D1.1 – Project Quality Plan

WP1 - Task 1.1

December 2024 [M3]

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Abbreviations and acronyms

Acronym	Description
CA	Consortium Agreement
COO	Coordinator
DEL	Deliverable
DoA	Description of Action
EC	European Commission
EUG	End User Group
GA	Grant Agreement
GeA	General Assembly
HE	Horizon Europe
ISI	In-Service Inspection
KOM	Kick-Off Meeting
M	Month (of the project)
MS	Milestones
NDA	Non-Disclosure Agreement
PMO	Project Management Office
PO	Project Officer
PQP	Project Quality Plan
PR	Periodic Report
RP	Reporting Period
WP	Work Package
WPL	Work Package Leader
WPLG	Work Package Leaders Group

Summary

This deliverable presents the FIND Project Quality Plan (PQP). It describes the guiding principle for the quality planning, the quality assurance and the quality control procedures.
This deliverable is effective throughout the lifetime of the project but is open to revision if necessary.

1 Introduction

This Project Quality Plan (PQP) shows how quality aspects are taken into account in a variety of processes and activities within the FIND project. The interrelated quality processes – planning, assurance and control – have impact on the project work from its start to its end.

- Quality Planning refers to quality policies like meeting, deliverable or publication policies, the definition of responsibilities as well as the creation of a project visual identity including a project logo, project-like designed templates etc. In order to communicate adequately within the project as well as to project external persons, several tools, such as project policies including meetings minutes, deliverables and the publication process of scientific papers, are established and explained in this document.
- Quality Assurance involves the establishment of Project Reports, clear responsibilities and regular, clearly guided telephone conferences. A well-defined internal review process further supports the Quality Assurance of deliverables.
- Quality Control focuses on feedback through internal processes (internal review process) and external feedback (End User Group). It further monitors how feedback is implemented and assures the project outcomes through proactive risk management.

Responsibilities for quality planning, assurance and control are shared between all partners, which allow various views on quality issues in order to reach the optimal outcome.

2 Structure of the document

The PQP is an essential part of the FIND project management. Its purpose is to describe how quality will be managed throughout the project-lifecycle. Quality must always be planned in a project in order to prevent unnecessary rework, as well as waste of cost and time. Quality should also be considered from both, an outcome and process perspective. The processes and activities that produce deliverables need to fulfil certain quality levels in order to reach the expected high-quality outcome. To address all quality requirements and quality assurance mechanisms in the FIND project, 'Project Quality Plan' at hand has been developed by the project team. This plan acts as the quality reference for the project and all partners will adhere to the project quality plan.

Each project has its characteristics in terms of partners, WPs etc. and therefore requires a tailor-made quality plan, clear responsibilities and contact persons. This and how to comply with FIND project rules is described within Chapter 3.

The overall Quality Management Strategy of FIND is addressed in Chapter 4. It is divided in three key activities:

Quality Planning

Quality Planning comprises quality policies and procedures relevant to the project for both project deliverables and project processes. It defines who is responsible for what and which documents and guidelines ensure compliance with with EC rules. A project visual identity represents the project internally, in partners' organisations as well as externally. In order to communicate adequately within the project also to project external persons, several tools are established and introduced in this chapter. Clearly defined project policies in terms of policies for deliverable naming, meetings, scientific publications or the procedure of internal deliverable review, etc. give security to the project partners, as they have clear guidance how to deal with upcoming issues.

Quality Control

Quality Control will be actively performed by all partners, e.g., by acting as an internal reviewer of deliverables. A clear internal review process has been defined before Deliverable Submission to provide feedback to the author. A proactive risk management has already been mentioned within the Description of the Action (DoA). The risk management has been established as planned in order to guarantee the project quality and avoid delays or failures. Feedback on the project progress and outcomes by the End User Group will support the quality controlling and guide the project into the right direction. This is described in section 4.3.

The goal of the following chapters is to give an overall explanation of how high quality can be assured.

3 Project structure overview

FIND is a research project with 6 Work Packages (WPs) and 11 partners, coordinated by IRSN. The coordinator (COO) acts as the project leader and will be responsible for the innovation management and scientific coordination of the project. He is assisted by LGI, acting as Project Manager Officer (PMO).

4 Project Management and Governance

4.1 Project management strategy

Project management includes all core activities to ensure the successful completion of the project within all technical and financial aspects set out in the Grant Agreement (GA). WP1, led by IRSN, is dedicated to the management and coordination of the project to ensure that it stays on track in terms of scope, costs, resources, and quality. All changes and optimizations essential for facilitating this goal are always under discussion with the partners and the decisions are taken based on the partners approval.

