Developing metrics and instruments to evaluate citizen science impacts on the environment and society

EC Horizon-2020 Grant Agreement number 824711

Call: H2020-SwafS-2018-2020 (Science with and for Society)

Topic: SwafS-15-2018-2019

Type of action: RIA

Deliverable 1.2: Project Management Handbook

Delivery Year: 2019

Document Information

Project Number	824711			Acronym	MICS
Full title	Developing metrics and instruments to evaluate citizen science impacts on the environment and society				
Project URL	**www.mics.tools**				
EU Project officer	Colombe Warin				
Deliverable	**Number**	D1.2	**Title**	Project Management Handbook	
Work package	**Number**	1	**Title**	Coordination, project management, and communication	
Date of delivery	**Contractual**	Month 01 (January 2019)		**Actual**	Month 01 (January 2019)
Dissemination Level	Public				
Authors (Partner)	Earthwatch				
Responsible Author	Claire Williams		**Email**	cwilliams@earthwatch.org.uk	
	Partner	Earthwatch			
Abstract (for dissemination)	Project document aimed at providing an overview of the management and procedures to ensure efficient execution of the project (including the data management plan) and thus contribute to the production of high-quality project results.				
Keywords	Management, Coordination, Processes, Project Implementation				

Version Log			
Version as date	**Author**	**Partner**	**Change**
2019_01_28	Claire Williams	Earthwatch	Initial document creation and intermediary version for Earthwatch internal reviewers
2019_01_31	Luigi Ceccaroni	Earthwatch	Final review
2020_04_28	Katrin Nolland	Earthwatch	Edited section 3.2 "Project deliverable generation"

To cite this document:

Contents

1 Introduction

1.1 Purpose, scope and structure

The present document shall provide an overview over the management and procedures that will ensure efficient execution of the project and thus contribute to the production of high-quality project results. The aim is to provide the project beneficiaries with a handbook that indicates the management structure, tasks and responsibilities on all levels of project execution.

The established procedures that have the main goal to assure quality implementation of MICS, are based on the general principles and policies defined in underlying basic regulations (H2020-SwafS-2018-2020 (Science with and for Society) EU rules for participation in Horizon 2020 (Ref. 0)), contracts and agreements ([Ref. 1], [Ref. 2], [Ref. 3], [Ref. 4]) and official guidelines. The Description of Action (DoA, [Ref. 2]) also details the project objectives and implementation plan. Where necessary or convenient, explicit references are given.

The main areas treated are:

- **Administrative project management:** processes that assure the documentation, reporting and justification of the work being carried out.
- **Technical project management:** processes that assure the coordination of Research and Technological Development (RTD) activities and the flow of information within the consortium.
- **External communication and dissemination:** processes that align external communication and project dissemination activities

1.2 Precedence

The general principles for the project execution have been defined in the Grant Agreement, the Description of Action and in the Consortium Agreement provisions. The project handbook shall not replace any of the established agreements within the consortium or with the EC, or any of the EC guidelines for project implementation and documentation.

Where there are any apparent or real inconsistencies between these documents the following order of precedence will be applied:

1. Grant Agreement with European Commission (EC) [Ref. 1] and its annexes [Ref. 2 & 3]
2. Consortium Agreement [Ref. 4]
3. Project Handbook [present document]

If doubts persist, they have to be resolved by decisions of the established project authorities: *Project Management Panel* (PMP) and *Steering Committee* (StC)[1]. These authorities, in coordination with the Project Management Panel (PMP), also have the power to decide on amendments to the project handbook as they may be raised during project execution.

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[1] See Project Management Structure section

1.3 Basic project information

- **Project full title:** Developing metrics and instruments to evaluate citizen science impacts on the environment and society
- **Project acronym:** MICS
- **Contract number:** Grant Agreement no. 824711
- **Instrument of funding:**
    - Call: H2020-SwafS-2018-2020 (Science with and for Society)
    - Topic: SwafS-15-2018-2019
    - Type of action: RIA
- **Start date:** 01/01/2019
- **End date:** 31/12/2021
- **Overall budget:** 1,944,428.00 €
- **EU Funding:** 100%
- **Number of partners:** 6

1.4 Project WP structure

Work Package structure is the following:
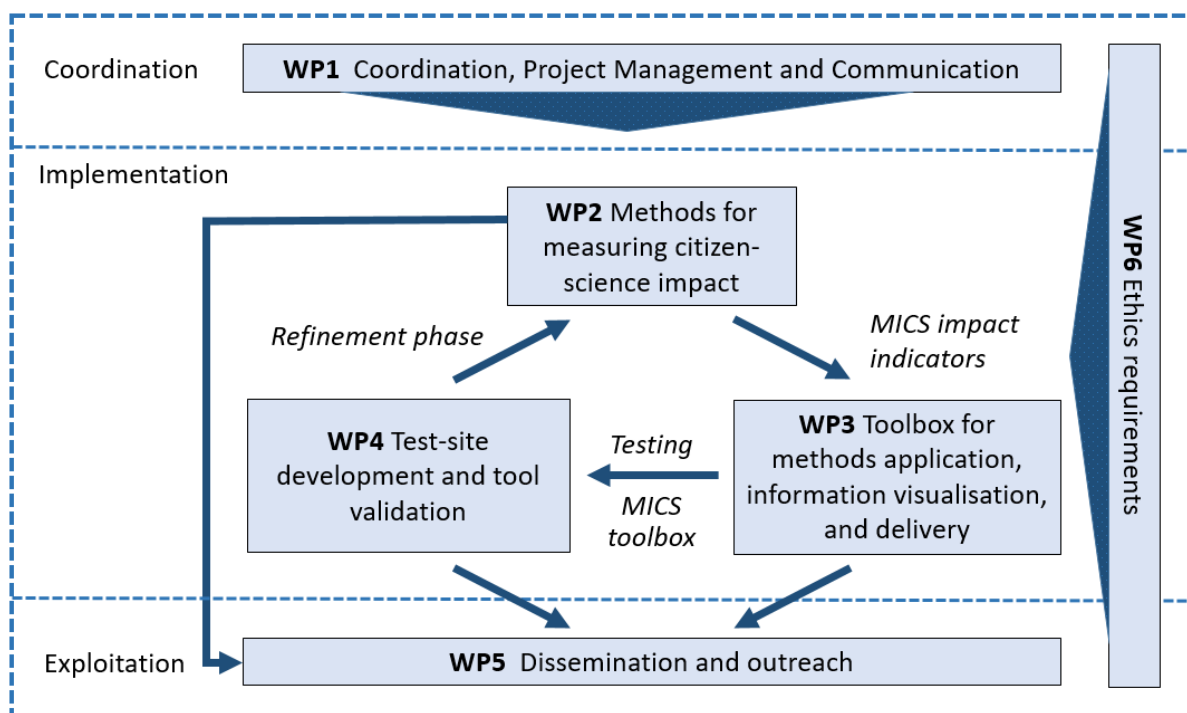
The list of project deliverables and their due date can be seen in the Appendix 2. Deliverables refer to **intermediate or final results obtained from the work performed** in different activities and / or work packages **reported to the European Commission.**

2 Project management structure

The organisation coordinating the project (Project Coordinator) is Earthwatch.
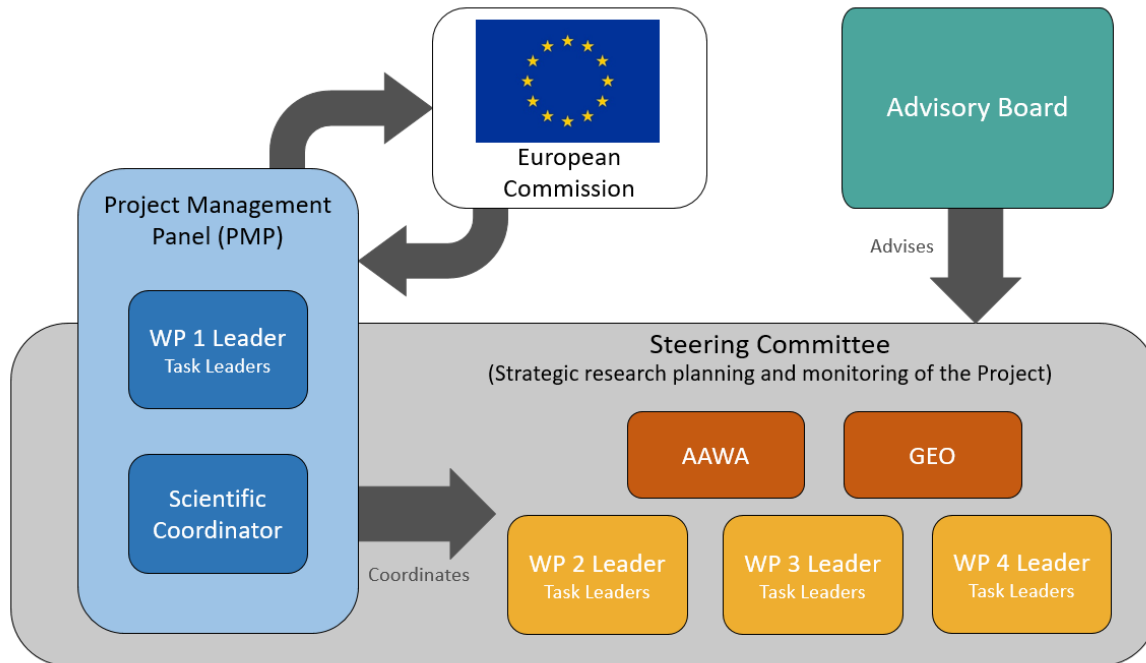
2.1 Scientific coordination

Scientific coordination responsibility lies in the hands of the **Scientific Coordinator**, Dr Luigi Ceccaroni, member of Earthwatch, the Project Coordinator.

