

**Towards EXtreme scale Technologies and Accelerators for euROhpc hw/Sw  
Supercomputing Applications for exascale**



**textarossa**

**WP8 Project Management and Exploitation**

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**D8.2 Risk Management Plan**

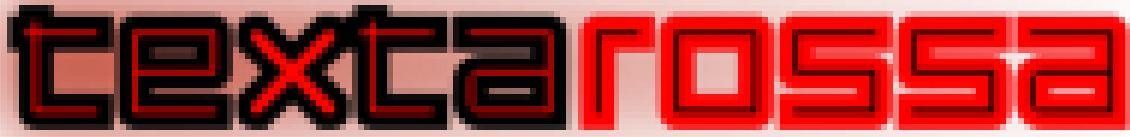
Revised version

<http://textarossa.eu>



This project has received funding from the European Union's Horizon 2020 research and innovation programme, EuroHPC JU, grant agreement No 956831





## TEXTAROSSA

**Towards EXtreme scale Technologies and Accelerators for euROhpc hw/Sw  
Supercomputing Applications for exascale**

**Grant Agreement No.: 956831**

**Deliverable: D8.2 Risk management plan**

**Project Start Date:** 01/04/2021

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**Coordinator:** AGENZIA NAZIONALE PER LE NUOVE TECNOLOGIE, L'ENERGIA E LO SVILUPPO ECONOMICO SOSTENIBILE - ENEA, Italy.

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### WP8 Project Management and Exploitation

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The partners in the project are AGENZIA NAZIONALE PER LE NUOVE TECNOLOGIE, L'ENERGIA E LO SVILUPPO ECONOMICO SOSTENIBILE (ENEA), FRAUNHOFER GESELLSCHAFT ZUR FOERDERUNG DER ANGEWANDTEN FORSCHUNG E.V. (FHG), CONSORZIO INTERUNIVERSITARIO NAZIONALE PER L'INFORMATICA (CINI), INSTITUT NATIONAL DE RECHERCHE EN INFORMATIQUE ET AUTOMATIQUE (INRIA), BULL SAS (BULL), E4 COMPUTER ENGINEERING SPA (E4), BARCELONA SUPERCOMPUTING CENTER-CENTRO NACIONAL DE SUPERCOMPUTACION (BSC), INSTYTUT CHEMII BIOORGANICZNEJ POLSKIEJ AKADEMII NAUK (PSNC), ISTITUTO NAZIONALE DI FISICA NUCLEARE (INFN), CONSIGLIO NAZIONALE DELLE RICERCHE (CNR), IN QUATTRO SRL (in4). Linked third parties of CINI are POLITECNICO DI MILANO (CINI-POLIMI), Università di Torino (CINI-UNITO) and Università di Pisa (CINI-UNIPI); linked third party of INRIA is Université de Bordeaux; in-kind third party of ENEA is Consorzio CINECA (CINECA); in-kind third party of BSC is Universitat Politècnica de Catalunya (UPC).

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## List of Acronyms

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<b>Acronym</b>	<b>Definition</b>
RMP	Risk Management Plan
BP	Business Plan
IP	Intellectual Property
IPR	Intellectual Property Rights
PTC	Program Technical Committee
DEC	Dissemination and Exploitation Committee
PMB	Project Management Board
GA	General Assembly
EAB	External Advisory Board
ABM	Advisory Board Manager
HPC	High Performance Computing
DM	Dissemination Manager
IM	Innovation Manager
PTM	Project Technical Manager
QA	Quality Assurance
QC	Quality Control
MST	Management Support Team
WPL	Work Package Leader
TL	Task Leader

## Executive Summary

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The purpose of this document is to provide a risk management framework for the TEXTAROSSA project, to ensure that adverse situations are properly managed along the evolution of the project. It will support the participants through the project's different activities, and it complements what already contained within the Consortium Agreement as well as within the Grant Agreement and its annexes.

