Deliverable 1.2

Risk Management Plan

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APPROVED FOR SUBMISSION BY

Name	Organisation	Approval date
Olivera Rozi	EIRA	30/06/2025

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LIST OF ABBREVIATIONS AND ACRONYMS

Acronym	Meaning
APM	Association of Project Management
EB	Ethical Board
EC	European Commission
L x S	Likelihood x Severity
PO	Project Officer
PP	Project Partner
SOP	Standard Operating Procedure
SC	Steering Committee
TC	Technical Committee
TL	Task Leader
UKRI	United Kingdom Research and Innovation
WP	Work Package

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DELIVERABLE EXECUTIVE SUMMARY

The Connected and Adaptive Maintenance for Safer Urban and Secondary Roads (CAMBER) project, co-funded by the European Commission (EC) and United Kingdom Research and Innovation (UKRI), aims to develop integrated solutions for the proactive management and maintenance of Europe's urban and secondary road networks. CAMBER directly addresses critical road safety challenges through the deployment of digital twins, data-driven maintenance strategies, and vehicle-to-infrastructure technologies. Field pilots in Spain, Croatia, The Netherlands, Greece, and Portugal will validate project outcomes.

This Risk Management Plan (Deliverable D1.2) outlines the proactive and systematic processes established to identify, assess, monitor, and mitigate risks that could impact the project's objectives, timelines, and resource allocations. Recognizing the complexity and scale of the project, a comprehensive risk management framework has been established to ensure risks are detected early and managed collaboratively across all consortium partners. The approach is structured around continuous partner engagement, iterative risk assessment, and dynamic risk response.

The methodology includes:

- **Risk Identification:** Risks are identified collaboratively by consortium partners across technical, operational, legal, financial, and social domains.
- **Risk Assessment:** Evaluation of risks based on defined likelihood and severity criteria, with prioritization using a standardized Risk Matrix to prioritize management actions.
- **Risk Management Log:** Centralized recording and tracking of all risks, mitigation measures, and monitoring actions.
- **Mitigation Strategies:** Targeted interventions are developed, including prevention, contingency planning, corrective actions, and, where appropriate, risk transfer or acceptance.
- **Monitoring and Reporting:** Continuous monitoring, ongoing review and reporting through Technical and Steering Committees ensuring adaptive risk management, with iRAP coordinating updates and risk status.

The Risk Management plan is a living document, reviewed and updated periodically to adapt to new risks and changing project dynamics. fosters a proactive, transparent, and responsive risk management culture within the consortium. By systematically addressing risks throughout the project lifecycle, the CAMBER consortium aims to minimize disruptions and safeguard project delivery by ensuring project objectives are met within time and budget.

1. INTRODUCTION

1.1. PROJECT OVERVIEW

The Connected and Adaptive Maintenance for Safer Urban and Secondary Roads (CAMBER) project, co-funded by the European Commission (EC) and United Kingdom Research and Innovation (UKRI), aims to develop and demonstrate workable solutions to integrate asset and safety management for urban and secondary road networks. An estimated 725,000 km, Europe's secondary roads account for over 90% of fatal and serious crashes, of which one in three involve a motorcyclist, bicyclist, pedestrian or other micromobility user.

The CAMBER project team is made up of 14 partners from across industry, academia and the non-profit sectors. Together, they will undertake research and development into a range of new and innovative approaches using data, digital twins and vehicle-to-infrastructure technologies toward safety-centred maintenance and management of these roads. The approaches and tools will then be tested in Spain, Croatia, The Netherlands, Trikala (Greece) and Cascais (Portugal). The project comes at a pivotal time for European road safety targets, which aims to halve road deaths by 2030, and eliminate fatal crashes by 2050.

