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Project Title:

Smart building retrofitting complemented by solar assisted heat pumps integrated within a self correcting intelligent building energy management system



Heat4Cool

Grant Agreement No: 656889

Collaborative Project

D1.1 Governance structure, communication flow and methods. Quality plan. Risk analysis and contingency plan

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2. PUBLISHABLE EXECUTIVE SUMMARY

The following document is the deliverable D1.1 “Governance structure, communication flow and methods. Quality Plan. Risk analysis and contingency plan”, which contains the overall Project Management Plan to be implemented during the Heat4Cool project.

The objective of WP1 is to ensure a sound coordination and management of the project, covering technical, administrative, financial, ethical, legal and quality issues along with the relation with the EC by:

- Creating and operating the necessary governance structure for an effective project direction and management to achieve the expected project results. This structure will define roles, responsibilities and activities of the different committees, organizations and people as well as decision rules. The main elements of the structure are: General Assembly and the Executive Management Team composed of: the Steering Committee, Project coordinator, Scientific and Technical coordinator and the Administrative, financial and legal coordinator.
- Establishing the communication flow and methods and the quality plan.
- Defining a risk analysis and a contingency plan to solve these risks

The communication flow will be bottom-up and top-down through the typical communication methods such as: meetings, video-conferences, e-mail, phone, etc. The control of project development will be done in this WP, making several revisions for the correct implementation of planned activities.

In addition, the Quality Assurance plan of the project is provided along with the risks analysis and risk mitigation plan.

The complement to this document is the Consortium Agreement. The Consortium Agreement is the prevailing document where general rules and responsibilities of the Beneficiaries and Consortium bodies are listed.

3. INTRODUCTION

3.1 Purpose and target group

The purpose and scope of the report is to create a project management structure defining roles, responsibilities and activities of the different bodies and organizations of the consortium, provide a Quality Assurance plan to fulfil the objectives and expected results of the project, establish a communication flow/method and perform a risk analysis and define a contingency plan.

The target group of this report is the consortium of the Heat4Cool project.

3.2 Contributions of partners

POLIMI and SOLINTEL have prepared Deliverable 1.1 “Governance structure, communication flow and methods. Quality Plan. Risk analysis and contingency plan”.

3.3 Baseline

For the preparation of this deliverable, POLIMI and SOLINTEL have followed information related to the governance structure, roles and responsibilities, meetings, project reports and contingency plan established in the Grant Agreement and the Consortium Agreement.

3.4 Relations to other activities

This document sets the path to provide a Quality Assurance Plan, Heat4Cool management structure and communication methods, risk analysis and contingency plan to be fulfilled by all the Heat4Cool partners during the project lifetime.

4. GOVERNANCE STRUCTURE, ROLES AND RESPONSIBILITIES

4.1 Organization and management

The governance structure has been defined in order to ensure an effective project direction and management that assists in performing the technical, administrative, financial and legal coordination of the project.

The project coordination is headed by POLITECNICO DI MILANO (POLIMI) with the responsibilities described in the following Section 3.2, in section B.2.3.2 “Management structure and procedures”. The responsibilities of the rest of the partners that form the consortium, also known as “Beneficiaries”, are also described in the following Section 3.2 and in section B.2.3.2.

The work has been structured in 9 work packages. The WP1 is especially devoted to management. The next table shows the list of work packages with correspondent leaders.

Table 1. Work packages

WP	Title	WP leader
WP1	Project management and coordination	POLIMI
WP2	Retrofitting design planner tool	TECNALIA
WP3	Integration of Heating and Cooling solutions	SorTech AG
WP4	Simulation at building/district level	POLIMI
WP5	Self-Correcting Intelligent Building Energy Management System (SCI-BEMS)	HYPERTECH AE
WP6	Demonstration, validation and LCA	BALKANIKA
WP7	Business model, replication potential, market analysis	SOLINTEL
WP8	Dissemination and exploitation	EHPA
WP9	Ethics requirements	POLIMI

The structure of the project and interrelations between the main governing bodies is shown in the chart below.

