

Deliverable 1.4

D1.4 Project Management Plan (PMP) Updated

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Summary

This document, the fourth deliverable (D1.4) of the Project Management Plan (PMP), serves as an updated version of the PMP. The last version of the PMP, D1.3, was submitted in February 2022. These PMP reports are prepared by the WP1 team and reviewed by the Management Board. As this is the final PMP, the focus is primarily on project closure.

The previous PMPs included an implementation plan, where each task leader outlined the activities that would be undertaken in the coming months. However, as this deliverable is among the final deliverables of the project, the focus is now on finalizing the RISE project. This includes submitting the remaining deliverables and achieving the final goals. Therefore, this PMP does not include an implementation plan.

This deliverable provides an update on the project management strategies that have been implemented since the last PMP release, as well as a summary of the planned management activities for successfully completing the RISE project and achieving its objectives.

Table of contents

Summary	2
1. Project Management Overview	4
2. Update on deliverables & milestones	5
3. Communication Management	7
4. Meetings	7
5. Management of the Periodic Reporting	9
6. Financial Management	9
7. Risk Management	10
8. Impact	12
9. Dissemination	13
10. Concluding Remarks	14

1. Project Management Overview

The purpose of this final PMP (Project Management Plan) is to give an overview of the project management progress made in the final stages of the project. It will update on the progress achieved, the actions taken and the measures implemented to successfully complete the project deliverables, maintain the motivation of the consortium and ensure the project is completed successfully.

Managing a project successfully requires balancing the achievement of goals and objectives with adherence to constraints such as time and budget. This has been a top priority for the RISE project since its inception. To ensure that goals and objectives remain the focus, while delivering on time, to a high standard and within budget, the project has implemented the following management strategies:

Organizational Management: The governance structure is set up in the first PMP (D1.1), with the above-mentioned goals in mind. The project office, the management board, the general assembly and the scientific advisory board were established at the start of the project and detailed in D1.1. These boards have worked in collaboration with each other to run the project smoothly.

Management Tools: The project office set up the use of various tools (for communication, document & information sharing, open access research, reporting, meetings...) for the successful management of the project (detailed in D1.1).

Communication Management: Strong communication has been one of our priorities in managing RISE. Coordinating the efforts of different teams is essential to achieve shared goals. While internal communication dealt with the exchange of information that occurs between task teams and WP teams who are actively working on a project, external communication, on the other hand, refers to the flow of information between the members of the consortium, key stakeholders and public.

Monitoring the progress: Monitoring involves the work package progress, making sure that the milestones are reached timely and the deliverables are submitted without delay. Part of the monitoring is *Quality Management*. In order to ensure that the deliverables meet the needs and expectations, an internal reviewing process is applied. Each deliverable is reviewed internally by an expert, who is not directly involved in preparation of the deliverable, before submitting to the EC.

Financial Management: Another important aspect of project management is financial management. Project Office collected the financial data on regular basis, and informed the consortium on how the budget is used. It is particularly important to track how the resources are being used, ensure enough resources are in place to complete the planned tasks. Measures are taken to adjust any deviations from the initial plan. Project Office delivered annual cumulative expenditure reports to the EC.

Risk Management: Project management duties involve monitoring and controlling associated risks of the project, and taking actions to tackle these issues where needed. For this purpose, the MB frequently revisited the risk register and took actions where needed. Several issues we had encountered such as a partner leaving the consortium, a new partner joining the consortium, the

impact of the pandemic required amendments to the Grant Agreement. The Project Office worked together with the Consortium and the Project Officer to conclude two amendments to resolve these issues, which also granted total of 9 months of extension to the RISE Project.

Revised Project Plan: An updated version of the project plan, including an implementation plan with any changes to the original plan and the reasons for those changes have been reported as PMP deliverables. The previous PMPs included detailed information on project objectives, deliverables, milestones, work packages, and the project schedule.