He chairs the Steering Committee (StC). The Scientific Coordinator steers the scientific work performed in the project in order to ensure that the results achieved are of the maximum possible quality in scientific terms and are compliant with the objectives set for the project.

2.2 Operational management

2.2.1 Project Management Panel (PMP)

The *Project Management Panel* (PMP) acts on Steering Committee decisions and coordinates the workflow and information flow between the beneficiaries and the work packages.

The PMP is composed of the Scientific Coordinator and the **Project Manager**, both members of Earthwatch, the Project Coordinator. The **Project Manager** is responsible for the aspects relative to project administrative, legal and financial management and operational coordination, and maintains the contact with the European Commission and other external contacts (e.g. Advisory Board).

2.2.2 The Steering Committee (StC)

The StC is the highest authority with respect to the Project, and is mainly responsible for the overall review of the project progress, its resources and for decisions that affect its overall strategy and development and that may lead to contract amendments or modifications of plans that have impact

on all the consortium, such as changes in the implementation plan, project scope and/or resource allocation between WPs and evolution of the partnership composition. The StC maintains executive decision-making power, supervises and drives the execution of the implementation plan, as well as of any action approved by the StC. It is responsible for assuring fulfilment of project milestones, and reviews and approves the work of the individual WPs. Each partner is represented and has an equal vote[2].

2.2.3 Work Package Leaders (WP Leads)

Work Packages are directed by the Parties indicated in EC-GA Annex 1 (Ref. 2) (*). Each lead Party shall indicate a person in charge of this leadership by the Project start date indicated in the EC-GA or the Project Kick-off meeting at the latest. This nominated person shall be deemed to be duly qualified and authorised to deliberate, negotiate and act on those matters considered responsibility of the StC The register of nominated WP leaders is maintained and made accessible by the Project Manager. Each Party is obliged to inform immediately any change of person or substitute.

 (*) The WP Leads are:

WP No.	Work Package Title	Lead Partner Short name
1	Coordination, project management, and communication	Earthwatch
2	Methods for measuring citizen science impact	IHE Delft
3	Toolboxes for methods application, information visualisation, and delivery to decision makers, citizens and researchers	GeoEcoMar
4	Test-site development and tool validation	RRC
5	Dissemination and outreach	Earthwatch
6	Ethics requirements	Earthwatch

A Work Package Leader will

- coordinate the work among Tasks inside the WP and with other WPs;
- arrange short- and medium planning of work in the WP with the Task leaders;
- report to the PMP on WP progress based on Task leaders' inputs/feedback & provides inputs to planning and progress reports as requested and agreed and on time;
- submit the deliverables of the WP in due time, having accomplished all quality assurance procedures, to the PMP for delivery to the EC;
- participate as a member of the Steering Committee (except WP5 & WP6);
- ensure coherence, usability, compliance of requirements and standards and implements the decisions of the Steering Committee affecting the WP;
- supervise and assesses the Tasks' progress against WP objectives, handles deviations and supports the team members to keep on track, gives operative, technical advice, makes well-reasoned proposals for adjustments and improvements in the work plan.

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[2] i.e. at least one PMP member takes part in the assembly without having a vote

2.2.4 Task Leaders (TL)

A Task Leader will

- coordinate the work among contributors inside the task;
- arrange short- and medium planning and implementation of work in the task via meetings, milestones, revisions, etc.;
- supervise and assesse task progress against task objectives, handles deviations and guides the task contributors to keep on track;
- report to the WP leader on Task-level progress & provides inputs to activities, planning and progress reports as requested and agreed and on time;
- ensure that task-related information is up-to-date on the shared workspace (SharePoint/OneDrive).

2.2.5 Contributors to work packages, tasks, deliverables

A contributor will:

- participate in the short- and medium-term planning of the task (activities, timing, etc.) and proactively ensure they stay up to date on progress and methods;
- actively contribute to the implementation of the work in the task with inputs and ideas via regular meetings, other online interchanges, joint writing of deliverables, etc.;
- provide timely agreed inputs.

2.2.6 Advisory Board (AB)

The Advisory Board is composed of external experts and representatives from research, policy, business and other agencies. They will participate as external advisors to the consortium but not as beneficiaries.

As external advisors, they will support user-centred development in MICS, user evaluation, and dissemination. The AB members' role in the MICS project shall be mainly focused on acting as advisory party for issues relevant to their expertise, as liaison with other scientific projects with which MICS could establish synergies and as members to specific MICS advisory boards and sharing relevant standards. AB members may also be involved in joint scientific work related to the MICS project, in cooperation with MICS project partners.

Commercially sensitive information may at times be shared with Advisory Board members subject to StC approval. The terms and scope of their involvement are detailed in a non-disclosure agreement (NDA) signed before the start of the project; by default, as a general principle, the participation of the AB members in the project does not entitle them to claim property on any of the knowledge generated by the project. However, specific agreements can be concluded on a case-by-case basis. When deemed necessary, this participation in the intellectual property rights (IPR) shall be addressed on a case by case basis in annexes of consortium agreement and NDA.

2.3 Day-to-day execution and implementation

The individual Work Packages, led by the Work Package Leaders (WPLs), drive the package- specific work to completion. In order to improve the flow of communication within and between the individual Work Packages, each Work Package Leader identifies a team consisting of a combination of the Task

Leaders (TL) and the key individuals for each Activity listed in the project contact list. WPLs maintain close communication with the PMP to regularly update on progress.

2.4   Steering Committee gatherings

Regular StC meetings take place on a bi-annual basis or when deemed necessary by the Project Coordinator. The partner's representative is notified in the project contact list – mics@earthwatch.org.uk. This representative will in principle be maintained throughout the project, where this is possible.

Any change in a partner's representative to the StC should be informed in writing to the PMP at least 10 days before a meeting of the StC takes place, indicating the reason for substitution, identifying the new representative and explaining whether the substitution will be temporary or permanent.

Each beneficiary will organise one of the meetings on a voluntary basis to spread organisational costs. The PMP fixes the dates and the place for the meetings in line with the agreed meeting schedule, which can be found on the shared workspace (SharePoint).

The exact dates are fixed at least 3 months ahead of time in order to avoid travel calendar conflicts[3]. The agenda is generated by the PMP with StC input. It is distributed to the beneficiaries at least 21 calendar days prior to the assembly (10 calendar days in case of extraordinary meeting). Every beneficiary organizes and pays for their own travel. Expenses can be charged against the project.

The meetings may consist of 2 parts: a series of "all hands" sessions to present and discuss technical developments and a formal part where strategic and administrative decisions are taken.

Meetings of each Consortium Body may also be held by teleconference or other telecommunication means on a more regular basis. The schedule will be determined by the StC and reviewed as necessary. The PMP is responsible for coordinating and fixing the dates and logistics for the virtual meetings and for the generation of the meeting minutes in the same way as for the face-to-face gatherings.

As an outcome of StC assemblies, the PMP representing the Coordinator generates minutes that reflect all relevant points of discussion, actions and decisions taken. A draft of these minutes shall be sent to the members of the StC not later than 14 calendar days after the assembly and comments and feedback shall be given to the PMP not later than the deadline set when the minutes are sent. After this date, non-response is taken to be agreement. The minutes shall be considered as accepted if, within 30 calendar days from sending, no Member has sent an objection in writing to the chairperson with respect to the accuracy of the draft of the minutes.

