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D1.1 – Quality Assurance and Risk Management Plan

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Lead Author (Org)	Alessandro RIZZO (IRD)
Contributing Author(s) (Org)	Corentin LEFEVRE (Neovia), Christelle PIERKOT (CNRS), Marine VERNET (IFREMER)
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TERMINOLOGY

Terminology/Acronym	Description
Dx.y	Deliverable n°x.y
DOI	Digital Object Identifier
DMP	Data Management Plan
EC	European Commission
EOSC	European Open Science Cloud
FAIR	Findable, Accessible, Interoperable, Reusable
MB	Management Board
PMO	Project Management Office
TB	Technical Board
WP	Work Package

Executive Summary

This document outlines the quality assurance and the risk management plan for the project and sets out the relevant procedures to be adopted by the consortium. Additional and more specific procedures will be listed and described in the D1.2 on Project Management Plan and Data Management Plan.

1. Introduction

The Quality Assurance and Risk Management Plan provides guidelines for the members of the FAIR-EASE consortium on all aspects of the project's management and coordination activities. This document highlights all of the internal procedures that have been agreed upon since the beginning of the project by the consortium. It covers the most important aspects of the project including the management structures, project reporting, working practices, and risk management. Some of these aspects have already been or will be more deeply and formally described in the Grant Agreement, Consortium Agreement, and the deliverable 1.2 – Project and Data Management Plan. This report is released as the deliverable D1.1 for reference, but it could be revised during the project as the procedures may change. The Quality Assurance and Risk Management Plan does not concern data protection and ethical issues. Those aspects will be largely detailed in the Project and Data Management Plan (D1.2).

The Quality Assurance and Risk Management Plan is organised as follows:

- **Project Organisation and Management.** This session presents the overall structure and hierarchy of the project with the various governing bodies and their responsibilities.
- **Quality Control Procedures.** It outlines the guidelines to be followed by the consortium members in organising meetings, producing outputs and reporting.
- **Risk Management.** This part of the document details the approach of the project in managing coordination, implementation, execution and technical risks.

2. Project Organisation and Management

The management structures of FAIR-EASE are designed to effectively coordinate the organisation of the project on different levels: a) the interaction between the European Commission and the project, b) the collaboration between the project partners, and c) the coordination and monitoring of the daily work.

As part of its missions, the management structures of FAIR-EASE establish and maintain the quality assurance and risk management procedures, including the definition of roles and obligations between the partners, for the FAIR-EASE project. The following section describes those structures and how they take a role for the topics covered by this deliverable.

2.1. Description of project main roles

2.1.1. FAIR-EASE Governance

FAIR-EASE is a collaborative research project gathering more than 25 partners and as such a formal governance structure has to be established to ensure a clear and fluid follow-up and decision-making for the project. The FAIR-EASE governance structure follows usual good practices in European collaborative research project management and consists of the following governing bodies:

- Management Board (MB), the highest decision-making body;
- Technical Board (TB), the day-to-day technical management body;
- Project Management Office (PMO), the day-to-day administrative and supporting body.

