CORALIS

Industrial Symbiosis in Energy Intensive Industries

Grant Agreement Nº 958337

Deliverable 1.1 – Project Handbook

Work Package 1 Management and coordination

Lead Beneficiary: CIRCE

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Abbreviations

Abbreviation	Definition
CA	Consortium Agreement
D	Deliverable
DoA	Description of Action
DPO	Data Protection Officer
EC	European Commission
GA	General Assembly
GDPR	General Data Protection Regulation
H2020	Horizon 2020 The EU Framework Programme for Research and Innovation
IPR	Intellectual Property Right
IS	Industrial Symbiosis
LCA	Life Cycle Assessments
PC	Project Coordinator
RRI	Responsible Research and Innovation
SC	Steering Committee
SME	Small and Medium Enterprise
TL	Task Leader
WP	Work Package
WPL	Work Package Leaders

Table of Contents

Publishable summary

This document aims to facilitate project execution throughout the project in order to achieve the expected outcomes. The consortium partners will follow the procedures included in this deliverable to ensure a coherent and robust management of CORALIS activities.

This deliverable includes useful information to guarantee satisfactory development of the project with reference to:

a) General Data
b) Governance Structure
c) Communication procedures and tools
d) Quality control (deliverables, IPR, etc.)
e) Risk analysis and management
f) Project reporting
g) Legal and financial aspects, among others.

This deliverable will assist all project partners to uphold the agreements and actions, and use the appropriate communication channels, addressing the specific required person/s depending on the scope of the activity.

Through setting procedures that when followed ensure the management objectives it will aid in successful project management.

1 Introduction

This project handbook sets the basis for relevant project procedures; the governance structure; the communication channels and methods; and the dates for reporting to the task and WP leaders, the Project Coordinator and the EC. It also establishes conflict resolution methods. All these activities are carried out as part of WP1 and will have an important impact on all other activities and work packages.

This a living document that can be adapted according to the needs of the project throughout its lifecycle.

This document also refers to the CORALIS collaborative working space, Microsoft TEAMS, for supporting internal project management. This space is described in D1.2 *Project Management collaborative space guide*.

2 Governance structure

CORALIS consortium comprises a multidisciplinary team of 29 leading European research/academic institutions, large companies and SMEs related to the CORALIS objectives. Therefore, a clear and robust governance structure will be in place to ensure a smooth and effective implementation of the project. This includes the definition and roles of the different management bodies, responsibilities, communication tools and flows and decision-making. Figure 1 shows the governance structure of CORALIS project:

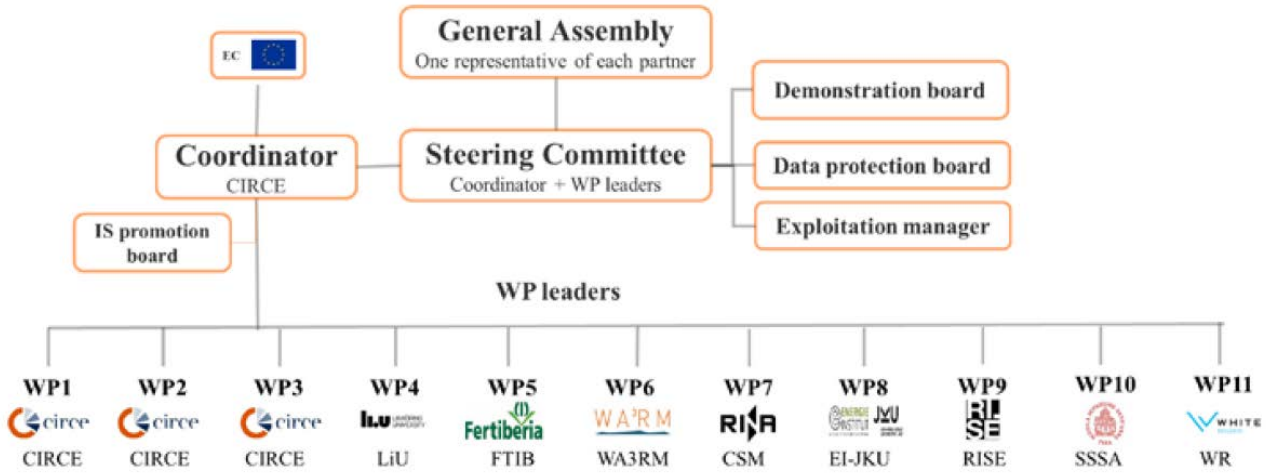

Figure 1 Governance structure of CORALIS

CIRCE is the Project Coordinator (PC) and is responsible for leading CORALIS Management Structure and chairing the General Assembly (GA) (decision-making body) and Steering Committee (SC) (execution body). The PC will be responsible for the overall management of CORALIS and will be supported by the Steering Committee in aspects related to progress monitoring and project coordination.

Work Package Leaders (WPL) and Task Leaders (TL) are responsible for the overall management and coordination at WP and task level and the achievement of the defined results.

The Exploitation Manager (SSSA) will provide general guidelines for the preparation of the replication and exploitation strategy of CORALIS technical and market solutions.

2.1 Project Coordinator

- Responsible **partner**: CIRCE,
- Represented **by**:
    - Project Coordinator: Mr Manuel Gómez, magomez@fcirce.es
    - Project management, legal and financial issues: Mrs Montserrat Lanero, mlanero@fcirce.es
- Reporting to: European Commission.

The responsible partner will be the contact point between CORALIS project and the EC. They will chair the General Assembly and the Steering Committee.

In particular they will be responsible for:

- Supervision of project progress and ensuring the effective achievement of the CORALIS implementation plan.
- Contact point with the EC and third parties, networking with other European/national related initiatives and projects.
- Reception and distribution amongst partners of EC contribution.
- Definition of project communication flows, tools and methods.
- Periodic update of the Implementation and financial plans.
- Maintenance of the Consortium Agreement.
- Responsible for the collection of partner progress and financial reports and preparation of related reports to the EC, as well as submission of project deliverables to the EC.
- Proposing a Quality Assurance Plan and overseeing the appraisal of financial, legal, administrative and technological risks and related contingency plans. Proposing a gender action plan.
- Oversees the awareness, dissemination and communication plans and their deployment.
- Oversees the exploitation plan and management of knowledge and IPR issues.
- Monitoring partners compliance with their obligations.
- Updating and making available project contact lists.
- Collecting, reviewing and submitting information on Project progress and reports and other deliverables (including financial statements and related certification) to the EC.
- Preparing meetings, proposing decisions, preparing the agenda of GA meetings, chairing meetings, preparing minutes of meetings and monitoring the implementation of decisions taken at meetings.
- Promptly transmitting documents and information connected with the Project to the partners and to the EC in accordance with the terms of the Grant Agreement and the Consortium Agreement.
- Providing the partners, upon request, with official copies or originals of documents which are in the sole possession of the PC when such copies or originals are necessary for the partners to present claims.

If one or more of the partners is late in submission of any project deliverable, the Coordinator may nevertheless submit the other partners' project deliverables and all other documents required by the Grant Agreement to the EC in time.

If the PC fails in its coordination tasks, the GA may propose to the EC to change the Coordinator.

The PC shall not be entitled to act or to make legally binding declarations on behalf of any other Party or of the consortium, unless explicitly stated otherwise in the Grant Agreement or this Consortium Agreement.

The Coordinator shall not enlarge its role beyond the tasks specified in the CA and in the Grant Agreement.

2.2 General Assembly

- **Chaired by:** CIRCE, represented by Mr Manuel Gómez.
- **Members: 1** representative from each project partner.
- **Reporting to:** European Commission.

The General Assembly is the highest-level decision-making body of the project and will meet at least once a year. It assumes overall responsibility for liaison among partners in relation to the project, for analysing and approving results, for proper administration and implementation of the provisions contained in the Grant and Consortium Agreements.

The General Assembly will take decisions related to the following topics:

- Control and steering of the project.
- Modification of the management structure, if required.
- Decision making on strategic issues and conflict resolution.
- Proper implementation of Grant and Consortium Agreements.
- Decisions on proposal of changes to the Consortium/Grant Agreement.
- Monitoring overall project progress against objectives and milestones.
- Content, finances and IPRs.
- Assessment and approval of results.
- Approving the management structure and project direction.
- Evolution of the consortium:
    - Entry of a new partner to the consortium and approval of the settlement on the conditions of the accession of such a new partner.
    - Withdrawal of a partner from the consortium and the approval of the settlement on the conditions of the withdrawal.
    - Identification of a breach by a partner of its obligations under the Consortium Agreement or the Grant Agreement.
    - Declaration of a partner to be a defaulting party.
    - Remedies to be performed by a defaulting party.
    - Termination of a defaulting party's participation in the consortium and measures relating thereto.
    - Proposal to the EC for a change of the Coordinator.
- Proposal to the EC for suspension of all or part of the Project.
- Proposal to the EC for termination of the Project and the Consortium Agreement.

Table 1. lists the GA representatives of CORALIS

Table 1 – General Assembly representatives

PARTY	REPRESENTATIVE	EMAIL	PROXY	EMAIL
CIRCE	Manuel Gómez	magomez@fcirce.es	Montserrat Lanero	mlanero@fcirce.es
FTIB	Francisca Galindo	fragal@fertiberia.es	Gonzalo Fernández	gonzalof@fertiberia.es
QSr	Nuria Vega	nvega@qsrestroncio.com	Francisco Lorman	florman@qsrestroncio.com
INCRO	Jesús Sánchez	jsanchez@incro.es	Santiago Carrillo	santicarrillo@incro.es
AZCATEC	Andrés Flores	aflores@azcatec.com	Aurelio Azaña	aazana@azcatec.com
RISE	Rickard Fornell	rickard.fornell@ri.se	Jessica Benson	Jessica.benson@ri.se
WA3RM	Thomas Parker	thomas@wa3rm.se	Fredrik Indebetou	fredrik@wa3rm.se
LiU	Murat Mirata	murat.mirata@liu.se	Mats Eklund	mats.eklund@liu.se
Hoganas	Magnus Pettersson	Magnus-Pettersson@hoganas.com	Rose-Marie Yttergren	Rose-Marie.Yttergren@hoganas.com
CSM	Filippo Cirilli	filippo.cirilli@rina.org	Loredana di Sante	loredana.disante@rina.org
AIB	Alessandro Corsini	corsini@aib.bs.it	Riccardo Monaci	monaci@aib.bs.it
Raffmetal	Marco Fontanella	marco.fontanella@raffmetal.it	Franco Franzoni	franco.franzoni@raffmetal.it
ORI	Maurizio Zanforlin	maurizio.zanforlin@orimartin.it	Andrea Panizza	andrea.panizza@orimartin.it
Torbole	Sergio Magri	s.magri@fonderiaditorbole.it	Laura Forlani	l.forlani@fonderiaditorbole.it
Feralpi	Piero Frittella	Piero.frittella@it.feralpigroup.com	Ganna Tsymokh	Ganna.tsymokh@it.feralpigroup.com

Sidenor	Íñigo Unamuno	inigo.unamuno@sidenor.com	Emilio Hidalgo	emilio.hidalgo@sidenor.com
EI-JKU	Johannes Lindorfer	lindorfer@energieinstitut-linz.at	Simon Moser	moser@energieinstitut-linz.at
Borealis	Robert Schlesinger	Robert.Schlesinger@borealisgroup.com	Rene Dicke	Rene.Dicke@borealisgroup.com
VAS	Thomas Keplinger	thomas.keplinger@voestalpine.com	Daniel Rader	daniel.rader@voestalpine.com
K1-MET	Katharina Rechberger	katharina.rechberger@k1-met.com	Gerold Huemer	gerold.huemer@k1-met.com
TUPRAS	Serhat Arca	serhat.arca@tupras.com.tr	Evra Bayazitli	Evra.Bayazitli@tupras.com.tr
IMMIB	Meltem Şimşek	Meltem.Simsek@immib.org.tr	Anıl Özşar	anil.ozsar@immib.org.tr
ICCS	Babis Manousiadis	c.manousiadis@iccs.gr	Georgios Tsimiklis	georgios.tsimiklis@iccs.gr
EEIP	Juergen Ritzek	juergen.ritzek@ee-ip.org	Marianna Santavenere	Marianna.santavenere@ee-ip.org
RINA-C	Giovanni Antonio Saba	giovanni.saba@rina.org	Arianna Amati	arianna.amati@rina.org
SSSA	Eleonora Annunziata	e.annunziata@santannapisa.it	Francesco Rizzi	f.rizzi@santannapisa.it
WR	Alexandros Altsitsiadis	aaltsitsiadis@white-research.eu	Melpomeni Vyzika	mvyzika@white-research.eu
EuropAlu	Christian Leroy	leroy@european-aluminium.eu	Chiara Deffendi	deffendi@european-aluminium.eu
IMA	Aurela Shtiza	a.shtiza@ima-europe.eu	Ignacio Gentiluomo	i.gentiluomo@ima-europe.eu

2.3 Steering Committee

- **Chaired by**: CIRCE, represented by Mr Manuel Gómez.
- **Members**: 1 representative from each WP leader and project coordinator.
- **Reporting to**: General Assembly.

