A circular economy approach for lifecycles of products and services

Report on project management

Deliverable10.1.

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Project Coordinator	Nottingham Trent University (NTU)
Project Partners	Enviro Data (ENV), Jonathan Michael Smith (JS), Kosnic Lighting Limited (KOS), Centre of Research for Energy Resources and Consumption (CIR), European EPC Competence Center GmbH (EECC), The Institute for Ecology of Industrial Areas (IETU), SWEREA IVF AB (RISE), Make Mothers Matter (MMM), ONA PRODUCT (ONA), INDUMETAL Recycling (IND), GS1 Germany GmbH (GS1G), Laurea University of Applied Science (LAU), Center for European Policy Studies (CEPS), Institute of Communication and Computer Systems (ICCS), Recyclia (REC), S.A.T. Alia (ALIA)

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Summary

This deliverable aims to report the coordination and management of the consortium work, as well as the monitoring of the overall project progress, reporting and liaison with the European Commission. Major activities concerning administrative/ technological management of the project includes Work Package management, Information and communication management, Reporting management, Project meetings, Quality assurance, and risk management.

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Acronyms and abbreviations

Abbreviation	Description
EC	European Commission
EASME	Executive Agency for Small and Medium Enterprises
KoM	Kick-off Meeting
CA	Consortium Agreement
GA	Grant Agreement
PMT	Project Management Team
CEBM	Circular Economy Business Models
DoA	Description of Action
PB	Project Board

1   Overview of the project management

1.1   Project management strategy

The project started on 1st May, 2018 with the kick-off meeting of the whole consortium held at in Nottingham Trent University, 8th – 9th May 2019.

A Consortium Agreement (CA) has been established and signed by all consortium partners, which provides the basis for all project related administrative and management tasks, responsibilities, roles, rules, methods, and means to run the project.

The management tasks have been continuously carried out by the coordinator's team in line with the CA and Grant Agreement (GA). Project management issues have been regularly dealt with in the monthly Project Management Team meetings (PMT).

CIRC4Life Quality Procedures Manual and Quality Management Monitoring have been established, which sets out the internal quality assurance procedures for the project. It aims to ensure that the results and deliverables of the project are of high quality and meet the specifications set in the GA.

The Executive Board consists of the coordinator, technical manager, living lab manager, quality manager, risk and mitigation planning manager, legal ethical and security issue manager, exploitation manager, innovation manager, and dissemination and communication manager. The function of each manager has been described in section 3.2 of the GA. Executive Board as the supervisory body for the execution of the project which shall report to and be accountable to the Project Board.

The Project Board has also been established, and acts as the ultimate decision-making body of the consortium. The coordinator is the legal entity acting as the intermediary between the parties and the funding authority. The coordinator shall, in addition to its responsibilities as a party, perform the tasks assigned to it as described in the GA and CA.

1.2   Management of the project activities

Following the management strategy, the CIRC4Life consortium successfully implemented the project activities. The CIRC4Life project is conducted in two phases: the first phase covers the first 18 months, i.e. from 1st May 2018 to 31st October 2029; the 2nd phase was initially planned to last for another 18 months, however, due to COVID 19, the extension of 6 months was awarded, and, hence, the second phase has been extended to the end of October 2021.

Three circular economy business models (CEBMs), including i) co-creation of product and services, ii) sustainable consumption, and iii) collaborative recycling and re-use, are developed in the first phase. The demonstration of the CEBMs are conducted in the second phase of the project, with a wider range of external participants.

To successfully support the development and demonstration of the CEBMs, sets of enabling tools and methods have been implemented. The majority of the tools and methods were developed in phase 1; a few of them, such as ICT platform and traceability techniques, were completed at the early stage of the second phase; as well as additional ones, such as the mobile technique for eco-account infrastructure which has not been clearly defined in the DoA, and the IT method to implement the incentive scheme with tree planting which is not stated in the DoA, are developed and implemented along with the demonstration activities in the second phase.

The dissemination and interaction with stakeholders via living labs, showcases and innovation camps, have been conducted through both the first and second phases.