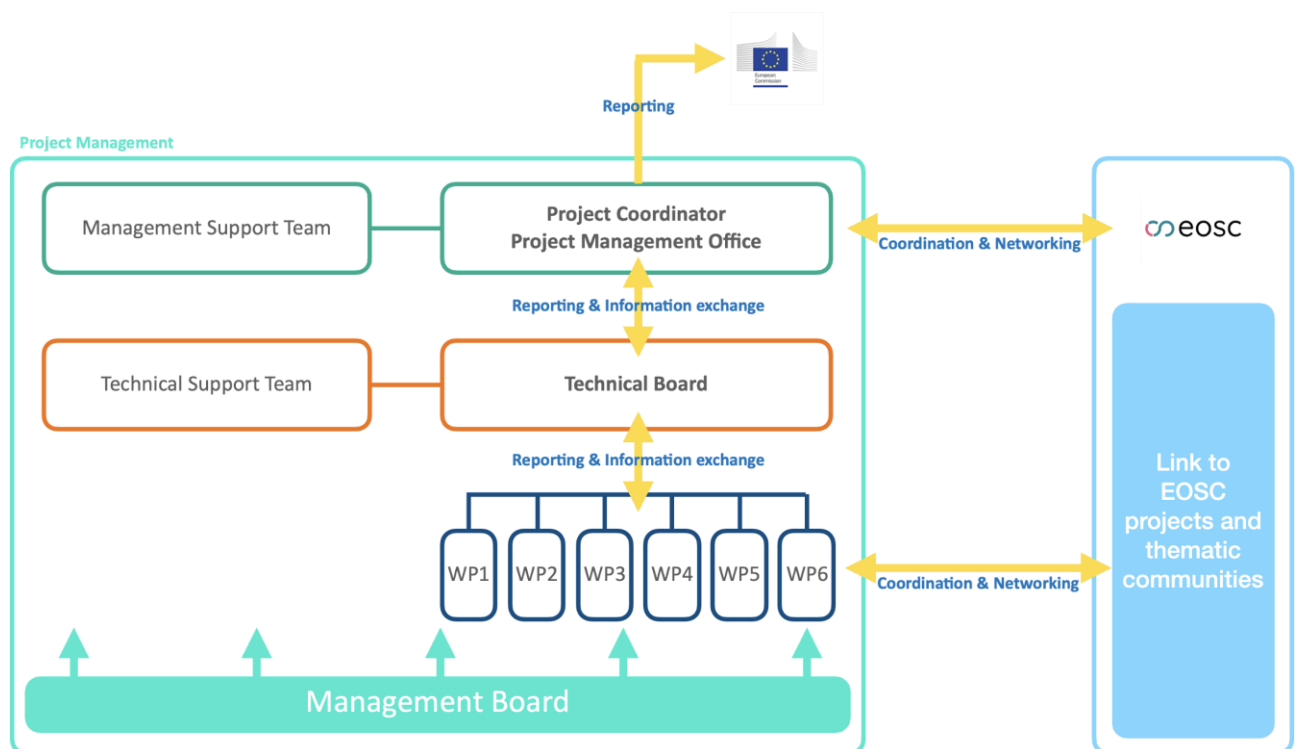


Figure 1 - Project Organisation and Management Diagram

The project management structure, as detailed in the Grant Agreement, is formalised in the Consortium Agreement. Procedures for meetings, agendas and voting are described in detail in the Consortium Agreement and therefore are not reproduced in this report (D1.1).

2.1.2. Coordinator

The Coordinator is the legal entity acting as the intermediary between the project and the European Commission (EC), as the granting entity. As such the coordinator has a specific role in the project yet limited for the matters presented in this deliverable.

2.1.3. Management Board

The Management Board (MB) is the decision-making body of the consortium and specifically addresses the content, finances and intellectual property rights, consortium evolution and developments, and appointments concerning the project. The MB is formally empowered by the Consortium Agreement to take decisions affecting the budget and the objectives of the project, contractual changes and exploitation agreements. The MB will take remedial actions based on advice from the Technical Board in the event of milestones being missed or deliverables not being released on time. The MB is composed of one management representative from each partner with each partner having one vote. The MB is chaired by the coordinator and meets at least twice a year. MB meetings can be organized at any time upon a partner request, while the use of online collaborative work will be used to ease the Management Board activities. For this purpose, a dedicated email mailing list has been created and its members will be kept up to date by the PMO: management@fairease.eu

2.1.4. Technical Board

The Technical Board (TB) is responsible for the day-to-day technical decisions, with the participation of experts when necessary, and will report to the MB. The TB will be responsible for the overall technical management and execution of the project such as implementing the work plan strategy, making the choice of alternative techniques, supervising the monitoring of the results. It will propose to the MB corrective actions in the event that partners fail to meet their commitments. As such the TB is the main body for the quality assurance and risk management of the project.

The TB consists of the Project Coordinator, the PMO and the WP leaders and/or their deputies, in addition of any other experts appointed by the MB. The TB can be contacted through its mailing list: technical@fairease.eu

2.1.5 Project Management Office

The Project Management Office (PMO) is responsible for the day-to-day internal coordination between the governing bodies of the project, it is in charge to prepare the communication of the coordinator with the European Commission on reporting and financial issues as well as of the preparation of relevant meetings, in consultation with the TB. The PMO is led by the project coordinator. As such the PMO is the second main body for the topics covered by this deliverable.

