



D1.5 – Innovation Management (resubmission v2)

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Asset Level Modelling of RISKS In the Face of Climate Induced Extreme Events and ADAPTtation (RISKADAPT)

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List of Abbreviations and Acronyms

Abbreviation	Meaning
BM	Business Models
CC	Climate change
Dx.x	Deliverable x.x
EC	European Commission
EU	European Union
ICT	Information and Communication Technologies
IT	Information Technology
IMP	Innovation Management Plan
IPR	Intellectual Property Rights
ISO	International Organization for Standardization
KER	Key Exploitable Results
MIS	Model Information System
PU	Public
R&D	Research and Development
S&T	Scientific and Technical
SoA	State of Art
Tx.x	Task x.x

Executive Summary

T1.5 Project and Innovation Management, which is included in WP1, focuses on the overall Innovation Management Strategy for maximizing the impact of the RISKADAPT project. This deliverable establishes a structured approach and strategy towards innovation and its management, by developing the respective guidelines and procedures for the Innovation Management within the RISKADAPT project. Within this deliverable, the approach, the strategy and the means for evaluation and monitoring the overall innovation are described and explained. Additionally, this deliverable provides the quality assurance plan for any adjustment may need, in order to achieve and optimize the aligning of the RISKADAPT final results with the emerging market needs and the available technologies at the time. By highlighting and strengthening the crucial element of innovation in a structured way, RISKADAPT partners aim to maximise the innovative and exploitable potential of the project's outcomes.

Among the key findings of this deliverable are the adoption of the Innovation Management Strategy and structure, the innovation indicators for guiding and monitoring the innovation processes and the selection of the RISKADAPT Innovation Manager who is appointed by the consortium and his responsibilities are:

- The collaboration with partners and stakeholders for monitoring the end-user needs, along with the products' state of the art and the examination of the competition in the market via the services available and offered.
- The co-ordination of the process in which the adjustment of the planned work to the market needs will be completed successfully.

1. Introduction

RISKADAPT will provide, in close cooperation with the end-users/other stakeholders, a novel, integrated, modular, interoperable, public and free, customizable user-friendly platform (PRISKADAPT), to support systemic, risk-informed decisions regarding adaptation to CC induced compound events at the asset level, focusing on the structural system. PRISKADAPT will explicitly model dependencies between infrastructures, which, inter alia, will provide a better understanding of the nexus between climate hazards and social vulnerabilities and resilience. Moreover, this project will identify gaps in data and propose ways to overcome them and advance the state of the art of asset level modelling through advanced climate science to predict CC forcing on the structure of interest. In particular will be evaluated, (i) structural analyses, customized to the specific structure of interest, that consider all major CC induced load effects in tandem with material deterioration, (ii) novel probabilistic environmental life cycle assessment (LCA) and life cycle cost (LCC) of structural adaptation measures and (ii) a new model to assess climate risk that will combine technical risk assessment with assessment of social risks. PRISKADAPT will provide values to a set of indicators for each asset of interest, quantifying primary parameters and impacts, in the form of a Model Information System (MIS) that will provide all required information for adaptation decisions. PRISKADAPT will be implemented in the case studies in the pilots that involve specific assets, however, it will permit customization with local values of parameters and data, so it can be applicable throughout Europe for CC adaptation decisions involving assets of similar function, exposed to multiple climate hazards.

1.1 Purpose of the deliverable

This deliverable outlines the plan and establishes the guidelines and procedures for the Innovation Management to be adopted within the RISKADAPT project. The document defines and explains the concept of innovation and its management, ensuring a clear understanding for readers. The RISKADAPT Innovation Management Plan (IMP) is dynamic, allowing for continuous adaptation throughout the project's lifecycle, based on the timeline and achieved results.

1.2 Structure of the deliverable

D1.5 consists of five chapters:

- Chapter 1 is the introduction.
- Chapter 2 defines the RISKADAPT innovation process.
- Chapter 3 presents the content of the Innovation Management approach.
- Chapter 4 develops the Innovation Management Strategy.
- Chapter 5 states the conclusions.

1.3 Targeted audience

D1.5 is a public document according to the project's Description of Action (DoA). Thus, its intended audience is not limited only to project's partners and officer, but it extends outside the consortium. Overall, D1.5 aims at serving as an internal roadmap and guideline for the congruous Innovation Management of the RISKADAPT project. The scope of this deliverable is the familiarization of all beneficiaries to the Innovation Management-related procedures and goals, while it constitutes and informative report for those external parties which are willing to delve into the various aspects related to the RISKADAPT innovation potential and its further development.

2. Innovation Process

2.1 The process of innovation

Addressing the Innovation Management in collaborative environments such as the present project, and under the prism of an EU project context, the concept of innovation shall initially be defined and then explained. In the context of Horizon Europe, the RISKADAPT IMP will be based on the European Commission's (European Commission, 1995) definition for innovation, which is the "successful production, assimilation and exploitation of novelty in the economic and social spheres". From this perspective, innovation offers new options on the problems' solving and responds to the common needs of individuals and the market.

The long-term objectives of the organisations lead to the renewal and update of industrial structures through innovation, fostering the expansion of economic sectors. The increasing frequency of environmental disasters is pushing communities and companies to develop and adapt innovative solutions that align with market needs.

