



Multi-hazard and risk informed system for Enhanced local and regional Disaster risk management

MEDiate

Deliverable D8.2

Quality Procedures Manual

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LIST OF PARTNERS

Participant	Name	Country
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DEL	Deltares	Netherlands
IIASA	International Institute for Applied Systems Analysis	Austria
BRGM	Bureau de Recherches Géologiques et Minières	France
EUC	Fondazione Eucentre	Italy
IMO	Icelandic Meteorological Office	Iceland
IMT	Institut Mines-Telecom	France
UIce	University of Iceland	Iceland
R2M	R2M Solution	France
RINA-C	RINA Consulting	Italy
IUSS	Istituto Universitario di Studi Superiore Pavia	Italy
OSL	Oslo kommune	Norway
NICE	Metropole Nice Cote d'Azur	France
AUS	Austurbru	Iceland
UStr	University of Strathclyde	UK
UCL	University College London	UK
ARU	Anglia Ruskin University	UK
ECC	Essex County Council	UK

GLOSSARY

Acronym	Description
CA	Consortium Agreement
DMP	Data Management Plan
DSS	Decision Support System
EC	European Commission
GA	Grant Agreement
PO	Project Officer
WP	Work Package
PC	Project Coordinator
PB	Project Board

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1 EXECUTIVE SUMMARY OF THE PROJECT

MEDiate will develop a decision-support system (DSS) for disaster risk management by considering multiple interacting natural hazards and cascading impacts using a novel resilience-informed and service-oriented approach that accounts for forecasted modifications in the hazard (e.g., climate change), vulnerability/resilience (e.g., aging structures and populations) and exposure (e.g., population decrease/increase).

The main outcome of MEDiate will be a DSS in the form of service-orientated web tool and accompanying disaster risk management framework providing end users with the ability to build accurate scenarios to model the potential impact of their mitigation and adaptation risk management actions. The scenarios, which can be customised to reflect local conditions and needs (e.g., demographics, deprivation, natural resources), will be based on a combination of the historical records and future climate change projections. They will allow to forecast the location and intensity of climate related disaster events and other natural disaster events and to predict their impacts, including cascading impacts, on the vulnerability of the local physical, economic and social systems. The scenarios will allow end users to evaluate the potential impact of different risk management strategies to reduce hazard when possible, to reduce vulnerability and to enhance community resilience to current and future natural hazards.

Co-design, co-development and co-evaluation of the DSS, based on close and long-running interactions with end users located in four European testbeds (Oslo, Nice, Essex and Austurbrú), is central to the project's vision. This will enable more reliable resilience assessments, accounting for risk mitigation and adaptive capabilities, therefore reducing losses (human, financial and environmental) from future natural disasters.

The MEDiate consortium consists of 18 partners from 7 European countries, involving a multi-disciplinary team of meteorological, environmental, and geophysical scientists, civil and risk engineers, social scientists, information technologists, business economists and managers, and end-users (local and regional communities and authorities), working together to ensure that MEDiate will deliver solutions that are user-led and supported by appropriate technology.

2 DELIVERABLE PURPOSE AND SCOPE

This document is the second deliverable of MEDiate and it contains the Quality Procedures Manual. It has been elaborated by the Project Coordinator (NOR) and reviewed by the Executive Board. The first deliverable of WP8 is the Project Management Plan (D8.1).

A Quality Procedures Manual defines the quality policies, processes and procedures aimed at ensuring the achievement of all project goals. Following the management information included in the Grant Agreement (GA) and in the Consortium Agreement (CA) as well as in D8.1, this manual highlights the important procedures to be carried out to monitor, coordinate and evaluate the management activities of the project. Since the project Deliverables are one of the most important ways to communicate project results with the European Commission, the management of such documents is an important step.

The Quality Procedures Manual summarizes all regulations and guidelines regarding the management structures and procedures and is designed to be used as an entry point in case specific issues need to be resolved or questions arise. This deliverable is written primarily for all consortium members involved in the delivery of the MEDiate project and may further act as a guide to clarify roles within the consortium and to understand the formal procedures.

3 QUALITY MANAGEMENT STRATEGY

The Quality Management Strategy (QMS) defines the quality techniques/standards to be applied and the various responsibilities for achieving the required quality levels during the project. The main three aspects of quality management that will be included in MEDiate's QMS are quality planning, quality assurance, and quality control.