Good communication management practices are crucial for ensuring that information reach the appropriate partners, and that timely, efficient decisions can be taken. Quality management contributes to establish the relevant project quality control and quality assurance activities to ensure an efficient collaboration among the consortium partners and delivery of project results. Risk management is necessary for providing the process and techniques for the evaluation and control of potential project risks, focusing on their precautionary diagnosis and handling.

4.2 Project management structure

The overall organizational structure of FIND is illustrated in the Figure below.

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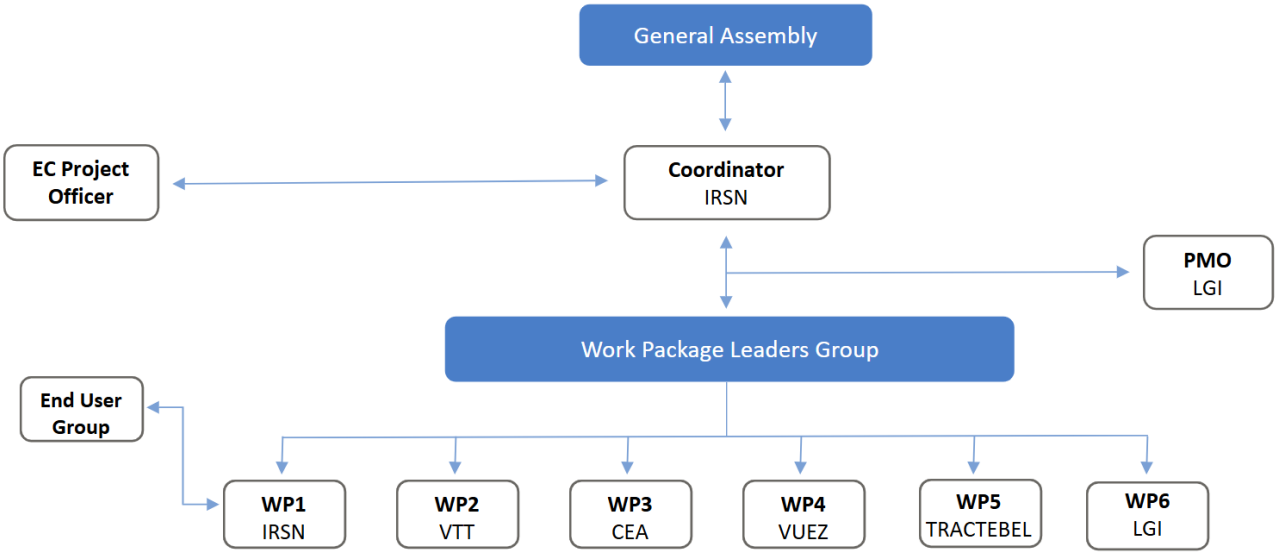


Figure 1 : Project management structure of the FIND project

The FIND project bodies, the decision-making process as well as the responsibilities are described in the Consortium Agreement (CA), in the Grant Agreement (GA). The interaction, responsibilities and decision-making power is clearly split between the established project bodies summarised in the table below.

Body	Who
General Assembly	All partners (mandatory at least 1 person per partner)
WPLG	WPLs (mandatory, ensure backup in case of absence) + COO + PMO
WP	WPL & partners involved + COO
Project Coordination	COO + PMO (In case of particular issue, specific partners can be invited)

Table 1 : Project bodies

WP Leaders (WPLs) are responsible for: i) planning the scientific and technical work of the WP, in coordination with all partners that are involved in this WP; ii) ensuring that the time maintained and indicate any discrepancies to the PC; iii) initiating corrective actions for project deviations (if required); iv) consolidating partner information and preparing the reports for submission to the COO; v) ensuring that the objectives and milestones of the whole WP as well as of the detailed activities within the WP are achieved in time; vi) ensuring that the deliverables are provided according to the time schedule.

4.3 Steps towards participation in the project

Mailing lists

The contact list of the project is managed collaboratively, however only the PMO will modify it. Each partner needs to write an email to the PMO and the COO, the PMO modifies then the list.

5 Management Processes and Tools

5.1 Deliverable preparation

According to the GA, FIND has 19 deliverables, each one assigned to the responsible partner (see 7.3). The partner in charge of the deliverable is responsible for its timely and of high-quality submission to

the Coordinator. After the quality review, the final version of the deliverable is uploaded by the COO or the PMO to the EC portal. The deliverable preparation process is schematically depicted below and exhaustively detailed in section 7.4.2.