Table 1 Project Partners

Organisation	Country	Abb
EVROPSKI INSTITUT ZA OCENJEVANJE CEST - EURORAP	SI	EIRA
STICHTING WETENSCHAPPELIJK ONDERZOEK VERKEERSVEILIGHEID	NL	SWOV
LABORATORIO NACIONAL DE ENGENHARIA CIVIL	PT	LNEC
AIT AUSTRIAN INSTITUTE OF TECHNOLOGY GMBH	AT	AIT
SVEUCILISTE U ZAGREBU FAKULTET PROMETNIH ZNANOSTI	HR	FPZ
UNIVERSITEIT HASSELT	BE	UH
EREVNITIKO PANEPISTIMIAKO INSTITOUTO SYSTIMATON EPIKOINONION KAI YPOLOGISTON	EL	ICCS
BE-MOBILE	BE	BMOB
FUNDACION CENTRO DE TECNOLOGIAS DE INTERACCION VISUAL Y COMUNICACIONES VICOMTECH	ES	VICOM
EUROPEAN ROAD TRANSPORT TELEMATICS IMPLEMENTATION COORDINATION ORGANISATION - INTELLIGENT TRANSPORT SYSTEMS & SERVICES EUROPE	BE	ERTICO
ANAPTYXIAKI ETAIREIA DIMOU TRIKKAION ANAPTYXIAKI ANONYMI ETAIREIA OTA	EL	ETRIK

Organisation	Country	Abb
MINISTERIO DE TRANSPORTES Y MOVILIDAD SOSTENIBLE	ES	MITMA
INTERNATIONAL ROAD ASSESSMENT PROGRAMME	UK	iRAP
AGILYSIS LIMITED	UK	AGIL

This document is the **risk management plan** for the project which details the methodology to be employed to identify, record, analyse, respond to and track the mitigation of risks affecting the delivery of this project on time and within budget. The goal is to mitigate risks and reduce the likelihood of negative impacts therefore increasing the project's potential to achieve the expected results.

This Risk Management Plan does not constitute a legally binding document, so if discrepancies between the signed Grant Agreement and its Annexes, the Consortium Agreement and this plan should occur, the official signed documents prevail.

During the proposal development phase, several critical risks related to project implementation were identified, along with corresponding mitigation measures (see Table 3.1E, Section 3.1.5 of the Project Proposal). These risks will be documented in the Risk Management Log and reviewed regularly throughout the project. The log will serve as a tool for project partners to manage these risks collaboratively.

This Risk Management Plan defines the protocols to identify possible risks, their assessment, and provision of mitigation actions per involved partner to ensure that all undesirable situations are proactively identified and appropriately managed.

Social Media link:

https://www.linkedin.com/company/camber-project/

https://www.youtube.com/@CamberProject

For further information please visit camber-project.eu

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1.2. PROJECT ORGANISATION

Since CAMBER involves 14 partners from 9 different countries, a clear allocation of roles and responsibilities across the consortium is required. A Steering Committee and a Technical Committee for the project have been established, and key people from each of the Partners were appointed to fill specific roles according to their own expertise (e.g., technical, dissemination, exploitation). In addition, several mailing lists exist and will be updated regularly, fostering agile communication management regarding specific topics and/or work packages.

The Project Partners represent the management of each individual partner within the project. Nominated individuals from each Consortium Partner hold specific responsibilities within the project and provide feedback to their management as necessary.

The governance structure of the consortium shall comprise the following Consortium Bodies:

- **The Steering Committee (SC)** is the decision-making body of the consortium in which all 14 partners are represented. Each full project partner allocates a single contact person (and/or proxy in case of absence) for the project, who has the authority to both represent and commit their organisation in the project's decision-making process or in case of a conflict resolution. The partner representative undertakes support and administrative responsibilities of their organisation regarding submissions of cost statements and deliverables, or other administrative information requested by the Project Officer. As such, they report information and issues to both the Project Coordinator and represent the Partner in the Steering Committee.

