



NEXUS-NESS

NEXUS NATURE ECOSYSTEM SOCIETY SOLUTION

Fair and sustainable resource allocation demonstrator of the multiple WEF E Nexus economic, social and environmental benefits for Mediterranean regions

GRANT AGREEMENT NUMBER 2042

Deliverable D1.2 Risk Management Plan V1.1 30 September 2021

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WPI Leader and Task 1.1 and 1.3 Leader: WARREDOC, Fernando Nardi





**NEXUS-NESS - NEXUS NATURE ECOSYSTEM SOCIETY SOLUTION:
FAIR AND SUSTAINABLE RESOURCE ALLOCATION
DEMONSTRATOR OF THE MULTIPLE WEFE NEXUS ECONOMIC,
SOCIAL AND ENVIRONMENTAL BENEFITS FOR MEDITERRANEAN
REGIONS**

GRANT AGREEMENT NUMBER 2042

Deliverable D1.2

Risk Management Plan

30 September 2021

WP1 Leader and Task 1.1 and 1.3 Leader: WARREDOC, Fernando Nardi

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NEXUS-NESS

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WP-Leader	Fernando Nardi (fernando.nardi@unistrapg.it)		
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Task Leader	Fernando Nardi (fernando.nardi@unistrapg.it)		
Main Author	Fernando Nardi (fernando.nardi@unistrapg.it)		
Contributors	Margarita Fursova, Andrea Spasiano, Antonio Annis		
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Abbreviations

Acronym	Description	Release date	Notes
CA	Consortium Agreement		
DDP	Deliverable Development Plan DM: Deliverable Manager Mx: Month number QC: Quality Control QM: Quality Management		
DoA	Description of Action (Annex I of the Grant Agreement)		
DoW	Project Description of Work or Workplan		
EA	Exploitation Board		
EAB	External Advisory Board		
EC	Executive Committee		
EC	European Commission		
EEC	External Ethical Committee		
GA	Grant Agreement		
GEA	General Assembly		
MSUP	Multi Stakeholder and User Platform		
NEL	Nexus Ecosystem Labs		
NNS	NEXUS-NESS Service		
PC	Project Coordinator		
PI	Principal Investigator		
PM	Project management		
PMP	Project Management Plan		
RMP	Risk Management Plan		
PO	Project Officer		
PR	Project Review		
RP	Reporting Period		
RRI	Responsible Research and Innovation		
WP	Work Package of the Project consisting of tasks and subtasks		
WPL	Work Package Leader		

1. Purpose of the Deliverable

The **NEXUS-NESS Risk Management Plan (RMP)** describes the specific risk management techniques and standards to be applied and the responsibilities for achieving an effective risk management procedure.

Every project has to cope with uncertainties that might impact the project to a greater or lesser extent. A risk is any factor that has the possibility of causing harm to a project (impact). There is no risk-free project and there is even no possibility to completely eliminate risks in any project.

Risk management aims to reduce and handle effectively risks rather than eliminated them. Dealing with multiple risks proves to be challenging and resource-consuming. However, existing risk management methodologies can help projects control the complexity of risks by providing assessment and tracking tools.

The NEXUS-NESS project faces a number of potential risks, some of them were preliminarily identified in the DoW, while further categories of risk may arise, also unexpectedly, during the project development.

The NEXUS-NESS Consortium considers risk management a continuous task and it will perform periodic risk identification, risk analysis, risk mitigation, and risk response activities based on modified probability-impact assessment and top-ten risk item tracking techniques described in this document.

This document defines the project procedures for Risk Management, in terms of how Risk will be identified, assessed, controlled and communicated in the project.

A particular focus will be also dedicated to the ongoing **COVID-19** that could not be preliminarily discussed considering the DoW was conceptualized and deploying before the pandemic. A specific work is, thus, being developed by PC and all Consortium partners. A dedicated update of this deliverable will be produced in its next release following *ad hoc* COVID-19 mitigation actions that are being identified and discussed by reference partners to support the production of a NEXUS-NESS project risk management strategy specifically focused on mitigating nuisance effects of the pandemic on the project development.

1.1 What is Risk?

Risk is a set of events that, should they occur, will have an effect on achieving the project objectives. Risk is an uncertain event that, if it occurs, will have a positive or negative effect on a project objective because it can be seen as a Threat or an Opportunity.

1.2 What is At Risk?

In the NEXUS-NESS Project, the Project's objectives are at risk if the NEXUS-NESS Consortium does not constantly evaluate risk factors and manage these risks. The NEXUS-NESS performance targets, of time, cost, quality, scope, benefits may be at risk, and thus this deliverable defines the Risk Management Strategy that the partners will follow throughout the project's duration.