The final version of the minutes is published on the shared work space (SharePoint) not later than 31 calendar days after the meeting.

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[3] As indicated in the Consortium Agreement, the chair person shall give notice in writing of a meeting to each member as soon as possible and no later than 45 calendar days preceding the meeting, or 15 calendar days before an extraordinary meeting.

2.5 Mailing lists and document exchange platform

To facilitate written communication, e-mail distribution lists have been created. Any doubt, question and notification (e.g. of intended publications and/or presentations) shall be directed to "mics@earthwatch.org.uk". The PMP will then coordinate the actions that need to be taken. Appropriate mail distribution lists will be created as necessary with full lists of those included in each, available on the private, shared workspace (SharePoint). This workspace will incorporate a OneDrive repository, which is used to facilitate the exchange of documents, administrated by the PMP (see Section 3.10).

2.5.1 Code of conduct

When sending an email to the MICS partners using the "mics@earthwatch.org.uk" mailing list, the prefix "[MICS]" is automatically added to the subject line.

When sharing documents over email, documents should be linked (from the shared workspace) and attached to emails for easy reference. Example: "Please find attached and in folder [https://earthwatch611.sharepoint.com/:f:/s/mics-group/EmhBSLphb-9Otv_1AYhFiHsB-UMqbftyF80DTHysC9rLrw?e=ekStiA] …".

2.6 Conflict resolution

The good will to avoid any conflict of interest and to act in good faith is essential for a project like MICS. Major disruption by conflicts of interest can be avoided through coordination of actions at all levels and in all areas of the project. By doing so, consensus can be reached at early stages.

When partners identify conflicts of interest which cannot be resolved through bi- lateral communication, then they should bring the issues to the attention of the PMP immediately. When critical decisions have to be taken, these are to be made by the highest authority of the project: the StC.

The StC will provide a forum for the discussion of major management issues and major technical issues. Decisions of the StC are binding for the project and will be based on recommendations from the PMP, as well as the individual WPs Leaders.

The StC decides on the work plan and prepares proposals to the European Commission. The procedures for decision-making within the StC are detailed in the Consortium Agreement, but in general a majority vote will be applied, with the Scientific Coordinator having the casting vote.

Day-to-day decisions at the technical level will be taken by the PMP, and the WP Leaders, as appropriate. When it comes to more serious decisions affecting the overall project, the WP Leaders will provide input to StC. All reports, including the Periodic Review Report and the Deliverables will be shared with the StC and approved by the Scientific Coordinator before sending to the EC.

For any conflict or dispute that arises in the work of one or more partners, first, the partner or partners involved will make an effort to immediately deal with the contingency. In case this is not achieved, the steps listed below will be followed in their respective order:

- Involvement of the PMP to mediate the issue
- Involvement of the WP Leader
- Involvement of the StC

- If resolution is not achieved after all the above steps are taken, the issue will be brought to the attention of the EC.

Any dispute, controversy or claim arising under, out of or relating to the EC Grant Agreement - Annex 1 (DoA, Description of Action) (Ref. 2) and any subsequent amendments of this, including, without limitation, its formation, validity, binding effect, interpretation, performance, breach or termination, as well as non-contractual claims, shall be submitted to mediation in accordance with the WIPO.

Mediation Rules. The place of mediation shall be Brussels unless otherwise agreed upon. The language to be used in the mediation shall be English unless otherwise agreed upon.

Emergency procedure: Any event which shall jeopardise the overall completion date of the Project should be reported immediately to the PMP. The PMP will endeavour to arrange appropriate measures to resolve the issue and may call an emergency Steering Committee meeting.

3 Administrative project management

Useful information on many administrative aspects of project management can be obtained from the documents listed in chapter 7: References.

The execution calendar's reference units are in M (Months) with M01 starting on the 1st of January 2019. The up to date Gantt chart can be found on the shared workspace (SharePoint).

The administrative execution period is fractioned into 2 main Report and Review Periods (RRPs):

RRP1: from M01 to M15

RRP2: from M16 to M36

Within the execution period (RRP1 and RRP2) the reporting, deliverable and planning cycles consist of (see also the corresponding following sections in the present handbook):

- Resource reporting: Report from the project partners to their WPL and the PMP on the effort dedicated and cost assigned by each partner to the work packages of MICS[4].
- Project deliverables are due according to the detailed work plan defined in the DoA and are delivered by the Project Manager at this date latest. The PMP takes care of their issue to the EC Project Officer and the project reviewers according to contractual obligations established in the contract and to particular agreements with the EC Project Officer.
- Periodic reports to the EC have to be generated for every reporting period and are due 60 days after the end of the corresponding reporting period. The reports contains cost claims and any related documentation when required.

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[4] Procedures and related standard document templates for collection and management of effort reports are currently being created and will be put into effect before the end of the first project year, 2019. Retrospective reporting will be required from the beneficiaries.

- The final report to the EC has to be generated after the last reporting period and is also due not later than 60 days after RRP2. This report shall comprise a final publishable summary report covering results, conclusions, impact and wider societal implications of the project.
- Project reviews are meetings between part of the consortium led by the Coordinator and the EC (eventually assisted by External Project Reviewers) and form part of the periodic EC project review procedure to be finished normally at the latest 90 days after the reporting period. In the case of the final review the meeting could take place before the final reports are finished, i.e. at the latest 60 days after the end of the project, in order to provide input and support to the generation of the final reports.
- Cost reimbursement and payments: The received payments (pre-financing at the beginning of the project implementation and reimbursement of justified cost after project appraisals) are distributed to the beneficiaries by the Coordinator.

3.1 Resource reporting

Purpose

For the justification of personnel costs and the support of the project audit, partners are required to maintain monthly (at least) time recording and should provide reports as requested below on effort devoted to the project and its WPs (Effort Report). Effort reports are used to control progress versus planning and provide input for the periodic management reports to the EC.

Time recording

Records of the hours dedicated to MICS during each calendar month of the execution period by all staff of every partner (signed paper copies or any electronic system duly liable, archived/recorded by partners for their auditing process). Time sheets are not deliverable items and they do not have to be submitted to the PMP or the EC (excepting during audit processes). Each partner is in principle free to use its own model/system.

Resource reports

The Effort Reports are based on the time recording data and summarising the information contained therein. This information is needed to develop future action plans and to verify that the project goes in the right way relating to resources consumption.

Effort Reports need to be generated and submitted to the PMP, with copy to the involved WPLs, for periods of specified months using the template provided by the PMP hosted on the shared work space (SharePoint). Although these reports may be preliminary estimates and must not be based on closed account statements, they should be as accurate as possible in order to facilitate general resource control.

The reports are to be sent to the PMP by e-mail within 15 days after the corresponding reporting period. The PMP checks the information against the work plan and creates a deviation report (.xls sheets). This report is sent to the WPLs one week after reception of the Partners' reports. The WPL check the report and report identified problems and risks to the StC and the Coordinator. The effort reporting periods for each Project year are:

- January 2019 – September 2019;

- October 2019 – March 2020 – in preparation for EC RRP1;
- April 2020 – September 2020;
- October 2020 - March 2021;
- April 2021 to September 2021;
- September 2021 to December 2021 - in preparation for EC RRP2.

3.2   Project deliverable generation

General

In this section, we refer to project deliverables to the EC other than periodic or final reports (see the complete list in Appendix 2). Deliverables are generated under WPL responsibility and are, in most cases, written reports. All non-report deliverables (for example, software) are nevertheless to be documented in a written statement describing their content and achievements, functionality, testing, limitations, and envisaged enhancements.

The responsible author submits deliverables, after a **quality assurance review**, before the due date (as stated in the DoA), and following the procedure and timing detailed below, to the PMP. The Project Manager takes care of the submission to the EC. Deliverables are reviewed by the EC at the end of the corresponding reporting period together with the periodic reports.

All MICS's deliverables (except ethics-related ones) are public.

Quality criteria for review before submission

- Completeness: Content must address all aspects related to the purpose.
- Accuracy: Content must be reliable; conclusions must match results produced and take account of any assumptions made or restrictions imposed.
- Relevance: Content must be focused on the key issues.
- Adherence to the template: The deliverable has to adhere to the template in appearance and structure.
- Check the review plan (available on OneDrive) for the deadline and to clarify if an internal and/or external review is needed.

Format
A template with the deliverable design is available on the shared workspace (OneDrive/SharePoint).

Procedure and timing

1) <u>Seven weeks before the due date</u>: The principal investigator of the organisation leading the deliverable (for example, Luigi Ceccaroni) nominates the responsible author (for example, Sasha Woods). The principal investigator selects two reviewers and then informs the Project Manager and the StC once the reviewers agreed. Othwerwise the PM will choose the reviewers directly.