1.3   Mid-term project review

The CIRC4Life consortium submitted the 1st Period Report on 30th December 2019, and the consortium representatives participated in the mid-term project review meeting organised by the EU on 12th February 2020. The review results were issued by the EU on 23rd March 2020 with a conclusion that the project implementation was satisfactory, and the consortium conducted the following follow-up actions in line with the review results:

- Nine changes were recommended by the EU to improve the project implementation. Following the instruction given, the consortium submitted observations indicating how to implement the recommendations. All of those recommendations have been fully implemented as detailed in the 2nd Periodic report of this project.
- Five submitted deliverables during M1-M18 (D1.3, D1.4, D1.5, D2.6 and D4.1) were rejected. The CIRC4Life consortium revised these deliverables according to the comments given in the review report and submitted the revised deliverables on 20th April 2020.
- To better reflect the project work and to achieve a better reporting quality of the deliverable, the CIRC4Life consortium also proposed to further revise five deliverables (D1.2, D2.4, D3.4, D4.3 and D7.4) although they have been accepted already, and their revised versions were submitted on 31st October 2020.
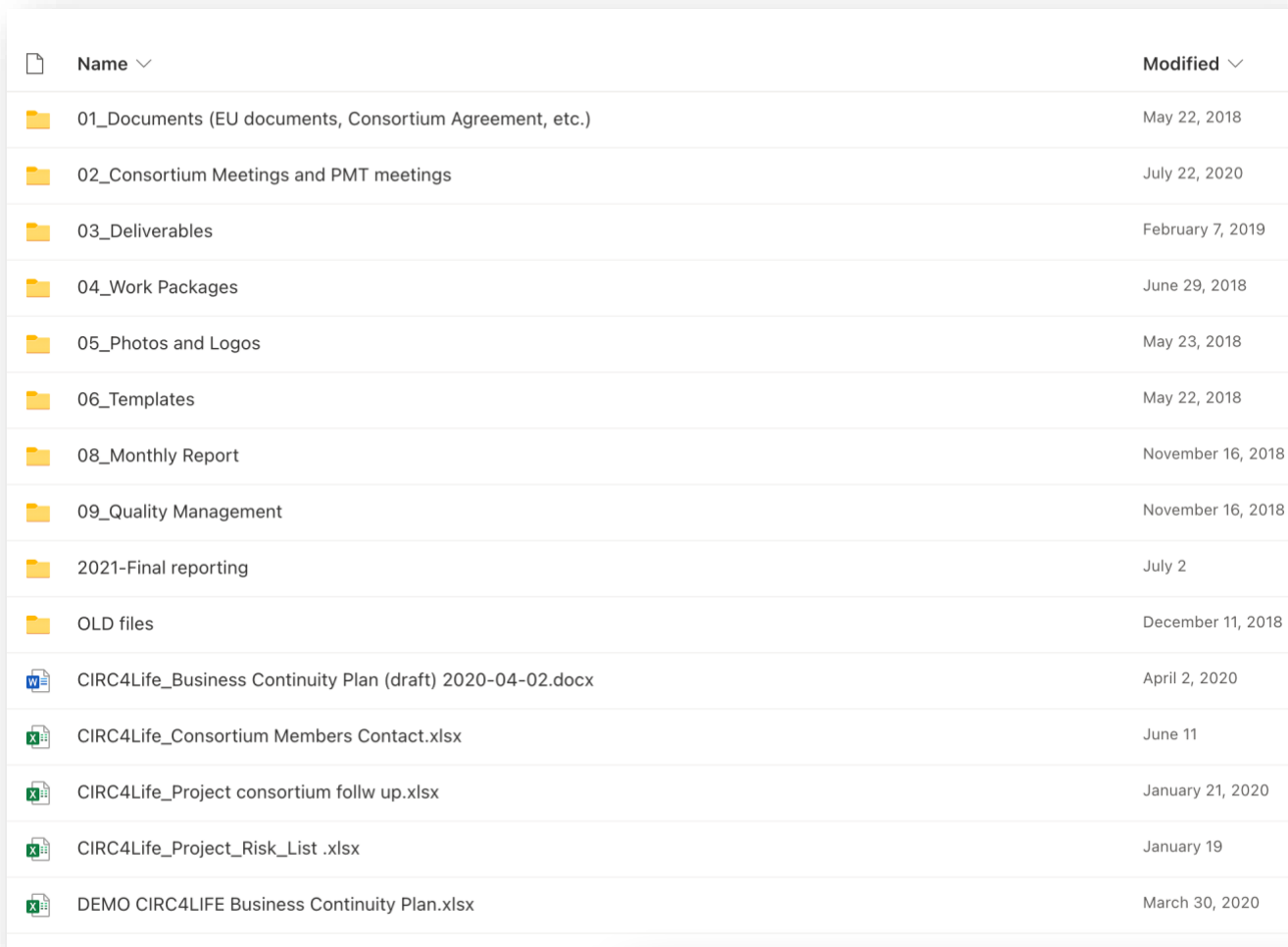
1.4   Project extension

