes from the Partner, please mention:

1

University of Bucharest, Research Ethics Commission, Email: cometc@unibuc.ro, website: <http://cometc.unibuc.ro>



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	Name of the partner institution: Name and surname of the Project Manager: Have you attached the partner's request for amendment and the partner institution's decision? YES ☐ NOT ☐																				
What changes do you introduce with this amendment?	☒ introduction of work tool(s), ☐ amendment(s) concerning experimental design, ☐ modification of study procedures, ☐ amendment(s) of the work tool(s), ☐ amendment(s) of the measuring instrument(s), ☐ modification(s) of data collection procedures, ☐ procedure(s) and research visit(s), ☐ modification(s) of approved working methodology(s), ☐ modified protected area in which research activities are carried out but the methodology is maintained, ☐ use of new substances, markers or biomarkers in research activities ☐ change of at least one institutional partner <table border="1" style="width: 100%;"> <thead> <tr> <th>Current institutional partner</th><th>New institutional partner</th></tr> </thead> <tbody> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> </tbody> </table> ☐ change of Research Coordinator/Principal Investigator <table border="1" style="width: 100%;"> <thead> <tr> <th>Current Coordinator/ Investigator</th><th>Coordinator/ New Investigator</th></tr> </thead> <tbody> <tr><td> </td><td> </td></tr> </tbody> </table> ☐ change of at least one member of the research team (including students, doctoral students) <table border="1" style="width: 100%;"> <thead> <tr> <th>Current institutional partner</th><th>New institutional partner</th></tr> </thead> <tbody> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> </tbody> </table> ☐ changing the responsibilities of one of the partners ☐ transfer of responsibilities for which approval has been requested from one partner to another partner	Current institutional partner	New institutional partner							Current Coordinator/ Investigator	Coordinator/ New Investigator			Current institutional partner	New institutional partner						
Current institutional partner	New institutional partner																				
Current Coordinator/ Investigator	Coordinator/ New Investigator																				
Current institutional partner	New institutional partner																				
Briefly describe the requested changes	Inside the project we have developemnt the first two instruments for stakeholders engagement in the Carmine project: - Stakeholders Invitation letter to the project - Information sheet and informed consent form. These documents have been standardized and will be used across the Living Labs as the first steps in creating stakeholders engagement. <i>(max. 1,000 characters)</i>																				
Briefly describe why you want to make these changes	These instruments are useful for both promoting the objectives of the Carmine project to the local stakeholders and also making sure all ethical procedures and standards are known by those stakeholders who are willing to join the Living Labs developed in the project. <i>(max. 1,000 characters)</i>																				
Risks brought by the requested amendment	<i>Do the requested changes bring additional risks (are they treated according to the type of research activity)?</i> ☐ YES ☒ ... NOT <i>If you answered YES, please describe these risks and how you will address research ethics issues (including GDPR)</i>																				



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cometc@unibuc.ro



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SECTION 4. Supporting documents

Please tick which documents have been submitted for the evaluation of this amendment request:

- ☒ Request for amendment (Annex 4)
- ☐ Request for amendment from the Partner
- ☒ Information sheet and informed consent form
- ☐ Data collection form
- ☐ Link to the form if the study is carried out online (the Commission must have the role of editor)
- ☐ Database with the data collected following the application of the form
- ☐ Research tools (As mentioned in the Request for Amendment)
- ☐ Biobase's operating permit
- ☐ Notice of conduct of research from DSVSA
- ☐ Notice of change of the research coordinator/Principal Investigator, received from the funder
- ☐ Notice of change of partner, received from the funder
- ☐ Notice of change of the members of the research team, received from the funder
- ☐ Opinion received from the funder on the transfer of responsibilities from one partner to another partner
- ☒ Other, please specify: Invitation to participate in the activities of the project

The information in this form, together with any accompanying information, is complete and accurate to the best of my knowledge and beliefs and I take full responsibility for it.

I am committed to complying with national and European legislation on scientific research in carrying out this study.

I am committed to complying with national and European legislation on the privacy of the data I collect during the study(s) carried out and for which I request an ethical opinion.

I undertake to anonymize the personal data collected for the conduct of the study(s) for which I am requesting ethical approval and access to the collected data is limited as mentioned in this request for approval.

