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Optimised Real-time Yard and Network Management

D 1.1 Project Management

and Quality Assurance

Plan

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CI	Classified, information as referred to in Commission Decision 2001/844/EC	

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EXECUTIVE SUMMARY

This Project Management and Quality Assurance Plan has been prepared to guarantee the quality assurance process all along the project. The document is structured into the following chapters:

Chapter 2 describes the project management and organisational structure of the project. General information about meetings, organisation, risk management and conflict resolution are also given.

Chapter 3 describes document management; the documents to be produced by beneficiaries are listed, as well as the templates to be used for each type of document.

Chapter 4 describes the deliverable review procedure which will guarantee a proper quality process before deliverables are submitted to the S2R JU/EC

Chapter 5 covers the necessary steps to be made internally before disseminating results of the projects to ensure a coordinated approach.

Chapter 6 introduces the Workflow collaboration tool, focusing on access rights and document identification. This tool will be used for the storing, uploading and downloading of documents and follow-up of the progress of work, including status of deliverables and milestones.

Chapter 7 gives an overview of the Quality Assurance objectives and procedures.

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LIST OF ACRONYMS

CA: Consortium Agreement
EC: European Commission
GA: Grant Agreement
PMO: Project Management Office
QM: Quality Manager
S2R JU: Shift2Rail Joint Undertaking
SMC: Strategic Management Committee
TMC: Technical Management Committee
WBS Dictionary: Work Breakdown Structure Dictionary
WP: Work Package

1. INTRODUCTION

The Project Management and Quality Assurance Plan guarantees the processes applied throughout the project lifecycle by describing all procedures to assure delivery with the expected quality. The scope of this Plan is to provide guidelines on the day-to-day project management and on the practical aspects of the project development, including reports, redaction procedures, criteria for work results performance measurements. Procedures for document handling are also included. This comprises rules for document identification, typographical standards, classification and status of documents, etc.

2. PROJECT MANAGEMENT

2.1 ORGANIZATIONAL STRUCTURE

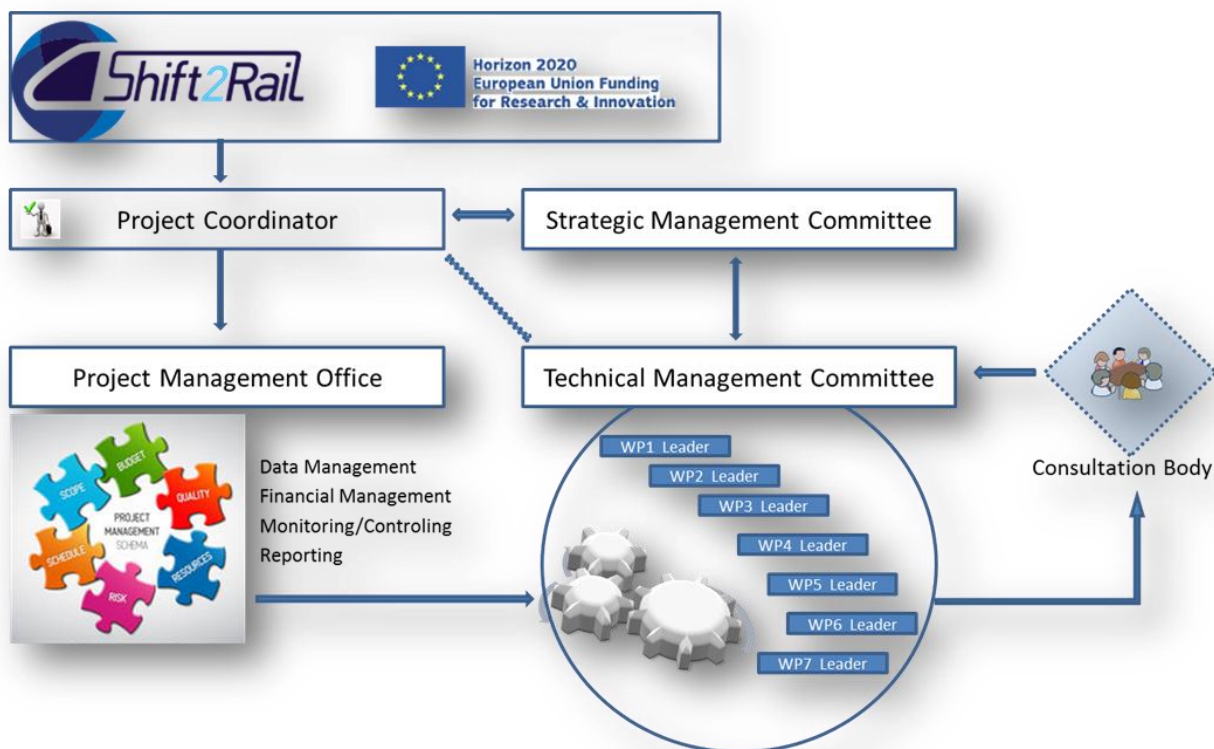


Figure 1: OptiYard Organisational Structure

2.1.1 Strategic Management Committee

The level of strategic coordination is constituted by the S2R JU and the OptiYard Strategic Management Committee. The Strategic Management Committee (SMC), as the strategic management body of the

Consortium, oversees the overall project work programme, whereas the S2R JU/EC, as the funding institution, has a mandate to monitor the project's success and compliance with the objectives.

Objectives:

- Ensure compliance of the Project implementation with the joint research strategy objectives;
- Facilitate co-ordination with other on-going large-scale projects where relevant;
- Ensure handling of ethical issues;
- Ensure management of the Consortium Agreement and the Grant Agreement.

Activities:

- Approval of the Work Plan Description, along with the Dissemination and Communications Plan;
- Approval of the Consortium's budget and allocation of grants to activities and partners;
- Validation of the incurred expenditure in accordance with the budget;
- Support the Project Coordinator in preparing meetings with the S2R JU;
- Approval of the accession of a new partner or withdrawal of an existing partner;
- Review and approve exploitation, dissemination and communication policies.

