Quality Assurance Plan

Project acronym: CS3MESH4EOSC

Deliverable D1.2: Quality Assurance Plan

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Document Revision History

Version	Date	Description	Author(s)
v1	29-05-2020	Initial version of the QAP	Pedro Ferreira, Jakub Moscicki, Anna Manou
v2	12-10-2020	Adapted reviewing process following the decisions taken at the StC meeting of 05-10-2020.	Pedro Ferreira, Anna Manou

Abstract

The D1.2 Quality Assurance Plan aims at providing a clear set of rules and guidelines to ensure that the project partners follow the well-defined procedures and efficient management and collaboration is achieved throughout the lifetime of the CS3MESH4EOSC Project.

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1   Introduction

The **CS3MESH4EOSC Quality Assurance Plan** provides a set of rules and guidelines:

- to ensure highest possible quality of project outputs (products, deliverables and documents) and their compliance with the general Work Plan, which is defined in the Grant Agreement (Description of Action part A and B)
- to facilitate the efficient management and coordination of the project and the effective collaboration among the project partners.

The current document describes the project organisation, the roles and responsibilities of the project members, the procedures and other indications related to the day-to-day project activities.

The Consortium members should use this document as a reference point and follow to the letter its guiding principles for a successful implementation of the project.

The quality assurance plan is a living document and as per the Grant Agreement it is foreseen to be updated in the future (M24) according to the project needs and its progress evolution. In case of updates the project partners will be informed in good time.

2   Project Organisation

2.1   Project structure

The CS3MESH4EOSC Project Management structure defines the main entities which constitute the Project and the way they interact in order to facilitate decision making, work planning and execution of tasks. The Project Coordinator is the intermediary between the Consortium and the Funding Authority and holds responsibility for making sure the project's tasks are executed by the members of the project. The other organizational entities involved are the following:

- General Assembly (GA)
- External Advisory Board (EAB)
- Steering Committee (StC)
- Project Office
- Work Package Leaders (WPL) and Task leaders (TL)
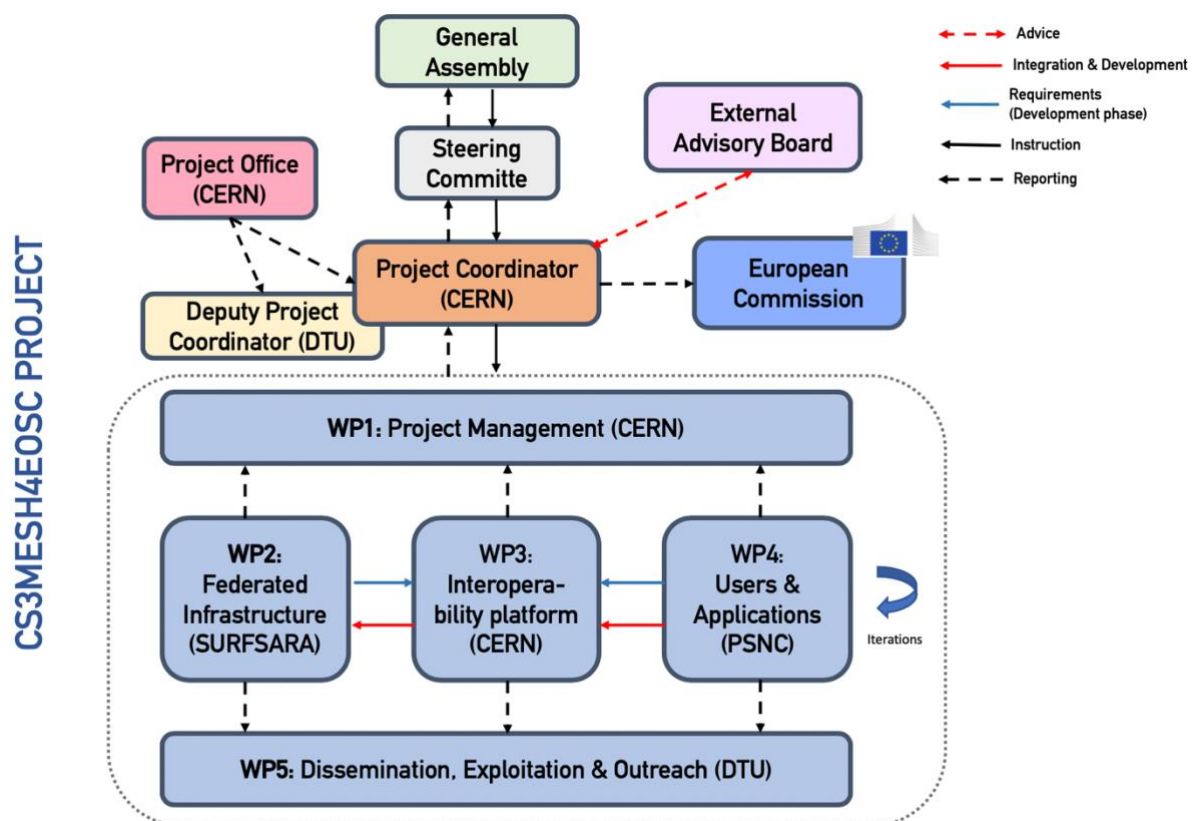- Deputy Project Coordinator (DPC)

