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D6.1 – Project Quality Plan

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Deliverable 6.1. – Project Quality Plan

TwInSolar

(Improving Research and Innovation to achieve a massive integration of Solar renewables)

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Executive summary

The present Quality Plan (D6.1) introduces how the TwInSolar consortium understands and defines quality aspects in project work. This document will set clear guidelines and rules accordingly to ensure high and ambitious quality in both research activities and processes as well as relevant project outputs and deliverables. Therefore, the manuscript introduces three interrelated quality processes – planning, assurance, and control – which have validity and impact on project work from the beginning to its finalization.

- Quality Planning refers to the essential definition of fundamental project policies, document specifications as well as conventions on terminology and time-related matters, which must be dealt with on a regular basis in superordinate project management processes.

- Quality Assurance involves the clear definition of responsibilities and information flows, establishment of transparent Advancement files and iterative exchange amongst all project partners.

- Quality Control defines rules for internal feedback processes of project outputs (internal review process). Further it monitors how feedback is implemented and assures the project outcomes will meet the highest quality standards through proactive risk management.

The Quality Plan is effective throughout the entire lifetime of the project but open to adjustments and optimisation if necessary. The TwInSolar consortium is aware on any content and assures to comply with corresponding rules to the best of its ability.

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1 Introduction

The Project Quality Plan (PQP) is an essential part of the TwInSolar project management. Its purpose is to describe how quality will be managed throughout the project-lifecycle. Quality must always be planned in a project 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 to reach the expected high-quality outcome. To address all quality requirements and quality assurance mechanisms in the TwInSolar project, “Project Quality Plan” at hand has been developed by the project team. This plan acts as the quality bible 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 get on board of the TwInSolar project is described within section 2.

The Quality Management Strategy of TwInSolar is addressed in section 3. It is divided in three key activities:

Project 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 compliance with EC guidelines. A project visual identity represents the project internally, in partners’ organisations as well as externally. To communicate adequately within the project, several tools are established and introduced in this chapter. Regarding the communication with externals a separate deliverable (D5.1) will be dedicated to communication and dissemination strategies. 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 Assurance

Quality assurance involves the clear definition of responsibilities and information flows, establishment of transparent advancement files and iterative exchange amongst all project partners.

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 editor. A proactive risk management has already been mentioned within the DoA. The risk management has been established as planned to guarantee the project quality and avoid delays or failures. Feedback on the project progress and outcomes by the Advisory Board will support the quality controlling and guide the project into the right direction.

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

2 Quality management process

2.1 Overview of TwInSolar

This subsection introduces the project characteristics to allow members to get easier on board and find the most essential information at a glance. Therefore, this section will introduce shortly the main elements of the TwInSolar project in terms of participants, management structure and WPs.

The TwInSolar project involves 5 partners from 3 different countries (see Table 1). TwInSolar aims at strengthening the research and innovation capacities of the UR that belongs to the outermost regions (OR) of Europe to create new opportunities inside and outside of Europe and more specifically in the zone surrounding La Réunion. This capacity building will be done through the establishment of effective partnerships and knowledge transfers with the Technical University of Denmark (DTU) and the Fraunhofer Institute for Solar Energy Systems (Fraunhofer-ISE), which are internationally renowned research organisations, and with the support of the regional R&I agency of La Réunion Nexa and the Conference of Peripheral Maritime Regions (CPMR). Emphasis will be placed on issues related to the massive integration of solar energy production in insular territories.

Table 1: List of participants

Participant #	Official name	Short name	Country
1 (Coordinator)	University of La Reunion	UR	FR
2	Fraunhofer-Gesellschaft zur Foerderung der angewandten Forschung e.V. for its Fraunhofer Institute for Solar Energy Systems ISE	Fraunhofer-ISE	DE
3	Danmarks Tekniske Universitet	DTU	DK
4	Nexa, "Agence Régionale de Développement, d'Investissement et d'Innovation"	Nexa	FR
5	Islands Commission of the Conference of Peripheral Maritimes Regions	CPMR	FR

The WP division in TwInSolar follows a simple logical breakdown, which respects the overall methodology of the project (i.e. knowledge transfers, one research activity, dissemination, and management). To meet the objectives of the project, TwInSolar is sub-divided into 6 WPs:

- **WP1, WP2 and WP3** are the heart of the twinning activities and of the knowledge transfer.
- **WP4** is dedicated to the research activities but it also supports the knowledge transfer by providing a relevant case study for WP2 and WP3.
- **WP5** provides a comprehensive set of communication and dissemination activities to maximize the impact of the project at local and international levels. It also deals with the exploitation plan and the IPR.
- **WP6** is devoted to the management of the project to ensure that all contractual, financial, technical and gender equality obligations are respected.