Action	Due date
First draft for internal review ready	30 days before deadline
Final draft with internal reviews ready	15 days before deadline
Quality review by the PMO	7 days before deadline
Approval of the draft by the COO and preparation of finalized version	3 days before deadline

Table 2 : List of actions involved in deliverable submission

Any deviations from the time plan should be communicated by the deliverable leader to the COO/PMO as soon as possible. The time plan can be adjusted if previously agreed between the author, the reviewers, and the COO. The deliverables marked as "public" will be uploaded to the FIND website (if necessary, after EC approval only) while the deliverables marked as "confidential", will be only made available to the EC and the consortium partners via the project's repository.

5.2 Document formats and naming conventions

The partners of FIND will use standard format and production tools to release their material.

In order to ease the communication process and the identification of documents and versions all partners are advised to use some naming conventions based on the principle of self-explanatory titles and versions. The general file name conventions are as follows: *[Date]_FIND_[name of the document]_[partner acronym/person name].FileExtension*

- The date should be presented in the form yyyy-mm-dd i.e., 2024-12-03
- The name of the document shall be as concise as possible but also self-explanatory i.e., Kick_Off_Project_Meeting_Minutes
- The partner acronym or person name should be used as defined in the GA i.e., IRSN for Institut de Radioprotection et de Sûreté Nucléaire.

5.3 Reporting to the EC

FIND has 3 reporting periods (RP) which are related to payment requests:

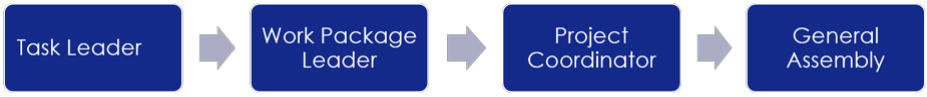
- RP1 from M1 – M18 – March 2026
- RP2 from M19 – M36 – September 2027
- RP3 from M37 – M48 – September 2028

The PR are being prepared with the contribution of all partners and the overall responsibility and coordination of the COO. The final reports are to be submitted to the portal by the COO/PMO, within 60 days after the end of the RP.

5.4 Conflict resolution

Project and quality management activities as well as the awareness of all partners about their commitments, will ensure the proper implementation of the project plan and the realization of its objectives. Decisions will normally be taken by the responsible partners based on the work to be conducted, as described in the GA. Transparency and a good communication among the project members are key to avoid challenges and conflicts before they arise. It is expected though, that during the project, the partners may need to resolve various issues and reach agreements. The processes to be followed start with informal contacts as a first step such as an oral discussion or ad-hoc meeting and further on include written notification in terms of email, minutes, etc.

The COO is responsible for the overall resolving of conflicts. The general principle is to solve conflicts at the lower possible level starting from the task level with strong emphasis on the use of negotiation skills.



Task leaders and WPLs should notify the COO as soon as possible when conflicts arise so that intermediate corrections can be proposed. Conflicts that are not being solved on the COO level, will be communicated to the GeA. Any correction measures will be in accordance with the GA and the CA. Good communication among all involved parties is key point for resolving any conflicts.

6 Communication Processes and Tools

6.1 Internal communication and monitoring

6.1.1 Project repository

Microsoft SharePoint will be used as the central repository for the project where all partners will be able not only to share documents but also to monitor project progresses and to communicate with each other.

SharePoint is restricted only to the personnel of the project offering:

- Support management tool restricted to the project community
- Online workplace for sharing documents
- If necessary and upon request, private library for deliverables and any other related documents
- Safe and user-friendly environment
- Document sharing at any time and from any location and device
- Groups per working activities (e.g. WPs, WPLG, …)
- Regularly updated contact list of participants

SharePoint access is upon email invitation and account online validation (login/pwd). Access is only managed by the COO (IRSN) whereas the architecture of the repository is managed by both the COO and the PMO organisation (LGI).

6.1.2 Structure

6.1.2.1 Face-to-face meetings

Usually, the project meetings are held at partner`s premises. If that is not possible, alternative solutions can be found with hotel's conference rooms.

6.1.2.2 Fully remote meetings

For the effective communication among the partners, regular online meetings will be held. Partners will privilege Microsoft Teams platform, when possible. Otherwise, other platforms could be chosen (i.e. Google Meet, Webex, Zoom etc.). For the GeA and WPLG meetings, organized by the POO/PMO, Teams will be used.

6.1.2.3 Hybrid meetings

To ensure the full participation of all partner's members, several meetings will be organized in "hybrid" mode. Partners will be allowed to decide if they want to participate in person or remotely, according to their organization internal policies. The meeting host will then arrange these meetings by offering both modalities, as described previously.

6.2 External communication

For external communications, the consortium will establish its own website (https://find-project.eu/) and communicate with external stakeholders by e-mail and LinkedIn.

All partners are expected to produce high quality presentations and scientific papers for publication in specialized conferences and journals as well as more simplified press releases demonstrating the impact of the project for a wide range of readers.