Reporting: Reporting involves continuous reporting of the deliverables and milestones as well as periodic reporting. The Consortium has successfully completed the mid-term reporting, and is now preparing for the final reporting. Project Office prepares the templates in google docs for joint reports and collects all the data needed to prepare various parts of periodic reporting.

The upcoming sections of the report will provide a more detailed analysis of the abovementioned project management issues.

2. Update on deliverables & milestones

The Project Office is tasked with overseeing the completion and submission of project deliverables and milestones. The established process for collecting and approving deliverables has remained unchanged throughout the project. Those primarily responsible for each deliverable will receive a reminder at least one month prior to the deadline, and are expected to submit the report for internal review two weeks before the deadline. Both internal reviewers and the Project Office conduct quality control. Upon green light by the reviewer, the RISE Project Office proceeds with uploading the document onto the EC portal as well as to the project website. Every deliverable must be internally reviewed before submitting to the EC. The front page of each deliverable lists the reviewers' names among other information such as the authors, their institutes, date of submission etc.

All deliverables adhere to the RISE template provided to project beneficiaries at the start of the project. Milestones, however, do not have a formal submission process in the form of a report, as outlined in the Grant Agreement. No written reports are required for milestones, but brief summaries of the accomplishments reached at each milestone are often kept and shared internally via the project's intranet.

The Consortium had planned a total of 81 deliverables and 63 milestones over an initially planned 36 months. Through amendments, the project is extended to 45 months. Figure 1 and figure 2 display the status of the RISE deliverables and milestones. green indicates those that have been submitted or achieved, black represents those scheduled for the upcoming months, and red signifies any delays in deliverables or milestones.

By the time this report is being prepared, 52 deliverables had been submitted, of which 23 approved by the EC during the mid-term review. Among the 52 submitted deliverables, 7 of them were submitted with a few weeks to two months of delay. There are 27 more deliverables scheduled between February and May 2023. Among the 63 milestones that were set at the project start, 48 are being reached by the time this document is being prepared. In total we have 5 delayed milestones and further 7 milestones scheduled between February and May 2023.

Table 1 and 2 show the timeline and status of the deliverables and milestones over the 42 months’ project period, respectively. The green colour represents the submitted deliverables and achieved milestones and amber colour shows delayed activities yet to be concluded in the final months of the project. The black coloured milestones and deliverables are scheduled during the last 3 months of RISE project. The Project Office and WP leaders closely follow these activities, and there are no red flags for the upcoming milestones and deliverables.

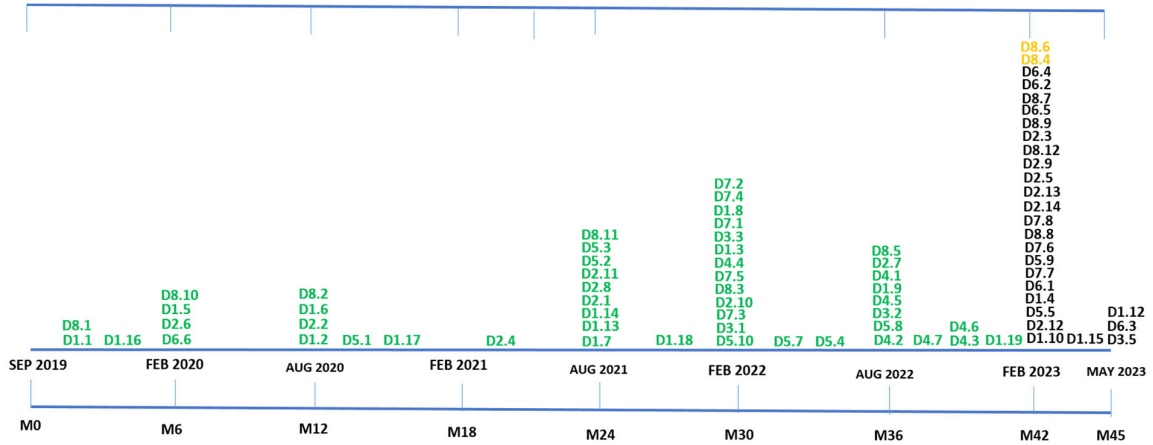


Figure 1. Status and timeline of the deliverables. Green indicates those that have been submitted, black represents those scheduled for the upcoming months, and red signifies any delays in deliverables or milestones.