Table 2 Steering Committee Members

PROJECT PARTNER SHORT NAME	SC MEMBER NAME
AGIL	Richard Owen
AIT	Isabela Erdelean
BMOB	Dr. Bart Lannoo
EIRA	Shona Holroyd
ERTICO	Nikolaos Tsampieris
ETRIK	Georgios Gorgogetas
FPZ	Dr. Marko Sevrovic
ICCS	Katia Paglé
iRAP	James Bradford
LNEC	João Cardoso

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PROJECT PARTNER SHORT NAME	SC MEMBER NAME
MITMA	Pedro Martinez Tomas
SWOV	Maartje de Goede
UH	Ali Pirdavani
VICOM	Itziar Urbieta

- **The Technical Committee** (TC, formed by WP leaders) coordinates among WPs and solves possible deviations. This committee is led by the Technical Manager, who monitors the technical activities of the project and reports to the Steering Committee any unexpected delay, obstacle, deviation or inability to achieve results planned in each WP task. The TC is chaired by the Technical Manager, iRAP.

- **The Ethical Board** (EB) is composed of nominated person from each Consortium Partners for the revision, approval, and application of the legal and ethical requirements and ensuring compliance with the guidelines defined in the D6.1. Ethics Management Plan. This body is led by the Ethics Board Manager, UH, who is responsible for the Ethical Board establishment, promoting that the activities implemented within the project comply with the ethical guidance from D1.6 Ethics Management Plan; and for solving any ethical issues which might be raised during the implementation of the project. The Ethical Board will be meeting at least once a year.

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The **CAMBER** activities are divided into Work Packages (WPs) to ensure tasks are completed efficiently and coordinated within the planned timeline and budget. Each WP is assigned to a specific consortium partner, called the Work Package leader (WP leader), who is responsible for overseeing and managing the work carried out in their WP (see Table 3).

- **Work Package leaders** are responsible for leading the technical progress and activities of their WP. They will regularly report research progress to the Steering Committee and Project Coordinator to ensure that WP goals are met on time and within budget. This will include organizing monthly WP-level meetings and monitoring the technical progress, results, deliverables and compliance with the Work Programme. The WPs leaders will also be responsible for the timely submission of deliverables resulting from their WPs and for providing the required reporting to ensure efficient overall monitoring and coordination. The Project Coordinator will compile these updates and summarise overall project progress, updating planning charts and human resources records for the entire project.

Table 3 WP leaders

WPs	WP Leader	Organization
WP1	Olivera Rozi	EIRA
WP2	Reinier Jansen / Maartje de Goede	SWOV
WP3	Isabela Erdelean	AIT
WP4	Ali Pirdavani	UH
WP5	Katia Paglé	ICCS
WP6	Nikolaos Tsampieris	ERTICO

- **The Task Leaders** (TL): The diversity of activities undertaken in the WPs mandates the delegation of coordination responsibilities to the Task Leaders. The Task Leaders report directly to the WP Leader. They are briefed about the higher-level requirements of the task they are leading and are required to steer the activities towards timely completion. When needed, the Task Leaders can also report the synthesis of these activities to the Project Coordinator.

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2. RISK MANAGEMENT PLAN

Risks that could affect the project will be identified, and potential likelihood and severity of the risks categorized in order to ensure a comprehensive analysis and determination of effective mitigation approaches to each risk.

2.1. Methodology

For this project, the risk management approach is structured around an iterative and collaborative process designed to ensure that potential risks are proactively identified, evaluated, and addressed in a timely and effective manner. A combination of risk **identification logs**, **partner consultations,** and **real-time monitoring** will be utilized to manage risks effectively across the project's lifecycle.

- **Risk Assessment:** The risk assessment developed as part of the proposal is to be enhanced and further developed to evaluate each identified risk, assessing both the likelihood of its occurrence and the potential severity of its impact on the project. This assessment will help prioritize risks, allowing the team to focus on those that present the greatest potential threat. Risk mitigation measures are to be tailored and prioritized accordingly, ensuring that the most critical risks are addressed first with appropriate interventions to minimize their impact on project outcomes.

- **Logging Potential Risks:** As part of the development of the proposal, a centralized risk log has been established. This log is to be progressed to capture all identified risks—both technical and non-technical—throughout the development and implementation phases.