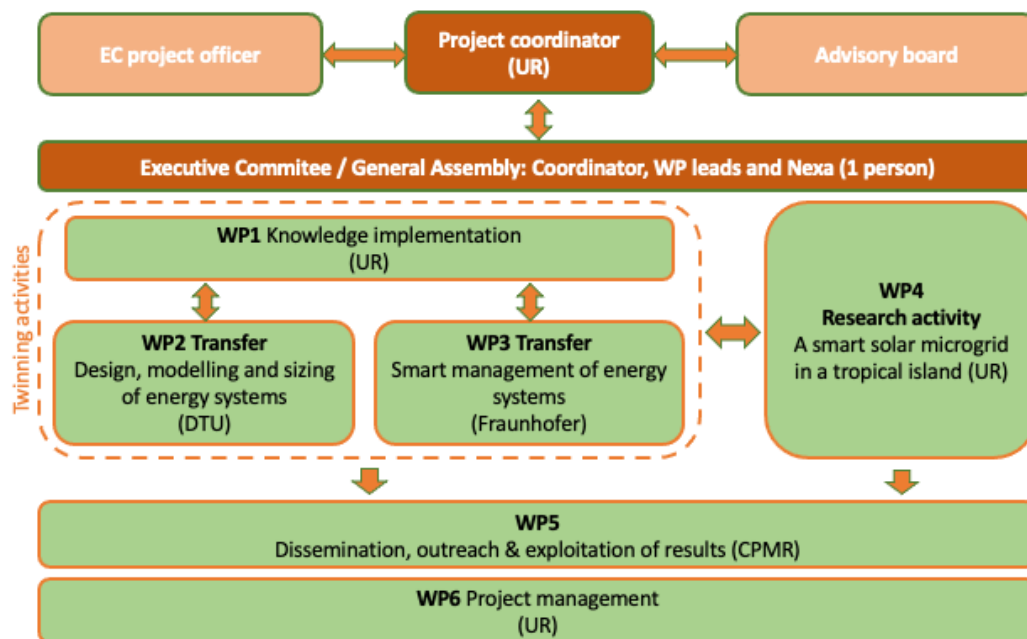


Figure 1: Overview of the TwInSolar project

2.2 Definition of roles

To later understand specific roles and responsibilities this subsection introduces the organisational hierarchy of the TwInSolar project. As already mentioned in the Description of the Action (DoA) and in the Consortium Agreement, the consortium has defined different governing bodies for the governance, execution, control and monitoring of the project. Interactions, responsibilities, and decision-making power are clearly split between the established project bodies as shown in Figure 2.

The **General Assembly** (GA) is the assembly of all partners. It was established briefly within the proposal and therefore included into the Consortium Agreement (see CA 6.1).

“The General Assembly shall consist of one representative of each Party (hereinafter General Assembly Member). Each General Assembly Member shall be deemed to be duly authorized to deliberate, negotiate and decide on all matters listed in Section (CA 0) of this Consortium Agreement. The Coordinator shall chair all meetings of the General Assembly, unless decided otherwise in a meeting of the General Assembly. The Parties agree to abide by all decisions of the General Assembly. This does not prevent the Parties to submit a dispute to resolution in accordance with the provisions of Settlement of disputes in Section 11.8 of the Consortium Agreement. The General Assembly shall be free to act on its own initiative to formulate proposals and take decisions in accordance with the procedures set out herein. In addition, all proposals made by the Executive Board shall also be considered and decided upon by the General Assembly”

The following representatives and deputies have been defined to represent their organisation within the TwInSolar **General Assembly (GA)**:

- UR: Mathieu DAVID (deputy: Philippe LAURET)
- DTU: Nicolaos CUTULULIS (deputy: Peter POULSEN)
- Fraunhofer: Elke LORENZ (deputy: David MELGAR)
- CPMR: Claire HELLY (deputy: Claudia GUZZON)
- Nexa: Evelyne TARNUS (deputy: Philippe HOLSTEIN)

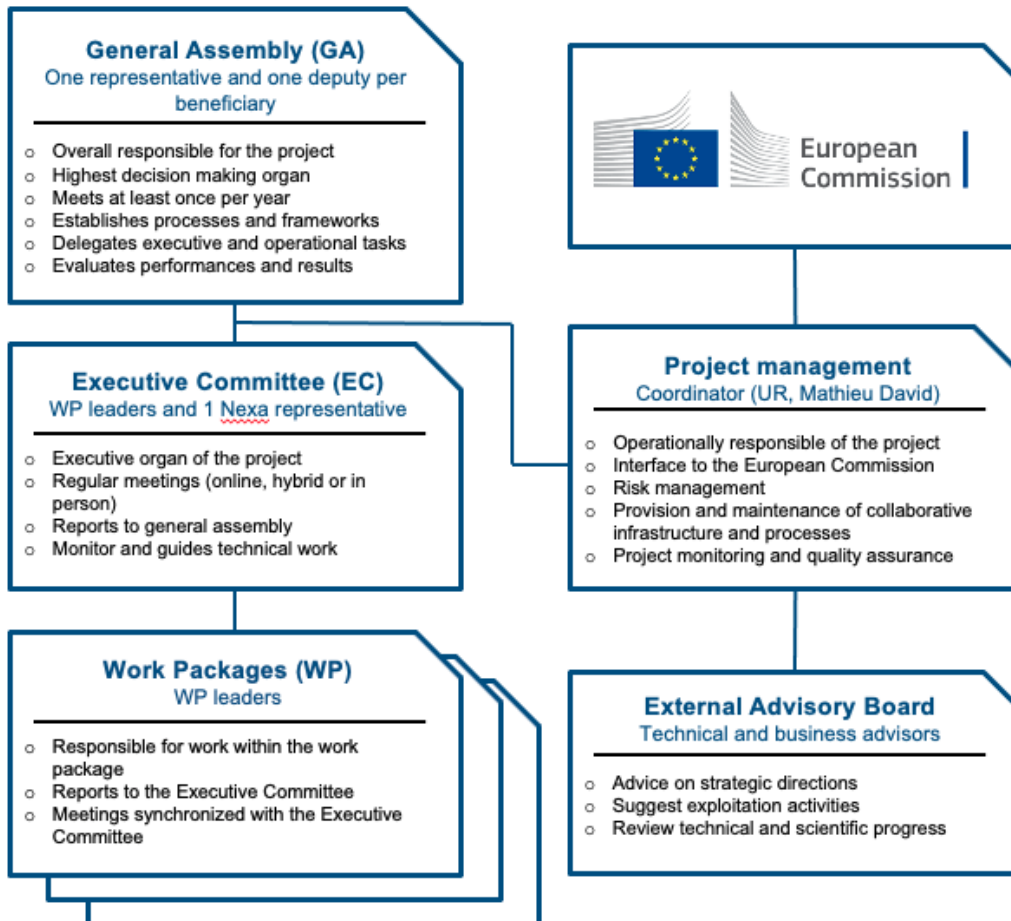


Figure 2 : TwInSolar governance bodies

The **Executive Committee (EC)** is the supervisory body for the execution of the Project which shall report to and be accountable to the General Assembly. It is the assembly of all work package leaders plus a representative of Nexa. It is chaired by the coordinator, Mathieu DAVID from UR. The steering committee continuously tracks and reviews the project process, synthesizes relevant grievances, and processes worthy of discussion to report to the General Assembly.