This plan documents the processes, tools and procedures that will be used to manage and control those events that could have a negative impact. It exposes the proposed risk management approach of the project for managing and controlling all project risks. Moreover, this plan addresses the roles and responsibilities of the organization, the risk identification, as well as risk assessment and mitigation plans.

Before the beginning of any TEXTAROSSA critical technical activity, a risk analysis has been carried out by the Coordinator and the Project Technical Manager, starting from the risks preliminarily identified in this deliverable. The focus will be on matters such as: time allowed, cost, functionalities, quality, mobilization of resources. Based on such analysis, the necessary steps will be decided by the GA and implemented by the partners.

As suggested in the midterm review report, a new analysis of the risks has been performed in order to assess the status of the project advancements.

## 1 Introduction

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Risk is defined as an event that has a probability of occurring and could have either a positive or negative impact to a project should that risk occur. A risk may have one or more causes and, if it occurs, one or more impacts. TEXTAROSSA project assumes, as it is in all projects, some element of risk, and it's through Risk Management Plan (RMP) that it can monitor and track those events that have the potential to impact the outcome of a project.

Risk management is an ongoing process that continues through the life of a project. It includes processes for risk management planning, identification, analysis, monitoring and control. Many of these processes are updated throughout the project lifecycle as new risks can be identified at any time. It's the objective of risk management to decrease the probability and impact of events adverse to the project. On the other hand, any event that could have a positive impact should be exploited.

The identification of risks started before the project is initiated, and the number of risks increase as the project matures through the lifecycle.

When a risk is identified, it's first assessed to ascertain the probability of occurring, the degree of impact to the schedule, scope, cost, and quality, and then prioritized. Risk events may impact only one or while others may impact the project in multiple impact categories. The probability of occurrence, number of categories impacted and the degree (high, medium, low) to which they impact the project will be the basis for assigning the risk priority. All identifiable risks should be entered into a risk register and documented as a risk statement.

As part of documenting a risk, two other important items need to be addressed. The first is mitigation steps that can be taken to lessen the probability of the event occurring. The second is a contingency plan, or a series of activities that should take place either prior to, or when the event occurs. Mitigation actions frequently have a cost. Sometimes the cost of mitigating the risk can exceed the cost of assuming the risk and incurring the consequences. It is important to evaluate the probability and impact of each risk against the mitigation strategy cost before deciding to implement a contingency plan. Contingency plans implemented prior to the risk occurring are pre-emptive actions intended to reduce the impact or remove the risk in its entirety. Contingency plans implemented after a risk occurs can usually only lessen the impact.

Identifying and documenting events that pose a risk to the outcome of a project is just the first step. It is equally important to monitor all risks on a scheduled basis by a risk management team and reported on in the project status report.

This plan will address risk Identification, risk Assessment, risk Mitigation, risk Contingency planning.

TEXTAROSSA's objectives are really challenging since, to achieve high performance and high energy efficiency on near-future exascale computing systems, a technology gap needs to be bridged: increase efficiency of computation with extreme efficiency in HW and new arithmetics, as well as providing methods and tools for seamless integration of reconfigurable accelerators in heterogeneous HPC multi-node platforms. Moreover, TEXTAROSSA is applying a co-design approach to heterogeneous HPC solutions, supported by the integration and extension of IPs, programming models and tools derived from European research projects, led by TEXTAROSSA partners. All these technological improvements will be integrated to realize prototypes and to implement test-cases in different applications domains.



Given this framework the overall management procedures should be simple and light to facilitate the technological activities. However, at the same time the management procedures are needed to assure compliance with EU directives and clear paths of interaction and collaboration among the TEXTAROSSA partners.

A good communication strategy will favor cohesion among the participants, while giving a positive image of the project to the outside. Some of the major perceived risks related to the project work plan are listed in Table 1, including a classification of their probability and a description of contingency measures envisaged by the consortium.