The Steering Committee is the main execution body carrying out day-to-day management of the project. The Steering Committee, directed by the Coordinator takes overall responsibility for the project. This body shall meet twice a year (one instance combined with the GA) and have conference calls at least every three months.

The following responsibilities belong to the SC:

- Continuous management of the project, ensuring the implementation of the decisions made by the GA.
- First body for the monitoring of the project execution according to the implementation plan.
- Strategic guidance on the project activities and ensuring the relevance of the deliverables.
- Approval of the overall project work plan, budget, reports and financial reports.
- Approval of the implementation plans and associated financial plans.
- Monitoring of the project progress and revision of the achievements.
- Approval of the awareness, dissemination and training plans and their deployment.
- Agreeing on joint releases and publications.
- Approval of the knowledge management and IPR protection strategy.
- Approval of a Quality Assurance Plan and a Data Management Plan and approval of the appraisal of financial, legal, administrative and technological risks and related contingency plans. Overseeing the gender action plan.
- Approval of networking activities with other EU related projects.
- Management of the WPs and ensuring effective intercommunication between them.
- Identification of resource and functional issues to be brought to the attention of the GA (if they cannot be resolved by the Steering Committee).
- Defining the specifications and boundary conditions of the system to ensure final proper integration.
- To guide and apply corrective measures if some deviation affecting final integration is detected.
- Initiate, coordinate and organise the WPs.
- Agree on the members of the WP Team, from a proposal by the Coordinator.

Table 2 describes the SC representatives of CORALIS.

Table 2 Steering Committee representatives

PARTY	REPRESENTATIVE	EMAIL	PROXY	EMAIL
CIRCE	Manuel Gómez	magomez@fcirce.es	Montserrat Lanero	mlanero@fcirce.es
FTIB	Francisca Galindo	fragal@fertiberia.es	Gonzalo Fernández	gonzalof@fertiberia.es
RISE	Rickard Fornell	rickard.fornell@ri.se	Jessica Benson	Jessica.benson@ri.se
WA3RM	Thomas Parker	thomas@wa3rm.se	Fredrik Indebetou	fredrik@wa3rm.se
LiU	Murat Mirata	murat.mirata@liu.se	Mats Eklund	mats.eklund@liu.se
CSM	Filippo Cirilli	filippo.cirilli@rina.org	Loredana di Sante	loredana.disante@rina.org
EI-JKU	Johannes Lindorfer	lindorfer@energieinstitut-linz.at	Simon Moser	moser@energieinstitut-linz.at
SSSA	Eleonora Annunziata	e.annunziata@santannapisa.it	Francesco Rizzi	f.rizzi@santannapisa.it
WR	Alexandros Altsitsiadis	aaltsitsiadis@white-research.eu	Melpomeni Vyzika	mvyzika@white-research.eu

2.3 Working Units: Work Package and Task Leaders

Work Package Leaders (WPL) are responsible for the overall management and coordination at WP level and achievement of the defined results. Each WPL will report periodically to the PC and also to the SC. Moreover, WPL will take the following responsibilities:

- Progress management (assuring all tasks are executed in line with the work program).
- Financial management (periodic evaluation of project expenditure vs. project achievements) in the related WP.
- Project quality management (ensure achievement of technical objectives, assure excellence in execution).
- Review, approve and submit the deliverables from the WP, including technical and periodic reports to the Coordinator.
- Project dissemination.
- Report to the PC every 3 months.
- Report to the GA every 6 months.
- Formulate the implementation plan for the activities within the WP for the future period.
- Coordinate on a frequent basis the progress of the technical work under the WP.

Task Leaders (TL) are responsible for the execution and overall coordination of the tasks assigned to them in the implementation plan. TL will have frequent dialogue with the WPL and report periodically to them. In fact, a meeting to explain the strategy to be implemented and the operational plan will be carried out every 6 months, as it is crucial to clarify the activities to be performed during the tasks, as well as the objectives and the documentation required. TL will report to the WPL every 3 months and to the SC every 6 months.

2.4 Industrial Symbiosis (IS) Promotion Board

CIRCE, as leader of the IS Promotion Board will have the following responsibilities:

- Coordination and follow-up of the development of the industrial symbiosis enablers in WP2-WP4.
- Support to the development of the enablers implementation plan and monitoring their application in the demonstration sites together with the demonstration board.
- Ensure the fluent communication among demonstration sites regarding non-technical enablers.
- Contribute to promoting the replication of solutions among the CORALIS demo cases and beyond.

2.5 Demonstration Board

Demonstration Board consist of Lighthouses and Followers leaders: FTIB, WA3RM, CSM, Sidenor, EI-JKU, TUPRAS. They are responsible of the following activities:

- Coordination and monitoring of the demonstration activities in the Lighthouse Parks (FTIB,

WA3RM, CSM), including the testing, installation, commissioning and operation of the different technologies.
- Ensure the alignment of the demonstration data collection accordingly to the monitoring plan.
- Supervise the accomplishment of the demonstration goals and the schedule deadlines.
- Foresee and manage possible risks that may arise, such as delays in the demonstration or problems in the solutions integrations, and propose contingency plans in agreement with the project coordination.

2.6 Data Protection Officer (DPO) and treatment of data

2.6.1 DPO

There are action tasks requiring the use of data that may fall into the category of personal data. To ensure correct treatment of personal data a DPO will convene to discuss procedures and protections related to the gathering of data and the treatment of data for the required actions. The DPO will be chaired and will rely on the expertise of ICCS to lead the discussions on the required actions to ensure compliance with legislation. The DPO will report to the General Assembly. Each partner will be responsible for the treatment of data that is within their control and for having a duly appointed data protection officer (DPO) if legally required to; however, the contact details of all DPO will be communicated to data subjects. Further details can be found in D12.1.

2.6.2 General Data Protection Regulation (GDPR)

Each Party of this Consortium Agreement shall be responsible for the personal data referred to their employees, collaborators, trainees, and/or other possible categories of data subjects, while the Consortium Agreement is in force.

In this sense, regarding the personal data made available to the rest of the Partners on the occasion of the execution of the Project, the Partners shall reciprocally guarantee-in their condition of assignors to duly fulfil all the obligations under the GDPR, to their processing and subsequent communication to the rest of Partners and to third parties, such as granting entities, control bodies and any other competent authorities, in relation to the granting and justification of the Project.

In view of the above, the Partners shall not be liable in any case for any possible breaches of Data Protection Regulation regarding the personal data conveyed, of which other Partners or third parties were the originator. Therefore, the Partners shall not be responsible for any consequence which may arise from such breaches, including the possible sanctions imposed by the competent control authority.

Likewise, the Partners shall undertake to keep the strictest confidentiality of the personal data to

which they have access within the necessities of the Project, and they shall maintain secrecy and shall not be entitled to communicate nor forward them to the rest of the Partners of the Project.

Lastly, given the monitoring and control obligations to which CIRCE and the rest of the Partners are subject to, in the frame of the project, CIRCE will be obliged to document through photos the works carried out and the meetings held on the occasion of the project, with the aim to implement promotion and dissemination actions required by the entities and control bodies. To that effect, each Partner shall have to inform to their employees or collaborators who take part in the Project about the fact that the work meetings, formative and/or dissemination of Project activities in which they might participate, may be filmed and photographed. CIRCE may be entitled to publish these videos and images in its Web Site and social networks, as well as to send them to the Media. Each Partner shall obtain the prior and express consent of their employees and collaborators to use their images for these purposes.

2.7 Exploitation Management

The Exploitation Manager of the project is SSSA, leaders of WP10 – *Boosting exploitation and replication of project results*. SSSA take an objective position to support the whole consortium in the elaboration of the exploitation strategy, assess active contributions (and thus ownership of results), project business model, IPR protection and supporting development of agreements to ensure continuation of the industries transformation beyond the project's lifetime. Among the development of the activities related with the project, the Exploitation Manager will have the following responsibilities:

1. Governing the innovation management process.
2. Working in strict cooperation with the WP Leaders providing general guidelines for the preparation of the replication and exploitation strategy to expand the market vision and business opportunities.

Exploiting the activities and results achieved in the technical WPs, CORALIS will iteratively consider the evolution of products and market demands in energy services, the business strategies of the consortium, the project vision and the scientific results achieved. Therefore, the Exploitation Manager will support the project in adjusting its objectives and requirements, to better identify exploitable results and maximize exploitation potential.

3 COMMUNICATION PROCEDURES AND TOOLS

CORALIS will make use of several project management tools, with online workspaces, mailing lists, etc. to facilitate partner cooperation, which is the backbone for project success. A professional communication tool, MICROSOFT TEAMS, will be used to organize regular conferences according to the schedules, and management procedures set for the multi- and bi-lateral contact between partners.

To ensure proper project execution at management and technical level, it is necessary to establish simple, easy to follow and effective communication flows and methods, guaranteeing that all the information is delivered in due time to the persons that need it.

3.1 Management Bodies

Meetings of the governing bodies and technical meetings are specially focused on the monitoring of project progress, review of achievements, decision-making and conflict resolution, as well as technical discussion. The responsibility for hosting the meetings will be shared between the partners.

Table below shows the frequency of the communication of the different management bodies previously described:

Table 3 – General Assembly representatives

MANAGEMENT BODY	COMMUNICATION FREQUENCY	REPORTING TO
General Assembly	Once a year (at least) face-to-face Regular mail Exchange & teleconferences Extraordinary as the Project demands	European Commission
Steering Committee	Twice a year (at least) face-to-face Every three months (at least) by teleconference Regular mail Exchange & teleconferences Extraordinary as the Project demands	General Assembly
WP leaders	Continuous bilateral meetings with	Coordinator

	PC on demand Every three months (at least) by teleconference Regular mail Exchange & teleconferences	
Task leaders	Report periodically to WP leaders Regular mail Exchange & teleconferences	General Assembly

Expected General Assembly and Steering Committee meetings during the project are presented in Figure 2. The preliminary schedule may change according to project needs and modifications to existing planning. Continuous monitoring of the project will be executed by the different management bodies within CORALIS.

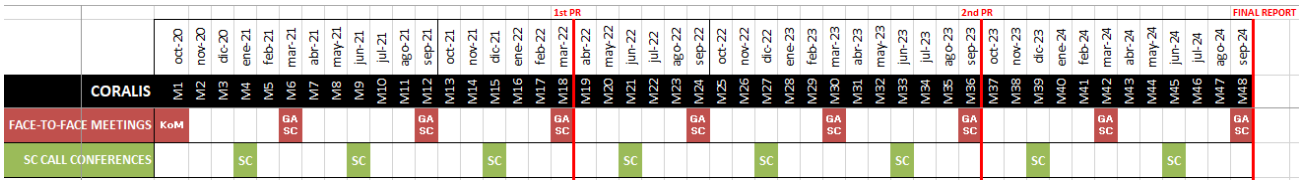

Figure 2. Meeting schedule of CORALIS

As many times as needed during the project, face-to-face or teleconference/videoconference meetings should be organized between:

- Members of the same task.
- Task leaders and WP leader.
- Tasks participants and Task/WP leader.

The meetings of the management bodies are specially focused on monitoring overall project progress and reviewing achievement of milestones and objectives, decision-making on strategic issues and conflict resolution, as well as discussing other issues of interest.

Continuous communication among WPL and TL during the project lifetime is vital for project success. TL will inform WPL about the progress of the corresponding activities under the task, so the WPL can gain a higher-level vision of every activity carried out under the WP. The WPL will therefore maintain the overall vision of the WP ensuring the combined TL activities will achieve that vision.

The information, agenda, attendants, minutes, presentations, etc. will be uploaded and updated in the project intranet.

3.2 Meetings

3.2.1 Representatives in meetings

Members of a consortium body:

- should be present or represented at all meetings.
- may appoint a substitute or a proxy to attend and vote at any meeting.
- shall participate cooperatively in the meetings.

The Members of the General Assembly not belonging to the Steering Committee should attend the Steering Committee meetings when requested in advance by the Project Coordinator.

3.2.2 Preparation and organisation of meetings

Convening meetings

The chairperson of a Consortium Body shall convene meetings of that Consortium Body.

Hosting of meetings will be rotated between partners. Meetings should be held at the same venue on same/consecutive days when possible. Extraordinary meetings should primarily be teleconferences, provided this does not hinder the objectives of the meeting.