The PMO can be contacted through its mailing list: pmo@fairease.eu

2.2 Work Packages

The FAIR-EASE project's technical outputs are produced by the project's six work packages (WP) as stipulated in the Grant Agreement. The WP will be led by WP Leaders, who are individuals from the partners designated as responsible for a WP. They coordinate, supervise, and contribute to the specific activities within their assigned WPs and report back to the TB. The WP Leaders are assisted by their deputy WP Leaders. The deputy will help WP Leaders in their duties and contribute to the decision-making. In the WP Leader's temporary absence, they will take on the responsibilities of the WP Leader. In the event of the WP-leading organisation leaving the consortium, the Deputy WP Leader automatically becomes the WP Leader. This will also take place in the event of severe underperformance by the WP Leader (upon the deliberation of the Technical Board and confirmation by the Management Board). For each activity/task a responsible person will be designated by the partner who leads that activity, in agreement with the WP Leader concerned. Each WP has its own mailing list (wp#@fairease.eu) that is maintained by the PMO.

3. Quality Control Procedures

3.1. Continuous reporting on deliverables and milestones

During the project, the consortium is expected to provide regular updates on the status of the project: the continuous reporting. The continuous reporting includes:

- progress in achieving milestones
- deliverables
- updates to the publishable summary
- response to critical risks, publications, communications activities, IPRs
- programme-specific monitoring information (if required).

More information is available on the Online Manual/Deliverables & milestones: <https://webgate.ec.europa.eu/funding-tenders-opportunities/pages/viewpage.action?pageId=1867968>

The status of deliverables is to be monitored regularly at TB meetings. Communication by email should also take place regularly to ensure timely submission of quality reports. The preparation of the deliverables is the responsibility of the partner assigned to the deliverable, at the mean time the respective WP Leader is responsible for managing that process. Versions of deliverables will be stored on a dedicated repository in the project shared space (to be set-up by M2) under the responsibility of WP Leaders. All partners in charge of deliverable are required to upload their deliverables in a dedicated folder before sending them for internal review. The lead partners for deliverables, that are responsible for the quality of their deliverables, should identify two internal peer reviewers for their deliverables or request for them to the TB at least one month in advance to the due date. This can be done via email or at TB meetings. Reviewers make track-changed comments or suggested edits to the document before returning the deliverable to the author. Comments are considered by the author and relevant changes made. Once the author has made the relevant changes, he/she then sends the deliverable to the TB (technical@fairease.eu) for final comments. If there are no further comments by the deadline, the coordinator will submit the deliverable by electronic means to the EC. The final version once submitted to the EC by the Project Coordinator will be saved on the project shared space in word and pdf. As every deliverable in FAIR-EASE are public, the submitted version is uploaded on Zenodo. The choice of Zenodo the deliverables repository for FAIR-EASE has been confirmed by the Technical Board during its 2d meeting held the 12th of October, 2022. The Open Research Europe Platform has also been considered, as suggested by the Project Officer, though as this platform is research-oriented while some deliverables are more generic/general, it has been decided to rely on Zenodo in order to have one platform to publish them all and therefore ensure a publishing coherence.

The project's milestones (listed in the annex 1 – Description of the action – Part A of the Grant Agreement) mark the achievement of specific development and implementation stages according to the activities deployed within the project and described in the Grant Agreement. It is therefore important to report them in a timely manner. Each milestone is usually associated with one WP. In that case, the respective WP Leader is in charge to report to the TB on the achievement of the

milestone. If the milestone is related to several WPs, the first WP mentioned is the one leading the action. Its Leader is therefore in charge of reporting the achievement of the milestone to the TB. The TB ensures the timely achievement and communication of milestones. Milestones are also recorded in the EC grant management system.

3.1.1. Formatting

Standard templates have been created for deliverables and for the reporting of milestones. These templates are available on the project shared space. It is mandatory that deliverables and milestone reports are prepared using the formatting as included in the template. The procedure for naming deliverables and other documents is: FAIR-EASE_Deliverable Number_Deliverable Name_v.#_YYYYMMDD (e.g. FAIR-EASE_D1.1_Quality Assurance and Risk Management Plan_V1.0_20221031). The last and final version, submitted to the EC, is named "Final". All final documents will be stored in the project shared space both in word and pdf formats. For standardisation purposes documents should follow British English for spelling and the serial comma. All deliverables and official documents of FAIR-EASE must include the acknowledgement of the project in the following manner: Project Acronym + "Funded by the European Union" + EU Flag.