Innovation is also related to the ability of organisations to recognise opportunities in the market and to establish commercial relationships in order to make them economically viable. However, one of the main challenges organisations face nowadays is the lack of expertise in Innovation Management. Innovative organisations are influenced by their macro-environment, which includes factors such as the quality of the educational system, the regulatory, legislative and fiscal frameworks, the competitive environment and the firm's partners, patents and intellectual property laws, and public infrastructure supporting research and innovation. These factors either facilitate or hinder innovation. The network of economic and social activities in a region constitutes the innovation systems, whose dynamics are a complex matter.

A key challenge in Innovation Management is the absence of a common framework and definition, largely due to its multidisciplinary origin. This influences both theory and practice of Innovation Management. Despite this complexity, innovation processes share common core activities, empowering the generation of ideas for new product, processing development and implementing the management of the entire innovation process. These fundamental activities are briefly presented below:

- Generation and development of ideas which are carrying the potential to become new products or processes after implementation;
- Acquisition of knowledge on the generated ideas, and;
- Implementation and monitoring of the market acceptance of the service or product, based on the verification via customer satisfaction and sales.

Organisations empowering innovation require two main categories of skills , as described below:

- *strategic skills*, including among others: (a) the long-term view and vision, (b) the identification of the market trends and gaps, (c) the ability of collection, processing, and assimilation of technological and economic information.
- *organisational skills*, including among others: (a) the mastery of risk, (b) the efficient internal cooperation with public research entities, consultancies, customers, and suppliers, (c) the familiarization and the adaptation of a friendly-to-change behaviour of the whole organization, (d) the investment in human resources.

In fact, innovation must be a cornerstone of the organization's culture areas and activities such as Project Management or Research and Development (R&D) which are key drivers for fostering

innovation. However, the entire company must share this culture and Human Resources plays a critical role by designing, facilitating, and promoting staff training to embed this mindset.

Advancements in Information Technology (IT) are transforming the market environment. To stay competitive, companies must adopt an open-minded approach, continuously identifying and obtaining new skills and knowledge.

R&D management integrates both upstream fundamental research, as well as product and process development. Ultimately, Innovation Management includes also the final product and market introduction phase. The project aims to address all these phases of Innovation Management, as shown in Figure 1.

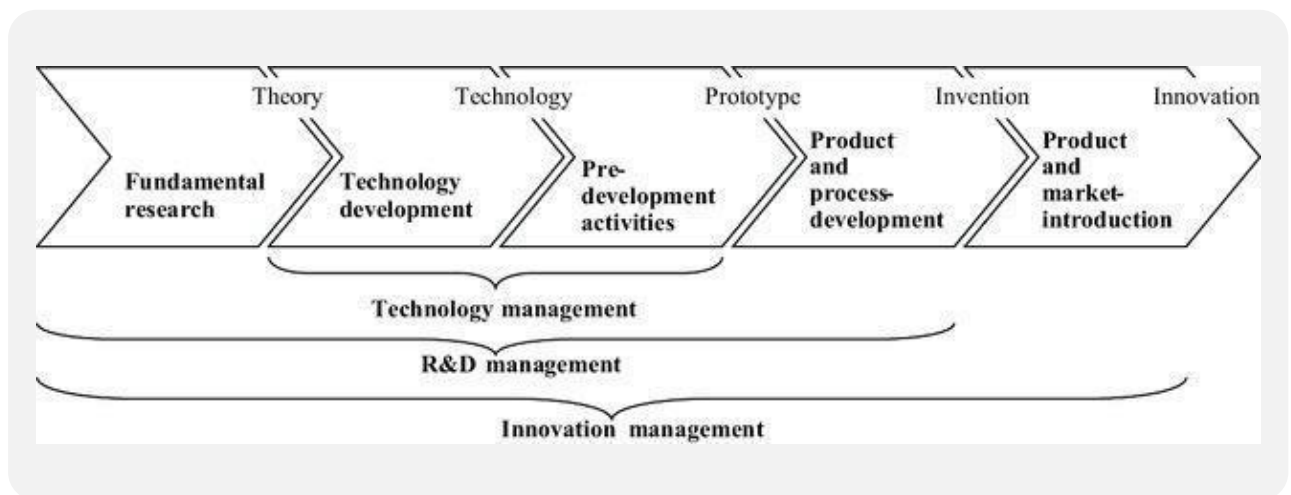


Figure 1: Innovation Management Plan (Specht, 2002)

3. Innovation Management

3.1 ISO 56002 Innovation Management

International standardization is a voluntary process based on consensus among the participants. Sometimes this may be translated to the fact that the process takes several years to complete, but the final outcome consists of publications of high level of credibility and legitimacy, as they are founded on the agreement between many interested parties. The first and main publication related to Innovation Management was the European technical specification CEN/TS 16555-1 Innovation Management System (European Committee for Standardization, 2013). Important notice is that as of 2020, the CEN/TS was replaced by International Organization for Standardization (ISO) 56002:2019 (ISO, 2019). Therefore, the deliverable on “Innovation Management of RISKADAPT” will refer to the latter standard.

An Innovation Management System is defined as a set of interrelated and interacting elements, aiming at the realization of value. It provides a common understanding and framework on developing and fostering innovation capabilities, evaluating performances under this prism, and achieving respective outcomes (ISO, 2019). The elements can be gradually adopted and implemented in the system according to the particular context and special interests of the organization. Full benefits can be gained in the case of their total adaptation by the organization. The effective implementation of the Innovation Management System relies on the commitment in the top management level of the organizations, and the ability of leaders to foster innovation behaviour, develop innovation capabilities and a surrounding culture supporting innovation activities.