Notice of a meeting

The chairperson of a Consortium Body shall give notice in writing of a meeting to each Member of that Consortium Body as soon as possible and no later than the minimum number of days preceding the meeting as indicated in Table 4.

Table 4 – Notice of a meeting

MANAGEMENT BODY	ORDINARY MEETING	EXTRAORDNIARY MEETING
General Assembly	45 calendar days	15 calendar days
Steering Committee	14 calendar days	7 calendar days

Sending the Agenda

The chairperson of a Consortium Body shall prepare and send each member of that Consortium Body a written (original) agenda no later than the minimum number of days preceding the meeting as indicated in Table 5.

Table 5 – Sending the agenda

MANAGEMENT BODY	ORDINARY MEETING	EXTRAORDNIARY MEETING
General Assembly	21 Calendar days	10 Calendar days
Steering Committee	7 Calendar days	4 Calendar days

Adding agenda items

Any Member of a Consortium Body may add an item to the original agenda by written notification to all of the other Members of that Consortium Body up to the minimum number of days preceding the meeting as indicated in Table 6.

Table 6 – Adding agenda items

MANAGEMENT BODY	ORDINARY MEETING	EXTRAORDNIARY MEETING
General Assembly	14 calendar days	7 calendar days
Steering Committee	5 calendar days	2 calendar days

During a meeting, the Members of a Consortium Body present or represented can unanimously agree to add a new item to the original agenda.

Meetings of each Consortium Body may also be held by teleconference or other telecommunication means.

Decisions

Decisions will only be binding once the relevant part of the Minutes has been accepted according to Section 6.2.5. of the Consortium Agreement.

Any decision may also be taken without a meeting if the Project Coordinator circulates to all Members of the Consortium Body a written document, which is then agreed by the defined majority (see Section 6.2.3 of the Consortium Agreement) of all Members of the Consortium Body. Such document shall include the deadline for responses.

Decisions taken without a meeting shall be considered as accepted if, within the period set out in article 6.2.4 of the Consortium Agreement, no Member has sent an objection in writing to the chairperson.

The decisions will be binding after the chairperson sends to all Members of the Consortium Body

and to the Project Coordinator a written notification of this acceptance.

Voting rules and quorum

Each Consortium Body shall not deliberate and decide validly unless two-thirds (2/3) of its Members are present or represented (quorum).

If the quorum is not reached, the chairperson of the Consortium Body shall convene another ordinary meeting within 15 calendar days. If in this meeting the quorum is not reached once more, the chairperson shall convene an extraordinary meeting, which shall be entitled to decide even if less than the quorum of Members is present or represented.

If it is not possible to organize physical meetings within 15 calendar days, the meeting will be organised via web conference.

Each Member of a Consortium Body present or represented in the meeting shall have one vote.

A Party, which the General Assembly has declared according to Section 4.2 of the Consortium Agreement to be a Defaulting Party, may not vote.

Decisions shall be taken **by a majority** of at least two-thirds (2/3) of the votes cast, excluding abstentions.

Veto rights

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

When the decision is foreseen on the original agenda, a Member may veto such a decision during the meeting only.

When a decision has been taken on a new item added to the agenda before or during the meeting, a Member may veto such decision during the meeting and within 15 calendar days after the draft minutes of the meeting are sent. A Party that is not a Member of a particular Consortium Body may veto a decision within the same number of calendar days after the draft minutes of the meeting are sent.

When a decision has been taken without a meeting a Member may veto such decision within 15 calendar days after written notification by the chairperson of the outcome of the vote.

In case of exercise of veto, the Members of the related Consortium Body shall make every effort to resolve the matter which occasioned the veto to the general satisfaction of all its Members.

A Party may neither veto decisions relating to its identification to be in breach of its obligations nor to its identification as a Defaulting Party. The Defaulting Party may not veto decisions relating to its participation and termination in the consortium or the consequences of them.

A Party requesting to leave the consortium may not veto decisions relating thereto.

Minutes of the meeting

The chairperson of a Consortium Body shall produce written minutes of each meeting, which shall be the formal record of all decisions taken. He/she shall send the draft minutes to all Members within 10 calendar days of the meeting.

The minutes shall be considered as accepted if, within 15 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 chairperson shall send the accepted minutes to all the Members of the Consortium Body and to the Project Coordinator, who shall safeguard them.

If requested, the Project Coordinator shall provide authenticated duplicates to Parties.

3.3 Tools

3.3.1 Project management collaborative space. MICROSOFT TEAMS

MICROSOFT TEAMS is the tool that CORALIS project is going to use to support the project management. In D1.2, *Project Management Collaborative Space guide*, a short user guide as well as some detailed information and instructions about the contents and use of the system can be found.

Below are the main applications of the MICROSOFT TEAMS system:

- File repository
- Contact and mailing list
- Deliverables control
- Planning of tasks and deadlines
- Teleconference system

One of the advantages of MICRSOFT TEAMS is the videoconference system included with all other functionalities. Besides face-to-face meetings, partners will hold as many meetings as necessary through the teleconference system available for the consortium. These meetings could include WP level issues, task level issues, GA or SC meetings; dissemination, etc.

These regular conferences will also deal with quality assurance plans and the management procedures set for multi and bi-lateral contact between partners.

MICROSOFT TEAMS is a powerful tool, having the following functionalities:

- Multiuser
- Desktop sharing
- Document sharing
- Chat
- Record of meetings

Another feature of MICROSOFT TEAMS is the possibility to modify documents online, facilitating collaboration among partners.

3.3.2 Contact list

In order to support the communication within the consortium a contact list has been uploaded in MICROSOFT TEAMS and distributed among all partners. It is possible to use filters to obtain different mailing lists:

- All CORALIS contacts
- Leader/Person responsible for project follow-up
- Technical staff
- Administrative staff
- WP1
- WP2
- WP3
- WP4
- WP5
- WP6
- WP7
- WP8
- WP9
- WP10
- WP11

All the members of this list are included within the MICROSOFT TEAMS system according to the partners' preferences provided to the Coordinator at the beginning of the project. Any modification

can be uploaded directly in MICROSOFT TEAMS or notified to the Project Manager (mlanero@fcirce.es) or to the Project Coordinator (magomez@fcirce.es) and the distribution lists will be updated accordingly.

When a mail is sent, please include the reference “CORALIS” before other text in the subject line. In addition, in the opening lines of the body, refer to the mailing list you are addressing.

The Project Coordinator should be included in any mail regarding the evolution of the project.

Regarding external communication, the Project Coordinator (PC) is the central contact point with the EC and represents the consortium in interactions with the Research and Executive Agency (REA). The PC will keep regular contact with the project adviser in this agency by different means, including the Participant Portal.

D11.1, *Communication and Dissemination Plan*, will set the basis for promoting CORALIS. However, we remind beneficiaries of the mandatory requirement to display the EU emblem and reference use of EU funding in CORALIS dissemination activities. In addition, the Consortium Agreement includes clauses that apply to the dissemination of results.

4 QUALITY CONTROL

Apart from the procedures to assess the quality of deliverables, this section deals with the issues related to general performance and execution of CORALIS; and the quality of produced work and outcomes, falling under the responsibility of the PC and assisted by the Steering Committee. Quality procedures will ensure the scientific and technical quality of deliverables and technical reports, as well as the consistency of project outputs.

4.1 Quality procedure of deliverables

4.1.1 General characteristics

One of the responsibilities of the PC is to define procedures for the development and review of deliverables submitted to the EC.

The following items should be included in all project deliverables:

Standard descriptors at the beginning of the document (see the template provided on TEAMS):

- Cover Page (including the identification of the project, partners, and the authors names)
- Document Factsheet
- Document history
- Disclaimer of warranties

Content:

- Abbreviations page (if abbreviations are used throughout the deliverable)
- Table of contents
- Executive summary
- Introduction and objectives
- Body (Methodology / Results / Main analysis, etc.)
- Conclusions
- References (if necessary)
- Annexes, including all detailed technical information (if necessary)

A template for deliverables has been uploaded in TEAMS (deliverable template), all partners should make use of the template to ensure the same structure and format in project documents.

The procedure for a successful submission of deliverables is shown in Figure 3, including steps for production and review. The following timing is foreseen for each deliverable:

- 120 calendar days prior to the deliverable submission: the deliverable responsible proposes

a list of contents to be agreed among the contributing partners. After that, the responsible partner for the deliverable should deliver the draft report to the contributing partners prior the review process, asking to check the quality and adequacy, and ask for modifications or comments.

- 21 calendar days before the delivery date: the review process starts. The responsible partner of the deliverable should send the first consolidated version to Reviewer 1.

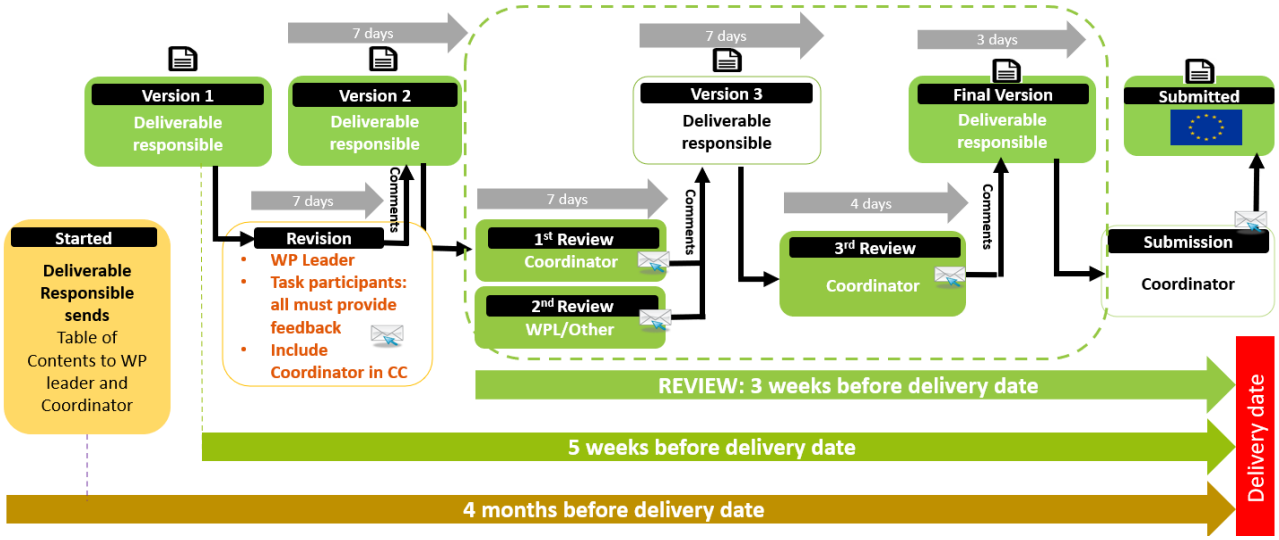

Figure 3. Quality procedure of deliverables

4.1.2 Reviewers and calendar

All partners will be involved in the review of deliverables, at least as task participants.

Current responsibilities and timing are shown in the excel table in Annex 1, the excel is also included in the project intranet (TEAMS), in *E. WP1 Management documents* section. The excel table may be modified over time, according to project execution needs.

Usually, the responsible partner is the Task Leader. If this is not the case, the responsible partner should agree on a draft final version with the Task Leader before starting the review process. If the deliverable is a result of several tasks, the Task Leader with most allocated resources will be responsible for the deliverable. If, during the peer-review, the WP Leader and Task Leader are the same, another partner will be selected according to their relevance to the task and expertise. For tasks with less than 3 partners, only one reviewer will be required.

4.1.3 Quality Procedures

When a final version is obtained the process will be as follows:

1. This should be delivered to task participants by the Project Coordinator.
2. A copy will be uploaded to the intranet.
3. If public, the deliverable should be uploaded to the website.

Some important recommendations:

- It is important to use track changes for the reviews.
- Use the intranet to verify the review process.
- It is very important that the communication procedure is maintained between the WP Leaders and Task Leaders.
- Task leaders are encouraged to comment on the organization of work in the tasks with the WP Leader from the beginning:
    - The WP Leader has a wider vision of the WP and is aware of the relation of the task with other on-going tasks. WP Leader can give advice in the document preparation process.
    - WP Leader will end up revising and approving the deliverable, it is thus better if they are familiar with the objectives and work methodology from the beginning.

4.1.4 Criteria

All deliverables should comply with:

- Completeness: Information must be complete, reliable and real. The background should be supported by references. The work done must be clearly explained to avoid misinterpretation or misrepresentation of the foreground and background.
- Accuracy: Information focused on key issues and written in a way that takes into consideration the scope of the specific research work and its targeted audience.
- Depth: All information should be provided to the depth needed for the purpose of the reports and the project.
- Appearance and structure: Uniform appearance and structure (use the templates).
- Language: Orthography and correct grammar usage.
- Timing: Delays in the deliverable submission should be avoided or legitimate reasons for delay clearly explained to the EC to gain prior acceptance.

