Deliverable D1.3: Risk Management Plan

February 2022, UPV
WP1

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Version 1.0
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D1.3: Risk Management Plan

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Dissemination level of document

Public

Abstract

This deliverable details the risks identified during the proposal and the project life of GoNEXUS their likelihood and impact, as well as the proposed risk mitigation actions. It also details the protocols for continuous risk monitoring. It should be used in any task in which a risk could be identified, and also in any situation in which a risk is detected, including the triggering of mitigation measures.

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Version History

Version	Date	Authors	Description
V1	2022/02/05	Hector Macian-Sorribes (UPV), Adria Rubio-Martin (UPV)	Generation of first draft
V1.1	2022/02/16	Guido Schmidt (FT), Juan Manzano-Juarez (UPV)	First round review
V1.2	2022/02/22	Hector Macian-Sorribes (UPV), Adria Rubio-Martin (UPV)	Answers to the first round of review
V1.3	2022/02/25	Amaury Tilmant (ULAVAL), Manuel Pulido-Velazquez (UPV)	Second round review
V1.4	2022/02/28	Hector Macian-Sorribes (UPV), Adria Rubio-Martin (UPV)	Answers to the second round of review

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1. Introduction

This deliverable updates and details the risks, likelihood, impact and mitigation actions that were identified in the proposal stage (section 3.2.3 of the proposal) and were afterwards transferred into the Description of the Action (task 1.3 and section 1.3.5 of Part A, and section 3.2.3 of Part B). It also details the protocols that will be followed for continuous risk monitoring in GoNEXUS.

Risks will be classified in two main categories: technical and managerial (non-technical) risks. Technical risks refer to the development of the project activities foreseen in WPs 2 to 8. Managerial risks refer to the managerial issues of the project described in WP1.

To this regard, the risk management procedures were indicated in the proposal in Section 3.2.3 and Task 1.3, whose transcription can be found below:

Section 3.2.3

Risk management will depend on the PC, who will deal with the technical risks associated with the project and the non-technical risks related to managerial or exploitation issues. Before each stage of the project is initiated, the appropriate manager will conduct a risk assessment, based on the already defined potential risks and contingency plans. In case of an important impact to the project scope, plan or contractual obligations, a proposal for implementing any change into the Work Plan will be submitted to the Project Officer for final approval. The consortium members will be responsible of implementing these measures.

Task 1.3

The goal of this task is to ensure risks are captured, addressed, and efficiently worked out. The PC, with the support of the Steering Committee (SC) and the Technical Committee (TC), will be in charge of the risk assessment of GoNEXUS, considering the identified risks (S3.2) and unforeseen events or risks detected by them during the project development.

Following this plan, the Project Coordinator (PC) will:

- *Periodically check if the addressed strategies and ongoing developments respond to objectives*
- *Trigger the implementation of mitigation/contingency measures (S3.2)*
- *Propose any revision of redirection of the work plan to guarantee the achievement of the objectives*

WP leaders will play a key role in this task managing risks at the WP level, coordinating the preparation of the deliverables associated to the corresponding WP and performing their first check before their submission to the TC and further to the PC. They will also control the execution of their individual WPs against the milestones (S3.2), supporting their development in quality and on time.

This task will continuously perform the risk analysis of development in the project. The PC will identify the factors that are critical to the success of the project and will control them. Risk management will have risks under control during GoNEXUS. The outcome of this task, D1.3, will ensure the quality of the project and an adequate risk control strategy during its lifetime.

2. Risk Management procedures

Risk monitoring and identification in GoNEXUS will be performed by different key actors using appropriate protocols at several time scales (from real-time to each six months).

2.1 Key actors

The key actors are the focal points of the GoNEXUS risk management strategy. Their activation will depend on the extension of the identified risk (which partners, tasks and WPs are involved).

Principal investigators

The principal investigators (PIs) will be responsible of identifying and managing both technical and managerial risks at the partner level and communicating them to further key actors if their action is demanded. In case of technical risks, the role of the PI can be taken over by one or more team members nominated as responsible of the task(s) to which the risk refers.

Task leaders

Task leaders (TL) will be responsible of identifying and managing technical risks at the task level, in communication with the PIs involved, and communicating them to the Work Package leader if necessary.

Work Package leaders

Work Package leaders (WPL) will be responsible of identifying and managing technical risks at the Work Package level, in communication with the TLs and PIs involved, and communicating them to the Project Coordinator if necessary.

Project coordinator

The Project coordinator (PC) will be the main responsible for the GoNEXUS risk management activities for both technical and managerial risks. The PC will be supported by the Steering Committee for managerial risks and by the Technical Committee for technical risks. The PC will be the main responsible of risk monitoring and management for risks involving more than 1 WP (technical) and more than 1 partner (managerial), will coordinate the risk monitoring and management for the rest of the risks and will oversee the implementation of risk mitigation and contingency measures at all levels.

2.2 Protocols for risk identification

The first step in the process towards risk mitigation is identifying the risk. Risk identification will be based on determining its two key features: extension and severity.

Extension

The extension of a risk refers to the areas of GoNEXUS that can be negatively impacted by it. This includes not only the partner(s) and activity(ies) that are directly affected, but also which ones would

need to contribute to the solution of the risk. The determination of the extension associated with a given risk depends on its type.

Technical risks

The extension of a technical risk can take four levels depending on how many partners and project activities are affected:

- Partner level: the risk only involves one partner. It can refer to a single task or to more than one task.
- Task level: the risk involves more than one partner, but it is restricted to a single task of the project.
- WP level: the risk involves more than one task of the same WP.
- Global: the risk involves more than one WP.

