



Biomimicry Design for Sustainability Skills in VET

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KA220-VET - Cooperation Partnerships in Vocational Education and Training

Risk Management Plan

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1. Introduction

This document outlines the Risk Management Plan for the LET'S MIMIC project. It is designed to ensure the successful development and implementation of project activities while adhering to the predefined timelines, objectives, and quality standards. Effective risk management is crucial in identifying potential challenges that may arise throughout the project's lifecycle and mitigating their impact.

The Risk Management Plan sets clear procedures and guidelines to systematically identify, assess, and manage risks that could affect the project's successful outcome. It is a dynamic document intended to evolve throughout the project, with updates made as required by the Steering Committee, ensuring the plan remains responsive to new risks and challenges.

This plan allows the consortium to implement proactive strategies and contingency measures by highlighting vulnerable areas. It emphasises the collaborative nature of risk management, with input from all project partners being critical due to the consortium's diverse experiences, contexts, and resources. The Project Coordinator, in partnership with the Quality Assurance team, will play a central role in monitoring risk management activities. At the same time, the Steering Committee will oversee and guide the overall process.

This introduction provides an overview of the project's approach to risk management, establishing a foundation for the structured framework and processes described in the following sections. Through continuous assessment and updates, the Risk Management Plan supports the LET'S MIMIC project in achieving its goals despite unforeseen challenges.

1. Project overview

LET'S MIMIC aims to integrate biomimicry into Vocational Education and Training (VET) programs to enhance sustainability, innovation, and practical skills among students. Biomimicry, emulating nature's time-tested strategies and patterns to solve human challenges, offers a unique and practical approach to vocational training. By incorporating biomimicry into VET curricula, LET'S MIMIC fosters a new generation of skilled professionals adept at creating sustainable solutions and innovative designs inspired by nature. The project ensures that VET programs are sustainable and relevant, supporting young people to develop green and environmental skills linked to the UN Sustainable Development Goals (SDGs).

The project analyses the skills and competencies needed to adopt VET biomimicry practices. Students engage in biomimicry design through problem-based learning approaches supported by a digital learning platform designed on biomimicry principles of defining, biologising, discovering, abstracting, emulating, and evaluating as a new approach to sustainability education. The project further supports educators in integrating sustainability education into learning. Outcomes are validated through wide deployment in Romania, Turkey, France, Spain, Portugal, and Greece.

Integrating biomimicry into VET involves developing specialised modules and hands-on projects that emphasise real-world applications in various fields, such as architecture, engineering, materials science, and environmental management. These modules will cultivate critical thinking, creativity, and problem-solving skills by encouraging students to study and mimic natural systems and processes.

1.1 Project objectives

LET'S MIMIC focuses on integrating biomimicry principles into Vocational Education and Training (VET) to promote sustainability and better align VET programs with the needs of the modern labour market. The main objectives are:

- Enhance VET's labour market relevance by promoting Education for Sustainable Development (ESD) in secondary VET schools, preparing learners for sustainable jobs.
- Introduce the biomimicry design process into VET curricula, equipping students with sustainability skills and fostering innovation in design.
- Boost sustainability awareness among VET teachers and trainers, ensuring they can effectively incorporate these principles into their teaching.
- Develop flexible, gamified Self-Regulated Learning Paths (SRL-P) that use microlearning and collaborative spaces to engage VET learners.
- Support VET's twin transition (digital and green), preparing learners for "Future-Proof" careers.

The project also aims to position VET as a key driver of sustainable development by integrating eco-education and encouraging community-driven learning strategies. Additionally, it seeks to ensure that VET remains responsive to the job market by forecasting skill demands, promoting competency-based training, and creating appealing career pathways that align with industry needs. Furthermore, the project focuses on increasing the use of ICT in VET by integrating distance learning and self-training programs, enhancing accessibility and flexibility for all learners.

1.2 Stakeholders

LET'S MIMIC engages many stakeholders and focus groups essential to the project's development and success. At the core is the project team and developers, who are responsible for the overall management and execution of the project, including creating the digital platform. They work closely with biomimicry experts, whose specialised knowledge helps integrate biomimicry principles into the platform and educational materials. Additionally, potential users, such as designers, architects, and scientists, play a vital role as the intended audience for the platform, applying its tools to enhance sustainable design practices. The project is further supported by funders and other partners, who contribute financial resources and strategic collaboration.