4.2 Project monitoring and reporting

All beneficiaries of CORALIS project are requested to send a brief explanation of work progress to the PC prior to the SC meetings. This will be done through the WP leaders, which will be asked to gather this information from the corresponding Task Leaders and Task Participants. Furthermore, when other key issues and/or problems are found, they will be evaluated and communicated to the PC.

A warning alarm may be raised in the following cases, among others:

- Time to submission of deliverable: if, without previous notification by mail to the coordinator, one month before its delivery date no draft is available or 15 days after no deliverable is provided.
- Conflict among participants: if a conflict arises among some partners of a specific WP, for instance regarding IPR issues or execution of the project.
- Risk management: if a partner foresees a potential risk, either already identified or not, the PC should be informed with enough time to design and apply the appropriate contingency plan.

4.3 Corrective and preventive actions

An analysis of all the partners' reports and records shall be completed to determine areas for corrective actions, where necessary. Observations requiring corrective action are documented in a brief non-conformity report, with the following content:

- Deviation description
- Action list
- Partner(s) involved
- Author of the inspection

Any partner of the project may raise, by writing to the PC, such non-conformity regarding the work of another partner or external suppliers/subcontractors.

The PC is responsible for implementing and recording changes in the procedures, resulting from corrective actions. These procedures are established to ensure:

- Effective handling of all complaints
- Reports on non-conformities
- Assessment of the cause of non-conformities
- Recording the results of the investigation
- Determining the corrective and preventive measures needed to eliminate the cause of the non-conformity
- Application of controls to ensure that corrective actions are taken and are effective
- Ensuring that relevant information on actions taken is submitted for review

The PC is responsible for resolving issues under this procedure, within their area of responsibility. All complaints are to be assessed and corrective actions agreed. The GA must be informed of non-conformities and agree on the analysis of the non-conformity and the corrective measures proposed.

Task leaders, WP leaders and WP coordinators will play a key role in identifying potential deviation and to define corrective measures, since they are monitoring the execution of the project activities

at the different levels.

4.4 Conflict resolution

The Governing Bodies for CORALIS have been defined and detailed previously including their competencies for decision making. Attempted resolution of decisions will be carried out through the management bodies in increasing order of authority, going from the lower level (Task) upwards to the highest level (General Assembly) so long as the decision may be executed at that level; and under the management of the PC.

Any conflict between partners will be treated in a friendly and collaborative manner and will be communicated to the PC, who will aid communication to find the best solution for the project. If needed, the conflict can be taken to the GA.

Every partner within the consortium has signed a Consortium Agreement that states the procedure for conflicts resolution. The signed CA is uploaded in the intranet system, PR_UE_H2020_2020_CORALIS: Files\Contractual Documents\Consortium Agreement.

In the following sections some key aspects are presented, however the complete Consortium Agreement should be consulted during resolution of conflicts.

4.5 Occupational Safety and Health

During the project, every partner will ensure the Occupational Safety and Health (OSH) of the people involved in the project execution by complying with the legislation in force in the country where such activities are carried out.

In the event of concurrence of entities in the execution of a task or visits from other partners to a facility or site, the host partner or organisation will coordinate the activities communicating the possible risks and provide adequate prevention measures in accordance with the legislation in force in the country where such activities are carried out.

Partners are encouraged to contact their internal and/or external OSH services for support in all activities.[1]

[1] Directive 89/391/EEC, the so-called **OSH "Framework Directive"**, lays down the main principles to encourage improvements in the safety and health of workers at work. It guarantees minimum safety and health requirements throughout Europe while Member States are allowed to maintain or establish more stringent measures.

5 INTELLECTUAL PROPERTY RIGHTS (IPR)

5.1 Results

5.1.1 Ownership of results

Results are owned by the partner that generates them.

5.1.2 Joint Ownership

Joint ownership is governed by Grant Agreement Article 26.2 with the following additions:

Unless otherwise agreed:

- each of the joint owners shall be entitled to use their jointly owned Results for non-commercial research activities on a royalty-free basis, and without requiring the prior consent of the other joint owner(s), and
- each of the joint owners shall be entitled to otherwise Exploit the jointly owned Results and to grant non-exclusive licenses to third parties (without any right to sub-license), if the other joint owners are given:

  a) at least 45 calendar days advance notice; and

  b) Fair and Reasonable compensation.

5.1.3 Transfer of results

Each partner may transfer ownership of its own results following the procedures of the Grant Agreement Article 30.

5.1.4 Dissemination

Prior notice of any planned publication shall be given to the other partners at least *45 calendar days before the publication*. Any objection to the planned publication shall be made in accordance with the Grant Agreement in writing to the PC and to the partner or partners proposing the dissemination within 30 calendar days after receipt of the notice. If no objection is made within the time limit stated above, the publication is permitted.

The Framework Directive is accompanied by further directives focusing on specific aspects of safety and health at work. Together they form the fundamentals of European safety and health legislation. Read more about specific OSH areas of activity.

5.1.5 Exclusive license

Where a partner wishes to grant an exclusive licence to its results and seeks the written waiver of the other partners pursuant to Grant Agreement Article 30.2, the other partners shall respond to the requesting partner within 45 calendar days of the request.

5.2 Access rights

5.2.1 General principles

Each Party shall implement its tasks in accordance with the Description of the Action and shall bear sole responsibility for ensuring that its actions within the Project do not knowingly infringe third party property rights.

- Any Access Rights granted expressly exclude any rights to sublicense unless expressly stated otherwise.
- Access Rights shall be free of any administrative transfer costs.
- Access Rights are granted on a non-exclusive basis.
- Results and Background shall be used only for the purposes for which Access Rights to it have been granted.
- All requests for Access Rights shall be made in writing.
- The granting of Access Rights may be made conditional on the acceptance of specific conditions aimed at ensuring that these rights will be used only for the intended purpose and that appropriate confidentiality obligations are in place.
- The requesting Party must show that the Access Rights are needed.

5.2.2 Background included

In Attachment 1 of the CA, the Parties have identified and agreed on the Background for the Project and have also, where relevant, informed each other that Access to specific Background is subject to legal restrictions or limits.

Anything not identified in Attachment 1 shall not be the object of Access Right obligations regarding Background.

Any Party may add further own Background to Attachment 1 during the Project by written notice to the other Parties. However, approval of the General Assembly is needed should a Party wish to modify or withdraw its Background in Attachment 1.

5.3 Non-disclosure of information

5.3.1 General principles

All information in whatever form or mode of communication, which is disclosed by a Party (the "Disclosing Party") to any other Party (the "Recipient") in connection with the Project during its implementation and which has been explicitly marked as "confidential" at the time of disclosure, or when disclosed orally has been identified as confidential at the time of disclosure and has been confirmed and designated in writing within 15 calendar days from oral disclosure at the latest as confidential information by the Disclosing Party, is "Confidential Information".

The Recipients hereby undertake in addition and without prejudice to any commitment of non-disclosure under the Grant Agreement, for a period of 4 years after the end of the Project:

- not to use Confidential Information otherwise than for the purpose for which it was disclosed;
- not to disclose Confidential Information to any third party without the prior written consent by the Disclosing Party;
- to ensure that internal distribution of Confidential Information by a Recipient shall take place on a strict need-to-know basis; and
- to return to the Disclosing Party, or destroy, on request all Confidential Information that has been disclosed to the Recipients including all copies thereof and to delete all information stored in a machine-readable form to the extent practically possible. The Recipients may keep a copy to the extent it is required to keep, archive or store such Confidential Information because of compliance with applicable laws and regulations or for the proof of on-going obligations provided that the Recipient comply with the confidentiality obligations herein contained with respect to such copy for as long as the copy is retained.

The Recipients shall be responsible for the fulfilment of the above obligations on the part of their employees or third parties involved in the Project and shall ensure that they remain so obliged, as far as legally possible, during and after the end of the Project and/or after the termination of the contractual relationship with the employee or third party.

5.3.2 Exceptions

The above shall not apply for disclosure or use of Confidential Information, if and in so far as the Recipient can show that:

- the Confidential Information has become or becomes publicly available by means other than a breach of the Recipient's confidentiality obligations;
- the Disclosing Party subsequently informs the Recipient that the Confidential Information is no longer confidential;
- the Confidential Information is communicated to the Recipient without any obligation of

confidentiality by a third party who is to the best knowledge of the Recipient in lawful possession thereof and under no obligation of confidentiality to the Disclosing Party;
- the disclosure or communication of the Confidential Information is foreseen by provisions of the Grant Agreement;
- the Confidential Information, at any time, was developed by the Recipient completely independently of any such disclosure by the Disclosing Party; or
- the Confidential Information was already known to the Recipient prior to disclosure or
- the Recipient is required to disclose the Confidential Information in order to comply with applicable laws or regulations or with a court or administrative order, subject to the provision Section 10.7 of the Consortium Agreement.

5.3.3 Degree of care

The Recipient shall apply the same degree of care regarding the Confidential Information disclosed within the scope of the Project as with its own confidential and/or proprietary information, but in no case less than reasonable care.

5.3.4 Communication of disclosure of confidential information

Each Party shall promptly advise the other Party in writing of any unauthorised disclosure, misappropriation, or misuse of Confidential Information after it becomes aware of such unauthorised disclosure, misappropriation or misuse.

5.3.5 Compulsory Disclosure

If any Party becomes aware that it will be required, or is likely to be required, to disclose Confidential Information in order to comply with applicable laws or regulations or with a court or administrative order, it shall, to the extent it is lawfully able to do so, prior to any such disclosure:

- notify the Disclosing Party, and
- comply with the Disclosing Party's reasonable instructions to protect the confidentiality of the information.

6 RISK ANALYSIS AND MANAGEMENT

CORALIS risks have been addressed by breaking the work plan into an achievable set of smaller developments. This will enable the consortium to monitor progress and to address the progressive reduction in risk. The WPs have been broken into tasks in such a way as to end at milestone control points, enabling the assessment of the progress of both the WP and its inter-relationship with the entire project. Inter-relationships between individual and particularly high-risk work packages and tasks have been evaluated, and the tolerance for under delivery or delay on each contributing task and individual packages assessed.

The risk management plan has been based on existing and effective risk management practices and more specifically the Continuous Risk Management paradigm.

Project risks describe the impact on the project such as diminished quality of the results, increased costs, delivery delays or failure.

Since the control of the project risks is a continuous process, the **PC** will oversee continuous monitoring, and there will be a dedicated section in each SC meeting. Each **task and WP leader** will review the status of each task's achievement for risks identification.

The risk management plan incorporates the following activities:

1. Continuous monitoring: Continuous assessing of risks.
2. Risks assessment: Determining which risks are important to address.
3. Contingency plans: Implementing strategies and actions to deal with those risks.

6.1 Continuous monitoring

The continuous risk management approach has the following elements:

1. Identify: makes all known potential or real project risks explicit before they arise.
2. Analyse: transforms risk data into decision making information.
3. Plan: translates risk information into decisions and mitigation actions and implements those actions.
4. Track: monitors risk indicators and mitigation actions.
5. Control: Corrects for deviations from the risk mitigation plans.
6. Communicate: enables the sharing of all information throughout the project; it is the

cornerstone of effective risk management among the Consortium.

This continuous monitoring of the risks implies continuous updates during the whole project lifecycle. At each General Assembly meeting, the Project Coordinator and the WP leaders will propose an update on the risks of the project and will evaluate their impact and probability (explained in following section) and will provide contingency plans if needed.

6.2 Risk assessment and mitigation actions/contingency plan

Risk assessment is a measure of the risk created by combining the impact and probability of the risk.

- **Impact (I)**: the effect of the particular risk on the project, which is determined on the basis of the risk's effect on the project.
- **Probability (P)**: the chance that a particular risk will occur.

These metrics are evaluated from 1 to 3, 1 being the lowest level impact or probability and 3 the highest level.

A first version of the mitigation actions/contingency plan (MA/CP) for each evaluated risk is included in Table 6. The risks are also included in the project's Grant Agreement without the impact and probability evaluation. This table will be periodically updated and reported to the SC. Within the table, as part of the MA/CP, more detailed information such as partners responsibilities, efforts needed, deliverables and target dates can be included.

Table 6. Risk evaluation, mitigation, and contingency planning.