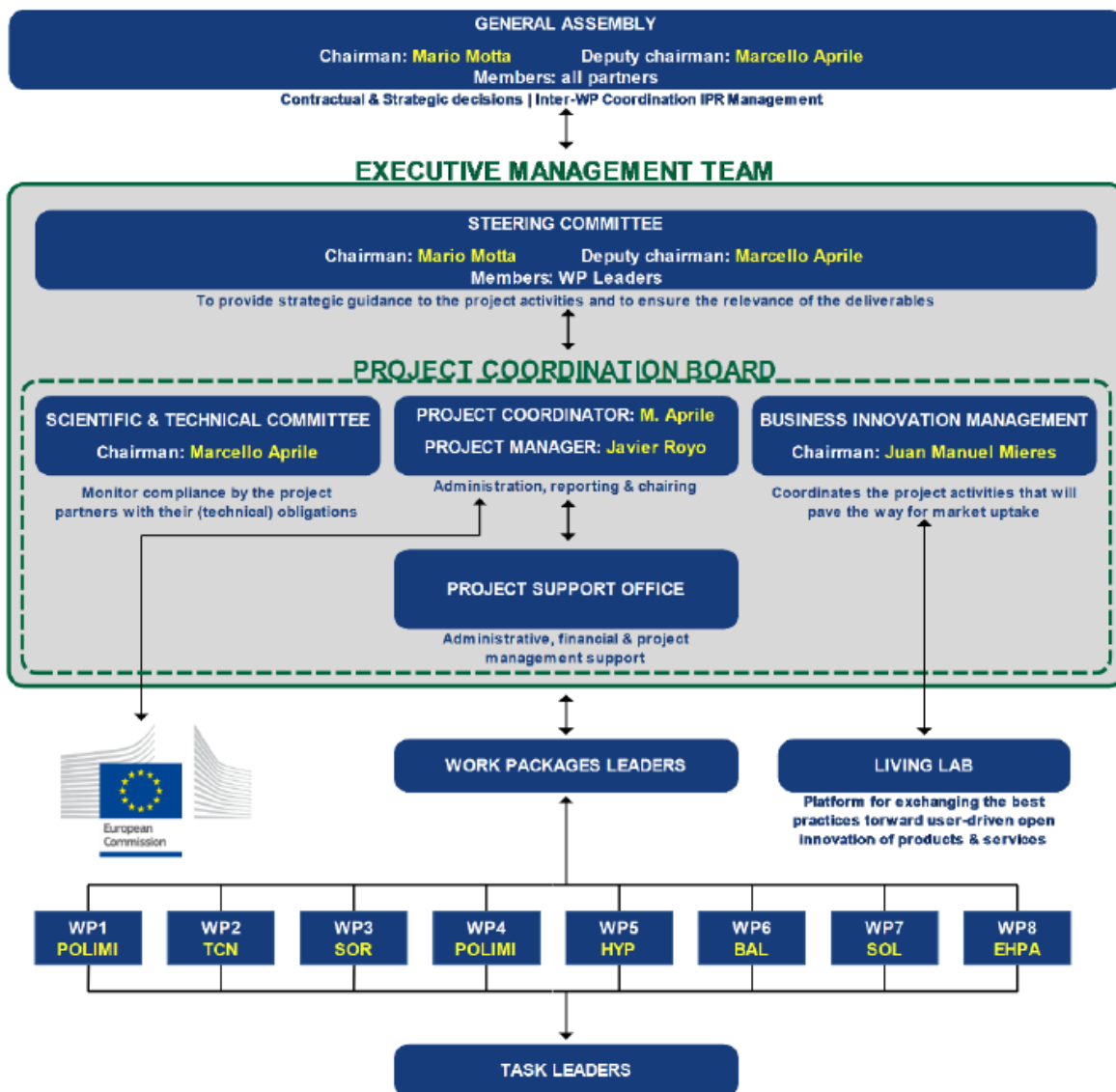


Figure 1 Project governance chart

The project has adopted a management structure that takes into account the complexity of the Heat4Cool activities. Two main boards will manage the project activities:

1. The General Assembly (hereinafter referred to as “GA”) is the high level management body; lead by POLIMI where all partners will be represented.
2. The Executive Management Team (hereinafter “EMT”) comprises:
 - a. Steering Committee (hereinafter “SC”) in charge of the project supervision and executive activities. It is composed of all Work Package Leaders and is chaired by POLIMI.
 - b. Project Coordinator (hereinafter “PC”), POLIMI, responsible for the day-by-day project management. The PC is authorized to commit and negotiate on behalf of the consortium with the EC. The PC is supported by the Scientific/Technical Coordinator (hereinafter “STC”), POLIMI, and the Business Innovation Coordinator.

4.2 Roles and responsibilities

4.2.1 General Assembly

The GA is the ultimate decision-making body of the Consortium and is responsible for approving the management structure and the project direction. The GA is formed by all Heat4Cool partners, and is chaired by Mr. Mario Motta (POLIMI). The GA assumes overall responsibility for liaison among the Parties in relation to the project, for analyzing and approving the results, for proper administration of the project and for implementation of the provisions contained in the Consortium Agreement. The GA will decide in cases of: a) modification of the management structure; b) exclusion of project-partners; c) alteration of the Consortium Agreement, and d) premature completion/ termination of the project. GA decisions will be executed by the Steering Committee.

4.2.2 Executive Management Team

Steering Committee

The SC will provide strategic guidance to project activities and ensure the relevance of deliverables. It will be formed by the project coordinator and the WP leaders. Its duties include project supervision and executive activities. The responsibilities of the SC are:

- Proposition of the management structure and establishment of communication flows/methods.
- Approval of the overall project workplan, budget, S/T reports and financial reports.
- Approval of the implementation plans and their associated financial plans.
- Monitoring of the project progress and revision of the achievements.
- Approval of the awareness, dissemination and training plans and its deployment.
- Approval of the exploitation plan and knowledge and IPR protection strategy.
- Approval of a Quality Assurance Plan and approval of the appraisal of financial, legal, administrative and technological risks and related contingency plans.
- To set up the Advisory Panel to verify and advise on delivery process of deliverables.
- To decide on reducing or extending the number of deliverables to be reviewed according to the advances of the project. SC will agree the involvement of other experts if necessary.
- To oversee the gender action plan.

Approval of networking activities with other European related projects and initiatives from EC, Eureka, EIROforum and COST.