Figure 1: CS3MESH4EOSC Project Structure

2.2 Roles and responsibilities

Each entity has its own specific roles and responsibilities which are established in the CS3MESH4EOSC Consortium Agreement and should be respected and adhered to during the whole lifetime of the project. The roles and responsibilities of each entity are described in detail below. Most of the information below is a summary of what is already stipulated by the Project Proposal (p. 58-59) and the Consortium Agreement (point 6).

2.2.1 Project Coordinator (PC)

The Project Coordinator (PC), in liaison with the StC, is in charge of the day-to-day running of the project and monitors its overall progress. The PC will have a high focus on quality assurance, as to ensure that deliverables are to the highest possible standard, and on the processes that should facilitate high quality. The CS3MESH4EOSC coordinator role is handled by CERN.

2.2.2 Deputy Project Coordinator (DPC)

The Deputy Project Coordinator supports the Project Coordinator in project management tasks. The DPC is in charge of streamlining all procedures concerning reporting, deliverable approval and event preparation for the entire project. The Deputy Project Coordinator role is handled by the DTU.

2.2.3 Steering Committee (StC)

The Steering Committee (StC) is, as per section 6.1 of the Consortium Agreement, responsible for the implementation of the programme of work and for ensuring that the Project is executed effectively. It is chaired by the PC[1]. The membership is:

- Project Coordinator;
- Deputy Project Coordinator;
- All Work Package leaders;
- e-Research Partnership Coordinator (appointed at the discretion of the PC).

The escalation line is via the PC to the GA. The StC meets twice annually in person and also holds weekly meetings convened through the electronic platform (Zoom or similar). At these meetings, progress is reported and issues are addressed. This is meant to ensures coherence with the work plan and early detection of deviation in the project's execution.

2.2.4 External Advisory Board (EAB)

The External Advisory Board (EAB) consists of four internationally recognized experts appointed by the General Assembly upon proposal of the StC. They should be renowned experts in fields of knowledge which relate to the project (large computing infrastructure; user community; large project management, legal issues) who will be able to advise the PC upon request, provide feedback (e.g. review preparation) or provide recommendations. In this latter case, the EAB recommendation will be presented by the PC to the GA. The EAB will meet remotely typically once every three months,

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[1] Currently delegated on the WP1 package leader

otherwise upon request by the PC.

2.2.5 General Assembly (GA)

The General Assembly (GA) is the ultimate decision-making body within the CS3MESH4EOSC project, where all 12 project partners are represented. The GA has the power to formulate proposals on its own initiative and to take decisions in accordance with the Consortium Agreement. It meets once per year in person to discuss the scientific progress and validate achievements of the project. The GA is responsible for making decisions that ensure the successful implementation of the project, including possible significant changes to the work plan and financial issues (if these prove necessary). The PC reports to the GA and submits to it the status of the project, the results of reviews, implementation of remedial action, etc. The GA is chaired by one partner representative, elected by the partners for 12 months. At the beginning of the project, the first action of the GA was to elect the first chairperson. Decisions are taken based on "one partner-one vote" on the principle of a simple majority. The PC/DPC will participate into GA meetings without voting rights.