Risk description			WP	P	I	Risk Holder
Management and coordination	1	Closing the activity of one company or partner leaving the consortium	1	1	3	GA
		MA/CP: The consortium is highly qualified and would assume tasks from a partner leaving the project. Otherwise, they would find within their large contact network the best partner for assuming the role lost.				
	2	Poor communication flow between partners	1	1	2	PC
		MA/CP: An open and dialectic approach will be applied in all the consortium meetings and correspondence and communication will be promoted and ensured by the project coordinator, which is composed by a technical and an IS platform coordinator to sustain and steer communication flows.				
	3	Lack of financial resources	1	1	2	PC
		MA/CP: Solvency of project partners has been assessed, ensuring their financial resources during the project execution. Most of the partners have already participated in national or EU projects, having a wide experience and history, which reduces this risk.				
	4	Error in the estimation of the task's duration	1	2	1	SC

		Risk description	WP	P	I	Risk Holder
		MA/CP: Steering of the project will be frequent. Milestones and deliverables have been placed for control. Under delays detection PC will encourage a review of task procedure and partners to place extra effort.				
	5	Delay of one partner providing reports or activities	1	2	2	PC
		MA/CP: Estimation of tasks' duration has been made with the agreement of all the partners, so that, as a first approach, the deliverables and development should be given in time. In case of delay of one task, that would suppose the delay of some others, an adjustment on the task's duration will be made, aiming at accomplishing the time targets established in the project, asking for additional effort to the partner responsible for the delay				
	6	Problems between partners (IPR, internal disagreement, etc.)	1	1	2	SC
		MA/CP: The project handbook will include all the procedures accepted in the CA. A democratic and dialectic approach will be applied in all the consortium meetings and correspondence. IPR issues will be discussed and established within a common CA, signed by all the partners. Solvency of project partners has been assessed.				
	7	Quality, scope and delay of partners work	1	2	2	PC
		MA/CP: A compulsory Work plan is established with operative plan to be prepared by WP leaders to avoid low quality, loss of direction or too overload actions. In case this is detected, PC will enter in contact with WP leader to revise. Key DLV will always go through a review process including CIRCE and TPs.				
Technical risks	8	Insufficient data to characterize demo processes	2	2	1	WP Leader
		MA/CP: Measuring equipment will be installed in all those circumstances where possible reallocating the Budget of the task. On those occasions where it is not possible, specialized literature will be used for calculation.				
	9	Low participation or acceptance from the regional stakeholders	2; 8	2	2	WP Leader
		MA/CP: CORALIS counts on experienced partners in charge of dissemination activities that would perform corrective actions if needed towards the engagement of the stakeholders required for the IS implementation				
	10	Insufficient accuracy and precision of monitoring systems	3	1	2	WP Leader
		MA/CP: The developing and testing methodology has been conceived from previous projects and scenarios requiring different accuracies. Also, dedicated devices will be installed at the Lighthouses to assure the data gathering for each demonstration site.				
	11	Data sharing between Industrial Symbiosis Systems actors	3	2	1	WP Leader
		MA/CP: The aim of the Virtual Assessment Platform is to provide a virtual intermediary to preserve data confidentiality, and protocols for data sharing will be addressed during WP3 and dedicated workshops between the main actors.				
	12	Delay in the development of the Lighthouse cases	5-7	2	2	SC
		MA/CP: Efforts allocated and Gantt diagram have been designed avoiding possible delays in the deliveries. If some delay occurred, the task/WP leader will engage all necessary efforts to deliver the solution as soon as possible. Also, the necessary capabilities are involved in the consortium so that no big delays occur.				
	13	Reluctance from demonstrators to provide data due to confidentiality issues	5-9	1	3	WP Leader
		MA/CP: The Consortium agreement will include terms regarding access to data and existing knowledge / Additional confidentiality agreements will be signed between the demo partners				

Risk description			WP	P	I	Risk Holder
		and the supporting technology partners for the knowledge/ data which is characterized as "sensitive" and "confidential"				
	14	Difficulties to reach technical requirements fulfilling technical and cost targets	5-9	1	1	PC
		MA/CP: The steering committee will decide on alternative designs which can achieve a valid compromise between performance and costs targets.				
	15	Delay in the commissioning and start-up of the demonstrators	5-7	2	2	SC
		MA/CP: The duration of starting-up for demos have been calculated considering possible problems when the solutions start for its first time. In any case, the time for the demonstration phase has been calculated to overcome any problems the commissioning phase may bring in.				
Communication, dissemination and replication	16	Poor dissemination to the stakeholders	11	1	2	WP leader
		MA/CP: It has been identified and detailed potential stakeholders, as well as European previously financed projects and a preliminary dissemination and awareness plan, specifying target audiences (WHO) and the best communication channels (HOW). Market audience is also identified at proposal stage. In addition, several tasks have been set in order to ensure a proper stakeholder's identification and alignment.				
	17	Lower number of visits to the website than expected	11	1	2	All partners
		MA/CP. Wide dissemination of the URL will be planned and updated to avoid this risk. All partners will use different channels to draw visitors to the website: social media, newsletter, digital outlets, etc. In addition, the website will be promoted at all the events partners in the consortium attend, as well as in any face-to-face communications, while the URL will be included in the brochures, the poster, and the banner.				
	18	Weak internal communication	1	2	3	PC
		MA/CP. Weak communication among partners in the Consortium makes it difficult to disseminate and promote the developments of the project. CIRCE will set bi-monthly teleconferences with the WP leaders to ensure the flow of information that will be then transformed into news bits, press releases, website content and so on. Also, the management structure of the consortium and horizontal tasks (9.1 in particular) are flexible and aim at overseeing the data sharing and proper internal dialogue. They will adapt the internal procedures with urgency as soon as any hurdles is detected.				
	19	Low number of participants attend to workshops organised along the project	11	1	2	All Partners
		MA/CP. Partners supporting open workshops will early be communicated to the target audience, including government authorities, representatives from the EII sectors and related industries and services and other projects focusing on the project's topics; will make it back-to-back to other relevant events happening in Brussels; and will make the agenda relevant for the target audience				
COVID 19 as a RISK		COVID 19 as a RISK and RISK MULTIPLIER	All	3	2	All partners
		MA/CP. COVID 19 increases the possibility of many of the above-mentioned risks. This requires greater flexibility in working arrangements and measures to prevent infection within the consortium partners own organisations and between them. For example, allowing teleworking from home when appropriate, and taking mitigating actions to prevent infection in workers required to be presential, such as: masks, hand and equipment sanitising stations, rigorous professional cleaning of high contact surfaces, regular replacement of internal air, instigating shift working with less workers per shift etc. It also requires greater effort in				

Risk description	WP	P	I	Risk Holder
monitoring of activities to look for delays in action or implementation, and financial or operational difficulties in general. This need has been communicated to all partners by the coordinating partner CIRCE and dialogue is ongoing and continuous.				
COVID limiting face to face meetings	All	3	2	All partners
MA/CP. COVID 19 restricts the free movement and meeting of people. This has its greatest effect on communication within and outside the consortium. To mitigate these effects within the consortium the use of teleconferencing as a medium to substitute face to face meetings has been promoted until such time as physical meetings are possible. Microsoft TEAMS, our software for teleconferencing, allows screen sharing and has sufficient capacity to support full consortium meetings with multiple attendees from each partner. Email is also a substitute for cooperative working on documents and on different tasks where immediate feedback and extensive discussion are not required. On a local scale, at demonstrator sites, or where partners are geographically close, meetings are still possible taking appropriate safety measures and following all government directives. Looking at dissemination and communication activities outside the consortium; the main risk is to engagement with the community or wider public on the outcomes and results of the project, and stakeholder groups on future exploitation of results and outcomes. The affects will be more acute as more results and outcomes are achieved increasing the urgency to carry out the physical face to face engagement activities described in the action. Therefore, partners engaged in face-to-face communication and dissemination activities are looking at a range of online options that can be used as substitutes if the personal risks and or governmental restrictions on travel continue. However, where the value of face-to-face meetings is high this is not the preferred option and will be chosen as a last resort.				

6.3 Environmental Concerns

According to the Impact Assessment Guidelines (EC 2009), it is crucial to consider an integrated approach taking into consideration various dimensions of impacts, notably economic, social and environmental implications of planned public interventions.

During the development of CORALIS project, some interventions may have undue negative environmental effects.

As a first approach of the environmental impacts during the development of CORALIS, Life Cycle Assessments (LCA) provide a comprehensive consideration of the various environmental impacts of production and consumption activities. Thus, the following table provides a tentative clustering of the most common environmental impact categories, categorized as described in the figure on the following page:

IMPACT CATEGORY	BRIEF DESCRIPTION OF IMPACT CATEGORY	HAS IMPACT ON:
Climate Change	The potential of environmental pressures exerted by GHG emissions (such as carbon dioxide from combustion of fossil fuels or methane from agricultural production) to cause changes in the temperature of the atmosphere and thus to contribute to climate change.	Human health Natural environment
Photochemical ozone creation	Photochemical ozone is created by radiation from the sun and some chemical substances, which result from incomplete combustion of fossil fuels (such as nitrogen oxides and hydrocarbons), leading to negative impacts on both human health and agricultural production.	Human health Natural environment
Ozone depletion	While photochemical ozone is created on ground levels, other ozone-depleting substances (such as CFCs and halons used in refrigerators) lead to stratospheric ozone depletion, which reduces the potential of the atmosphere to hold back harmful radiation, in particular ultra violet radiation, from space.	Human health Natural environment
PM, Respiratory emissions	Emissions of particulate matter as well as secondary particles resulting from chemical reactions with nitrates and sulphates are harmful to health. They are the by-product of combustion of fossil fuels	Human health
Ecotoxicity	Ecotoxicity is caused by persistent chemical substances, i.e. substances, which are not degradable by the natural systems and exert toxic effects. They include, for example, dioxins from waste incineration, asbestos from insulation materials and heavy metals from various products.	Human health Natural environment
Ionising Radiation	Ionising radiation can stem from both human sources, such as nuclear power plants, as well as natural sources, such as space radiation. The impact of exposure to radiation depends on the accumulated dosage derived from inhalation, water and food.	Human health Natural environment
Acidification	Acidification is caused by chemical substances (such as nitric acid or sulphuric acid, e.g. from electrolytes in lead-acid batteries and from cleaning agents) and can damage water bodies, fish stocks, soils and forests.	Natural environment
Eutrophication	Eutrophication occurs when excessive amounts of nutrients, such as nitrate or phosphate, reach ecosystems, e.g. through the application of fertilisers or sewage. This leads e.g. to "algae blooms" in waters.	Natural environment
Human toxicity	This aggregated impact category illustrates the negative health impacts on humans stemming from the emission of toxic chemicals and substances.	Human health
Abiotic resource depletion	Abiotic resource depletion refers to reductions in the available stocks of fossil fuels, metal ores and other minerals, potentially causing raw material shortages on markets and related price increases.	Natural resources
Water scarcity	Water scarcity occurs in a situation, where the abstraction of fresh water is exceeding the rate of renewal in the respective water body, leading to water shortages or droughts.	Natural resources
Land use competition	Land use competition is generally increasing and a result of multiple and growing demands, such as land for the production of food, feed, biofuels and biomaterials. This growing demand meets a limited stock of available productive land.	Natural resources
Loss of fertile land	Loss of fertile land, e.g. due to soil erosion, is one commonly observed result of land being used too intensively	Natural resources

Source: Adapted from Sala et al. (2012)

Figure 4. Main environmental impact categories

Table 7. Environmental concerns

Environmental impact (according to figure above)														
Environmental aspect	**Brief description**	**Climate Change**	**Photochemical ozone creation**	**Ozone depletion**	**PM, Respiratory emissions**	**Ecotoxicity**	**Ionizing radiation**	**Acidification**	**Eutrophication**	**Human toxicity**	**Abiotic resource depletion**	**Water scarcity**	**Loss of fertile Land**	**Land use competition**
Installation of equipment	Construction of smaller and larger scale related to equipment installation on buildings and perhaps green field sites				x	x				x	x		x	x
Travel	Travel related to project activities	x			x									
Data servers and data use	Energy requirements of data storage and use.	x												

Water use	Heating water, water for cleaning.								x	x		x		
Minerals extraction	Usual activity of industries involved in the project.									x	x			
Generation of industrial waste landfilling	Usual activity of industries involved in the project.					x			x	x			x	
Emission of CO_2	Usual activity of industries involved in the project.	x			x									
Use of elements that may cause harm to the environment, to animals or plants	Demonstration processes will deal with contaminated wastewater, presence of harmful substances, notably NO_x (harmful to plants) and CO (harmful to humans), wastes containing metals and metal oxides and CO_2 emissions.	x			x	x			x	x				

	FTIB and QSR use nitric acid, what is a usual raw material in their production.					x			x	x				
	TUPRAS will evaluate potential solutions for dirty caustic but no new installations are expected within CORALIS. Potentially some analyses could be done.					x				x				
	Hoganas will supply a stream of CO_2 with some impurities	x			x					x				

As it is observable in the table above, eight main areas can be identified, where impacts occur: they can negatively affect human health, the natural environment (ecosystems) and natural resources.

