



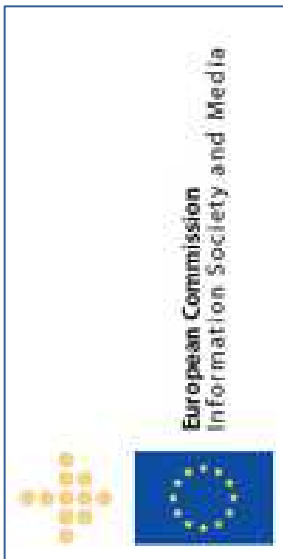
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<i>Project Title</i>	<i>Data e-Infrastructure Initiative for Fisheries Management and Conservation of Marine Living Resources</i>
<i>Project Number</i>	<i>283644</i>
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<i>Authors</i>	<i>Leonardo Candela, Jessica Michel, Linh Nguyen, Pasquale Pagano</i>

Describes how the project will collaborate to deliver a data e-Infrastructure meeting the expectations of those who use it.

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DISCLAIMER



iMarine (RI – 283644) is a Research Infrastructures Combination of Collaborative Project and Coordination and Support Action (CP-CSA) co-funded by the European Commission under the Capacities Programme, Framework Programme Seven (FP7).

The goal of iMarine, *Data e-Infrastructure Initiative for Fisheries Management and Conservation of Marine Living Resources*, is to establish and operate a data infrastructure supporting the principles of the Ecosystem Approach to Fisheries Management and Conservation of Marine Living Resources and to facilitate the emergence of a unified Ecosystem Approach Community of Practice (EA-CoP).

This document contains information on iMarine core activities, findings and outcomes and it may also contain contributions from distinguished experts who contribute as iMarine Board members. Any reference to content in this document should clearly indicate the authors, source, organisation and publication date.

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GLOSSARY

ABBREVIATION	DEFINITION
AFD	Administrative and Financial Director
BCSW	Basic Shared Collaborative Workspace
CERN	European Organization for Nuclear Research
CNR	Consiglio Nazionale della Ricerche (National Research Council)
CoP	Community of Practice
EA	Ecosystem Approach
EA-CoP	Ecosystem Approach Community of Practice
EC	European Commission
ERCIM EEIG	European Research Consortium for Informatics and Mathematics, an European Economic Interest Grouping
GB	Governing Board
iMarine	Data e-Infrastructure Initiative for Fisheries Management and Conservation of Marine Living Resources
NKUA	National and Kapodistrian University of Athens
PEB	Project Executive Board
QATF	Quality Assurance Task Force
PD	Project Director
SB	Steering Board
Tcom	Technical Committee
TD	Technical Director
VRE	Virtual Research Environment

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DELIVERABLE SUMMARY

Quality Assurance is an important task within the scope of any IT project. The implementation of such activity is usually defined through a Quality Plan.

The objective of this deliverable is to report the Quality Plan established for the *iMarine* project. This plan covers many activities of the project by gathering procedures concerning different managerial and technological aspects of the project. The ultimate objective of this Quality Plan is to ensure the production of concrete and high-quality results inline with the project plans.

EXECUTIVE SUMMARY

The objective of deliverable D1.1 is to report the Quality Plan established for the *iMarine* project. This plan 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 use 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 project 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 MEMBERS

The QATF is composed of the Chair of the Quality Assurance Task Force and members:

- Chair: Philippe Rohou (ERCIM)
- Member:
 - CNR: Pasquale Pagano and Leonardo Candela
 - CERN: Andrea Manzi
 - ERCIM: Linh Nguyen

1.3 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.

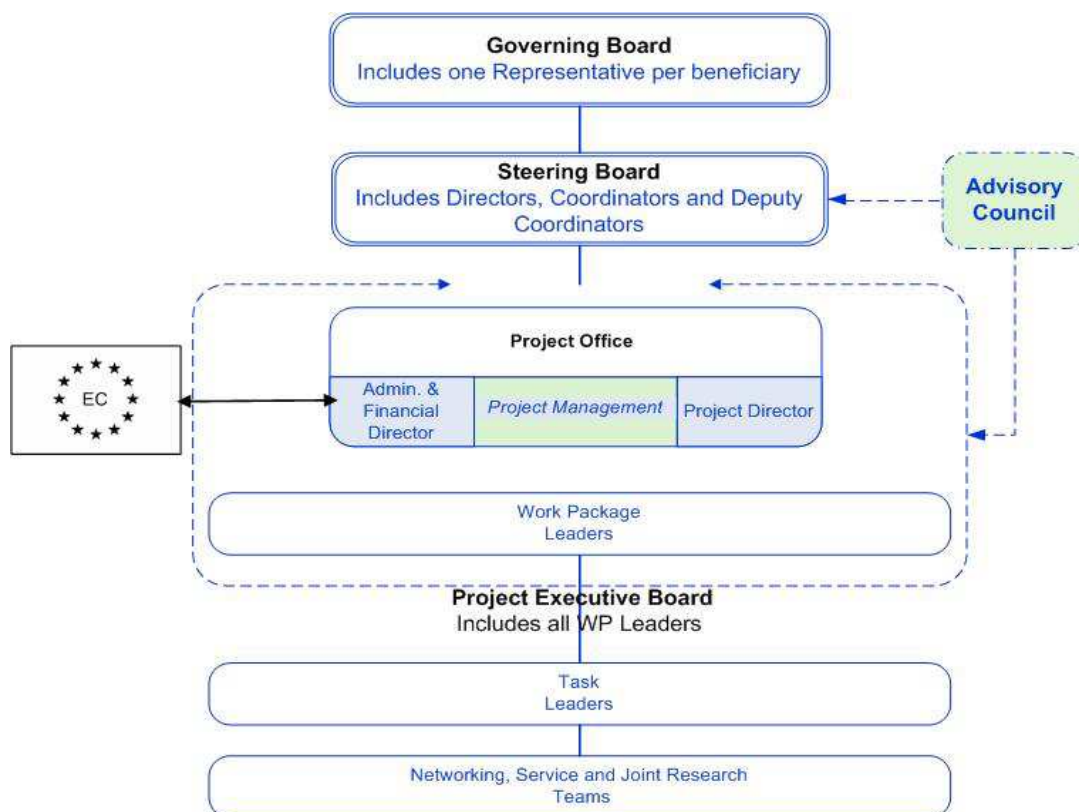
Project reporting, deviations from the work plan, resources spent, deliverable quality, review preparation and post-review follow-up, activity-specific process, and document management are all examples of the activities belonging to the realm of the QATF.

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.¹

- 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.



¹ The “Consortium Agreement” was signed by all project beneficiaries prior to the launch of the project is primarily concerned with project governance mechanisms.

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**, including project assistance in both Sophia Antipolis (FR) and Pisa (IT).

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 in Sophia Antipolis. The AFD leads WP1 and is represented by GEIE ERCIM.

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 by CNR-ISTI in Pisa.

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.

Work Package Leaders have these general responsibilities:

- To be informed on the status of the tasks within his/her work package;
- To advise the PEB on decisions that must be made in relation to his/her activity area (e.g., Networking, Service, Joint Research);
- To contribute to the tasks of the PEB.

Consequently, the PEB will be empowered to:

- Support the Technical Director in coordinating relationships across the Technical Committee and the *iMarine* Board;
- Coordinate implementation across all activities (e.g., Networking, Service, Joint Research);
- Implement feedback from the Technical Committee, *iMarine* Board;
- Align with and contribute to standardization bodies;
- Maintain a record of risks to the project, together with mitigation plans and actions;
- Provide detailed technical effort re-planning to face project deviations;
- Keep a record to demonstrate that changes to scope, timescale or resources allocation have been approved by the persons having authority to do so;
- Assess progress of work and achievements of the work packages;
- Regularly and sufficiently inform the Steering Board of progress through reports and forecasts.

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. The role of Technical Director is assigned to CNR-ISTI.

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 its 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.

The iMarine web channel benefits the following stakeholders:

- internal project members – providing them communication material on the project, a one-stop access to the internal projects sites & tools (technical Wiki, shared workspace (BSCW)) and will also provide a link for the project reviewers (if necessary) to access all material for the review;
- iMarine Board Members – providing them information on the project, as well as a one-stop access to the iMarine Board Area which hosts their specific discussion forum and file repository (accessible only by Board members and selected project partners);
- iMarine Community Members – providing access to specific content and areas on the channel as well as proposing them individual content according to their profile, interests and navigation history;
- General public – providing them multimedia information on 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 (gatf@imarine.research-infrastructures.eu).

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), the following brief procedure should be performed:

1. *login* www.i-marine.eu;
2. click on “Internal Area” in the topmost menu;
3. click on “Technical Wiki” item and log in by using the above credentials.

This way a Wiki user will be created (corresponding to the above credentials) and from this point on it might be possible to access the Wiki directly.