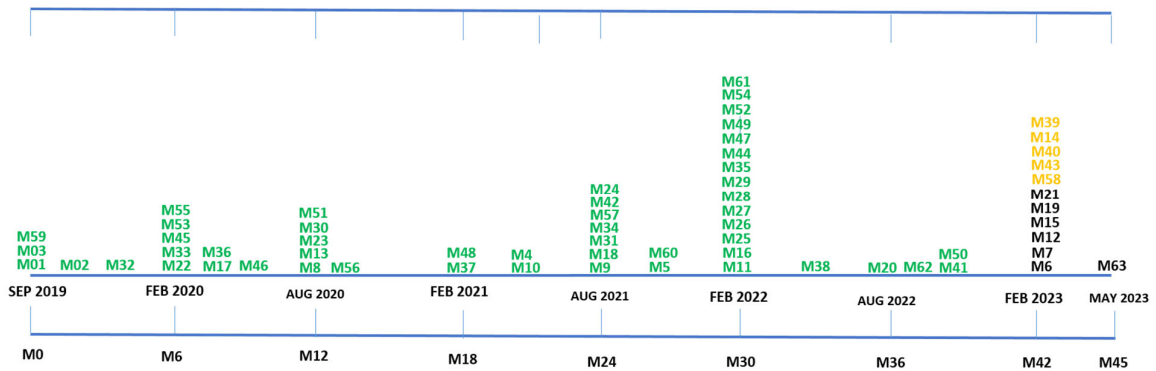


Figure 2. Status and timeline of the Milestones. Green indicates those that have been achieved, black represents those scheduled for the upcoming months, and red signifies any delays in deliverables or milestones.

3. Communication Management

Project management (WP1) is responsible for coordinating the efforts of everyone involved in the project so that shared goals can be achieved. This includes gathering information and sharing it with the right people. Therefore, communication plays a central role in achieving this goal. Communication has been the backbone of project management in the RISE project. A strong, transparent and regular communication between the RISE partners, WPs and with the Project Office has been achieved. Several tools have been set up and utilized throughout the project. These tools help teams to stay on track, share information and knowledge, and make decisions quickly and efficiently. RISE project utilized the following methods and tools for internal communication:

1. Email: Email has been widely used tool for internal communication, allowing partners to easily and quickly exchange information, documents, and updates. Emails are used for the general and important information with the Consortium.
2. Video conferencing: Zoom has been majorly used to hold regular meetings and virtual workshops, allowing partners to collaborate and share information in real-time.
3. Intranet: Alfresco platform (<https://alfresco.ethz.ch/share/page/site/rise/dashboard>) has been used as the main internal document sharing platform, to store and share project-related documents, such as the project plan, progress reports, the deliverables, financial reports, meeting minutes and presentations and other management documents.
4. Collaborative document creation: Google Docs were used to allow team members to work on shared documents in real-time
5. Face-to-face meetings: Major RISE Meetings and several workshops were held as face to face meetings, organized by RISE Project Office.
6. Internal Newsletters: 10 internal newsletters have been delivered by WP8 throughout the project, aiming at updating the community with what has been going on in RISE in the past months and the important news and events ahead.

External communication is carried out in partnership with Work Package 8. It encompasses the development and upkeep of the project website, the Twitter account, engaging with stakeholders, distribution of newsletters and monitoring the key performance indicators. The PEDR (Plan for the Exploitation and Dissemination of Results) deliverables detail the work done as part of the external communication activities.

4. Meetings

Organizing meetings is an important aspect of project management, as it allows all project partners to stay informed about the project's progress, and to discuss any issues or concerns that may arise. The following are the steps taken to organize meetings effectively:

1. Determine the purpose of the meeting: Clearly define the goals and objectives of the meeting, and the specific topics that will be covered, whether it is a major project meeting held annually, a management board meeting held every two months, or a scientific meeting.