As explained, these potential environmental concerns will be controlled locally in each activity during the development of the engineering design activities and LCA/LCC analysis of the demonstration activities complying with European and national legislation.

7 RESPONSIBLE RESEARCH AND INNOVATION (RRI)

The RRI is a novel approach towards research and innovation promoted by the European Commission (EC) to ensure that the projects it funds are ingrained in society and local communities. The EC provided six thematic elements to focus on:

- public engagement,
- open access,
- gender issues,
- ethics,
- governance
- and science education.

In CORALIS, the main focus is placed on open access, public engagement and gender components of RRI. The rest of the thematic elements are incorporated implicitly through the activities of this and other work packages in the project. For example, ethical points of originality and innovation in research are encouraged in the aspect of scientific publications. This, in connection with the open access principle, ensures the replicability of the developed results of the project.

During the first months of the project, a plan for integrating the RRI into the project was prepared. The plan comprised two types of activities. First type is to focus on integration of open access in the project, while the second one will focus on organising various promotional and educational activities. Gender equality is a specific cross-cutting issue because it affects the project from the beginning.

It has been noted that the project's tasks and responsibilities are divided between genders in a balanced way.

Open access in this project is tackled by setting up a community for the project in a repository, where open-access publications of the project are being uploaded. Said publications are also submitted to the OpenAIRE community which hosts documents from European Commission-funded projects.

To integrate public outreach in the project, a plan for organisation of RRI events was devised. The events will be held along with the project dissemination activities. They will cover topics and include participants relevant for the state of the project at the time of the event. The events will comprise:

- an assessment of participants' knowledge and opinions on the topic,
- a presentation to introduce the topic and disseminate the project's findings and

- a workshop to collect feedback from the participants

Finally, this project addresses the risk that COVID-19 presents for the implementation of the plans for RRI integration. In the case of epidemiological measures being prolonged, online events will be held instead of in-person

8 PROJECT REPORTING

The purpose of the project reporting is for the PC and the EC to review the performance of the project, to ensure value for money and that the project is on track for successful delivery. It is also for the PC and project manager to follow the technical progress and use of resources, for continued smooth deployment of the project and implementation of corrective actions where necessary.

Project partners should thus ensure that their work and effort are fully and correctly reflected in the reports they submit.

Three types of project reports are required: Periodic reports, Final report and Interim reports.

Further information about the timing, procedures and responsibilities will be delivered by the PC and explained to the partners before requests for reports are made.

Table 8 shows the expected calendar of the project reports.

Table 8. Expected calendar for project reports

END MONTH	REPORT	HOW
M6 (Mar-21)	Interim report (M1 to M6)	To PC through CIRCE excel tool
M12 (Sep-21)	Interim report (M7 to M12)	To PC through CIRCE excel tool
M18 (Mar-22)	1st Periodic report (M1 to M21)	To EC through participant portal
M24 (Sep-22)	Interim report (M18 to M24)	To PC through CIRCE excel tool
M30 (Mar-23)	Interim report (M24 to M30)	To PC through CIRCE excel tool
M36 (Sep-23)	2nd Periodic report (M1 to M21)	To EC through participant portal
M42 (Mar-24)	Interim report (M36 to M42)	To PC through CIRCE excel tool
M48 (Sep-24)	Final report (M1 to M48)	To EC through participant portal

8.1 Interim reports

The objective of the Interim reports is to ensure that project spending is continuously in sync with technical project progress. Besides, Interim reports track both spending and technical progress as described in the EC-Grant Agreement Annex I (DoA). Moreover, interim reports are of great use to

the partners and Project Manager and Project Coordinator to then prepare Periodic Reporting.

The partners shall fill in the excel file provided by CIRCE with technical, financial and administrative reporting and shall refer to the EC-Grant Agreement Annex I (DoA) for the aims and objects of the WPs.

Contributions from partners will need to be collected by the PC well in advance of the deadline, in order to process the contributions, assemble the reports, and review and approve them before the delivery deadline.

The implementation of this procedure is pending approval in the next General Assembly meeting, when the PC will describe how and give guidelines for completing these reports: specific steps and responsibilities, requested information, etc.

8.2 Periodic reports

The aim of Periodic reports is for the EC to ensure that project spending is in sync with technical project progress as well as to track scientific, technical and financial progress according to the work-plan as described in the EC-Grant Agreement Annex I (DoA).

The report is officially delivered by the PC to the EC as per the EC-Grant Agreement Article 20.3 (Periodic reports – Requests for interim payments).

In order to submit the periodic report, all partners must have a financial signatory appointed on the participant portal.

The Periodic Report consists of two items: periodic technical report and periodic financial report.

As explained in the Consortium Agreement, the following payments will be made by EC to the coordinator, who must then distribute the payments between the partners:

- one pre-financing payment at the beginning of the project;
- one or more interim payments, following the requests for interim payment on the basis of the Periodic Reports.
- one payment of the balance, after the end of the project.

The EC will carry out technical reviews tentatively in month 18, 36 and month 48. Two mid-term reviews may be organized in the shape of a review meeting to be attended by convened partners. Alternatively, these reviews may be carried out by an external reviewer who will analyse the progress report and prepare a review report for the Commission. The project officer will confirm how to proceed.

8.2.1 Periodical technical report

- Publishable summary – compiled by the PC.
- Project objectives for the period – compiled by the PC on the basis of the WP leaders' inputs.
- Explanation of the work carried out by the partners.
- Work progress and achievements during the period (including deviations between the work foreseen in the DoA and the actual work performed) – compiled by the WP Leaders and assembled/reviewed by the PC.
- Deliverable and milestone tables – compiled by the WP Leaders and assembled/reviewed by the PC.
- Project management during the period – compiled by the PC.
- Update of the plan for exploitation and dissemination of the results - compiled by the Dissemination leader and Exploitation Manager on the basis of the contributions of all partners.
- The answers to the "questionnaire", covering issues related to the action implementation and the economic and societal impact, in the context of H2020. More information may be found in article 20.3 of the EC-Grant Agreement.

8.2.2 Periodical financial report

- Explanation of the use of the resources and information on subcontracting – compiled by the PC using the contributions of all partners.
- Individual financial statements – provided by all partners to the PC through the participant portal.
- Periodic summary financial statement – created automatically by the electronic exchange system, consolidating the individual financial statements and including the request for the interim payment (except for the last reporting period).

The individual financial statements of the last period must also detail the receipts of the action (as described in Article 5.3. of Grant Agreement).

8.3 Final report

After the last periodic report, the PC shall submit the final report within 60 days after the end of this last reporting period.

The final report consists of two items: final technical report and final financial report.

8.3.1 Final technical report

- Overview of the results and their exploitation and dissemination - compiled by the Dissemination leader and Exploitation Manager using the contributions of all partners.
- Conclusions of the project.
- Socio-economic impact of the action – compiled by the PC.

8.3.2 Final financial report

- Final summary financial statement, created automatically by the participant portal.
- Any required Certificates on the Financial Statements of each partner, if the partner requests a total contribution of EUR 325.000 or more.

More details on the reporting requirements, as well as the corresponding templates in the H2020 Reporting guidelines will be uploaded in the intranet once they are available from the Participant Portal.

9 LEGAL AND FINANCIAL ASPECTS

All partners are responsible for adherence to the guidelines, it is therefore essential that all partners are familiar with the “Annotated Grant Agreement (AGA)” especially with regard to the financial issues, eligible costs and cost claims. This financial guide has been uploaded in the documents manager and may be found in the following route of the file repository on MICROSOFT TEAMS: PR_UE_H2020_2020_CORALIS – General/Files/A.Contractual Documents

In the online Kick off Meeting CIRCE and the EC made some presentations related to legal and financial aspects. These presentations are available in the folder PR_UE_H2020_2020_CORALIS – General/Files/C. Meetings/20.10.08_CORALIS_KOM_TEAMS_CIRCE.

In Annex 2 general data of H2020 eligible costs are described.

For further details partners are encouraged to consult both the above-mentioned guidelines and the project manager if there are any doubts.

9.1 Amendments

An amendment is necessary whenever there is a need to change the Grant Agreement (or the core part or the Annexes).

Some cases where an amendment is necessary are:

- Removal of a beneficiary whose participation is terminated.
- Adding a new beneficiary.
- Change of beneficiary due to partial takeover.
- Adding/Removing a linked third party.
- Change of coordinator.
- Change of coordinator´s bank account for payments.
- Change of the action´s title and/or acronym.
- Change of the starting date, action duration or reporting periods.
- Changes to Annex 1 (of the Description of the Action):
    - Significant change of the action tasks (e.g., if tasks are added/removed) or of their division among the beneficiaries.
    - Changes concerning in-kind contributions provided by third parties or subcontracts (strongly advised!).
    - Changes concerning the tasks to be carried out by linked third parties and related costs (including if a linked third party is removed).

  - Changes concerning Grant Agreement options.

- Changes to Annex 2 (Estimated budget):
  - Budget transfer of amounts between beneficiaries or between budget categories (or both) which are linked to a significant change in the action's work (i.e., Annex 1).
  - A budget transfer to a form of costs that is not used by the beneficiary (i.e., with 0 EUR costs in Annex 2) — except for transfer of amounts within the budget category A. 'personnel costs.

Cases where NO amendment is needed:

- Budget transfers not listed above. Transfers of amounts between beneficiaries or between budget categories (or both) do NOT require an amendment provided that the action is implemented in line with Annex 1 (of the Description of Action). Budget transfers within the personnel cost category are possible without having to amend the Grant Agreement.
- Change of name, address or other legal entity data (of beneficiaries/linked third parties).
- Change of beneficiary due to universal takeover.

9.1.1 Internal Procedure towards an Amendment request

The procedure to be followed towards an amendment request is the following:

1. A partner communicates a change need to the PC providing a justification.
2. The PC confirms if this change needs an amendment request. Advice from the project officer may be requested if needed at this stage.
3. The modification is communicated to the SC for evaluation and approval.
4. Since the amendments take time to be processed, several changes will be gathered and included in a single amendment request as long as this is feasible and convenient.
5. The PC drafts the new Annex I and/or Annex II and distributes it to the consortium.
6. The consortium (General Assembly) approves the new Annex I to be proposed to the EC.
7. The PC may consult the project officer while drawing up the request, who can review the request informally and provide valuable feedback. Reasons for the amendment have to be provided at this stage.
8. The PC prepares the supporting documents.
9. The PC completes the amendment request in the Participant Portal.
10. The PC submits and signs the amendment request.
11. The EC checks if the request is valid and requests any additional information/documents, if

required. The PC provides clarifications within 15 calendar days.

12. The EC assess the amendment requests within the next 45 days
13. If accepted, the amendment enters into force on the day the Commission signs it.
14. After communication of approval from EC, the PC will distribute the new version of the Grant Agreement and confirm the entry into force.
15. The amendment will take effect (the changes to the Grant Agreement will start to apply) either:
    - On the day of its entry into force (last signature of the amendment), or
    - On the specific date indicated and agreed in the amendment.
    - In justified cases it may be retroactive.
    - If a request involves more than one change, these can take effect on different dates.

Requests proposing more than one change to the Grant Agreement are considered as a package and may be accepted or rejected as an indivisible whole.

10 TEMPLATES AND PATTERNS

The following templates, logos and patterns have been provided by WR and EEIP and can be found on TEAMS in the following directory PR_UE_H2020_2020_CORALIS – General/Files/O. WP11 Dissemination:

- CORALIS Logo (.png)
- CORALIS Deliverable and Minutes Templates (.docx)
- CORALIS Presentation Template (.pptx)
- CORALIS Leaflet (.pdf)
- CORALIS Poster (.pdf)

More standard documents may be produced as the project progresses and will be stored in the same directory.

11 USEFUL LINKS

- Participant portal
- H2020 online manual
- Annotated Model Grant Agreement
- H2020 Reference documents
- Research Enquiry Service
- Intellectual Property protection help
- Advise on Plan for Exploitation and Dissemination
- Guide for completing your financial statement
- Guide for Periodic reporting

12 CONCLUSION

The procedures described in this deliverable, D1.1 *Project Handbook* form the basis for the execution of management tasks in the project. Adherence to the procedures should ensure that the management objectives of CORALIS are met.

The Governance Structure of the CORALIS project was defined, describing all the execution bodies. Moreover, the main contact and the proxy of each partner for the General Assembly and Steering Committee have been defined.

The communication procedures and the tools for a smooth management of the project were explained.