The principles presented below are the cornerstones of the Innovation Management System implemented in RISKADAPT: (a) realization of value; (b) future-focused leaders; (c) strategic direction; (d) culture; (e) exploiting insights; (f) managing uncertainty; (g) adaptability; (h) systems approach. The principles can be considered as an open set to be integrated and adapted within the organization.

3.2 Innovation Management Approach

The systems approach to Innovation Management acknowledges that several interrelated and interacting elements or factors within an organization must be considered to ensure innovation success. The **ISO 56002:2019** standard for **Innovation Management Systems** provides a structured framework, covering seven key elements which are presented briefly below and align with those found in all management system standards (Figure 2):

Context: The tracking of external and internal issues and trends, e.g., user preferences, technology developments, and internal capabilities, should be executed from organizations, in order to identify opportunities and challenges that can trigger innovation activities.

Leadership: The top management – after the understanding of the context - should demonstrate leadership and commitment by establishing vision, strategy, and policy for achieving innovation, including and defining respectively the necessary roles and responsibilities.

Planning: Innovation objectives and goals, organizational structures, and innovation portfolios should be established according to the direction set by top management, after the identification of opportunities and risks.

Support: The building of the necessary and beneficial support regarding the innovation activities should be addressed and become reality, (e.g., people with the right competences, financial and other resources, tools and methods, communication and awareness creating activities, approaches for intellectual property management).

Operations: Innovation initiatives should be established in line with the strategies, objectives and policies of the innovation vision. Innovation processes should be configured according to the types of innovations to be achieved: the identification of opportunities, the creation and validation of the concepts, and the development and deployment of the solutions.

Evaluation: The performance of the Innovation Management System in total should regularly be evaluated and assessed regularly in order to identify strengths and gaps.

Improvement: Based on the previous evaluation, the system should be enhanced by addressing the most critical gaps with regards to the understanding of the context, leadership, planning, support, and operations.

Innovation Management System



Figure 2: Representation of the framework of the Innovation Management System (ISO 56002-2019)

The guiding framework established eight Innovation Management principles to be followed and is applicable to all types of organizations, regardless of type, sector, or size. An organization has the option to select the most relevant parts of the system to be implemented, depending on its specific situation and goals. The eight Innovation Management principles are the following:

- **Realization of value:** Value, financial or non-financial, is coming from the deployment, adoption, and impact of new or changed solutions for interested parties.
- **Future-focused leaders:** Leaders at all the levels and hierarchy, driven by curiosity and courage, challenging the status quo by building an inspiring vision and continuously engaging people to achieve those aims.
- **Strategic direction:** The direction for innovation activities is designed and defined by the shared objectives and a relevant ambition level, embraced by the necessary people and other resources.
- **Culture:** Shared values, beliefs, and attitudes, the supporting of openness to change, the courage of risk taking, and the collaboration are enhancing the coexistence of creativity and effective execution.

- **Exploiting insights:** A diverse range of internal and external sources are exploited to build insightful knowledge in a stable and systematic level, in order to exploit stated and unstated needs.
- **Managing uncertainty:** Uncertainties and risks are identified, assessed, leveraged, and then managed, after the experience from systematic experimentation and iterative processes, within a portfolio of opportunities.
- **Adaptability:** The potential changes within the context of an organization are addressed by time-dependent and gradual adaptation of the respective structures, processes, competences, and value realization models for maximizing the innovation capabilities.
- **Systems approach:** Innovation Management is relying on a systems approach with interrelated and interacting elements, regular performance evaluation and the respective improvements of the system.

3.3 RISKADAPT Innovation Management Approach

The various models adopted for the Innovation Management approach do not deal with the development of innovation per se, but rather with the evolution of companies' Innovation Management strategies under different social, economic and political circumstances. After the study of numerous Innovation Management strategies, the approach adopted for the RISKADAPT project is commonly known as Open Innovation.

In the current landscape of an interconnected world, it is almost impossible for organisations to remain isolated, forcing them this way to integrate internal and external ideas and complementary technologies. The specific idea of interconnectivity is supported by the European Commission's Horizon programme and is the cornerstone of the RISKADAPT project. Collaborative approaches to the research and innovation process have been proved to deliver positive results in terms of innovation activities and business profitability.

Among the advantages of following Open Innovation strategies are the: (a) reliance on external research and development (in comparison to the reliance on the organisation's internal R&D), (b) the strong possibility of exploring new markets and (c) the increased flexibility. Moreover, Open Innovation developed strategies facilitate access to new markets and new knowledge, allowing this way to share both risks and resources in the process, support innovation, foster the creation of new value, the confrontation of ideas and practices, and the creation of synergies. Therefore, the collaboration networks represent an exemplary paradigm of a knowledge-driven society, are also inspired and in fully alignment with the current advances in Information and Communication Technologies (ICT).

However, there are certain barriers and limits to overcome even when following an Open Innovation strategy. Among the barriers can be considered the dependence on the underlying value system, the difficulty in identifying the "added value" (contributed by each partner), the complicated distribution of income along with liabilities, and the change from tangible to intangible of valuable aspects. Among the key parameters of enhancing the collaboration are the existing incentive schemes, the trust relationships established with other organisations, the management process, the ethical code, the culture of the organisation, as well as the negotiation of contracts and collaboration agreements.