1.3 Risks in NEXUS-NESS

In complex, long and heterogeneous projects like NEXUS-NESS risk management and contingency planning represent important actions of the project to make sure the workplan execution is not impacted. The NEXUS-NESS **Executive Board (EB)** is in charge of defining the risks and of detecting risks.

Risks will be mitigated by the Executive Board to prevent any deviation from the plans. To this end, a comprehensive risk management process and risk register will be implemented over the duration of the project. WP leaders will present an assessment of progress, and risks to progress at the Executive Board meetings and propose contingency plans where necessary to address any specific identified risks. The general types of risks, examples for specific risks and their mitigation covered in the risk management process are summarized in **Table 1**.

Description of risk, probability and category	Proposed risk-mitigation measures
Accessing data in NELs may be difficult if stakeholders are unwilling to share it Probability: medium / Category: technical / WPs involved: 3	The large number of local academic partners and well established relationships between consortium partners (especially the NEL coordinating partners) and relevant stakeholders in the study sites should help to minimise this risk.
Impact risks: the proposed solutions do not meet stakeholders requirements Probability: medium / Category: technical / WPs involved: 3,6	The involvement of all stakeholders from the very beginning will mitigate this risk. In addition the timeline of activities support the delivery and testing of the solution starting M15 allowing adjustments following RRI roadmap until user/stakeholder requirements are met
COVID risks: challenges to conducts field activities and training due to COVID restrictions Probability: high / Category: Technical and Management / WPs involved: 3,6	The Academic partners of the Consortium have the skills and capabilities to perform the activities using remote/online tools if COVID will still impact travelling
Time/budget risks: delays in producing expected deliverables Probability: low / Category: Management / WPs involved: All	The high frequency meeting of the Executive Board allows identifying delays, assessing impacts and implementing organisations/ budget changes
Competence risks: personnel involved or recruited not able to fulfil tasks Probability: very low / Category: Management / WPs involved: All	Continuous monitoring by the WP Leaders and the Executive Board, and implementing adjustments within each organisation if necessary.
NEL reference partners and stakeholder do not succeed in organizing workshops and stakeholder-related engagement activities Probability: medium / Category: Organization / WPs involved: 3	Supporting partners for the NELs shall contribute and support the local organizations in organizing workshops and coordinating the stakeholder-related engagement activities

Table 1. List of potential risks and proposed mitigation measures

1.4 Risks related to COVID-19

The COVID-19 pandemic represents one of the greatest uncertainty and challenge for some organization and actions of the NEXUS-NESS project, considering the proposal and workplan were conceptualized before the pandemic started. The continuing COVID-19 critical time is characterizing a novel organization especially when meetings and conferences are the subject of the planned activities. Since the project kick off to the upcoming activities the risk management of the project shall consider not only the conversion of physical meetings into online events, but also the cultural, geographical and technological diversity of the partners.

The NEXUS-NESS project is going to be, thus adapted trying to minimize the impact of COVID-19 on expected actions and outcomes of the project. The adaptation actions of NEXUS-NESS within the COVID-19 pandemic is not only a mere re-organization of meetings and conferences, to be held online to meet social distancing requirements. The COVID-19 is changing the socio-economic, political and cultural scenarios in different many, and still to be unveiled, ways. NEXUS-NESS PC and partners are working to understand the effects and impacts of changing scenarios, related the pandemic, and are working to adapt in the most effective and sustainable way.

As a result, while the schedule of deliverables and milestones won't be the subject of significant changes, actions, events and meetings may be rescheduled or organized in different ways during the COVID-19 crisis. In particular, the Nexus Ecosystem Labs kick off and the stakeholder engagement activities, foreseen in the first semester of the project, will be organized online with subsequent onsite events and activities.

To mitigate the COVID-19 emergency, the PC will encourage online meeting as much as possible, reducing the planned activities in presence only for those events where the reduction of the intensity of the interaction and cooperation between project's partners and stakeholders would impact too much the timing of the deliverables.

Whenever possible, remote working will be encouraged, while tasks where physical presence is needed on the ground will be run also as web conference as an alternative, or will be postponed if confinement/restriction measures will be introduced in one or more countries of the Consortium. COVID-19 risks in Nexus Ecosystem Labs will be reported by NELs leaders in the **NEXUS-NESS Risk Log** (Stored in a dedicated folder in NEXUS-NESS data cloud repository).