2.2.6 Work Package Leader (WPL) & Task Leader (TL)

The WP leaders (WPL) are responsible for coordinating the work within their respective Work Packages. Each WP leader should maintain appropriate communication channels with the contributors to their WP. Each WPL takes part in the weekly StC meetings, therefore the WPLs must ensure that information exchange in each WP is coherent with the StC progress and recommendations. The WPLs shall provide input on the Work Plan, through WP1 and the PC. They shall review it in accordance to the terms stipulated in point 5 of this document. If issues arise at any time, the responsible WPL will immediately notify the PC to follow up on them at the next StC meeting. Overall, the WPL will ensure that:

a. the objectives of the WP are met;
b. work is carried out in coordination with other WPs;
c. deliverables are completed on time and to a high standard.

Work Packages consist of Tasks. For each Task a list of contributing partners is specified. The first partner in this list is the Task Leader (TL).

Task Leaders have the same responsibilities and duties as the Work Package Leaders with regards to the deliverables of the Work Package, for the corresponding work within the respective tasks. The Task Leaders should report on the Work Package Leader the progress of the work done within the tasks regularly. In case of issues, the Task Leader should escalate them to the Work Package Leader and then the Work Package Leader should report them to the Project Coordinator and the Steering Committee.

2.2.7 Project Office

For several administrative tasks, the Project Coordinator will draw on the expertise from the CERN project office. This office has a robust administration which is experienced in managing international grants and networks. The PO's main role is to support the Project Coordinator in administrative project management, financial reporting and communication with the European Commission.

3   Meetings

3.1   Project meetings

Throughout the project, face to face and virtual meetings are organized. The purpose of these meetings is to facilitate the communication between the project partners and to discuss the progress of the project, take decisions and define the next steps.

The physical meetings include the following:

- 1 Kick-off meeting;
- 1 annual GA meeting;
- 1 annual STC meeting;
- Dissemination & exploitation activities.

The virtual meetings include the following:

- All-hands meetings (monthly);
- Steering Committee meetings (weekly);
- Work Package meetings (weekly or bi-weekly, to be decided by each WPL);
- Task meetings (to be decided by each TL).

All meetings should be communicated to the meeting participants as soon as possible and no later than the minimum number of days preceding the meeting, as indicated below.

	Ordinary meeting	Extraordinary meeting
GA	45 calendar days	15 calendar days
StC	14 calendar days	7 calendar days

Table 1: Project meetings

Each meeting invitation should include the following points:

- Name of meeting
- Purpose of meeting
- Date and time
- Location (physical or virtual)
- Agenda
- Organizer

It is encouraged that meeting organizers use voting poll tools, such as *doodle*[2] or *newdle*[3], in order to schedule meetings easily and quickly.

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[2] https://doodle.com/en
[3] https://newdle.cern.ch

The collaborative tools used to facilitate the project meetings are listed and described in detail in the report of D1.1, in chapter 4. Project partners should use these tools.

3.2   Meeting minutes

Minutes should be taken for all the meetings mentioned above. The minutes should be stored and archived up to five years from the end of the project. The person in charge of the meeting minutes is the organizer of the meeting. This person should upload the minutes on the Wiki, in the dedicated area, within a period of 3 calendar days after the meeting for all virtual weekly and monthly meetings (StC, WP, Task) and within a period of 10 calendar days for all other meetings4.

In addition, the meeting minutes should be circulated to the participants and to any other interested parties via email at the time of their publication on the Wiki. The meeting participants are encouraged to raise objections and comments via email with 15 calendar days. In case of objections, the meeting minutes should be revised as soon as possible and an email including the revised meeting minutes should be sent, as well.

The access to the meeting minutes should be restricted to the interested parties. Anyone who is not a project partner should request access permission from the project coordinator.

The authors of the minutes should be cautious with any sensitive information and whenever possible avoid including unnecessary personal data therein. While the minutes shall remain restricted to the consortium, care should be taken to make sure that the minimum amount of information is kept which could cause privacy-related or reputational damage to members of the consortium or 3rd parties.

The minimum information that the meeting minutes should include is the following:

- Names of the participants
- Date
- Agenda

Further information that can be included is (but not limited to):

- Decisions made
- Announcements
- Updates on the project/task progress
- Next steps/actions to be taken
- Presentations/slides
- Links shared
- Documents shared
- Questions raised
- Bottlenecks
- Due dates
- Problems occurred

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4 All-hands meetings and meetings of the StC have their own Indico pages on the CERN server, and their minutes as well. They should nonetheless be linked from the Wiki.