Project Coordinator

POLIMI, the PC, will be responsible for the continuous monitoring and follow-up of all project activities. The PC is the unique contact person of Heat4Cool for the EC. The role and responsibilities include:

- Proposition of communication flows and methods.
- Chair, prepare agendas and minutes of project meetings and monitor implementation of decisions taken.
- Proposition of the overall project workplan and budget and oversee S/T and financial reports.

- To oversee the implementation plans and their associated financial plans.
- To oversee the project progress and revision of the achievements.
- To oversee the awareness, dissemination and training plans and its deployment.
- To oversee the exploitation plan and the management of the knowledge and IPR.
- Proposition of a Quality Assurance Plan and oversee the appraisal of financial, legal, administrative and technological risks and related contingency plans.
- Proposition of an Advisory Panel to verify and advise on sensible deliverables.
- Proposition of the gender action plan.
- Proposition of networking activities with other European related projects and initiatives from H2020 EC, CIP, Eureka, EIRO forum and COST.

Scientific/Technical Coordinator

Mr. Marcello Aprile of POLIMI chairs and is supported by the S/T Committee. The responsibilities of the STC are the following:

- To guarantee the day-to-day technical coordination and ensure communication flows among WP leaders.
- To address incidents on the work progress and any relevant change in the work plan.
- To monitor compliance by the project partners with their (technical) obligations.
- To summarize (technical) progress of the project during / after project meetings.
- To chair the technical meetings with the PC, and distribute decisions/minutes to the partners.
- To be in charge of the review of the technical and scientific reports and deliverables.
- To offer consultation to WP leaders in case technical difficulties arise.

Business Innovation Coordinator

Mr. Juan Manuel Mieres of SOLINTEL is the Business Innovation Coordinator. The specific responsibilities are:

- To ensure that the organisation has the capability to develop innovative strategies.
- To lead the innovation process.
- To ensure that the resources and systems are in place to enable innovation to occur.
- Supervise the business innovation processes to ensure that they are followed correctly.

Project Support Office

The Project Support Office (hereinafter “PSO”), formed by a qualified team of professionals at SOLINTEL, will provide the EMT with administrative financial and project management support. Specific responsibilities are:

- To set up and maintain project files, establish document control procedures, collect actual data and forecasts
- To produce and maintain the Project Handbook, update and maintain project plans
- To administer Project Review Meetings
- To assist with the compilation of reports
- To coordinate and submit financial claims to the EC on behalf of the Consortium

4.2.3 Work Package Leaders

A WP Leader will be appointed for each individual Work Package. The role and responsibilities for WP Leaders will be the detailed coordination, planning, monitoring and reporting of their individual Work Package, and together with the Scientific/Technical Committee establish a close cooperation between all WPs permitting continuous exchange of information. They will report their WP status to the STC quarterly.

WP Leaders will monitor relevant task progress, assist Task Leaders in the activities and budgetary control. A final technical report per WP will be drafted upon project completion documenting technical details.

4.2.4 Task Leaders

The role and responsibilities of the task leader (which is the 1st partner that appears in the “Involved Partners” list of each task) are the same as the WP leaders at task level. The role and responsibilities for Task Leaders will be the detailed coordination, planning, monitoring and reporting of their individual Task, and together with WP Leaders will monitor task progress.

4.3 Decision making structure and communication flow

Decision-making in the technical aspects of the project is the main responsibility of Technical/Scientific Committee, with input from the WP leaders. Decisions about major technical issues, i.e. affecting the input, work content or the product of a WP or task group, will be taken by the PC, the ST Committee and the PSO. All major technical issues and the related decisions will be announced to all partners, even if the issue is not directly connected to their activities.

Decision-making in the administrative domain is the responsibility of the Financial/Administrative/Legal Coordination with the support of the PSO and all partners to ensure efficient project administration and interface with the EC. Individual financial issues are primarily the responsibility of the partner itself; the overall financial monitoring and decision making is the responsibility of the Administrative/Financial/Legal Coordination, who in collaboration with the EC seeks the best solutions for fulfilling the project objectives under the approved financial plan and the current circumstances. All decisions related to the project results, in terms of presentation, publication or exploitation beyond the initial plan, are made on the basis of the participation of the PSO.

The Heat4Cool management will create a collaborative environment by supplying all necessary tools for cost-efficient and effective communication and coordination.

4.4 Project reporting process

There will be an internal regular project progress report every 6 months from WP leaders to the PC and the STC, which will contain the detailed progress of the WP, and the action plan for the next reporting period. A template of the project progress report is provided as an annex (Appendix 1).

In addition, there will be an internal financial report every 6 months from all the participants to the PC, which will contain the detailed costs for each budget category. A template of the internal financial report is provided as an annex (Appendix 2).

5. MANAGEMENT PROCEDURES

5.1 Meetings

5.1.1 General rules

The details regarding the project meetings are established in the Consortium Agreement.

The Heat4Cool meetings will be arranged by the chairman of the corresponding committee and the meeting reports available within 15 days after.

- General assembly: An initial kick-off meeting and at least one meeting every year. The EC may participate as an observer at the GA meetings.
- SC. 1-day meeting, as part of the project meetings, with a special session dedicated to project risks.

Additionally, extra meetings can be held if it is considered necessary due to unexpected circumstances. Meetings can be also held by teleconference or telecommunication means.