Managerial risks

The extension of managerial risks is, by definition, more straightforward to evaluate since they are limited to two levels of extension: a single partner (partner) or more than one partner (global).

Severity

The severity of a risk depends on two main factors: its likelihood (how probable a risk is) and its impact (how challenging will it be for the optimal progress of GoNEXUS in case said risk appears). A three-level risk classification (low, medium, high) is adopted according to the combination between both (Fig 1).

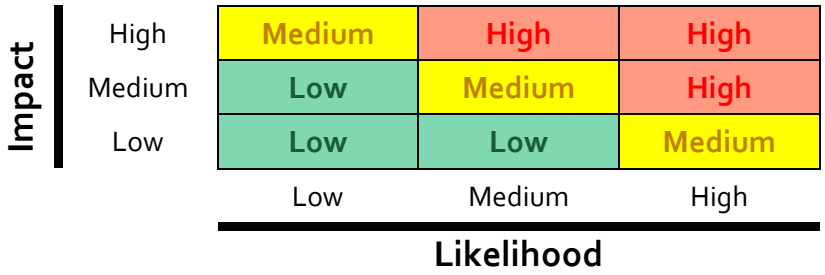


Fig 1 : Risk severity classification

Likelihood

The levels of likelihood are set on low, medium or high depending on how probable they are:

- Low likelihood: the risk is unlikely to happen under normal circumstances, and will only appear in case that the project evolution distinctly differs from expectations
- Medium likelihood: the risk is possible under normal circumstances, but the chances that it appears are not significant
- High likelihood: the risk is probable under normal circumstances, with a distinct probability or appearance

Impact

Similar than likelihood, the impact levels are set on low, medium or high depending on how significant its impact is:

- Low impact: the risk can be resolved without any adjustment in the workplan.
- Medium impact: solving the risk would require adjusting the workplan, but the adjustments would be done without compromising the delivery of the project results
- High impact: the risk, if not adequately solved, may cause the failure of the project.

2.3 Risk monitoring

Risk monitoring will be performed by all the key actors at three temporal scales: real-time (continuously), each meeting of the appropriate consortium body (TC for technical risks and SC for managerial risks, both with at least a 3-month periodicity), and at each progress report (each 6 months). The key actors involved at each level depend on the type of risk.

Technical risks

A summary of the correspondence between key roles and temporal scales is shown in Fig 2.

	Real-time	TC	Progress Report
PIs	**X**		**X**
TLs	**X**	X	**X**
WP leaders	X	**X**	**X**
PC		**X**	**X**

Fig 2 : GoNEXUS risk monitoring for technical risks
Bold crosses= main temporal scales of each role

- Principal investigators: they will focus on monitoring in real-time risks referred to the activities of its partner. They will also review the progress report to the extent it affects its partner to identify any technical risk.
- Task leaders: they will focus on monitoring in real-time risks referred to the task they lead, and review the progress report looking for risks at its task and the tasks to which it links. They may also be invited to TC meetings, during which they should identify any risk affecting its task.
- WP leaders: they will focus on monitoring tasks affecting its WP at the TC level and in the progress reports of its WP and the WPs linked to it. They may be required to perform real-time risk monitoring activities upon request of the TC or the coordinator, as well to its own if found necessary.
- Project coordinator: it will focus on monitoring technical risks at the TC level and reviewing the progress reports of all WPs to identify any technical risk.

Managerial risks

A summary of the correspondence between key roles and temporal scales is shown in Fig 3.

	Real-time	SC	Progress Report
PIs	**X**	X	**X**
PC	X	**X**	**X**

Fig 3 : GoNEXUS risk monitoring for technical risks
Bold crosses = main temporal scales of each role

- Principal investigators: they will focus on monitoring in real-time managerial risks associated with its partner. They will also review each progress report to the extent it affects the management of its partner (e.g. person-month –PM– allocation, cost claims).
- Project coordinator: it will focus on monitoring managerial risks at the SC level and reviewing the progress reports of all WPs to identify any managerial risk associated with individual partners or the whole project (e.g. PM allocation, expenditures, compliance with the DoA).

2.4 Risk mitigation strategy

The risk mitigation strategy of GoNEXUS will be triggered once a risk is identified and its severity is established. Severity will condition the time scale at which risk mitigation actions will be implemented and monitored, while extension will condition the key roles involved. A summary of the risk mitigation strategy can be found in Fig 4. Section 3 presents the risks foreseen in GoNEXUS so far and the proposed mitigation measures planned, considering the experience of the consortium on risk triggering and mitigation in past projects. If the risk triggered corresponds to or is similar to one of the risks shown in Section 3, the mitigation actions to be considered will be the ones shown in this section for the aforementioned risk. In case it does not appear in Section 3, its description and proposed mitigation actions will be added to Section 3. In both cases, the mitigation measures to be deployed will be confirmed by the appropriate key roles involved.