If external reviewers are required (e.g. to fulfil Objective 1, see p. 132 of the DoA), the principal investigator needs to choose external reviewers and is responsible to establish communication between the Project Manager and the external reviewers. In addition, the principal investigator is responsible for explaining the

review process to the external reviewers. They are expected to follow the same timeline and guidelines that are established for internal reviewers.

2) Five weeks before the due date: The responsible author sends an outline to the PMP (Luigi Ceccaroni and the Project Manager) and WPL (if different from the responsible author).

3) Three weeks before the due date: The first draft is sent to the reviewers by the responsible author. Reviewers send their comments to the author following the guidelines provided by the author, who generates the final draft.

4) One week before the due date: The final draft is sent by the responsible author to the Consortium. The Project Manager and the StC check and approve the final draft. All partners may provide feedback on the deliverable to the PMP. Non-response from any partner is regarded as agreement.

5) Six days to one day before the due date: The Project Manager checks the format, clarifies any queries with the author and generates a final version.

6) Five days to one day before the due date: Submission to the EC by the Project Manager.

7) The Project Manager is responsible for the intra-consortium distribution of the final versions (in Word and in PDF).

8) The Commission evaluates the reports and deliverables following Article 22.1.2 of the Grant Agreement. It may be assisted in this task by independent experts through technical project reviews.

Guideline for reviewers

- Please make sure you use track changes and comments to give feedback to the authors.
- Make sure the document complies with the *description of the project* (DoA). (If you are external to the Consortium, please request the relevant part of the DoA to the Project Manager.) Point out any diversions.
- Make sure the document uses consistent and correct terminology. Are there any diversions from previous deliverables? (If you are external to the Consortium, please request the relevant deliverables to the Project Manager.)
- Use the following questions to structure your review:
  o Is the document structured logically and provides clear arguments? If no, include suggestions for improvement.
  o Is anything missing?
  o If it concerns implementation in the case-study sites: Are the recommendations and approaches realistic? If not, what would need to be changed?

Deliverable amendment requests

The Project Manager coordinates any amendment requested by the EC and the project reviewers. Such requests are communicated to the StC. The amendment itself has to be carried out by the authors having the responsibility for the deliverable.

3.3   Periodic reports to the EC
Purpose

To provide the EC, periodically, with progress, technical, management and financial control information; justify efforts and investments; provide reviewed detailed planning.

Components and responsibilities (see for details [Ref. 6], [Ref. 9] and [Ref. 10]):

- A periodic technical report
  - periodic activity report including overview of progress: to be compiled by PMP, input from the WPs;
  - publishable executive summary on the activity: PMP;
  - plan for using and disseminating the knowledge: WP5 Leader supported by the PMP;
  - interim socio-economic reporting impact: PMP.
- A periodic financial report: compiled by the PMP, input of all partners;
  - individual financial statements from each beneficiary;
  - an explanation of the use of resources including subcontracting;
  - a periodic summary financial statement; created automatically consolidating the individual financial statements and includes the request for interim payment.

The PMP has the overall responsibility of creating, coordinating and submitting periodic reports to the EC.

Procedure and timing:

The completion of reports is aligned with the specified reporting periods (RRP1 (M1 – M15) and RRP2 (M16 – M36)) and the reports have to be submitted no later than 60 days after each period electronically via the Portal. All partners need to contribute to these reports and therefore need to allocate time to internal project management providing the necessary information on work progress, efforts, justification of costs and resources used. Workflow:

- Progress is monitored continuously by the Scientific Coordinator, the Project Manager and the WP Leaders.
- Expenses, budget and efforts are monitored and documented continuously by each partner with the support when necessary of the Project Manager.
- One month before of each RRP deadline at the latest, the PMP informs all beneficiaries about requirements and obligations for the upcoming report, suggests a report generation work plan and provides templates. It needs to be mentioned that the description of work performed required for the technical report needs to be carried out on work package level and therefore should be supported by corresponding WP Leaders.
- One month before the EC deadline all beneficiaries and WP Leaders provide the requested input to the PMP (except final financial statements, as indicated in the following sections). With this the PMP triggers the review process by the StC:
  - The draft report is sent to the StC for check and approval (not later than 3 weeks before deadline).
  - The StC delivers its comments (not later than by 2 weeks before deadline).
  - The PMP informs to whom it may concern about necessary major changes, generates the final version and submits the reports including all complementary forms and material to the EC (on deadline).

Official templates and models will be available on the SharePoint shared workspace [Ref.5]. Where deemed necessary they may be distributed in customised versions by the Project Manager.

3.3.1 Financial statements (cost statements)

Purpose

For the fulfilment of the EC requirements regarding periodic reports every beneficiary should be familiar with the fundamental requirements of financial reporting (see [Ref. 9] and [Ref. 10], the Project Manager provides support) of their share of the project as they are critical for the due justification and reimbursement of their costs.

Shortcomings or problems in their reports would affect their particular payments according to EC regulations.

Components and responsibilities

- Break-down of costs: Partners will send to the PMP a break-down of costs declared in the financial individual statement. This is now a contractual obligation and therefore shall be submitted to the PMP. It shall help the PMP in the justification process and in checking the information for completeness, consistency and correctness. The main cost categories to be specified are personnel, travel, consumables, audits, equipment, overheads and other. This information is sent to the PMP by e-mail and will be exclusively used for checking and completing the information in the different parts of the reports. Templates will be provided by the PMP.
- All information will ultimately be submitted and "signed" by the eligible representatives in the "Funding and Tenders" EC Portal. All beneficiaries - including the coordinator - must fill in their own financial statement, electronically sign it and submit it to the coordinator. The individual financial statement must detail the eligible costs (actual costs, unit costs and flat-rate costs; see Article 6 of the EC Grant Agreement) for each budget category. The beneficiaries must declare all eligible costs, even if — for actual costs, unit costs and flat-rate costs — they exceed the amounts indicated in the estimated budget.

Procedure and timing

Partners are required to provide the PMP with the abovementioned breakdown of costs no later than 45 calendar days after the end of the reporting period. Templates will be provided by the PMP.

Important reminder (Article 20.6 of the EC Grant Agreement)

Financial statements must be drafted in euro.

Beneficiaries with accounting established in a currency other than the euro must convert the costs recorded in their accounts into euro, at the average of the daily exchange rates published in the C series of the Official Journal of the European Union, calculated over the corresponding reporting period.

If no daily euro exchange rate is published in the Official Journal of the European Union for the currency in question, they must be converted at the average of the monthly accounting rates published on the Commission's website, calculated over the corresponding reporting period.

Beneficiaries with accounting established in euro must convert costs incurred in another currency into euro according to their usual accounting practices.

3.4   Final report

Purpose

To provide the EC with overall project overview and justification, with special emphasis on publishable results and overall socio-economic impact. The final report is submitted together with the periodic report for the last reporting period.

Components and responsibilities (see for details [Ref. 6] and [Ref. 7])

- A final technical report including:
    - o publishable executive summary on the activity: PMP;
    - o overview of the results and their exploitation and dissemination: WP Leaders supported by the PMP;
    - o the conclusions of the action: PMP and WP Leads;
    - o the socio-economic impact of the action: To be compiled by the PMP with input from all the beneficiaries.
- A final financial report including:
    - o final management report for the full duration of the project (includes financial statements from each beneficiary and the required audit certificates for the final reporting period);
    - o payment request for the outstanding balance: PMP;
    - o final summary financial statement', created automatically by the electronic exchange system, consolidating the individual financial statements for all reporting periods and including the request for payment of the balance; and
    - o a 'certificate on the financial statements' (drawn up in accordance with Annex 5 of the EC Grant Agreement) for each beneficiary, if it requests a total contribution of EUR 325 000 or more, as reimbursement of actual costs and unit costs calculated on the basis of its usual cost accounting practices. See section 3.4.1.

The PMP has the overall responsibility of creating and submitting periodic reports to the EC.

3.4.1   Certificates on Financial Statements (audit certificates)

Audit Certificates are now formally called Certificates on Financial Statements (CFS).

- A **Certificate on the Financial Statements** (drawn up in accordance with Annex 5) **is mandatory for each beneficiary**, if it requests a total contribution of **EUR 325 000 or more**, as reimbursement of actual costs and unit costs calculated on the basis of its usual cost accounting practices

Each relevant beneficiary shall provide a certificate prepared and certified by an external auditor, certifying that the costs incurred during that period meet the conditions required by the agreement. The certificate should expressly state the amounts that were subject to verification and must be forwarded in the form of a detailed description verified as factual by the external auditor (Annex 5 of the EC Grant Agreement). Where third parties' costs are claimed under the contract, such costs shall be audited in accordance with the provisions of the contract.