Due to the outbreak of COVID-19, the project activities involving physical participations from March 2020 were suspended and thus have been postponed. All the demonstrators are in Spain and UK, two of the most seriously affected countries, and, hence, the planned activities for the demonstrations are heavily delayed. For example, project partner Scilly Organics (Demonstrator 3) is located on the Isles of Scilly, just off the coast of Cornwall, UK, with its business very much related to tourism in the summer. Due to the lack of tourists this summer caused by the pandemic, the demonstrator's living lab activities and onsite demonstration with tourists, restaurants and hotels must be postponed to the next year summertime (M37-M40). The end-user feedback workshop for project partner Kosnic (Demonstrator 1) was planned to conduct during the lighting fair in Frankfurt am Main, Germany, in March 2020, but the fair is now re-arranged to September, taking place six months later. The school training activities of project partner Indumetal+RECYCLIA (Demonstrator 2) in Basque country in Spain planned in April was cancelled, and to re-arrange the activity, we must consider the school holidays and teaching arrangements, so the activity must be re-arranged to October/November 2020 or even January 2021. The living lab workshop with citizens to test the implementation of eco-shopping at the store of project partner Alia (Demonstrator 4) in southern Spain initially planned in April 2020, as well as the incentive arrangement with the local authority, have been changed to 19th October 2020, 1st February 2021, and 10th May 2021 respectively. The postponed activities also delay the subsequent activities such as onsite demonstrations and the 2nd Open Innovation Camp planned to take place in Warsaw, Poland, which have been re-arranged and conducted online, as reported in the final technical report.

The CIRC4Life consortium submitted the extension amendment in September 2020 and were approved by the Project Adviser in October 2020. The amended grant agreement shows the project completion date is 31st October 2021.

2   Information and communication management

The CIRC4Life repository (SharePoint) has been established as 'shared data environment' to provide a central repository for all documentation/information exchange and to facilitate online working. **Error! Reference source not found.** and 2 are screen captures of the CIRC4Life project SharePoint.

☐	Name ∨	Modified ∨
📁	01_Documents (EU documents, Consortium Agreement, etc.)	May 22, 2018
📁	02_Consortium Meetings and PMT meetings	July 22, 2020
📁	03_Deliverables	February 7, 2019
📁	04_Work Packages	June 29, 2018
📁	05_Photos and Logos	May 23, 2018
📁	06_Templates	May 22, 2018
📁	08_Monthly Report	November 16, 2018
📁	09_Quality Management	November 16, 2018
📁	2021-Final reporting	July 2
📁	OLD files	December 11, 2018
📄	CIRC4Life_Business Continuity Plan (draft) 2020-04-02.docx	April 2, 2020
📄	CIRC4Life_Consortium Members Contact.xlsx	June 11
📄	CIRC4Life_Project consortium follw up.xlsx	January 21, 2020
📄	CIRC4Life_Project_Risk_List .xlsx	January 19
📄	DEMO CIRC4LIFE Business Continuity Plan.xlsx	March 30, 2020

Figure 1 Screen capture of the home directory of the CIRC4Life project SharePoint

Figure 2 Screen capture of the Project Management Team (PMT) meeting sub-directory within the CIRC4Life project SharePoint

Regular and on-demand communication is performed by means of email, Skype, GoTo-Meeting, Slack channels, and phone conferences. Regular conference calls have been established and carried on during the whole reporting period, as documented by the following directory list of online meetings which contain all material for each session (agenda, presentations, accompanying documents, minutes) under the CIRC4Life repository.

3 Reporting management

Within the project management structure and following the statement of the DoA about this task, the WP leaders are responsible to lead and to organise work within their related WPs, and WP team members contribute to carry out their work. All WPs submitted their deliverable reports following the procedure specified in the DoA. The WP members meet as and when needed to review and progress the work, for example, WP4

organised weekly meetings for the timely solution of any problem that may arises. There have been monthly project management team meetings, where the WP leaders report and deal with the issues related to the project implementation to ensure the successful operation of the project.

4   Project meetings

4.1   Project consortium meeting

The project consortium meetings were called by the project coordinator. The meetings were initially planned as physical meetings, about four times a year and hosted by partners on a rotation basis, as well as online meetings if necessary. Due to the pandemic of COVID-19, all the remaining project consortium meetings had been held online since March 2020. The purpose of meetings is to maintain the coherence and focus of the consortium, to monitor project progress, to decide on plans, to synchronise activities, to discuss technical, administrative, and other issues. There were additional focused technical, dissemination or training meetings not necessarily requiring the participation of the entire consortium. The GoToMeeting web conferencing tool has been successfully used for online meetings. The project has used a dedicated online management and collaboration software (i.e. SharePoint, see introduction to chapter 2 above) that provides a document repository system, a platform of project management tools and allows the creation and maintenance of mailing lists. Minutes of physical and online meetings have been distributed in electronic form for the approval of attendants. All information resources are accessed through a secure endpoint in the project web site.