Organisations (the consortium in our case) must rely on their absorption capacity to integrate sophisticated and costly technology. Moreover, it is needed for all sides to recognise the value of the new external information, the assimilation of that information and then its applicability to the market, making use this way of efficient generation and integration processes. Organisations shall be able to code and share their knowledge. Finally, organisations must develop an effective connection capacity

and framework to build and maintain relationships with partners, particularly with complementary entities and competitors.

3.4 RISKADAPT Innovation Management Structure

Project management is a fundamental factor for the success of any kind of project and therefore more attention should be given in the case of a research project like this one. The main reason is the fact that the level of uncertainty in these cases is potentially much higher as the related and expected outcomes (including both positive and negative) are not always predictable. Due to these arguments, management should be empowered and fostered in an Innovation Research Project. This approach could be adopted through 3 main steps:

- **General Project Management**, with advanced monitoring related to the identified milestones.
- **Risk Management:** Implementation, within the entire lifetime of the project, of a Contingency Plan related to the risks that are of high probability to occur.
- **Opportunity Management, both internal and external:** the optimal situation for a research project is when it goes beyond its limits, generating more than expected positive ideas, results or approaches. Although positive, this situation should be managed to maximize the related benefits, integrating the opportunity in project development, to reach higher or more diversified objectives, in an Opportunity Capitalization Plan. Typical examples of external opportunity are the breakthrough technology development and innovation in the sector of RISKADAPT or huge market changes; on the other side typical internal ones are mostly related to the implementation of technical activities and connected to S&T objectives and to the management of pilot activities.

A risk management plan is nowadays widely used to forecast, prevent and manage the risks. But forecasting the risks is much easier than forecasting the opportunities. For this reason, it is critical to apply a similar methodology to promote and fully exploit eventual opportunities that may occur during the project lifetime. The nature of the opportunities can be vast: methodological, technological, managerial, etc.. This can be possible through a meticulous monitoring of WPs activities to identify new opportunities timely. In this case, an Opportunity Capitalization Plan should be developed, in parallel with the contingency plan to react to risks.

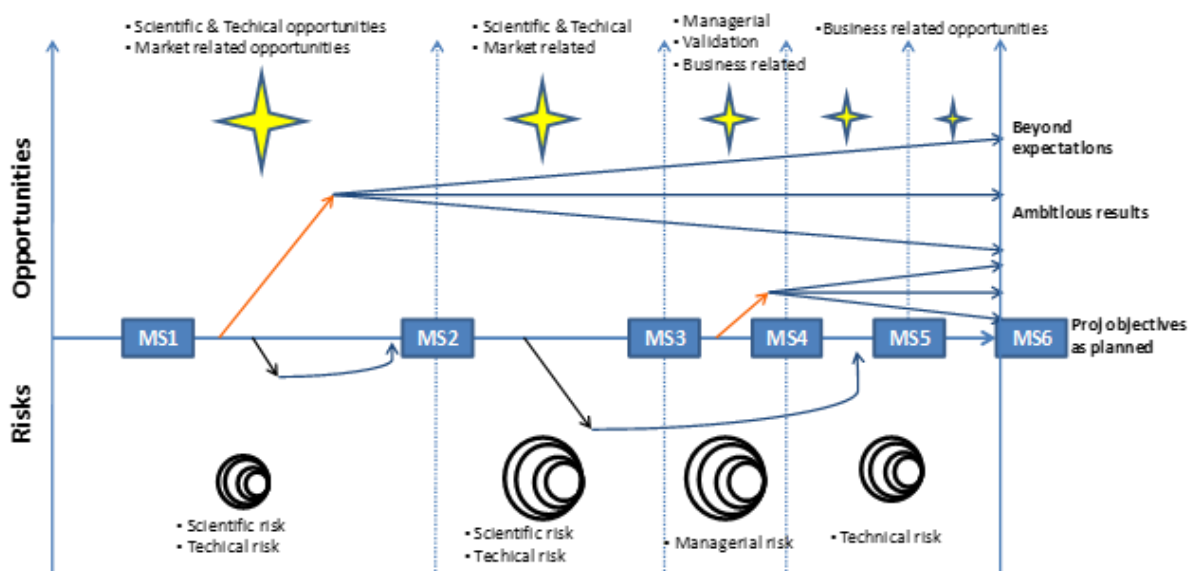


Figure 3: RISKADAPT Innovation Management Structure

As shown in the Figure 3, where “opportunities” are depicted by stars and risks by concentric circles the project can better benefit from an opportunity at its earlier stage, while suffers more, generally, from a problem at a later one. While the Contingency Plan aims to solve a contingent problem, by going back to the project deployment road toward the objective, the Opportunity Capitalization Plan aims to apply a series of elasticity measures to maximize the opportunity impact, thus straying from the planned road and taking a new parallel one towards a more ambitious objective: either wider or more diversified.