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 have been deployed:

- Collaborative Working Space Service
 - <http://bscw.i-marine.research-infrastructures.eu/bscw/bscw.cgi>
A service based on the BSCW technology² to provide its users with a cooperative support service through which project members can share documents and other material, manage appointments, contacts, tasks, notes, create blogs, use polls to sample teammates' opinions, use versioning, stay aware of teammates' activities, send reminders, etc.
- Mailing List Service
 - A comprehensive set of mailing lists have been created to be used as official communication channels to reach the project members involved in the various activities and bodies:
 - Project as a whole mailing lists:
 - all@imarine.research-infrastructures.eu: Limited to all project beneficiaries and subcontracted parties, but not limited to the number of subscribers per party. "All" is used for the diffusion of general internal project information.
 - Project management mailing list
 - gb@imarine.research-infrastructures.eu: "gb" for Governing Board. Limited to the following: 1 Governing Board member per beneficiary + 1 Deputy GB member per beneficiary=2 subscribers per beneficiary.
 - peb@imarine.research-infrastructures.eu: "peb" for Project Executive Board. Limited to the following: 2 subscribers per Work Package (the WP Leader + his/her Deputy).
 - sb@imarine.research-infrastructures.eu: "sb" for Steering Board. Limited to the following: Steering Board members only.
 - qatf@imarine.research-infrastructures.eu: "qatf" for Quality Assurance Task Force. Open to volunteers for the Quality Assurance activity (monitoring and communication).
 - admin@imarine.research-infrastructures.eu: "admin" for Administrative staff of project beneficiaries. Important for end of period reporting requirements (e.g., cost statements, payments).
 - tcom@imarine.research-infrastructures.eu: "tcom" for Technical Committee. Subscription to this mailing list is open to anyone with the intention of following *iMarine's* technical development activity. Information about Technical Committee meetings is sent through this mailing list.
 - Work packages:
 - wp3@imarine.research-infrastructures.eu: For WP3 *Governance and Policy Development* participants.
 - wp4@imarine.research-infrastructures.eu: For WP4 *Communication, Dissemination and Training* participants.
 - wp5@imarine.research-infrastructures.eu: For WP5 *iMarine Data E-Infrastructure Deployment and Operation* participants.
 - wp6@imarine.research-infrastructures.eu: For WP6 *Virtual Research Environments Deployment and Operation* participants.
 - wp7@imarine.research-infrastructures.eu: For WP7 *Enabling-technology Integration and Distribution* participants.
 - wp8@imarine.research-infrastructures.eu: For WP8 *iMarine Data e-Infrastructure Enabling-technology Development* participants

² BSCW: <http://public.bscw.de>

- wp9@imarine.research-infrastructures.eu: For WP9 *Data Management Facilities Development* participants.
 - wp10@imarine.research-infrastructures.eu: For WP10 *Data Consumption Facilities Development* participants.
 - wp11@imarine.research-infrastructures.eu: For WP11 *Data e-Infrastructures Integration and Interoperability Facilities Development* participants.
 - Community of Practice mailing list
 - imarine_board@imarine.research-infrastructures.eu: For all members of the iMarine Board. The iMarine Board is comprised of project beneficiaries and external partners. The iMarine Board is to be a forerunner of a governance structure; to control the EA Community with respect to iMarine developments; and for the development of policies for sharing data.
 - imarine_board_advisory@imarine.research-infrastructures.eu: This mailing list is restricted to iMarine Board Advisory Council members only.
- Research Infrastructures Administration Toolkit
 - <http://manage.research-infrastructures.eu>
A tool for managing the set of users (through their accounts, memberships and profiles) partaking in the *iMarine* project, to assign them roles and rights of access to the various tools put in place, etc.
- Quality Assurance Documentation Service
 - http://wiki.i-marine.eu/index.php/Quality_Assurance
A Wiki based content management system dedicated to describe the procedures defined by the Quality Assurance Task Force as well as to document their implementation. Examples of the implementation of these procedures are Wiki pages dedicated to monitor the status of the project deliverables as well as milestones.
- Community of Practice
 - http://wiki.i-marine.eu/index.php/Ecosystem_Approach_Community_of_Practice_Overview
[A Wiki documenting the activities of the Ecosystem Approach Community of Practice including the iMarine Board operation, the requirements specification, the policies definition and the validation of the infrastructure and the operated VREs.](http://wiki.i-marine.eu/index.php/Ecosystem_Approach_Community_of_Practice_Overview)

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 have been deployed:

- gCube System Web Site
 - <http://www.gcube-system.org>
The official web site dedicated to advertise the gCube system as well as the gCore application framework and to provide information about it. It includes facilities for downloading the various versions of the developed technologies.
- Issue Tracker System
 - <https://issue.imarine.research-infrastructures.eu/>

A Trac³ based issue-tracking system opened to all project members and configured to manage requests, raise defects and assign tasks governing the technology development and evolution.

- <https://support.d4science.org/>
A Trac based issue-tracking system maintained by the D4Science infrastructure and opened to all *iMarine* data e-Infrastructure users. It is configured to manage incident requests and provide immediate support to overcome the incident.
- Code Repository Service
 - <https://issue.imarine.research-infrastructures.eu/browser>
A Subversion⁴ based version control system used to maintain current and historical versions of the developed technology. It is completely integrated with the Issue Tracker.
- Technology Documentation Service
 - <https://gcube.wiki.gcube-system.org/gcube>
A Wiki based content management system dedicated to collaboratively create, edit, link and organize documentation material concerning the *iMarine* core technology. It includes and promotes discussions, knowledge sharing and remote collaboration among the members of the technical team spread over the various Institutions.

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 have been deployed:

- http://wiki.i-marine.eu/index.php/IMarine_Data_E-Infrastructure_Deployment_and_Operation

A Wiki documenting the Infrastructure including the procedures, policies and deployment plan.

- http://wiki.i-marine.eu/index.php/Virtual_Research_Environments_Deployment_and_Operation

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

³ TRAC: <http://trac.edgewall.org>

⁴ SubVersion: <http://subversion.tigris.org>

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.

In order to ensure the fulfilment of this mandate at the first review planned at the end of Period 1, the QATF will monitor the quality and prompt delivery of the following achievements:

- Solutions defined for implementing interoperability with existing infrastructures;
- Environment collecting requirements concerning the project VREs;
- Evaluation of the developed VREs;
- Updated project website;
- Communication, dissemination and training activity report;
- Portal for administrating the supported VOs and VREs according the established procedures as well as the records of the activity performed for operating them;
- Software distribution site and documentation about the software components released in the period.

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. As a consequence the preparation of such review meetings is an important activity that is monitored by the QATF according to the following procedure:

1. The AFD and PD inform the QATF of the planned date for the review;
2. The QATF in 5 working days submits for Steering Board's approval the following suggestions:
 - a. A schedule of two rehearsal meetings to be held within ten and two days before the official review respectively. The most suitable location where to run such meetings will be identified by considering the needs of all project delegates;
 - b. An agenda of the review meeting with major slots, responsibilities, and time allocation;
3. Upon reaction of the Steering Board, the QATF accepts the suggestions and requests for changes received by the Steering Board and in two working days the QATF starts the collaboration with all work package leaders for the preparation of the material to be presented at the review meeting and the monitoring of the quality and prompt delivery of the requested material;
4. The QATF promptly communicates to the SB and GB any delay in the production of what is expected to be presented at the review meeting together with a recovery plan.

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. This activity is monitored by the QATF according to the following procedure:

1. The QATF in 10 working days prepares an informal and confidential analysis of the reviewers' report. This analysis complete the request prepared for approval of the SB with the following suggestions:
 - a. an assignment of each review recommendation to the most suitable person chosen among directors, work package leaders, and task leaders;
 - b. a plan including steps and time allocation for the production of a report replying to the reviewers' recommendations and an assessment plan to accommodate their requests;
2. Upon reaction of the SB, the QATF accepts the suggestions and requests for changes received by the SB and in 2 working days the QATF starts the collaboration with the identified delegated people for the analysis of the reviewers' recommendations. A confidential wiki site will be prepared and monitored continuously and a summary table will be elaborated for the SB's benefit. The QATF management activity is expected to avoid incompatibilities among solutions identified by different project delegates;
3. The QATF informs promptly the SB if the production of what is expected to be delivered by a project delegate is delayed or not compliant with the expected quality together with a recovery plan within the end of the business day following any deadline;
4. A complete assessment report including an analysis of the recommendations, a report to reply to them, and an assessment plan to correct project activities are expected to be delivered within one month's time by the QATF to the Steering Board for its approval;
5. The SB can approve, amend, or reject the work managed by the QATF. If needed, the SB can restart the cycle by asking modification and/or additions to the assessment steps identified by the project delegates. In case the SB identifies the needs to further improve this assessment report it is a mandate of the QATF to ensure that a new report is elaborated within 10 additional days.

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 the minimum number of days preceding the meeting as reported in Table 1.

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 the minimum number of days preceding the meeting as reported in

Table 1. However, during a meeting the members of a project board present or represented can unanimously agree to add a new item to the approved agenda.