3.1 Quality planning

Quality planning provides a secure basis for agreement between the project partners on the overall quality expectations, requirements and acceptance criteria. The quality requirements, as expressed in measurable terms through the objectives, deliverables, and milestones, form the foundation for the quality planning of MEDiate. The description will include specific quality criteria within a set tolerance as well as quality methods that specify certain activities during the project to review and approve deliverables within the consortium before submission to the EC (see 3.3). For transparency and to avoid confusion during the project, responsibilities for reviewing deliverables will be assigned to a partner not directly involved in producing the deliverable. This will also enable a check of the comprehensibility of the deliverable beyond the authors to be made and to help disseminate the results of the deliverable to the rest of the project.

Besides, a quality register of quality activities planned and undertaken (e.g. workshop, reviews, inspections, testing, pilots, acceptance and audits) will be kept by the Project Coordinator (NOR).

3.2 Quality assurance

Quality assurance is the part of quality management focused on providing confidence that quality requirements will be fulfilled. MEDiate will follow the general guidelines of international standards related to quality management systems such as ISO 9001:2015. MEDiate will in particular:

- Be compliant with the work plan and approved budget as defined in the GA;
- Keep all deadlines and agreed schedules for activities, tasks and deliverables as defined in the GA and, if not possible, report issues or delays following the project management decision-making mechanism defined in D8.1;
- Respect the partner's responsibilities within the project as defined in the CA;
- Make a review of all deliverables prior to their delivery and submission to the EC following the plan described in 3.3;
- Plan and record or report major activities including:
 - All virtual meetings, workshops, and video conferences
 - All communication and dissemination activities (e.g., scientific publications, educational and outreach activities, conference contributions and news reports)

3.3 Quality control

Quality Control is achieved by implementing, monitoring and recording the quality methods and responsibilities defined above. This is formalized through several mechanisms in the project.

First, the implementation of monthly WP leaders and Executive Board meetings allows a continuous monitoring of activities and progress in the different WPs. Then, to monitor progress and budget spending at partner level, two internal reportings will be organized, one in M10 and one in M28, respectively after the half of Reporting Period 1 and after the half of Reporting Period 2. These internal reportings are organized as simplified Periodic Reports that take place after the end of the 1st Reporting Period (M18) and the end of the 2nd Reporting period (M36). The internal reportings serve the purpose of preparing the Consortium partners to fulfill the reporting requirements, especially the financial reporting requirements, of the official Periodic Reports to the EC (see 5).

Concerning review of project deliverables, as described in the Consortium Agreement, all deliverables are subject to the approval of the Executive Board as follows:

- Draft version of the Deliverable shall be presented by the responsible Party four (4) weeks before the deadline identified in the Grant Agreement
- Deliverables shall be reviewed by two reviewers selected amongst representatives of the Parties suggested by the responsible Party or the Executive Board. Reviewers shall always be approved by the Executive Board
- Comments and suggestions shall be made by the reviewers within two (2) weeks
- Responsible Party has two (2) weeks to improve quality if necessary and get the approval of the Executive Board
- Approved Deliverables must be submitted by the Coordinator before the deadline identified in the Grant Agreement
- In case the deadline identified in the Grant Agreement can not be met the Coordinator will contact the Project Officer and request an extension

4 COMMUNICATION STRATEGY

MEDiate uses communication models for both scheduled and unscheduled communication. Scheduled communication covers reports, deliverables, and other planned documents. Unscheduled communication covers the raising of issues and the implementation of any consequent actions.

Scheduled Reporting: In order to keep the amount of time spent on project administration to a minimum, a simple reporting structure is used. Every month a WP Leaders and Executive Board meeting is organized online to detail the currently active tasks in the WPs and the progress made, and to record any issues and envisaged problems or delays. Minutes of those meetings are sent in a timely manner to all partners to ensure a written follow-up of the discussions. Similar structure is adopted at WP level, each WP leader organizes monthly WP meetings to monitor progress of the different tasks. This certifies maximum effort on task delivery whilst ensuring transparency of task progress.

Unscheduled Reporting: The PC will maintain an issue log. As issues arise, these will be recorded in the log and dealt with by assigning an action. If appropriate, WP leaders will escalate issues to the PC as described in the project management decision-making mechanism in D8.1. Should an issue be considered serious enough by the PC, it will then be escalated to the EB for resolution. Resultant actions will filter down to the appropriate project partners.

Annual meetings: During MEDiate, annual meetings are organized to gather all partners in a physical/hybrid arrangement once a year so that all partners have the opportunity to meet in person and that the main achievements of the project in terms of results can be presented to the entire Consortium.