I understand that CEC grants ethical endorsement for research activities carried out on behalf of the University of Bucharest (including for activities involving compliance with GDPR rules) and that seeking and obtaining all other necessary endorsements and permissions before starting the research/study is my responsibility.

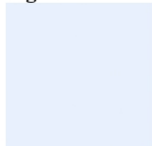
I confirm that I am familiar with and will conduct my study in accordance with the General Data Protection Regulation (GDPR) and the Data Protection Act 2018 (DPA 2018), reporting any data security breach to the University's GDPR Director: dpo@unibuc.ro.

I understand that I do not need to start research and related studies that require ethics approval until I have received full approval from the Research Ethics Committee of the University of Bucharest.

I understand that any changes I would like to make to this study/research, after receiving CEC approval, require further review. As such, they must be submitted cometc@unibuc.ro before these amendments are implemented, by completing and submitting Annex 4.

Research Coordinator/ Principal Investigator
Name and Surname:

Signature



Annex 6: Stakeholder Consent Form

Stakeholder Consent Form

We invited you to participate in stakeholder meetings organised by the CARMINE project.

This consent form is completed only once and is valid throughout the entire project lifetime, except the situation in which you decide to reconsider your participation. Your engagement entails attending one or several workshops, bilateral meetings, and interviews. Before you decide whether you want to participate, it is important for you to understand why we want to conduct this research and what it entails. Please kindly take time and read the following information carefully.

About the project

The project 'Climate-Resilient Development Pathways in Metropolitan Regions of Europe ([CARMINE](#))' aims to help metropolitan communities become more climate resilient. With the knowledge-based tools, strategies, products and services co-produced for enhanced adaptation and mitigation actions, the project will support decision-making at a European level, but most importantly enhance the climate resilience of the local communities.

Based on a supply-demand approach, the methodology combines top-down and bottom-up approaches and a multi-sectoral stakeholder participation to co-develop a knowledge-based framework in eight Metropolitan Regions of Europe² (CSA), tailored to the local context.

Your institution is part of a Case Study Area and therefore, you are invited to co-develop decision support services and guidelines for enhanced resilience and adaptive capacity. You can find more details in the dedicated section below.

Project Objectives

Focusing on a 2030–2035 timeframe and with longer perspectives up to 2050, CARMINE has five specific objectives:

- Review the available resources, tools, practices, policies, and methodologies, and identify the gaps, challenges and barriers that hamper the successful advance of the resilience pathways in the Metropolitan Regions of Europe (MRE),
- Develop high-resolution risk assessment models linking climate, earth system processes, and socioeconomic drivers, for enriched data fusion and effectiveness of adaptation and mitigation actions in the MRE,

² The eight CSA are: Athens (EL), Barcelona (ES), Birmingham (UK), Bologna (IT), Braşov (RO), Funen-Odense (DK), Leipzig (DE), Prague (CZ).

- Co-produce a climate adaptation and resilience framework combining Living Labs (LL) and Digital Twins (DT) approaches that supports decision-making processes for resilience and disaster risk management in the MRE, including Nature-Based Solutions (NBS),
- Provide state-of-the-art Impact-based Decision Support Services (IDSS) blending climate and environmental data into socioeconomic impact and risk assessments, for user-friendly access to high spatially resolved modelling outputs in support of local adaptation assessments and plans,
- Conduct the participatory development of better coordinated and impactful modelling and risk assessment, in support of roadmaps of research and innovation (R&I) priorities on adaptation, informed policies, and cross-sectoral plans towards the 2030-2035 timeframe and beyond (i.e., 2050).

What is the meeting about?

The objective of these meetings is to co-develop decision support services and guidelines for enhanced resilience and adaptive capacity, including early warning and disaster risk management systems. In this respect, we need to cooperate closely with local to regional communities (stakeholders and users), decision-, and policymakers (local authorities) to co-develop cross-sectoral frameworks for adaptation and mitigation actions. The feedback provided will be used to co-design and co-develop the decisional tools to ensure that all requirements are addressed and science-based R&I roadmaps for multi-level climate governance supporting local adaptation assessments and plans are delivered.

Who is invited to participate?

All interested and relevant stakeholders come from government, local authorities, research & academia, industry, NGO and civil society.

What is the degree of privacy and confidentiality of the information provided?