4 Collaborative tools

4.1 Maintenance and administration

The maintenance and administration of the collaborative tools is under the responsibility of WP1. The website of the project and other project-related communication channels shall be handled by WP5. Whenever issues with any of those tools occur, they should be tackled promptly and efficiently. Project partners can address the leaders of the aforementioned WPs to raise questions, comments and seek for advice, as well.

4.2 Access rights

The access to the collaborative tools for internal communication in the project and the information and material shared within them, is restricted to the project partners. Anyone who is not a project partner has to request access permission from the Project Coordinator. Access to external persons will be limited to the view-only mode. In order to ensure security and privacy, and as with point 3.2, it is recommended to limit the use of personal and/or confidential information to the greatest possible extent within the internal collaborative tools of the project.

4.3 Mailing lists

Work Package 1 (Project Management) is responsible for creating mailing lists on particular topics for assisting project partners' day-to-day communication and interaction. The mailing lists shall be created on request of the interested parties and should include all persons relevant to the topic.

Besides, mailing lists dedicated to WPs should be created. Each WP leader is responsible for requesting the creation of, maintaining and keeping up to date a dedicated WP mailing list. The WP leaders shall collect the names and the email addresses of the members of their WP mailing list.

Requests for adding/removing members from the mailing lists and making changes on the contact details should be addressed to the WP1 leader. The mailing list owner shall not be necessarily the WP leader or the project coordinator.

Each mailing list should include in the address name the "short" project acronym (CS3Mesh) together with the mailing list name (e.g., cs3mesh-stc).

4.4 Documents organization

All the documents produced within the project should be stored and archived on the Wiki, in the dedicated area.

The author/contributor of each document is responsible for uploading it. This way, all the documents are available and accessible to all the project partners in real time.

The Wiki structure is the following at the time of writing of this document:

- Home

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- o   Project Documents
- o   Useful Links
- o   External Publications
- Meetings
  - o   Meeting notes
  - o   Work package meetings
- Work Packages
  - o   WP1 - Management
  - o   WP2 - Federated Infrastructure
  - o   WP3 - Technology and Foundation
  - o   WP4 - Users and Applications
  - o   WP5 - Dissemination, exploitation and outreach

The Wiki structure is dynamic, and it might subject to changes/updates according to the needs of the project.

5   Work Plan Management

5.1   Implementation

The Project's Implementation Work Plan is set by the Project Coordinator and it is based on:

- the general Work Plan which is defined in the Grant Agreement (Description of Action part A and B)
- input provided by each Work Package Leader.

This Work Plan shall be set at the beginning of the Project and reviewed at the first StC meeting of every month, unless there isn't a quorum (3/4 of participants). There should not be a delay of more than 8 weeks between reviews.

The Work Plan shall contain:

- The main tasks and deliverables;
- The list of corresponding deadlines, milestones and clearly assigned responsible partners;
- The list of ongoing technical tasks and actions as well as expected results from each of the involved partners;
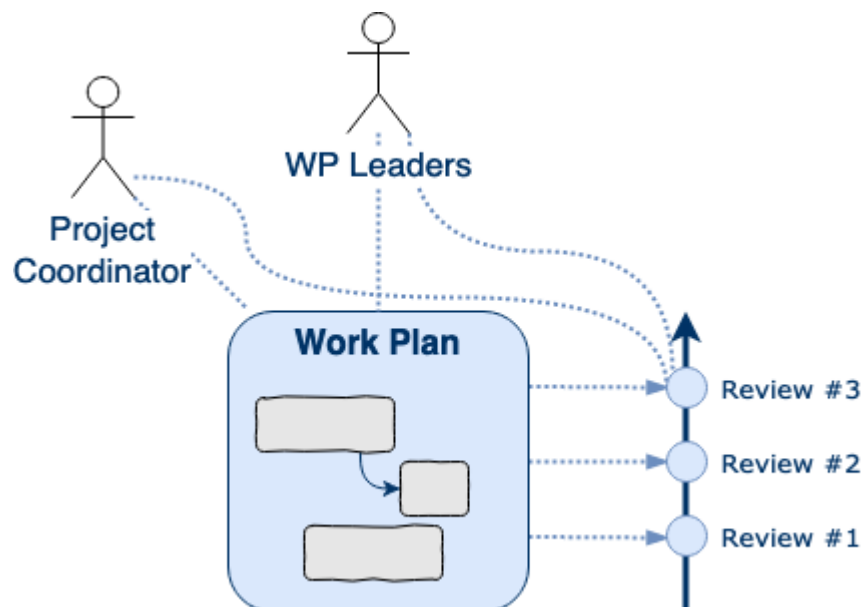- The Project's critical path, clearly identified;

Figure 2: Work Plan

The Work Plan shall be managed as a dynamic "project board" maintained in an appropriate system (currently GitHub). It will contain higher level project actions which shall be tagged according to the work packages, tasks, deliverables and milestones they relate to. These issues should be, as much as possible, linked to any related lower-level issues. WP Leaders are responsible for updating the Work

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Plan in accordance with the evolution of their own Work Packages. The PC is responsible for ensuring that higher level tasks correspond to what is planned.