Members:

UIC chairs OptiYard's Strategic Management Committee, whose members include a duly authorised person from each OptiYard Consortium partner. These members are entitled to jointly carry out most of the obligations related to the S2R JU/EC contract and to oversee the overall project implementation. Any expert or qualified person may be invited to attend meetings in an advisory capacity.

The SMC also has the authority to identify knowledge that is subject to protection, restricted use or wide dissemination. The proposals for these decisions are made by the Technical Management Team based on the planned publications and activity reports issued by WP Leaders.

Any decision required or permitted to be taken by the Strategic Management Committee shall be taken in accordance with the following (Consortium Agreement, Articles 6.2.1.9, 6.2.1.10, 6.2.1.12):

- (a) The Strategic Management Committee shall not deliberate and decide validly unless two-thirds (2/3) of its Members are present or represented (quorum).
- (b) If the quorum is not reached, the chairman of Strategic Management Committee shall promptly convene another meeting within 15 calendar days. If in this second meeting the quorum is not reached then this second meeting shall be entitled to decide even if less than the quorum of Members is present or represented.
- (c) Decisions in the Strategic Management Committee shall be taken by a two-third (2/3) majority of the votes.
- (d) Each Member of Strategic Management Committee present or represented in the meeting shall have one vote.

The Strategic Management Committee will try to reach agreement in a consensual manner and without a vote.

2.1.2 Technical Management Committee

The TMC oversees the overall progress of the project and coordinates the execution of individual WPs in terms of their technical and programmatic contents and according to common engineering consistency and quality guidelines. The TMC is the project's technical design decision-making body and constitutes a platform for issue investigation and resolution, sharing of results and building of a shared knowledge base leveraging expert advice from the consultative bodies.

Objectives:

- Ensure smooth execution of work plan;
- Monitor risks and ensure schedule;
- Troubleshooting and resolution (technical level);
- Interoperability and integration;

Activities:

- Define the technical roadmaps for the project;
- Approve Project Baseline (schedule, effort and budget allocation, milestones and deliverables);
- Prepare the programme of activities, and propose changes to the project or WP if necessary;
- Solve cross-WP technical issues;
- Escalate to SMC on key technical issues.

Members:

The TMC is subordinate to – and reports to – the Project Coordinator. The TMC consists of all WP leaders, who are in turn responsible for all technical activities carried out within the task framework defined by the project and/or TMC, as well as for the deliverables and the outcomes related to the tasks. The WP leaders report to the TMC.

Any decision required or permitted to be taken by the Technical Management Committee shall be taken in accordance with the following (Consortium Agreement, Articles 6.2.1.9, 6.2.1.10, 6.2.1.12):

- (a) The Technical Management Committee shall not deliberate and decide validly unless two-thirds (2/3) of its Members are present or represented (quorum).
- (b) If the quorum is not reached, the chairman of the Technical Management Committee shall promptly convene another meeting within 15 calendar days. If in this second meeting the quorum is not reached then this second meeting shall be entitled to decide even if less than the quorum of Members are present or represented.
- (c) Decisions in the Technical Management Committee shall be taken by a two-third (2/3) majority of the votes cast, except for accession of a new party where unanimous vote is required.
- (d) Each Member of Technical Management Committee present or represented in the meeting shall have one vote.

The Technical Management Committee will try to reach agreements in a consensual manner and without a vote.

2.1.3 WP Management

Each WP is managed by its own WP Leader, bringing together all the partners active in that WP to ensure the coordination of the individual activities inside the WP itself.

Objectives:

- Achievement of objective;
- Periodic reporting;
- Assessment of expenditures.

Activities:

- To ensure the scientific monitoring and co-ordination of the Work Packages and their implementation;
- To monitor the progress of tasks within WPs based on planned deliverables and milestones;
- To coordinate the activities of Tasks and their interaction;
- To motivate partners of the WP to perform their tasks in the duly and timely manner;
- To ensure that agreed protocols and procedures are respected;
- To assist the partners seeking guidance;
- The WP Leader takes decision as major responsible for WP Deliverables;
- The WP Leader reports to the TMC the progress and eventual deviations of the WP activities.

Members:

Each Work Package is managed by its own WP Leader, bringing together all the partners active in that WP to ensure the coordination of the individual activities inside the WP itself.

2.1.4 Task Management

Each Work Package is divided into different Tasks and each Task has its own Task Leader, bringing together all the partners active in that Task to ensure the coordination of the individual activities inside the Task itself.

Objectives:

- Achievement of objective. Task Members shall contribute to achieve the goals identified at Task and WP level;
- Periodic reporting;
- Troubleshooting and resolution of technical problems.

Activities:

- To ensure the scientific monitoring and co-ordination of the Task and its implementation;
- To implement the work guidelines per the WP Leader instructions;
- To take decisions, always with approval of WP Leader;
- Task Leaders report to the WP Leader the Task progress by quarterly meetings.

Members:

Each Task is composed of the Task Leader and one representative of each partner participating in the Task.

2.1.5 Project Management Office (PMO)

The Project Management Office (PMO) is composed of the Coordinator's staff (UIC) to support the administrative coordination activities.

The responsibilities of the PMO are to:

- Manage the communication of the consortium internally in the project and to the S2R JU through regular contacts with the project officer and formal reporting to the S2R JU;
- Coordinate the various phases of development of the project in cooperation with the SMC; TMC and WP leaders;
- Manage the project budget and payments from the S2R JU, including all financial and administrative coordination activities which will be supported by DAPP BE, according to the provisions of the GA.

In particular, financial coordination activities will include:

- Budgeting;
 - Financial reporting (internal and to the S2R JU) and audit certificates collection;
 - Distribution of project's funding (handled by the Coordinator only).
- Manage administrative coordination:
 - Implementation of contractual obligations towards the S2R JU in accordance with GA;
 - Possible amendments to GA after S2R JU approval and to Consortium Agreement;
 - Handling of the formalities in case of accession/withdrawal of partners to the contract;
 - Coordinate the Project's dissemination activities in collaboration with WP7 ('Dissemination and Exploitation') leader;
 - Ensure the quality management during the Project's life;
 - Ensure the day-to-day running of the project through the appointment and leadership of a Project Management Office. This team will provide support to the Work Packages with generic project tasks such as project planning, financial control, process administration (risks and documentation management), quality control, communications manager, and administrative support;
 - Check work progress vs. budget.