In Figure 4, the 10 Milestones identified in the project are presented and for each one the opportunity and the associated type of risk have been identified. The categorization of the risks (which are the same also in the Figure 3) are presented below and consists of the following:

- Managerial risk: it is related with the precise and time-manner preparation of the respected guidelines and roadmaps to be adopted for the RISKADAPT, along with the successful execution and supervision of the project from the beginning till the completion
- Technical risk: it is related with the identification, definition and satisfaction of the technical requirements regarding the solutions under development within RISKADAPT
- Scientific risk: it is related with the identification, definition and satisfaction of the scientific requirements and excellence regarding the solutions under development within RISKADAPT
- Business risk: it is related with the preparation of the RISKADAPT solutions towards their entrance to the market, by identifying precisely the current market landscape and covering the existing and future needs in accordance with the maximum exploitation profitability for the solutions’ owners

The first milestone is identified at Month 3 of the project and refers to the expected data management plan, which is certainly a great opportunity, but involves an important managerial risk as the definition of the plan is strategic in order to achieve a successful implementation of the project. Similarly, the expected social impact of Month 23 represents a great opportunity but an important managerial risk, as it is important to evaluate this aspect during the entire duration of the project. In the meanwhile, the intermediate milestones are referring more with the technical and scientific risks, as this will be the period when the main development of RISKADAPT modules and tools will be developed. Therefore, the attention will be given to the defined technical specifications and scientific requirements set in the beginning of the project (including co-defined user requirements).

From Month 23 to Month 30, however, the two milestones related to the definition of the platform PRISKADAPT are reported. In this case the greater risks are linked to the business risks as the final version of the main technical outcome will be reaching. In fact, the focus will be targeted to the main stakeholders who could use the platform and the supplementary ways to extend this use even beyond the project. Finally, during the project there are many small important opportunities, whose associated risk is mainly technical-scientific.

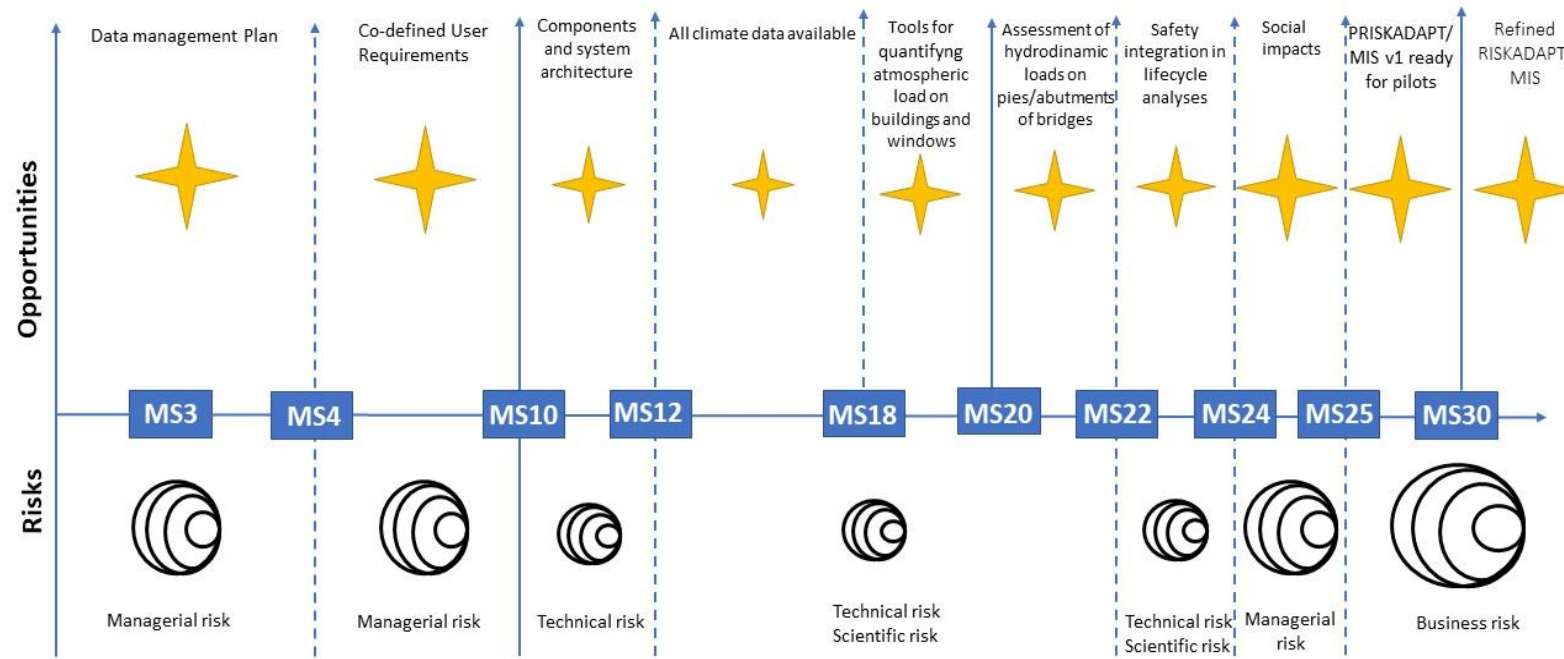


Figure 4: RISKADAPT relationship between risks

3.5 Innovation Potential of RISKADAPT

RISKADAPT is rooted in risk management and will contribute substantially to the development of that risk awareness in Europe. But it is equally ambitious and interested in relation to social integration and technological advancement. Indeed, the aforementioned three areas are conceived as mutually supportive, and the project's success depends on the balance between them. RISKADAPT will enable them in the best level in order to learn from and challenge one another in a collaborative culture that minimizes intellectual and organisational divisions. This approach is considered creative, and it is designed to empower real innovation in each area:

- **Social integration:** by relying and building on the best European experience in community development practice, RISKADAPT will not only exceeds the expected positive outcomes for participants but will develop a replicable model for building relationships and trust with marginalised communities. A clear, principle-based model will be developed to safeguard and promote the respect for human rights, dignity and autonomy and offer evidence-based guidance on cultural co-creation and inclusion. RISKADAPT has as outer goal to design a replicable, innovative model which sets the standard for future good practice and understanding.
- **Platform creation and production:** Among its greatest challenges are the era-defining impact of digital technology on cultural production, distribution and consumption, and the perception of development or awareness that many people feel in our increasingly placed in high-risk settings. RISKADAPT confronts both head-on, with the aim of creating innovative ways of using new technology in the process of co-creation to serve the communities.
- **Technological advancement:** The big shifts in the technology not only transform and change how the art is seen but also the way it is made and, and long-time is required for the people to adapt to the new reality.