As anticipated in the foreword of this section the impact of the ongoing COVID-19 pandemic requires immediate attention and is prompting for a need of developing novel strategies for risk mitigation related to the impact of the pandemic on the project. It is foreseen an update of this deliverable (even if originally not foreseen in the DoW) at M18 to reflect the strategy of the NEXUS-NESS to mitigate the impacts and risks associated to COVID-19.

2. Roles and Responsibilities

Who Records Risks: All Partners and associated organization/team members (e.g. NEL Stakeholders) are responsible to record in good time identified risks in the Risk Log. The person, who records a risk, is called Risk Owner. The **Risk Owner** is responsible to monitor the recorded risk until the risk is eliminated.

Who Assesses Risks: The Risk Owner assesses the risk and records the assessment in Risk Log based on the predefined assessment criteria.

Who takes Corrective Action: If issues arise because they have not been recorded as risks, the Project Coordinator will take proper corrective action.

Who Plans and Executes a Risk Response: The risk is discussed during the General Assembly and it is decided who will respond to the risk. This person is called The Risk Responder. The Risk Responder might be the same person as the Risk Owner or a different person. This depends on the nature of the risk.

Risk Manager: The Risk Manager is responsible to monitor the Risk Log, send risk recording and monitoring reminders, assessing and reporting risks as defined by the Risk procedures above. The **Risk Manager is the WP1 leader that is the NEXUS-NESS Coordinator**. Nevertheless, in case a multitude of novel unexpected risks will arise during the project, the EB may decide to appoint another person to work as Risk Manager for some specific risks that may last for significant duration and impact specific packages and tasks (e.g. the specific WP or task leader may be the Risk Manager).

2.1 Risk Management

The WP1 leader is responsible for ensuring the quality and the timing of the project outputs, considering, monitoring the risks related to the project, the planned activities and anticipating potential issues. The WP1 leader together with the EB will identify and monitor these risks in order to timely implement mitigation actions. Each partner has however communicate to his/her respective WP leader and to the PC any risk that may arise during the work and affect the project objective and its completion, such as the timing of the deliverables or the budget allocation. EB will discuss for eventual issues or delays about actions and planes to avoid or mitigate their impacts on the project. These actions can include a reinforced supervision, changes to the project strategy, and in the budget allocation. The PC is responsible of monitor all the project results as respect to the deliverables and milestones deadlines in order to apply risk management measures if needed.

2.2 Conflict Resolution Procedures

The WP leader is in charge of attempt to solve any internal conflict within the WP and can call the EB for assistance. If conflicts arise among different WPs, they should be solved bilaterally as first attempt. If conflicts cannot be solved by WP leaders, they can involve the EB to supervise the conflict solving within a reasonable time. Very serious cases can be demanded to the GEA who will take the final decision to solve the conflicts.

3. Risk Management Procedure

The NEXUS-NESS Consortium considers **risk management a continuous task** and it will perform **periodic risk identification, risk analysis, risk mitigation, and risk response activities**. The Risk Management Procedure describes how Risk will be identified, assessed, controlled and communicated in the project. It describes the specific risk management techniques and standards to be applied during the project, and the responsibilities to provide a good and consistent risk management procedure.

The five steps to be followed by ALL Consortium Partners and Associated Partners are described as follows (*material partially adapted from Prince2 Wiki, an online resource and training followed by UNISTRAPG in setting up the risk management procedure. Source: <https://prince2.wiki/theme/risk/> Last accessed: June 2022*).

3.1 Risk identification

- Critically look at each partner's work-package, task or activity and look for risks in other words look for weak points. Identify the context of the risk from the project's point of view. Ask questions like:
 - If this task is not successful, what does it mean for the project?
 - Is this activity dependent on other tasks?
 - How many people are involved in the task?
 - Are they all active and understand the task and what they need to produce?
- In the NEXUS-NESS Grant Agreement a series of WEFE Nexus quantitative indicators (e.g. KPIs) have been defined for ensuring that the set objectives are met. These performance indicators are evaluated as part of WP3 and WP4 (also partially as WP5). If the performance indicators are not met, then the Task Leader must record a risk in the NEXUS-NESS Risk Log.

Who Takes Action: **Each Partner** is responsible to identify risks and record them in the NEXUS-NESS Risk Log (Stored in a dedicated folder in NEXUS-NESS data cloud repository). Here record the Risk in terms of cause, event and effect.

3.2 Risk assessment

Assessing Risk by estimating 1) the probability, 2) the impact, and 3) the proximity for each threat or opportunity.