  Each partner within the consortium will contribute to the risk log, identifying risks from their respective areas of expertise (e.g., technology integration, resource availability, regulatory compliance). This collaborative approach ensures that risks are logged comprehensively and from various perspectives. The log will categorize risks by their nature, likelihood of occurrence, severity and potential impact on the project's success.

- **Determining Mitigation Interventions:** Once risks are logged, the next step is to evaluate each identified risk and determine appropriate interventions for mitigation. This will be done through a series of internal meetings, where stakeholders from different project partners discuss each risk and its potential impact. A team of subject-matter experts from the Consortium Partners (e.g., engineers, regulatory specialists, project managers) in collaboration with the Task Leads will be required to consider and propose interventions for each risk. These interventions could range from implementing backup systems for technological failures to adjusting the project schedule to accommodate supply chain delays. Interventions will be categorized as either preventative measures, contingency plans, or corrective actions, depending on the nature and stage of the risk.

- **Consultation and Implementation:** In order to craft realistic and feasible solutions, each identified risk will be discussed with the relevant partners who may be directly impacted by the risk. This step is crucial, as it ensures that the risk response plan reflects the capabilities and resources of each partner ensuring the technical partner responsible for that area works closely with the rest of the consortium to devise a practical solution. These discussions will be documented and shared across the consortium to maintain transparency and alignment. Through this collaborative dialogue, the project team can adjust solutions based on feedback from those who will be most impacted, ensuring that the intervention strategies are both reasonable and actionable.

- **Monitoring and Activation of Additional Solutions:** Once mitigation measures are implemented, the risk log maintains an ongoing phase of monitoring and evaluation. The risk log shall be updated regularly to track the status of risks and to assess the effectiveness of interventions. In parallel, a monitoring system will be established to continuously assess the project's environment and identify new risks that may arise as the project progresses. If new risks are identified or if the current mitigation strategies are found to be ineffective, the affected Task Leads and/or Work Package Leads will activate additional interventions. This may involve revisiting the risk discussions with other project partners and adjusting strategies accordingly. The proactive nature of this approach ensures that the project can pivot quickly if new challenges arise, minimizing potential disruptions to the overall timeline and objectives.

By utilizing this systematic and inclusive methodology, the project should therefore not only address risks as they arise but should also create a responsive and resilient framework for continuous risk management. This iterative process, in combination with close partner collaboration and real-time monitoring, is likely to ensure that the project remains on track and that potential threats to the delivery of this project are mitigated promptly.

In this project, the responsibility for identifying, logging, and assessing risks will be shared among all consortium partners, with each contributing expertise from their respective areas. Each partner will identify and document risks relevant to their tasks and areas of responsibility, ensuring a comprehensive approach to risk management. iRAP, as the Task Lead, will have the overall responsibility for coordinating the risk log, ensuring that it is regularly updated by each of the Partners and accurately reflects the status of identified risks, mitigation measures, and new risks that arise throughout the project lifecycle. Information shall be shared through the Task Leads to WP Leads and then on to iRAP through the Technical Committee Meeting. iRAP will also facilitate the discussions with affected partners to determine realistic mitigation interventions, ensuring that proposed solutions are feasible and aligned with the project's objectives. Regular reviews and updates of the risk log will be managed by iRAP, ensuring continuous monitoring and activation of additional solutions as needed, in collaboration with the project consortium through the WP Leads at the Technical Committee meetings.

2.2. Risk Identification

The APM Body of Knowledge, a well-known reference document published by the Association for Project Management (APM), defines a risk as 'An uncertain event or set of circumstances that should it or they occur would have an effect on the achievement of one or more of the project objectives' (APM Body of Knowledge, APM, 2006) Risks can arise from various sources, including **technical risks** such as challenges in integrating connected technologies and adaptive systems between partners, issues related to **data security** in handling sensitive information, and potential **technological failures** with road safety or adaptive maintenance systems. **Operational risks** include coordination challenges between consortium partners, delays in the provision of necessary resources or expertise, and **supply chain delays** affecting the procurement of equipment or software for connected systems. **Legal and regulatory risks** involve ensuring compliance with local, national, and international road safety and data privacy regulations, as well as addressing potential **liability** issues if connected systems fail or cause safety concerns. The project also faces **social risks**, such as unforeseen impacts of **public acceptance** issues related to resistance from stakeholders or the general public to new technologies or changes in road maintenance approaches. Lastly, **financial risks** include the possibility of **budget overruns** due to unforeseen costs, especially in technology development or deployment.

