Technical Report

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Guidelines for
the iMARINE Project Quality Plan

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EXECUTIVE SUMMARY

The objective of this report to define the guidelines for the Quality Plan established for the *iMarine* project. This report focuses on several activities of the project, trying to ensure the achievement of concrete and efficient results.

The different activities of the project are governed by a number of procedures and guidelines described in different project documents: Annex I to the Grant Agreement (Description of Work), Consortium Agreement, individual work package work plans, etc. This deliverable gathers in a single document all this disperse information which together will foster the achievement of the project objectives.

The *iMarine* management structure is based on two ***managerial*** **boards;** one focusing on project strategy and the other focusing on project execution. Working in tandem, the boards will guide the project toward the accomplishment of common objectives. The **Steering Board** will formulate and lead the implementation of the overarching *iMarine* strategy, including the creation of synergies and long-term sustainability within the *iMarine* launched Initiative. The **Project Executive Board** will lead the diverse networking and technologically-oriented activities encompassing the development and implementation of an *iMarine* data infrastructure**.**

A number of procedures are defined for the preparation of **project meetings.** These meetings are organized several weeks in advance following the rules defined for each meeting type. Other procedures exist to prepare the **project reviews** with EC representatives wherein the project's major achievements are presented. These reviews are evaluated, and a number of recommendations are provided to the project in a review report. Such recommendations will be addressed by the project management.

The quality plan defines a **risk management** strategy consisting of two main phases: risk analysis and risk control. A number of possible risks are identified and clear strategies to control them are defined.

The resolution of project conflicts is also controlled. The **conflict resolution** procedure defines which boards are called to intervene when major problems arise.

Concerning **software license**, the default license selected by the project is the EUPL. Other licenses can also be adopted for particular components but must follow a licensing procedure in order to be accepted by the project.

As with any EU funded project, **official reporting** to the EC is an important task. This reporting is based on (1) management reports produced every 5 months covering all project work packages describing the main achievements and problems of the project for that period, and (2) periodic reports prepared **every 10 months** summarizing the work of the period and related financial expenditures of the project.

The preparation of project **deliverables** and **milestones** follows a strict procedure to ensure that all official documents (or others) are of high quality and are made available on time. Deliverables must be ready 15 days before their due date. After a period of official review, all deliverables are sent to the Steering Board for approval. At the end of this process they are dispatched to the EC. These procedures also define rules concerning naming, monitoring, and templates.

The project **dissemination** is governed by a number of guidelines to be applied when a member of the consortium: writes an article, presents the project in conferences, needs to user the project logo, etc.

Also important, are the **technical procedures** that guide the daily technical activities of the project. These procedures cover different aspects, from the development of code to its deployment in production.

To support all these procedures and guidelines, the project decided to adopt a number of **collaboration tools**: BSCW as document repository, TRAC as issue tracking system, Mediawiki for collaborative editing, mailing lists, etc.

1 QUALITY ASSURANCE TASK FORCE

Quality Assurance is a dedicated task under the Work Package 1 "Administrative and Financial Management". To implement all the activities related to Quality Assurance, a special task force has been formed. This task force is called the Quality Assurance Task Force (QATF). Monthly e-mails on projects specific processes (e.g. deliverable production, milestone, achievement, publication approval) will be distributed to the *iMarine* consortium in the form of "Quality Assurance Reports". These reports will be produced by the WP1 leader, who serves as chair of the Quality Assurance Task Force.

1.1 MANDATE

The mandate of the QATF is to ensure that the project processes, services and deliverables are of high quality by continuously monitoring and assessing the progress and results of the project.

1.2 RESPONSIBILITIES

The main responsibility of the QATF is to manage the project Quality Plan. This includes the definition, elaboration, update, and monitoring of such plan.

The project operation is based on a number of management and administrative procedures defined in various official documents, i.e. the project's Technical Annex (Annex I or Description of Work), other *iMarine* Grant Agreement Annexes, and the project Consortium Agreement. These procedures are complimented by other more fine-grained procedures defined to regulate other activities of the project. The QATF is responsible for describing such procedures in the Quality Plan and enforcing its execution to guarantee a successful achievement of the project objectives. Moreover, technical procedures are also linked to the Quality Plan.