Project Board	Frequency	Notice of a meeting	Sending the agenda	Adding agenda items
Ordinary meeting				
Governing Board	At least once every 10 months	30	14	7
Steering Board	Every month after PEB meeting date	14	7	2
Project Executive Board	Every first Monday of the month	7	5	2
Extraordinary meeting				
Governing Board	At any time upon written request of the Governing Board Members	15	10	7
Steering Board	At any time, upon written request of any member of the Steering Board	7	5	2
Project Executive Board	At any time, upon written request of any member of the Project Executive Board	5	3	2

Table 1 – Governing and Management Boards Meeting Procedures

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 chairperson of a project board shall produce written minutes of each meeting which shall be the formal record of all decisions taken. The minutes must be produced according to the following template:

- Meeting classification (ordinary or extraordinary);
- Meeting location (teleconference or physical location);
- Meeting agenda or objective;
- Meeting start and end date/time;
- Meeting participants' names, organizations, and roles in the meeting. People attending remotely must also be listed;
- Reference to all presentations performed or documents presented;
- Enumeration of all issues raised, either solved or pending with some context (if required). The "opposing" opinions must also be properly summarised;
- All formal decisions taken;
- Actions and their deadlines for further work.

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, D2.4 “Risk Analysis and Risk Response” due in project month 14. 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 (§A.2) procedure is carried out as part of the D2.4 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*. Overall the preparation of the risk management activity is accomplished as follows:

- Risk Methodology Development: QATF
- Risk Analysis: The Risk Identification and Risk Evaluation require the involvement of a large number of persons in the procedure: Directors, Work Package and Task Leaders can support the collection of risks at their source/target. In detail:
 - Risk Identification
 - Collection: QATF, Work Package Leaders, Task Leaders.
 - Homogenization: QATF
 - Risk Evaluation: QATF, Work Package Leaders, Task Leaders.
 - Risk Classification: QATF

The result of risk classification produces a full risk list that is placed at the disposal of *iMarine* consortium members for reference and is periodically updated, included, and monitored through the Monthly Activity Reports.

5.2 RISK CONTROL

Risk Control (§A.3) involves three individual steps, starting from Risk Analysis output:

- The 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.
- The Risk Monitoring: which is performed continuously and formally tracked in the Quarterly Reports under the following procedure:
 - During the Activity Monthly Report, the QATF launches a request to Work Package Leaders for identifying problems met or concerns that arose during the last period, as these are the main (but not the only) reasons for raising risks’ ranking;

- Work Package Leaders pass this list of potential risks to Task Leaders and this delegation can reach partner representatives, if required for obtaining low/mid level details on risk evolution;
- Work Package Leaders revise higher level risks according to the input received or their own justified perception of risk evolution;
- QATF aggregates and homogenizes information received and enriches it with conclusion and higher lever risk evaluation so as the full risk ranking list is produced. It is important that supplied information is adequately linked to the formal risk classification list, i.e. risk identification is supplied and valid values are provided for the various measures required;
- As risks are identified, the respective Work Package Leaders are notified, while beyond a certain threshold the Steering Board is informed about a particular risk;
- Similarly but with the reverse impact, risks that gradually diminish, have their countermeasures relaxed.

Even if otherwise assigned to a different set of actors of the project, the results of this control activity should be reported in the Quarterly Report document in order to advise the SB on potential risks.

- The 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. More particularly the steps that are involved in the procedure are the following:
 - The QATF examines the Risk Ranking List that is produced as part of the Risk Monitoring Procedure.
 - The QATF evaluates and proposes withdrawal or adoption of measures for Risks of dropping or rising ranks, by consulting the in-project "experts" (e.g. work package leaders) and the associated Risk Analysis Plan.
 - The QATF proposes to the SB the areas of action for risk management and the concrete actions (as described in the Risk Analysis Plan) to be taken. In complex cases, indicates that the SB must take further action to face or recover from a risk.
 - In both cases the SB is responsible for taking the decision;
 - The QATF proposals for Risk Management are led through the quarterly reports, unless exceptionally urgent cases rise.

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.

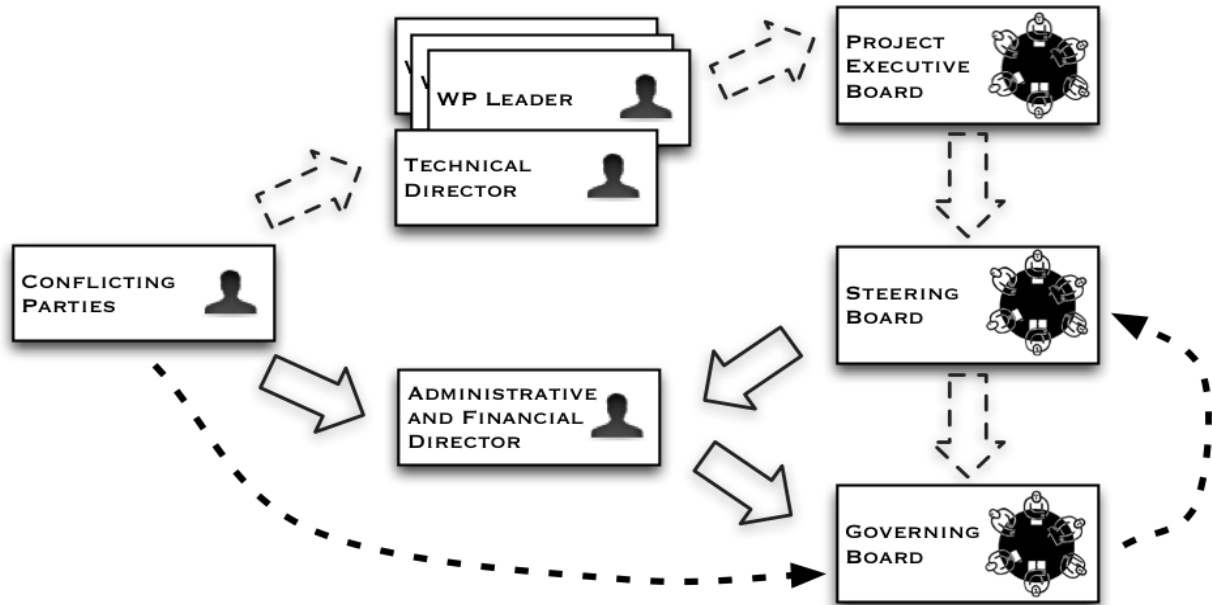


Figure 1 – Conflict Resolution Flow

In Figure 11 there are two main paths of conflict resolution:

- The path made of dashed line arrows is followed for topics concerning conflicts with a major focus on technical or work aspects;
- The path made of solid line arrows is followed for topics that are mainly concerned about administration, bilateral relationships and financial issues.

A third path, and exceptional path, is sketched with curved arrows and is described below. It should be mentioned that the means of communication (email, phone, meetings) are indicative and demonstrate best practices of the past rather than formal rules.

In detail, a need for Conflict Resolution can start at any node of the diagram. In the following, the details of each action are presented:

- **STEP 1:** Conflicting members attempt to resolve their conflict in a bilateral manner. It is expected that this is done mainly by telecommunication means (phone and email) and the inclusion of a Task leader is welcomed in this procedure;
- **STEP 2 (opt a):** If the conflict is concerned with technical or work decisions, the work package leader is involved to assist in achieving a cooperative solution and avoid the escalation of a conflict to formal project instruments. Notification at this level can be sent by email or other telecommunication means, as well as the resolution itself can follow any type of channel. Formally the work package leader is identified as the first project-wide nominated responsible for coordinating work and technical decisions in a particular area, however his/her involvement is in the form of consultancy, as no enforced decision can be made at this level;
- **STEP 2 (opt b):** If the conflict is concerned with financial, administrative or other non-technical/work issues, then the Administrative and Financial Director is consulted;
- **STEP 2a.1:** In case of non-resolution at this level, the Technical Director is introduced into the conflict for supporting its resolution. The Technical Director involvement is in the form of consultancy, as no enforced decision can be taken by him/her. However as the Technical Director's

opinion is directly presented to the Steering Board, it is expected that his/her consultancy is more effective than WP leader:

- **STEP 2a.1.1:** As a further step the discussion can be led to the Project Executive Board instead of a single WP leader, by requesting a special session to a planned event, or by raising an open email discussion at the PEB mailing list. Although PEB is led by the Technical Director, this step is also informal and contributes to the collective resolution of conflicts without concluding to the top level governing bodies. The related Work Package Leader is responsible for leading the topic to the PEB for this informal first level discussion;
- **STEP 2a.2:** Both a Project Executive Board member and the Technical Director can introduce the conflict to the Steering Board, if the conflicting parties are not satisfied by his suggestions and the PEB conclusions. No other individual can raise a topic to the SB. Request to the SB is sent by email;
 - **STEP 2a.2.1:** If the Technical Director or a PEB member avoids introducing a topic to the SB, then the conflicting members can decide to bring the topic to the Governing Board, which in turn can instruct the SB to deliver its opinion on a particular conflict, or even redirect the resolution to the SB. Beyond this point escalation will follow the normal path;
- **STEP 2a.3:** Steering Board proposes a formal solution to the conflict:
 - The SB can call a meeting with the conflicting members for elaborating the details of a potential resolution;
 - Two-thirds participation is required for driving any decision at SB level;
 - In case of voting in the SB, two-thirds approval is required for considering a decision as adequately acceptable for resolving the issue and being forwarded to the Governing Board as a solution, in case it is not directly acceptable by the partners;
 - A physical meeting, or at least a teleconference is preferred for voting;
 - It is proposed that in case that the resolution method proposed has clear and major financial impact to a partner, then the Administrative and Financial Director is consulted by the SB rather than directly the GB;
 - Mail is a valid means of communication;
- **STEP 2b.1:** The Administrative and Financial Director can consult for the resolution of a conflict of management of financial character after being instructed either by the Steering Board or by an individual Partner. The AFD is also entitled to bring topics to the Governing Board for resolution if the path of the SB is not being followed. Notification to the GB can be sent by email;
- **Step 3:** The Governing Board obtains a conflict resolution task normally by the Project Administrator or the Steering Board, and exceptionally directly by the conflicting partners;
 - During a conflict GB can request consultancy from SB for sub topics of the conflict, including budgetary issues. Requests are raised by email.
 - The GB attempts to locate a collaborative solution before concluding to voting. This can be driven by teleconferences and email exchanges;
 - Two-thirds participation is required for driving any decision at GB level;
 - Voting is the ultimate means for the resolution. Precedence over voting is given only to the formal documents Consortium Agreement and Grant Agreement;
 - In case of voting in the GB, two-thirds approval are required for considering a decision as adequately acceptable for resolving an issue:
 - If voting is required, the preferred means for conflict resolution is conducting a physical meeting, or at least a teleconference;
 - GB instructs SB for the proper execution and implementation of its decision on a conflict resolution;

- The Defaulting Parties can only be identified by the GB after considering the breach of the Consortium Agreement and the precise procedure is defined in the Consortium Agreement.