2. Identify the attendees: Determine, who needs to attend the meeting, and ensure that all necessary parties are invited.
3. Set a date and time: Choose a date and time that is convenient for all attendees (using doodle where needed), and make sure to provide enough notice for everyone to plan accordingly.
4. Prepare an agenda: Create an agenda for the meeting, and distribute it to all attendees in advance.
5. Reserve a meeting room/venue: For face to face meetings, reserving a suitable meeting room/venue, ensuring that it is equipped with the necessary technology and resources, such as a projector, whiteboard, or videoconferencing equipment.
6. Send reminders: Send reminders to all attendees before the meeting, providing them with the necessary information, such as the location, date, time and agenda.
7. Follow up: After the meeting, distribute the meeting minutes to all attendees and actions are monitored as a follow up to ensure that any action items or decisions made during the meeting are implemented, and that any issues or concerns are addressed in a timely manner.

Below is the summary of the important meetings organized by the project management.

1. Kick Off Meeting: 2-4 Sept 2019, Zurich, Switzerland

2. Mid-term Conference: 26-28 May 2021, online

3. Annual Meeting: 11-13 May 2022, Florence, Italy

4. Final Meeting: scheduled on 25-26 May 2023, Lugano, Switzerland

Scientific Advisory Board Meetings:

1st SAB Meeting: 17.12.2020, online

2nd SAB Meeting: 28.05.2021, online

General Assembly Meetings: 1st: 04.09.2019 & 2nd:28.05.2021 & 3rd:26.06.2022

Management Board Meetings: 20 MB meeting were held over the project timeframe. Meeting minutes were recorded and submitted to the EC in 6 deliverables (D 1.5, 1.6, 1.7, 1.8, 1.9, 1.10).

ZOOMing into RISE Seminars:

These were an hour long science focused seminars typically consisting of two presentations from a WP, followed by question time to engage the audience and enhance the link between different groups. The presentations are made available to the RISE community through Alfresco platform.

ZOOMing into RISE Workshops:

These were two hours long meetings organized in the final year of the project, in the form of workshop to allow integrating the different RISE results and plan the RISE demonstration and services. The presentations were kept short, which allow more time on discussions and planning.

- 06.10.2022: Workshop on Ensemble Modelling
- 03.11.2022: Workshop on OEF Modelling
- 17.11.2022: Workshop on Scenarios and Demonstration
- 01.12.2022: Workshop on the role of sensors in RISE
- March 2023: Developments and use of dynamic exposure & dynamic vulnerability in RISE

5. Management of the Periodic Reporting

Periodic reporting (PR) is a requirement for all H2020 projects. It is used to document the progress of the project and to ensure that the project is on track to meet its objectives. RISE has two reporting periods: PR1: M1-M20, PR2: M21-M45.

The RISE Project Office expertly guided the preparation and submission of the first periodic report, covering the period from September 1st, 2019 to August 31st, 2021. To ensure compliance with regulations, the Project Office provided comprehensive guidelines and templates for both financial and technical reporting to all RISE partners. Each partner was responsible for their financial reporting while technical reporting was a collaborative effort by the entire consortium, overseen by the Project Office. The report was reviewed and evaluated by the Management Board before submission. The Project Office will continue to utilize this successful approach in coordinating, preparing, and submitting the second and final periodic report.

6. Financial Management

Unlike the technical reporting, the financial reporting is done by each partner. This involves submitting regular financial reports to the EC, which provide information on the project's financial status, including the budget, actual expenses, and any variances from the approved budget. While partners do their own financial reporting to the European Commission, WP1 plays an important role in monitoring the financial reporting, analysing the distribution of the resources and preparing the annual cumulative expenditure reports. Monitoring the use of resources is an important aspect of RISE project management, as it helps to ensure that the project remains on track and that the resources are being used efficiently. The main steps followed for monitoring the use of resources are:

1. Establishing a monitoring plan: This involves outlining the specific resources that will be monitored, the frequency of monitoring and the methods that will be used to collect and analyse data. Project Office performed monitoring of the total expenditure annually, shared the data with the MB and communicated one to one with the respective partner when needed.
2. Collecting data: This involves gathering information on the use of resources, such as the number of person-months allocated to each task or work package, the cost of equipment, and the use of facilities. This is done for each reporting period.
3. Analysing data: This involves reviewing the data collected and comparing it to the project plan to identify any variances or areas of concern.
4. Identifying issues: This involves identifying any issues or problems related to the use of resources, such as over or under-utilization of resources, and determining the cause of the problem. The deviations from the project plan is reviewed by the Project Office, communicated with the MB as well as the respective partner.
5. Taking corrective action: This involves implementing corrective actions, such as reallocating resources, to address any issues or problems identified. Corrective actions have been taken multiple times throughout the project. Project office always consults the

Project Officer first, before taking any corrective actions. After taking the green light from the Project Officer, the necessary adjustments are done.

6. Reporting: This involves regular reporting (periodic reporting) on the use of resources, including any issues or problems encountered, to the European Commission and the project partners.

To keep track of the financial progress of the RISE project, the WP1 team submitted annual cumulative expenditure reports (D1.17, 1.18, 1.19). Table 1 illustrates the total expenditure as of December 1st, 2022, based on the data provided in these reports. The budget for the project overall aligns with the project timeline, however, some partners may have over or underspent their allocated budget. The Project Office communicates with the partners who deviate from the budget to ensure that the remaining resources are used efficiently for the remaining tasks of RISE.

Table 1. Total Cumulative Expenditure

Beneficiary	Total Budget (€)	Total Expenditure(€)	Balance on 01.12.2022	
		until 30.11.2022	Total balance (€)	Balance (%)
ETH	1829085	1539837.6	289247.5	15.8
GFZ	873980	686887.0	187093.0	21.4
INGV	398500	368686.5	29813.5	7.5
IMO	227750	72214.8	155535.2	68.3
UNIBO	225000	186160.5	38839.5	17.3
UNIVBRIS	250000	177791.1	72208.9	28.9
UEDIN	520000	475371.8	44628.2	8.6
UNINA	820000	774922.0	45078.0	5.5
BIU	225000	220654.0	4346.0	1.9
EUCENTRE	459185	426312.3	32872.7	7.2
EMSC	440000	416927.0	23073.0	5.2
UGA	380000	361271.9	18728.1	4.9
UCAM	300000	300665.0	-665.0	-0.2
BOUN	300000	218202.5	81797.5	27.3
KNMI	50000	74104.1	-24104.1	-48.2
UniBg	150000	158046.8	-8046.8	-5.4
UKRI	60000	38876.2	21123.8	35.2
QUAKE	445000	354741.2	90258.8	20.3
OGS	46500	41415.4	5084.6	10.9
Total	8000000	6893087.9	1106912.1	13.8

7. Risk Management

Risk management is the process of identifying, assessing, and mitigating risks that may affect the successful completion of the project. It is an important aspect of project management, as it helps to ensure that the project remains on track and that any potential issues are identified and addressed in a timely manner. RISE Project Office maintains the Risk Register that lists all the

identified risks and discusses with the Management Board a current assessment of the threats they represent to the success of RISE. The initial risk register had been presented in the Grant Agreement and it has been updated regularly throughout the project. The following steps have been taken:

1. Risk identification: This involves identifying potential risks that may affect the project, such as technical, financial, and administrative risks.
2. Risk assessment: This involves evaluating the likelihood and impact of identified risks, and determining their overall level of risk.
3. Risk mitigation: This involves developing and implementing strategies to mitigate the risks.
4. Risk monitoring and review: This involves regularly monitoring the risks and reviewing the effectiveness of the risk mitigation strategies.
5. Reporting: This involves regular reporting on the risks and risk management activities, including any issues or problems encountered, to the project partners and the Project Officer.

The risk register with the latest update is shown on Table 2.