Project reporting, deviations from the work plan, resources spent, deliverable quality, review reparation and post-review follow-up, activity-specific process, and document management are all examples of the activities belonging to the realm of the QATF.
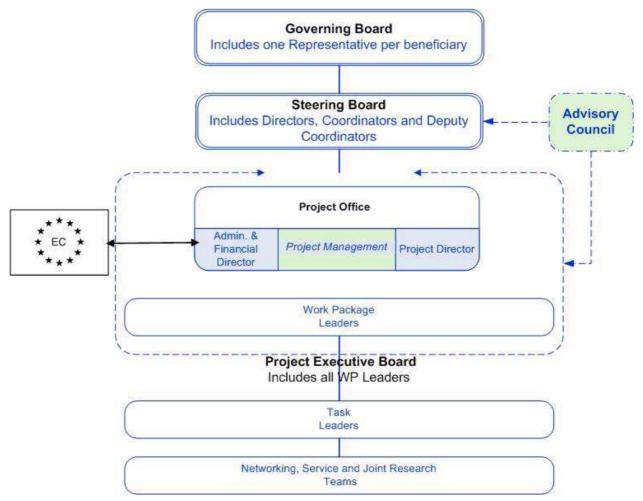
Finally, the QATF is in charge of the preparation of a statement on the treatment of gender equality.

2 PROJECT GOVERNING BOARDS

The *iMarine* project structure distinguishes between the Governance and the Management of the project.

Governance is administering to the project and exercising authority over the management decisions that are made therein.

- The **Governing Board** will make decisions that have a direct legal or financial impact on project beneficiaries. Below the authority of the Governing Board are the *managerial* boards, each with a different set of responsibilities aiming at the accomplishment of common objectives.
- The **Steering Board** will engage in *iMarine*'s strategy development. It is held accountable for the overall success of the project.
- The **Project Executive Board** executes on behalf of the Steering Board, and makes sure that the work packages produce the required deliverables to the identified standard of quality, on time and within budget.
- An **Advisory Council** composed of high level leaders and champions of Ecosystem Approach initiatives will orient the work of the iMarine Board but can also serve to consult either one for the managerial boards as appropriate. The functions and members of the boards will be detailed in the sections to follow. Please find below a diagram depicting the project structure designed for the development of the *iMarine* Data e-Infrastructure.

2.1 PROJECT GOVERNANCE

The Project Governance operates through the Governing Board.

The **Governing Board** is responsible for decision-making on matters having a direct legal or financial

impact on project beneficiaries. There will be one appointed representative per beneficiary on the Governing Board, and this person must have the authority to make any decision required of them. Members of the board will be encouraged to remain committed to their responsibilities by following the evolution of *iMarine* for the duration of the project.

The Governing Board will ensure that the EU Grant Agreement is properly executed and that the terms of the agreed consortium agreement are properly implemented. The following issues must be addressed by the Governing Board:

- Evolution of the consortium (i.e., entry of a new beneficiary, termination of a beneficiary's participation) and the associated consortium agreement;
- Re-allocation of the European Union financial contribution between beneficiaries;
- Assessment of the performance of the Steering Board (the strategic management body) and approving replacements to the Steering Board if necessary;
- Judging the necessity of prematurely terminating the participation of a beneficiary, the consortium agreement, or the project itself;
- Evaluating any other proposals made by the Steering Board.

These types of governance decisions will require two-thirds of the votes, with one representative per partner voting on behalf of his or her organisation. The Governing Board will meet in person at least once per year, with telephone conferences convened as relevant issues arise. Electronic voting outside the annual meetings of the Governing Board will be authorised. The Governing Board is chaired by the Administrative and Financial Director.

2.2 PROJECT MANAGEMENT

Overall project management is shared between the **Administrative and Financial Director (i.e., Coordinator)** and the **Project Director**. The former directs financial management and administration, while chairing the project's governing board to hold the consortium accountable, financially and ethically, to the European Union for the use of funds to achieve the project objectives and provide a return on investment.

The latter coordinates the overall project management activities of the project, leading inter- and intra-project interactions and chairing the project's strategic management board (i.e., Steering Board). The complementarities of the roles allow each person to focus on achievement of the project work plan from different perspectives. Overall project management and coordination is therefore divided between two work packages:

- WP1 Administrative and Financial Management, dedicated to overall project administration and quality assurance, including EU reporting and consortium management; and
- WP2 Project Management, dedicated to coordinating the overall scientific and technical management of the project across all activities by developing strategy, promoting an efficient collaboration environment, monitoring execution of tasks and performing risks analyses.