3.6 Innovation indicators of RISKADAPT

RISKADAPT will adopt a set of indicators which will be both time-related and technical (qualitative), aiming at guaranteeing the overall achievement of innovation. The indicators related to time are shown in Figure 4 and they are associated with specific achievements within different months of the projects. The technical (qualitative) ones that will be considered are:

- the Key Performance Indicators as were set in the Description of Action of the project
- the achievement of the ambitious ending TRL of the many identified Project Results (D7.1., D6.2.)
- the satisfaction of the identified end-users' requirements (D2.1)
- the technical specifications (D2.2.) which are constantly updated within the duration of the project

This set of indicators will serve as the innovation indicators and will be used for the evaluation of the project's final results and the level of innovation reached.

3.7 Monitoring and evaluation of the RISKADAPT innovation results

Specific activities are planned within the timeframe of the project, for the constant monitoring, feedback collection and update of the innovation strategy. Two specific workshops of associating and strengthening innovation with exploitation perspectives (under activities of WP7) are planned for the

second and the third plenary meeting. At these meetings, feedback will be collected from and shared among the partners, in order to enhance the innovation aspect in the RISKADAPT practice. In case of more plenary meetings, it will be considered the organisation of an extra, respective workshop also.

Moreover, aligned with the evaluation and feedback processes (e.g., the usage of questionnaires) of T6.1. and T6.2. which are targeted both on internal and third-party (e.g., professionals) users, specific feedback will be asked on the basis of evaluating the innovation potential of the developed solutions within RISKADAPT. This information may be integrated also into the final version of exploitation plan (D7.8.), in order to further strengthen the exploitation perspectives of the tools and Project Results of RISKADAPT.

Monitoring the implementation of a research project's strategy is crucial to ensure that goals are being met, timelines are adhered to, and resources are being used effectively. In order to secure and track the implementation of the overall Innovation Management structure and strategy, a timeline including major steps is presented in Figure 5.