The following project consortium meetings with a wider participation of consortium members have been held during the whole project period, including four meetings participated by consortium members physically, while the rest are online meetings.

- CIRC4Life Kick-off Meeting, NTU, Nottingham, 8th – 9th May 2018.
- Consortium online meeting about the 1st ACSI (Innovation Camp), 5th June 2018.
- CIRC4Life Consortium Meeting, IETU, Krakow, 15th – 16th November 2018.
- CIRC4Life Consortium Meeting, CIRCE, Zaragoza, 30th – 31st January 2019.
- CIRC4Life Consortium Meeting, ICCS, Athens, 12th – 13th June 2019.
- Consortium online meeting about the mobile app for eco-credit, 29th October 2019.
- CIRC4Life Consortium Meeting, 18th – 19th March 2020, online.
- CIRC4Life Consortium Meeting, 5th – 6th, October 2020, online.
- CIRC4Life Consortium Meeting, 17th – 18th February 2021, online.
- CIRC4Life Expanded PMT meeting, 20th July 2021, online
- CIRC4Life Consortium meeting, 4th October 2021, online

4.2   Project Board meeting

The Project Board (PB) is the ultimate decision body of the Project and is responsible for managing the overall project strategy. The responsibilities include reviewing progress and direction of the project against plans and milestones, reviewing the quality of work and deliverables and monitoring the resources used and the costs incurred. The PB engaged in conflict resolution and any differences between project participants have been resolved by the PB. The mechanism for dealing with any extreme issue has been laid down in the Consortium Agreement. The PB is responsible for approving deliverables prior to making them available outside the project consortium, such as submitting them to the EC. The following PB meetings are hosted based on a regular or 'needed' basic.

- Executive Board meeting (online), 5th December 2018.
- Executive Board meeting (online), 30th October 2019.
- Project Board meeting (physical), 31st January 2019.
- Project Board meeting, Extraordinary PB meeting (online), 6th March 2019.

- The other meetings held in conjunction with the project consortium meetings in the occasions that the board decisions were required.

4.3   Project Management Team meeting

The Project Management Team (PMT) is the project steering group composed of the project coordinator and the work package leaders. The PMT supports the project coordinator in project management and supervision of progress of the project. The PMT meetings have been hosted regularly on every third Tuesday of every month since November 2018 to October 2021. Listed below are the PMT meetings since M19 (November 2019), taken place in the second phase of the project:

- CIRC4Life PMT Meeting, 19th November 2019
- CIRC4Life PMT Meeting, 17th December 2019
- CIRC4Life PMT Meeting, 21st January 2020
- CIRC4Life PMT Meeting, 18th February 2020
- CIRC4Life PMT Meeting, 14th April 2020
- CIRC4Life PMT Meeting, 16th June 2020
- CIRC4Life PMT Meeting, 21st July 2020
- CIRC4Life PMT Meeting, 15th September 2020
- CIRC4Life PMT Meeting, 20th October 2020
- CIRC4Life PMT Meeting, 17th November 2020
- CIRC4Life PMT Meeting, 15th December 2020
- CIRC4Life PMT Meeting, 19th January 2021
- CIRC4Life PMT Meeting, 16th February 2021
- CIRC4Life PMT Meeting, 17th March 2021
- CIRC4Life PMT Meeting, 20th April 2021
- CIRC4Life PMT Meeting, 18th May 2021
- CIRC4Life PMT Meeting, 15th June 2021
- CIRC4Life PMT Meeting, 20th July 2021
- CIRC4Life PMT Meeting, 21st September 2021
- CIRC4Life PMT Meeting, 19th October 2021

Moreover, numerous physical meetings have been organized at work package or task levels, with attendance of partners as per need. For most of these dedicated meetings hosted by changing relevant consortium partners, efficient time- and cost-saving solutions of co-locating them as much as possible along with major project meetings have been typically pursued.

5   Liaison with the European Commission

5.1   Deliverables

Deliverables are important for the reporting of the project progress to the Commission. According to the Quality Management Plan, this consortium has made every effort to ensure of the quality of the deliverable reporting and to keep the scheduled deliverable submission time. There are 52 deliverables in this project in total, and only two deliverables were postponed in submission for the reason to ensure the quality of the deliverable reports as explained below.