In all external communication tools (including the web) and materials (e.g., leaflets, posters, etc.) a reference to the project and the European funding will be made, with the project acronym (FIND) and the European Union emblem as required per Article 17.2 of the GA.

These efforts will be pursued throughout the project to raise awareness and ensure high visibility of the project results. More information about the external communication will be presented in the Deliverable "D6.1 Communication & Dissemination Plan" to be submitted in M6 (and updated M27 – December 2026).

6.3 Communication with the EC

The COO is the responsible contact point on behalf of the project, for the communication with the EC. He is responsible, with the assistance of the PMO, for keeping the project portal always up to date i.e., regarding communication activities, milestones reached, deliverables and progress report submitted etc.

Moreover, the COO is responsible for providing any requested information by EC as well as inform the partners about any information that should be shared from the EC. The partners are not supposed to communicate with the EC directly except for there is a certain need that has been prior discussed and agreed upon with the COO. In all other cases, the COO will communicate any issues to the EC.

7 Quality Management Strategy

Quality is the degree to which the project results fulfil the project's requirements. In order to fulfil and exceed the project requirements, a Quality Management Strategy has been defined within the FIND project through three key processes, namely Quality Planning, Quality Assurance and Quality Control. These three processes are connected and interact in order to guarantee efficient and high-quality work.

7.1 Quality planning

Quality management planning determines quality policies and procedures relevant to the project for both project deliverables and project processes, defines who is responsible for what, and documents compliance with certain guidelines. This planning is directly implemented into the dedicated file monitoring the project status (internal to the consortium).

7.1.1 Visual identity and templates

The creation of a project visual identity plays a significant role in the way the FIND project presents itself to both internal and external stakeholders. A corporate visual identity expresses the values and ambitions of our project and its characteristics. Our project visual identity provides the project with visibility and "recognisability". It is of vital importance that people know that the organization exists and remember its name and core business at the right time.

Figure 2 : Visual identity of FIND

In parallel, templates (.ppt and .doc) have been created on the basis of the project visual identity. They will be adopted by partners for all types of dissemination and communication (both internal and external).

All these elements are available in the dedicated folder of the SharePoint.

7.1.2 Project policies

Internal project guidelines, our so-called project policies, were established to organize internal and external processes in terms of meetings, deliverables and publications, to ensure quality. Previous sections of this document describe in detail these guidelines.

7.1.2.1 Deliverables

Deliverables must be put into the "Deliverables Folder" of the corresponding WP on SharePoint. Please use the following file naming:

- FIND-[Dx.x]-[Deliverable name]

Nature of the deliverables

- "R" (Document, report)
- "DEM" (Demonstrator, pilot, prototype): such deliverables will be accompanied by a small written report outlining its structure and purpose in order to justify the achievement of the deliverable.
- "DEC" (Websites, patent filings, videos, etc.): such deliverables will be accompanied by a small written report outlining its structure and purpose in order to justify the achievement of the deliverable.
- "OTHER" (Other): such deliverables will be accompanied by a small written report outlining its structure and purpose in order to justify the achievement of the deliverable.

Structure of the deliverables

As deliverables are the most important outcome of the project, excellent quality needs to be ensured. Therefore, an internal review process has been defined, which is described in detail in section 5.1 and 7.2.

The template for the deliverables prepared by the COO/PMO, includes all essential information of the project and the content of the deliverable including call identifier, GA number, title, acronym, duration, document revision history with assigned roles and description, table of contents, figures and tables (if applicable), list of acronyms, executive summary.

7.1.2.2 Policy for publishing scientific papers

Prior notice of any planned publication shall be given to the other parties concerned at least 45 days before the publication in accordance with the CA. Any objection to the planned publication shall be made in accordance with the GA in writing to the COO and to any party concerned within 30 days after receipt of the notice. If no objection is made within the time limit stated, the publication is permitted.

The beneficiaries may agree in writing on different time limits to those set above, which may include a deadline for determining the appropriate steps to be taken.

Furthermore, the paper/article, or preferably the link to it will be published on our official FIND project website. Please inform the COO and the WPL of the WP6 as soon as a link or document in pdf format is available. The EC will then be informed about the scientific publication via the portal.

In addition, in order to ensure open access to scientific publications (GA Article 17), these peer-reviewed papers will be uploaded in the project Sharepoint and on Zenodo or equivalent platform (HAL for France for instance) (see D1.2 – Data Management Plan).

All publications or any other dissemination relating to foreground that was generated with the assistance of financial support from the Union shall follow rules as per GA 17.2.

Authorship "Rules of Thumb"

A person should be author and the person may veto a publication if:

- the person has contributed significant portions of the text, and/or
- the person has contributed at least one significant idea, and/or
- the paper describes an implementation that has been performed by the person.

