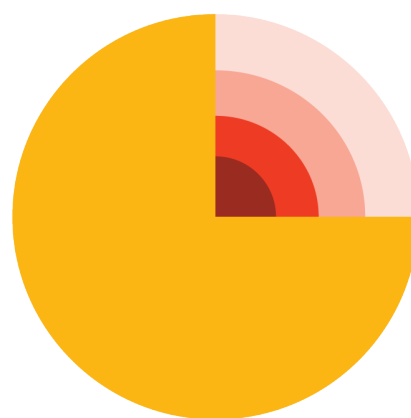




ChEESE

**Deliverable
D1.1 Project
Management and
Quality Guidelines**



Project funded by EuroHPC under the grant agreement No 101093038.

ChEESE-2P Deliverable

D1.1 Project Management and Quality Guidelines

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Abstract

This document lays out the Project Management and Quality Guidelines for ChEESE- 2P project. The guidelines aim to describe the processes that will ensure the desired quality of all tasks and deliverables are achieved. It describes the project's structure and governing bodies, the tools to promote a successful development and the mechanisms to avoid potential risks. Thus, this is a report that supports the demonstration deliverable D1.1.

I. Copyright

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II. Delivery Slip

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III. Version control

Version	Date	Description of change	Author/Partner
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IV. List of Acronyms

Acronym	Description
CSIC	Consejo superior Investigaciones Científicas
WP	Work Package
WPLs	Work Package Leaders

PC	Project Coordinator
PM	Project Manager
PIM	Project Innovation Manager
PEC	Project Executive Committee
PSB	Project Supervisory Board
SAB	Scientific Advisory Board
IUB	Industry and Users Board
IPR	Intellectual Property Rights
QR	Quality Review
GA	Grant Agreement
CA	Consortium Agreement
KOM	Kick-off meeting

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1. Introduction

This document aims to provide an overview of the internal management procedures of ChEESE-2P in order to provide an efficient project execution and high-quality project results.

The «Project Management and Quality Guidelines» describes the governance structure of the consortium, the project management procedures and tools, as well as reporting procedures, including roles and responsibilities and monitoring of the project progress.

These guidelines provide information to ChEESE-2P partners to help them with the day-to-day management of the project, ensuring the project outcomes to be delivered in a timely manner and with the expected quality. More specifically, this document covers the following areas:

- Project structure: Roles and responsibilities
- Project management procedures and tools
- Project monitoring
- Risk management
- Intellectual Property Rights and Knowledge Management

The content of this document will be updated regularly during the whole project and it will be available internally for consultation.

2. Project Structure

This section introduces ChEESE-2P structure and identifies all the coordination units as well as their responsibilities.

2.1 Coordination

Consejo Superior de Investigaciones Científicas (CSIC) will act as the Coordinator of ChEESE-2P. Dr. Arnau Folch is the project coordinator (PC). The PC will ensure the timely delivery of project objectives and deliverables by continuously monitoring the project progress against the plan of record. During the length of the project, the PC will identify and track issues as well as propose suitable corrective actions that might require a formal decision by the Project Supervisory Board (PSB). Moreover, the PC is in charge of defining the procedures for change control (proposed changes to the plan of record), risk management, quality assurance and IPR management. Finally, the PC is also responsible of the financial management of the

project and he will act as the point of contact between the EuroHPC Project Officer and the Beneficiaries.

Maria Jose Garcia has been assigned the role of Project Manager (PM) of this project. The responsibilities of the PM include the following:

- Offer support to Project Coordinator (PC) to establish the procedures for project management (quality guidelines), including administrative management and financial reporting.
- Organize the different committees and board meetings and general assemblies.
- Set up clear communication channels between partners (exchange of documents and news), collaborative tools (internal Wiki and private project portal for sharing), mailing lists, and organize internal peer-reviewing of deliverables.
- Promote gender balance through the Equality Committee (EC) activities.