Besides, there will also be several Technical Meetings and Working Group Meetings arranged on an ad-hoc basis. At all meetings, minutes will be taken and circulated to all project partners. Meeting locations will vary depending on the need to access technical equipment and to minimize travel costs. Ad-hoc progress meetings will make use of teleconferencing and video conferencing, where possible.

Day to day information flow, internal communication and administrative aspects of project communication are managed by the Project and Consortium Management Work Package (WP8) lead by the PC (NOR). Internal communication is essential for the success of this project, as all partners must be made aware of any emerging issues and progress reports. To facilitate this, a Teams site is used for communication purposes and as a repository for internal documents.

5 FINANCIAL MANAGEMENT

All partners have completed extensive resource budgeting to ensure they have the resources required to successfully deliver the project and have allocated resources effectively. The PC and WP leaders are responsible for all work defined in the project plan being completed within budget.

At all times partners will follow the Horizon Europe financial guidelines set out in the EC reference documents and pay attention to the following key points:

- Costs claimed for reimbursement must be eligible and duly justified;
- Costs must be actual, incurred between the project start and end dates (cf. GA), in accordance with usual accounting/management principles of the beneficiary;
- The different direct cost categories in Horizon Europe are: personnel costs, subcontracting costs, purchase costs (travel and subsistence, equipment and other goods, works and services), other cost categories;
- All costs must be proven to be linked to the project;
- Indirect costs will be reimbursed at the flat-rate of 25% of the eligible direct costs (except volunteers costs, subcontracting costs, financial support to third parties and exempted specific cost categories, if any);

EC audits can be carried out during the project lifetime and until 5 years after the project's end. Therefore, all key documents and activities (contracts, reports, timesheets, important e-mails, etc.) must be filed carefully.

Time records are an essential part of the project implementation process in Horizon Europe. Horizon Europe Annotated Model Grant Agreement states that:

“Only costs for personnel assigned to the action (i.e., working for the project according to internal written instructions, organisation chart or other documented management decision) can be eligible. The monthly declaration of days worked in the project correctly signed (see Article 20) or reliable time records will normally be sufficient proof of the assignment to the action — unless there is other contradicting evidence (e.g., the employment contract indicates that the person was hired to work on another project)”.

Disclaimer: The PC (NOR) cannot be held responsible for any incorrect or non-conform project data in reports or audits.

6 RISK MANAGEMENT

Every new project carries a certain degree of risk and it is important to consider this as early as possible. At Grant Preparation a list of critical risks was provided (see Table 1). This table provides a risk management strategy by proposing mitigation measures to the identified risks. The risk in the MEDiate project will be actively managed. This will involve risk assessments before each WP, the maintenance of a risk log and clear ownership of issues and risks throughout the project management chain. These will be implemented through three interconnected tools:

1. Prior to the start of each WP, the WP leaders will review the list of critical risks and in particular the ones related to their WP and if needed perform a more detailed risk assessment for that WP and list additional risks. The risk assessments should explore the potential hazards (technical, operational and external) and identify their likelihood, severity and impact on each individual task. They should also describe mitigation measures to be taken in the event of the hazard occurring, with triggers for activation of these measures detailed in the risk assessment. Finally, each risk assessment should prioritise the mitigation measures for each risk to define a complete contingency plan for each risk that minimises retardation of the project. Each WP risk assessment will then be collated into a single, living document that is continuously reviewed, updated and re-issued to reflect changes both within the project and in external factors (market, competition, regulation etc.).

2. During the lifetime of the WPs risks will be monitored through regular reporting on progress and emerging issues. Particularly, risk monitoring will be on the agenda for the monthly WP leaders and Executive Board meetings. This reporting will allow the project management to allocate additional resources to tasks that are at risk of underperforming or to implement mitigation strategies. The structure of the tasks within each WP has been designed to reduce overlap between the activities in different tasks. Should risk triggers be activated, implementation of contingencies will cause as little disruption as possible and the minimum of additional resources will be used.
3. Finally, milestone control points will be used. These define discrete project stages, each reliant on the completion of a previous milestone. The project management team may use these points to decide if the required level of progress has been achieved in order to justify continuation to the next stage. If milestone requirements are not met, the management will implement contingency strategies without excessive adverse impact on other project stages.

However, even if some objectives are not fully achieved and contingencies have to be applied, the project will still accelerate the roll-out and adoption of an innovative system significantly beyond the state of the art. No ambitious, collaborative project of this nature is risk-free, so even with the realisation of all identified risks, the project will still justify its creation.