5.1.2 Invitations

The partner chairing a particular meeting is responsible for giving notice to each member at least:

- 45 calendar days in case of ordinary meeting and 15 calendar days in case of extraordinary meeting of the GA.
- 30 calendar days in case of ordinary meeting and 7 calendar days in case of extraordinary meeting of SC.

The agenda of the meeting shall be sent to the partners at least:

- 21 calendar days in the case of a GA ordinary meeting. 7 calendar days for a GA extraordinary meeting.
- 7 calendar days in the case of a SC meeting.

Any member of the consortium may add an item to the original agenda by written notification to all the participants up to the minimum number of days preceding the meeting as indicated below:

- 10 calendar days in the case of a GA ordinary meeting. 2 calendar days in the case of a GA extraordinary meeting.
- 7 calendar days in the case of a SC meeting

New items can be added to the agenda if all the participants agree unanimously.

5.1.3 Minutes of meetings

The chairperson of each meeting shall produce a written minute as a formal record of the decisions taken. The chairperson shall send the draft minute to all the partners within 15 calendar days of the meeting. The minute shall be considered as accepted if, within 15 calendar days from sending, no member objected in writing to the chairperson with respect to the accuracy of the draft minute. Then, the chairperson shall send the accepted minute to all the members of the consortium. Finally, the PC will upload the minute into the management platform.

5.2 Reporting

5.2.1 Heat4Cool Management Reports

5.2.1.1 Activity reports

In addition to the above mentioned documents, the PC will collect from each WP Leader regular 6 month activity reports for internal use (the report template is provided in Appendix I), and update on intermediate project progress to the EC in case requested. The purpose of these reports is to provide regular information to the Consortium, and to the EC on demand, on the status and progress of the project. It will be used to keep a detailed record of project activity and as a monitoring tool of project time plan. The activity report contains:

- A short summary that highlights the main objectives and achievements of a given period and presents the main focus on the next period, including upcoming meetings:
- The table of progress.
- The recapitulative table of actions with responsibilities and deadlines.
- The updated deliverables table.

In order to achieve this progress/effort reporting, each WP leader will send the information about his/her WP regarding the items mentioned above to the PC and STC. Moreover, each partner is in charge to report about his/her work to each WP Leader.

5.2.1.2 Periodic and final report

During the lifetime of the project, the consortium, through the PC should submit to the EC, in addition to the technical deliverables, periodic and final reports based on the article 20 of the GA.

- 1st reporting period: month 18
- 2nd reporting period: month 36
- Final reporting period: month 48

The coordinator shall ensure that each periodic report is submitted to the EC by the agreed deadline as defined within the Grant Agreement, and particularly within 60 calendar days of the end of each reporting period (including the last reporting period). To ensure the quality and appropriate revision, the partners should submit all the required information one month in advance of the official deadline.

The periodic report must include the following:

1. a 'periodic technical report' containing:
 - i. an explanation of the work carried out by the beneficiaries;
 - ii. an overview of the progress towards the objectives of the action, including milestones and deliverables identified in DoA.

This report must include explanations justifying the differences between work expected to be carried out in accordance with DoA and that actually carried out.

The report must also detail the exploitation and dissemination of the results and an updated 'plan for the exploitation and dissemination of the results';

- iii. a summary for publication by the Executive Agency for Small and Medium-sized Enterprises (EASME);

- iv. the answers to the ‘questionnaire’, covering issues related to the action implementation and the economic and societal impact, notably in the context of the Horizon 2020 key performance indicators and the Horizon 2020 monitoring requirements;
2. a ‘periodic financial report’ containing:
 - i. an ‘individual financial statement’ from each beneficiary, for the reporting period concerned. The individual financial statement must detail the eligible costs (actual costs, unit costs and flat-rate costs; Article 6 of the GA) for each budget category.
 - ii. an explanation of the use of resources and the information on subcontracting (Article 13 of the GA) and in-kind contributions provided by third parties (Articles 11 and 12 of the GA) from each beneficiary, for the reporting period concerned;
 - iii. a ‘periodic summary financial statement’, created automatically by the electronic exchange system, consolidating the individual financial statements for the reporting period concerned and including — except for the last reporting period — the request for interim payment.

The final report must include the following:

1. a ‘final technical report’ with a summary for publication containing:
 - i. an overview of the results and their exploitation and dissemination;
 - ii. the conclusions on the action, and
 - iii. the socio-economic impact of the action;
2. a ‘final financial report’ containing:
 - i. a ‘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
 - ii. a ‘certificate on the financial statements’ 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 GA, Article 5.2 and Article 6.2, Point A).

5.2.2 Heat4Cool Document Templates

In addition, to the technical and management Heat4Cool deliverable, templates and additional project material guidelines are provided:

- PowerPoint template: Public and review presentations will be based on the official Power point template distributed to partners.
- Other templates: A meeting agenda, minutes of meeting, and deliverable templates have been provided.
- Project logo: A project logo has been created in order to define the project identity, thus clearly identifying any kind of internal or public document such as deliverables, reports, internal communications, publications, project fact sheet, and any other kind of document

within the framework of the project. The project logo shall be used in the following cases:

- ✓ In all the documents developed under the framework of the Heat4Cool project, and in particular in documents to be submitted to the EC such as deliverables, project slides, project fact sheet, etc.
- ✓ In PowerPoint presentations to be used for Communication and Dissemination activities to be carried out by each participant under the framework of the Heat4Cool project.
- ✓ In the Heat4Cool project website, and in the websites of the participants with a link to the Heat4Cool project website.