7 SOFTWARE LICENSE

Software Licence refers to the licence that will be adopted in order to distribute the binaries and source code produced by the project under the gCube name. It is considered that the licensing scheme is crucial not only for the long term sustainability of the technical activities of the project, but also for the mid term envisaged quality of its artefacts.

It is considered that within the domain of activation of the project, i.e. scientific communities and infrastructure, and under the general rules of e-Infrastructures software development practices, an “open” licence is the most appropriate for adoption.

On the other hand gCube software comes with an existing licensing policy, whose appropriateness is once again examined under the prism of *iMarine*. As gCube system adopts the European Union Public License (EUPL) licensing scheme it is fully in line with the perception obtained within *iMarine* for its enabling software.

It is valuable to understand why this licensing scheme is in line with the project objective, instead of one which is more widely accepted by the worldwide open source development communities. In support of this comes the ‘Report on Open Source Licensing of software developed by The European Commission⁵’, released in December 2004. In this report, the Enterprise Directorate General, IDA/GPOSS⁶, aimed at “Encouraging Good Practice in the use of Open Source Software in Public Administrations’ goal”, reported what follows:

The most significant Free / Open Source Software (F/OSS licenses) (BSD, GPL, MPL, OSL and CeCILL) have been compared and analysed according to the European legal framework, demonstrating that none of the existing OSS licences answers to the requirements.

The BSD, Berkeley Software Distribution, license should be put aside given the absence of copyleft clause. This is however a fundamental feature in order to avoid the appropriation of the program by third parties.

The GPL, General Public License V. 2, major problem is that the right of communication to the public is not provided explicitly amongst the granted rights, and that a clause limits furthermore the granted rights to what is explicitly provided by the license. Moreover, the GPL is known for being the most viral license ever, whereas massive spreading through dynamic linkage is not the aim of the European Commission.

The MPL, Mozilla Public Licence 1.1, main problems reside in its applicable law and forum clause, referring to California.

Whereas the CeCILL⁷ could be deemed the best license given that it is the only one to be drafted according to EU terminology, its liability clause is really insecure and could jeopardize its

⁵ Report on Open Source Licensing of software developed by The European Commission

(applied to the CIRCA solution) is accessible at <http://ec.europa.eu/idabc/servlets/Doc?id=19296>

⁶ Interchange of Data between Administrations/Good Practice in Using Open Source Software

⁷ CeCILL: (Ce:CEA ; C:Cnrs ; I:INRIA ; LL:Logiciel Libre) is supported by the French CEA (Commissariat à l’énergie atomique), the CNRS (Centre National de la Recherche Scientifique) and INRIA (Institut National de

compatibility with any other F/OSS license. Furthermore, its clause concerning its compatibility with the GPL is likely to turn rapidly the CIRCA⁸ license into a GPL license and therefore attract the drawbacks of this latter.

The OSL, Open Software Licence 2.1, does not present any major problems, but is drafted using US legal terminology.

Based on the above the possible solutions are:

- 1. To choose the license that fits the best with the European Commission requirements and apply it "as is" (in that case, the OSL is the best choice, but it exists in English only, and uses US terminology).*
- 2. To ask the author of an existing license to modify/translate/adapt according to the EU needs, with the advantage of facilitating recognition by the OSS community.*
- 3. To create a specific OSS license, which is the more open solution, but implies more work, more commitment to promote it as best practice and the risk of non-acceptance by the OSS community.*

Essentially this testifies that the choice of the licence cannot be based on simple considerations or desires but has to take into account the applicable law, the forum clause, the protection of the copyright, and all other aspects that protect the investment of European institutions and companies.

7.1 EUPL

To address the above issues, it is important to know that on 9 January 2007 the European Commission approved the European Union Public Licence (EUPL v.1.0)⁹. The licence was made available in English, French and German. In a second Decision of 9 January 2008, the European Commission validated the EUPL in all the other official languages, in respect of the principle of linguistic diversity of the European Union. At the same time, due account has been taken of the European Union Law as well as of the specificity and diversity of Member States Law.

EUPL has been approved as a licence to be used for the distribution of software developed in the framework of the IDA and IDABC¹⁰ programmes. Nevertheless, the licence text is drafted in general terms and could therefore be used for other software applications, as explicitly reported in the initial declaration:

Recherche en Informatique et en Automatique). It is available at www.inria.fr/valorisation/logiciels/Licence.CeCILL-V1.pdf

⁸ CIRCA: Communication and Information Resource Centre Administrator, a simple and effective groupware, developed by the European Commission under the IDA Programme. It is a web-based application providing online services that offer a common virtual space for Workgroups, enabling the effective and secure sharing of resources and documents.

⁹ <http://ec.europa.eu/idabc/en/document/7330>

¹⁰ IDABC stands for 'European Community programme'. It aims to promote Interoperable Delivery of European eGovernment Services to public Administrations, Business and Citizens. IDABC continues and deepens the previous IDA, 'Interchange of data between Administrations', programme.

This European Union Public Licence (the “EUPL”) applies to the Work or Software (as defined below) which is provided under the terms of this Licence. Any use of the Work, other than as authorised under this Licence is prohibited (to the extent such use is covered by a right of the copyright holder of the Work).

The Original Work is provided under the terms of this Licence when the Licensor (as defined below) has placed the following notice immediately following the copyright notice for the Original Work:

Licensed under the EUPL V.1.0

or has expressed by any other mean his willingness to license under the EUPL.

By a Decision of 9 January 2009, the European Commission adopted a revised version of the Licence while at the same time validated it in all the official languages (EUPL v.1.1). The changes were minimal:

- Work distributed under the EUPL v.1.0 may be re-distributed under the EUPL v.1.1 or any later version;
- A statement paragraph to declare that all linguistic versions of the licence, approved by the European Commission, have identical value was been added, so that parties can take advantage of the linguistic version of their choice.

EUPL is also intended to be the first open source licence with:

- A compatibility clause that identifies compatible licences;
- An officially sanctioned translation in 23 official languages of the European Union that makes its language clear and largely unambiguous.

Moreover, EUPL includes a ‘copyleft’¹¹ clause but it does not present problems for compatibility since it does not create obligations down a stream of distribution. EUPL downstream is compatible with another licence, e.g. GPL, through the compatibility clause that specifically lists licences to be considered compatible. Those licences are considered compatible. In case of conflict, the conditions of the compatible licence will prevail.

Finally, EUPL provides: (i) a full European copyright coverage (communication / moral rights); (ii) EU compatible liability and warranty clauses; (iii) EU compatible applicable law and jurisdiction clauses.

Analysed the above cited sources of information and taking into account the motivation expressed by the European Commission in the preparation and delivery of the EUPL^[12,13], as well as the history and licensing of *D4Science* project (i.e. *iMarine* predecessor and main contributor to the gCube software) the QATF considers the adoption of EUPL as license for future contribution of the *iMarine* consortium to the gCube system as the only option available. gCube System software comes already licensed under the EUPL scheme

¹¹ Copyleft is a play on the word copyright to describe the practice of using copyright law to remove restrictions on distributing copies and modified versions of a work for others and requiring that the same freedoms be preserved in modified versions (text extract from Wikipedia)

¹² ‘Report on Study of the compatibility mechanism of the EUPL v1.0’ accessible at <http://ec.europa.eu/idabc/servlets/Doc?id=27472>

¹³ ‘EUPL’s Rationale & Drafting Process’ accessing at <http://ossipedia.ipa.go.jp/legalinfo/20071221-5.pdf>

and any change in the licensing of the software that was developed mainly by *D4Science-II* project and others, external to the project, task forces (i.e. former *D4Science* partners), would severely impact its sustainability.