The following representatives and deputies have been defined for the TwInSolar Executive Committee:

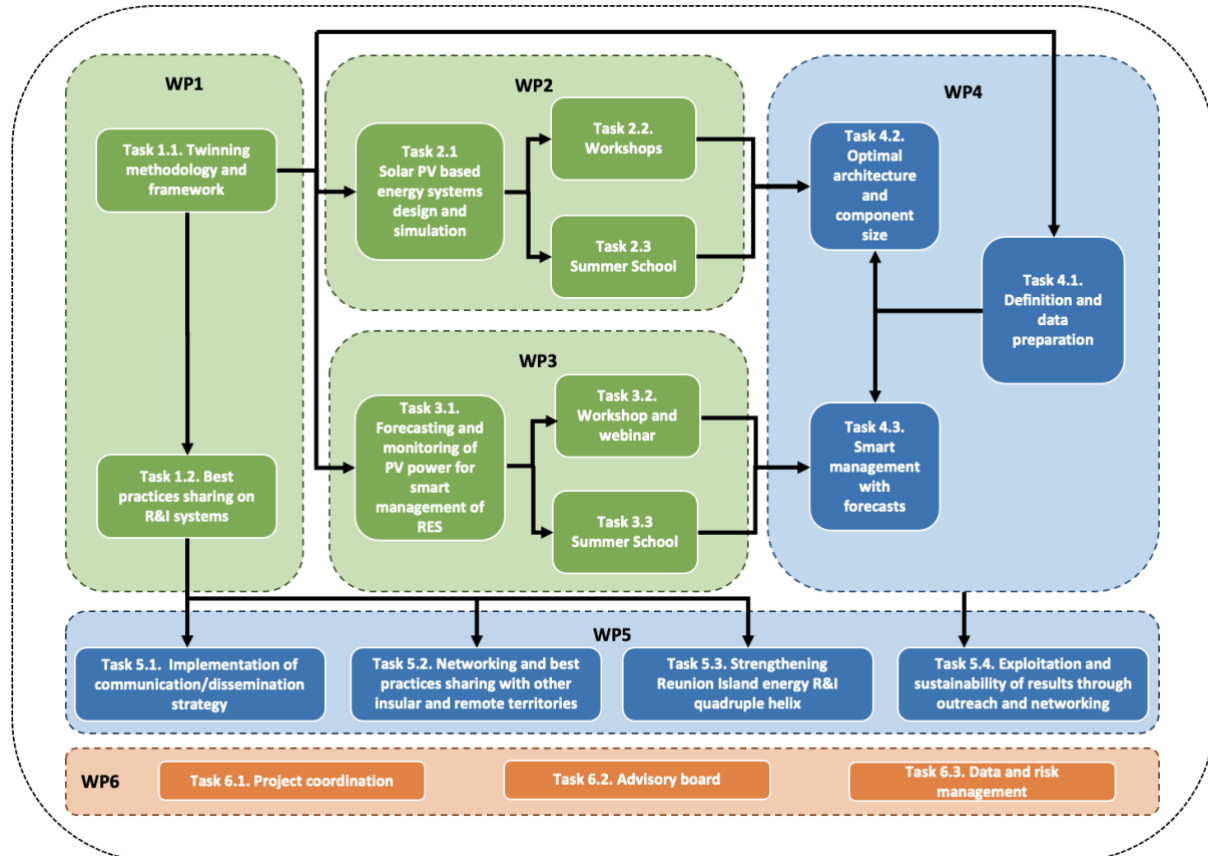
- WP1: UR, Jean CASTAING-LASVIGNOTTES (deputy: Olivier MARC)
- WP2: DTU, Nicolaos CUTULULIS (deputy: Peter POULSEN)
- WP3: Fraunhofer, Elke LORENZ (deputy: David MELGAR)
- WP4: UR, Philippe LAURET (deputy: Josselin LE GAL LA SALLE)

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- WP5: CPMR, Claire HELLY (deputy: Claudia GUZZON)
- WP6: UR, Mathieu DAVID (deputy: Chloé DURIF)
- A representative of Nexa, Evelyne TARNUS (deputy Philippe HOLSTEIN)

2.3 Definition of process flow

2.3.1. Work Packages and tasks plan



3 Quality management strategy

3.1 Quality planning

3.1.1. Project policies

A collaborative framework has been set up for internal documents repository and as an internal communication centre and collaborative editing tool, through the Microsoft TEAMS tool. Key project items such as contractual documents, planning, meeting minutes, deliverables and presentation templates are available on this workspace. Each beneficiary must keep information stored on this platform up to date.