2.3. Risk Assessment

For each identified risk, a Risk Assessment should be carried out to ensure that risks are understood and their potential consequences measured. The **likelihood** and **severity** of each identified risk helps in determining the level of risk, which is crucial for prioritizing which risks require the most immediate attention and mitigation measures. Partners will use a Risk Matrix to assess the overall risk exposure.

Likelihood: The probability that the risk will occur. It is proposed that this is rated at a granular level considering a scale of 1 to 5, where:

- 1 = Very Unlikely (may occur only in exceptional circumstances)
- 2 = Unlikely (low probability of occurrence)
- 3 = Possible (medium probability of occurrence)
- 4 = Likely (high probability of occurrence)
- 5 = Very Likely (expected to occur in most cases)

Impact Severity: The potential severity or consequence if the risk does occur. This will be rated at a granular scale of 1 to 5, where:

- 1 = Negligible (insignificant or no impact on project outcomes)
- 2 = Minor (small impact, manageable within current resources)
- 3 = Moderate (moderate impact, some delays or budget adjustments required)
- 4 = Significant (major impact, significant delay or cost increase)
- 5 = Severe (catastrophic impact, could derail the project or cause major safety risks)

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Risk Level Determination: The risk level will be determined by multiplying the ratings for Likelihood and Severity (L x S). The resulting rating helps prioritize risks based on their combined score for likelihood of a risk occurring and the impact to the project. The following categories will be used:

- **Low Risk (1-4):** Risks that are unlikely to occur or have minimal impact.
- **Medium Risk (5-12):** Risks that are more probable or have moderate impact, requiring attention and monitoring.
- **High Risk (13-25):** Risks that are highly likely to occur or could have a severe impact, requiring immediate action and robust mitigation.

Essentially, the Risk level is established and managed based on the resulting rating, as illustrated in the Risk Matrix below.

Table 4 Risk Assessment Matrix

Severity / Likelihood	1 Negligible	2 Minor	3 Moderate	4 Significant	5 Severe
5 Very Likely	5 MEDIUM	10 MEDIUM	15 HIGH	20 HIGH	25 HIGH
4 Likely	4 LOW	8 MEDIUM	12 MEDIUM	16 HIGH	20 HIGH
3 Possible	3 LOW	6 MEDIUM	9 MEDIUM	12 MEDIUM	15 HIGH
2 Unlikely	2 LOW	4 LOW	6 MEDIUM	8 MEDIUM	10 MEDIUM
1 Very unlikely	1 LOW	2 LOW	3 LOW	4 LOW	5 MEDIUM

The Risk Level will then support prioritization of the mitigation based on the Combined rating of Likelihood and Severity. Using the Risk Matrix, each identified risk will be categorized into one of the above risk levels (low, medium, or high). Partners can then determine how much effort and resources to dedicate / allocate to managing the identified risk.

- High Risk: Should be the focus of immediate attention. Detailed mitigation strategies must be developed and implemented promptly.
- Medium Risk: Should be monitored closely, with mitigation actions planned as needed.
- Low Risk: These risks require minimal attention but should still be monitored throughout the project lifecycle.

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2.4. Risk Management Log

It is recommended to record each identified risk at the earliest opportunity. Logging the risk as soon as it is identified enables all partners affected directly or indirectly to respond as soon as possible and adjust their plans and activities in the project in order to minimize or eliminate the impact of the risk, hence allowing all parties sufficient information and time to react to changes.

A Risk Management Log spreadsheet has been developed to document the risks as they occur and to monitor their resolution allowing for opportunities to evaluate the impacts of the mitigations and early warning signs if there is a need to pivot. The Risk Management log is a soft copy with the template extract attached as Annex B in this report.