2.2 Consortium

The ChEESE-2P Consortium is composed of 16 Partners from 8 EU full Member States and two associated states (France, Germany, Finland, Croatia, Italy, Spain, Norway and Iceland. With respect to ChEESE-1P, incorporates 4 new beneficiaries (CSC, RBI, UM, and SU). The consortium also includes one affiliated entity (IPGP). The responsibilities of the project partners are:

- Execute and deliver the agreed work defined in the GA
- Proactively report any problem or unforeseen deviation to WPs objectives
- Coordinate the project contributions carried out by their staff
- Report technical and financial work on time
- Notify the consortium of changes in their contact data

Consortium composition:

No	Partner	Institution	Country
1	CSIC	Consejo Superior Investigaciones Científicas	Spain
2	BSC	Barcelona Supercomputing Center	Spain

3	INGV	Istituto Nazionale di Geofisica e Vulcanologia	Italy
4	IMO	Icelandic Meteorological Office	Iceland
5	USTUTT	University of Stuttgart	Germany
6	CIN	CINECA Consorzio Interuniversitario	Italy
7	TUM	Technische Universitaet Muenchen	Germany
8	LMU	Ludwig-Maximilians Universität München	Germany
9	UMA	University of Malaga	Spain
10	NGI	Stiftelsen Norges Geotekniske Institutt	Norway
11	CNRS	National Center for Scientific Research	France
11.1	IPGP ¹	Institut de Physique du Globe de Paris	France
12	BULL	BULL SAS	France
13	CSC	CSC-Tieteen tietotekniikan keskus oy	Finland
14	RBI	Ruder Boskovic Institute	Croatia
15	UM	Johannes Gutenberg-Universitat Mainz	Germany
16	SU	Sorbonne Universite	France

2.3 Project Innovation Manager (PIM)

Dr. Joan Farnós (BSC) has been assigned the role of PIM. He will fulfill a key role in the coordination of various exploitation activities. He will set

¹ Affiliated entity

up exploitation strategies and will link project activities with the Industry and Users Board.

2.4 Work Package Leaders (WPLs)

The WPLs will be responsible for the scientific and technical work of their respective WP. This includes the planning and control of all activities within each WP, the preparation of deliverables and the collection of the contributions from other partners participating in the respective WP for internal and external reports.

They meet regularly via teleconference or face-to-face as a part of the Grant Agreement and arrange for additional technical meetings when necessary. They are expected to raise critical issues to the General Assembly and to support the PC in coordinating cross-work package relationships within the appropriate activity area. They should actively participate in regular project-related meetings and prepare technical and status presentations as required. Each WPL was appointed by the organization responsible for the respective WP.

Below the list of WPs and their related WPLs in ChEESE-2P:

WP	WP Name	WPL name	Partner
1	Project Management	M.J. Garcia	CSIC
2	Exascale technical challenges in flagship codes	P. Lanucara	CIN
3	Co-design with European HPC vendors and technologies	E. Raffin	BULL
4	Simulation ecosystem	C. Niethammer	HLRS
5	Farming Pilot Demonstrators	V. Monteiller	CNRS
6	SCs and service enabling using EuroHPC infrastructures	T. Esposti-Ongaro	INGV

7	Dissemination, outreach and capacity building	R. Gregorio	BSC
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2.5 Project Executive Committee (PEC)

The PEC is composed by the PC, the PIM and the 7 WPLs. This committee is responsible for the day-to-day execution of the project and will meet monthly via teleconference or in coincidence with the face-to-face meetings. The PEC is expected to raise critical issues to the PSB and support the PC in coordinating cross-work package relationships within the appropriate activity area. The PEC members must actively participate in the regular project-related meetings as well as in preparing technical and status presentations as required.

2.6 Project Supervisory Board (PSB)

The PSB will be responsible for the overall management and running of the project and is the decision-making body of the project that holds the highest level of authority. The board will be chaired by the PC and involves 1 representative from each of the 16 partners (i.e. 17 PSB members in total) with one vote each to make strategic decisions during the PSB meetings. The PIM will act as an observer at the PSB meetings but he will not have voting rights. If no consensus can be reached, decisions will be approved by a simple majority of members. The PSB will be in charge of making all decisions affecting more than one Beneficiary, including:

- resolution of conflictive situations among the consortium partners;
- approval of significant changes of the project content;
- definition of the exploitation, dissemination and communication of the project results;
- outlining the efficient implementation of the project.

Only the PSB has the authority to alter the project work plan significantly. Conflicts, if any, will be solved in accordance with the Consortium Agreement. The PSB will meet regularly every 6 months. However, in case of urgent conflicts or issues affecting the general project advancement, conference calls will be organized immediately to ensure no delay in the project implementation. The members of the PSB are as follows:

No	Name	Partner
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1	A. Folch	CSIC
2	S. Zafrilla	CSIC
3	M. Monterrubio	BSC
4	A. Costa	INGV
5	B. Halldórson	IMO
6	J. Gracia	HLRS
7	P. Lanucara	CIN
8	M. Bader	TUM
9	A.-A. Gabriel	LMU
10	J. Macías	UMA
11	F. Lovholt	NGI
12	V. Monteiller	CNRS
13	E. Raffin	BULL
14	J. Heikonen	CSC
15	C. Denamiel	RBI
16	B. Kaus	UM
17	L. Le Pourhiet	SU
18	J. Farnós (observer)	BSC