All other contributors/ influencers should be mentioned broadly in the acknowledgements.

As prior notice needs to be given at least 45 days before the publication, all partners have sufficient time to review the planned publication. This additional review process further contributes to high quality publications.

7.2 Quality assurance

According to the PMBOK[1] "Quality Assurance is the process of auditing the quality requirements and the results from quality control measurements to ensure that appropriate quality standards and operational definitions are used."

Quality assurance is a fundamental part of the implementation of the project and will be performed throughout the duration of the project by all the partners.

The quality assurance plan is based on the plan-do-check-act cycle introduced by W. Edwards Deming[2], and summarized in the Figure below.

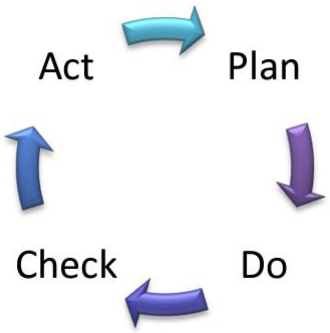


Figure 3 : Quality assurance principles

Plan: is related to the objectives, processes, tools and resources needed to deliver the results according to the work plan and the project requirements;

Do: is referring to the implementation of the planned work;

Check: is referring to monitoring and evaluating the project outcomes and services based on the planned work and the requirements;

Act: is referring to the actions taken if necessary, to make correction and improve outcomes and performance.

The focus of quality assurance is on the creation and monitoring of processes. Quality assurance creates and monitors project processes, which need to be performed effectively to reach the targeted

[1] https://www.pmi.org/pmbok-guide-standards/foundational/pmbok
[2] https://deming.org/explore/pdsa/#:~:text=The%20PDSA%20Cycle%20(Plan%2DDo,was%20first%20introduced%20to%2 0Dr

outcome. This involves the establishment of clear responsibilities and regular, clearly guided telephone conferences and face-to-face meetings.

7.3 Roles, responsibilities & internal review

Transparency of roles and responsibilities has a big impact on the project success. Uncertainty can dramatically affect individual, organisational as well as the consortium performance.

IRSN, as the COO of the project will ensure that project's personnel is aware of the Quality Assurance Plan and of the way each partner contributes to the successful implementation of the project and achievement of the project's quality requirements. Moreover, the COO is responsible for the control of the documented information of the project, which includes storage & backup and versioning & control of changes.

The SharePoint which was chosen as the central repository for the project is supporting both requirements and as such is ensuring that this information can be available at any time.

Each WPL are responsible for monitoring and controlling the implementation phase of the project and ensuring conformity with the quality requirements.

The table below shows the list of the DEL and MS of the project and their main benchmarks where DEL leading organisations were already defined within the DoA.

WP	#	Title	Led by	Type	Diss. leve	Due (month	Due (calendar
WP1	D1.1	Project Quality Plan	IRSN	R	PU	3	December 31, 2024
WP1	D1.2	Data Management Plan	LGI	R	PU	3	December 31, 2024
WP1	D1.3	Final Project Quality management report	LGI	R	PU	48	September 30, 2028
WP1	D1.4	Data Management Plan Report	LGI	DMP	PU	48	September 30, 2028
WP2	D2.1	Specifications for the online damage monitoring systems	EDF	R	PU	12	September 30, 2025
WP2	D2.2	Specifications for the systems supporting the Report on improved management of incidents and accidents	IRSN	R	PU	18	March 31, 2026
WP2	D2.3	Roadmap for future developments	VTT	R	PU	48	September 30, 2028
WP3	D3.1	Report presenting the innovative technologies developed for online damage detection	CEA	R	SENPU	36	September 30, 2027
WP3	D3.2	Report presenting the innovative technologies developed for incident and accident management	IRSN	R	PU	48	September 30, 2028
WP3	D3.3	Report presenting the digital twin concept for damage monitoring	IPP	R	PU	36	September 30, 2027
WP4	D4.1	Report from tests in controlled conditions	VUEZ	R	SEN	42	March 31, 2028
WP4	D4.2	Report from resistance to environmental stresses in controlled conditionsrobustness tests	IRSN	R	SEN	44	May 31, 2028
WP4	D4.3	Report from tests in industrial conditions	EDF	R	SEN	46	July 31, 2028
WP5	D5.1	Bibliography study from other sectors on human and organisational factors	IRSN	R	PU	42	March 31, 2028
WP5	D5.2	Recommendations for technologies adoption	TRACTEBEL	R	SEN	46	July 31, 2028
WP6	D6.1	Communication & Dissemination Plan	LGI	R	PU	6	March 31, 2025
WP6	D6.2	Communication & Dissemination Plan First Update	LGI	R	PU	27	December 31, 2026
WP6	D6.3	Final Communication & Dissemination Report	LGI	R	PU	48	September 30, 2028
WP6	D6.4	Exploitation Plan	VUEZ	R	SEN	48	September 30, 2028