The Risk Management Log contains two key tabs.

i. **Risk Matrix tab** – This is the visual tool (grid) specified as the Risk Assessment Matrix in Table 4 (Chapter 2.3) above. This is to be used for reference when completing columns H and I in the "Risk Log" tab.

ii. **Risk Log tab** – This is the log where all risks likely to have an impact on the project are to be recorded. All risks whether fully assessed or not are to be recorded in this tab. The detailed assessment of the risk can come at a later date as more details become apparent.

All risks will be monitored by iRAP and as the risks are resolved or negated, they shall be closed off with the rows hidden from direct view.

The following fields are to be completed in the log:

- **Date raised** – the date of the risk issue reported to the log. Date Format DD/MM/YY.
- **Project Stage** – State Stage at which risk identified – **Proposal** or **Project Execution**
- **Reported By** – the name and email address of the person who fills in the risk management log to report the risk / issue.
- **Risk number** – Risk Numbers are recorded sequentially from R0001 onwards. Hence the person recording the risk should take the next number in the sequence.
- **Work Package number** – The Work Package Number affected from the Project WPs. If more than 1 WP, record all WPs affected. If all WPs affected, then record "ALL"
- **Risk Description** - A description of the risk detailing source, analysis and potential implications.
- **Likelihood** – Determine the likelihood of the risk occurring. Rate 1 Lowest to 5 Highest likelihood. . Refer to the "Risk Matrix" tab for level descriptions. This cell automatically colour codes to highlight the risk level in line with the Risk Matrix.
- **Severity** – If it happens, determine the impact of the risk occurring. Rate 1 Lowest to 5 Highest severity. Refer to the "Risk Matrix" tab for level descriptions. This cell automatically colour codes to highlight the risk level in line with the Risk Matrix.

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- **Risk Level** – This is a multiplication of Likelihood (L) and Severity (S) to determine Low (1 - 4), Medium (5 - 12), and High (13 - 25) Risks. ***This automatically calculates*** from rates inserted for "Likelihood" and "Severity" and automatically colour codes to highlight the risk level in line with the Risk Matrix.
- **Expected Impact** – Estimated impact on project (Technical, Timelines, Operational, Financial, Regulatory). Record all that are relevant.
- **Mitigation action** – Record proposed intervention to mitigate the risk.
- **Reviewed by Steering Committee** – State whether this Risk detail has been shared with the SC and record the feedback from the SC, if any.
- **Contingent action** – Record other actions that need to be in place for the Mitigation Action to be effective or have a higher chance of success. Include here any other Partner Inputs required and possible challenges that may affect the effectiveness of the intervention.
- **Issue impacts** – List of impacted partners Work Packages, Specific Tasks and/or deliverables within the project.
- **Contact Person** – The person assigned to be responsible for handling the reported risk and can provide more information if/when needed. Include their contact details - usually their email address. Person recording to ensure they notify the Contact person and others as needed.
- **Progress**: - This is where you can keep track of the progression of the resolution of this risk. The notes here can be retained for historical purposes and updated as necessary.
- **Status** – Indication on status of Current action(s) taken to resolve the risk. Select from the drop-down menu - Active, In progress or Resolved.
- **Deadline** – The date set for when this issue must be resolved by, or intervention needs to be implemented by - for example, to minimize impact to other tasks. Date format DD/MM/YYYY
- **Date Resolved** – Insert the date that the risk was resolved (either eliminated or reduced to Minimum possible). Where the risk is still not resolved, leave this blank. Date format DD/MM/YYYY
- **Useful resources** – Any useful additional information related to the risk.