2.7 Industry and Users Board (IUB)

The IUB will provide an independent, industry-based mechanism for obtaining feedback on project interim results. Moreover, and in collaboration with the Project Innovation Manager (PIM), it will facilitate industry and project end-user communities direct participation in identifying and pursuing exploitation opportunities. The IUB will meet (physically or virtually) during the 3 project General Assemblies, which will be planned throughout the project, and will review the project evolution and provide feedback.

2.8 Scientific and Advisory Board (SAB)

The SAB is composed of 4 external world-leading scientists covering SE and Computer Science disciplines. They will contribute with their expertise to support ChEESE-2P in attaining its goals. The main role of the SAB will be to provide constructive criticism on the project development and its scientific direction. They will also provide strategic support to WPLs in the periodic General Assemblies, at which the SAB members shall be invited. The composition of the SAB includes European and non-European scientists in order to provide a global perspective to the project. The SAB may be extended to one or two more scientists as the project develops. The SAB is gender-balanced and currently includes the following members:

1. Lesley Wyborn, Honorary Professor at the Australian National University.
2. Kim Olsen, Professor at the department of Geological Sciences of San Diego State University.
3. Jean-Pierre Vilotte, Professor at the Institut de Physique du Globe de Paris (IPGP).
4. Lilli Freda Executive, Director of European Plate Observing System (EPOS).

2.9 Equality Committee (EC)

The equality committee was created to ensure equal opportunities for everyone and the maximum possible gender-balance recruitment. As part of this committee its members will continue with the ShEESE initiative created during ChEESE-1P. The name "ShEESE" ("she is") is a combination of the words "She" and "ChEESE" and gathers all the

activities aiming at promoting the participation of women in research professional careers.

The EC is composed by the PC, the PM and X members all from different partners and will meet virtually every three or four months.

No	Name	Partner
1	A. Gabriel	LMU
2	A. Folch	CSIC
3	MJ. Garcia	CSIC
4	N. Favretto-Cristini	CNRS
5	M. Garcia	BSC
6	R. Gregorio	BSC

3. Project Management Procedures and Tools

The project management procedure and tools describe the internal communication, quality control and evaluation, the progress monitoring, risk and IPR management.

3.1 Internal Communication

Efficient Internal communication is a key component in order to successfully meet the project objectives and avoid risks. We have set up and made available to all members three basic communication tools:

- a set of mailing lists
- a collaborative wiki page
- a document repository provided by CSIC

3.1.1 Mailing lists

In order to support the cooperation among all partners, promote transparency and encourage participation in the decision-making process a

number of mailing lists have been created by the Coordinating institution (CSIC).

- cheese@geo3bcn.csic.es- General mailing list, includes all members
- cheese-pec@geo3bcn.csic.es- Project Executive Committee (PEC) related issues
- cheese-psb@geo3bcn.csic.es- Project Supervisory Board (PSB) related issues
- cheese-ec@geo3bcn.csic.es- Equality Committee (EC) related issues
- cheese-wp2@geo3bcn.csic.es- Related to WP2
- cheese-wp3@geo3bcn.csic.es- Related to WP3
- cheese-wp4@geo3bcn.csic.es- Related to WP4
- cheese-wp5@geo3bcn.csic.es- Related to WP5
- cheese-wp6@geo3bcn.csic.es- Related to WP6
- cheese-wp7@geo3bcn.csic.es- Related to WP7

3.1.2 ChEESE-2P WIKI

At the beginning of the project we created a project wiki (<https://cheese2.eu/wiki>), where all the internal information is published. All members have access to it and it is meant to be used as a collaborative tool, which means that even though the content and user management are the responsibility of the Coordinator others can also edit it and add relevant information to it.