All information provided will be kept confidential and private. No personal details (such as name, email, or IP address) will be collected or shared when reporting on the outcomes of stakeholder meetings. If CARMINE shares work or articles from a stakeholder, proper credit will be given. For public events organized by CARMINE, such as webinars, workshops, or conferences, the participant list may be shared with fellow participants to facilitate collaboration. However, any participant can request to be removed from these lists.

What happens to my personal data?

All information provided (name, email, IP address, phone, etc) is kept confidential by encryption that turns all data into an unreadable format and only authorised persons from the project can decrypt the data and read it. Besides, all qualitative and quantitative data collected through surveys will not be assigned at the level of the interviewed person.

What happens if I reconsider my participation in the CARMINE project?

If you decide that you no longer want to participate in the project, you can stop the involvement at any time without suffering adverse consequences of any kind.

Does my agreement have an expiration date?

This agreement to disclose personal data expires in 2028 when the mandatory monitoring period for the project expires.

Is there any risk to participating in the CARMINE project?

No, there are no known or likely risks. In the unlikely event that any issues arise, you have the option to withdraw your participation and submit your concerns to the project management team.

Who reviewed and approved the CARMINE approach?

The CARMINE approach was reviewed and approved by the General Assembly, Scientific Advisory Board and an external independent Ethics Advisor.

Can I ask additional questions?

Please reach out to us if you have any questions or would like more information, by contacting us at the following address:

contact@carmine-project.eu

Thank you for taking the time to read this information. We hope you will join us in this important journey to make our cities more resilient to climate change.

Your participation is essential, Let's work together to create a better, more sustainable future!

I confirm that I have read and understood the information sheet for the CARMINE project. I had a chance to analyse the information, ask questions and get satisfactory answers to them.

I understand that my participation is voluntary, and that I am free to withdraw at any time without giving any reason

I agree with using and disclosing personal data in compliance with the current GDPR regulations.

I have received a signed copy of this form.

I agree to be engaged in the CARMINE project.

- I consent to the media, audio and video recording of my image and voice for the purpose of [specific purpose]. [To be adapted to the meeting topic]

Participant name

Affiliation / Institution name

E-mail address

Date and signature

Annex 7: Workshop Invitation Template

[Name of recipient]

[Position/Title]

[Institution or address]

[Date and location]

Subject: INVITATION - Join CARMINE in [topic of the stakeholders' meeting]

Dear [Stakeholder],

We are excited to invite you to become a vital part of the CARMINE project—an initiative that has the potential to significantly shape the future of climate resilience in metropolitan regions across Europe. Your participation is more than just a contribution; it is an opportunity to lead your city towards a sustainable and resilient future. By joining us, you will be at the forefront of creating innovative strategies and solutions that address the pressing challenges of climate change in the case of the Case Study Area [Name].

Our engagement can consist of various forms such as workshops, bilateral meetings, and interviews. You will help co-create knowledge-based tools and strategies that will not only benefit your community but also serve as a model for other regions. Together, we will bridge the gap between science and practice, ensuring that the local communities have the resources and support they need to thrive in a changing climate.

We believe that with your expertise and dedication, we can develop impactful decision support services and frameworks that will pave the way for effective climate adaptation and mitigation. Your input will be invaluable in shaping the policies and plans that will guide us through the 2030-2035 timeframe and beyond, making our metropolitan regions more resilient and better prepared for the future.

We, at the [Institution responsible for CSA] are looking forward to your participation and are confident that, together, we can make a significant difference. Please take your time to read the following information carefully and consider joining us in this important endeavour. If you have any specific enquiries, please contact [Contact info of CSA responsible].

With warmest wishes,

[Signature]

Project: Climate-Resilient Development Pathways in Metropolitan Regions of Europe (Project Acronym: [CARMINE](#))

Project duration: February 2024 – January 2028

Project objective: The CARMINE objective is to provide knowledge-based climate resilient development pathways in metropolitan regions of Europe, that bridge the local and regional scales by providing impact-based decision support services and multi-level climate governance supporting local adaptation, including both traditional and nature-based solutions.

Meeting objective [To be adapted to the meeting topic]

*** Draft Agenda ***

[Date and time]

9:30 am	Welcome
9:35 am	Presentation of the project <i>Speaker: [name]</i>
9:45 am	Presentation of the CSA <i>Speaker: [name]</i>
10:00 am	Discussion and next steps <i>Speaker: [name]</i>
10:30 am	Closing remarks and end of the meeting