2.2 WORKING PROCEDURES

The project management is based on the general procedures described in the following paragraphs.

2.2.1 Meetings

The project's main meetings and reports will be as follows:

Strategic Management Committee meetings

Ordinary meetings will take place at least once a year (common practice being semi-annually) but this might be adapted to the needs of the project. Extraordinary meetings can be held at any time upon written

request of the Technical Management Committee or 1/3 of the Strategic Management Members. The Strategic Management Committee is assisted by the PMO.

Technical Management Committee meetings

The Technical Management Committee normally meets four times a year (every quarter) but this might be adapted to the needs of the project. Extraordinary meetings can be held at any time upon written request of any Technical Management Committee Member. The first meeting of the Technical Management Committee is organised in the form of a workshop, during which a detailed schedule of the project implementation is reviewed and approved. In addition, interim contacts (e.g., conference calls) can take place monthly. The TMC chairman sets the agenda of the meetings and possible conference calls with the Project Coordinator.

The TMC normally meets quarterly, to assure technical coordination with the project participants and the consultative bodies. Additional virtual meetings (e.g., conference calls) could also be foreseen. The TMC chairman sets the agenda of the meetings and conference calls jointly with the Project Coordinator.

Work Package meetings

WP meetings take place on a regular basis, but based on the specific needs of a given WP. WP Leaders are members of the Technical Management Committee, the Technical Leader and Project Coordinator can participate to WP meetings, as appropriate. Participation of subcontractors to WP meetings is subject to the following procedure:

- The WP leader shall justify the participation of subcontractors in a written e-mail to the attention of the project coordinator.
- The project coordinator forwards the request to the TMC for approval
- Final Approval of the TMC.

S2R JU/EC Review meetings

There will be 2 review meetings with the S2R JU/EC (after M12 and at the end of the project in M24). The purpose will be to review technical and scientific progress of the project and approval of deliverables and Periodic Reports.

The 2nd (final) review meeting will be held by the completion of the project and the purpose will be the review of the overall technical and scientific outcome of the project, the financial review and the discussion of the future industrial and exploitation perspective of the project.

2.2.2 Preparation of meetings

Good “practice”

Participants in meetings should be well selected. When appropriate, small meetings will be preferred to large ones. It is advised not to invite people who are not directly concerned with the subject of the meeting.

Each of these meetings should be well prepared. The objectives, agenda and required preparation/contribution from the attendees should be defined at least two weeks before the meeting. If specific documents or reports will be discussed in the meeting, the draft material should be made available sufficiently in advance to ensure that the participants have time to read and comment it.

Meeting dates should be chosen sufficiently in advance to ensure all participants concerned can attend. If possible, meetings with different purposes should be combined to save both travel time and money. Detailed description of travel information should be provided.

Responsibility

Each meeting should have a facilitator designated in advance. At the stage of the preparation, the facilitator oversees:

- Coordinating administrative arrangements and preparation of an agenda in collaboration with the meeting participants;
- Liaising with the logistics assistant of the site where the meeting takes place to arrange accommodation for all participants;
- Reporting status of meeting preparation and follow-up to the meeting participants;
- Distribution of relevant papers.

Each participant should contribute to the meeting preparation by providing:

- Working documents: normally the main subjects discussed during a meeting will be documented by discussion papers. These papers should be distributed in advance and not during the meeting itself, since otherwise the participants will be unable to prepare for the meeting;
- Contributions to the agenda;
- Timely registration;
- Preparation of presentations.

2.2.3 Internal communication

All partners will be regularly informed about the project status, planning and any other issue relevant for the partners to obtain maximum transparency and awareness. All the documents shall be transmitted and published via the project Workflow Tool. In addition, direct transmission of information to the partners will be used where appropriate.

An official contact list of persons responsible or participating in the relevant domains of the project is available on the Workflow tool and periodically updated.

Internal reporting will include management (progress, conflict handling, etc.) and other reports produced by the WP Leaders. The WP/Task Leaders will produce the minutes of their own WP/Task meetings, and will

contribute to periodic reports, as appropriate. All the quality procedures to be implemented during the project life cycle will be formalised in the Quality Plan issued at the start of the project.

Every official meeting (including subtask/task/WP plenary conference call) of the project should be traceable on the Workflow Tool in the Meetings section (Minutes of meetings and Agendas), allowing the members to be informed about meetings and allowing them to claim those travel costs when applicable.

As good practice for any internal communication, the acronym to be used when referring to the project is 'OptiYard.' When communicating by email, the use of keywords in the subject field would help to identify the topic, therefore the suggested syntax is the following: 'OptiYard: WP (Optional)' – this is a dummy subject text.

Teleconferencing

- To maintain cost-effective management, teleconferencing will be used for short meetings. It is particularly useful to
 - collaboratively share documents (distributed prior to the teleconference);
 - discuss a specific technical or management issue;
 - take decisions on issues requiring urgent action.

2.2.4 Risk management

Risk management, quality assurance and financial and contractual management are considered as the key tools to guarantee the success of the project. Regular internal project reporting and a transparent communication plan will ensure that eventual problems or delays in project progress will be detected early and rapidly and that corrective actions can be taken if necessary. Special attention will be paid to keeping the partners informed of the project status, planning and other important issues.

The management structure as outlined in Section 2.1 ensures that risks are reported promptly to the Coordinator via the WP leaders. A risk table associated to each WP and important milestones has been established. A Risk Register has been established and will be progressively maintained throughout the project lifecycle. The TMC will regularly review and update the Risk Register on a quarterly basis (as a minimum) and escalate issues to the SMC, if needed.

2.2.5 Issue management

Issue Management is closely tied to Risk Management and is essential to identify and record issues and their potential impacts. WP Leaders will record issues as they arise in the WPs so that actions may be assigned to resolve issues. The TMC manages the issue log concurrently with the Risk Register on a quarterly basis and continually monitors the resolution of issues and actions.