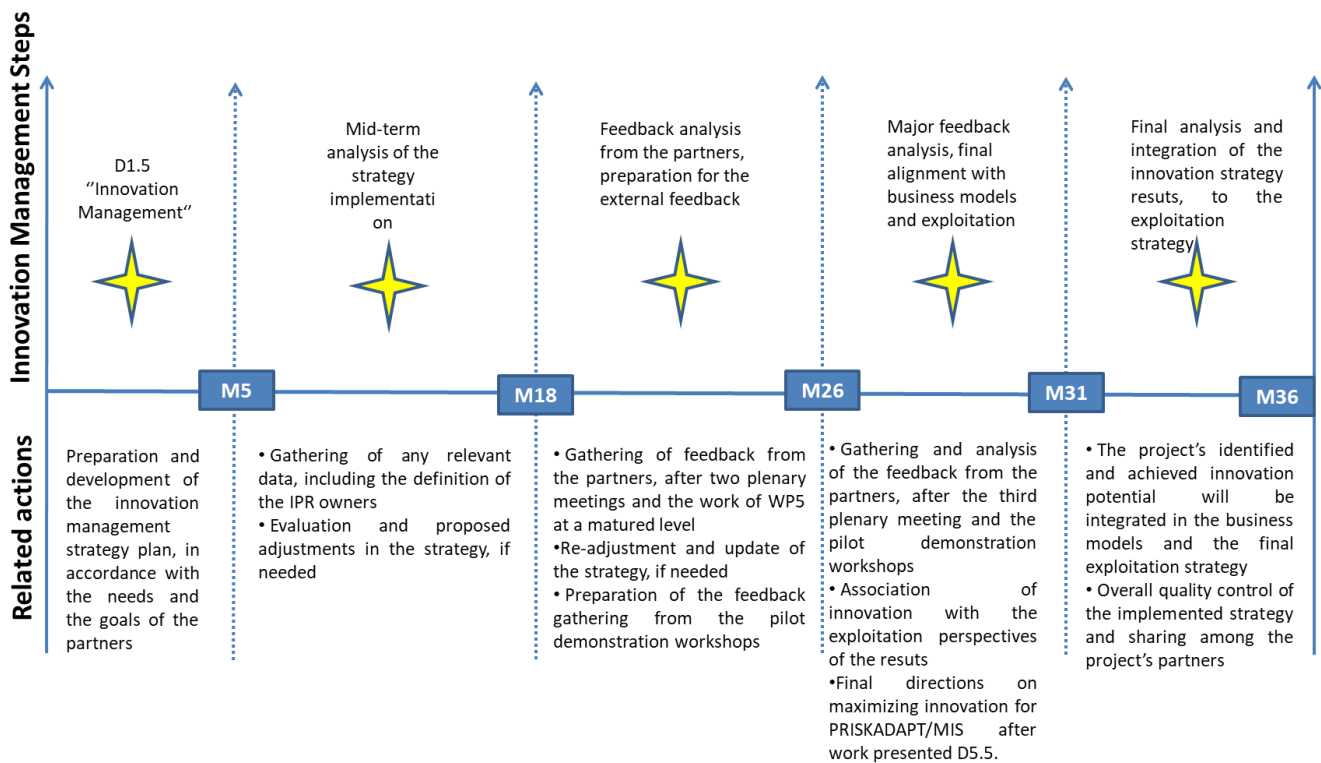


Figure 5: RISKADAPT timeline

The suggested timeline depicts the major steps regarding the development and the adoption of the RISKADAPT overall innovation strategy. The first major step (M5) is the preparation and development of the IMP, in discussion and accordance with the needs and the goals of the partners, by defining the Innovation Management Approach and Structure. Next major milestone is the mid-term analysis, dedicated to the so far analysis implementation of the strategy, connected to the advancement of the technical activities at that time and the definition of the Project Results' (IPR) owners.

After the mid-term reporting and towards the final phase of the project, the main objectives will be focused on the preparation of the feedback gathering from the pilot demonstration workshops and the partners during the first two plenary meetings (M26) and the analysis of this feedback in order to include it in the preparation of the final exploitation plans and the final phase of the tools development (M31). By the end of the project (M36), the goals are the identification of the RISKADAPT overall

innovation potential and how this can be integrated in an efficient way in the final exploitation strategy. Finally, the overall quality control of the implemented strategy will be conducted and shared among the project's partners.

Until M27, the two plenary meetings (Bologna – February 2024, Milano – February 2025) assisted to an internal discussion, feedback and re-adjustment of the guidelines where it was needed in order to maximize the innovation of RISKADAPT solutions. The association with the exploitation strategy and how these two can be aligned were highlighted accordingly. Furthermore, specific questionnaires on the RISKADAPT innovation potential were shared among the attendants of the workshop and demonstration of Pilot 2, and feedback was collected which is still under process.

4. Innovation Management Strategy

4.1 Overall Framework

Some of the suggested fundamental activities to be adopted in this and any innovative process are presented below:

- Generation of ideas carrying the potentiality of transforming into new products or processes.
- Acquisition of knowledge on the generated ideas.
- Implementation and then market monitoring based on the customer satisfaction and after sales.

Innovation management within European projects is a process that requires an understanding of both market and technical problems, under the goal of successfully implementing appropriate creative ideas. Corresponding business models and process innovations are for this reason an integral part of creating, adapting, and maintaining a product or service to market maturity. These new business models and process innovations are usually triggered through technological innovations, acting as enablers, while at the same time are generating requirements for the development of technology.

For this reason, the figure of “Innovation Manager” is included in the project. Based on the RISKADAPT management structure, the Innovation Manager reports to the Steering Committee and also provides guidance to the Consortium regarding the best practices on Innovation Management, such as:

- Planning of the innovation success, understanding and exploitation of Innovation Management techniques and processes within the lifetime of the project;
- Identification and fostering of innovation enablers/driving factors;
- Evaluation and improvement of the performance of the Innovation Management system;
- Identification of the “enter to market” needs for high potential innovations;
- Systematic capture of structured data on project innovations, related to innovation readiness, Innovation Management, and market potential (both TRL – Technology Readiness Level, and MARL – Market Adoption Readiness Level); and
- Identification and exploitation of positive spillovers.

Beyond the requirement of new technologies and products, innovation also needs new and effective business models. In the economy of the European knowledge, production and services are relying on knowledge-intensive activities, resulting into gradual and accelerated pace of technical and scientific advance. The usage of existing business model tools and strategies is focused to:

- Brainstorm and quick scan tooling for new Business Models focussed on formulating value propositions, branding and market segmentation in relation to organisational resources and capabilities and earning logics (e.g., a Business Model Canvas helps to structure the process of business model innovation and to early deal with issues of business model implementation);
- Test Business Models in various and different scenarios;
- Define roadmaps for the smooth change to a new Business Model;
- Analyse and take into consideration the impact for business processes, applications and IT infrastructure when Business Models are implemented;

- Align new Business Models with relevant partners in the environment of the SME (their ecosystem), but also with existing IT-systems, platforms, and architectures; and
- Facilitate codification, transfer, and adaptation of successful Business Models from other sectors and countries.

4.2 Framework for Assessment

The aim of this section is to provide partners with the knowledge about the processes or steps that the Innovation Manager will follow in order to assure that the previously established innovation approach of RISKADAPT objectives is adapted to trends on the market. To achieve this, trends in the field of R&D must be closely and regularly monitored, along with the market breakthroughs. Among the tasks for the overall assessment are:

- The project's Innovation Management Plan will be initially submitted during month 4 of the project and it will be regularly updated throughout its development.
- Each partner will be considered responsible for updating the rest of the consortium in case that they are aware of events affecting the Innovation Management of the project.
- A slot of the consortium meetings will be dedicated to the analysis of the Innovation Management strategy.
- Potential risks will be previously identified and classified according to the likelihood of occurrence.
- In case a non-identified and unexpected threat emerges, the Innovation Manager will call for a meeting of the Steering Committee in order to jointly determine the next steps.