Figure 2 Heat4Cool project logo

6. IT PROJECT SUPPORT

This section relates to the organizational aspects of IT usage and how they support the communication and the dissemination of information within the Consortium, during the course of the project.

6.1 Heat4Cool project portal

The Heat4Cool website will be designed, built and hosted by POLIMI. It presents an overview of the objectives, the consortium partners and the tasks of the project. It includes a private area created and managed by POLIMI, as well as a public area periodically updated by EHPA, which will include links to relevant websites regarding related organizations, publications, other projects and events.

The private area will be used as a working space for the project development, with access to the project management section, restricted to the consortium members.

6.2 Heat4Cool mailing list

Electronic email is used extensively by the partners to communicate and exchange documents. The PC will update the mailing list on request by consortium members.

6.2.1 Guidelines for effective electronic communication

The project information will be exchanged by use of electronic communications, with the following objectives:

- Ensure that the partners get the information they need in a timely manner.
- Minimize travelling costs.

6.2.2 General rules

Each email will have a specific subject, with the following elements (when appropriate):

- The project acronym ([Heat4Cool])
- The WP number, preceded with hyphen “_”.
- The required action.
- Preferably, each email must contain one topic only. The topic must be clearly expressed in the topic field.
- If it is not practical to separate multiple topics, then the different topics in the email must be separated by clear heading.
- If the mail is long (more than can be seen on a screen) then it should start with a list of contained topics at the beginning.

Email messages sent in response to a message should quote the relevant parts of the initial message, in such a way that the receiver can easily and clearly understand what the initial message was about (what issues were raised) and what the added comments are.

Documents of project wide relevance are stored on the project management platform.

6.3 Content Management Tool

The project portal is created with the intention that external participants have the chance to consult issues related with the Heat4Cool project and also for the Heat4Cool members to share information and upload files.

These files can be public deliverables, articles and any document that has interest to the project. Apart from that, there will be a private area, specifically designed for project members where all the documents of the project, with both a public and a private dissemination level, will be uploaded. Quality Assurance Plan

The Quality Assurance Plan (QAP) has a function of an operational manual for the consortium, identifying an unambiguous and appropriate workflow between consortium partners and the various roles designed for the project. The PC of the project is responsible for developing and updating the QAP.

6.3.1 Quality Assurance procedure

This part of QAP primarily addresses the assurance of the Scientific and Technical related quality of results as well as the overall integrity of the Heat4Cool approach.

The deliverable template shall be used for the technical deliverables. It may also be used for non-technical reports and other project documents. The title page contains information that is necessary for the identification of the document including its status, lead beneficiary, authors and the companies they belong to, dissemination level, deliverable number and name, the respective WP and task and the delivery date.

The procedure for Quality Assurance (QA) is defined as follows:

- Status “Draft” is achieved when the primary author of a deliverable has defined the Table of Content of the document, which is then ready to be sent to other contributors with preferably explicit information of what type of contribution and where in the document.
- Status “Working Document” is achieved when the initial, primary author of a deliverable has reviewed the document and approved it internally.
- Status “Released” is achieved when the edition process is finished and the document is sent to the assigned reviewers.
- Status “Delivered” is achieved when a deliverable is approved by the Scientific Committee (SC) and given to the project coordinator for submission to the European Commission. The issuing date is that of the approval by the SC.

When reviewing a document, it is recommended that electronic annotation techniques are used as much as possible.

The following schedule should be followed in order to achieve the timely submission of deliverables to the EC by the PC:

Table 2. Review Schedule

Status	Deadline	Action
Released (Draft)	4 weeks before the Due Date	Sent by Lead beneficiary to the WP Leader
Released (Final Draft)	3 weeks before the Due Date	Sent by WP Leader to the Reviewers, with CC to the Coordinators
Released (Reviewed final draft)	2 weeks before te Due Date	Sent by the Reviewers to the WP Leader with CC to coordinator
Released (Accepted)	1 week before the Due Date	Sent by WP Leader to the Coordinators, who will conduct the final review within the given period and inform the WP Leader and Lead beneficiary on the approval status

6.3.2 Release deliverable for Quality check (WP leader)

When the deliverable is completed by the Task team, the Work Package Leader shall:

- Check deliverable fulfilling the assessment criteria of the DoA.
- Check each partner's contribution appears clearly indicated and is balanced with the allocated resources.
- Mark any late contribution as "missing" clearly indicating the responsible partner's name. Note: Do not delay the release if some partner contributions are provided late!
- Mark the deliverable as "Released". From this notice all readers will know that the deliverable is no longer in the working mode.
- Update the deliverable in the Task folder of the intranet.
- Inform the PC and the STC by email.

6.3.3 General Assembly review

As a rule, each deliverable is reviewed by two people who are not involved in the creation of the deliverable.

- The Work Package Leader sends the deliverable and "Deliverable review report" (Appendix 3) to the reviewers. The reviewers shall fill out this review report along with the annotations in the deliverable if necessary.
- The reviewers shall return their assessments within 7 days.