This clear separation between project administration (WP1) and management (WP2) provides a structure in which the coordinators can provide: (i) efficient administrative and financial management; and (ii) thorough multi-disciplinary scientific and technical coordination. Furthermore, project coordination activities will be supported by a Project Office.

A main responsibility of the Project Office will be to manage the reimbursement requests of iMarine Board members who are not included as a beneficiary to the EU Grant Agreement. Additionally, the Project Office provides support and/or management of sub-contracting agreements with partners identified in the present work plan. Project assistants will be working to ensure the timely delivery of financial statements and assist with the organisation of events such as project meetings, workshops, review meetings, etc.

The Administrative and Financial Director (AFD) is the recognized project Coordinator and serves as the official contact point for the European Commission. The AFD directs the administrative and financial management across work packages and reporting across partners. Legal issues such as the handling of Intellectual Property Rights and the maintenance of the consortium agreement fall into the realm of the

AFD and her team. The AFD will manage from the Project Office and leads WP1.

The Project Director (PD) is the designated project manager, and will lead the scientific coordination of the project. The PD supervises the project across all activities and is responsible for creating the conditions necessary for successful and effective collaboration of the large and diverse iMarine team. The PD's high-level view permits her to also serve as the ambassador of the project, establishing meaningful cooperation with other projects and initiatives and representing the iMarine to various scientific user communities. The PD leads WP2 and is represented.

2.2.1 PROJECT MANAGEMENT BOARD

Within the project structure are two *managerial* boards; one focuses on project strategy and the other focuses on project execution. Working in tandem, the boards will guide the project toward the accomplishment of common objectives. The **Steering Board** will formulate and lead the implementation of the overarching *iMarine* strategy, including the creation of synergies and long-term sustainability within the *iMarine* launched Initiative. The **Project Executive Board** will lead the diverse networking and technologically-oriented activities encompassing the development and implementation of an *iMarine* data e-Infrastructure. The responsibilities of the two boards are described in the following sections.

2.2.2 STEERING BOARD

The *iMarine* Steering Board will be held accountable for the success of the project. It is responsible for making sure that the expectations set out by the project objectives are met. The members of the Steering Board are empowered to make strategic decisions in the interests of the project and encompass the project's main stakeholders. The members are senior enough to make decisions and expert enough in their field to add essential knowledge, skill and experience.

The Steering Board will bring together the perspectives of the funders (Administrative and Financial Director), the developers of the *iMarine* data e-Infrastructure (Project Director, Technical Director and Deputy) and the users coming from the Community of Practice (*iMarine* Board Coordinator and Deputy). The Steering Board will be required to make many important decisions throughout the life of the project, and it is vital that decisions are sufficiently well balanced across these perspectives.

These diverse interests will be led by the Project Director who will organise and chair meetings of the Steering Board. The Steering Board will be able to proceed to vote when necessary, with the requirement of a *two-thirds* majority. The Steering Board will hold monthly telephone conferences and meet in person at least *three times per year*.

2.2.3 PROJECT EXECUTIVE BOARD

The **Project Executive Board (PEB)** supervises the daily project management processes, including the initiation, planning, execution, control, and closure of project phases. The PEB reports to the Steering Board. The PEB consists of all **Work Package Leaders** and will be open to information system specialists (User Community Mediators) from the *iMarine* Board.

The PEB is chaired by the **Technical Director**. The Technical Director will lead the technical coordination of the project. The engagement of the Technical Director in multiple heterogeneous activities makes him the best person to provide detailed resource allocation and scheduling, while monitoring the time schedule and the timing of related activities. Therefore, the Technical Director becomes a close advisor to the Project Director who employs a high-level approach to the supervision of the project across activities.

A **Deputy Technical Director** will be elected by the Work Package Leaders at the first meeting of the PEB. Voting of the PEB will require a *two-thirds majority.* The PEB will meet in person at least *four times per year*, with telephone conferences once per month as a minimum. Electronic voting of the PEB will be authorised.