As the project requires frequent communication between partners, they decided to use Zoom as online communication platform. It guarantees efficient and trouble-free internal communication with many features such as polls and break-out rooms.

3.1.2. Project documents

In line with the grant agreement, project documents are classified according to the following types: R Document, report or DATA Data sets, microdata, etc.

The ownership of the documents complies with one of the following codes, indicating the dissemination level: PU -Public, fully open and SEN-Sensitive (restricted to project participants and EC)

3.1.2.1. Contractual documents - Project deliverables

A total of 17 deliverables must be submitted to the European Commission all along the project. All document deliverables for the project should adhere to the following naming convention: YY-MM-DD-TwinSolar_DeliverableNumber_FileName. An incorrect use of the naming convention and/or its application may generate unwanted mistakes and confusions, implying additional workload and costs.

Table 1: Overview of project Deliverables

Deliverable number	Deliverable Title	WP number	Type	Dissemination level	Due date (in months)
1.1	Detailed workplan and timeframe	1	R	PU	2
1.2	Representative case studies	1	R	PU	6
1.3	Best practice guide	1	R	PU	18
2.1	Current and emerging trends relative to solar technologies design and simulations of energy systems	2	R	PU	30
3.1	Current and emerging trends relative to forecasting and monitoring of PV power and smart management of renewable energy systems	3	R	PU	33
4.1	Consolidated microgrid data	4	Data	PU	12
4.2	Microgrid design	4	R	PU	36
4.3	Predictive control of the microgrid	4	R	PU	36
5.1	Communication/dissemination plan	5	R	PU	6
5.2	Best practice online workshops	5	R	PU	31
5.3	Policy brief	5	R	PU	34
5.4	Horizon Europe Forum & International Final workshop	5	R	PU	36
5.5	Exploitation and IRP plan	5	R	SEN	35
6.1	Project Quality Plan	6	R	PU	3
6.2	Data Management Plan	6	R	PU	3
6.3	Carbon Footprint	6	R	PU	36
6.4	Progress report	6	R	PU	17

3.1.2.2. Internal Documents

There are several identified internal documents for the purpose of the project:

- Meeting Minutes: Meeting Minutes are intended to protocol the proceedings, discussions and results of internal meetings. They serve as a memory aid for participants and provide information to project partners that were unable to attend the meeting themselves. They further enable the control of facts and often serve as a

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basis for further work. Following each official consortium meeting the minutes are made accessible to the partners within 10 days on TEAMS. Partners will then have two weeks to make revisions, and the document will be considered as approved by the end of this delay.

- Project presentations: internal presentations in ppt or PDF format are used as a supporting medium for oral presentations in the consortium. They are also made available on the TEAM workspace.
- Recordings: in addition to the meeting minutes, online meetings of special importance will be recorded in whole or in part. The recordings will offer the prevented partners the possibility to inform themselves independently afterwards. This allows every partner to be up-to-date and fully informed on topics deemed important for a successful collaboration.

The versioning convention is as followed Filename_VX (V1; V2; ...) for drafts, in .docx and the definitive version is named Filename_final , in .pdf.

3.2 Quality assurance

The Quality Assurance is an integral part of the project management activities. It focuses on the creation and monitoring of project processes, which need to be performed effectively to reach the specified outcome or produce the envisaged deliverable. It involves the adequate use of tools for quality assurance and a clear and transparent definition of project responsibilities and information flow.

3.2.1. Advancement files

The method/idea of the Advancement files is to establish a tool, which allows and forces partners to provide information regarding their ongoing and planned work as well as their resources spent, disaggregated for certain categories. Such reports, when iteratively updated, as every 6 months, allow the PC to have a good understanding and objective perspective of the status and progress of the work and thereby to detect any delays or deviations.

The Advancement files will include different monitoring sections:

- Financial: the financial follow-up will be tracked by a tool, which disaggregates available budget per partner and activity along the initially defined budget categories. The present budget will be set into context with activity process and required expenditures to reveal any outliers.
- Communication and dissemination: the TwinSolar project aims for ambitious communication and dissemination targets, which include the preparation of scientific papers, reports, newsletters or any conference proceedings, which is in detail incorporated in a separate Communication and Dissemination Plan (5.1.). A tool has

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been developed to continuously track progress in the initially proposed communication and dissemination activities.