The goal of this document is to allow the Management Team to accurately and timely try to avoid unwanted risks and, as necessary, act in mitigating or applying corrective measures to control potential negative effects to the project.

#### Revision:

The risk analysis has been updated by analyzing the innovation status of TEXTAROSSA. For each risk, the level of criticality was analyzed, and a new mitigation plan was proposed. The results of this analysis are reported in a new section (Section 5), added at the end of the document, in which the risks were evaluated, as suggested in the mid-term review report. The analysis performed showed that some risks materialized and were addressed and mitigated, while others increased the likelihood of slowing down project activities. For example, the risk of lack of hardware available for purchase was addressed and the consortium found several solutions to mitigate its impact on project results. In other cases, funding from national institutions is creating disruption among partners, and the consortium will need to pay close attention to this issue in the final year of the project.

## 2 Roles and Responsibilities

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### 2.1 Management team

The Management Team (MT) is responsible for handling the organizational, legal, and financial management of the project and to ensure that obligations and responsibilities towards the European Commission are met by the consortium. The MT is composed of:

- Project Coordinator (PC), Massimo Celino (ENEA)
- Project Technical Manager (PTM), William Fornaciari (CINI-POLIMI)
- Innovation Manager (IM), Cosimo Gianfreda (E4)
- Dissemination Manager (DM), Giovanni Agosta (CINI-POLIMI)
- EuroHPC and EPI contact Manager (PCM), Sergio Saponara (CINI-UNIFI)

The Project Technical Manager (PTM) manages the project on a daily basis. In particular, the PTM will: (1) organise regular PTC meetings, every month (2) have a complete overview of the work progress and ensure timely and qualitative achievement of the project objectives, (3) perform risk analysis and prepare contingency plans.

The MT will endorse the risks management of the project and is responsible of the risks management process, assuring the monitoring and control of risks of all project activities. The project risk management plan is the responsibility of the MT, but the all the partners should be involved in it, and the WP leaders regarding the risks within the tasks of their WP.

### 2.2 Work Package Leaders

The WP Leaders are responsible of the implementation of the work within their own WP, so they must bear the specific risks for the deliverables and milestones within the WP they are leading. They assure the identification and management of the risks, and they should inform the Management Team. If new risks are identified, they should be reported to the MT who will update the risk table.

### 2.3 The Project Technical Committee

The Project Technical Committee (PTC) consists of the MT and all WP Leaders. In collaboration with the MT, they will monitor the project and prepare the decisions to be taken by the General Assembly. Concerning the risk management plan, the PTC should advice the MT and the partners if problems cannot be easily resolved.

### 2.4 The External Advisory Board

The External Advisory Board (EAB) is responsible for providing advice and strategic inputs. The EAB members should follow the assessment of risks by the Consortium and the resolution actions.

### 3 TEXTAROSSA risk management action plan

#### 3.1 Risk identification and assessment

A risk is any event that could prevent the project from progressing as planned, or from successful completion. Risks can be identified from several different sources. Some may be obvious and will be identified prior to project kickoff.

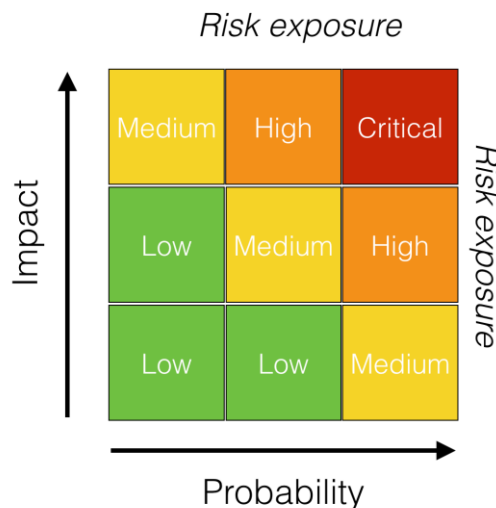
Others will be identified during the project lifecycle, and a risk can be identified by anyone associated with the project. Some risk will be inherent to the project itself, while others will be the result of external influences that are completely outside the control of the project team.