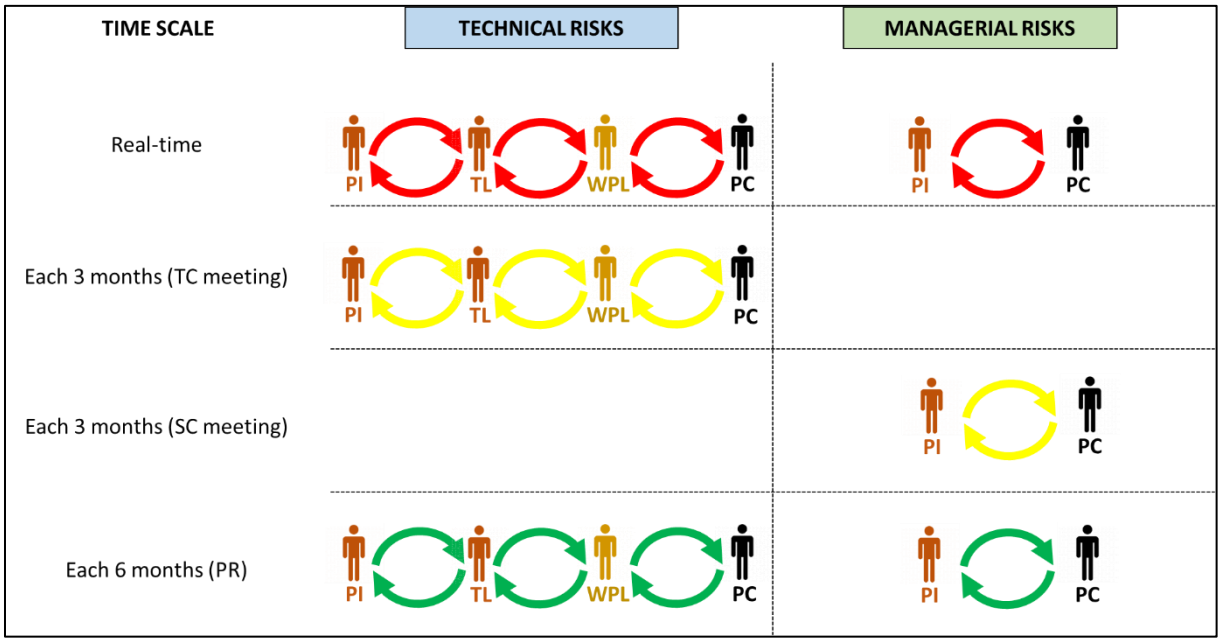


Fig 4 : Risk mitigation strategy in GoNEXUS
Arrow colors refer to the risk severity (green = Low, yellow = Medium and red = High)

Technical risks

Depending on its extension, one or several key roles will be involved in risk mitigation:

- The mitigation of partner risks will be led by the PI of the partner suffering the risk.
- Task level risks will be coordinated by the task leader with the support of the relevant PIs.
- WP level risks will be coordinated by the WP leader with the support of the relevant task leaders.
- Global risks will be coordinated by the PC with the support of the relevant WP leaders.

In case that the extension of a risk grows, either by an unforeseen course of action or by response times in the triggering of mitigation actions being slower than expected, the key role coordinating the risk will inform the key role located immediately above, who will take over the coordination of the risk.

Depending on its severity, the risk mitigation strategy of technical risks will be the following:

- Low severity: the key roles involved will implement the mitigation actions required to solve the risk. The key role acting as coordinator will report the finding of the risk in the next progress report of the work packages involved, as well as the mitigation actions triggered.
- Medium severity: the key role acting as coordinator will inform the PC about the triggering of the risk. The key roles involved will implement the mitigation actions required to solve the risk. In the next ordinary TC meeting, an item will be added to the agenda so that the key role acting as risk coordination can inform the TC about the triggering of the risk, the mitigation actions involved and its current status. The actions applied to the low severity risks will also be applied.
- High severity: the key role acting as coordinator will inform the PC about the triggering of the risk, and the PC will call for an extraordinary TC meeting as soon as possible, inviting the task leaders involved, to inform it about the triggering of the risk and discuss on the mitigation actions that should be taken. Additional extraordinary TC meetings may be celebrated depending on the course of action. In the next ordinary TC meeting, the current status of the risk and the need for further mitigation actions will be discussed. The actions applied to the medium severity risks will also be applied.

Managerial risks

In managerial risks, two alternatives can be found regarding its extension:

- The mitigation of partner risks will be led by the PI of the partner suffering the risk.
- The mitigation of global risks will be led by the PC with the support of the PIs suffering the risk.

Depending on its severity, the risk mitigation strategy of managerial risks will be the following:

- Low severity: the key roles involved will implement the mitigation actions required to solve the risk. In case of a partner risk, the affected PI will inform the PC about the need to report the triggering of the risk and the mitigation actions in the next progress report of WP1. In case of a global risk, the PC will report the triggering of the risk and the mitigation actions in the next progress report of WP1.
- Medium severity: in case of partner risks, the affected PI will inform the PC about the triggering of the risk and implement the mitigation actions required under the guidance of the PC. In case of global risks, the PC will coordinate the implementation of mitigation actions with the affected PIs. In the next ordinary SC meeting, an item will be added to the agenda so that the PC or the affected

PI can inform the SC about the triggering of the risk, the mitigation actions involved and its current status. The actions applied to the low severity risks will also be applied.

- High severity: in case of partner risks, the affected PI will inform the PC about the triggering of the risk, and the PC will call for an extraordinary SC meeting as soon as possible to inform it about the triggering of the risk and discuss on the mitigation actions that should be taken. Additional extraordinary SC meetings may be celebrated depending on the course of action. In the next ordinary SC meeting, the current status of the risk and the need of further mitigation actions will be discussed. The actions applied to the medium severity risks will also be applied.

3. Risks identified in GoNEXUS

The following subchapters describe the risks identified so far in GoNEXUS, including its type, extension, severity and proposed mitigation actions. The following table summarizes the information of each risk.