7.2 OTHER LICENSES

iMarine has a different scope than the *D4Science* infrastructure used as conduit to operate the *iMarine* Data Infrastructure, which involves external infrastructures and tools that are not entirely conceived at the time of this report, in terms of technology exploited. It is highly probable that interacting with such infrastructures will involve different licenses, as for instance:

- Proprietary licenses for exploiting service APIs of infrastructure wrappers, even in the case they are freely given out;
- Other Open Source licenses for reusing components of the OSS nature;
- Proprietary usage licenses of integrated systems (e.g. applications and components);
- Proprietary development licenses of integrated systems (e.g. development environments).

It is quite important for the project's sustainability that minimal deviation is performed compared to the basic licensing scheme. This deviation should be well justified before followed and should follow a preference towards Open licenses. However, due to the special needs of the project, it is considered that a relative flexibility in licensing has to be obtained by the Joint Research Activities teams.

This flexibility suggests that satellite systems and components can be potentially covered by other licensing schemes under an informed decision made by the appropriate project boards.

The approval of the individual satellite system licenses requires deep technical knowledge of a domain and should follow a clear path of decision:

- Out of the relevant task, a license deviation request should be forwarded to the Technical Director;
- The Technical Director requests an analysis by the Work Package involved members and introduces the topic to the Project Executive Board along with his suggestion and reasoning for a decision;
- The PEB can elaborate counter proposals if the reasoning for a decision is not sufficient to suggest a deviation from the common adopted licensing scheme. As result of this activity the PEB produces an evaluation of the impact in terms of sustainability of the software and of the infrastructure and passes it to the Steering Board;
- The SB evaluates the impact of the licensing deviation as well of the impact of the non-deviation and takes a final decision on the topic;
- In the case of deviation approval, the topic is forwarded to the Governing Board by email for approval. In this case the GB can approve the license with the least overhead imposing means, such as silent approval.

8 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.

8.1 PERIODIC REPORTS

Three periodic reports (D1.2-4) will be produced during the course of the project. ERCIM 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.

Every work package leader is required to:

- Summarize the progress towards objectives and details for each task;
- Highlight clearly significant results;
- Explain the reasons for deviations from Annex I (Description of Work) and their impact on other tasks as well as on available resources and planning (if applicable);
- Explain the reasons for failing to achieve critical objectives and/or not being on schedule and explain the impact on other tasks as well as on available resources and planning (if applicable and the explanations should be coherent with the declaration by ERCIM);
- Provide a statement on the use of resources, in particular highlighting and explaining deviations between actual and planned person months per work package and per beneficiary in Annex I (Description of Work);
- Propose corrective actions (if applicable). The work package contributions as described above will comprise work progress and achievements during the period of the periodic report.

Work package leaders must also inform ERCIM of milestones on achievement date and comments, such as means of measurement/verification.

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.

Templates have been created by the Commission and will be used for both of the above items.

8.2 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.

A folder has been established on the *iMarine* BSCW that includes a template for producing the bi-monthly effort report: <http://bscw.i-marine.research-infrastructures.eu/bscw/bscw.cgi/239211>

Greyed areas of the template are indicative of work packages in which the partner has no effort allocated in the Annex I (Description of Work). However, it is possible for partners to transfer effort between work packages if prior agreement has been obtained from the Steering Board. Transfer of effort between tasks requires prior agreement from the corresponding work package leader.

Beneficiaries should download the template for the effort report, enter their contributions and save the file in the folder corresponding to the correct quarter. The suggested naming procedure should be used:

- M2_Effort_PartnerNumber_PartnerName
- M2_Effort_01_ERCIM.xls

The due date for the completion and posting to the BSCW of the bi-monthly effort report is the **first Friday of Mx**. On the first Monday of Mx, ERCIM forwards the consolidated bi-monthly effort report to the Project Executive Board, for discussion at the monthly teleconference if requested. The bi-monthly effort report is not required in parallel with periodic reporting, i.e., at M10, M20 and M30.

Note: When additional effort has been contributed by a beneficiary, but not officially charged to the iMarine project, a separate email should be sent to ERCIM (linh.nguyen@ercim.eu) for the purposes of a contributing to an in-depth cost-benefits analysis that the project is undertaking for long-term sustainability.

8.3 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;

The procedure defined for monthly activity reporting is the following:

- Every month (last Monday), each beneficiary reports the activities performed. These activities are reported per task;
- Every month (last Friday), each WP leader prepares a summary of the activities performed in the WP and communicates it to the PEB;
- Every month (first Monday), the PEB discusses and either approves or rejects the WP activities report;
- Every month (first Tuesday), the PEB reports to the Steering Board information about the status of the project;

A set of wiki pages is dedicated for providing the required monthly contributions:

http://wiki.i-marine.eu/index.php/Activity_Reporting

9 DELIVERABLES

Deliverables are an important channel to communicate to the European Commission the project progresses and results. As a consequence the preparation of such documents is an important activity that should be properly monitored by the Quality Assurance Task Force.

This section describes their naming convention, the templates to apply to such documents, the procedure defined to review project deliverables, and how to monitor the deliverables preparation.

9.1 NAMING

Each deliverable must be associated with one unique document identifier to ensure effective version control. This unique identifier is the deliverable filename. The filename of all deliverables must be compliant with the following rules:

- Author Integration:
 - <deliverable name>_v<version>.doc
 - e.g. D1.1_v1.1.doc
- Editor Contribution:
 - <deliverable name>_v<version>_<partner>.doc
 - e.g. D1.1_v0.2_CERN.doc

9.2 TEMPLATE

All deliverables must apply the project templates:

- Deliverables of type “Report”:

http://bscw.i-marine.research-infrastructures.eu/bscw/bscw.cgi/d238720/iMarine_Deliverable_Template_REPORT.docx

- Deliverables of type “Other”:

http://bscw.i-marine.research-infrastructures.eu/bscw/bscw.cgi/d238708/iMarine_Deliverable_Template_OTHER.docx

9.3 REVIEW PROCEDURE

All deliverables prepared by the consortium, before being submitted to the European Commission, must undergo an official review. The deliverable reviewers are nominated by the QATF at the beginning of each quarter for the quarter that follows. Once informed, deliverable reviewers may refuse a particular assignment, but it is expected that all partners will participate to some extent in the deliverable review process. This review procedure applies to both types of deliverables defined in the project description of work: “Report” and “Other”. The review process is organized in three main phases:

- Preparation and internal review;
- Official review;
- Steering Board review and approval.

These three phases are further organized in seven steps:

1. The QATF informs the deliverable reviewer and deliverable editor that the review process has started. The QATF makes sure BSCW is ready;

2. The reviewer confirms with the editor that everything is ready to start the deliverable editing (e.g. Table of Contents is approved, website is ready, time plan is clear);
3. The editor sends the deliverable for official review, after executing an internal deliverable review done by the work package or the deliverable authors;
4. The reviewer sends its comments and proposal of changes to the editor;
5. The editor provides the reviewer with the final version of the deliverable applying the review comments and, if needed, a textual reply to the comments;
6. The reviewer checks if all comments have been applied and sends the deliverable to ERCIM together with a deliverable approval statement;
7. ERCIM circulates the deliverable to the SB for silent approval. In case of negative comments the editor analyzes them and applies possible changes.
8. ERCIM sends the deliverable to the EC.

For the successful execution of the procedure above, the different steps must strictly follow the deadlines presented in **Error! Reference source not found.** Step 3 and step 8 are of particular importance and must be followed closely by the QATF.

Who	Step	Date
QATF	1. Starts the review by informing the reviewer and editor	1 of Mx-1
Reviewer	2. Confirms with the editor that everything is ready	15 of Mx-1
Editor	3. Sends the deliverable to the reviewer	15 of Mx
Reviewer	4. Sends the deliverable comments to the editor	21 of Mx
Editor	5. Send the final deliverable to the reviewer	23 of Mx
Reviewer	6. Sends the final deliverable to ERCIM	25 of Mx
ERCIM	7. Sends the deliverable to the SB for silent approval	26 of Mx
ERCIM	8. Sends the deliverable to the EC	30 of Mx

Table 2 – Deliverable Review Process

If one of the deadlines fall on a weekend or holiday, the deadline is postponed to the first working day following the deadline.

The preparation of any *iMarine* deliverable must use the BSCW in order to store the deliverable and manage the transitions between the review steps. For each deliverable a BSCW workflow folder is assigned. These folders are located within the corresponding work package folder: <http://bscw.research-infrastructures.eu/bscw/bscw.cgi/219906>

The folders must be used for two purposes:

1. To host all versions of the deliverable (from the initial deliverable structure to the final version) and all other associated files (review comments, review reply, review statement, etc.). All deliverables uploaded to BSCW must be compatible with MS Word 2003;
2. To manage the transitions between the seven steps of the review procedure. This is executed using the workflow associated to the folder. To move from one step to the other, the responsible for the current step must access the corresponding deliverable folder and forward the workflow. This will complete the current task and automatically send a notification to the responsible for the next task.

9.4 MONITORING

The status of the deliverables can be monitored in the “Deliverables” section of the Quality Assurance wiki page:

<http://wiki.i-marine.eu/index.php/Deliverables>

This information is retrieved by the QATF from the status of the BSCW workflow associated to all deliverables. Whenever a deliverable is late with respect to the procedure, a red colour in the monitoring page is associated to the deliverable.

Based on this information, the QATF sends a reminder to the SB and PEB mailing lists, on the 28th of each month, describing the status of the ongoing deliverables.