Below, we present a brief explanation of the work to be carried out in each of the Innovation Management activities:

- **Preparation** of the Innovation Management plan and tools. During the initial stages of the project, the set-up and launch of Innovation Management system and processes will take place;
- **Identification** of the most relevant sources to conduct market and technological monitoring;
- **Selection** of the appropriate Innovation Management tools to be adopted and implemented throughout the RISKADAPT project;
- **Gathering, analysis and refinement of Innovation Management data.** The Innovation Manager will gather information related to potential innovations developed in RISKADAPT from all project participants using any of the tools identified in the following section of this document, or others when appropriate. Information will be compiled and analysed in parallel to the Steering Committee meeting schedule for the project. In every phase, previously collected information will be checked and updated as required. Furthermore, Innovation and IPR results will be used to identify, assess, and prioritise ideas, establishing links between potential innovations and identified results, as well as their route to market;
- **Market monitoring and links to exploitation strategy.** This activity includes the continuous monitoring of the market and technological data sources in the innovation areas identified. It also includes the filtering and distribution of the relevant information within the project stakeholders.

Technological innovation is considered as one of the most crucial processes capable of triggering economic development, under the condition that the organizations are willing and able to grasp it and

have the skills to exploit it in the best and most productive way. RINA-C will therefore be responsible for the exploitation of RISKADAPT, identifying in the initial phase the most important results of the project that will be illustrated in D7.4 and then conduct an important market analysis thanks to comparison with all partners of the consortium.

Specifically, the table below (Table 1) will be included in D7.4 for the exploitation results by identifying the possible beneficiaries of the project platform. It will be compiled in order to create a situation awareness for the finalization of Innovation Management. Each partner will need to identify their reference KERs, and they will be listed in the table in the reference deliverable.

Table 1: Survey of the RISKADAPT KER

<ul style="list-style-type: none"> • Brief description of the KER (<i>provide a concise description of the result</i>) • Type of KER: (<i>e.g. method, methodology, tool</i>) • The KER is: (<i>select the most pertinent one</i>) <ul style="list-style-type: none"> • A new idea • An innovative idea banking on existing services • Unique Selling Point (USP) of the KER: <ul style="list-style-type: none"> • Why should a client buy this result? • What are the distinctive points of the proposed service/result with respect to SoA, competitors, etc. • Benefits to the client: (<i>consider not only economic benefits, but also social, governance and environmental ones</i>) <ul style="list-style-type: none"> • what will be the benefits for the client? • How will the KER change the client's activity? • Target Clients: please mention here either the type of client (e.g. infrastructure operator, real-estate manager, company providing mobility services, etc.) or even a specific client (name) who might be interested in the result • Markets (<i>keep only the one/s in scope and delete the others</i>): <ul style="list-style-type: none"> ○ Infrastructures, Construction, Power Generation, Public Sector, Transport, Oil&Gas • Assets (<i>keep only the one/s in scope and delete the others</i>): <ul style="list-style-type: none"> ○ <i>Oil & Gas and Petrochemicals:</i> Fixed Offshore Plants, Floating Units, O&G Storage and Terminals, LNG Terminals and Plants, Onshore Pipeline and Transportation Systems, Petrochemical Plants, O&G Production & Processing Plants, Refinery, Sealines and Subsea Systems ○ <i>Power Generation:</i> Hydro Plants, Nuclear Plants, Power Systems, Thermal Power Plants and other Power Plants ○ <i>Infrastructures, Construction & Real Estate:</i> Airports, Buildings, Port & Marine Facilities, Roads, Bridges & Tunnels, other Infrastructures ○ <i>Transport:</i> Metro and Light Rail Transit Systems, Railways and Highways ○ <i>Maritime:</i> Merchant Ships, Naval Ships, Offshore Vessels, Passenger Ships, Pleasure Vessels and other Ships, Marine Equipment and Products

4.3 Innovation Management Tools

The efficiency of the Innovation Management process within the project is based on the several specific tools proposed in order to meet the quality criteria and requirements of the Innovation Management. The Innovation Manager and the Steering Committee will be considered responsible for these tools and procedures, while the whole consortium members are obliged to implement them. A range of specific actions in order to assist the fulfilling of their potential in the market will be provided for the support of the innovators. The current initiative includes:

- assessment of the innovation maturity level with simultaneous identification of the innovators and innovations of high potentiality;
- respective provision of guidance and coaching within the duration of the project, regarding the appropriate steps towards the market support the innovators via entrepreneur-oriented initiatives for the coverage of wider needs concerning networking, access to finance, Intellectual Property Rights (IPRs), etc.

5. Conclusions

The successful implementation of innovative and creative ideas after processing respectively market and technical parameters is the outer goal of the Innovation Management. RISKADAPT understands the development of business models and the establishment of process innovations as a core part of a product's or a service's route from the creation step towards the market maturity. For this goal, RISKADAPT designed a strategy and developed an IMP at an early stage of the project to enhance the fostering of the outcomes in social and technological level.

This report presented the Innovation Management approach adopted within the RISKADAPT project, by providing also the required literature. The deliverable is serving also as a roadmap for the members of the consortium and will be subjected to revision within the lifetime of the project, aiming at the adjustment of the innovation activity requirements. Therefore, the IMP can be considered as an adaptive document, relying on changes and updates within different project phases.

Respective provision of guidance and coaching within the duration of the project, regarding the appropriate steps towards the market support the innovators via entrepreneur-oriented initiatives for the coverage of wider needs concerning networking, access to finance, Intellectual Property Rights (IPRs), etc.

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