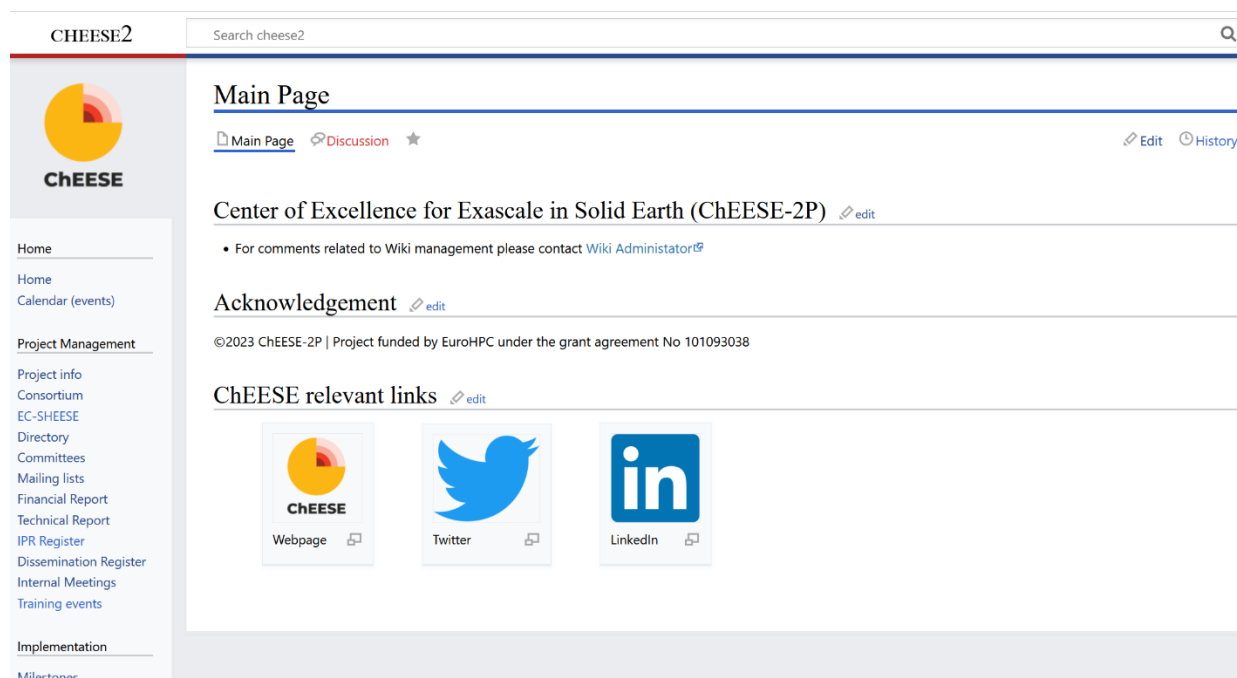


Figure 1. ChEESE 2-P wiki home screen

The following sections have been created so far at the wiki :

• Mainpage - Home - Calendar • Project Management - Project Info - Consortium - EC-SHEESE - Directory - Committees - Mailing lists - Financial Reports - Technical Reports - Internal Meetings	• Dissemination - IPR Register - Training events - Dissemination Register • Implementation - Milestones - Work Packages - Tasks - Pilot Demonstrators (PDs) - Simulation Cases (SCs) • Repository - Templates - Branding - Documents - Deliverables
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New sections can be added as per request of the members. It is updated almost daily as the project progresses.

3.1.3 Document Repository

CSIC has a Shared Storage Service (SACO: <https://saco.csic.es>) and a folder has been made available to all ChEESE members to share and edit documents.

The storage allows all ChEESE participants to do the following:

- Synchronize, share and access all your files and documents from all their devices.
- Edit their documents collaboratively.

3.2 Meetings

In ChEESE-2P most meetings will be virtual or hybrid. The reason for this is that online meetings are more cost-efficient, inclusive (since more members are able to participate) and environmentally friendly. A ChEESE

admin zoom address has been created and it will be used during the length of the project.

A hybrid Kick-of-meeting (KoM) was organized in Barcelona on January 19th and 20th with the objective to establish the basis of the project and firsts tasks. The presentations from all the partners and the minutes of the meetings are available in our wiki.