Risk identification is analysed throughout the life cycle of the TEXTAROSSA project. The following issues shall be considered as tools and techniques for risk identification:

- Analysis of deliverable status
- Analysis of WP schedules and scopes
- Regular communication of the Management Team with the WP leaders

The risks will be written down in a risk management register by the Project Coordinator. This register will be accessible to all members through the common platform of each WP. The risk management register contains the following information: Risk level exposure, description, concerned WP and proposed risk-mitigation measures.

The exposure to a given risk is estimated using the risk matrix. Concerning each of the risks, the Project Coordinator, in collaboration with the WP leaders, will estimate the probability they could become problems (Low/Medium/High).



### **3.2 Risk monitoring**

It is the responsibility of all TEXTAROSSA partners to communicate with the Project Coordinator about the status and effectiveness of each risk and mitigation plan to update the risk management register and assess the relevance of the tools. Risk exposure will be continuously reevaluated and modified accordingly. If any new risks are identified by a partner, they will be analyzed as those on the original risk list and then added to the register.

The Project Coordinator has the overall responsibility for managing project risk with the aid of the Project Technical Manager. WP leaders have the responsibility for reporting any risk in their WP. Throughout all phases of the project, a specific topic of discussion will be risk identification. The intent is to instruct the project team in the need for risk awareness, identification, documentation, and communication. Risk awareness requires that every project team member be aware of what constitutes a risk to the project and being sensitive to specific events or factors that could potentially impact the project in a positive or negative way. Thus, risk identification consists of determining which risks are likely to affect the project and documenting the characteristics of each. Risk communication involves bringing risk factors or events to the attention of the project manager and project team.

### **3.3 Risk-mitigation measures**

Each partner is responsible for executing the risk mitigation activities which relate to the WP they lead. If a mitigation action cannot be effectively carried out or does not solve the risk, the risk exposure is likely to become more important. In this case, visibility of the risk must be highlighted by the Project Coordinator and the mitigation measure modified in an efficient way. An item can be considered closed when the following criteria are brought together: the risk-mitigation measures have been implemented and a new exposure risk is estimated as low using the risk matrix.

## 4 Risk management table

TEXTAROSSA risks were already reported in the GA and are registered within the risk management table presented below, which is available in the TEXTAROSSA internal platform and updated at least at the end of each reporting period by all partners.

The table contains three different sections:

- the first one dedicated to the foreseen risks i.e., those risks, which have been identified at the proposal stage;
- the second one lists the unforeseen risks, which have been identified since the beginning of the project;
- the latter presents the risk mitigating measures that have been taken during the project.

### 4.1 Foreseen risks

The following table lists the Risk identified by the Consortium before the beginning of the project.

Topic	Description	WPs	Severity	Prob.	Consequences/Contingency
Management	Managerial risks such as not meeting timelines	8	M	L	Continuous monitoring of effort by the GA and comparison between achieved and set goals during the whole project. If needed we will adjust the manpower distribution across the WPs and activities to find the best project-wide trade-off between quality and available effort/resources.
Technology	There is an abrupt change in the technology (e.g. Quantum Computers become available for general use) (low)	3,5	M	L	E4 is currently having contacts with a couple of companies making available Quantum Computing services to selected users and companies. Should QCs become suitable for running standard applications, these contacts will be exercised, and access will be provided to developers
Staffing	Personnel involved or recruited is not able to fulfil tasks	All	M	L	Monitoring by the PO, and implementing adjustments within each organisation and WP.
Management	Partners leaving the consortium	All	M	L	Some of the competencies are partially overlapping.