Num.	Risk summary	Type	Extension	Severity
1	Health crisis affecting meetings and field activities	Technical / managerial	Task, WP or global	High
2	Delay on deliverables and/or milestones	Technical / managerial	WP or global	Medium
3	Poor communication and cooperation between partners	Technical / managerial	Task, WP or global	Medium
4	Lack of quality of Deliverables	Technical / managerial	Task, WP or global	Low
5	Management, administrative or financial issues	Managerial	Global	Medium
6	Scenarios are not delivered in time	Technical	Global	Medium
7	Lack on engagement in the nexus dialogues	Technical	Global	Medium
8	Communication challenges due to the diversity	Technical / managerial	Task, WP or global	Medium
9	Lack of reliable data to set up the modelling toolbox	Technical	Task, WP or global	High
10	Some model interlinkages cannot be implemented	Technical	WP or global	Medium
11	Results from the modelling toolbox are delayed	Technical	Task, WP or global	High
12	Indicators are not adequate	Technical	WP or global	Medium
13	Internet connection issues during Nexus Dialogues	Technical	WP	High
14	The models cannot implement the solutions foreseen in the dialogues	Technical	WP or global	Medium

3.1 A health crisis (COVID-19 or similar) prevents international travels, face-to-face meetings and field research

Type

Technical	Managerial
X	X

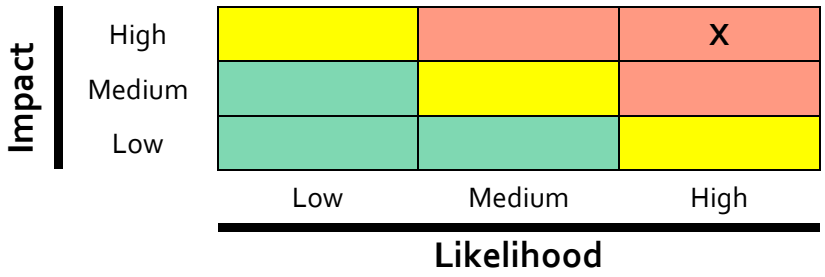
The risk is technical in case of field research and Nexus Dialogues, and managerial in case of consortium members meetings.

Extension

	Partner	Task	WP	Global
If technical		X	X	X
If managerial				X

The risk can affect from single tasks to a global level depending on the timing of its appearance and the duration of the health crisis. It can involve up to all WPs (technical) or all partners (managerial).

Severity



Proposed risk mitigation measures

The information and recommendations provided by the World Health Organization (https://www.who.int/en) and the ones from international, national and regional health authorities of the territories covered by GoNEXUS activities will be regularly checked to identify the risk of a future health crisis.

The field research and Nexus Dialogues will be scheduled to avoid the periods with the highest risk of diseases. In the event of a health crisis, field research will be suspended and face-to-face meetings and training courses will be replaced by online meetings celebrated using the Microsoft Teams.

3.2 Delay on deliverables and/or milestones

Type

Technical	Managerial
X	X

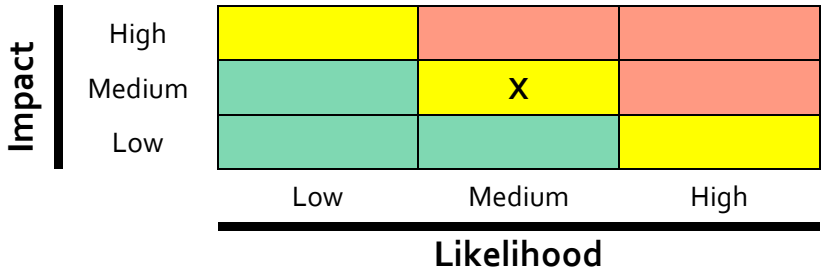
Delays in milestones are technical since the scheduled milestones may imply further delays in the workplan. In case of deliverables, this risk can be both technical and managerial (if the content of a deliverable will be used in further project activities) or only managerial (in case deliverables are not required by further activities but they imply a delay in the delivery of the GoNEXUS results).

Extension

	Partner	Task	WP	Global
If technical			X	X
If managerial				X

From a technical point of view, the risk may affect a single WP (if the deliverable is used by further activities of the same WP) or more than one (if the further activities refer to several WPs). It can involve up to all WPs (technical) or all partners (managerial).

Severity



Proposed risk mitigation measures

The progress of ongoing tasks, deliverables and milestones will be reviewed every 3 months by the TC and reported to the SC. Task leaders will be informed of any expected delay with enough time to start mitigation actions to minimise the impact.

For deliverables, a precise definition of the associated task or tasks causing the delay will be performed by the lead partner, who will inform the proper key role depending on its extension. Given the wide range of possible causes, precise mitigation actions for each case will be taken on a case-by-case basis under the coordination of the proper key role. For milestones, the lead partner will be the coordinator.

Possible mitigation actions depending on the type and scope of the delay may be the increase of the staff involved in the preparation of the deliverable, development of supplementary activities to cover the gaps identified, involvement of additional partners, communication with the Officer, etc.

3.3 Poor communication and cooperation between partners

Type

Technical	Managerial
X	X

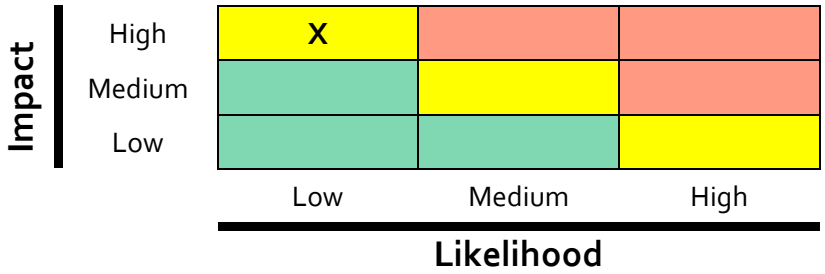
It may be technical if referred to R&D&I activities, and managerial if referred to management issues (the latter will be referred as between the PC and the partner).