10 MILESTONES

Project milestones are important tools to inspect the status of the project and the achievement of results. These tools are useful to present to the EC the achievement of results but are also useful to internally monitor the evolution of the project or of individual work packages. As a consequence, the achievement of project milestones should be properly monitored by the Quality Assurance Task Force.

This section provides a link to the template to use for announcing achieved milestones, describes the milestone naming convention, the procedure to announce project milestones, and how the QATF monitors the announcement of milestones.

10.1 TEMPLATE

All milestones must apply the project template:

- <http://bscw.i-marine.research-infrastructures.eu/bscw/bscw.cgi/238703>

10.2 NAMING

Each milestone object must following this naming convention:

- <milestone identifier>_M<due month>.<extension>
- e.g. MS1_M1.txt

10.3 ANNOUNCEMENT PROCEDURE

Milestones must be announced by the work package leader (or task leader) responsible for the milestone. Such declaration includes two actions:

- Each Milestone has to be added to the folder located at: <http://bscw.i-marine.research-infrastructures.eu/bscw/bscw.cgi/219911>
When a milestone is achieved, a new BSCW object must be created inside such folder. This object has to respect the Milestone Template;
- An email to the QATF (qatf@imarine.research-infrastructures.eu) mailings list must be sent pointing to the just created BSCW milestone object.

All milestones must be announced by the last working day of the milestone due month.

10.4 MONITORING

The status of the milestones can be monitored in the “Milestones” section of the Quality Assurance wiki page:

<http://wiki.i-marine.eu/index.php/Milestones>

Whenever a milestone is late with respect to the procedure, a red colour in the monitoring page is associated to the milestone.

Based on this information, the QATF sends a reminder to the SB and PEB mailing lists, on the 28 of each month, describing the status of the ongoing milestones. It is recommended that the SB reviews all recently achieved milestones prior to the monthly teleconference.

11 DISSEMINATION

The *iMarine* Communication, Dissemination and Training Plan (D4.1) focuses on the definition of the project's dissemination and training strategy, and means of implementation. The plan is available here:

<http://bscw.i-marine.research-infrastructures.eu/bscw/bscw.cgi/239737>

11.1 APPROACH

11.1.1 MAILING LIST

The WP4 work package “Communication, Dissemination and Training” is led by Trust-IT and is divided into three tasks. One of them focuses on Dissemination “T4.1: Communication and Dissemination”. This task is led by Trust-IT with the participation of CNR, NKUA and FAO. It is strongly advised to use the WP4 mailing list to communicate with the WP4 team, ask for assistance, request a clearance, and send suggestions:

wp4@imarine.research-infrastructures.eu

11.1.2 WP4 CONTACTS

Each *iMarine* partner will assign one or two persons responsible to collect and share communication activities with the WP4 leader.

The WP leader will get in touch with these contact persons once a month, to know about ongoing, planned, or perhaps unforeseen communication activities.

11.1.3 PARTNERS' CONTRIBUTION

All project partners can contribute to the various dissemination activities by:

- Presenting the project in conferences;
- Promoting the benefits of the project to a large community of (potential) users;
- Writing papers and producing documentation;
- Developing platforms (*iMarine* portal, Distance learning courses, Wikis);
- Editing and providing source material for press releases;
- Responding to interviews;
- Documenting their work via e-mail;
- Documenting their work via social networking tools;
- Suggesting web links, resources, and events.

11.2 KEY MESSAGE

When engaging in any type of communication or dissemination activity, project participants should keep in mind the project's “key messages” as defined by WP4:

“Marine life plays a vital role in the Earth's ecosystem. Wise and judicious management of all relevant resources is of paramount importance to ensure that all forms of marine life remain sustainable. The main goal of the iMarine project is, thus, to launch an initiative aimed at establishing and operating an e-infrastructure supporting the principles of the Ecosystem Approach to fisheries management and conservation of marine living resources. iMarine has three main objectives: (i) the establishment of an iMarine Board, formed by representatives of

international organisations involved in this domain, which will define a sustainability-driven data-centric e-infrastructure governance model and organizational and technological policy recommendations; (ii) the management and operation of this e-Infrastructure offering user-level and application-level services that support the recommended policies and provide relevant functionality to the stakeholders; (iii) the extension, adaptation and deployment of a rich set of software components that implement these services. Instrumental in the activities of iMarine will be the establishment of an active set of collaborations with other international initiatives. The aim will be to reuse and render interoperable existing policies, technologies, and e-infrastructures. By leveraging on these collaborations and by taking advantage of additional funding that these organizations invest in the project, the number of available resources brought into play will be maximized.”

11.3 LOGO AND TEMPLATES

11.3.1 LOGO

Project and partners' logo are available at:

- (Project Logos) <http://bscw.i-marine.research-infrastructures.eu/bscw/bscw.cgi/240891>
- (Partner's Logos) <http://bscw.i-marine.research-infrastructures.eu/bscw/bscw.cgi/232566>

11.3.2 DELIVERABLES

Two MS Word “deliverable templates” for ‘Report’ and ‘Other’ are available on the BSCW and shall be used for the preparation of all deliverables.

The files are available at:

<http://bscw.i-marine.research-infrastructures.eu/bscw/bscw.cgi/238703>

11.3.3 MILESTONES

A MS Word “milestone template” is available on the BSCW and shall be used for the preparation of all milestones.

The file is available at:

<http://bscw.i-marine.research-infrastructures.eu/bscw/bscw.cgi/238703>

11.3.4 SLIDES

An MS PowerPoint template is available on the BSCW and shall be used for all *iMarine* related presentations.

The file is available at:

<http://bscw.i-marine.research-infrastructures.eu/bscw/bscw.cgi/240903>

All slides created in the *iMarine* context should be copied to the BSCW.

11.3.5 BUSINESS CARD

iMarine Generic Business Card template is available at:

<http://bscw.i-marine.research-infrastructures.eu/bscw/bscw.cgi/240913>

11.3.6 EVENT BADGE

iMarine Event Badge template is available at:

<http://bscw.i-marine.research-infrastructures.eu/bscw/bscw.cgi/240918>

11.4 EVENTS PARTICIPATION

Anyone participating in an event where *iMarine* is presented, either directly or indirectly, should include all meeting related information on the BSCW so that everyone participating in the project (including NA3) is informed.

- For internal project meetings:
<http://bscw.i-marine.research-infrastructures.eu/bscw/bscw.cgi/239337>
- For external dissemination events:
<http://bscw.i-marine.research-infrastructures.eu/bscw/bscw.cgi/239344>

It is recommended to attach all meeting-related information (minutes, slides, agenda, etc.). A simple .txt file can also be created to include the following minimum information, if available / if applicable:

- For external events:
 - Title of the event
 - Date and place
 - Name of presenter
 - Title of presentation/paper
 - Type of audience (Research, Industry, General Public, Policymakers, etc.)
 - Number of attendees (rough estimation)
 - Countries addressed
- For internal meetings:
 - Title of the meeting, type of meeting
 - Date
 - List of participants
 - Agenda
 - Decisions/actions

11.5 DISCLAIMER

The EU can not be responsible under any circumstances for the contents of communication items prepared by project partners. All items must therefore include the following disclaimer in their publications: "This publication has been produced with the assistance of the European Union. The contents of this publication are the sole responsibility of <name of the author/beneficiary/implementing partner/iMarine project participants> and can in no way be taken to reflect the views of the European Union." The following text includes the disclaimer used in deliverables.



iMarine (RI – 283644) is a Research Infrastructures Combination of Collaborative Project and Coordination and Support Action (CP-CSA) co-funded by the European Commission under the Capacities Programme, Framework Programme Seven (FP7).

The goal of iMarine, *Data e-Infrastructure Initiative for Fisheries Management and Conservation of Marine Living Resources*, is to establish and operate a data infrastructure supporting the principles of the Ecosystem Approach to Fisheries Management and Conservation of Marine Living Resources and to facilitate the emergence of a unified Ecosystem Approach Community of Practice (EA-CoP).

This document contains information on iMarine core activities, findings and outcomes and it may also contain contributions from distinguished experts who contribute as iMarine Board members. Any reference to content in this document should clearly indicate the authors, source, organisation and publication date.

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11.6 RECOGNITION

Communication items must include recognition of financing by the European Union. Thus, all items must include a statement such as the following in a highly visible area (e.g., press release, cover page, top or bottom of a poster): "*iMarine* is financed in part by the European Commission's Seventh Framework Programme." These items must also include the relevant logos:

- EU flag: http://europa.eu/abc/symbols/emblem/graphics2_en.htm
- 7h FP: http://ec.europa.eu/research/fp7/index_en.cfm?pg=logos

12 TECHNICAL PROCEDURES

As introduced in Section 1, the project Quality Plan should take in consideration not only administrative and managerial procedures but also the technical procedures to ensure wider project coverage.

This section highlights in particular the procedures related to the operation of the *iMarine* Community of Practice, to the operation of *iMarine* Data Infrastructure – hosted and operated by the D4Science infrastructure, and to the creation and operation of the *iMarine* Virtual Research Environments.

12.1 COMMUNITY OF PRACTICE OPERATION

To reach its objectives, the *iMarine* project will liaise with the Ecosystem Approach Community of Practice (EA-CoP), notably through the iMarine Board.