The reasonable cost of this certification, when compulsory, is an eligible cost under the activity relating to Management of the consortium and are then 100% refundable (except for VAT) by the Commission within its contribution.

Each beneficiary is free to choose any qualified external auditor, including its usual external auditor, provided that it meets the cumulative following professional requirements:

1. The external auditor must be independent from the beneficiary;
2. The external auditor must be qualified to carry out statutory audits of accounting documents in accordance with the current EC directive on statutory audits of annual accounts and consolidated accounts or similar national regulations (any European Union legislation replacing this Directive).

Certification by external auditors according to the contract does not diminish the liability of beneficiaries according to the contract nor the rights of the Community with respect to carrying out its own controls and audits and any other right arising from the EC Grant Agreement.

See also Annex 5 of the EC contract [Ref. 3] and the guidance on audits [Ref. 10].

3.5   Project reviews

Purpose

Periodic project reviews and a final project review is carried out by the EC through external reviewers to assess the work carried out and the results obtained (includes review of the deliverables) and, if necessary, to provide recommendations and reorientations that may be required.

The review principally assesses:

- the degree of fulfilment of the project work plan and the deliverables 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 employed and other management aspects of the project
- the beneficiaries contributions and integration within the project
- the plan for using and disseminating the knowledge

Components and responsibilities

- Report and deliverables review: EC reviews through external experts the project progress (periodic reports and eventual additional information) and results (deliverables and dissemination and exploitation activities).
- Review meeting between EC, the Coordinator and those partners involved in technical presentations or representing partner's interests. Periodic review meeting usually take place after the delivery of periodic reports and before the end of the review period. The final review meeting could take place (at EC discretion) before the final reports are delivered to maintain the possibility to generate input for them[5]. The PMP coordinates, requests and submits

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[5] The fact that this takes place after the execution (and financed) period of the project has to be taken into account as cost therefore cannot be charged against the project and eventual project bound work contracts may have finished by then.

eventual additional information and material, calls the necessary beneficiaries and invites consortium members.

Procedure and timing

The EC sets the procedure for the hearing and informs the Coordinator. The external reviewers are determined by the EC before the first review. They usually remain reviewers throughout the project. The Consortium may reject a reviewer through written declaration and justification.

The outcome of the review is communicated in writing to the Coordinator after the submission of periodic reports and corresponding deliverables. The outcome may include technical recommendations to be taken into account in the project's planning for the work. In some specific cases the consortium, through the PMP, would need to present an amended plan which, on approval by the Commission, would be appended to the DOA, Annex 1 to the Grant Agreement[6].

At the end of each reporting period, the Commission shall evaluate and approve project reports and deliverables and disburse the corresponding payments within 90 days of their receipt (see Article 21.4 of the EC Grant Agreement).

3.6 Cost reimbursement and payments

The Coordinator exclusively receives all project related payments from the EC. On reception of any payment the Coordinator, duly and without delay, processes the distribution of the financial contributions to the partners according to his EC-contractual obligations and in agreement with the financial plan of MICS project and the dispositions of the Consortium Agreement.

3.7 Contract amendments

Contract amendments are coordinated by the PMP. Changes affecting the contract could lead to a major review of the DoA and the GPF (Grant Preparation Forms) and will therefore require a high level of interaction with the EC Project Officer and the project partners through the PMP.

Events that require or trigger contract amendments are:

- Beneficiaries joining or leaving the consortium (it includes changes at legal and financial level of the current beneficiaries)
- Relevant modifications of the budget and / or its distribution (beneficiaries are allowed to slightly transfer budget between different activities and between themselves in so far as the work is carried out as foreseen in the DOA (Ref. 2)
- Relevant changes in the detailed work plan
- Modifications in the coordination and management structure and/or their working principals as specified in the Grant Agreement and/or its annexes.

Relocation or resignation of key personnel (explicitly listed in the DoA) usually does not directly lead to an amendment of the contract if it does not require the change of budgets, objectives, the work plan or the inclusion / exclusion of a beneficiary. The PMP has to notify such changes to the Project

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[6] If no recommendations are made, then the original plan as submitted with the Periodic reports will be appended to the Grant Agreement Annex 1.

Officer in formal written form (letter) and has to take care that the next DoA update reflects the change. Changes in other staff, students etc. that affect the project need to be reported to the corresponding WP Leader with copy to the PMP.

A document for tracking proposals for amendments can be found on the shared workspace (SharePoint).

3.8   Communication

General

The PMP (representing the Coordinator) maintains contact to all partners and stays in permanent close contact to the StC. The Project Manager is responsible for maintaining the contact to the Project Officer and the EC and of communicating relevant issues to the corresponding beneficiaries.

Coordination meetings

The PMP may organize coordination meetings (conference call) with StC members to exchange information and coordinate administrative decisions and actions. These meetings should include an agenda, but may be kept informal. It is intended to start such meetings on a regular basis after the submission of this deliverable.

Phone and email communication

The PMP generally use phone and voice over IP (VOIP, e.g. GoToMeeting or Skype) communication for discussing ideas, determining who should be included in a discussion and reaching consensus. They generally use e-mail communication for recording consensus, recording actions to be taken, confirming decisions in writing and sending documents for review.

Sharing documentation

All project documentation is posted onto the MICS project shared workspace (SharePoint/OneDrive).

3.9   Style guide

A style guide is used to ensure that content distinguishes the MICS brand and is cohesive. This cohesion is important because it helps establish a strong brand awareness, which will ultimately facilitate improved dissemination and outreach. The following guidelines should be applied (Note that this very document, unfortunately, is not fully compliant with these guidelines.):

The possessive case for MICS should be << MICS's >>.

Fonts: Calibri (Body) should be used for body text and Calibri Light for titles.

Pantones R/B/G: Turquoise 37/199/161, Light blue 45/117/190, Dark blue 43/53/68

Links format: [https://earthwatch611.sharepoint.com/sites/mics-group/Shared%20Documents/Forms/AllItems.aspx]

References: APA style

Acronyms: *work packages* (WPs)

Capital letters should never be used unless grammatically needed.

"Citizen science" should never be abbreviated as "CS".

Full stops "." are used only and always at the end of sentences. (This is valid also if the sentence is in parentheses.)

Bullet points should start with lowercase letters and should end with a column ";" in general and especially if they include sentences. (See the following section for an example.) If the *points* are very short this is not necessary. If the points include more than one sentence, the author can choose the best style.

Paragraphs should be always *justified*.

Numbers should be written as words till "ten" and as ciphers from "11".

To all this there might be, obviously, justified exceptions, but using a common writing style will be useful for various, obvious reasons.

Microsoft Office templates will be provided where appropriate.

3.9.1 Document contents

Documents should include (A template for deliverables is provided.):

- title page including title and version;
- document information page including information as in the specified template;
- revision-history section with table of major changes in each released version of the document; including version (i.e., date) and revision description;
- table of contents;
- page number on every page, including the total number of pages;
- title on every page.

3.10 Document repository, specification format and versioning

MICS's technical documents are stored in four classes of repositories:

- Personal computers and personal cloud systems (out of the scope of this document);
- Partner organisations' servers and cloud systems (out of the scope of this document);
- MICS's OneDrive cloud system (also accessible via the MICS shared workspace SharePoint);
- Other storage systems (e.g., paper) (out of the scope of this document).

3.10.1 OneDrive and SharePoint

OneDrive for Business is a place where you can store files from your computer into the cloud, and access them from any device, or share them with others. As part of Office 365 or SharePoint Server, OneDrive for Business lets you update and share your files from anywhere and work on Office documents with others at the same time.

A SharePoint team site is a place that users can collaborate on files, documents, and ideas. It is set up to facilitate two way communication between team members. SharePoint offers a full range of

document libraries, task lists, calendars, workflows, wikis, and other features to help a team communicate and collaborate.

With both OneDrive for Business and a SharePoint team site, your files are stored in the cloud. You can sync either OneDrive for Business or SharePoint to your computer[7] (for offline working).

MICS's OneDrive cloud system and SharePoint site are a private repository accessible only by projects participants and managed by Earthwatch. MICS OneDrive can be accessed at:

[https://earthwatch611.sharepoint.com/sites/mics-group/Shared%20Documents/Forms/AllItems.aspx].

It can be accessed also from the corresponding SharePoint page:

[https://earthwatch611.sharepoint.com/sites/mics-group].