3.1.2. Depositing Research Outputs

FAIR-EASE project has been built on an open sharing process for all the research outputs (publications, results, data, source code, ...). Scientific publications will be published in open peer review journals (e.g. The Open Research Europe Platform), pre-print and final peer-reviewed manuscripts accepted for publication will be filed in open dedicated repositories with detailed FAIR metadata. Lead partners must inform their WP Leader of any results and publications for reporting to the TB. To make the data and research outputs of the project accessible, they will be stored in trust thematic repositories (e.g. Data Terra Repository¹, Seanoe², Pangaea³, Emodnet⁴) and DOI will be assigned to each archived dataset and research output. The project deliverables and milestones, if public, will be made available in the Zenodo repository and published on the project website. WP and Task Leaders are responsible for depositing the outputs in the Zenodo repository as they become available. This includes deliverables (also as a DRAFT before formal EC approval with a specific disclaimer "Under review and not approved yet by the EC") milestone documents when available as public reports, intermediary data, and working documents, as well as event presentations and posters, and other public documentation produced by the project. Data will be shared in open access according to the latest available version of the Creative Commons Attribution International Public Licence (for further details see the DMP). Additionally, a Git-Hub repository will be set up by M2. The source code produced by the FAIR-EASE project will be published under an open source license, such as an OIS⁵ license, and archived in Software Heritage⁶ solution at the end of the project.

¹ <https://www.data-terra.org/en/data-terra-repository/>

² <https://www.seanoe.org/>

³ <https://www.pangaea.de/>

⁴ <https://emodnet.ec.europa.eu/en/contribute-data-emodnet>

⁵ <https://opensource.org/licenses>

⁶ <https://www.softwareheritage.org/>

Detailed and complete metadata must always be provided. For instance, in the Zenodo upload interface all required fields must be completed including "Upload type" (for e.g. "Publication/Project deliverable" for deliverables, "Publication/Project Milestone" for milestones,...), full list of "Authors" with "Contributing Authors" listed in order at the discretion of the Lead Author (with ORCIDs if available), "Description", and "Version". The recommended/optional fields should also be completed: "Funding" (select European Commission with value 101058785), "Related/alternate identifiers" (if appropriate provide links to related outputs PIDs), "Contributors" and "Subjects". Listing people external to the project as Contributors and linking outputs to their PIDs is encouraged. All FAIR-EASE outputs should have at least the keywords "FAIR", "Earth-System", and "FAIR-EASE".

3.2 Project Reportings

The PMO will oversee the project's progress from both the technical, in tight coordination with the TB, and the financial sides.

For the financial monitoring, each partner is required to produce annual financial statements. These reports will contain:

- the list of people exposing worked-hours during the period. For each person, the hourly cost should be indicated;
- for each person, and for each task, the number of hours worked during the period and a one-line description of the main task(s) performed;
- any other incurred cost: e.g., travels, organization of meetings...

These annual financial statements will be consolidated in a single project-wide financial statement, which will be made public to the members. The overall financial statement is a tool to project partners' expenditure rates to the future and it will allow the Project Coordinator and the MB to monitor the project as a whole.

Every partner and affiliated entities will be required to provide a detailed description of the use of the resources, including an explanation of personnel costs, subcontracting and any major costs incurred by the partner, such as the purchase, and travel costs, large consumable items, etc.

3.3 Project Reviews

Project Reviews concern the presentation of the activities' progress, the achievements of the project and the procedures implemented for their accomplishment to the reviewers identified by the European Commission. Considering its level of importance, the participation of one representative of each partner is recommended.

The preparation and presentation of the work achieved during the period at review meetings are the responsibility of the WP Leaders, the TB and the PMO. Recommendations from the reviewers will be sent to the consortium as soon as received by the Project Coordinator. The TB analyses the recommendations and decides how to implement the changes or corrective actions to address the reviewers' recommendations.

4. Risk Management

4.1 Introduction to FAIR-EASE Risk Management

In FAIR-EASE four particular risk categories have been identified: a) Coordination Risks; b) Implementation Risks; c) Execution Risks; and d) Technology Risks.