2.2.4 TECHNICAL COMMITTEE

The management and operation of a Data e-Infrastructure offering services to support the EA-CoP is a primary objective of *iMarine*, along with the extension, adaptation and deployment of a rich set of

software components that implement the above services. The **Technical Committee** exists to address the complex technical work required to deploy and operate the *iMarine* data e-Infrastructure and virtual Research Environments, and the development, deployment and integration of the enabling-technologies. For the achievement of these objectives, intense coordination will be required between the developers of the *iMarine* data e-Infrastructure and the information system specialists (User Community Mediators). The Technical Committee is designed to ensure that there is sufficient interaction between the resource providers of the data e-Infrastructure and the thematic practitioners. Thus, the User Community Mediators will play a critical role in the Technical Committee and they will be invited to participate fully in these meetings. The Technical Committee provides feedback to the PEB for implementation and alignment actions.

The Technical Director will chair meetings of the Technical Committee, which will always meet in parallel with the PEB (i.e., quarterly).

2.2.5 IMARINE BOARD

Note that the iMarine Board is not a governing board nor a managerial board, but is mentioned here for clarity. The iMarine Board has as it's mission *to define the data e-Infrastructure governance model, with a sustainability focus, and to formulate a set of organizational and technological policy recommendations regulating the resources shared and services provided by the infrastructure*. The iMarine Board is overseen by an iMarine Board Coordinator and Deputy, both of whom are represented on the Steering Board.

3 COLLABORATION TOOLS

In order to support the cooperation among the members of a widely distributed consortium such as *iMarine*, a comprehensive and complementary set of tools is offered to project members. These tools range from mailing lists to shared workspaces, wikis, software repositories and issue trackers. Moreover, multiple instances of the same technology will coexist to properly satisfy the needs arising in different contexts, e.g. multiple instances of wiki will be created to host diverse information and thus serve different clientele.

Thus, the same technology will be deployed in multiple instances conceptually leading to multiple tools tailored to serve specific *iMarine* application scenarios.

A complete iMarine Internal Working Area (available through the project website) will provide direct access to all of the collaborative tools implemented, and the technical Wiki and the shared workspace(BSCW) in particular.

3.1 IMARINE WEB CHANNEL

The project website is called the "iMarine Web Channel": www.i-marine.eu. The web-based platform is an integrated, interactive and community-centric system serving as a single access-point for information about the project.

Given the "one-stop" characteristic of the web channel, it is imperative that all project participants register for its use. When first joining the project, you must request a *username* and *password* from the QATF.

These credentials will then be used for accessing every tool supporting project activities. However, in order for access the technical Wiki directly (without passing through the web channel).

3.2 PROJECT

The Project group of tools consists of various services strictly related to the operation of the project as a whole. In particular, the following services will be deployed:

- Collaborative Working Space Service
- Mailing List Service
- Research Infrastructures Administration Toolkit
- Quality Assurance Documentation Service
- Community of Practice

3.3 TECHNOLOGY

The Technology group of tools consists of various services strictly related to the machinery guaranteeing the operation of the *iMarine* Ecosystem, namely gCube and gCore technologies. In particular, the following services will be deployed:

- gCube System Web Site
- Issue Tracker System
- Code Repository Service
- Technology Documentation Service

3.4 INFRASTRUCTURE

The Infrastructure group of tools consists of various services strictly related to the operation of the *iMarine* project. In particular, the following services will be deployed:

- A Wiki documenting the Infrastructure including the procedures, policies and deployment plan.
- A Wiki documenting the Virtual Research Environments operated by the project including the procedures, policies and deployment plan.

4 REVIEWS AND MEETINGS

4.1 REVIEW PROCEDURE

The aim of a technical audit or review is to assess the work carried out under the project over a project period (i.e. 10 months) and provide recommendations to the European Commission. Such review covers managerial, scientific, technological, policy development and other aspects relating to the proper execution of the project.

The mandate of the project is to ensure that project's external evaluators can review the degree of fulfilment of the project work plan for the period; the continued relevance of the objectives and breakthrough potential with respect to the scientific and industrial state of the art; the resources planned and utilised in relation to the achieved progress, in a manner consistent with the principles of economy, efficiency and effectiveness; the management procedures and methods of the project; the beneficiaries' contributions and integration within the project; the expected potential impact in scientific and technological terms, and the plans for the use and dissemination of results.

At the end of the project a final review is planned where all envisaged outcomes must be demonstrated to the project's external evaluators.