Technical outputs related to the Work Plan (code, specifications, documentation, ...) should be stored in open source repositories (recommended default location is https://github.com/sciencemesh) and clearly linked from the project Work Plan repository and/or the Wiki page.

5.2 Review process

At the time of each review (first StC meeting of each month), a "snapshot" of the Work Plan shall be taken, and a short summary compiled, which should include the conclusions of the review. Those conclusions shall include at least:

- An update on the state of all ongoing WP tasks (Status, ETA, assigned resources, obstacles...);
- Any major changes done to the plan, including a brief explanation;
- A summary of the deliverables and milestones planned for the following month, as well as work expected from each of the partners.

The final document shall be made available by the PC to the members of the StC together with the minutes of the StC meeting.

5.3 Upstream development (subcontracting)

As specified in the Grant Agreement's Annexes 1 and 2, subcontracting funds are available to support upstream development work performed by commercial companies (primarily, but not exclusively, the actors of the CS3 community). This is meant to create additional incentives for the commercial companies to integrate their products with the Science Mesh infrastructure and technology, as to address sustainability; and to increase the remit of the project and its deliverables with the Open Source community at large. Funding upstream development is foreseen in scope of WP3 and WP4.

To guarantee the quality of the delivered work, the process of collecting proposals for upstream development funding is put in place. The proposals for funding upstream developments are collected at the WP level in the following project Wiki pages:

- WP3 subcontracting (EFSS integration)
- WP4 subcontracting (Application Services)

The upstream development work plan will be reviewed and prioritised by the StC as part of the overall Work Plan.

The responsibility to define and monitor the results lies with the project management and specifically within the Work Package coordinators.

6   Information Management

6.1   Preparation of documents

During the whole lifetime of the project, all partners will have to produce several documents to demonstrate progress as well as the milestones, expectations and results achieved. The documents should be written in the same language that is used on the project, which is English (British spelling). The author(s) of the documents should use clear language and the content should be relevant, comprehensive and up to date.

6.2   Deliverable submission process

Responsibilities for deliverables of different parties in the project consortium are detailed in section 2.2.6
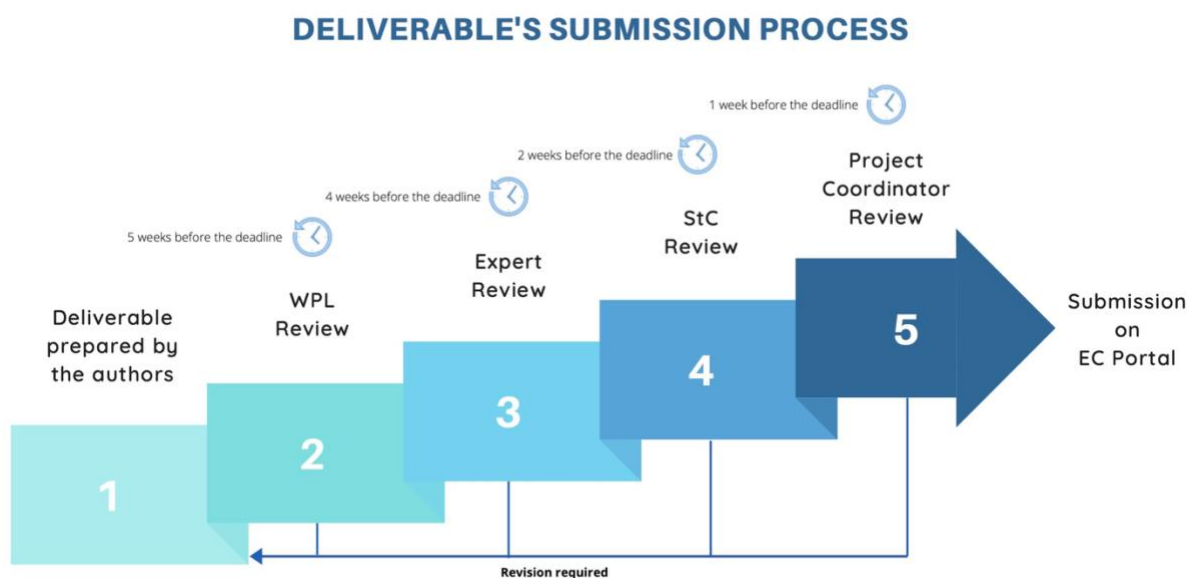