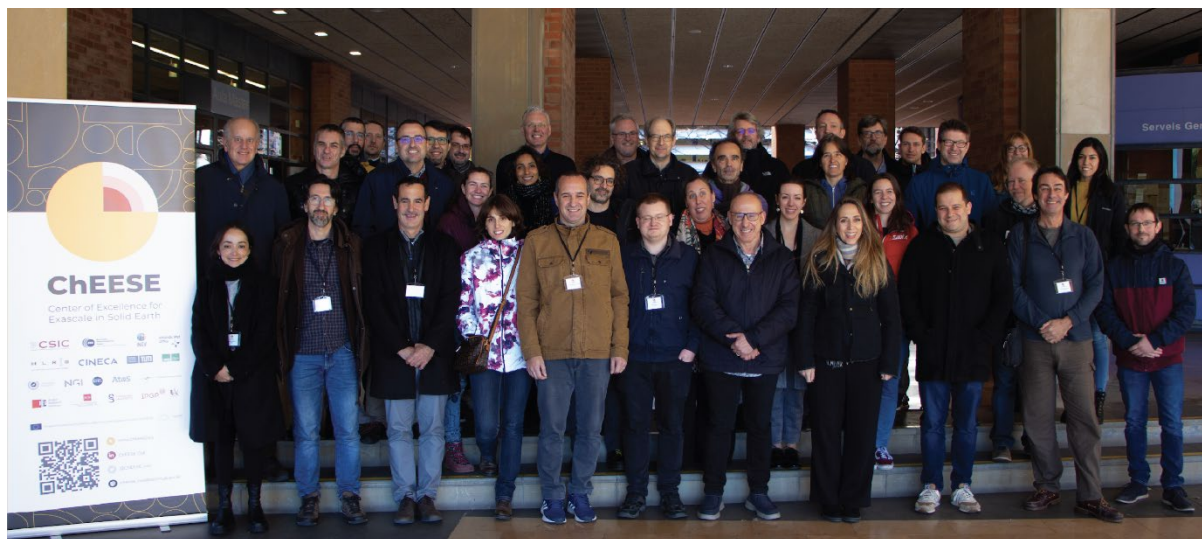


Figure 2. CHEESE-2P Kick-of-meeting group picture

During the KoM we reviewed the meetings procedures as outlined in the Consortium Agreement (CA). Each committee and WP meeting info will be published in our wiki so all members can follow up on the project developments.

3.3 Conflict of Interest

It is crucial for CHEESE-2P project to avoid any conflict of interest and to act in good faith. When Partners identify conflicts of interest, which cannot be resolved through bilateral communication, they should bring the issues to the attention of the Project Manager immediately.

The Project Manager working with the Project Coordinators as necessary will, in turn, bring the issue to the Project Supervisory Board for discussion and vote if required.

3.4 Emergency Procedure

Any event that may jeopardize the overall completion date of the Project should be reported immediately to the Project Manager. The Project Manager working with the Project Coordinator will endeavour to resolve the

issue as soon as possible by calling an emergency PSB meeting as required in order to determine the next steps.

3.5 Project Monitoring

Progress monitoring will be performed through the set of milestones as part of the work plan structure, and summarized in the List of Milestones:

MS	Milestone name	WPs	Month	Means of verification
MS1	Project setup phase	WP7, WP1	8	Internal management and communication tools in place, website operative, communication, data management and training plans defined (D1.1, D1.2, D7.1, D7.2, D7.3)
MS2	Preparation of mini-apps	WP3	18	Effective co-design with EuroHPC Pilots can start (D3.1)
MS3	Flagship code functionalities	WP5	24	Code version releases with the new functionalities (physics) available repository (D5.1)
MS4	Mid-term review meeting	ALL	25	Check of the project program development (D1.3)
MS5	Exascale code preparation	WP2	36	Improvements in the flagship codes performance metrics after the second code audit round (D2.2, D2.3)
MS6	Exascale pilot deployment	WP5, WP4	42	PDs tested successfully (D4.4, D5.2 to D5.10)
MS7	Production runs	WP6	48	SCs executed, EOSC-enabled datasets produced (D6.x)
MS8	Community building and Sustainability	WP5, WP6, WP7, WP4, WP1	48	UC services enabled, evaluation exercises with IUB members done, effective liaison with ecosystem initiatives, training completed

MS9	Complementary Grants	WP7	6	Collaboration agreement has been signed
MS10	Application deployment	WP4	12	Applications developed by ChEESE-2P (see Table A1) made available to users of EuroHPC

3.5.1 Internal Reporting

The Coordinator will ensure that monitoring the work progress and use of resources is done on a 6-month basis in order to ensure the detection of errors and deviations as early as possible in the project's lifecycle. This will enable the consortium to apply systematically corrective actions or contingency plans, if necessary.

WPLs will report to the Coordinators the effort spent on their work packages, the status of achievement of milestones, production of deliverables and completion of tasks within their respective WP. The template for the internal reporting will be available in CHEESE-2P's wiki.

3.5.2 Reporting Calendar

There are three official reporting periods in M12, M30 and M48.