Any format can be used for documents, but, because of market dominance and because of the chosen repository system, most documents will be using Microsoft Office formats. In these cases, OneDrive documents can be edited collaboratively online in real time by various users with Office 365. (The collaborative editing environment is more powerful than Google Drive, but also more brittle.) This makes versioning and change-tracking management somehow different from systems that are more traditional.

For example, in Word Online, changes can be tracked, but there are a couple of important things to keep in mind:

- You cannot see tracked changes in Word Online but they are still there. When you open a document in Word Online that has tracked changes, they are preserved and any changes you make will also be tracked. You just will not see them until you open the document in the Word desktop application.

- You cannot turn "Track Changes" on or off in Word Online; you can only do that in the Word desktop application.

- You will know "Track Changes" is on when you see it in the status bar at the bottom of Word Online.
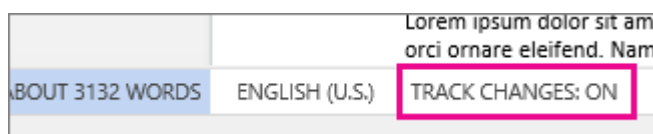
Word Online also lets you add, view, and delete comments, as well as reply to comments from other reviewers.

If you have the Word desktop application, use the "**Open in Word**" command to open the document and turn on track changes. When you are done and you save the document, it will continue to be stored where you opened it in Word Online. Tracked changes will be preserved and—if you turned on

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"Track Changes" before you opened the document in Word Online—any changes you make in Word Online will also be tracked.

3.10.2 Nomenclature

For the naming and versioning of MICS technical documents (if not otherwise specified) the following guidelines apply:

MICS_DocumentTitleNoSpaces_yyyy_mm_dd.doc / pdf / xls...

(Note that the version is the date of editing of the document.)

Example of document name:

MICS_D1.2_ProjectManagementHandbook_2019_01_28.doc

Sometimes, more details are needed to specify a version. In this case, the following guidelines apply:

MICS_DocumentTitleNoSpaces_yyyy_mm_dd.doc XXh Author

(Note that the use of spaces is fine.)

Examples of document names:

MICS_D1.2_ProjectManagementHandbook_2019_01_28 09h.doc

MICS_D1.2_ProjectManagementHandbook_2019_01_28 Luigi.doc

4   Technical project management

4.1   System development process

In the MICS project, we will preferably use a rapid prototyping process in order to obtain user feedback at the earliest possible point in the project. In any case, system developers have freedom about the software development and programming methodologies they want to use.

Overall process

The MICS project will develop and evaluate prototypes following three phases:

1. Basic requirements identification. The requirements for the first prototype will be defined in the early stages of the project.
2. Prototype continuous development and review. Following an evolutionary prototyping approach allowing the development teams to add features or make changes that could not be conceived during requirements or design iterations. User-centred feedback obtained and processed during this stage guides prototype's incremental evolution.
3. Revision, integration and adaptation of the plan for the following prototype. A compilation of the feedback obtained and processed during the previous stages acts as key input for adapting the next prototype phase.

Although prototype design and validation are under the responsibility of their respective WP leaders, a prototype phase is not complete without the sign-off of the StC.

4.1.1   Guidelines on software developments

All prototypes will follow an agile-modelling methodology: a practice-based methodology for modelling and documentation of software-based systems incepted as a collection of values, principles, and practices for modelling software that can be applied on a software development project in a more flexible manner than traditional modelling methods. We'll enforce test-driven developments as well as Scrum usage, specifically since "warm up" / iteration 0, for all coding-testing and releasing iterations (scrum construction lifecycle). In addition, note that Scrum will be used as an iteration management methodology that'll make no statements about development processes, QA strategy, risk management, technologies, tools, etc. giving some degree of freedom in order to accommodate to project's specifics without compromising quality of the process and product.

4.1.2   Issue resolution

The StC is responsible for driving all cross work package technical and design issues to resolution and keeps everyone informed of the resolution of these issues as necessary or pertinent. The WPLs are responsible for escalating all non- technical and non-design issues that affect directly the System Development Process and schedule to the Steering Committee.

5   External communication and dissemination

5.1   Approval and responsibilities

Purpose

It is important that the consortium creates a corporate image of trust and confidence. It has public responsibilities (inform, justify, inter-project collaboration, innovate, protect interests of third parties) and internal interests (individual and group visibility, protections of own interests, protection of knowledge, economic and scientific exploitations) that have to be matched.

For that reason it is of high importance to take only well coordinated actions on major external communication, dissemination and exploitation issues.

General responsibilities

- Dissemination planning is the responsibility of WP5. Dissemination actions are aligned with the established plan.
- Common and project-wide exploitation strategies shall be defined in WP5.
- Coordination and support: Coordination of all related activities and actions is done by the PMP. The PMP may give support where required in any related activity.
- Internal information policy: all major activities get, when approved, coordination support from the PMP where necessary and, when carried out, are reported to the PMP.
- Confidentiality: The consortium signed confidentiality clauses with the Consortium Agreement (section 10) that have to be respected at any time and for any public or consortium level disclosure of information.

Components and approval

All *major* communication and dissemination activities should look for prior approval by the decision-making components of the MICS management structure.

- Foreground protection and exploitation: General provisions, rules of ownership and protection of knowledge are regulated in the Consortium Agreement (section 8). The rules for access rights are manifested in section 9. In general there is no approval necessary for related actions as ownership is with individual partners or joint ownership of a group of partners who have agreed upon the conditions. Only in case of disputes, would the involved partners appeal to the StC. It is important, however, that for project documentation and general coordination reasons the partners report their intentions on any such activity to the PMP including a coarse description of an intended/actual patent application or similar.

- Publications: By publication we refer to any abstract, scientific paper, oral presentation, press release or similar that aims at disseminating MICS Foreground in public. The general provisions for project related publications are fixed in the CA section 8. There is no need for approval. Article 8.4.2.1, however, includes the right of all involved partners and the Commission to object to any publication if they consider that the protection of their Knowledge would be adversely affected. This means that any intended publication has to be provided to the Partners through the PMP before the intended publication date or deadline (see section 5.2). This also will help the PMP to monitor and document the public project output and to check it against dissemination plans. The PMP may create during the lifetime of the project a repository of public information and material on the project web-page that is cleared of any doubts and may be used without checking. In case of any disputes the StC is entitled to decide on the matter.

- Publication on mics.tools is the responsibility of the PMP and only needs StC approval when major components of the project may be affected in a critical way or when eventual knowledge protection possibilities (patents, utility models) are at stake. Any partner is encouraged to suggest and deliver contents and material to the PMP (see also section 5.5).

- Partners' external communication: Project related public information may be published on any partner's public web site or his external communication media without approval. However, it has to be ensured that the sources are correctly acknowledged and that clear reference to MICS and its public communication resources is indicated. Latest information must always available for the MICS web page and other coordinated public project information media.

- Press and public relations: Press releases and other press communication, as stated above, being publications, do not need approval. However, prior notification shall also go to the WP Leader of WP5 to check on alignment with the Project (dissemination strategy; breaches of confidentiality) in collaboration with the PMP. In any case a review process is suggested (see section 5.3).

- Ethical issues: In any communication outside the confidential environment of the project, the interest of third parties has to be respected. This is particularly important in the case of personal data, where informed consent for dissemination has to be obtained at the point of collection, even when information will be strongly de-personalized (see section 5.7).

- Project publication register: All MICS related public communication made shall be notified to the PMP in order to maintain up-to-date news and a complete register of dissemination and

publication activities. The PMP will provide mechanisms for submitting information on latest publications.

5.2   Publication review

No approval is necessary for public disclosure of own knowledge related to MICS (for example, publications or presentations) by any group of MICS partners and it is in the high interest of the Consortium to facilitate project dissemination. Nevertheless, some check is required to guarantee the right of protection of knowledge for other Consortium partners. In other words, no quality control or review is necessary (although it may be desired and could then be organized by the authors), but reasonable time has to be given to the Partners (and, in some cases, to the EC) to check if their property (information or knowledge) or interests (in the case of the EC) is handled correctly or may be hurt. In such case, correction or withdrawal of such knowledge or information, or, where necessary, withdrawal of the publication, may be requested before final publication.

This means that, although the final publication or presentation may not be ready to be distributed to any Partner or the EC before the very last moment before the submission deadline, still there must be at least 20 days for a Partner (after or before the deadline) to check the intended publication in detail before it finally goes public.

Where circumstances do not permit to follow the suggested procedure (e.g. invitation to present about the project less than 20 days prior to the presentation date) the presentation or publication need to be exclusively based on previously published or cleared information, to avoid conflicts.