Figure 3: Deliverable Submission Process

The deliverable submission process ensures the high quality of the produced deliverables themselves as well as proper synchronization between the project bodies involved in the validation process. The process itself is very simple - there are only five steps to be followed:

Step 1

The authors of the deliverable start collecting all the necessary information in advance and work on the deliverable. Some types of deliverable, such as reports and plans, are self-descriptive and can be uploaded directly to the EC Portal and to the project's web page. Others, such as source code or

participation in outreach activities, will not fit this paradigm, due to their lack of human readability or tangibility respectively. In such cases, the deliverable should be summarized in a report which points to the location of any related resources and provides a summary of the work done. Technical outputs of the project (code, documentation etc) should be stored in the open source repositories as detailed in Chapter 5 (Work Plan Management). In either case, the finalized deliverable/report should be sent to the respective WP Leader at least 25 (twenty-two) working days before the deliverable's submission deadline (5 workweeks).

Step 2

There is a five-working-day (1 workweek) period of revision. The WP leader has three working days to revise the deliverable and in case of requested modifications the authors of the deliverable have two working days to implement them.

Step 3

After the approval of the WP leader, the authors of the deliverable send it to a group of experts designated by the Project Coordinator, which will ensure that the deliverable's quality is satisfactory from the technical point of view and in accordance with their corresponding areas of expertise. This step shall take a maximum of ten working days (2 workweeks) and shall involve the number of iterations necessary to ensuring that the deliverable conforms to the Project's standards.

Step 4

After approval by the group of experts, the authors of the deliverable send it to the StC members. Similarly, to what happens in step 2, there is a five-working-day period of revision. The StC members have three working days to revise the deliverable and in case of requested modifications the authors of the deliverable have two working days to implement them.

Step 5

After the StC members' approval, the authors send the deliverable to the Project Coordinator. The Project Coordinator performs the last revision of the deliverable. Similarly to what happens in steps 2 and 4, they have three working days to revise the deliverable and the authors have two working days to make changes, if any.

Deliverable Submission

As per the Grant Agreement, the Project Coordinator has the full responsibility for submitting the deliverables on the EC portal. The Project Coordinator should also inform the project partners when a deliverable is accepted, or further revision is requested by the EC Project Officer.

The deadline of the deliverable submission is the last working day of the delivery month indicated in the table *List of deliverables* in the grant agreement. Should any unexpected issues arise which would imply an extension of the deliverable's deadline, the authors should inform the project coordinator with sufficient notice (minimum one month). Then, the Project Coordinator will contact the project officer via the EC portal and request the deadline extension. A reasonable justification and new delivery date should be provided to the EC Project Officer, as well.

6.3   Document template

All the documents (reports, presentations, publications, articles, references, web sites, etc.) produced in the context of the project should include:

- The following text:

"This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 863353".

For infrastructure, equipment and major results:

"This [infrastructure], [equipment], [insert type of result] is part of a project that has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 863353."

- The EU emblem.

Whenever other logos are displayed together with the EU emblem, the EU emblem should have appropriate prominence. The EU emblem can be downloaded from the official website of the European Union. The link of the website is available to the project partners on the Project Wiki.

- The following disclaimer:

"The document reflects only the authors' view and the European Commission is not responsible for any use that may be made of the information it contains."

The aforementioned disclaimer should be used in any dissemination of project results.

6.3.1 Deliverable template

All the deliverables of the project should follow the same template. The template is available and accessible to all project partners and it can be found on the Wiki and in particular, in the section "Project Documents".