Review meetings are thus a fundamental conduit to communicate to the European Commission the progresses, the achievements, the added-value, and the plan of the project consortium.

4.2 REVIEW RECOMMENDATIONS

At the end of the review meeting, the external evaluators prepare a report with their findings. This report contains an assessment of the facts as well as suggestions for further actions or changes. These recommendations and requested actions have to be properly addressed by the consortium.

4.3 MEETING PROCEDURES

The procedures described in this section apply to all meetings of the Governing Board, Steering Board and Project Executive Board. Meetings of project boards can be held by summit in a location identified by the chairperson of that project board, can be a teleconference, or can be organized by exploiting any other available telecommunication means.

Any member of a project governance or management board should be present or represented at any meeting of such project board. If his/her participation cannot be assured, he/she may appoint a substitute or a proxy to attend and vote at any meeting. Moreover, the participation has to be cooperative and aimed to meet the needs of the project.

The meetings of the project boards can be ordinary or extraordinary and are convened by the chairperson of the board who shall give notice in writing of a meeting and prepare and send the final agenda to each member of that project board as soon as possible and within a minimum number of days preceding the Meeting.

Any agenda item requiring a decision by the members of a board must be identified as such on the agenda.

Any member of a board may add an item to the final agenda by written notification to all of the other members of that project board within a minimum number of days preceding the meeting.

Each project board shall not deliberate and decide validly unless a quorum of two-thirds (2/3) of its members is present or represented. Each member of a project board present or represented in the meeting shall have one vote.

The minutes must be made available within 10 calendar days after the meeting through an online page under the Quality Assurance wiki site by ensuring the right confidentiality. The wiki page will be editable until the minutes are accepted.

The minutes shall be considered as accepted if, within 15 calendar days from sending, no member has objected in writing to the chairperson with respect to the accuracy of the draft of the minutes. If a party objects in writing to the accuracy of the minutes, and all other parties agree that the minutes are correct, then the objecting party will be overruled.

The accepted minutes shall be sent to all of the members of the project board and the AFD, who shall safeguard them. When requested, the AFD shall provide authenticated duplicates to parties.

A member who can show that its own work, time for performance, costs, liabilities, intellectual property rights or other legitimate interests would be significantly affected by a decision of a project board may exercise a veto with respect to the corresponding decision or relevant part of the decision.

When the decision is foreseen on the original agenda, a member may veto such a decision during the meeting only. When a decision has been taken on a new item added to the agenda before or during the meeting, a member may veto such a decision during the meeting and within 15 days after the minutes of the meeting are sent.

In case of exercise of veto, the members of the related project board shall make every effort to resolve the matter which occasioned the veto to the general satisfaction of all its members.

A party may not veto decisions relating to its identification as a defaulting party. The defaulting party may not veto decisions relating to its participation and termination in the Consortium or the consequences of them. A party requesting to leave the consortium may not veto decisions relating there to.

5 RISK MANAGEMENT

The goal of the risk management activity is to provide the consortium with guidelines and instruments for managing the project actual and potential risks that can occur during the project lifetime.

In this report, the principles of risk management are roughly established in Appendix A, aiming to define the procedures that will render the activity an essential tool for safeguarding the project objectives. In accordance to the *iMarine* work plan, the details of risk management methodology are captured in a deliverable dedicated to this activity. As such, it is not the objective of the Quality Plan to define precise risk analysis metrics or to perform risk enumeration.

However, the procedures described here will exploit Risk Management terms and procedures, whose contextual meaning is given in the aforementioned appendix.

5.1 RISK ANALYSIS

Risk Analysis procedure is carried out as part of a dedicated deliverable production, orchestrated by the QATF. However, as several individuals are involved in the preparation of this deliverable, who are also permanent participants of the Risk Management procedures, the tasks and steps of Risk Analysis have to be further defined *a priori*.

5.2 RISK CONTROL

Risk Control involves three individual steps, starting from Risk Analysis output:

- Risk Control Plan: foresees the involvement of the Technical Director, Work Package and Task Leaders. These members of the project work team closely follow all the activities of their area and they are the best candidates to identify the status of a risk and reduce its probability of occurrence or recover by a damage, by implementing the required countermeasures.
- Risk Monitoring: which is performed continuously and formally tracked in the Quarterly Reports.
- Risk Resolution: where proposals are led through the Steering Board and the rest of the project's mechanisms, after being pointed out by the QATF through the Bi-monthly Reports.