2.2.6 Monitoring processes and self-assessment

Special attention will be dedicated to self-assessment at project level and to evaluation activities. This will be done through a continuous assessment and evaluation process. It will be the responsibility of the TMC,

according to their respective scope of work within the Strategic Management Committee, to assess the fulfilment of the previously stated project objectives, as well as to propose to the TMC the appropriate corrective actions.

2.3 DELIVERABLES

The following table is taken from the Grant Agreement section 1.3.2. WT2 list of deliverables of Annex 1.

DEL #	Deliverable Title	WP number	Lead beneficiary	Type	Dissemination level	Due Date (in months)
D1.1	Project Management and Quality Assurance Plan	WP1	1 - UIC	Report	Public	4
D2.1	Definition and selection of suitable methods for real-time data analytics	WP2	5 - UNEW	Report	Public	6
D2.2	Recommendations for improved traffic management, improved information and communication channels across parties involved	WP2	6 - UNIVLEEDS	Report	Public	10
D3.1	Definition of a suitable simulation environment	WP3	2 - DICEA	Report	Public	4
D3.2	Functional and technical specification for the OptiYard simulation environment	WP3	6 - UNIVLEEDS	Report	Public	10
D4.1	Yard and network simulation model	WP4	2 - DICEA	Other	Public	12
D4.2	Yard simulation software for WP6	WP4	11 - Simcon	Other	Public	14
D4.3	Validated models and simulator	WP4	2 - DICEA	Demonstrator	Public	22
D5.1	Optimization of information and communication methods	WP5	9 - OG	Report	Public	14

DEL #	Deliverable Title	WP number	Lead beneficiary	Type	Dissemination level	Due Date (in months)
D5.2	Yard optimization algorithm, network decision-support tool and integration framework	WP5	3 - IFSTTAR	Other	Public	24
D6.1	Business Case specifications and plans	WP6	4 - UIRR scr1	Report	Public	19
D6.2	Business Case Feasibility and Simulation Test of the virtual yard/terminal software	WP6	4 - UIRR scr1	Demonstrator	Public	24
D6.3	Socio-Economic Impact Assessment of innovative real-time yard and network management	WP6	8 - EURNEX	Report	Public	24
D7.1	Data management plan	WP7	1- UIC	Report	Public	6
D7.2	Dissemination, communication and exploitation plan	WP7	1 - UIC	Report	Public	6
D7.3	Report on Dissemination, Communication and Exploitation activities	WP7	1 - UIC	Report	Public	24

2.4 MILESTONES

The following table is taken from the Grant Agreement section 1.3.4. WT4 List of milestones of Annex 1.

Milestone number	Milestone title	WP number	Lead beneficiary	Due Date (in months)	Means of verification
MS1	Project Kick-off Meeting	WP1	1 - UIC	1	Minutes of Meeting
MS2	Requirements for general applicability of the simulation environment	WP3	6 - UNIVLEEDS	4	Approval by TMC
MS3	Definition and selection of suitable methods for real-time data analytics	WP2	5 - UNEW	6	Approval by TMC
MS4	Mid-term Deliverable Review	WP1	1 - UIC	13	Signature of S2R JU
MS5	Yard Simulation software for WP6	WP4	2 - DICEA	14	Approval by TMC
MS6	Review of State of the art on yard and network traffic management optimisation algorithms	WP5	6 - UNIVLEEDS	15	Approval by TMC
MS7	Demonstration specifications and requirements	WP6	4 - UIRR	19	Approval by TMC
MS8	Final deliverable review	WP1	1 - UIC	24	Signature of S2R JU
MS9	Description of the optimization algorithms and of the integration framework	WP5	3 - IFSTTAR	24	Approval by TMC

3. DOCUMENT MANAGEMENT

3.1 TEMPLATES

In order to ensure the homogeneity of all documents produced in the scope of the project, and the compliance of such documents to the guidelines given by the S2R JU/EC (where applicable), the following templates have been prepared:

- Deliverable;
- Agenda of Meetings;
- Minutes of Meetings;
- General presentation PPT;
- WP reporting presentation;
- Action List and Risk Log;
- Attendance List for General Event;
- Attendance List for WP/TMC/SMC Meetings;
- Template for comments (excel file).

The abovementioned document templates are distributed to all beneficiaries along with this Quality Plan; they will be made available on the Workflow Tool, as well as the updates to templates which may occur during the project lifetime. The use of official document templates, as appropriate, is mandatory for any document to be produced.

3.1.1 Drawing documents using templates

This section will provide general indicators for the correct usage of the document templates.

Headers and Footers

All word document templates contain a predefined header and footer.

The header contains the official project logo (including the short name of the project), the indication of the contract number and the European flag; the author is requested not to modify the header included in the template. In addition, the reference: “This project has received funding from the European Union’s Horizon 2020 research and innovation programme under grant agreement no. 777594 (OptiYard)” at the first page is mentioned in the cover page in accordance with Article 29 of the grant agreement no. 777594 (OptiYard).

The footer contains the document code; the page number and the date of issue. The document code and the date of issue must be inserted by the author, and should match the corresponding information indicated in the cover page of the document. Page numbering is included by using the automatic Word function and should not be modified.

In case the document contains different sections, the author should ensure that the same header and footer are included in each of them.

Deliverables

Deliverable cover page

Each official deliverable should include the official cover page requested by the S2R JU/EC (included in the template). The author is requested to complete the cover page with the following information:

- Deliverable reference number and title: reference number and name should be separated by a “-” character (same as Annex 1);
- Due date of deliverable: the indication “Month n” should be interpreted as the last day of the mentioned month, where Month 1 is October 2017 (same as Annex 1);
- Actual submission date: date when the last revision has been issued;
- Leader of this deliverable: name and company of the lead beneficiary of the deliverable (same as Annex 1);
- Reviewed (Y/N): to be specified if the deliverable has been already reviewed by the TMC or not;
- Dissemination level (same as Annex 1).