- **Technical:** besides the minutes of the committee meetings, the technical section will contain indicators to track the technical process of activities on a WP level. Such indicators will include the rate of progression of the task, the number of milestones achieved and the number of KPI.

The advancement files will be distributed among the partners every six months just before an executive committee meeting. The content will be synthesized and presented to the GA during the consortium meetings.

3.2.2. Project Quality Responsibilities

When initially defining roles of partners and committees to fill within the TwInSolar project, the partners agreed on the responsibilities associated with such tasks, documented in the Grant Agreement and Consortium Agreement. These documents are available to every entity of the project and binding throughout the whole project. For more detailed information the authors of this Deliverable refer to the respective documents.

3.3 Quality control

The Consortium establishes a Quality Control procedure to guarantee the quality of the works to be done along the project. This control procedure will support processes focused on managing the quality of the project's deliverables and the overall project results.

3.3.1. Guarantying the quality of the Deliverables: Internal Review process

To ensure the quality of project Deliverables, an internal review process has been defined. The main goal of this process is to establish internal feedback by partners who did not directly participate as editor to the Deliverable before its submission to the European Commission. As the project only involves a limited number of partners and no complex research activities, the Executive Committee proposes a light procedure as followed.

1. At least 2 weeks before the deliverable release date, the leader and the participants involved in the WP associated with the deliverable propose a first draft. They will be the authors of the deliverable.
2. A participant of the TwInSolar project, who was not involved, reviews the draft within 10 days.
3. The authors finalize the content and the layout of the deliverable. Then, they send it to the coordinator for submission to the European Commission.

Table 2. Authors and reviewers of deliverables

Deliverable number	Deliverable Title	WP number	Author	Reviewer
1.1	Detailed workplan and timeframe	1	Jean CASTAING-LASVIGNOTTES (UR)	GA
1.2	Representative case studies	1	Mathieu DAVID (UR)	DTU/Fraunhofer ISE
1.3	Best practice guide	1	Chloé DURIF (UR)	Evelyne TARNUS (Nexa)
2.1	Current and emerging trends relative to solar technologies design and simulations of energy systems	2	Nicolaos CUTULULIS (DTU)	Jean CASTAING-LASVIGNOTTES (UR)
3.1	Current and emerging trends relative to forecasting and monitoring of PV power and smart management of renewable energy systems	3	Elke LORENZ (Fraunhofer ISE)	Philippe LAURET (UR)
4.1	Consolidated microgrid data	4	Josselin LE GAL LA SALLE (UR)	Mathieu DAVID (UR)
4.2	Microgrid design	4	Josselin LE GAL LA SALLE (UR)	Peter Poulsen (DTU)
4.3	Predictive control of the microgrid	4	Josselin LE GAL LA SALLE (UR)	Elke LORENZ (Fraunhofer ISE)
5.1	Communication/dissemination plan	5	Claire HELLY (CPMR)	Chloé DURIF (UR)
5.2	Best practice online workshops	5	Claire HELLY (CPMR)	Evelyne TARNUS (Nexa)
5.3	Policy brief	5	Evelyne TARNUS (Nexa)	Chloé DURIF (UR)
5.4	Horizon Europe Forum & International Final workshop	5	Claire HELLY (CPMR)	Evelyne TARNUS (Nexa)
5.5	Exploitation and IRP plan	5	Chloé DURIF (UR)	Evelyne TARNUS (Nexa)
6.1	Project Quality Plan	6	Mathieu DAVID (UR)	Peter POULSEN (DTU)
6.2	Data Management Plan	6	Mathieu DAVID (UR)	Elke LOREZ (Fraunhofer ISE)
6.3	Carbon Footprint	6	Chloé DURIF (UR)	Mathieu DAVID (UR)
6.4	Progress report	6	Mathieu DAVID (UR)	GA

3.3.2. Communication outputs quality

As the project involves many communication activities, all must be reviewed before publication:

- Tweets on TwInSolar activities: no validation required,
- Tweets including specific partner description or activity: content of the Tweets must be sent by e-mail for validation by the parties concerned **at least 1 day** before the scheduled release,
- Press releases, news, publications, **at least 2 days** before planned publication.