Table 3 : Assignment of the FIND deliverables

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#	WP	Title	Led by	Due (month)	Due (calendar)
M1	3	Academic partner for the Ph-D theses selected (IRSN and VUEZ)	CEA	8	May 31, 2025
M2	2	EUG opinion on the specifications of the online damage monitoring technologies issued	IRSN	10	July 31, 2025
M3	3, 4	Specifications for the adaptation of experimental facilities issued	CEA	12	September 30, 2025
M4	3, 4	Sensors for robustness tests in IRMA selected	VUEZ	16	January 31, 2026
M5	4	Start of integral experimental tests	VUEZ	24	September 30, 2026
M6	3	Prototypes ready for tests in industrial conditions	IPP	34	July 31, 2027
M7	4	Data acquisition in industrial conditions started	FRA-G	40	January 31, 2028
M8	5	EUG opinion on the recommendations for the deployment of the technologies issued	IRSN	44	May 31, 2028
M9	2	EUG opinion on the roadmap for future developments issued	IRSN	46	July 31, 2028
M10	1, 6	Final meeting of FIND including a public workshop with stakeholders	IRSN	46	July 31, 2028

Table 4 : Assignment of the FIND milestones

7.4 Quality criteria and control

The focus of quality control is on feedback and deviation management in the project. Quality control ensures this feedback: it is taken into account from internal as well as from external advisors and therefore positively influences the work towards project objectives. Risk Management (see 7.5) is an integral element of quality control as the proactive notice of deviations from the DoA allows the consortium to control the consequences or even transform those consequences to opportunities.

All FIND works either on the technical level or in written form such as reports, deliverables, publications, have to be of high quality based on certain quality criteria. These criteria are based on the principles of completeness, correctness, and punctuality[3].

Regarding the content, completeness is seen as covering in depth the topic without missing any important aspect or making redundancies. The accuracy is seen in the context of clear statement of the results, sufficiently evidence supports of the research and outcomes, minimization of errors and ambiguities. All the produced materials have to follow the visual identity of the project and follow the templates of FIND as well as conform to the specifications of the EC. Punctuality, refers to the timely delivery based on predefined deadlines.

7.4.1 End User Group (EUG)

The consortium will be supported and advised by an external EUG, consisting of nuclear industry and ISI (In-Service Inspection) technologies providers. This group involves for the moment the following organisations and may evolve during the project :

- Kwan Tek
- Laborelec
- OIM
- Omexom
- Orano
- Slovenské Elektrárne
- Temelin

[3] Bots, J.M., Heck, E. van, Swede, V.van, "Management information", pub. CAP Gemini Publishing BV, Rijswijk, 1990, pp. 550-555

- TVO
- UJV
- VINCI Energie

It will have a consultative role and advise the consortium on the different needs from the industry. ISI technology providers may also be interested in bringing the technologies developed in FIND to the market. Moreover, they will inform the consortium of the latest innovations in sectors that are less covered by the partners, like robotic NDT.

To attain high quality results within the FIND project, a strong cooperation with the EUG members will actively be pursued and facilitated by frequent interaction in the form of face-to-face and remote meetings.

Through the integration of an EUG, interim feedback regarding the overall orientation of the project outcome is expected. This supports the path towards objectives and controls the quality of the project work as well as the quality of expected outcomes.

If confidential information will be provided to the EUG members, the COO will ensure that a non-disclosure agreement (NDA) is executed between the consortium and each end-user.

7.4.2 Preparation of contractual and internal technical document

During the first WPLGs of the project, WPLs will define Technical Reviewers of the different DELs. A table will be issued and communicated to the entire project consortium.

Before processing the document under the process workflow, it is important to note that the document should be prepared on the chosen collaborative platform (*i.e.* SharePoint) following this process:

- As soon as possible and at the latest 2 months before the official deadline, the author must prepare the DEL on the collaborative platform. Please create the document in the corresponding WP folder,
- Notify the different contributors and the COO that the initial draft is available in this folder,
- This is the working document for the DEL. All contributors can work collaboratively on this draft and no versioning is necessary.

Once the DEL is ready for the technical review, the author must notify the related reviewer and the COO that the DEL is ready for a technical review. Technical reviewers are designated by the author and/or WPLs.

The technical review will be made directly on the working document in word format preferably. The technical reviewers will comment the text on the document and the author must process all the comments mentioned in the document. The document will then be amended when necessary. This process will have as many iterations as necessary and will stop when author and reviewer agreed completely on the technical content of the DEL.