The criteria and general characteristics of the quality control procedures were outlined in this deliverable, including the timeline of the review process. This procedure will help the Consortium avoid delays in the submission of deliverables to the participant portal and avoid delays in the achievement of milestones.

In addition, procedures for management of issues related to intellectual property rights and risk analysis and management will help CORALIS members avoid problems during project execution and implement mitigation actions when problems arise.

Finally, the project reporting procedures, the legal and financial aspects, the templates and standard documents of the project and the useful links were explained.

This document will be subject to updates during project execution if the activities are modified or the partners agree on changes requiring updates.

13 ANNEXES

13.1 Annex 1: Roles and schedules for deliverable review

CORALIS - Deliverables

No.	Deliverable name	Dissemination level	Deliverable Responsible	Started	Version 1 (5 weeks before delivery date)	Review of Version 2 (peer review)		Version 3		Review of Version 3		Final version		Submission of Final Version					UPDATE MONTH	Project start	Project finish
					Deadline**	Review	Deadline	Responsible	Deadline	Responsible	Deadline	Responsible	Deadline	Responsible	Submission	Actual delivery date	Month	Delivered		01/10/2020	30/09/2024
D1.1	Project handbook	CO	CIRCE	-	09/12/2020	CIRCE	16/12/2020	CIRCE	23/12/2020	CIRCE	27/12/2020	CIRCE	29/12/2020	CIRCE	31/12/2020		3	NO			
D1.2	Project management collaborative space guide	CO	CIRCE	-	09/12/2020	CIRCE	16/12/2020	CIRCE	23/12/2020	CIRCE	27/12/2020	CIRCE	29/12/2020	CIRCE	31/12/2020		3	NO			
D1.3	Data Managment Plan updates	PU	CIRCE	01/12/2020	24/02/2021	CIRCE	03/03/2021	CIRCE	10/03/2021	CIRCE	17/03/2021	CIRCE	24/03/2021	CIRCE	31/03/2021		6	NO	21, 42		
D2.1	Description of Key Performance Indicators and Symbiosis Readiness Level scale	PU	RISE	02/06/2021	26/08/2021	RINA-C	16/09/2021	RISE	23/09/2021	CIRCE	27/09/2021	RISE	30/09/2021	CIRCE	30/09/2021		12	NO			
D2.2	Industrial Symbiosis vision for CORALIS Communities of Members	CO	CIRCE	31/01/2021	26/04/2021	RINA-C	17/05/2021	CIRCE	24/05/2021	CIRCE	28/05/2021	CIRCE	31/05/2021	CIRCE	31/05/2021		8	NO			
D2.3	Report on material and energy flow characterisation on plant and relevant process level	CO	CIRCE	02/06/2021	26/08/2021	RINA-C	16/09/2021	CIRCE	23/09/2021	CIRCE	27/09/2021	CIRCE	30/09/2021	CIRCE	30/09/2021		12	NO			
D2.4	Profiling and comparison of IS in the project Demo and Follower Sites	CO	EI-JKU	02/06/2021	26/08/2021	TUPRAS	16/09/2021	EI-JKU	23/09/2021	CIRCE	27/09/2021	EI-JKU	30/09/2021	CIRCE	30/09/2021		12	NO			
D2.5	Industrial Symbiosis success and deterrent factors	PU	EI-JKU	02/06/2021	26/08/2021	RINA-C	16/09/2021	EI-JKU	23/09/2021	CIRCE	27/09/2021	EI-JKU	30/09/2021	CIRCE	30/09/2021		12	NO			
D3.1	Mechanisms for the identification of IS opportunities	PU	RISE	02/03/2022	26/05/2022	CSM	16/06/2022	RISE	23/06/2022	CIRCE	27/06/2022	RISE	30/06/2022	CIRCE	30/06/2022		21	NO			
D3.2	Guidelines for technoeconomic assessment of IS projects	PU	CIRCE	02/04/2022	26/06/2022	TUPRAS	17/07/2022	CIRCE	24/07/2022	CIRCE	28/07/2022	CIRCE	31/07/2022	CIRCE	31/07/2022		22	NO			
D3.3	Methodology for emission and waste accounting in an IS system	PU	CIRCE	02/06/2022	26/08/2022	RISE	16/09/2022	CIRCE	23/09/2022	CIRCE	27/09/2022	CIRCE	30/09/2022	CIRCE	30/09/2022		24	NO			
D3.4	IoT Platform and cyber-security mechanisms	CO	ICCS	02/06/2023	26/08/2023	WA3RM	16/09/2023	ICCS	23/09/2023	CIRCE	27/09/2023	ICCS	30/09/2023	CIRCE	30/09/2023		36	NO			
D3.5	Platform for IS development – beta release	CO	CIRCE	02/06/2023	26/08/2023	ICCS	16/09/2023	CIRCE	23/09/2023	CIRCE	27/09/2023	CIRCE	30/09/2023	CIRCE	30/09/2023		36	NO			
D3.6	Platform for IS development – final release	CO	CIRCE	02/03/2024	26/05/2024	ICCS	16/06/2024	CIRCE	23/06/2024	CIRCE	27/06/2024	CIRCE	30/06/2024	CIRCE	30/06/2024		45	NO			
D4.1	Overview of criteria and mechanism for product/services pricing settlement	PU	LiU	03/05/2022	27/07/2022	RISE	17/08/2022	LiU	24/08/2022	CIRCE	28/08/2022	LiU	31/08/2022	CIRCE	31/08/2022		23	NO			
D4.2	Reference documents, good practices and templates to sustain legal environments for IS cases	PU	LiU	02/08/2022	26/10/2022	RINA-C	16/11/2022	LiU	23/11/2022	CIRCE	27/11/2022	LiU	30/11/2022	CIRCE	30/11/2022		26	NO			
D4.3	Overview of data exchange channels and their implementation	PU	LiU	02/06/2022	26/08/2022	ICCS	16/09/2022	LiU	23/09/2022	CIRCE	27/09/2022	LiU	30/09/2022	CIRCE	30/09/2022		24	NO			
D4.4	Repository for data exchange among IS partnerships-Alpha Version	CO	ICCS	03/07/2022	26/09/2022	LiU	17/10/2022	ICCS	24/10/2022	CIRCE	28/10/2022	ICCS	31/10/2022	CIRCE	31/10/2022		25	NO			
D4.5	Guidelines for IS project development towards the engagement of funding schemes	PU	LiU	31/12/2022	26/03/2023	RISE	16/04/2023	LiU	23/04/2023	CIRCE	27/04/2023	LiU	30/04/2023	CIRCE	30/04/2023		31	NO			
D5.1	Detailed characterization and validation models of main processes	CO	CIRCE	02/06/2022	26/08/2022	FTIB	16/09/2022	CIRCE	23/09/2022	CIRCE	27/09/2022	CIRCE	30/09/2022	CIRCE	30/09/2022		24	NO			
D5.2	ROM for CORALIS platform	CO	CIRCE	02/06/2023	26/08/2023	FTIB	16/09/2023	CIRCE	23/09/2023	CIRCE	27/09/2023	CIRCE	30/09/2023	CIRCE	30/09/2023		36	NO			
D5.3	Construction of the KNO_3 reactor	CO	FTIB	02/03/2022	26/05/2022	INCRO	16/06/2022	FTIB	23/06/2022	CIRCE	27/06/2022	FTIB	30/06/2022	CIRCE	30/06/2022		21	NO			
D5.4	Construction from HCl concentration system	CO	FTIB	02/03/2022	26/05/2022	Azcatec	16/06/2022	FTIB	23/06/2022	CIRCE	27/06/2022	FTIB	30/06/2022	CIRCE	30/06/2022		21	NO			
D5.5	IS solution implemented in the QSr process	CO	FTIB	02/08/2022	26/10/2022	INCRO	16/11/2022	FTIB	23/11/2022	CIRCE	27/11/2022	FTIB	30/11/2022	CIRCE	30/11/2022		26	NO			
D5.6	Preliminary results on demonstration activities in QSr	CO	FTIB	02/03/2024	26/05/2024	INCRO	16/06/2024	FTIB	23/06/2024	CIRCE	27/06/2024	FTIB	30/06/2024	CIRCE	30/06/2024		45	NO			
D5.7	Techno-economic evaluation of the CSP Plant integration at industrial area level	CO	CIRCE	02/12/2023	25/02/2024	QSr	17/03/2024	CIRCE	24/03/2024	CIRCE	28/03/2024	CIRCE	31/03/2024	CIRCE	31/03/2024		42	NO			
D6.1	System modelling of the Höganäs IS	CO	RISE	02/03/2021	26/05/2021	WA3RM	16/06/2021	RISE	23/06/2021	CIRCE	27/06/2021	RISE	30/06/2021	CIRCE	30/06/2021		9	NO			
D6.2	IS System model adapted to Virtual Assessment Platform	CO	RISE	02/06/2023	26/08/2023	WA3RM	16/09/2023	RISE	23/09/2023	CIRCE	27/09/2023	RISE	30/09/2023	CIRCE	30/09/2023		36	NO			
D6.3	CCU and waste heat recovery system design	PU	RISE	02/03/2021	26/05/2021	WA3RM	16/06/2021	RISE	23/06/2021	CIRCE	27/06/2021	RISE	30/06/2021	CIRCE	30/06/2021		9	NO			
D6.4	Engineering drawings and specifications and detailed investment calculation	DEM	WA3RM	03/05/2021	27/07/2021	Hoganas	17/08/2021	WA3RM	24/08/2021	CIRCE	28/08/2021	WA3RM	31/08/2021	CIRCE	31/08/2021		11	NO			
D6.5	Operational demonstration facility	CO	WA3RM	03/10/2021	27/12/2021	Hoganas	17/01/2022	WA3RM	24/01/2022	CIRCE	28/01/2022	WA3RM	31/01/2022	CIRCE	31/01/2022		16	NO			
D6.6	Preliminary results on demonstration activities in Höganäs	PU	WA3RM	02/03/2024	26/05/2024	Hoganas	16/06/2024	WA3RM	23/06/2024	CIRCE	27/06/2024	WA3RM	30/06/2024	CIRCE	30/06/2024		45	NO			
D6.7	Technoeconomic assessment of the Höganäs cases for integration	CO	RISE	02/12/2023	25/02/2024	WA3RM	17/03/2024	RISE	24/03/2024	CIRCE	28/03/2024	RISE	31/03/2024	CIRCE	31/03/2024		42	NO			
D7.1	Characterization of main by-products, streams and processes in the province of Brescia	CO	CSM	02/06/2022	26/08/2022	Raffmetal	16/09/2022	CSM	23/09/2022	CIRCE	27/09/2022	CSM	30/09/2022	CIRCE	30/09/2022		24	NO			
D7.2	ROM for CORALIS platform	CO	CSM	02/06/2023	26/08/2023	Raffmetal	16/09/2023	CSM	23/09/2023	CIRCE	27/09/2023	CSM	30/09/2023	CIRCE	30/09/2023		36	NO			
D7.3	Design and Engineering of all equipment and pilot plants	CO	CSM	02/03/2022	26/05/2022	ORI	16/06/2022	CSM	23/06/2022	CIRCE	27/06/2022	CSM	30/06/2022	CIRCE	30/06/2022		21	NO			
D7.4	Commissioning of all the equipment and pilot plants	CO	Feralpi	02/08/2022	26/10/2022	CSM	16/11/2022	Feralpi	23/11/2022	CIRCE	27/11/2022	Feralpi	30/11/2022	CIRCE	30/11/2022		26	NO			
D7.5	Preliminary results of the Brescia industrial campaign	CO	CSM	02/03/2024	26/05/2024	ORI	16/06/2024	CSM	23/06/2024	CIRCE	27/06/2024	CSM	30/06/2024	CIRCE	30/06/2024		45	NO			
D7.6	Evaluation of the valorisation of slags and waste heat in the region of Brescia	CO	CSM	02/12/2023	25/02/2024	Raffmetal	17/03/2024	CSM	24/03/2024	CIRCE	28/03/2024	CSM	31/03/2024	CIRCE	31/03/2024		42	NO			
D8.1	Technoeconomic analysis and business model of an energy recovery facility in Basauri	CO	Sidenor	02/06/2022	26/08/2022	EI-JKU	16/09/2022	Sidenor	23/09/2022	CIRCE	27/09/2022	Sidenor	30/09/2022	CIRCE	30/09/2022		24	NO			
D8.2	Technoeconomic analysis and business model of renewable H_2 exchange	CO	EI-JKU	02/06/2022	26/08/2022	K1-MET	16/09/2022	EI-JKU	23/09/2022	CIRCE	27/09/2022	EI-JKU	30/09/2022	CIRCE	30/09/2022		24	NO			
D8.3	Feasibility analysis for the valorisation of spent caustic	CO	TUPRAS	02/06/2022	26/08/2022	LiU	16/09/2022	TUPRAS	23/09/2022	CIRCE	27/09/2022	TUPRAS	30/09/2022	CIRCE	30/09/2022		24	NO			
D8.4	Engagement activities in each of the CORALIS case to promote participatory processes in the definition of each IS case	PU	EI-JKU	02/03/2023	26/05/2023	Sidenor	16/06/2023	EI-JKU	23/06/2023	CIRCE	27/06/2023	EI-JKU	30/06/2023	CIRCE	30/06/2023		33	NO			
D8.5	Roadmap for the implementation of IS in the Follower cases	PU	EI-JKU	03/10/2023	27/12/2023	IMMIB	17/01/2024	EI-JKU	24/01/2024	CIRCE	28/01/2024	EI-JKU	31/01/2024	CIRCE	31/01/2024		40	NO			
D9.1	CORALIS Framework for demonstration activities evaluation and coordination	CO	CIRCE	02/06/2021	26/08/2021	RISE	16/09/2021	CIRCE	23/09/2021	CIRCE	27/09/2021	CIRCE	30/09/2021	CIRCE	30/09/2021		12	NO			
D9.2	Follow-up report of CORALIS demonstration sites	CO	CIRCE	01/12/2021	24/02/2022	RISE	17/03/2022	CIRCE	24/03/2022	CIRCE	28/03/2022	CIRCE	31/03/2022	CIRCE	31/03/2022		18	NO	36		
D9.3	Life Cycle Assessment and Life Cycle Cost conclusions	CO	CIRCE	02/06/2024	26/08/2024	RISE	16/09/2024	CIRCE	23/09/2024	CIRCE	27/09/2024	CIRCE	30/09/2024	CIRCE	30/09/2024		48	NO			
D9.4	Analysis for the cross-sectorial replication of IS technologies	PU	RISE	02/06/2024	26/08/2024	CSM	16/09/2024	RISE	23/09/2024	CIRCE	27/09/2024	RISE	30/09/2024	CIRCE	30/09/2024		48	NO			
D9.5	Report on the implementation of CORALIS enablers	PU	RISE	02/06/2024	26/08/2024	LiU	16/09/2024	RISE	23/09/2024	CIRCE	27/09/2024	RISE	30/09/2024	CIRCE	30/09/2024		48	NO			
D9.6	Inventory of best practices from CORALIS demonstrators	PU	RISE	02/06/2024	26/08/2024	CSM	16/09/2024	RISE	23/09/2024	CIRCE	27/09/2024	RISE	30/09/2024	CIRCE	30/09/2024		48	NO			
D10.1	Market analysis results for replication	PU	SSSA	02/06/2021	26/08/2021	RINA-C	16/09/2021	SSSA	23/09/2021	CIRCE	27/09/2021	SSSA	30/09/2021	CIRCE	30/09/2021		12	NO	24, 36		
D10.2	First draft of the Exploitation Plan	CO	SSSA	02/06/2022	26/08/2022	WA3RM	16/09/2022	SSSA	23/09/2022	CIRCE	27/09/2022	SSSA	30/09/2022	CIRCE	30/09/2022		24	NO			
D10.3	Recommendations for the standardisation committees	PU	RINA-C	02/06/2024	26/08/2024	SSSA	16/09/2024	RINA-C	23/09/2024	CIRCE	27/09/2024	RINA-C	30/09/2024	CIRCE	30/09/2024		48	NO			
D10.4	Final Exploitation Plan	CO	SSSA	02/06/2024	26/08/2024	RINA-C	16/09/2024	SSSA	23/09/2024	CIRCE	27/09/2024	SSSA	30/09/2024	CIRCE	30/09/2024		48	NO			
D10.5	CORALIS Handbook	PU	CIRCE	02/06/2024	26/08/2024	SSSA	16/09/2024	CIRCE	23/09/2024	CIRCE	27/09/2024	CIRCE	30/09/2024	CIRCE	30/09/2024		48	NO			
D11.1	Communication and Dissemination Plan	PU	WR	03/10/2020	27/12/2020	EEIP	17/01/2021	WR	24/01/2021	CIRCE	28/01/2021	WR	31/01/2021	CIRCE	31/01/2021		4	NO	24		
D11.2	Project website operative	PU	WR	03/10/2020	27/12/2020	WA3RM	17/01/2021	WR	24/01/2021	CIRCE	28/01/2021	WR	31/01/2021	CIRCE	31/01/2021		4	NO			
D11.3	Project Communication kit	PU	WR	02/06/2021	26/08/2021	IMMIB	16/09/2021	WR	23/09/2021	CIRCE	27/09/2021	WR	30/09/2021	CIRCE	30/09/2021		12	NO			
D11.4	Cooperation and feedback with Non-CORALIS intensive sectors	PU	EEIP	01/12/2021	24/02/2022	EuropAlu	17/03/2022	EEIP	24/03/2022	CIRCE	28/03/2022	EEIP	31/03/2022	CIRCE	31/03/2022		18	NO	40		
D11.5	Repository of funding sources and initiative linked with CORALIS	PU	WR	02/06/2024	26/08/2024	WA3RM	16/09/2024	WR	23/09/2024	CIRCE	27/09/2024	WR	30/09/2024	CIRCE	30/09/2024		48	NO			
D11.6	Mid-term report on communication and dissemination activities	PU	WR	02/06/2022	26/08/2022	WA3RM	16/09/2022	WR	23/09/2022	CIRCE	27/09/2022	WR	30/09/2022	CIRCE	30/09/2022		24	NO			
D11.7	Final report on communication and dissemination activities	PU	WR	02/06/2024	26/08/2024	WA3RM	16/09/2024	WR	23/09/2024	CIRCE	27/09/2024	WR	30/09/2024	CIRCE	30/09/2024		48	NO			
D11.8	CORALIS learning materials	PU	LiU	02/06/2024	26/08/2024	CSM	16/09/2024	LiU	23/09/2024	CIRCE	27/09/2024	LiU	30/09/2024	CIRCE	30/09/2024		48	NO			
D12.1	POPD - H - Requirement No. 1	CO	CIRCE	-	09/12/2020	ICCS	16/12/2020	CIRCE	23/12/2020	CIRCE	27/12/2020	CIRCE	29/12/2020	CIRCE	31/12/2020		3	NO			
D12.2	NEC - Requirement No. 2	CO	CIRCE	-	09/12/2020	ICCS	16/12/2020	CIRCE	23/12/2020	CIRCE	27/12/2020	CIRCE	29/12/2020	CIRCE	31/12/2020		3	NO			
D12.3	EPQ - Requirement No. 3	CO	CIRCE	-	09/12/2020	CIRCE	16/12/2020	CIRCE	23/12/2020	CIRCE	27/12/2020	CIRCE	29/12/2020	CIRCE	31/12/2020		3	NO			