A detailed distribution of the review process among partners will be prepared during the early stage of the project.

6.3.4 Project Coordinator and S/T Committee review

The PC, with the support of STC, performs the final checking of the deliverable with respect to:

- Format of document.
- Time of completion.
- Overall quality.

- Compliance of the scope, content and partner contributions with the DoA, especially WP and Task objectives.

6.3.5 Endorsement for submission

The decisions are made via telephone meetings or by email.

- The decision is based on a recommendation from the PC together with the STC, and possible statements from the WP leader.
- If the WP leader disagrees with the decision of the Steering Committee, then the WP leader can appeal to the General Assembly as defined in the Consortium Agreement.
- The endorsed deliverables are submitted to the EC by the Coordinator.
- The “approval” of the Steering Committee is only a decision that the deliverable can be submitted to the EC. It is not an acceptance of partner’s contributions. The final approval of a deliverable is done by the EC.

6.3.6 Records of deliverables status

PC, with inputs from the STC, maintains record of deliverables (deliverable number, name, partner in charge, due date, date when submitted). The PC reminds the WP leader one month and one week before the due date.

The PC keeps up-to-date records of the status of all deliverables that are due within the next 6 months. Dates for the following will be updated continuously:

- Reminders to the WP leader.
- Release by the WP leader for Quality Assessment.
- Endorsement for submission.
- Submission to the EC by PC.
- Approved by the EC.

6.3.7 Communication flow

The diagram in the next figure shows the communication flow of the QAP. As described in narrative form before, the Lead Beneficiary passes the deliverable to the Work Package Leader, who is responsible for submitting the document to the deliverable reviewers. Once the deliverable is reviewed and corrected, the Work Package Leader sends the paper to the PC and STC along with the “Deliverable report review”.

Based on the “Deliverable review report” the PC and STC give their approval for the submission of the document to the EC. If the Coordinators will not endorse the paper, the PC will resend it to the WP Leader who is responsible for improving the document along with the Lead Beneficiary. Finally, the PC is responsible for passing all the deliverables to the EC.

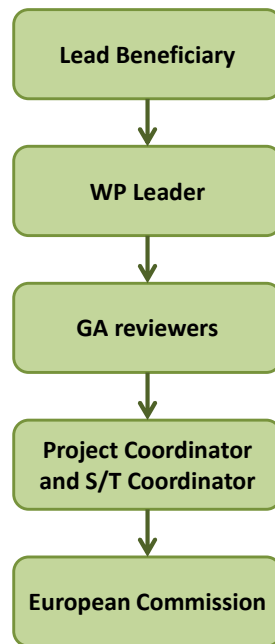


Figure 3. Communication flow

6.3.8 Heat4Cool documents repository

Documents such as deliverables and any other kind of document to be developed under the framework of the project shall be stored within the project management tool, accessible from the website, either in the public or in the private area, according to the dissemination level as specified below:

- PU: Public, fully open, e.g. web
- CO: Confidential, restricted under conditions set out in the Model Grant Agreement
- CI: Classified, information as referred to in Commission Decision 2001/844/EC.

Deliverables shall be numbered according to the List of Deliverables as specified within the Grant Agreement, i.e. D X.Y with X representing the number of the relevant Work Package and Y representing the progressive number of the Deliverable item to be submitted within a specific Work programme.

6.4 Risk and contingency plan

The next table shows the identified risks and the planned contingencies of the Heat4Cool Project. The analysis is provided on technical, non-technical and legal risks to be considered during the project period. The severity level of each identified risk is highlighted (severe, moderate, slight) in order to define the criticality for project progress. In this vein, mitigation plans are defined for each identified risk and further quantify the impact to the mitigation of overall risk. Besides the description of the mitigation strategy, a mitigation possibility is also given. The following table define the Mitigation Possibility Levels as examined in the Heat4Cool Project.

Table 3. Definition of Mitigation Possibility Levels for Assigning to Risk Items

Risk Source	Probability	Probability Value	Impact	Impact Value	Result	Impacts Cost	Impacts Schedule	Impacts Performance	Mitigation Plan
Partners' weak commitment to the project plan and deadlines	LOW	3	LOW	3	9	0	1	1	Continuous communication will be done. Formal noticed will be noticed to such party requiring that such breach will be remedied within 30 calendar days
Demonstrations delay due to external factors	MEDIUM	6	MEDIUM	5	30	0	1	0	Re-planning of demonstration activities if possible or modification of demo-sites to match project timing requirements.
Delay of supplying prototypes Heat Pumps	MEDIUM	5	MEDIUM	5	25	0	1	0	Approach other suppliers
Delay on field trials as the to be developed equipment is not yet ready	LOW	3	HIGH	7	21	0	1	0	The use of existing drilling platform

Particular legal restrictions, local codes	HIGH	7	LOW	3	21	0	0	1	Full analysis of existing regulations, restrictions, legislations etc.
Insufficient financial or personnel resources	LOW	3	LOW	3	9	1	1	0	The Project Coordinator must decide on reallocating resources or redefining development targets within a month of notification
Building already has a BEMS system installed and it won't be possible to directly integrate the control system on to the BEMS	LOW	2	HIGH	7	14	1	1	1	Required gateways will need to be integrated in order to monitor and control the operating set-up of the system