A significant focus group for the project is VET learners and secondary-level students, who will directly benefit from the project's educational resources and gain sustainability skills and knowledge. Another critical group includes VET teachers and trainers, who will be instrumental in introducing the biomimicry-based curriculum into secondary-level vocational education and raising awareness of sustainability among students.

The project also involves company trainers and VET practitioners who provide practical, work-based training for VET learners. They ensure that the skills taught are aligned with industry demands and prepare students for real-world applications. Lastly, community leaders, civic initiatives, and NGOs active in education and training support the project's wider outreach. These organisations help build public awareness, advocate for the project's goals, and promote sustainable practices in the educational and vocational training sectors.

2. Risk identification and mitigation

This section outlines the potential risks that could impact the LET'S MIMIC project, categorised into technical, financial, operational, market/adoption, and legal/compliance risks. Identifying these risks is crucial for developing appropriate mitigation strategies to ensure the project's success.

Risk category	Identified risks	Mitigation strategies
Technical	Platform usability issues	Conduct user testing at multiple stages of development. Engage with biomimicry practitioners for feedback.
	Integration challenges	Plan for integration early in development and conduct thorough testing of all integrations.
	Data security and privacy	Implement robust security measures, including encryption and regular audits.
	Scalability issues	Utilise scalable cloud infrastructure and plan for upgrades as needed.
Financial	Budget overruns	Regularly track expenses against the budget and set aside a contingency fund.



	Funding shortfalls	Seek diversified funding sources (e.g., grants, partnerships, investors) and explore multiple revenue models.
	Revenue generation uncertainty	Conduct market research to create a clear monetisation plan, including premium features or strategic partnerships.
Operational	Development delays	Use agile development methods and set realistic timelines while monitoring progress.
	Skill gaps in the team	Invest in team training or hire consultants with specialised knowledge.
	Third-party dependencies	Establish clear agreements and timelines with vendors; have backup plans for critical dependencies.
Market and adoption	User adoption challenges	Develop targeted marketing and outreach plans; offer incentives for early adopters and create educational content.
	Competitive threats	Monitor the competitive landscape and differentiate the

		platform with unique features and partnerships.
	Shifts in market trends	Stay engaged with ongoing research and adapt the platform accordingly.
Legal compliance	Intellectual property (IP) issues	Conduct thorough patent and copyright searches; consult legal professionals for compliance.
	Regulatory compliance	Ensure platform design adheres to relevant laws (e.g., GDPR) and industry standards.
	Licensing challenges	Secure necessary licensing agreements for third-party content and tools early in development.

Table 1. LET'S MIMIC project risk analysis.

3. Risk assessment

Effective risk management is a vital component of LET'S MIMIC project, ensuring that potential challenges are identified, evaluated, and mitigated before they can negatively impact the project's outcomes. The risk assessment process is designed to systematically analyse potential risks based on their likelihood of occurrence and the severity of their impact. By doing so, the project team can prioritise risks, allocate resources appropriately, and take proactive measures to safeguard project milestones, budgets, and timelines.

This assessment utilises both qualitative and quantitative methods to create a comprehensive understanding of each identified risk. The goal is to predict and prevent issues and provide a structured approach for ongoing risk monitoring and response throughout the project's lifecycle.

Example risk matrix:

Risk	Likelihood	Impact	Risk level
Platform usability issues	Medium	High	High
Data security and privacy	Medium	High	High
Budget overruns	High	Medium	High
Delays in development	Medium	High	High
User adoption challenges	Medium	Medium	Medium
Regulatory non-compliance	Low	High	Medium

Table 2. LET'S MIMIC project risk assessment.

4. Risk monitoring and control

Risk management is not a one-time event but an ongoing process that evolves throughout the project's life. Once risks are identified and mitigation strategies are implemented, continuous monitoring and control become essential to ensure that these risks remain manageable and that any new risks are promptly addressed. This section aims to establish a structured approach for risk monitoring, ensuring the project team stays proactive and adaptive in the face of emerging challenges.

For the LET'S MIMIC project, the risk monitoring and control process will review risks regularly, measure project performance through KPIs, and maintain open communication channels for risk reporting. By doing so, the project team can maintain a clear understanding of the risk landscape, enabling them to take timely actions that keep the project on course toward its objectives.