The PMP will evaluate creating a repository of cleared material on the SharePoint shared workspace.

Important recommendation: The authors of a publication are most likely well aware of any potential conflict of interest arising from the disclosure of knowledge and critical information owned by others. It is therefore highly recommendable and in the interest of all involved to proactively clarify any issue with the partners involved, before the below procedure is started.

The necessary steps for publication check are fixed in the Article 29 of the EC Grant Agreement and in section 8.4 of the Consortium Agreement. In summary the following procedure applies:

1) For reasons of information and control, project partners have the right to learn about any planned publications with 20 days prior notice allowing them to exercise their right of objection if they consider the publication to harm the protection of their knowledge.
2) The Party or Parties wishing to make the publication provide through the Main Author and by e-mail information on the planned abstract, publication or oral presentation to the Project Manager who informs immediately the Consortium (also by e-mail, indicating in the header of the message the keyword [MICS intended publication]). The information should at least include the foreseen list of authors, title, destination (where to publish), an idea of the content (e.g. abstract or reduced abstract) and the purpose of the publication (e.g. "publication of first results of XX's doctoral thesis within the MICS project"). All the Partners check the material to identify conflicts of interests through use or publication of their confidential information, Background, Foreground or similar.

3) Any Partner may request within the 20 days of the notification a copy of the information, which needs to be provided by the beneficiary planning to publish its knowledge to the requesting Party within 3 days from the receipt of the request.
4) The requesting Party's right to object can then be exercised within 5 days from receipt of the copy. The objection has to include a precise request for necessary modifications. The objecting Party cannot request a publication delay.
5) Parties affected by the disclosure of their knowledge are entitled to request that their proprietary confidential information, Background and Foreground is deleted from any such publication or communication, if they consider that the protection of their Knowledge would be adversely affected.
6) The Main Author informs PMP when contribution is accepted for publishing or has been presented publicly, for monitoring and documentation purposes of dissemination activities (adequate mechanisms will be provided by the PMP).

5.3   Review of press releases

Press releases are an important component of project dissemination. The PMP will provide a model for press releases on the SharePoint shared work space. A press release may be initiated by any project partner in agreement with the overall dissemination plan. All press releases should be reviewed by the PMP and the WP Leader of WP5 to check the overall message and coordinate with other project dissemination activities. Apart from that, Press Releases shall follow the same procedure as scientific publications (see 5.2).

5.4   Authorship and acknowledgement policy, disclaimer

The authorship policy for scientific publications follows common practice in the scientific world and shall include co-authors that contributed actively in a particular publication and developers that carried out significant work on which the particular publication reports.

All publications or public material that report on or include material from activities carried out within the MICS project (i.e. include results from activities charged fully or in-part against the MICS project) shall expressly acknowledge that developments were made within MICS and acknowledge the financial contribution made by the European Commission by means of the following acknowledgement:

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 824711.

OR

The research described in this paper is partly supported by the project MICS, which has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 824711. The opinions expressed in it are those of the authors and are not necessarily those of the MICS partners or the European Commission.

With that, the presented Foreground is exclusively or partially assigned to the project with all contractual consequences like IPR and confidentiality, and is officially declared project output.

5.4.1 Citation format

To cite MICS's deliverables and documents, the following should be used:

Surname, initials, Surname, initials, etc. (Year). Dx.x title. *Deliverable report of project H2020 MICS (grant agreement No 824711).*

Example: Ceccaroni, L., Parkinson, S., Novoa, S. & Williams, C. (2019). D1.1: Project scoreboard and progress indicators. *Deliverable report of project H2020 MICS (grant agreement No 824711).*

5.5 Project website

The official project web site [www.mics.tools] is managed by the PMP. It shall be the most up-to-date and complete reference for any project related public information. That means that partners need to contribute latest material as soon as possible, should make reference to it on their public communications and should provide the PMP with news and latest facts such as complete information (date, place, media, source or reference, purpose, contents etc.) on publications, press releases, public communication and presentations and similar. The PMP will facilitate the information submission with easy-to-use mechanisms such as, for example, simple standardized forms on the SharePoint shared work space.

5.6 Newsletters and Social Media

See D 5.1 and D5.8 for more information on wider dissemination plans and management of newsletters and social media.

5.7 Regular cross-dissemination and meetings

The PMP will pay strong attention to eventual cross-dissemination and meetings to foster communication with related project within the same specific EC work programme, organised by the European Commission.

MICS takes into account that there are four projects funded in 2018 under H2020-SwafS-2018-2020 (Science with and for Society) Topic 15, and that they will benefit from cooperation in certain areas; these projects being:

- MICS
- ACTION
- Cities-Health
- EU-Citizen. Science

The EC has requested these consortia to seek out opportunities for cooperation.

5.8 Ethical and legal issues in dissemination

This section refers to the handling of personal data information outside the research and development tasks but inside the dissemination activities of MICS. See Article 39 in the EC Grant Agreement.

Partners are requested to take the following points into consideration:

- information disseminated should be in de-personalised form as a matter of security and confidentiality. Research beneficiaries should be informed of this, and the form of depersonalisation;
- only as much information should be disclosed as is necessary for the purpose for which it is disclosed. Information should be destroyed when it is no longer needed for research purposes;
- partners using information provided by other partners should check with those partners on ethical restrictions on the use of that information;
- partners introducing/generating information encumbered by ethical restrictions are obliged to understand the extent and impact of those restrictions and inform other partners within the Consortium when providing them such information;
- as a particular issue, project developments creating data repositories should include a strategy for handling ethically encumbered information (e.g. separation of information according to options for use, destruction of resources post-project, inclusion of access control linked to the use limitations). Support during the development of such strategies will be available from the PMP;
- in case of doubts of personal information registry and policies to be applied, the PMP should be contacted for support at the earliest opportunity.

The implications of GDPR should also be considered as relevant, and as the rights of all EU citizens. GDPR includes but is not limited to:

- fair and transparent collecting, recording, storing, using, analysing, combining, disclosing or deleting of personal information;
- only as much data as necessary should be collected in the least obtrusive, but also most transparent, manner as possible;
- only processing data for purposes for which it was provided;
- adequate security measures;
- incident response plans; and
- documentation of your decisions and practises.

6 Managerial Key Performance Indicators (KPIs)

The goal of performance is to achieve the MICS project vision and mission. A set of Key Performance Indicators have been developed during the final planning phase of the project negotiation under the coordination of the Scientific Coordinator.

The listed KPIs have to be used for project internal management and monitoring:

Periodic activity reports will report on these indicators to assess whether there is evidence that quality-related activities are being performed effectively in the project and, if not, then implement corrective actions. D1.1 Project scoreboard and progress indicators will be one of the key tools for monitoring, alongside other templates, which will be provided.

The following paragraphs provided details on the four managerial KPIs:

1) Accurate use of resources / execution of budget
2) Compliance of procedures
3) Periodic reports and EC project review outcomes
4) Milestones assessment

6.1 Accurate use of resources / execution of budget

Description

Project beneficiaries must be able to evaluate the amount of effort they spend on the project. The coordinator and the PMP must also have a good continuous view on the budget utilisation of each partner and must have access to information and numbers required for the reports the Commission requests (the description of the research progress and the description of technical and scientific achievements -not involved in the KPIs- are important components of these reports).

The Commission asks the coordination of the project to report periodically on Work Packages advancement and the pace of the EC's grant utilisation.

Evaluation

The use of resources and budget consumption will be monitored during the project life: the collected data serves as basis for synthesis work carried out and forwarded to the Commission after approval by the StC.

The PMP will implement a reporting schedule and templates to monitor the use of resources and their accuracy with the project objectives fulfilment on a regular basis. Above 20% deviation from expected figures based on these reports will result in the creation of deviation plans. The reports are to be completed within 15 days after the corresponding reporting period.

Reporting and Monitoring tools

- Standardised forms allowing:
  - Efficient collection of information needed
    - Minimum effort and time spent
  - Easy production of reporting and contractual documentation
    - By using an embedded approach
- Regular inputs from each Organization:
  - Web-based reports collection tool - standardised form
  - A few lines per activity (technical achievement per WP)
  - Validated by the WP Leaders
- Summary from each WP:
  - Collated (with eventual comments) by the WP leader
- Summary per Partner:
  - Validated by the WP Leaders

    o Web-based recap spreadsheets

6.2 Compliance of procedures

Description

MICS's project structure was kept intentionally simple, avoiding standing committees, thematic sub-teams or working groups. Following this line, the main responsibilities stand on the PMP, WPLs and StC, responsible for exchanging and deciding on technical development and progress of work with a high frequency of contact and strategic project management issues. Due to the sensitivity and high interdependency of the work carried out in the different WPs, the Project Management Panel (Scientific Coordinator and Project Manager) plays an important role as coordinator and facilitator of communication, moderator of debates and controller of Objectives and Work Plan.