High cost of the heat pump	LOW	2	HIGH	7	14	1	1	0	Study of cost reduction by different design/components -selection or cheaper manufacturing
Lack of data from existing facilities defined in the proposal, to analyze data and draw conclusions that help develop the WP	LOW	3	MEDIUM	4	12	0	1	1	Find another installation with control system, that we can use the data
Delay in obtaining model validation data	LOW	2	MEDIUM	5	10	0	1	1	Data from other projects will be used for preliminary validation
Computation time for dynamic models taking both the short and long term aspects into account	LOW	2	LOW	3	6	0	1	1	

Validation of models is not sufficiently accurate and will require more input data to obtain from the pilot.	LOW	3	LOW	1	3	1	0	1	Existing possibility of developing additional pilots
Delays or difficulties in obtaining validation data	LOW	1	LOW	2	2	0	1	1	Experimental data from heat pump tests will be used to validate some of the computer models. In the event of delays to these subtasks, data from recent and other concurrent research project will be obtained from other organizations that the University actively collaborates with
Delays due to lacking of input from other Work Package	MEDIUM	5	MEDIUM	6	30	0	1	0	If the information flow is not good enough, the PC will intervene to improve or provide help to obtain missing information

7. MISCELLANEOUS

7.1 Gender Action Plan

The beneficiaries must take all measures to promote equal opportunities between men and women in the implementation of the action. They must aim, to the extent possible, for a gender balance at all levels of personnel assigned to the action, including at supervisory and managerial level.

The main objectives of the Gender Action Plan in a wider context are:

- Raise awareness of the gender dissemination
- Increase participation of women scientist in European research projects
- Address gender aspects in research and the gender balance in research teams
- Induce a change in communication between scientists and gender equality officers in academic institutions on the national as well as the European level, especially concerning the esteem of these officers' work, which would be important to encourage and develop further.

The consortium will define and propose a realistic, coherent and consistent Gender Action Plan within the first eight months of the project, to be implemented by the Consortium during project life. Actions to be undertaken to promote gender equality are:

- Apply an active strategy for women recruitment. When contracting additional staff, special emphasis will be given to attract qualified female applicants. All participants in the Consortium are committed to promoting equality of opportunity in recruitment of staff. If possible, women should be equally represented on interview panels for these positions. Whenever possible, some flexibility in working hours should be allowed for employees with childcare.
- Carry out an initial planning and diagnosis of women participation at the beginning of the project.
- Include women, as much as possible, in the technical performance of the different WPs and tasks of the project.
- Design and implement equal opportunities policy.
- Adopt a universal gender equality policy, which will use a set of indicators to measure the progress of partners in increasing/maintaining levels of gender equality. Indicators will measure recruitment, retention and career development of women as well as progress in compliance with policies, procedures and programmes that affect the position of both sexes.
- Dissemination and linking of the project with women associations, like EU Network of Women Scientists”, the “International Network of Women Engineers and Scientists”, etc.

7.2 Project publications

All sorts of external communication are defined to promote the Heat4Cool project and its results. The dissemination strategy of Heat4Cool focuses on print media, internet media and events.

All project related papers and presentations made by project members to an audience outside the project consortium must be approved by the Steering Committee, with information to the Scientific and Technical Coordinator. Permission will normally not be withheld. The Committee is to be informed by email about the document (or presentation) title, abstract or summary, and the targeted audience or conference. Five working days are allowed to the Steering Committee for response. No response means “approved”.

Informal presentations based on published papers do not need approval. For papers and presentations given in a language other than English, an English abstract is not to be required, but favored.

The publication material must be stored on the project server. In general, the dissemination activities, including but not restricted to publications and presentations shall be governed by Article 29 of the Grant Agreement.

7.2.1 Scientific publications

Scientific publications resulting from the Heat4Cool research work shall acknowledge this by including the following phrase, either as a part of the summary or in a separate section:

Acknowledgments

“This [infrastructure][equipment][insert type of result] is part of a project that has received funding from the European Union’s Horizon 2020 research and innovation programme under grant agreement No 649753”.

7.2.2 Press releases and other media contacts

All partners can send out press releases in their own markets, with mention of the Heat4Cool project and that it is co-financed by the European Commission, including the following text:

“This project has received funding from the European Union’s Horizon 2020 research and innovation programme under grant agreement No 656889”.

For all other public project related communication, use the EU emblem, the Heat4Cool logo, design and the previous sentence.

When it comes to IPR, remember that all publication must follow the Grant Agreement and the Consortium Agreement. When you are planning a press release, it is required to notify the PC first. Normal bulleted

7.3 Conference and trips

Heat4Cool project members visiting a conference, an external workshop, an exhibition or the like in the context of the project are encouraged to provide the members with a trip report (approx. half page) providing information about the event itself (when, where, what, number and profile of attendees, relevance for the Heat4Cool) and feedback from the presentation and the potential outcome contacts.

8. CONCLUSIONS

The document includes the description of the management procedure in order to assure the highest quality level of all outputs and results of the project. Clear and transparent Quality Assurance Plan will guarantee fulfilment of the objectives. The definition of the governance structure comprising all the different roles and responsibilities will help the Consortium to be goal orientated and to archive internal efficiency of the project.