Effective Risk Monitoring and Control ensures that identified risks are continually evaluated and mitigated throughout the project lifecycle. The process involves regularly reviewing risks, tracking key performance indicators (KPIs), and reporting risk-related data to all relevant stakeholders. By maintaining an ongoing focus on risks, the LET'S MIMIC project can address challenges proactively rather than reactively, minimising disruptions and improving the likelihood of project success.

4.1 Risk review schedule

Regular reviews are fundamental to managing risk. These reviews should coincide with key project milestones to ensure that risks are thoroughly evaluated as the project progresses. For example, at the end of each development phase, the team should assess whether any new risks have emerged or whether existing risks have increased in severity.

- **Scheduled risk reviews:** Periodic assessments of previously identified and potential new risks will be conducted. These reviews should align with critical phases of the

project, such as the completion of specific development modules, prototype testing, or significant deliverables.

- **Mitigation adjustments:** The project's resilience is not a matter of chance but a result of a structured, proactive approach. As the project evolves, so may the risks. Mitigation strategies that were effective early in the project may need to be adjusted or replaced as new variables come into play. This adaptability ensures that risk management remains relevant and responsive, instilling confidence in the project's ability to overcome challenges.

4.2 Key performance indicators (KPIs)

KPIs are vital in tracking the effectiveness of risk mitigation strategies and the project's overall health. The team can better understand how risks influence the project's timeline, budget, and objectives by quantifying risk-related metrics.

- **Risk-related metrics:** *Table 1. LET'S MIMIC project risk analysis.* and *Table 2. LET'S MIMIC project risk assessment.* (see above) introduce an analysis that provides a clear insight into potential risks and their impact on the project. In addition, the implementation team will regularly review indicators such as deadline adherence considering the proposal work plan, project budget vs. actual spending, user engagement levels, errors introduced in the code, and dissemination reach.
- **Tracking tools:** Project management tools, such as Trello, will help log and track KPIs, offering real-time insights into the status of risk management tasks. These tools can also automate notifications for upcoming risk reviews or when certain KPIs reach critical thresholds.

KPI description	Monitoring metric
Adherence with deadlines	Work package, task, and deliverable completion dates identified in the project proposal

Biomimicry content developed	Indicators identified in the project proposal: identify 60 challenges that have been addressed through biomimicry, 60 biomimicry solutions, and 60 still open challenges that can be addressed through biomimicry; publish 120 biomimicry modules in the digital platform
Grant absorption	Proposal budget and reported expenses
User engagement levels	50 users engaged in piloting activities at each partner site
Dissemination reach	Please refer to the project <i>Dissemination Plan</i>

Table 3. KPI indicators.

4.3 Risk Reporting

Transparent and regular reporting of risk status is critical for keeping stakeholders informed and ensuring the project team remains aligned on addressing ongoing risks. This includes updating project sponsors, developers, and key end users on risks, mitigation strategies, and new threats.

- **Regular reporting:** Reports on risk status will be included in weekly or monthly project meetings. This will allow for continuous dialogue around risk management and enable stakeholders to weigh in on whether additional action is needed.
- **Clear communication channels:** Regular meetings and risk reviews will ensure team members understand how and when to report new risks. The team will deploy a structured communication process utilising meetings, emails, and shared working spaces, making it easier to catch and address risks early and reducing the likelihood of project delays or budget overruns.

By continuously reviewing risks, tracking key performance metrics, and keeping stakeholders informed, the LET'S MIMIC project will stay ahead of potential threats. Integrating regular reviews, KPIs, and open reporting ensures that risk management is dynamic, adaptable, and responsive to the project's evolving nature.

5 Contingency plans

In risk management, the reality is that not all risks can be fully mitigated. Despite well-thought-out strategies, some risks may still materialise, potentially disrupting the project. Therefore, it is essential to establish contingency plans that outline specific actions to be taken if certain high-priority risks come to fruition. Contingency plans are the safety nets of project management, ensuring that the project can still move forward when something goes wrong without losing significant momentum.