Extension

	Partner	Task	WP	Global
If technical		X	X	X
If managerial				X

Under a technical point of view, the risk may affect a single task, a single WP or more than one, depending on the partners and activities involved. Under a managerial point of view, it involves the coordinator and at least one partner.

Severity



Proposed risk mitigation measures

TC meetings (each 3 months) will review the progress of ongoing tasks and the planning of future tasks to identify, foresee and correct any communication and cooperation issue. SC meetings will do the same with project management issues. Remote assistance to all meetings will be granted if needed. For remote meetings, recordings will be shared using the Microsoft Teams group of GoNEXUS. If a SC or TC member could not participate in a meeting, he/she will be able to appoint a temporary substitute from his/her own organisation. Previous joint successful experiences of collaboration between partners ensure their ability to cooperate.

In case of poor communication or cooperation between partners, the responsible key role will chair a meeting with the partner(s) involved in order to work out these issues. If the problem persists, the key role will notify the problem to the Coordinator (if the Coordinator is not the key role) who will officially declare the partners involved in breach, according to the provisions set out in section 4.2 of the GoNEXUS Consortium Agreement.

3.4 Lack of quality of Deliverables

Type

Technical	Managerial
X	X

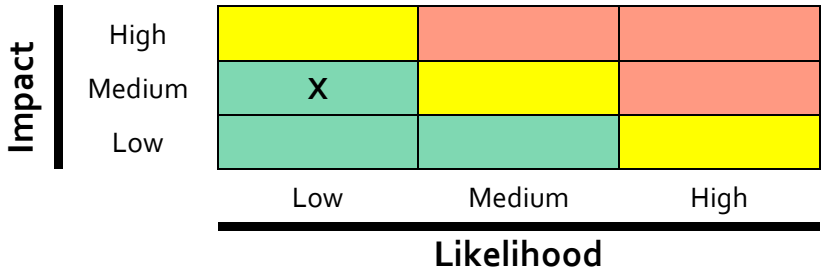
This risk can be both technical and managerial (if the content of a deliverable will be used in further project activities) or only managerial (in case deliverables are not required by further activities but they imply a delay in the delivery of the GoNEXUS results).

Extension

	Partner	Task	WP	Global
If technical		X	X	X
If managerial				X

From a technical point of view, the risk may affect a task (if the deliverable is used by another task), a WP (if the deliverable is used by further tasks of the same WP) or more than one (if the further activities refer to several WPs). It can involve up to all WPs (technical) or all partners (managerial).

Severity



Proposed risk mitigation measures

Each deliverable will be reviewed by four partners, including the corresponding WP leader, the leader of another WP and the PC. Guidelines on the deliverable review process were produced at the beginning of the project and will be applied in the review of all deliverables, including the actions to be performed if major issues are found in a deliverable.

In case that the leading beneficiary of a deliverable does not properly address all comments pointed out in the review process, the Coordinator will ask for a second round of review. If after this round the quality of the deliverable is still below the standards, the Coordinator will officially declare the lead partner in breach, according to the provisions set out in section 4.2 of the GoNEXUS Consortium Agreement, and will convey an extraordinary Technical Committee meeting that will: 1) decide on whether declare other partners involved in the deliverable in breach or not; and 2) assign the deliverable to another partner participating in its production. The costs associated with second review rounds will not be considered as duly justified eligible costs.

3.5 Management, administrative or financial issues including withdrawal, lack of performance or insolvency of partners, and budget deviations

Type

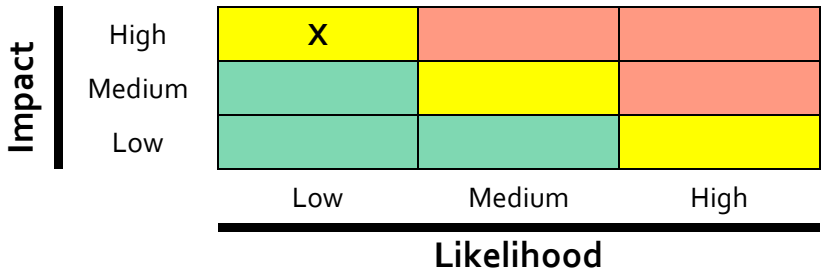
Technical	Managerial
	X

Extension

Partner	Global
	X

They will involve at least one partner and the PC.

Severity



Proposed risk mitigation measures

The consortium has the required proficiency and experience to achieve the objectives. Expectations and goals of the project were clearly expressed and agreed on during the proposal phase. As part of the management activities, an intensive, flexible and open dialogue among partners will take place to detect any issues that could cause a breach.

The Consortium Agreement signed between GoNEXUS partners has provisions aiming at addressing most of the management, administrative or financial issues. The organizational structure of the consortium has different levels of control and supervision to detect any deviation from the work plan. Budget deviations will be managed by the SC and the EC Project Officer. Possible solutions are: 1) transfer of budget between partners and/or financial periods; 2) increase partner contribution; 3) transfer of tasks to other partners; and 4) negotiate with the European Commission regarding the reduction of work scope.