Estimate the risk by identifying the following:

- The probability of the risk (i.e., the likelihood of it happening).
- The impact: Describe the impact in terms of project objectives, i.e., what will be the damage done? The impact may be:
 - High: The effect on the project is critical and immediate action is needed.
 - Medium: The effect on the project is not so critical right now, but if the risk is not resolved then it will become critical.
 - Low: Right now the effect on the project is not at all critical, but as the project progresses it might become medium and then end by being critical.
- The proximity: How close is this risk to the present.

In order to better visualize the risks before every GEA, the Project Risk Manager will visualize the risks on a Summary Risk diagram. This type of diagram allows an easy and fast way of comparing risks with each other. The Summary Risk Diagram plugs in the risks based on their probability and impact and it shows which risks need immediate attention and corrective action. All risks above the Risk Tolerance line (see red dotted line) will need attention.

Very High				1, 3	
High	2				4
Medium		8		6	
Low		10		7	
Very Low	9				5
Prob. \ Impact	Very Low	Low	Medium	High	Very High

Figure 1. Summary Risk Diagram sample case (i.e. to visualize risks that need immediate attention)

The Risk Manager will flag the risks above the Risk Tolerance line to be tracked and to maintain awareness of risks throughout the project.

Based on the Summary Risk Diagram, the Project Coordinator and the Risk Manager will evaluate the whole impact value of all risks together on the whole project and its expected impacts as written in the Grant Agreement. The evaluation will provide a risk value for the whole project. The **probability-impact assessment outputs a RAG (Red Amber Green) score (probability x impact)**, which indicates the potential severity of a risk.

The Risk Manager together with the Project Coordinator will evaluate the risks before the face-to-face EB meeting, which takes place at least twice a year. The NEXUS-NESS Consortium will carry out risk management reviews during every EB meeting and on demand if a new severe risk has been identified. The Summary Risk Diagram will help the Consortium focus on the relevant risks, enabling efficient and effective risk management.

The Risk Log and Response actions will be transparent to the consortium. This is the responsibility of the Risk Manager.

Who Takes Action: Each Partner, who has identified and registered a risk must estimate it by recording in the Risk Log the probability, the impact and the proximity of the risk.



The Risk manager (PC) and Risk Owner(s) shall communicate frequently until the risks that may affect the project workplan are not mitigated or removed. Mitigation actions are preliminary identified and, then, implemented to support the management of any uncertainty that may affect the project. GEA and WP Leaders meetings are effective risk management and mitigation practices. Quality control and monitoring procedures, especially if linked to expected metrics (KPI) support the analysis of the performances of the risk management actions coordinated by PC and co-developed by all partners, especially the ones close to the risk sources and in charge of the optimal solution.

3.3 Risk response

Planning the responses is about planning specific action to reduce the risk or to avoid it. The different responses may be as shown in the following table in relation to the Effect on Probability and Impact:

Effect on Impact or Probability	Risk response
Very High	Avoid
high	Reduce
Medium	Fall-back (reduce impact only)
Low	Transfer (reduce impact only)
Very Low	Accept

Table 2. Responses to risk depending on its effect on impact and its probability from happening

The 5 risk responses to be used in the NEXUS-NESS Project are: Avoid, Reduce, Fall-back, Transfer, Share and Accept.

Response: Avoid

Objective: Take action so the threat no longer has impact or can no longer happen.

Response: Reduce

Objective: Reduce the probability of the risk. Reduce the impact if the risk does occur. The Reduce response is the most common way of dealing with project risks.

Response: Fall-back or Contingency

Objective: Have a fall-back plan of actions that would be done if the risk occurs and would become an issue. These actions would help to reduce the impact of the threat.

Response: Transfer

Objective: To transfer the risk to another party.

Usually this response is to take insurance and in the case of NEXUS-NESS it most probably will not occur.

Response: Accept

Objective: Just accept the risk as it may not be possible to do anything about it. However, you do keep the status of this risk open and continue to monitor it.

3.4 Responses implementation

The person who identifies the risk is called the Risk Owner and this person must monitor the reported risk as needed and record the new status in the Risk Log.

The person who takes action and implements the response, the Risk Actioner, might be different than the Risk Owner. The Risk Actioner will be decided during the Risk Management Meeting.

3.5 Risk communication



Risk communication is the 5th step in the Risk Management procedure, but is actually done throughout the whole Risk Management procedure. This communication step ensures that the information related to the project risks are communicated within and outside the project to all necessary stakeholders.

The Risk Manager before each GEA meeting will monitor the Risk Log. The Risk Manager will send out an email to all partners and associated partners to report and monitor risks in the Risk Log one month before the AG meeting.

The Project Coordinator will communicate to all partners and associated partners the responses and actions to the top 5 risks agreed during the GEA meeting.