For the LET'S MIMIC project, contingency plans focus on severe risks that could have a substantial impact, such as platform failures, funding shortages, or regulatory challenges. By preparing for these worst-case scenarios, the project team can ensure minimal disruption to the project's timeline, budget, and overall objectives. These pre-defined plans provide clear courses of action to address such events, allowing the team to respond quickly and effectively, thus preserving project continuity and success.

Risk mitigation strategies reduce the likelihood of risks, but contingency plans prepare the project team to act in case those risks occur. For the LET'S MIMIC project, specific contingency measures for hazards that could heavily impact the platform's development or success are essential. Contingency planning ensures that, even in the face of significant setbacks, the project can stay on track and continue delivering its goals.

5.1 Platform failure

A critical platform failure, such as a server crash or a bug that severely hampers user experience, could threaten the entire project's continuity. A robust backup plan is needed to prevent such a scenario from derailing the LET'S MIMIC platform.

- **Backup strategy:** The implementation team will set up mirrored servers and redundancy to ensure that the platform remains operational in the event of a significant system failure. This will allow the project to guarantee minimal downtime and protect against data loss.



- **Disaster recovery plan:** The implementation team will ensure that there is a pathway to restoring the platform, data, and services in case of a catastrophic failure, which will utilise team member expertise, will follow strict recovery timelines, and will prioritise functions to bring back online first.

5.2 Funding shortfall

A shortage of funds could significantly delay or halt project development, making it crucial to have a plan to manage financial risks. Even if mitigation strategies are employed, unexpected expenses or loss of funding can arise. Following are plans for addressing funding shortages, should they occur.

- **Alternative funding sources:** The implementation team will explore potential alternative funding options, such as new grants, crowdfunding, or additional partnerships with stakeholders. The team will also establish relationships with funding bodies that align with the project's goals.
- **Scope focus:** The team will first focus on the foreseen platform functionalities while postponing or eliminating additional features not foreseen in the project proposal. This ensures the project can still be delivered with reduced resources.

5.3 Regulatory issues

Regulatory non-compliance or legal challenges, particularly regarding intellectual property or data privacy, can create significant delays and financial penalties. These issues can arise unexpectedly, even when mitigation strategies are in place.

- **Legal team preparedness:** Ensure that legal experts are on standby to address any regulatory or compliance issues that may arise. This will allow the team to react quickly and avoid extended delays.
- **Compliance timeline adjustments:** If regulatory challenges require additional resolution time, have a flexible project timeline that can absorb these delays without

severely impacting other milestones. This plan should detail adjusting resources or shifting focus while waiting for legal or compliance resolutions.

By having these contingency measures in place, the LET'S MIMIC project team will be better prepared to handle unexpected disruptions, whether they arise from technical, financial, or regulatory issues. These contingency plans will help minimise project delays, maintain stakeholder confidence, and ensure that the project remains aligned with its overall goals, even in the face of unforeseen challenges.

6 Risk ownership

An essential aspect of effective risk management is the clear assignment of responsibility for each identified risk. Risk ownership ensures that specific team members or departments are accountable for monitoring, assessing, and addressing risks as they arise. By defining who is responsible for each risk, the LET'S MIMIC project ensures that no risk goes unmanaged, and there is a clear line of accountability for implementing mitigation and contingency plans.

For each identified risk, an appropriate owner is assigned based on their expertise, resources, and ability to manage that specific risk effectively. This ownership is not limited to the initial identification phase but extends throughout the project. Risk owners are responsible for continuous monitoring, implementing mitigation strategies, responding to issues, and updating the project team on the risk status.

The project fosters a culture of responsibility and responsiveness by establishing clear lines of accountability. It ensures that all technical, financial, operational, or legal risks are systematically addressed by those best equipped to manage them. This allows for quicker decision-making and helps maintain focus on the overall project objectives, ensuring that risks are controlled and minimised without unnecessary delays.

For example:

- **Platform usability issues** will be managed by **UX/UI experts**, who will ensure the platform is user-friendly through rigorous testing and continuous feedback loops.
- **Data security and privacy** will fall under the jurisdiction of the **IT/security experts**, who will oversee the implementation of encryption, data protection protocols, and compliance with relevant privacy regulations.
- **Budget overruns** will be the responsibility of the **administrative experts**, ensuring that the project stays within its allocated budget by regularly tracking expenses and making financial adjustments as needed.