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2.5. Risk Mitigation Strategies

To address the highest-priority risks, the Task Leads will develop tailored mitigation strategies. These strategies may include **avoidance** to eliminate the risk, without impacting project scope or timelines; **mitigation**, where measures are implemented to reduce the likelihood or impact of the risk, such as using backup systems or conducting thorough testing; **transfer**, which involves shifting the risk to a third party, for instance, through insurance or outsourcing specific tasks; and **acceptance**, where some low-probability risks are deemed manageable and accepted as part of the project. **Coordination risks** can be managed by regularly scheduling consortium meetings, establishing a clear communication plan, and ensuring common project management standards are defined – All aspects which are addressed as part of the CAMBER project deliverables. For **regulatory risks**, the Task Leads will need to ensure compliance with all relevant regulations and monitor any changes in laws or standards that may impact the project.

2.6. Risk Monitoring and Reporting

Project team members are encouraged to continuously scan for emerging risks, especially as the project moves through different phases. Any stakeholder or partner involved in the project should report new risks as soon as they are detected. These could include operational challenges, financial issues, external threats like weather disruptions, or supply chain delays.

iRAP is charged with the continuous and proactive monitoring of risks throughout the project lifecycle, keeping track of new risks and monitoring the effectiveness of mitigation measures for existing risks. Regular risk monitoring is to be conducted as the project progresses, with input from all partners as and when needed. Reviews will be conducted during the monthly Technical Committee Meetings, attended by Work Package Leads, by presenting the risk log and discussing any new risks as well as considering any previously recorded risks and obtaining updates to ensure that all risks are still relevant and being actively monitored. If any mitigation measures are found to be ineffective or inadequate, new solutions are to be proposed and actioned.

The risk log is also to be presented and discussed at all Steering Committee Meetings. For high-priority risks that have the potential to derail project objectives, iRAP will immediately communicate these risks to the steering committee ensuring that they are fully aware of the severity and can act quickly to mitigate any adverse impacts.

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ANNEX A: RISK MANAGEMENT PLAN - STANDARD OPERATING PROCEDURE

This Standard Operating Procedure (SOP) outlines the process by which consortium partners are to conduct risk assessments for the *CAMBER* project. The aim is to assess the **likelihood** and **potential severity** of identified risks and to **prioritize** them for **effective mitigation**. This procedure will ensure consistency and transparency across all project partners, facilitating informed decision-making and timely action.

Risk Identification

Step 1: Log All Potential Risks

- Each partner is responsible for identifying risks within their respective areas of work.
- Risks should be logged as soon as they arise, with a description of the potential event, its cause, and the areas it may impact (e.g., technical, operational, financial, regulatory).
- Use the standardized risk logging template provided by iRAP to ensure consistency in documentation.

Step 2: Consolidate Risks

- Once risks are logged by all partners, iRAP will consolidate the individual risk logs into a central repository. This will allow for a comprehensive view of all identified risks and will facilitate the risk assessment process.

Risk Assessment Process

Step 3: Risk Evaluation Criteria

- Partners will evaluate each identified risk based on two primary criteria:
    - **Likelihood:** The probability that the risk will occur. This can be rated on a scale of 1 to 5, where:
        - 1 = Rare (may occur only in exceptional circumstances)
        - 2 = Unlikely (low probability of occurrence)
        - 3 = Possible (medium probability of occurrence)
        - 4 = Likely (high probability of occurrence)
        - 5 = Almost Certain (expected to occur in most cases)
    - **Impact Severity:** The potential severity or consequence if the risk does occur. This will be rated on a scale of 1 to 5, where:
        - 1 = Insignificant (no impact on project outcomes)

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- 2 = Minor (small impact, manageable within current resources)
- 3 = Moderate (moderate impact, some delays or budget adjustments required)
- 4 = Major (major impact, significant delay or cost increase)
- 5 = Catastrophic (severe impact, could derail the project or cause major safety risks)

Step 4: Risk Level Determination

- Partners will use a Risk Matrix to assess the overall risk exposure. The risk matrix will be created by multiplying the ratings for Likelihood and Severity (L x S). This helps prioritize risks based on their combined score. The following categories will be used:
- **Low Risk (1-4):** Risks that are unlikely to occur or have minimal impact.
- **Medium Risk (5-12):** Risks that are more probable or have moderate impact, requiring attention and monitoring.
- **High Risk (13-25):** Risks that are highly likely to occur or could have a severe impact, requiring immediate action and robust mitigation.