Management	Underperforming partners	All	M	L	Close contact between WP Leaders and Project Leader, short feedback loops and personal contact.
Management	Underestimation of time and resource requirements	All	M	M/H	Internally redistribute work force between Tasks. Some of the Tasks will finish faster than planned and their resources can be used on Tasks which turn out to be more complex than anticipated.
Dissemination	The project does not reach critical mass for public attention to be perceived as a design-reference framework	All	L	L	Increase dissemination effort and activities to get more attention
Technical	Node-level thermal monitoring overhead impacting application performance	WP5	L	L	Redesign the thermal monitoring tool
Technical	Two-phase cooling underperforming	WP5	H	M	Replace the two-phase cooling with a commercially available, hot water cooling subsystem
Technical	Underperforming component impacting functionality	All	M	L	The components will be thoroughly evaluated in advance. External components will be integrated in a way that allows to exchange them in a later stage of the project
Management	Lack of communication or consensus within the consortium	All	L	L	Within the proposal management procedures have been defined for enabling effective decision making. The project coordinator has the necessary skills to resolve such conflicts by adequate negotiation. Additionally it is planned to keep close contact within the consortium by regular telephone conferences and virtual meetings.

Dissemination	Dissemination of the project results is not sufficient to create impact	All	L	L	The consortium is strongly determined to create sustaining impact, and the partners have substantial experience in the international R&D business; a dedicated work package for dissemination, exploitation and communication strategies under the lead of the coordinator will plan and execute this.
Funding	Delayed/lower than expected level of funding by the National funding organizations	All	M	M	The consortium is determined to achieve the intended objectives, and will implement the appropriate political actions required to make sure that the National funding organization perceive the value of the project and delivers the funding according to the timeline. Nonetheless, workshare in the WP and overall objectives will be modulated according to the level of funding and the timeline without impacting the overall technological impact of the project, e.g. reducing the number of nodes in the rack but maintaining the components.

## 4.2 Unforeseen risks

The following table lists new risks arisen after the project start. The most common risks affecting the overall project implementation are identified and mitigation measures proposed. As stated above, more elaborated, and detailed task and deliverable-level RMP is developed in cooperation with the Beneficiaries during the project implementation. Work Package and Task Leaders are responsible on the day-to-day monitoring of the Risk Plan. Risk Management Plan will be monitored continuously throughout the project by Work Package and Task Leaders. Risk Management Plan will be updated twice a year in terms of risks identified and impact/likelihood and presented half-yearly to the PTC and yearly to General Assembly.

Topic	Description	WPs	Severity	Prob.	Consequences/Contingency
Technology	Abrupt increase of the costs of the equipment	All WPs	M	M	This could cause a delay and reduction of the activities. A contingency plan is to better focus activities and greater

					cooperation sharing fundings among the partners.
Management	Different timeline of WP activities	All WPs	M	M	This could bring delays and disorganization. Contingency plan is to organize meetings between partners and WPs
Management	Prolonged COVID pandemic or revamp of problems	All WPs	M	M	This could bring delays and disorganization. Contingency plan is to intensify the online meeting and organize a GA as soon as possible
Management	Lack of support from national bodies for achieving the goals	All WPs	L	L	Supporting national bodies by sufficient dissemination and information about the project benefits and impact.
Management	Failure to establish shared methodologies and protocols for cooperation between the participant bodies and groups.	All WPs	L	L	Facilitated discussions and clear and achievable milestones and deliverables, engaging leadership of WP's leaders. Building trust between project partners.

### 4.3 State of the Play for Risk Mitigation

Now the major issues that the Consortium is called to face are those reported in the following table.

Topic	Description	WPs	Severity	Prob.	Consequences/Contingency
Management	Delayed funding by the National funding organizations	All WPs	M	M	This could imply a delay of the activities. Contingency plan is to workshare in the WP and overall objectives will be modulated according to the level of funding and the timeline without impacting the overall technological impact of the project, e.g., reducing the number of nodes in the rack but maintaining the components.
Technology	Delay in the equipment supply due to delays in the availability of	All WPs	M	M	This could imply a delay in the activities. Contingency plan is to use the equipment already available in the consortium.