Table 2. Updated Risk Register

Risk number	Description of risk	WP Number	Risk mitigation measures
1	Technical risk -- Project duration of 3 years too short Potential Impact -- Failure to deliver in time and quality	WP1, WP2, WP3, WP4, WP5, WP6, WP7, WP8	Project Manager together with the Project Coordinator and the MB monitors the timely implementation and delivery of the project. The quality assurance is maintained by internal reviewing mechanism set up by the Project Office for each deliverable.
2	Technical risk -- Dependencies too strong between WPs Potential Impact -- Delayed delivery in one WP hindering progress in other WPs	WP2, WP3, WP4, WP5, WP6, WP7, WP8	All tasks are performed in parallel, the interconnectivity between tasks did not cause delays as a result of efficient communication and robust coordination. There were no significant delays which caused further delays. Slight delays were carefully monitored by the PM.
3	Financial risk -- Underestimation of required resources for scientific developments (medium) Potential Impact -- Scientific contributions fail to be integrated, tested or distributed	WP2, WP3, WP4, WP5	RISE Project Office monitors spending closely through internal checks, annual expenditure reports and regular communication with project partners. RISE benefits largely from in-kind contributions and in-kind contributions were increased throughout the project, where needed.
4	Financial Risk -- Available resources spread too thinly, with too many WPs and beneficiaries (medium) Potential Impact -- Failure in maintaining the planned workflow and timeline	WP2, WP3, WP4, WP5, WP6, WP7	Project Office monitors how the resources were spent, and suggests changes to adjust the use of resources, where needed. The partners are informed and advised on the use of resources, if they falloff from the grant agreement plan. At regular intervals, the work packages and task teams reflect on how to become more effective, then tunes and adjusts its workforce accordingly. RISE Partners have been flexible in adjusting the plans and resources, and adapting to the new situations where needed.
5	Strategic risk -- Failure to integrate RISE services in EPOS (small) Potential Impact -- Long-term sustainability may not be achieved	WP8	RISE design done in close coordination with EPOS-IP, many individuals also have responsible roles in EPOS. Part of the continuity will be achieved by some of the RISE key responsible, who are being involved in other newly funded H2020 projects such as GeoInquire. There are also other end

			users such as the national services. Operational RIA in Switzerland is one of them. RISE has been working on multiple fronts to provide long term sustainability to the RISE products and services.
6	Strategic risk -- Disconnect between earthquake engineers & seismologist (small) Potential Impact -- Limited integration and reduced impact on risk reduction.	WP2, WP3, WP4, WP5	The engineering-heavy WP4 worked in close collaboration with the rest of the WPs. The information and knowledge exchange has been strong throughout the project, thanks to the well set communication tools and strategies.
7	Strategic risk -- Disconnect between natural scientists, social scientists and economists (small) Potential Impact -- Limited integration and reduced socio-economic impact	WP5, WP8	No issues were faced regarding the connection between these groups. WP5 involves social scientists, who have been in close connection with other RISE work packages and the output of their work is carried on the natural scientists and engineers in the project.
8	Strategic risk -- Failure to timely identify and mitigate risks (small) Potential Impact -- Potential risks are discovered too late to enable efficient recovery	WP1, WP2, WP3, WP4, WP5, WP6, WP7, WP8	PM is accountable for the timely submission of the deliverables and milestones. PM sends reminders in advance to the responsible people, for each milestone and deliverable before submission. PM makes sure an efficient internal reviewing process is followed before each delivery. MB supports the monitoring of the WP progress by meeting every two months and discusses the status of the deliverables, milestones and any reporting to be done.
9	Strategic risk -- Underestimate ethical or privacy related risks (small) Potential Impact -- Improper use of data and products, lack of acceptance.		Rigorous application of the Ethical standards and guidelines of Horizon2020 is monitor by MB and SAB. WP1 prepared a Data Management Plan (DMP) and submitted to the Commission as D 1.16, which sets the rules for data used and produced in RISE. DMP is Updated during the mid-term periodic reporting.
10	Strategic risk -- Over-dependence on key individuals (medium) Potential Impact -- Lack of community building, poor involvement of partners	WP1, WP8	MB closely follows the proper involvement of all partners. Necessary actions were taken, when facing poor involvement of a RISE partner. Some of the responsibilities and budget were removed from Partner IMO and distributed to other partners, in order to deliver the promised work.
11	Strategic risk -- Reduced visibility and impact (medium) Potential Impact -- Failure in maximizing the impact	WP8	WP8 together with the PM regularly monitors key performance indicators, alert MB if goals are not met. PEDR reports keep the record of the KPIs and monitors them regularly.
12	Covid 19 – Delay in certain tasks, milestones and deliverables due to lock-down period	WP1, WP2, WP3, WP4, WP5, WP6, WP7, WP8	9 months' no-cost project extension is granted by the EC through two amendments.