The operation of the EA-CoP is regulated by a number of policies described at the following Wiki page:

http://wiki.i-marine.eu/index.php/Ecosystem_Approach_Community_of_Practice:_The_iMarine_Board

The list of policies shall be produced by the iMarine Board and validated by the PEB. The initial list of policies shall be approved by the Steering Board by the end of project month six (March 2012). The PEB shall be notified by the QATF any time these policies will be either modified or extended. The QATF's notification will then be discussed and validated at the first PEB meeting following the notification. The availability of any EA-CoP policy validated from the PEB will be promptly communicated to the Steering Board. In case a policy is not validated by the PEB, the Conflict Resolution procedure will be used and the discussion will be escalated to the SB.

The operation of the EA-CoP follows well established procedures which are described in detail in the following wiki page:

http://wiki.i-marine.eu/index.php/Ecosystem_Approach_Community_of_Practice:_The_iMarine_Board

The procedures driving the operation of the EA-CoP are not subject to approval. However, any partner can raise requests for changes to the WP3 leader. The WP3 leader can decide either to revise the policy or to add a topic to the first PEB meeting following the partner request. If the PEB approves the request the procedure shall be modified. If either the PEB rejects the request, or the WP3 leader does not modify the procedure nor submit the request to the PEB, the Conflict Resolution procedure can be used by the partner.

12.2 INFRASTRUCTURE OPERATION

The *iMarine* Data e-Infrastructure contributes and takes part to the *D4Science* Ecosystem, a data infrastructure which is going to be extended not only with the help of *iMarine*, but with other EU-funded projects like EUBrazilOpenBio¹⁴ and ENVRI¹⁵.

¹⁴ www.eubrazilopenbio.eu/

¹⁵ Common Operations of Environmental Research Infrastructures: https://networking.wiki.d4science-ii.research-infrastructures.eu/networking/index.php/D4Science-II_Collaboration:_ENVRI_%28Common_Operations_of_Environmental_Research_Infrastructures%29

The participation in such an e-Infrastructure ecosystem is regulated by policies for users, data and computational resources providers and consumers described at the following wiki page:

http://wiki.i-marine.eu/index.php/IMarine_Data_E-Infrastructure_Deployment_and_Operation:_Policies.

The complete list of policies operated by the e-Infrastructure ecosystem shall be approved by the Project Executive Board by the end of project month six (March 2012). The PEB shall be notified by the QATF any time these policies will be either modified or extended. The QATF's notification will then be discussed and approved/rejected at the first PEB meeting following the notification. The approval of any e-Infrastructure ecosystem policy will be promptly communicated to the Steering Board. In case a policy is not approved by the PEB, the Conflict Resolution procedure will be used and the discussion will be escalated to the SB.

The operation of the e-Infrastructure ecosystem follows well established procedures, covering different operational areas: software installation and upgrade, site certification, user support, monitoring, etc. These procedures are described in detail in the following wiki page:

http://wiki.i-marine.eu/index.php/IMarine_Data_E-Infrastructure_Deployment_and_Operation:_Procedures.

The procedures driving the operation of the e-Infrastructure ecosystem are not subject to approval. However, any partner can raise requests for changes to the WP5 leader. The WP5 leader can decide either to revise the policy or to add a topic to the first PEB meeting following the partner request. If the PEB approves the request the procedure shall be modified. If either the PEB rejects the request, or the WP5 leader does not modify the policy nor submit the request to the PEB, the Conflict Resolution procedure can be advocated by the partner.

12.3 VIRTUAL RESEARCH ENVIRONMENTS OPERATION

To serve and realize the scenarios envisaged by the Ecosystem Approach Community of Practice, a number of Virtual Research Environments will be deployed and operated in the *iMarine* Data e-Infrastructure.

This activity is regulated by a number of policies described at the following Wiki page:

http://wiki.i-marine.eu/index.php/Virtual_Research_Environments_Deployment_and_Operation:_Policies

The complete list of policy governing Virtual Research Environments deployment and operation shall be approved by the PEB by the end of project month six (March 2012). The PEB shall be notified by the QATF any time these policies will be either modified or extended. The QATF notification will then be discussed and approved/rejected at the first PEB meeting following the notification. The approval of any VRE policy will be promptly communicated to the SB. In case a policies is not approved by the PEB, the Conflict Resolution procedure will be used and the discussion will be escalated to the SB.

Deployment and operation of Virtual Research Environments is carried out through a number of well defined procedures which are documented at the following Wiki page:

http://wiki.i-marine.eu/index.php/Virtual_Research_Environments_Deployment_and_Operation:_Procedures

The procedures driving the deployment and operation of Virtual Research Environments are not subject to approval. However, any partner can raise requests for changes to Work Package 6 Leader. The Work Package Leader can decide either to revise the policy or to add a topic to the first PEB meeting following

partner request. If the PEB approves the request the procedure shall be modified. If either the PEB reject the request or the Work Package Leader neither modify the policy nor submit the request to the PEB, the Conflict Resolution procedure can be advocated by the partner.

The procedures and policies above as well as the activities performed in the context of the Community of Practice (cf. Section 12.1) result in a Virtual Research Environments plan which is documented through the following Wiki page:

http://wiki.i-marine.eu/index.php/Virtual_Research_Environments_Deployment_and_Operation:_Plan

This plan is under the responsibility of the WP6 and it is not subject to approval. However, any partner can raise requests for changes to Work Package 6 Leader. The Work Package Leader can decide either to revise the plan or to add a topic to the first PEB meeting following partner request. If the PEB approves the request the procedure shall be modified. If either the PEB reject the request or the Work Package Leader neither modify the plan nor submit the request to the PEB, the Conflict Resolution procedure can be advocated by the partner.

13 GENDER ACTION PLAN

iMarine will strive to:

- Create an inclusive research environment in which men and women, scientists and administrators can combine family and work, children and career;
- Maintain a philosophy that includes the individual needs of all participants.

This principle will be applied to all levels of the project, from development to management, and without regard to the person's level of experience. Members of the Project Executive Board can influence the length, duration and location of project meetings. When participation in a meeting is not possible due to constraints, personal or professional, the use of certain communication tools will be encouraged in order to facilitate remote participation, e.g. Skype, audio conferencing systems, distribution of minutes and actions. The establishment of this Quality Plan will contribute greatly to an understanding of expectations and functioning at various levels of the project.

However, project management can only guide the project participants. Participants are expected to respect the guidelines established by the project, and in this Quality Plan. PEB must take the lead, and observe these guidelines for *iMarine* participation, bearing in mind the guiding principles of gender equality and mainstreaming.

Guiding actions

Guiding actions will be implemented at the project level, within each partner's team and within the virtual team that comprises the work packages. It is the responsibility of work package leaders and SB representatives to ensure that the guiding actions are promoted throughout the project duration through:

- Introduction of gender awareness raising activities at the partner level;
- Sharing "best practices" or other model examples with the SB or PEB;
- Encouragement and support of a work-family balance for project participants, including:
 - Respecting deadlines for contributions to prevent overload at the end of the delivery chain;
 - Reducing the duration of Plenary Sessions by preferring shorter more focused topical meetings;
 - Preferring centrally located meeting venues in order to avoid full days of travel.

APPENDIX A. RISK ANALYSIS METHODOLOGY

A.1 Risk Management Methodology Principles

iMarine plans to support the application of the principles of the Ecosystem Approach (EA) to fishery management and conservation of marine living resources through the establishment and operation of a data infrastructure and, in so doing, to facilitate the emergence of a unified Ecosystem Approach Community of Practice (EA-CoP).

The following diagram depicts the rough steps and elements of the risk management activity that will be detailed in deliverable D2.3 “Risk Analysis and Risk Response”:

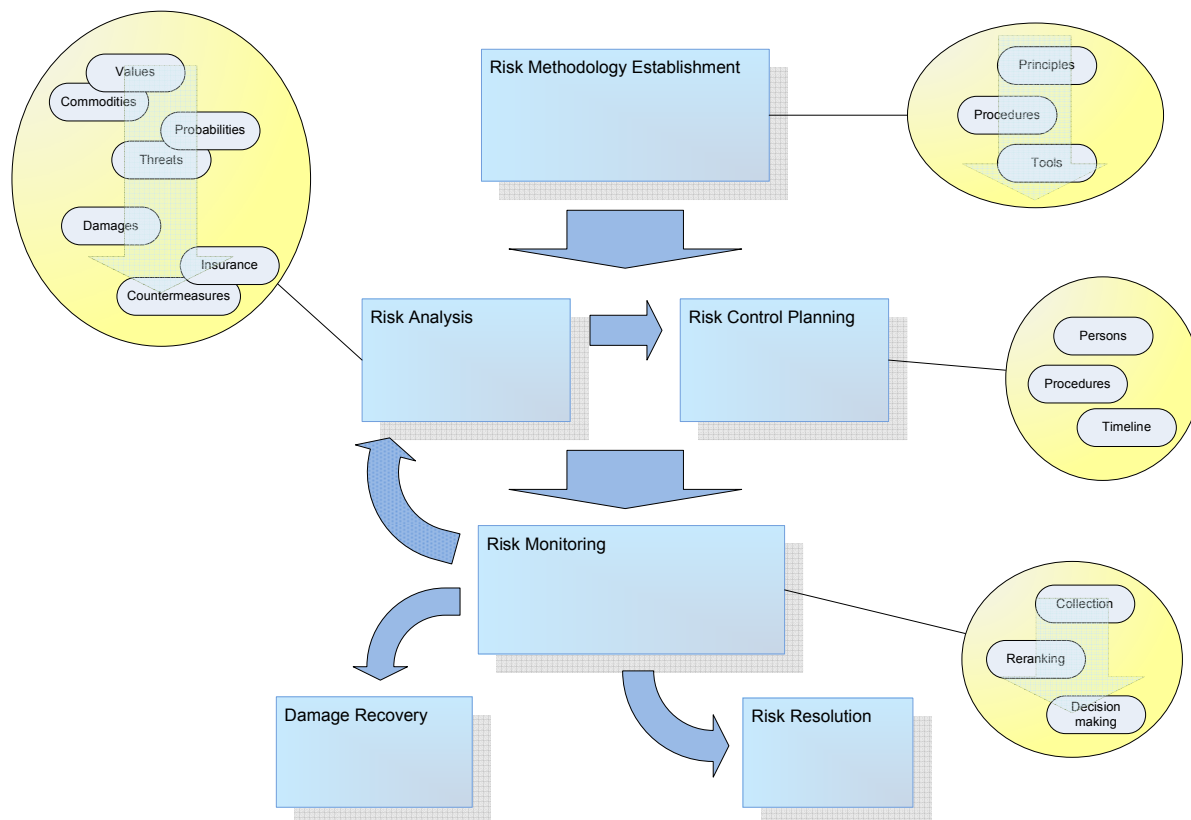


Figure 2 – Overall Risk Management Activities

A.2 Risk Analysis

In the project’s areas of activity, there are several well-known threats that can compromise its success. Among the most important ones, the following can be identified:

- Inadequacy of infrastructural resources;
- Faulty (intentional or unintentional) estimation of the project technical aspects:
 - Features
 - Technology applicability
 - Technology adequacy
 - Timeline
- Requirements instability (expected up to a certain degree in the many projects);
- Inadequacy of project undertakers (units, work teams, or single persons);
- Communication, coordination, and collaboration problems;
- Misbehaving dependencies:
 - Technologies

- Third parties

The above-mentioned list of threats can be examined from different points of view: the high-level view of a project manager or the low-level perspective of a particular component that depends on reusable elements. Although the big picture is built on the details, enumerating all low-level risks and their impact becomes unmanageable, a case often observed in complex systems that tend to adopt a more “statistical” oriented approach. As such higher-level risks are identified, quantified and managed more easily. A fundamental rule for facilitating the monitoring and the quick identification of risk rising is that the relationship of high-level to low level risks is maintained at least as a rule-based linking.

The aforementioned threats can impact any of the commodities of the project:

- Knowledge
- Software
- Services
- Reputation of partners and project
- Economics

The Risk Analysis methodology to be adopted should foresee three main steps: Risk Identification, Risk Evaluation, and Risk Classification. The results of the Risk Analysis activity will be reported in project deliverable D2.3 entitled “Risk Analysis and Risk Response”. This deliverable will be constantly revised so as to contain the consequent updates of the initial report, as these will emerge by the monitoring activity.

RISK IDENTIFICATION

Risk Identification locates, enumerates, and describes the risks that the different parts of the system developed or deployed by the project are exposed to and all their related entities (e.g. commodities and threats). Aspects of risk identification are the source/problem which can be external or internal to the project, and the target/impact, which is always an internal to the project concept or item that is affected by the source/problem upon its occurrence. Not all of these are necessary for the description of a risk, while an approximation of the likelihood of the risk is quite important for the evaluation step that follows.

For determining the procedures of risk management it is important to locate the main sources for obtaining risks:

- Evaluation of the applicability of common risks proposed by various methodologies and performance of a fine-grained extension of the common risks to the elements of the project that comply with the risk definition;
- Analysis of the methodology commonly used by the target communities and evaluation of the distance among their approaches and the ones proposed by the project;
- Enumeration of all the dependencies of software components and work plans at the task level and enhancement of the information with the effects caused by the event of failure, delay, misbehaviour (lack of features, performance, etc.).

After the identification of the risks, a number of additional steps are recommended:

- Identification and removal of duplicated risks;
- Homogenisation of the terminology;
- Sorting of risks according to the source/problem. Multiple effect source/problem can be grouped in one element with multiple targets/impacts;

RISK EVALUATION

Risk Evaluation attaches qualitative and quantitative attributes to the risk, leading to subsequent quantification of the impact that the risk will have in the “value” of the commodities. It is based on the findings of Risk Identification, as all risks identified have to be evaluated. The evaluation of a risk is performed by identifying the probability of occurrence and the impact via estimations (e.g. probability rank and impact rank), that simplify the procedure and allow obtaining the main benefits of risk management, i.e. the identification of the initial and rising risks of the project.

RISK CLASSIFICATION

Risk Classification identifies the most important risks and promotes in subsequent steps the actions to be taken to safeguard the commodities. The prioritization of risks attempts to focus on handling the risks with greatest loss and greatest probability of occurrence.

Two approaches are recommended to sort the classified risks:

- Sort the risks by ranking of their probability to appear. This allows focusing on the risks most likely to happen and then investigate the chains as they are taking place;
- Sort the risks by a combined rank (taking into account the aforementioned metrics) that captures most serious problems that can affect the commodity and then investigate the related events.

Top-N ranked risks are identified as major risks and their environment is described in detail, with respect to, triggering of the risk and impact (qualitative and quantitative).

The result of risk classification produces a full risk list that has to be periodically updated and published.

RISK ANALYSIS PLAN

Effective Risk Analysis can be accomplished only by collecting “expert” opinions on the various and diverse commodities of the project and their threats. As such the initial collection of the risks and their attributes should be fanned out to Work Package Leaders and to task leaders that should provide their perspective on low/mid or even high level risks of the project. In essence, each task leader of the project will have the opportunity and responsibility to identify the risks that the commodities they are expected to deliver or consume are exposed to. Quality Assurance Task Force will organize the procedure, contribute and extend these and deliver the results as an instrument to the monitoring activity.

A.3 Risk Control

The Risk Control should foresee three main tasks: Planning, Monitoring and Resolution.

RISK CONTROL PLAN

Risk Planning identifies the procedures and responsibilities to monitor the risks according to the priorities identified in the Risk Classification phase. It is not a procedure executed only once. Rather it is a task that has to be constantly active. A consistent plan has to be adopted and strictly followed by the assigned persons throughout the duration of the project. This plan involves:

- Setting responsibilities for managing the plan itself;
- Periodical updates of the plan;
- Definition of risk monitoring procedures;
- Definition of risk resolution actions.

The Risk Control activity operates on an enriched set of information already gathered as part of Risk Analysis. In particular, for each risk the following information should be recorded during its analysis, so that Risk Planning is effective:

- Description of the risk;
- The situation under which it might occur.

As a consequence the Risk Plan has to identify:

- Ways to monitor the appearance and evolution of the risk;
- Ways to handle the risk upon its appearance;
- The responsible for monitoring and handling the risk.

This list is created upon identification of the major risks, as provided by the Risk Classification process.

As such Risk Planning is an activity tightly coupled with Risk Analysis.

RISK MONITORING

Risk Monitoring is a continuous activity to monitor the evolution of risks throughout the project's lifetime and the triggering of actions for confronting either their probability rising or their impact before or after their occurrence. The Risk Monitoring procedure is defined by the Risk Management methodology as part of the Risk Control Plan.

An effective monitoring procedure can be the continuous update of the top-ranked risks of the project. This requires the update of all the relevant contributions and evaluations so that the obtained rank is meaningful.

Among the top-ranked risks it is important to implement the actions specified in the Risk Plan on the risks that emerge into the list, while the relaxation of countermeasures for very low ranked risks is also a policy that can be considered for effective resource management. This implies that the status of all risks has to be evaluated.

The list of the risks, along with their (initial) ranking emerges from the Risk Analysis procedure, and one of the main activities of Risk Monitoring is the update of this list so that new ranking is calculated. It is essential though that the history of the updates is maintained so that changes can be easily tracked, and rising/dropping risks are easily identified.

RISK RESOLUTION

Risk Resolution is about undertaking actions to either reduce the probability of occurrence of a risk or the countermeasure needed to limit its effects or the recovery of damage. These actions can target completely different objectives, depending on the evaluation and the status of a particular risk:

- Avoid the occurrence of the risk by reducing/removing the probability of its triggering events;
- Nullify the associated threat by removing its connection with project activities;
- Removal of the threatened commodities;
- Transfer of the potential damage to another party or commodity with the aim of reducing the probability of occurrence or minimise the impact;
- Acceptance of the risk and implementation of an escalated range of its countermeasures;
- Acceptance of the risk with a damage-recovery policy that can even employ the risk side-effects themselves.

It is made obvious by the previous actions that “resolution” does not always imply “nullification” of a risk. Rather, depending on the ranking performed, risks of severe impact have to be carefully examined and the countermeasures have to be deeply analysed to ensure that they are capable to limit the effects on the project.