Step 5: Risk Prioritization

- Using the Risk Matrix, each identified risk will be categorized into one of the above risk levels (low, medium, or high). The priority for mitigation will depend on the combined score of likelihood and impact:
  - **High Risk:** Should be the focus of immediate attention. Detailed mitigation strategies must be developed and implemented promptly.
  - **Medium Risk:** Should be monitored closely, with mitigation actions planned as needed.
  - **Low Risk:** These risks require minimal attention but should still be monitored throughout the project lifecycle.

Risk Mitigation Strategies

Step 6: Develop Mitigation Plans

- For each high and medium-priority risk, partners will develop specific risk mitigation strategies. These strategies will be documented with detailed steps for how the risk will be managed, including:
  - Preventive measures (to reduce the likelihood of the risk occurring)
  - Contingency plans (to minimize the impact if the risk occurs)
  - Corrective actions (to address the risk if it materializes)

These mitigation strategies should be practical, feasible, and aligned with the project's objectives. The responsible partner for each risk will lead the development of these plans.

Step 7: Risk Ownership and Accountability

- For each risk, a partner will be assigned as the Risk Owner. The Risk Owner is responsible for developing and executing the mitigation strategy and ensuring that the plan is reviewed and updated as needed. The Risk Owner will also be responsible for reporting progress to iRAP and other consortium members during regular risk management meetings.

Risk Monitoring and Review

Step 8: Continuous Monitoring

- After implementing mitigation strategies, the Risk Owner will continuously monitor the effectiveness of these measures. The monitoring process will include tracking the risk's status, ensuring that the risk is being adequately managed, and noting any changes in the likelihood or impact.

Step 9: Regular Risk Review Meetings

- The consortium will hold monthly or bi-monthly risk review meetings to discuss the status of all identified risks and the effectiveness of the mitigation strategies. These meetings will be led by iRAP, with contributions from all partners. The risk log will be reviewed, and any new risks or changes to existing risks will be discussed.

Step 10: Update Risk Log

- The risk log will be updated regularly by iRAP, ensuring that all risks and their associated mitigation measures are tracked in real-time. The status of each risk will be clearly marked (e.g., ongoing, resolved, new, or escalated), and all changes to risk assessments or mitigation strategies will be documented.

Documentation and Reporting

Step 11: Risk Assessment Reporting

- iRAP will be responsible for compiling periodic risk assessment reports that summarize the findings from the risk evaluations, mitigation strategies, and their effectiveness. These reports will be shared with all partners and stakeholders, ensuring transparency and keeping everyone informed of any changes to the risk landscape.

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ANNEX B: RISK MANAGEMENT PLAN - LOG TEMPLATE

Date raised	Proposal / "Project Execution	Reported By		Risk number	WP	Risk description	Likelihood (L)	Severity (S)	Risk Level	Expected Impact	Mitigating action	Reviewed by Steering committee	Contingent Action	Issue Impacts	Contact person		Progress	Status	Deadline	Date Resolved	Useful resources
(DD/MM/YYYY)	Select from drop down "Proposal" / "Project Execution"	(Name)	(Email Address)	(Sequential from R0001)	(WP No. or ALL)	Brief summary of the risk	Insert: 1 Lowest, 5 Highest (See Risk Matrix tab)	Insert: 1 Lowest, 5 Highest (See Risk Matrix tab)	Auto Calculates. Do not change (L x S value)	Technical, Timelines, Operational, Financial, Regulatory	What can be done to eliminate / reduce the risk	Insert **Y / N** If Y, Incl. Date and any SC comments)	Record parallel activities needed for the effectiveness of the Intervention	List partners and/or ta s impacted by the risk	Contact person for more information	Email address of contact person	Notes on progress towards resolving the risk	Select from drop down Active = no tangible progress In Progress = Actions ongoing	Insert expected date of completion	(Leave Blank if not completed)	(Links, Document names, Sources, etc)

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