Document status table

The deliverable template (and technical contribution template) contains the following status table:

Document status		
Revision	Date	Description
1		First issue
N		Final version after TMC approval

For each new revision of the document that is issued, the table should contain the revision number, the date of issue and the description of the major changes with reference to the previous version. The description for the first document revision will contain the indication “First issue”, as included in the template.

The number of the revisions should be in line with the revision number in the document code.

The final version of the approved deliverable should contain the indication “Final version after TMC approval”.

Executive Summary

The purpose of this section is to provide a synthesis of the main contents of the deliverable, giving a brief explanation for each of the main topics included in the document. It is important to give a detailed overview of the content of the deliverable as this will be read carefully by the S2R JU/EC reviewers.

Table of Contents, List of Figures and List of Tables

The template for deliverables contains a table of contents, showing all the sections and sub-sections included in the document, up to the third level, a list of figures and a list of tables. All tables/lists should be updated after the completion of the document. In case the document does not include any figure or tables, the list of figures and the list of tables should be removed.

Technical contribution

The template for technical contribution includes the following summary table:

Author	(1)
Partner	(2)
Date	(3)
Document Code	(4)
Status	(5)

Whereas:

- (1) Author of the document;
- (2) Company of the author;
- (3) Date in which the document is issued (do not use the automatic function of Microsoft Word, in order to avoid misdating of documents);
- (4) Document code (according to the Workflow Tool automatic coding, see *"Tutorial for all Project Members"* for more details);
- (5) Document status can be set as "Draft" or "Final". A document is to be considered "Draft" until it is subject to the approval of the TMC in case of deliverables, or WP, Task or Board members depending on document nature. When a document is finally approved, its status changes into "Final".

All fields included in the summary table are considered mandatory, a document having an incomplete table cannot be considered approved. Moreover, this template includes the documents status table (Described in the deliverable section).

Agenda and Minutes of Meeting

The agenda and minutes of meeting template first page should be filled in with the following information:

- Domain: Board/WorkPackage/Task, to which the document refers;
- Date: Starting and ending time;
- Venue of the meeting.

Summary Table

The templates for Agenda and Minutes of Meeting include the following summary table containing the main document information:

Meeting organiser	(1)
Phone number	(2)
Document Code	(3)
Status	(4)
Attachments	(5)

Whereas:

- (1) Name(s) of the author(s) of the document/meeting organiser (name and company);
- (2) Phone number of the document author/meeting organiser;
- (3) Document code (according to the Workflow Tool automatic coding, see “Tutorial for all Project Members” for more details);
- (4) Document status can be set as “Draft” or “Final”. A document is to be considered “Draft” until it is subject to the approval of the TMC in case of deliverables, or WP, Task or Board members depending in document nature. When a document is finally approved, its status changes into “Final”;
- (5) List of documents attached (only applicable to Minutes).

3.2 ACTION AND ISSUE LOG

The Issue Log and Action list is an Excel file to be used by WP/TMC/SMC, summarising the list of actions coming from each meeting. Furthermore, the Workflow Tool contains a feature to include actions. Finally, the Minutes of meetings also contain an action list. The Action List also contains the issue log, where issues may be migrated to the Action List and be assigned to a specific person or WP Leader. The two are managed concurrently. An example of the issue log is seen below:

#	Initiation Date	Initiated by	WP	Assigned To	Description of Action	Priority	Target Date	REMARKS BY TCM/WP LEADER	Verified & Closed I	Status	Closing Date
1	2-Oct-17	UIC	WP1	TMC	Approve the WBS Baseline	High	25-oct.-17			Open	
2	25-Oct-17	DICEA	WP4	TMC	Check the description of WP4.2 to make sure that the algorithms are for what happens in the yard	High				Open	
3	25-Oct-17	NRW	WP2	TMC	chec GA in task D2.1 to include T2.3	Low		Marin to check this		Open	
4	25-Oct-17	UIC	WP2	TMC	Submit decomposition of WP2	High	01-déc.-17			Open	

Partners are encouraged to use the Workflow Tool for handling the Actions in addition to include them in the Minutes of meetings. However, this Excel file is put at the disposal of the project partners as an internal tool they may use.

The file contains all the actions to be performed during the project and should be updated after the end of each meeting by the person responsible for the meeting (e.g., WP Leader), starting from the action list included in the Minutes of Meeting. The file should be updated also with the closure date of each completed action. The template is available on the Workflow Tool.

The file is composed of the following fields:

- Action number related to the specific meeting;
- Initiation Date;
- Initiator;
- Relevant WP;
- Assigned To (Responsible Party);
- Status: Open, Closed, On Hold;
- Description of the action to be taken;
- Target Date;
- Priority;
- Notes/comments;
- Verified and Closed (by Party);
- Closing date: actual completion date of the action.

General presentation

The first slide of each presentation should be completed with the following information:

- Title of the presentation;
- Name (name of the author and name of the company or organisation to which the author belongs to);
- Occasion: Meeting typology (i.e. WP meeting, TMC meeting....);
- Date and Location of the meeting.

The following slide should contain a table of contents, briefly illustrating the main topics which will be considered during the presentation.

WP reporting presentation

A specific template for the WP reporting has been created in order to have information presented in a homogeneous way during WP, TMC and SMC meetings.

The first slide after the cover page contains the list of the tasks and their status; the name of the task(s) must be written in blue if the task is active; grey, if the task is inactive; red, if the task is delayed; yellow, if the task is suspended and green if the task is finished.

Next slides could include the status of each task; discussion points: for issues internal to the meeting participants; next steps and actions; TMC/SMC decision requests: list of open points to be discussed on a higher level (TMC/SMC).

Comment list

The Excel file should contain all the comments given by reviewers to a specific deliverable, during the deliverable revision process (see Section 4).

The first part of the file includes general information about the document (name and code), the revision number, and the name of the person filling in the file, as well as the date of preparation.

The core of the table is composed of the following field:

- N°: Partner number;
- Partner: Name;
- Chapter/Figure/Table: Section of the document to which the comment is referring to;
- Comments;
- Proposed change;
- Response.