These three bodies are in charge of the supervision of the compliance of procedures as defined in the present document and further specified in the Annex 1 (DoA)

Evaluation criteria

- Timely delivery and quality assessment of deliverables and periodic reports
- Risks clearages

Reporting and Monitoring tools

- Establishment of any advisory committees or ad hoc boards for matters that require specific attention and follow-up, including agreement on appointment and revocation of appointment of its members and establishment of their working procedures.
- On periodic basis:
  - revision of the Work Plan and approval thereof, as proposed by the StC.
  - submit a proposal to the Steering Committee regarding the effort and budget allocation to partners, activities and work packages for the next reporting period.

6.3 Periodic reports and project reviews EC outcomes

Description

The PMP is responsible of the follow-up of activities and monitoring of compliance with the Project Work Plan, planned resources and time schedule, liaising with the StC, promoting as far as possible the synergy between different activities and efficiency throughout and the financial management, including the check for viability of the proposals of funding assignment to Project participants and activities submitted by the Work Package Leaders.

These responsibilities are assessed by the production of administrative and financial reporting periods, according to that is specified in the EC contract.

The reporting is accompanied with Reviews realised by the Project Officer and/or designated experts and will take place periodically. The encounters, besides reflection on the work done and outlook on work due shall also enable to demonstrate the progress of work.

Pre-emptive actions

- Continuous evaluation of work progress and resources available.
- Early identification of potential difficulties and deviations from the work plan.
- Risk clearage, analysis and assessment.
- Design and implementation of remedial actions and recommendations (if necessary)
- Provide researchers, administrative staff, work package and tasks leaders, and the PMP with all the required information and its processing, while keeping the time to update it to the bare minimum.
- Greatly facilitate the writing of the sensitive chapters of the numerous project reports, by including easy to access numerical information.
- Inform researchers and administrative staff on the whole project activities and on the efforts in each activity.

6.4   Milestones assessment

Description

Project' milestones shall be understood as assessment of expected achievements and will be used as points of critical analysis and reflection of work done and work to do. They provide additional points to check progress reflect the success of work and project implementation so far and plan the upcoming phase of the project.

Evaluation criteria

- Clear and concise background and results presented
- The main features of the item under consideration are identified and the associated issues are assessed
- Material and results issued are appropriately referenced

Reporting and Monitoring tools

Two weeks after the milestone deadline, formal reports are to be submitted from the WPLs to the PMP, in which all exceptions to the previously-agreed schedule are highlighted, reviewed and explained, and the steps to be taken for risk amelioration and a return to the planned schedule are presented. In the event that the actions proposed so require, a formal discussion at the next StC teleconference will be held, during which the relevant issues will be reviewed and ratified accompanied by recommendations for action or improvement. The PMP will provide templates.

7   References

Ref. 0   EU rules for participation in Horizon 2020

Ref. 1   Contract No. 824711 MICS (Grant Agreement core text)

Ref. 2   Annex 1 of the Contract no. 824711– "Description of Action"

Ref. 3   Annexes 2 - 6 of the Contract no. 824711

Ref. 4   MICS Consortium Agreement v3, dated from 12/12/2018

Ref. 5   Project web site: mics.tools

Ref. 6   EC guidance on reporting

Ref. 7   Template for EC Reports

Ref. 8   EC guidance on Dissemination and Exploitation

Ref. 9   EC guidance on finances (see also Ref 10)

Ref. 10 EC guidance on audits

Ref. 11 EC guidance on communications

8   Definitions

Beneficiary	Consortium member having signed the Accession to the Grant Agreement. Is equivalent with "Partner" and "Participant".
Consortium Agreement	Means the agreement concluded amongst MICS beneficiaries for the implementation of the contract. Such an agreement shall not affect the beneficiaries' obligations to the Community and/or to one another arising from the contract.
Consortium	The MICS Consortium, comprising the organisations listed in Appendix 1 of the present document. For decision taking on Consortium level serves the Steering Committee of the Consortium.
Deliverable	Represents a verifiable output of the project, often written reports but can also take another form, for example the completion of a prototype, etc.
Eligible costs	These are costs accepted by the Commission as being reimbursable (up to the limits established in the Grant Agreement).
Grant Agreement	The contract signed between the coordinator and the European Commission for the undertaking of the collaborative project MICS (824711).
Project	The sum of all activities carried out in the framework of the consortium and their time schedule, according to the above- mentioned contract.
Work package	Major sub-divisions of the project with a verifiable end-point which should follow the logical phases of the implementation of the project.
Work plan	Schedule of tasks, deliverables, efforts, dates and responsibilities corresponding to the work to be carried out for the MICS project, as specified in Annex 1 (Description of Action) to Grant Agreement nº 824711.

9 List of Key Words/Abbreviations

CA   Consortium Agreement

CFS   Certificate on Financial Statements

DoA   Description of Action (Annex 1 to the EC contract)

EC   European Commission

EU   European Union

GA   Grant Agreement

GPF   Grant Preparation Forms

M   Month with project timeline

PMP   Project Management Panel

RTD   Research and Technological Development

StC   Steering Committee

TL   Task Leader

WP   Work Package

WPL   Work Package Leader

10 Appendices

10.1 Appendix 1 – Consortium

Partners of the MICS Consortium are referred to herein according to the following codes:

List of Beneficiaries		
Full Name	**Short Name**	**Country**
Conservation Education and Research Trust UK (CERT known as Earthwatch Europe)	Earthwatch	UK
Stichting IHE Delft Institute for Water Education	IHE Delft	The Netherlands
Autorita' Di Bacino Distrettuale Delle Alpi Orientali	AAWA	Italy
Geonardo Environmental Technologies Ltd	GEO	Hungary
The River Restoration Centre	RRC	UK
Institul National De Cercetare-Dezvoltare Pentru Geologie Si Geoecologie Marina	GeoEcoMar	Romania

External non-contractual collaborators: The Advisory Board

10.2 Appendix 2 – Deliverables list

No.	Deliverable	Lead Partner	Delivery Month
D1.1	Project Scoreboard and progress indicators	Earthwatch	1
D1.2	Project Management Handbook	Earthwatch	1
D1.3	Project factsheet	Earthwatch	1
D2.1	Report about identified research results ready for review	GEO	3
D2.2	Report detailing impact-assessment methods adapted to citizen science	IHE Delft	13
D2.3	Impact-assessment methods adapted to citizen science	IHE Delft	18
D2.4	MICS corpus of knowledge	IHE Delft	14
D2.5	A multilingual ontology	Earthwatch	14
D2.6	Relevant themes assigned to curators	GeoEcoMar	24
D2.7	A finalised version of the conceptual framework	IHE Delft	25
No.	Deliverable	Lead Partner	Delivery Month
D2.8	Citizen-science model for impact-evaluation research	AAWA	32
D3.1	Report on the technical requirements	Earthwatch	5
D3.2	Toolbox for citizen science research: accompanying documentation report	Earthwatch	24
D3.3	The MICS repository	Earthwatch	12
D3.4	Participatory adaptive, personalised information-delivery web platform, period - 1 prototype (P1P)	GeoEcoMar	18
D3.5	Participatory, adaptive, personalised, information-delivery web platform, period-2 prototype (P2P)	GeoEcoMar	33
D4.1	Report on pilot testing in the Western Europe region (UK)	RRC	24
D4.2	Report on pilot testing in the Southern Europe region (IT)	AAWA	24
D4.3	Report on pilot testing in the Central and Eastern Europe region (HU)	GEO	24
D4.4	Report on pilot testing in the Central and Eastern Europe region (RO)	GeoEcoMar	24
D4.5	Comprehensive evaluation report	RRC	33

D5.1	Strategic plan for the exploitation and dissemination of the results (PEDR)	Earthwatch	4
D5.2	Open, peer reviewed report on NBS science	GEO	5
D5.3	Recommendations about the assessment of the impact of citizen science	IHE Delft	25
D5.4	NBS science briefs	RRC	24
D5.5	Videos and podcasts presenting the general and region-specific recommendations	Earthwatch	34
D5.6	Recommendations about the impact of citizen science on the science related to nature-based solutions	Earthwatch	33
D5.7	Project website	Earthwatch	3
D5.8	Quarterly newsletters, social media posts and updates	AAWA	1
D6.1	H - Requirement No. 1	Earthwatch	3
D6.2	POPD - Requirement No. 2	Earthwatch	6