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	components in the market				
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## 5 Revised risks management tables

In this section the tables discussed in the previous section are reported here and updated. The update follows the analysis done in detail during the time when the consortium was engaged in formulating responses for the auditors. The review report gave the opportunity to the consortium partner to rediscuss objectives of the project and assess the achievability of the TEXTAROSSA targets.

### 5.1 Foreseen risks

The following table lists the Risk identified by the Consortium before the beginning of the project. This list is updated in the second column.

It is worth to be noted that most of the risks have the same level of risk. However, some others have changed colour. In particular:

- Under performing partners: from green to yellow.
  - Two main reasons. First the cofunding is not yet arrived to Italian partners. Second, some activities are waiting for hardware supply.
- Two-phase cooling underperforming: from yellow to green.
  - Some preliminary tests have shown that two-phase cooling is a promising technology.
- Lack of communication or consensus within the consortium: from green to yellow.
  - the review report has open the door to internal discussions.
- Delayed/lower than expected level of funding by the National funding organizations: from yellow to red.
  - This is due to the delay of the cofunding for a large part of the partners. Hopefully by the end of the project the cofunding will be available forcing institutions to provide large funding in advance.

Old colour Topic	New colour Topic	Description	WPs	Severity	Prob.	Consequences/Contingency
Management		Managerial risks such as not meeting timelines	8	M	L	Continuous monitoring of effort by the GA and comparison between achieved and set goals during the whole project. If needed we will adjust the manpower distribution across the WPs and activities to find the best project-wide trade-off between quality and available effort/resources.

Technology		There is an abrupt change in the technology (e.g. Quantum Computers become available for general use) (low)	3,5	M	L	E4 is currently having contacts with two companies making available Quantum Computing services to selected users and companies. Should QCs become suitable for running standard applications, these contacts will be exercised, and access will be provided to developers
Staffing		Personnel involved or recruited is not able to fulfil tasks	All	M	L	Monitoring by the PO, and implementing adjustments within each organisation and WP.
Management		Partner leaving the consortium	All	M	L	Some of the competencies are partially overlapping.
Management		Under performing partners	All	M	L	Close contact between WP Leaders and Project Leader, short feedback loops and personal contact.
Management		Underestimation of time and resource requirements	All	M	M/H	Internally redistribute work force between Tasks. Some of the Tasks will finish faster than planned and their resources can be used on Tasks which turn out to be more complex than anticipated.
Dissemination		The project does not reach critical mass for public attention to be perceived as a design-reference framework	All	L	L	Increase dissemination effort and activities to get more attention
Technical		Node-level thermal monitoring overhead	WP5	L	L	Redesign the thermal monitoring tool

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Technical		Two-phase cooling underperforming	WP5	H	M	Replace the two-phase cooling with a commercially available, hot water cooling subsystem
Technical		Underperforming component impacting functionality	All	M	L	The components will be thoroughly evaluated in advance. External components will be integrated in a way that allows to exchange them in a later stage of the project
Management		Lack of communication or consensus within the consortium	All	L	L	Within the proposal management procedures have been defined for enabling effective decision making. The project coordinator has the necessary skills to resolve such conflicts by adequate negotiation. Additionally it is planned to keep close contact within the consortium by regular telephone conferences and virtual meetings.
Dissemination		Dissemination of the project results is not sufficient to create impact	All	L	L	The consortium is strongly determined to create sustaining impact, and the partners have substantial experience in the international R&D business; a dedicated work package for dissemination, exploitation and communication strategies under the lead of the coordinator will plan and execute this.
Funding		Delayed/lower than expected level of funding by the National funding organizations	All	M	H	The consortium is determined to achieve the intended objectives, and will implement the appropriate political actions required to make sure that the National funding organization perceive the value of the project and delivers the funding

						<p>according to the timeline. Nonetheless, workshare in the WP and overall objectives will be modulated according to the level of funding and the timeline without impacting the overall technological impact of the project, e.g. reducing the number of nodes in the rack but maintaining the components.</p>
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## 5.2 Unforeseen risks

The following table lists new risks arisen after the project start. The most common risks affecting the overall project implementation are identified and mitigation measures proposed.