4. DELIVERABLE REVIEW

During the project development, special attention will be placed on deliverables. According to Annex 1, deliverables are scheduled along the project and must be submitted to the S2R JU/EC at the end of each reporting period.

A successful submission of deliverables implies that, on the planned date of delivery, the document has been internally reviewed and uploaded onto the Workflow Tool. This internal review must be initiated 3 weeks before the final submission. As such, partners will upload a draft version onto the Workflow Tool 3 weeks before the planned date of delivery, ensuring a quality assurance on the format, the content and the time of submission.

Timeframe for deliverables to be approved and submitted in their final form:

1. The author of the deliverable uploads the draft version (with status “draft” and access “user”) of the deliverable for check and comments from the WP partners (three weeks before the final submission);
2. The author of the deliverable implements possible comments from WP partners and uploads the deliverable as “under review” version, access “user”, to the Workflow Tool. Then the author of the deliverable informs the coordinator and the Technical Leader of the finalisation of the Deliverable (two weeks before the final submission).
3. The coordinator circulates by email the deliverable among TMC members and requests to check and approve the technical content. The approval can be given during a TMC meeting or by email. This process is led by the Technical Leader (prior to final submission).

4. Once the deliverable is approved by the TMC, it will be checked by the Quality Manager in order to ask the author to implement the needed format changes. Then it can be uploaded by the author in the appropriate domain of the Workflow Tool as “issued” version, access “user”, (within five days after approval).

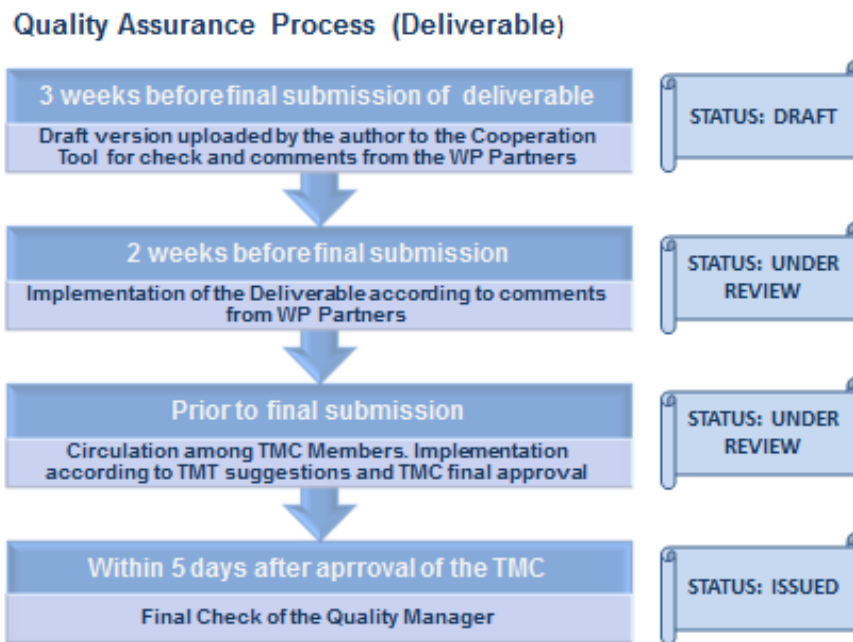


Figure 2: Deliverable Quality Assurance Process

5. EXTERNAL PUBLICATION APPROVAL PROCESS

The dissemination of intermediate and final results of the project will be done continuously by flyers, brochures, posters, articles and presentations on different national and international conferences.

The publications approval of the activities of WP7 will be the following:

1. The Coordinator circulates the draft abstract of the publication to TMC members
2. TMC members send feedback to the Coordinator/WP7 Leader (UIC);
3. If there are no comments within 15 days from the date of circulation, the author is authorised to draft and finalise the publication.

Publications Approval Process of the activities of WP7

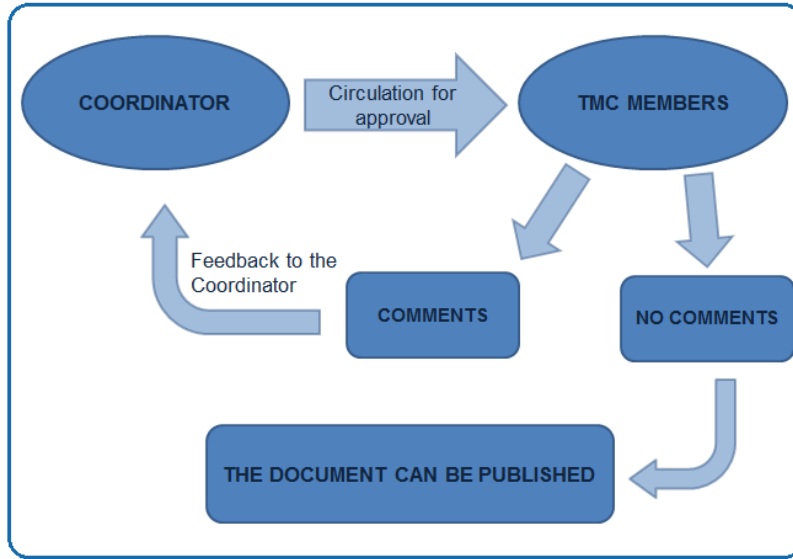


Figure 3: Publications Approval Process of the WP7 activities

The publication approval of individual initiatives by partners will be the following:

1. The document (flyer, brochure, poster, article, etc.) is approved within the WP;
2. The document is sent to the Coordinator/WP7 Leader (UIC);
3. The Coordinator circulates the document to TMC members
4. TMC members send feedback to the Coordinator/WP7 Leader (UIC); if there are no comments within 15 days before the publication deadline, the document can be published.