Both internal and reporting to EuroHPC through the ECAS calendar is summarized below:

- M6: 1st Internal Quality Review (QR)
- M12: 2nd Internal QR and periodic report
- M18: 3rd Internal QR
- M24: 4th Internal QR
- M30: 5th Internal QR and periodic Report
- M36: 6th Internal QR
- M42: 7th Internal QR
- M48: 8th Internal QR and Final Report

Additionally, WP1 has to produce 4 deliverables, the first one (D1.1) is embedded in the present document.

3.5.3 Deliverable Preparation and Review

Project Deliverables production serves as an outcome of the technical progress of the project. There is a deliverable template CHEESE-2P wiki that defines a detailed common structure for all the deliverables.

In order to guarantee the quality of the deliverables, for each one:

1. The Deliverable Owner must send a first initial draft of the document to two reviewers, to the Coordinator and the WPL minimum 15 days before the deadline.
2. The reviewers will have to provide their feedback with the possible corrections at least three days before the deadline.
3. The owner will gather all the possible corrections, create a final version of the document and send it to the Coordinator at least one day before the deadline.
4. The Project Manager will upload the final version of the deliverable in the Participant Portal.

During the KoM it was decided that the PC would assign two partners for each deliverable for the peer review process and the partners would choose a person in their organization to handle the review. This list is available at the wiki and it is updated every six months.

All the reviewers must provide constructive suggestions for improvement in writing to the Deliverable Owner. Upon receiving the suggestions for improvement, the Deliverable Owner will make the related modifications to come up with the best possible quality.

4. Risk Management

The following table provides a list of potential risks identified per work package. All risks identified to date are classified with low and medium probability but with the potential for high impact. Identifying potential risks will be part of the normal operation of the project, and they will be addressed in the PSB and General Assembly meetings.

This regular review of potential concerns will ensure the early warning of potential risks and ample time to employ the necessary corrective actions. Risks considered to be of importance, in particular, risks associated with partners not performing or conflicts between partners will be closely monitored by the Coordinator.

In general, risk management will be the responsibility of the Coordinator, and the status of any risk situations will be informed to EuroHPC via the Periodic Reports, except when there is a clear need for earlier intervention upon the decision of the General Assembly.

Description	Quantification of risk		WP	Risk-mitigation measures
	Likelihood	Severity		

New covid-19 outbreaks	low	low	All	Cancel F2F meetings. Low severity regarding other aspects
Delay in recruitment and appointment of new personnel	Medium	Medium	WP1	Partners already have personnel with required experience. Partners will start recruiting as soon as possible (GA signature or project start)
A partner is not collaborating as expected or conflicts among partners	low	Medium	WP1	The PC will call an urgent PSB meeting to take corrective measures
POP3 proposal is not funded. This risk has materialised.	low	Medium	WP2	POP metrics are already well defined. BSC, CIN, HLRS and CSC have the skills, personnel and material to perform this task independently
Uncertain workload for code performance improvement	Medium	Medium	WP2	Sub-tasks in WP2 that serve to a larger number of codes will be prioritized
Timeliness of availability and access to hardware prototypes from EuroHPC pilots	low	low	WP3	mini-apps can run on the already existing architectures
Fortran support for mini-app co-design is not ready yet (EuPilot SDVs)	medium	low	WP3	This would affect only 2 of the mini-apps in WP3 (mini-SPECFEM3D and mini-FALL3D), kernels can be written in C/C++ alternatively.
Unsuccessful/delayed implementation of new code developments	low	high	WP5	Extend duration of T5.1. Reduce the coupling ambition of PDs.
Insufficient access to EuroHPC (and PRACE) computational	medium	high	WP5 WP6 WP4	Find alternatives based on in-kind and national resources. Reduce the ambition of T6.2 and T6.3.

resources, production runs and SGCs compromised				Limit the quantity (and extend) of the SGCs
Key milestones or deliverables delayed	low	low	All	The PC and PEC will foresee problems and take early corrective measures in collaboration with the concerned partners

5. Intellectual Property Rights and Knowledge Management

The background of each partner has been included in the Attachment 1 of CHEESE-2P Consortium Agreement (CA) at the beginning of the project. Each partner owns the results, specified in Section 9 of the CA. Moreover, joint ownership of the results and their dissemination are defined in section 8.2 of the same document.

In case a partner wants to submit a patent application, it will communicate it to the Project Coordinator to determine if it is a joint foreground and initiate, if necessary, the appropriate patentability study. All required measures will be taken to guarantee that there is no disclosure that can ruin the patent possibility. SAB and IUB members are asked to sign a non-disclosure agreement for this purpose.