Once the technical review is over, the author can start the official workflow in case of an official contractual document and issue it for the quality process or submit it under the approval of the WP Leader in case of an internal document.

Once the DEL reviewed and validated and that the formatting is ready, the DEL is ready to be processed under the quality insurance process.

7.4.3 Official contractual documents quality review

A total of 28 deliverables will be submitted until the end of the project. The deliverables will all follow the same template set up by the COO/PMO who will provide guidelines about their use, the time plan, and the expected final result, to all partners.

The review of the deliverable will focus on consistency and clarity of the document, relevance and coverage of the topic and language features. For each deliverable one partner is being assigned as reviewer. Reviewers can be found in the SharePoint on the dedicated file monitoring the project status (internal to the consortium).

The partner in charge of the DEL is responsible for its timely and of high-quality submission to the PC. After the quality review, the final version of the DEL is uploaded by the COO/PMO to the EC portal.

Any deviations from the time plan should be communicated by the DEL leader to the COO/PMO as soon as possible. The time plan can be adjusted if previously agreed between the author, the reviewers, and the COO. The DELs marked as "public" will be uploaded to the FIND website while the DELs marked as "confidential", will be only made available to the EC and the consortium partners via the project's repository.

7.4.4 Milestone's quality control

For ensuring the quality of the project, ten milestones have been set throughout the duration of the project. The milestones can be also regarded as quality control points where the progress of the project is evaluated (Table 4). Means to verify milestones progress are defined in the DoA.

7.5 Risk management

7.5.1 Risk management plan

To guarantee the achievement of the objectives of the FIND project, it is essential to identify and understand the significant project risks. Risk management refers to all activities undertaken for identifying, analysing, monitoring, and controlling potential risks that could affect the execution of the project. Risk management is a continuous process that will be undertaken throughout the lifetime of the project.

The continuous risk management process is based on the early identification of, and the fast reaction to, events that can negatively affect the outcome of the project. The frequent meetings of the project bodies therefore serve as the main forum for risk identification. The identified risks are then analysed and graded, based on impact and probability of occurrence.

The risks will be monitored on a regular basis and an updated risk table will be provided within the RP. Risks will be minimized and managed by using well-established methodologies for project planning and project control. The splitting of project work into work packages also minimizes internal risks. WPLG will be mainly responsible to handle risks and inform all partners when necessary.

Figure 4 : Schematic of the risk management process

Technical risks were analysed and graded, based on their probability of occurrence in order to answer the governing question: "How big is the risk and what its impact is?" Knowing how a risk impacts the project is important as several risks of the same type can be an indication of a larger problem.

The risks defined in the DoA, will be evaluated based on the risk assessment matrix[4] against its impact and likelihood, according to the Figure below. This results in an easily comprehensible way of visualizing the potential risks. Depending on the severity of each risk, different mitigation measures will be taken.

[4] https://www.maintworld.com/PartnerArticles/Using-a-Risk-Assessment-Matrix-to-Improve-Maintenance

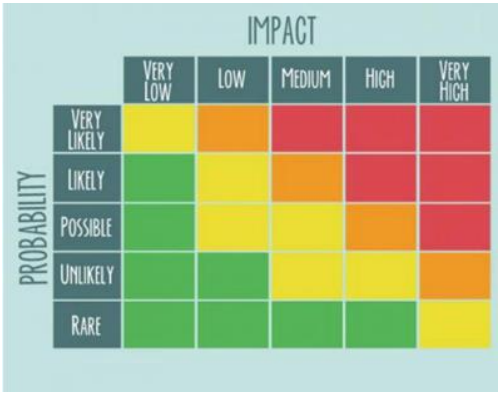

Figure 5 : Risk assessment matrix

The definition of the risk level is calculated based on the relation between Probability/Likelihood and Impact with the "Impact value" weighting more than the "Likelihood value". The risk levels are explained as following.

Risk level	Definition
LOW	Has little potential to cause disruption of schedule, increase in cost, or disruption of performance. Normal effort will probably be able to overcome difficulties
MODERATE	Can potentially cause some disruption of schedule, increase in cost, or disruption of performance. However, special effort will probably be able to overcome difficulties.
HIGH	Likely to cause significant serious disruption of schedule, increase in cost, or degradation of performance even with special effort and close monitoring of the contracting activity.

Table 5 : Identified risks

The Figure below summarizes the critical risks identified in the proposal stage (see GA) and the countermeasures planned to address them. This list will be continuously updated during the lifetime of the project.