The authors of each deliverable should apply the template to the document before circulating the deliverable for revision. The deliverable (or report which summarizes it) should be circulated as a PDF file and the name of the deliverable document should have the format: "*<Deliverable_code>*_CS3MESH4EOSC.pdf" (e.g. for D1.1, *D1_1_CS3MESH4EOSC.pdf*). All deliverables should be submitted by the Project Coordinator (or a person explicitly mandated by him) on the EC portal, in PDF format and using the aforementioned document identifier.

6.3.2 Presentation template

A template to be used for project presentations is planned to be produced by the Work Package 5. Once the presentation template is ready, it will be available on the Wiki and all the project members will be able to access and download it. It is highly recommended that all the presentations about the project done by the project partners also follow the suggested template.

6.3.3 Distribution of documents

All the deliverables submitted on the EC portal should also be uploaded to the project website and linked from the Wiki, on the respective WP page. The WPL is responsible for linking the published deliverables from the WP page as soon as the deliverable is finalized, reviewed and submitted. The Project Coordinator should notify by email the project partners once a deliverable is submitted. In the email, the link to the deliverable should be included too.

6.3.4 Review

The authors of the deliverables should send the corresponding document to the WP Leader, StC and Project Coordinator via email within the time frame indicated in the *Deliverable submission process* section above, i.e. taking into account the time which will be needed to review the contents. The email should include the following information:

- Code of the deliverable
- Title of the deliverable
- Authors of the deliverable
- Actual date of submission
- Deliverable document

The reviewers should provide feedback, raise questions and comments through email and within the defined review period, as well. Should no feedback, comments or objections be received in time, agreement will be presumed.

A document revision history table should be included in the deliverable whenever a revision of the document is requested by any of the reviewers. The document revision history table is presented below:

Document revision history			
Version	**Date**	**Description/Comments**	**Author(s) & Organisation**
v.1	dd/mm/yyyy	First draft for WPL review	
v.2	dd/mm/yyyy	WPL revised draft for StC review	
v.3	dd/mm/yyyy	StC revised draft for PC review	
v.4	dd/mm/yyyy	PC revised draft	
v.5	dd/mm/yyyy	Final version for submission	

Table 2: Document revision history table

6.4 External publications

The Project Coordinator and all the project partners should be informed of any external publications related to the Project. The authors/contributors of the publications should send via email the publication to the project partners and Project Coordinator for approval. The email should include the following information:

- Title of publication
- Name of author(s)/contributor(s)
- Type of Publication
- Content of publication
- Publisher

If there is not any objection raised on the content of the publication within one week, then the authors may proceed with the release of the publication. In case of objections, the authors should initiate a discussion through the appropriate channel (WP meeting or StC) in view of discussing and potentially revising the content of the publication.

On the Project Wiki there is a dedicated section where all the external publications are stored and archived, in a table named "External Publications". The authors of the publications should fill in the table with the following information:

- Name of author(s)
- Title of publication
- Type of publication
- Date of publication
- Link (or PDF)
- Publisher

7   Decision making process and Conflict resolution

As per the Consortium Agreement (point 6.2), for all decisions in the project, a consensus approach will be used. If conflicts arise in the consortium, these will be dealt with at the Work Package level, wherever possible. If a solution cannot be found at the Work Package level, the WPL will escalate the issue to the Project Coordinator within the StC. If the issue cannot be solved satisfactorily within the StC, the Project Coordinator will escalate to the General Assembly (discussion and vote). The Project Coordinator has the option whether to avail themselves of the advice of the External Advisory Board to inform General Assembly decisions.

8   Financial Management

The Project Coordinator will receive the grant from the European Commission, and it is their responsibility to distribute the corresponding amounts to each partner. In order for that to happen, all partners should have signed the Consortium agreement, and sent a scanned copy of it, as well as the physical document itself, to the Project Coordinator.

In order to make communication easier and more efficient, each partner should provide to the project Coordinator the following information:

- Administrative/financial contact of the organization
- Bank account details of the organization

This information is required in order for the Project Coordinator to proceed with the financial payments.

In case of any change in the aforementioned information, the partner is obliged to notify the Project Coordinator by email within 15 calendar days.

8.1   Timesheets

The European Commission requires that all beneficiaries of the project justify and keep records of their costs. In particular, concerning the personnel cost, each partner is responsible for producing and maintaining internal timesheets on a monthly basis. The timesheets aim to keep track of the people and the working hours dedicated to the project. Timesheets should be issued monthly and until the end of the project. The organizations should store and keep the timesheets for five years after the end of the project.

9   Index of tables

10   Table of Figures

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