- **Development delays** will be handled by the **Project Manager**, who will monitor timelines and coordinate with development teams to keep the project on track.
- **Intellectual property compliance** will be overseen by the **Project Manager** in collaboration with partner **legal teams**, ensuring that all legal obligations are met and that the project adheres to intellectual property laws and regulations.

In addition to assigning ownership, the project management team will ensure regular communication between risk owners and other stakeholders. This includes periodic risk assessments and reporting to the steering committee, allowing for a dynamic and responsive approach to managing risks as they evolve throughout the project's lifecycle.

By defining ownership early in the project and ensuring all parties understand their roles and responsibilities, the LET'S MIMIC project can effectively address risks, reduce uncertainties, and increase the likelihood of successful outcomes.

7 Communication and documentation

Effective communication and thorough documentation are critical components of risk management. For the LET'S MIMIC project, maintaining comprehensive records and ensuring timely updates to all stakeholders can make the difference between successfully managing risks and allowing them to escalate. This section outlines the strategies for documenting risks and implementing a robust communication plan to keep the project team informed and aligned.

Communication ensures that everyone involved, from project developers to stakeholders and external partners, stays updated on potential risks, ongoing mitigation efforts, and the outcomes of risk management activities. Documentation is a historical record, providing valuable insights for future decision-making and ensuring transparency across the project lifecycle.

In any complex project like LET'S MIMIC, structured communication and comprehensive documentation form the backbone of effective risk management. Without regular updates and detailed records, risk management efforts could lose clarity, leaving team members unprepared for emerging challenges or misaligned with mitigation strategies. The project will maintain coherence, transparency, and accountability by ensuring that risks are properly logged and communicated.

7.1 Risk documentation

Keeping detailed records of identified risks and their mitigation efforts is essential for tracking the project's risk management progress. Documenting risks also allows the team to refer back to previous decisions, assess the effectiveness of mitigation strategies, and ensure that no issues are overlooked.

- **Risk log:** Maintain a risk register that captures every risk identified throughout the project. This log should include the risk description, likelihood, impact, mitigation strategy, responsible owner, and current status.

- **Outcome tracking:** Track the outcomes of mitigation efforts to assess their effectiveness. Documenting what worked (and what didn't) provides a useful learning tool for future phases of the project or even other projects.

7.2 Communication plan

Risk communication is essential for keeping all project members and stakeholders informed. It ensures that new risks are promptly addressed and mitigation strategies are updated as needed. A structured communication plan helps prevent misunderstandings and ensures that everyone is aligned with the project's risk management priorities.

- **Regular risk updates:** Establish a schedule for updating team members and stakeholders on the current risk landscape. Risk reports should be shared during key meetings or as part of project status updates, ensuring everyone is aware of evolving risks and mitigation efforts.
- **Stakeholder engagement:** Ensure that key stakeholders, including project sponsors, developers, and end users, are regularly briefed on major risks and the actions they can take to address them. This can be achieved through monthly meetings, project dashboards, or written reports.
- **Crisis communication protocols:** Develop a clear communication protocol for responding to urgent or high-impact risks. In the event of a significant issue, all relevant parties should know whom to contact, how to escalate the problem, and what information needs to be shared.

The LET'S MIMIC project can ensure that risks are managed effectively and remain visible to the entire team through detailed documentation and open communication. These processes foster accountability, keep mitigation strategies aligned with project goals, and support quick responses to any new challenges that may arise. By embedding risk communication and documentation into the project's workflow, the team can navigate potential obstacles with greater confidence and clarity.

8 Conclusion

Proactive risk management is a cornerstone of ensuring the success of the LET'S MIMIC digital platform for biomimicry practices. By systematically identifying, assessing, and mitigating potential risks, the project team can effectively navigate the challenges that may arise during development and deployment. Integrating risk management into every project phase safeguards resources and enhances the platform's chances of meeting its goals on time and within budget.

Risk management will be an ongoing process throughout the project's lifecycle. Continuous assessment and adaptive mitigation strategies will ensure that emerging risks are addressed promptly while established risks are controlled. By maintaining vigilance, the project team will protect the platform's integrity, ensure user adoption, and safeguard compliance with legal and regulatory standards. Ultimately, a structured approach to risk management will help deliver a robust, scalable, and sustainable digital platform that supports biomimicry practices in design, research, and innovation.