Table 1: Risk Assessment

Risk number	Description of Risk	WP number	Proposed risk-mitigation measures
1	Insufficient participation of local or regional communities and authorities, from at least 3 different EU Member States or Associated countries. Likelihood: Low Severity: Medium	WP1	We already have the commitment of 4 European first responders and/or civil protection organizations as full project partners. In addition, we guarantee specialised meetings/workshops with comprehensive involvement and elicitation of national and thematic experts via Stakeholder support letters. Moreover, the MEDiate partners will meet with additional experts/stakeholders, if needed.
2	Lack of data in considered testbeds to assess the collected or developed models, methodologies, frameworks Likelihood: Low Severity: High	WP2 WP3 WP4 WP5	Any problem with the quality or non-availability of data will be detected in the early stage of the project. The involvement of the data owners/providers at testbeds as MEDiate partners and/or as members of the Advisory Board will strongly mitigate such risk. We will develop a plan for each strategic use case at the start of the project and a contingency plan for the simulation of data, where relevant.
3	Failure (or delay) to integrate all system components within each WP and across WPs Likelihood: Low Severity: High	WP2 WP3 WP4 WP5 WP6	The different partners, each with world-leading expertise in each specific project area, are developing most of the proposed framework, models, methods, and implementation tools in house. This will ensure that we develop each project component on time (for instance, WP2, WP3 and WP4 will work in parallel) and in a manner to enable amalgamation and harmonization.

4	Failure to surpass performance of currently available systems Likelihood: Low Severity: Medium	WP6	It is highly unlikely that the state of art solution can cover the technological innovation proposed in MEDiate. The MEDiate system is a superior framework in terms of performance, simplicity/user-friendliness, adaptability, and cost/value for money and exploitation is explicitly addressed within the project ahead in the work plan and run by experts in this field. If needed, additional effort and/or exploitation meetings will be organised involving all partners.
5	Unsuccessful transition of developed frameworks, methodologies into a commercial package Likelihood: Low Severity: Medium	WP6	Manage and validate changes to designs to ensure we do not comprise the performance of current systems that would form part of the proposed MEDiate frameworks, methodologies; Implement risk review of all changes (ISO 14971); Identify an exploitation strategy to ensure project platform sustainability after co-financing period.
6	IPR conflict over the MEDiate products and future exploitation Likelihood: Low Severity: Medium	WP6	There is an agreement in place between the partners on how we handle IPR. We will sign an intellectual property agreement between all partners during the preparation stage of the grant agreement, thus eliminating this risk.
7	Possible legal or commercial obstacles to the testing of the MEDiate product in all the use case regions Likelihood: Low Severity: Medium	WP7 WP9	Early consultations with use case leads and hosts (as well as partners with expert involvements) to identify and address any foreseen legal /commercial issues. We have a dedicated work package (WP7), assigned legal experts, data protection officers, and registered data controllers for this sole purpose.
8	Failure to meet timeline of the development activities Likelihood: Low Severity: Hig	WP8	We will tightly monitor and control the work tasks and interfaces between them. We will continuously monitor risks and implement contingencies in a timely manner.
9	Failure to achieve deliverables Likelihood: Low Severity: Medium	All WPs	Deliverables and milestones are realistic and achievable. The project plan is robust and acceptable tolerances are agreed. Qualified and experienced personnel hold all positions of authority. Respective WP management responsible for ensuring progress can reallocate efforts among Partners if above is insufficient.
10	Failure of project management due to large number of partners Likelihood: Low Severity: Medium	All WPs	We largely expect to avoid such problems through overall open and transparent management. We have defined clear lines of responsibility, yet while embedding contingencies in the work management. Even though for most tasks we give one partner the primary responsibility, we are ready to implement contingency plans with substitutes if the primary responsible partner fails to meet their obligations
11	Meetings, workshops, and conferences cannot be organised in presence, e.g. for pandemic spread Likelihood: High Severity: Low	All WPs	All the partners in the Consortium in charge of organising and hosting events are ready to promptly adopt tools for videoconferences in order to ensure the involvement of participants in case travels are partially or totally forbidden.

7 CONFLICT RESOLUTION PROCEDURES

As a rule, project management will aim for consensus building, promoting mediation and amicable settlement of disputes in order to ensure maximum cooperation and collaboration within the Consortium. In the case of conflict between two or more parties, the issue will be escalated to the PC and the EB to seek resolution and if required based on the severity, the PC will escalate the matter to the PO to seek advice.

Specific provisions for conflict resolution, rights and obligations of participants are covered by the CA. Any dispute, controversy shall be submitted to mediation in accordance with the WIPO Mediation Rules as written in the CA.