7 natural days for the peer review*** | 7 natural days for version 2 | 7 Natural days for final review | 7 natural days for final version

13.2 Annex 2: Legal and financial aspects

General conditions of eligible costs

In order to be considered as eligible the costs of the action shall comply with the following requirements:

- Actual incurred by the beneficiary.
- Incurred during the duration of the project, with the exception of costs relating to the last periodic report and final report.
- Indicated in the estimated budget set out in EC-Grant Agreement Annex II.
- Incurred in connection with the action as described in Annex I and necessary for its implementation.
- Identifiable and verifiable, recorded in the accounts of the beneficiary and, in the case of any contribution from third parties, recorded in the accounts of the third parties.
- Comply with the applicable national law on taxes, labour and social security.
- Reasonable, justified and must comply with the principle of sound financial management, in particular regarding economy and efficiency.
- For unit and flat-rate costs, they must be calculated according to the procedures indicated in EC-Grant Agreement Article 6.1.
- The main type of costs that are usually considered eligible include therefore:
- Direct personnel costs
- Direct costs of subcontracting
- Other direct costs
- Travels
- Equipment
- Other goods and services
- Indirect costs (flat-rate)

Details on the different categories are given in the “Annotated Model Grant Agreement (AMGA)” available on the internet or in TEAMS.

Following are some important explanations related to the major cost categories. For more complete explanation of these subjects refer to EC-Grant Agreement Article 6.2.

Direct personnel costs

Costs which are related to personnel directly hired by the partner in accordance with its national legislation and that work under the sole technical supervision and responsibility of the partner, both on a permanent and on a temporary basis.

Personnel costs should reflect the total remuneration: salaries plus social security charges (holiday pay, pension contribution, health insurance, etc.) and other statutory costs included in the

remuneration, in accordance with the normal practices of the partner.

Bonuses are generally not considered eligible, unless specific criteria are met. While costs of benefits in kind (company car, vouchers, etc.) may be accepted only if they are justified and in conformity with the usual practices of the beneficiary.

Costs for natural persons working under a direct contract with the beneficiary other than an employment contract

the person works under the beneficiary's instructions and, unless otherwise agreed with the beneficiary, on the beneficiary's premises;

- the result of the work carried out belongs to the beneficiary, and
- the costs are not significantly different from those for personnel performing similar tasks under an employment contract with the beneficiary.

The costs of personnel seconded by a third party against payment

Conditions included in EC-Grant Agreement Article 11.1 are met.

Costs of SME owners

SME owners who are working on the project and who do not receive a salary are eligible personnel costs, if they correspond to the amount per unit set out in Annex 2 to the G.A. multiplied by the number of actual hours worked on the action.

Costs of 'beneficiaries that are natural persons'

In particular, natural persons not receiving a salary are eligible personnel costs, if they correspond to the amount per unit set out in Annex 2 to the G.A. multiplied by the number of actual hours worked on the action.

Direct cost of subcontracting

As a rule, beneficiaries must have the capacity to carry out the work themselves. Subcontracting is derogation to this rule and is limited to specific cases indicated in EC-Grant Agreement Annex I (DoA).

Any subcontract, the costs of which are to be claimed as an eligible cost, must be awarded according to the principles of best value for money (best price-quality ratio), transparency and equal treatment. Framework contracts between a participant and a subcontractor, entered into prior to the beginning of the project that are according to the participant's usual management principles may also be

accepted.

All partners shall consider that subcontracting costs that have not been indicated in EC-Grant Agreement Annex I (DoA) are not eligible.

In this regard, all partners shall verify indications of the EC-Grant Agreement as well as of the "Annotated Model Grant Agreement".

Other direct costs

Travel costs

As a general rule, actual travel and subsistence costs relating to the project may be considered as direct eligible costs, providing they comply with the beneficiary's usual practices and are adequately recorded, like any other cost.

There is no particular distinction regarding the eligibility of costs incurred for travelling outside or in Europe. However, depending on the financial impact of the travel it is highly recommended to discuss the eligibility with the PC, who will then ask for the agreement of the Project Officer.

Travel costs must be needed for the work in the project, or for activities related to it (e.g., presentation of a paper explaining the results of the project in a conference). Travel costs related to a conference where no specific project-related work will be performed or presented by the beneficiary would not be eligible.

Where it is the usual practice of the partner to consider travel costs as indirect costs, they cannot be charged as direct eligible costs, but only as indirect costs. On the other hand, if the contractor considers this category of costs on a direct basis, the same category (other travel and subsistence costs not attributed directly to projects) cannot be charged as indirect costs.

Equipment

Only **equipment purchased** for the purposes of carrying out the project and after the start date of the project can be charged as direct costs.

Each beneficiary must determine **depreciation of any durable equipment purchased** on the basis of the actual percentage of use in the project and according to their accounting procedures and international accounting standards.

Partners are advised to obtain a statement from their accountants to this effect to be placed on the project file for evidence at audit.

It is noted that depreciation cannot be spread over a period exceeding the useful life of the equipment. Partners should be aware that not doing so and charging the full price of an asset in one single year might be considered an "excessive" cost, and therefore be considered ineligible.

The costs of renting or leasing equipment, infrastructure or other assets are eligible if they don´t exceed the depreciation costs of similar equipment, infrastructure or assets and do not include any financing fees.

Other goods and services

This budget category covers the costs for goods and services that were purchased for the action (or contributed in-kind against payment), including among others:

- Consumables or supplies.
- Dissemination costs (including open access) and conference fees for presenting project-related research.
- Costs related to IPR.
- Costs for certificates on financial statements (CFS).
- Translation costs.

If it is the beneficiary´s usual accounting practice to consider some of these costs as indirect costs, they cannot be declared as direct costs.

Other goods and services must be declared as actual costs and be charged with the purpose of carrying out the project and after the start date of the project.

Indirect costs

Indirect costs are eligible if they are declared on the basis of the flat rate of 25 % of the eligible direct costs excluding subcontracting and costs of in-kind contributions provided by third parties which are not used on the beneficiary´s premises.