6 CONFLICT RESOLUTION

Conflict resolution in *iMarine* refers to situations that can potentially occur among elements of the project. Cases of conflict resolution can be found below:

- Partner(s) to partner(s) conflict within the scope of a single activity;
- Partner(s) with project management boards;
- Non-voting board conflict;
- Voting board conflict;
- Document conflict.

The above categories are not exhaustive.

6.1 DOCUMENT CONFLICT RESOLUTION

A completely different type of conflict is the one that can occur among documents of the project. In this case the following order is maintained:

- Grant Agreement;
- Consortium Agreement;
- Other document (deliverable, minutes, internal document exchange).

Unless an error is identified, deliverables approved by the project bodies prevail over all other internal documents. Otherwise meeting minutes formally circulated take precedence.

6.2 PARTNER CONFLICT RESOLUTION

The term "conflicting partners" is used but should be read in the sense of a single partner entering conflict with a governing or management board decision.

As *iMarine* is a collaborative project, its main concern is the maintenance of best relationships among its project's members as organizations, teams, and individuals. Thus the general policy of conflict resolution is to suggest conversation and smooth diminishment of any disagreement or concern without reaching the top-level project's instruments for final action. As such, voting, also escalated among different boards, is left aside as the last resort of resolution. Although it is a major concern of the project that even voted decisions are taken unanimously, it is enough that two-thirds approval is required for a decision to be taken. Yet, even in the case of non-unanimous voting it is considered that decisions have to be generally welcomed, thus post-voting deliberations are suggested, if they can drive a full agreement under the light of the majority-favoured voted decision.

Within this conflict resolution chain, the Governing Board is the ultimate decision-making body for making a decision within the project's limits. This board comprises one representative per partner. The Steering Board is the second board usually involved within this escalation procedure.

7 ACTIVITY REPORTING

Activity reporting assists project management, and the European Commission, to monitor project progresses, achievements and difficulties encountered. During the course of the project, activity reporting will be conducted in three forms: (*i*) *Periodic Reports* prepared every 10 months by Work Package Leaders and Governing Board members; (*ii*) *Effort Reporting* prepared per partner every two months; and (*iii*) *Monthly Activity Reporting* prepared per partner and summarized by work package leaders every month.

It is possible that partners will be requested to participate in other types of reporting throughout the project and after its completion. Examples of additional types of obligations include responding to: questionnaires for socio-economic reporting, implementation of gender actions, and impact on science and society; evaluation and monitoring exercises; contribution to standardization activities; etc.

7.1 PERIODIC REPORTS

Three periodic reports will be produced during the course of the project. The management must submit the periodic reports within 60 days of the end of each reporting period, thus partners must strictly adhere to the deadlines that will be established for contributing to the production of the periodic reports.

This activity will be implemented by relying on the Basic Shared Collaborative Workspace service.

This deliverable will be produced by following the template produced by the EC.

Deadlines for contributions will be established at least 30 days prior to the end of the reporting period. The production of this report implies actions from work package leaders and beneficiaries.

Prior to the submission of any periodic report, the Steering Board must validate the work package contributions. The Steering Board members reserve the right to edit the contributions of the work package leaders, requesting more information as necessary.

Every Beneficiary will be required to provide a thorough "Explanation of the use of the resources", including an explanation of personnel costs, subcontracting and any major costs incurred by the partner, such as the purchase of important equipment, travel costs, large consumable items, etc., linking them to work packages. Beneficiaries will also provide Financial Statements, or Form Cs.

7.2 EFFORT REPORTING

All beneficiaries will be requested to provide a bi-monthly report on effort spent, per task, in alignment with the production of the monthly reports. One person per beneficiary should be designated to report effort for the two-month period.

7.3 MONTHLY ACTIVITY REPORTS

All beneficiaries and work package leaders are required to participate in monthly activity reporting as a contribution to the discussions of the Project Executive Board concerning the achievement of the project work plan.

The monthly activity report is organized in two parts:

- Progress and Achievements by WP and beneficiary reports a detailed description of the activities, issues and corrective actions, and major achievements produced by each beneficiary at the level of Project task.
- Progress and Achievements at the Work Package level reports a concise overview of the activities, issues and corrective actions, and major achievements produced by each WP leader.