Risk number	Description	Work Package No(s)	Proposed Mitigation Measures
1	Availability of process data for Digital Twins	WP3, WP5	The use of process data in Digital Twins is exploratory. If such data cannot be used, the scope of the task will be limited to physical models, without a major impact on scientific results.
2	Intellectual property restrictions to define the specifications of uses-cases and to build the roadmap for future applications	WP2	Early negotiations with data owners. Different partners have relevant information. When possible, only aggregated data will be used. The use of public data from scientific publications and the analysis of industrial codes and standards is sufficient to perform the tasks with an acceptable quality.
3	Delay in the development of sensors	WP3, WP4	Some innovative features would be abandoned to respect the delays, but with acceptable performances.

4	Delay in the adaptation of experimental facilities	WP3, WP4	Anticipation, margins. Preliminary tests can be performed without adaptations.
5	Bad performance of a measurement method or the partner leaves the project	WP3, WP4	The measurement method is replaced by an alternative technology in the consortium or abandoned. The measurement method is applied to another use-case with less challenging specifications. Resources are re-dispatched in the consortium to reach higher TRLs on a fewer number of use-cases.
6	Unavailability of experimental facilities	WP4	In most cases, another partner has a similar installation. If not, tests will be subcontracted, with the help of the catalogue issued by the European OFFER (eurOpean platForm For accEssing nucleaR R&d facilities) project.
7	Unavailability of industrial facilities / no access permission	WP4, WP5	Anticipation of access formalities. Other sites may be found by partners or members of the EUG, which includes NPP operators.
8	Travel restrictions from/to Ukraine	WP3, WP4, WP1, WP6	No travel to Ukraine is planned for non-Ukrainian partners during the project. Close collaboration makes it possible for non-Ukrainian partners to perform the necessary tasks on industrial and experimental facilities if Ukrainian partners are restrained from leaving the territory. Virtual participation to meetings and conferences.
9	Supply of electronic components	WP3, WP4	Anticipation of the supply of probes and equipment. Use of available stocks owned by partners.
10	Risk related to the development of the different technologies: as in all research projects, unforeseen issues can happen in the course of the project.	WP2, WP3, WP4	Every year in the frame of the WP1, the risk related to the technology developments will be assessed with the concerned partners.

Table 6 : FIND risks as identified during the proposal phase

In addition to the above-mentioned tools and procedures, the project partners' and the coordinator's profound experience with European projects implicates a high level of competence, expert knowledge, skills and qualifications, which further increases the quality of the project work. Furthermore, besides these hard skills, also soft skills, such as motivation, team spirit, and interpersonal interaction contribute to high quality project performance.

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8 Effort and Cost Management

8.1 Overview

The aim of the effort and cost management is to ensure that the implementation of the project is conducted within the predefined PMs and Budget as defined in the GA. The COO, supported by the PMO and in collaboration with all partners, will monitor throughout the implementation of the project, the effort and resources by comparing the actual numbers to the data defined in the GA.

To avoid confusion and complications due to conflicts between National and European Union reporting rules, all efforts are to be reported in full hours and Euro amounts are to be reported in two decimals. If effort and/or cost deviation of +/- the 5% are seen the status of the cost/effort will be set to "cautionary". In the unintended case where the deviation is +/-10%, the status will be changed to "alert" and will trigger corrective actions which will be discussed first between the COO and the affected partner. Any cost/effort change will follow a thorough communication between the affected partner and the COO. Approvals for extreme project effort/cost changes may require a contract amendment with the EC.

8.2 Effort and cost monitoring and reporting

In order to have timely information about the effort and costs consumed, so that corrective measurements can be discussed and taken immediately, each partner will have to report every 18 months (and 12 months for the last RP) the consumed effort and costs to the COO/PMO (internal interim financial reporting). The report will be submitted 15 calendar days after the completion of the 18-month (or 12-month) period to leave partners sufficient time to upload information on the portal information. The COO/PMO will provide all necessary templates and guidelines so that the partners can easily complete the reports. The reporting of the effort and the budget absorption to the EC will be conducted in the three RP of the project.

A set of financial dashboards will be regularly released and updated in the SharePoint.

9 Conclusion

This PQP demonstrates that quality aspects are taken into account in a variety of processes and activities within the FIND project. The interrelated quality processes – planning, assurance and control – impact the project work from its start to its end. The project aims at obtaining a high degree of quality, where outcomes are achieved in terms of the effectiveness and efficiency of working practices, as well as products and standards of project deliverables and outputs. This plan seeks to establish the procedures and standards to be employed in the project, and to allocate responsibility for ensuring that these procedures and standards are followed.

The project management team (COO and PMO) monitors that the above-described processes are fulfilled. In case of any deviations to the planned work the management team is in charge of taking necessary mitigation measures. The plan is effective throughout the lifetime of the project, but is open to revision if necessary. As described in chapter 4, responsibilities for quality planning, assurance and control are shared between all partners, which allow various views on quality issues in order to reach the optimal outcome.

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