3.6 Scenarios (climate, land and socioeconomic, policy) are not delivered in time

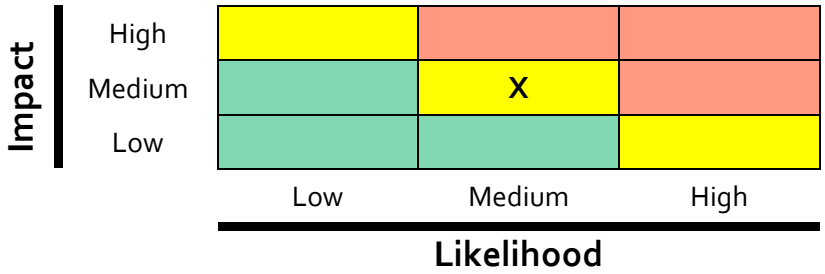
Type

Technical	Managerial
X	

Extension

Individual	Task	WP	Global
			X

Severity



Proposed risk mitigation measures

Bias-adjusted CMIP6 scenarios are also available through ISIMIP, and their use at global and continental scales is guaranteed. Furthermore, most partners have developed climate change scenarios for the GoNEXUS case studies in past projects.

If bias-adjusted CMIP6 scenarios from river basin to local scales were not provided on time, partners will use bias-adjusted scenarios developed by them in past projects if they could be assimilated to a Representative Concentration Pathway (RCP) from CMIP6 or CMIP5, which would be required to establish a link between them and the global and continental ones. If such RCP link could not be established, the same CMIP6 scenarios developed for global and continental scales (coarser but bias-adjusted against global datasets) would be employed for the river basin to local scales.

Land use & socioeconomic and policy scenarios: IMAGE3 scenarios are already in place and are used by some partners at the global and continental scales. These scenarios are linked to the policy scenarios, which are well-known (e.g. UN SDGs, CAP, and COP21). In case local scenarios would not be available on time, data from global scenarios (coarser but still valid) will be employed in their place. Furthermore, some partners have their own local scenarios from previous projects, which could be used if local scenarios were not provided in time.

3.7 Stakeholders and policymakers do not actively engage in the Nexus Dialogues

Type

Technical	Managerial
X	

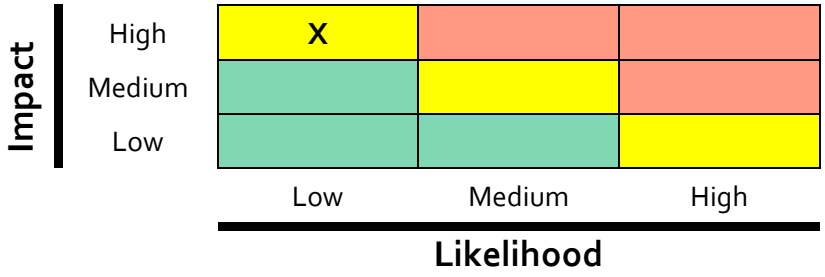
A

Extension

Individual	Task	WP	Global
			X

A

Severity



Proposed risk mitigation measures

The consortium includes partners who have a long-term professional relationship and collaboration with the stakeholders and policymakers of the case study areas (FAMIFE, ZAMCOM, UCAD, ULAVAL, POLIMI, UPV, UPM), and partners with a strong track of record in participatory processes, user engagement and policy development (BRGM, FT, ADELPHI). Furthermore, the Letters of Interest collected include users, stakeholders and policymakers from the case study areas, who have already agreed on participating in the project activities, which reveals a significant interest from some of the most relevant actors.

At the beginning of the project, relevant stakeholders and policymakers from the case studies will be directly contacted to be engaged in the Nexus Dialogues. Meanwhile, the communication strategy foreseen will be launched to attract any other agent potentially interested in participating in the Nexus Dialogues. Moreover, GoNEXUS will take measures to facilitate the participation in the Nexus Dialogues such as: 1) appropriate selection of the venues, including changing them if necessary, to avoid excessive travel burdens to the participants; 2) using remote meeting software (e.g. Teams, Zoom) during the Nexus Dialogues to facilitate the on-line attendance and participation; and 3) assuming travel costs of selected participants in case they were not able to cover them.

If a relevant stakeholder does not engage in the Nexus Dialogues, the following actions will be taken depending on the reason why:

1) Communication issues: alternative communication channels or reaching other staff members from the same stakeholder will be explored. If the issue persists, it will be considered as lack of interest.
2) Agenda issues: the possibility to change the dates of the nexus dialogues will be explored, and if not possible he/she will be asked to provide alternative stakeholders that would be suitable to be engaged instead of him/her. In case the provisions set before were not possible, the partners involved in the nexus dialogues for the case study will explore further actions such as run a specific dialogue with this stakeholder and then merge it with the previous one, or re-frame the nexus challenges towards some in which the contribution of this stakeholder would be less relevant.
3) Lack of interest: alternative people or stakeholders will be suggested as replacements (including if doable retired staff who formerly had the same or a similar position). In case they were not available, the nexus challenges would be re-framed towards some in which the contribution of this stakeholder would be less relevant.

In case that the number of stakeholders not engaged was enough to compromise the suitability of the whole nexus dialogue, the following alternatives will be explored by the partners involved together with the TC:

1) Re-frame the dialogues according to the expertise and interests of the stakeholders engaged.
2) Change the spatial scope of the case study (e.g. from the whole basin to a sub-basin) according to the expertise and interests of the stakeholders engaged.
3) Propose to the Officer the change or cancellation of the case study.