Publications Approval Process of initiatives by Partners

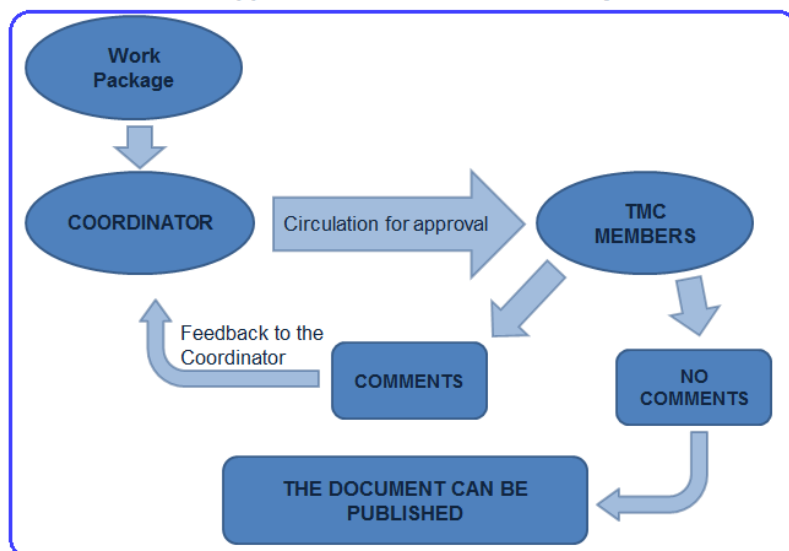


Figure 4: Publications Approval Process of initiatives by Partners

6. WORKFLOW TOOL

A Workflow Tool platform was created to support the work of the consortium members. For access to the website, users are provided with a username (e-mail address) and password (automatically created by the website during the first registration). Beneficiaries who do not have access to the website can ask the Coordinator to open an account.

Beneficiaries are strongly suggested to use the website to share project information. The main functionalities that should be used by project participants are the following:

- upload and download documents (deliverables, minutes of meetings, agendas, presentations, Technical Annex, contact list, etc.)
- create and check meetings, find documents related to meetings and confirm attendance to meetings;
- add actions and check their status.

An instruction manual on how to use the Workflow Tool is circulated among beneficiaries; the document is also accessible on the website (*Tutorial for all Project Members*).

6.1 PERMISSIONS

Members are granted with access rights in the Workflow Tool according to their role in the project.

6.1.1 Members

All members of the project get by default “Guest” rights on all domains. Guest rights give access to all documents and meetings with Access field marked as “Guest” in the tool (i.e. documents and meetings with Access flagged with higher rights will not be visible for Guests).

6.1.2 User– Work package contributor

All partners contributing in a work package (WP members) have “User” rights, enabling them to create new documents.

6.1.3 Project level administration– Coordinator

The Coordinator has overall project administration rights, enabling to administrate the complete project database.

When the Coordinator intends to modify a WP domain, he has an obligation to inform relevant WP leaders partners about the changes he intends to bring to the database.

6.2 DOCUMENT MANAGEMENT

Whenever a new document is produced within the project, it must be uploaded on the Workflow Tool. When a document is uploaded, a unique document code must be assigned. The following subsections describe how this identification code is structured and set up.

6.2.1 Document code structure:

The identification code contains the six following sections:

[Project] – [Domain] – [Type] – [Owner] – [Number] – [Filename]

- [Project] is OptiYard for all OptiYard documents;
- [Domain] is the relevant domain in the Workflow Tool (WP, Task or project body);
- [Type] is one letter defining the document category;
- [Owner] is the trigram of the deliverable leader organisation;
- [Number] is an order number allocated by the publisher when the document is first created;
- [Filename] is a short description of the document.

Examples:

Project Code	Domain (3-4 characters)	Type (1 letter)	Owner (3 letters)	Number (3 digits)	Filename
OptiYard	- TMC	- B	- UIC	- 001	- qmlskq
OptiYard	- SMC	- T	- UIC	- 002	- Oslkqmlj
OptiYard	- WP1	- P	- UIC	- 003	- mlkjsql

For documents being circulated internally without having been uploaded on the Workflow Tool first, there should be significance in the filename as follows: the project name, WP name, Type, partner sharing the document, and filename should be mentioned (i.e. OptiYard_WP1_A_UIC_001_WBS).

6.2.2 Document types

This information will be used to set up the identification code.

Documents are classified among the following types:

Letter	Name	Description
A	Administrative	Any administrative document except contractual documents
B	Meeting Agenda, Presentation or Minutes	Meeting Agenda, Presentation or Minutes
C	Contractual document	Consortium Agreement, Grant Agreement and their approved amendments
D	Deliverable	Deliverable identified as such under the Grant Agreement
E	EC document	Document provided by EC (general rules, guidelines or EC experts documents)
M	Model (template)	MS-Office document templates including OptiYard visual identity

Letter	Name	Description
P	Periodic Report	All intermediate/periodic reports except those listed as deliverables. May be a WP intermediate report or a project intermediate report requested by the Grant Agreement but not listed as deliverable.
R	Deliverable Review Sheet	Filled review sheet used to gather peer review comments on a deliverable. It can be also used to comment any other internal document when explicitly agreed or requested by its owner.
S	Risk Sheet	Filled risk sheet
T	Technical contribution	Technical document contributing to a task/deliverable but not part of the deliverable
W	Proposal	Proposal for changes to the Consortium Agreement or Grant Agreement
X	External document	Document produced by non-members of the project (e.g. papers, reports, external public deliverables...) that, upon authorisation of the author(s), are shared with the project due to its relevancy.

7. QUALITY

7.1 QUALITY MANAGER

During the course of the project, the Quality Manager will be responsible for:

- Check that the project procedures are respected;
- Ensure that the deliverables fulfil the defined quality requirements;
- Maintain version control.

The Project Quality Manager will ensure that each deliverable has followed the appropriate verification and approval process, including the review of the deliverables (see Section 4 Deliverables review). In addition, the Quality Manager is responsible for the quality verification of all deliverables before submission to the S2R JU/EC.

7.2 QUALITY ASSURANCE PROCEDURES

Different methods and techniques will be utilised depending on the specific Quality Assurance (QA) activity. The techniques, tools, and procedures that will be used are:

- Walkthroughs - Formal or informal, structured walkthroughs are used for orientation, examining promising ideas, identifying defects or errors, and improving products at any stage in the process.
- Reviews - An independent evaluation of an activity or process to assess compliance with the Project Plan or to examine products or processes against quality factors through the use of checklists, interviews, and meetings.