8. Impact

Rise pledged to enhance various areas of earthquake science in order to minimize the impact of earthquakes on human lives and economies. RISE project achievements in some areas of dynamic earthquake risk, including but not limited to, are listed below:

- evaluated the potential of crowdsourced **EEW** by using smartphone apps, improving EEW-related communication and alert messages.
- improved **OEF** by developing, validating and testing the next generation of forecasting models.

- developed **OELF** using OEF as input to compute probabilistically time-dependent losses at different time and spatial scales and different probability levels
- developed and tested pan European exposure and vulnerability models have been made publicly available.
- **RLA** discloses the areas affected, the extent of damage, and the assumed number of injured. developed RLA at European scale linking with European Shakemaps and exposure and vulnerability coming from previous deliverables.
- enhanced RLA using Smart buildings, SHM, improved data processing, **dynamic exposure and dynamic vulnerability assessment**.
- estimated costs for **RRE** in near real time enabling RRE forecasting by developed a tool (OQ-RRE) that predicts recovery time and resilience of communities after earthquakes using building-by-building simulations.

9. Dissemination

Sharing the results of RISE with a wider audience, including other researchers, policymakers, industry, and the general public is an important part of project management. This can be done through a variety of means, such as publishing research papers, giving presentations at conferences, creating websites and social media accounts, and organizing events and workshops. The goal is to ensure that the results of the projects have a maximum impact and are used to benefit society. WP8 is responsible for the project's dissemination.

1. RISE website (<http://www.rise-eu.org/>) is released at the start of the project and updated regularly.
2. RISE community space has been created under Zenodo, for sharing open access research results and publications of RISE. (<https://zenodo.org/communities/rise-h2020>)
3. RISE published up until the time this report is prepared, 75 papers in scientific journals. The RISE scientists continue publishing their results, with many ongoing papers under preparation and under review.
4. RISE Twitter account was created and run by WP8.
5. Three external newsletters have been released, and the fourth and last external newsletter is planned to be released in February 2023.
6. Three Good Practice Reports have been published, and two more are under preparation.
7. A review paper on the state of knowledge on dynamic risk assessment is planned by the Management Board. The paper will be a comprehensive overview of the current understanding of dynamic risk and will summarize and synthesize the RISE findings as well as will identify gaps in the current research and point out potential areas for future study.
8. Last but not least, the final meeting organized by WP1 will serve as a major event for RISE demonstration with the involvement of the Stakeholders.

The details of RISE Dissemination can be found on the PEDR reports delivered by WP8.

10. Concluding Remarks

The RISE project has been highly successful in achieving its ambitious objectives within the given timeframe. This was made possible by leveraging ongoing and planned national and institutional projects, as well as in-kind contributions such as the time of the project's lead investigators and senior staff. Despite facing challenges during the project, the consortium has delivered high-quality products with a lasting impact. The final stages of the project are being closely monitored by the Project Office and Management Board, and efforts are being made to achieve the last milestones and deliver final reports. Additionally, RISE scientists continue to publish their results in scientific journals, and the Project Office is organizing a Final Meeting to disseminate RISE results and products to stakeholders. The RISE Management is also working on multiple fronts to ensure the long-term sustainability of important RISE products and services.