3.8 Communication challenges due to the diversity of education levels, language and cultural background of users and managers

Type

Technical	Managerial
X	X

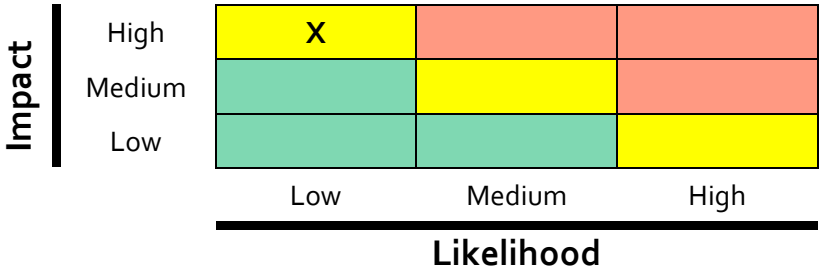
The risk is both technical and managerial since it will be present in both technical activities and managerial arrangements.

Extension

	Individual	Task	WP	Global
If technical		X	X	X
If managerial				X

In case of being technical, it can affect from a single task to the whole project depending on the partners involved and how long the risk is present.

Severity



Proposed risk mitigation measures

GoNEXUS partners have experience communicating with users, managers and stakeholders with very diverse social and educational backgrounds. The consortium includes partners based on or near all the river basin case studies, ensuring the acknowledgement of the local backgrounds, education levels and languages. The communication and dissemination materials developed to be used during the Nexus Dialogues will be tested beforehand and reformulated if needed.

3.9 Lack of reliable data and information to set up the modelling toolbox

Type

Technical	Managerial
X	

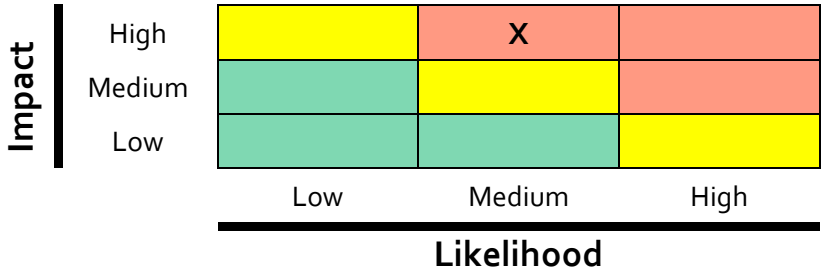
A

Extension

Individual	Task	WP	Global
	X	X	X

The extension will depend on the dataset(s) affected and how long the risk lasts.

Severity



Proposed risk mitigation measures

The case study leaders have already confirmed the existence, or developed, mathematical models of individual WEFE nexus elements, including ecosystems where relevant, which confirms the existence of enough data. Data providers will be included in the Nexus Dialogues to engage them in the project and let them know how their data will be used and exploited.

In case of data purchase, provision of these costs will be made in the budget of each case study leader. If data associated with key variables were not available, alternative data sources would be used (e.g. remote sensing and satellite images to estimate crop growth, area and water consumption). If no alternative data source is found, the case study leader will find suitable proxies to fill the information gaps, depending on the case study features.

3.10 Some of the model interlinkages envisaged cannot be implemented

Type

Technical	Managerial
X	

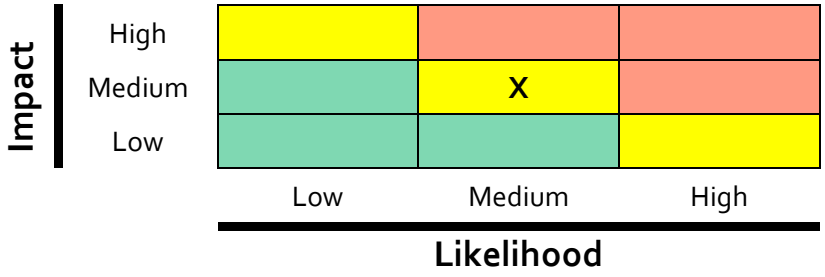
A

Extension

Individual	Task	WP	Global
		X	X

The extension will depend on how long the risk lasts.

Severity



Proposed risk mitigation measures

Part of the foreseen interlinkages correspond to variables that are already input variables for the models (e.g. energy and crop prices) so they could be easily implemented. An input harmonization will be performed before implementing the rest of the interlinkages to ensure they speak the same language in terms of variables.

In case a particular interlinkage was not possible (due to causing a model failure or yielding incoherent results) the WP leader or the TC (in case the risk involves more than one WP) will decide on whether modify the link or remove it from the analysis.

3.11 Results from the modelling toolbox are delayed

Type

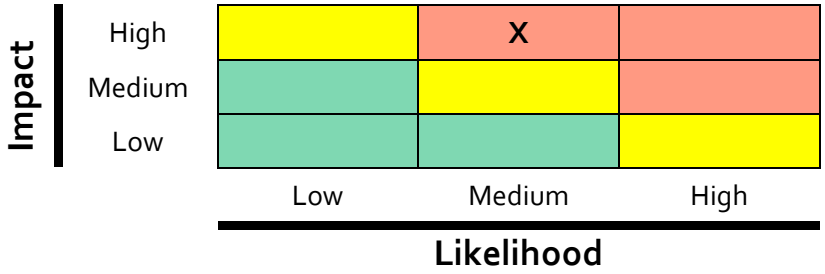
Technical	Managerial
X	

Extension

Individual	Task	WP	Global
	X	X	X

The extension depends on the particular model and how long the delay is.

Severity



Proposed risk mitigation measures

All the global and continental WEFE models, as well as part of the river basin models, are already in place. In case that results from interlinked runs involving existing models were not available on time, results from the models in their current state will be used instead. The risk mitigation actions to apply will depend on the model

1) Improvement of individual global and continental models: in case of delays, results from the models in their current state would be used instead until the improved runs are finished
2) Interconnected global and continental models: in case of delays, results from the models without interconnection (Tier 1) would be used instead until the interconnection runs are finished
3) Improvement of river basin WEFE models: in case of delays, results from the models in their current state would be used instead until the runs of the improved models are available
4) Newly developed river basin WEFE models: in case of delays, results from the global and continental WEFE models would be used instead, applying post-processing methods to guarantee they fit the particular case study areas as much as possible. Alternatively, if other river basin WEFE models developed under GoNEXUS are available, results from these models would be used instead.