- Audits - An independent examination of a work product or process to determine compliance with specifications, standards, contractual agreements, or other pre-established criteria.
- Evaluations - An evaluation activity that examines products/services to determine compliance to customer requirements.
- Process Improvement - A process improvement project designed to reduce the error rate in a process.

QA will provide a review of the processes used at key check points. These reviews will seek to identify risks early, and will simplify monitoring and managing problem areas throughout the project. Due to the dynamic nature of activities, and the need to provide quick response requests, the QA function will identify the sign-off points at key check points of an activity to ensure that expressed goals and requirements are met.

7.2.1 Walkthrough Procedure

Walkthroughs are beneficial for evaluating plans, documentation and other deliverables and serve to orient staff members to new technology products and services. Walkthroughs will be conducted internally and on an as-needed basis – normally in conjunction with TMC Meetings. They will be used to:

- Present plans, documentation, or other deliverables for review and approval.
- Review material in the preparation stages.
- Critique and report quality deficiencies of plans, processes, and procedures.

Walkthroughs will be scheduled early enough in a process to allow for revisions if problems are identified. Records of these walkthroughs will be maintained, along with issues that were identified and the resulting action taken (normally documented in the Issue Log. Issues can be accepted “as is” or may require more work. If further discussion on the issue is required, additional Walkthroughs can be scheduled.

7.2.2 Review Process

Reviews are important to assess compliance with a project plan. Specifically, the review process examines products/services within a quality factors context. Quality factors are categories of product/service attributes. Examples of quality factors include:

- Correctness - The extent to which a product/service satisfies the customer requirements and the stated objectives.
- Timeliness - The product/service is provided when needed to the customer.
- Reliability - The extent to which a product functions accurately or service is provided on a consistent basis.
- Productivity - The amount of resources needed to correctly produce the product or deliver the service, including the relationship between the amount of time needed to accomplish work and the effort expended.

The QA function will plan and conduct a review according to accepted practices and standards. A typical review procedure includes:

- Identification of reviews in the WBS and project schedule.

- Verification that correct review procedures are in place.
- Document review results against quality factors:
 - Verification of deliverable traceability, if applicable.
 - Verification of deliverable against contractual requirements.
 - Verification of deliverable against standards and procedures.
- Validation of corrections by scheduling follow-up actions and reviews.
- Validation that defects or errors are tracked to closure.
- Documentation that review results against product validation information.
- Summary of review findings for other technical groups/organizations (e.g., network engineering).
- Enhanced review procedures.

7.2.3 Audit

The QA function will perform the following activities when conducting an audit:

- Define the scope and purpose of the audit within the audit plan.
- Prepare audit procedures and checklists for the audit.
- Examine evidence of implementation and controls.
- Interview personnel to learn the status and functions of the processes and the status of the products.
- Discuss findings with the Technical Staff and Task Leader.
- Prepare and submit an audit report to the Technical Monitor/Senior Management.
- Refer unresolved deviations to the Technical Monitor/Senior Management for resolution.

7.2.4 Process Improvement

The Beneficiaries are responsible for continuous process improvement. However, the QA function is ultimately responsible for facilitating process improvement by providing the means and mechanisms to do so in an efficient and cost-effective manner. Process improvement is successful when an effective process emerges or evolves that can be characterised as: practiced, documented, enforced, trained, measured, and improvable.

A corrective action plan must be developed when a deficiency in the process is detected. Corrective action should prevent the problem from recurring.

The steps for implementing a process improvement approach are:

1. Detection of quality-related problems
2. Identification of responsibility
3. Evaluation of importance
4. Investigation of possible causes

5. Analysis of problem
6. Preventive action
7. Process controls
8. Disposition of nonconforming items
9. Permanent changes

The QA function will analyze the results of their findings in relation to the results of the documented processes used to produce products or services. This comparison will be used to determine which process may need improvement and to determine the effectiveness of changes to the processes. This comparison will also be used to identify best practices that should be continued or implemented at other sites.

7.2.5 Escalation Procedures

The appropriate escalation of a problem for resolution is:

- Problems are resolved with the appropriate WP Leader, when possible
- Problems that cannot be resolved with the Task Leader are elevated to the TMC
- Problems that have been referred to the TMC are reviewed weekly until they are resolved. Items that cannot be resolved by the TMC within six weeks are elevated to the SMC for resolution

7.2.6 Quality Assurance Metrics

The QA function will work with the TMC and Project Coordinator to identify indicators and their associated measures (metrics) that are needed to control performance and predict the future status of processes used to produce products and services. The metrics will be used to help determine when and where a problem is occurring and what type of impact it will have on the product or service. The metrics will be used to base decisions concerning the selection of best practices to implement in the project.

Metrics that are necessary to monitor the effectiveness of QA processes and procedures are:

- Status of non-conformance items identified
- Status of action items open/closed/on-hold
- Number of days to correct and close a non-conformance item
- Lessons learned

Below is an example of the dashboard for the Issue Log that is used to track the project and measure performance.

APPENDIX - QUALITY ASSURANCE CHECK LIST

Quality Assurance Management Plan

Yes	No	Check List Description
___	___	Are project tracking activities evident?
___	___	Are project tracking and oversight being conducted?
___	___	Are all plan reviews conducted according to plan?
___	___	Are all issues arising from peer reviews addressed and closed?
___	___	Are status and review meetings conducted according to the schedule?
___	___	Is a WBS that supports all deliverables/long term projects developed?
___	___	Have all deviations from standards and procedures documentation been approved?
___	___	Are project roles and responsibilities defined?

Quality Assurance Required Documentation

Yes	No	Check List Description
___	___	Does a Baseline exist?
___	___	Does an Acceptance Plan exist?
___	___	Does a Collaborative Workspace exist?
___	___	Does a Workspace Security Procedure exist?
___	___	Are Documents in the correct format and available in the proper tools/versions