After the project review, the Consortium had the opportunity to rediscuss and carefully revise risks that appeared during the project timeline. It is worth to underline the following changes:

- Abrupt increase of the costs of the equipment: from yellow to red.
  - The GPU board of the IDV-A prototype (ATOS) has now a price higher than budgeted. ATOS cannot meet this expense. ENEA, instead of buying new HW for its activities, is buying the GPU board for the ATOS prototype. ENEA will use for the project, the HW already available in its own HPC infrastructure.
- Different timeline of WP activities: from yellow to green.
  - The change is due to the large discussions started after the project review. Discussions strengthen the collaborations among partners and thus lowered the overall risk.
- Prolonged COVID pandemic: from yellow to green.
  - Even if costs of the supply chain are still high, likely the COVID pandemic is almost finished and activities and meeting can be work out
- Lack of support from national bodies for achieving the goals: from green to yellow.
  - The financial support from national institutions is still lacking behind for most of the partners.

Topic	Topic after revision	Description	WPs	Severity	Prob.	Consequences/Contingency
Technology		Abrupt increase of the costs of the equipment	All WPs	M	M	This could cause a delay and reduction of the activities. A contingency plan is to better focus activities and greater cooperation sharing

						fundings among the partners.
Management		Different timeline of WP activities	All WPs	M	M	This could bring delays and disorganization. Contingency plan is to organize meetings between partners and WPs
Management		Prolonged COVID pandemia or revamp of the problem	All WPs	M	M	This could bring delays and disorganization. Contingency plan is to intensify the online meeting and organize a GA as soon as possible
Management		Lack of support from national bodies for achieving the goals	All WPs	L	L	Supporting national bodies by sufficient dissemination and information about the project benefits and impact.
Management		Failure to establish shared methodologies and protocols for cooperation between the participant bodies and groups.	All WPs	L	L	Facilitated discussions and clear and achievable milestones and deliverables, engaging leadership of WP's leaders. Building trust between project partners.

### 5.3 State of the Play for Risk Mitigation

Now the main issues facing the Consortium are as shown in the table below.

- It is worth noting that the delay in funding from national organizations is now a very critical situation that needs to be considered very carefully in the last year of the project.
- As for the delay in equipment, although this is a very critical situation, the consortium has organized in recent months to address the problem and provide solutions. On the one hand, partners are using the hardware already available in the partners consortium, and on the other hand, new actions have been put in place with suppliers to overcome the lack of hardware availability.
- Closer contact was sought with the Project Officer who oversaw the entire review process. How to continue project activities was also discussed with the Project Officer in order to better meet deadlines and keep him promptly informed.

Topic	Topic after revision	Description	WPs	Severity	Prob.	Consequences/Contingency
Management		Delayed funding by the National	All WPs	M	H	This could imply a delay of the activities. Contingency plan is to workshare in the

		funding organizations				WP and overall objectives will be modulated according to the level of funding and the timeline without impacting the overall technological impact of the project, e.g., reducing the number of nodes in the rack but maintaining the components.
Technology		Delay in the equipment supply due to delays in the availability of components in the market	All WPs	M	M	This could imply a delay in the activities. The contingency plan is to use the equipment already available in the consortium.
	Management	Some technologies cannot be demonstrated in the project timeframe	All WP2	M	M	Part of the activities will be demonstrated in other EuroHPC projects. CINI-UniTO is planning to purchase a TEXTAROSSA HPC node with 2-phase cooling technology.
	Management	Deliverables not submitted to Coordinator in due time	All	M	M	To prevent delays the deliverables preparation will start 4 months before the due date.
	Management	Delay in highlighting critical issues that may arise	All	M	M	To prevent delays in reporting risks, a PTC section will be devoted to the risk assessment.