3.12 Indicators for evidence are not adequate or are not properly defined

Type

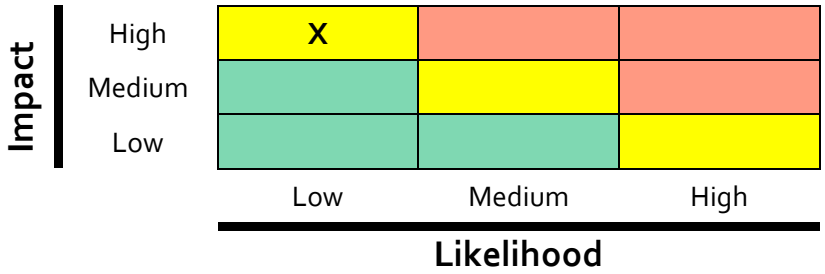
Technical	Managerial
X	

Extension

Individual	Task	WP	Global
		X	X

It may affect only WP5 or WP5 and WP6.

Severity



Proposed risk mitigation measures

The list of candidate indicators will include, update and modify indicators and indicator frameworks that have been used in the literature. These indicators will be discussed within the Nexus Dialogues to ensure that they are appropriate for the given case study.

If the lack of an indicator or group of indicators was noticed during the Nexus Dialogues, additional effort will be allocated to co-develop new indicators fulfilling the requirements of the Nexus Dialogues.

3.13 Internet connection issues during Nexus Dialogues

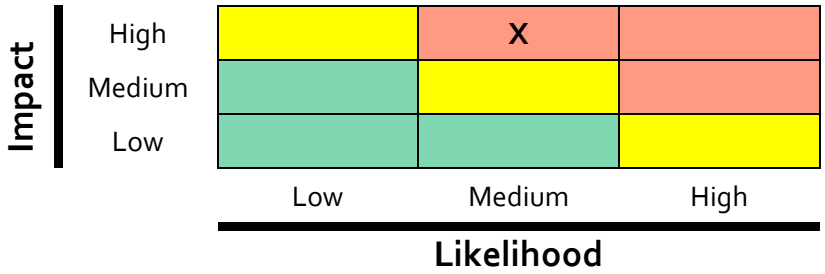
Type

Technical	Managerial
X	

Extension

Individual	Task	WP	Global
		X	

Severity



Proposed risk mitigation measures

Before the celebration of any Nexus Dialogue, the GoNEXUS partners involved will test that the platform used to celebrate it works and that all attendants have access to it. Additional contact channel information (e.g. phone, e-mail) will be provided so that any participant suffering a connection issue will be able to communicate it to the GoNEXUS partners to solve it as soon as possible. If the issue cannot be solved, the participant suffering it may participate in the Nexus Dialogue by phone.

If none of the measures above is solved live, the participant suffering the issue will be given access to the recording of the Nexus Dialogue to follow the discussion and react to it asynchronously. In case this is deemed to be insufficient to guarantee an adequate level of participation, a separate meeting between the GoNEXUS partners and the participant suffering the issue will be scheduled.

If a significant number of attendants did not have a reliable internet connection, corrective actions will be taken by the organizers, including switching to a face-to-face event or changing the format of the remote meeting to asynchronous (the organizers would record and share the presentations to be performed and all the supporting materials, and an internet forum and chat would be enabled for discussing the points of the dialogue).

3.14 Solutions defined in the Nexus Dialogues cannot be implemented in the models

Type

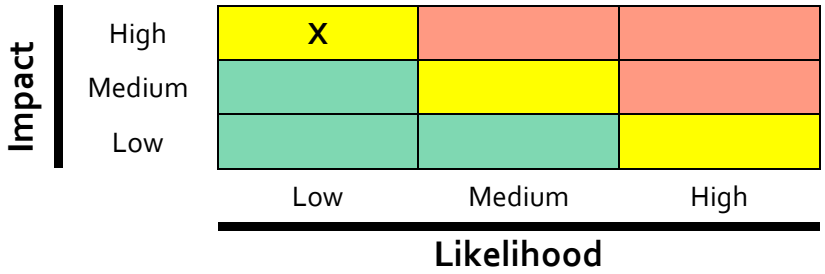
Technical	Managerial
X	

A

Extension

Individual	Task	WP	Global
		X	X

Severity



Proposed risk mitigation measures

The partners responsible for model implementation have distinct experience in modelling, including the implementation of part of the solutions that will be discussed in the Nexus Dialogues. Each GoNEXUS case study has been given a case study team involving partners from the modelling and from the dialogue implementation parts. The selection of the WEFE nexus challenges at which GoNEXUS will put the focus has been made taking into consideration the possibilities of the models involved in the model toolbox.

The partners responsible for the models for the corresponding case study will participate in the Nexus Dialogues, either on-site or online, for which adequate budget provisions have been made, giving advice on the implementation of the solutions in the models.

In case that a proposed solution cannot be modelled as defined in the Nexus Dialogue the case study coordinator, the responsible for dialogue implementation and the developer of the model(s) involved will meet to decide the modifications to be made to the model and/or the solution so that it can be adequately modeled, including:

1) Modify the code of the model
2) Adapt or modify the definition of the solution
3) Combine the previous two actions
4) Transfer the analysis of the solution to another model from the toolbox able to analyse it