All consortium members have a responsibility in risk management including identification, analysis and evaluation of risks. Any WP Leader, task Leader or key resource persons may raise possible risks at the task, WP, TB, or PMO level. A risk tracker will be created by the T1.3 Lead. It will be a sort of Risk Report and Contingency tracker which will contain all the initial risks identified in the Grant Agreement as well as new risks that emerge during the project lifespan. A review of this sheet will be powered by the TB as frequently as necessary.

4.2 Lists of risks foreseen at the beginning of the project

Description of Risk (and involved WPs)	Likelihood & Impact	Proposed Risk Mitigation Measures
Disputes between partners. (WP1)	Likelihood: Low Impact: Medium	The CA and D1.1 will contain conflict resolution procedures.
Failure of WP Leaders to perform adequately or their unavailability. (WP1)	Likelihood: Low Impact: High	Regular meetings organized to address this in good time. A deputy WP Leader will be appointed prior to the start of the project.
Variation from the calendar, budget or the planned result. (WP1)	Likelihood: Low Impact: High	Project Coordinator and WP Leaders will monitor carefully the implementation of activities and will evaluate possible rooms for DoW amendments.
Failure to commit to the project work plan, resulting in execution delays. (WP1, WP2, WP3, WP4, WP5, WP6)	Likelihood: Low Impact: Medium	The WP Leaders and the Project Coordinator will impose specific corrective actions throughout the project lifecycle to provide the necessary flexibility ensured by a carefully designed work plan.
Lack of interest from the research communities in contributing in, validating and using the integrated and customized solutions. (WP2, WP3, WP4, WP5)	Likelihood: Low Impact: High	Communities are involved in the very design of the project. The Use-cases belong to large thematic communities, and can build upon a strong user base and, being the services already pre-operational, the appropriate channels to ensure the uptake of the up-scaled services are already in place.

Failure or major difficulties in deploying the services. (WP4)	Likelihood: Low Impact: High	Partners responsible for the services' integration and deployment are very experienced and have a positive track in delivering services and are involved in a number of related projects nationally and transnationally.
Failure to coordinate effectively with EOSC and EOSC-related initiatives. (WP6)	Likelihood: Low Impact: High	Many of the Consortium key partners have a direct involvement in the EOSC-related initiatives as well as in thematic clusters. Through them, any lack of coordination can be promptly addressed.

Table 1 - Initial list of project risks

The above mentioned risks can be effectively minimized through the following means: a) an effective communication and collaboration toolbox; b) relevant experience, strong complementarity, and pre-existing collaboration links within the project consortium; c) a permanent risk monitoring report and contingency tracker; and d) strong complementary bonds between the involved domain knowledge experts.

4.3 Assessment of unforeseen risks during the project lifetime

As a 36-months research project, FAIR-EASE may encounter unforeseen risks during its implementation, should those risks be technical, administrative, financial...

The main body in charge to assess unforeseen risk is the Technical Board. During its regular meetings, the TB will identify potential problems in advance and therefore will work as far as it can be anticipated to address them.

Unforeseen risks are also covered by the partners and the coordinator - especially for risks besides the technical implementation. A constant dialog between the partners shall ensure that information are regularly transmitted inside the consortium.

In addition to the latter, two information process are important to detect unforeseen risks:

- The annual consortium meetings
- The periodic reports

4.4 Mitigation measures of unforeseen risks

In any case, to ensure a maximum degree of seamless cooperation within the consortium, the project's management will approach conflict resolution through consensus building, and promoting mediation over voting in order.

For each risk identified by the Technical Board or at the partners' level, mitigation measures will be proposed and adequate resources put to take action.

Should the risk mitigation imply a change in the project Description of Action, a standard demand for modifications has been templated by the PMO that will be filled by the concerned WPs and/or partners. Such a demand forms the basis of the MB discussion and decision-process.

5. Conclusions

As the first deliverable of the project, this document provides a timely guide for the entire consortium into the processes necessary for measuring and ensuring the project's adequate implementation. The mechanisms and methods presented here are either in process or have already been deployed by the project consortium. However, it should be noted that although this report provides a foundation for the entire project's operation, these processes can be flexible. Updates or changes to the procedures found in this deliverable may be implemented by the T1.3 Quality Assurance and Risk Management Task Leader in agreement with the TB or the PMO.