9. ACRONYMS AND TERMS

DoA	Description of the Action
EC	European Commission
EU	European Union
EMT	Executive Management Team
GA	General Assembly
ICT	Information and Communication Technologies
IPR	Intellectual Property Right
IT	Information Technology
PC	Project Coordinator
STC	Scientific/Technical Coordinator
PSO	Project Support Office
QA	Quality Assurance
QAP	Quality Assurance Plan
SC	Steering Committee
WP	Work Package

10. APPENDICES

Further information is described in related background documents:

Appendix 1: Heat4Cool 6 month WPXX progress

Appendix 2: Heat4Cool 6 month partner financial report



Appendix 1: Heat4Cool 6 month WPXX progress





"This is part of the project that has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 656889"

Project Title:

Smart building retrofiting complemented by solar assisted heat pumps integrated within a self correcting intelligent building energy management system



Heat4Cool

Grant Agreement No: 723925

Collaborative Project

Heat4Cool 6 month WPXX progress

Deliverable No.	Internal project report.
Workpackage	WPxx.XXXXX
Lead beneficiary	WP LEADER
Authors	WP PARTNERS
Delivery date	xx/xx/xx
File Name:	Heat4Cool_6M_WP_project_progress



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Dissemination level		
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1. HEAT4COOL 6 MONTHS PROJECT PROGRESS REPORT

Objectives for the last 6 months of Heat4Cool project implementation:

Table 4. Objectives from WPXX during the last 6 months

Objective 1	
Objective 2	
Objective XX	

1.1 Progress Summary

(First introduce WPXX progress towards objectives and then detailed information for each task)

Overview

Task X.X. xxxxxx

1.2 Significant Results:

(Highlight clearly significant results)

Table 5. Results from WPXX during the last 6 months

Result 1	
Result 2	
Result XX	

1.3 Deviations from schedule tasks and objectives

- If applicable, explain the reasons for deviations from Annex I 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.

1.4 Corrective actions

(If applicable, propose corrective actions).

1.5 Statement on the use of resources

Include a statement on the use of resources, in particular highlighting and explaining deviations between actual and planned person-months.

Table 6. WPxx motivation for use of resources

No.	Beneficiary	Planned PM (total)	Planned PM (6M period)	Reported PM (6M period)	Comment if significant deviation
1	POLIMI				
2	SorTech AG				
3	Thermowatt Ltd.				
4	HYPERTECH AE				
5	TECNALIA				
6	Sunamp Ltd				
7	AES Ltd				
8	BALKANIKA				
9	SOLINTEL				
10	SYMELEC				
11	IZNAB				
12	EHPA				
13	HSLU				
Total					

1.6 Deliverables

Table 7. WPxx deliverables status

Deliverable	Starting date	Due date	Responsible	Status
DX.X.xxxxxx	xx/xx/xx	xx/xx/xx	xxxxxxx	IN PROGRESS/FINISHED/ DELAYED (explain the reasons in the case of a delay)

1.7 Milestones

Table 8. WPxx milestones status

Milestone	Delivery date	Responsible	Status
DX.X.xxxxxx	xx/xx/xx	xxxxxxx	IN PROGRESS/FINISHED/DELAYED (explain the reasons in the case of a delay)

Appendix 2: Heat4Cool 6 month partner financial report





"This is part of the project that has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 656889"

Project Title:

Smart building retrofiting complemented by solar assisted heat pumps integrated within a self correcting intelligent building energy management system



Heat4Cool

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Deliverable No.	Internal financial report
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Authors	INSTITUTION FINANCIAL REPRESENTATIVE
Delivery date	xx/xx/xx
File Name:	Heat4Cool_6M_partner_financial_report



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1. HEAT4COOL INTERNAL FINANCIAL REPORT

The following stated quantities represent the budget resources used during the indicated six month period of the project. Some of the quantities are approximations that may be subjected to change into the accurate final amounts during the official financial report.

Table 9. General Information

Period covered	
Date	
Beneficiary	
Person in charge of financial issues	

Table 10. Total costs for each category in the covered period

Total cost for each category								
Direct Personnel costs (A)	Travel and subsistence (B)	Equip ment (C)	Other goods and services (D)	Direct costs of subcontracting €	Total Direct Costs A+B+C+D+E (F)	Over heads	% [F-E] (G)	Total F+G (H)
- €	- €	- €	- €	- €	- €	- €	- €	- €

Table 11. Direct personnel costs

Personnel Cost						
Staff members				Accounting period		Amount eligible
Name	WP	PMs	Explanation	from	to	
						- €
						- €
					Total	- €

Table 12. Travels

Travels						
Record	Date		Reason	Staff member	Destination	Total
	from	to				
						- €
						- €
					Total	- €

Table 13. Equipment

Equipment				
Description	Cost Depreciation period (m)	% of use	Months of use	Eligible Costs
				- €
				- €
			Total	- €

Table 14. Other goods and services

Other goods and services				
Record	Description	Total amount	Not eligible	Eligible
		- €	- €	- €
		- €	- €	- €
			Total	- €

Table 15. Direct costs of subcontracting

Subcontracts		
Subcontractor	Description	Eligible cost
		- €
		- €
Total		- €