The quality assurance procedure has been followed in preparation and submission of the delivery reports. Each deliverable report has been reviewed by two project partners who are outside the deliverable team, and the contents of each deliverable report are informed to the project board members who can review and have the right to reject the deliverable.

Below are examples how we ensure the deliverable reporting quality:

- In order to attract more stakeholders to participate in the *informative and awareness campaign for sustainable consumption*, the submission deadline of D3.2 was changed from M16 to M18.
- The deadline for deliverable D6.4 was M38; however, due to the COVID situation in the demonstration location, the deliverable team proposed to extend the deadline to M41 in order to have a longer demonstration of the bio-waste recycling, which enabled us to collect more data for the demonstration.
- The deliverables D6.1 and D6.5 were submitted by the deadline given. However, after further looking at the deliverables, the deliverable owners requested further improvement, hence, contacted the Project Advisor to reject the deliverables and resubmitted them after revision.

5.2   Project amendments

Following the EU procedure for project amendments and the advice given by the Project Advisor, we completed the following two amendments:

- Extension of the project duration from 36 months to 42 months, due to the pandemic of COVID-19. This amendment was officially approved in September 2020.
- Shift from meat waste to bio-waste. This amendment was officially approved in July 2020.

We submitted relevant documents required, and the corresponding contents of the DoA were amended accordingly.

5.3   Liaison with EU events

We participated in events organised by the European Commissions related to our project, such as:

- Invited by the EU Project Advisor Eco-innovation, two representatives of our CIRC4Life project participated in the EASME side event 'New Services for a Circular Economy' on 24th October 2018 in the frame of the World Circular Economy Forum (WCEF), Yokohama, Japan. During this event, we presented the CIRC4Life project to international audience, which fulfilled the aim to create synergies among the EU supported projects and increase international visibility to the innovative solutions to demonstrate in the coming years.
- Workshop on 11th February 2020 in Brussels, Belgium, organised by the EU for the H2020 projects to share their outcome with each other. During the workshop, the CIRC4Life project hosted an exhibition station, gave an oral presentation and produced three videos of our project results.
- Online meeting on 21st May 2021 to share knowledge and synergies between Plasticircle and Circ4Life projects. The meeting was initiated and organised by the Project Advisor. Both projects use smart bins. During the meeting, we presented how CIRC4Life project utilised the intelligent bins for recycling WEEE and bio-waste supported by the tools/methods developed by our project, including eco-credit method, mobile technique for eco-accounting, ICT platform and traceability. We also gained knowledge how the Plasticircle uses their smart bin to recycle plastics. This meeting helped the two projects to understand each other and to share the knowledge and synergies in further research and development in this area.
- CIRC4Life consortium partner MMM organised in partnership with the European Economic and Social Committee (EESC) a physical seminar 'the Role of Families in achieving the Circular Economy', which was a partner event of EU Green Week 2019 (for further information, please see Deliverable D9.3).
- CIRC4Life Webinar 'Traceability across circular value chains: How to unlock its potential and mitigate challenges?' on 10th June 2021, which is a partner event of the EU Green Week 2021 (for further information, please see Deliverable D9.3).

We also attended other events organised by the EU, for example, the workshop 'Circular cities' on 16th May 2019, Coordinators' Day on Amendments and Reports on 15th November 2019, etc.

5.4   Communication with the Project Advisor to manage concerned issues

We have communicated with our Project Advisor to inform the issues related to the project management throughout the project duration. There we followed the guideline and advices given to conduct the project when concerned issues arose, which ensured the project progresses properly. For example:

- Because of the COVID-19, the 2nd innovation camp was changed from a physical event to an online event, resulting in the issue how to pay the participants of external experts. After several communications with the Project Advisor and relevant EU officer via e-mails, online meetings and telephone communications, we gained understanding the EU policies regarding this issue, and conducted the event following the advices given.
- The project partner team, Indumetal, proposed communication campaign for recycling and reuse of WEEE. After communication with the Project Advisor about the issues related to this proposal, we provided justification and related documents, and after receiving the approval, the team successfully conducted the campaign.

6   Quality Assurance and Risk Management

This comprises the following activities:

- Quality assurance for all project deliverables, reports, papers, presentations and other dissemination material, where a clear process of quality control by means of internal review(s) and approval(s) are established and implemented;
- Quality assurance for software, where coding rules, working along established software lifecycle processes, and code review and independent testing are established, coordinated and monitored;
- Continuous risk management and coordination of contingency measures, including the maintenance of a regularly updated risk register;
- The conflict resolution procedure has been established (see **Error! Reference source not found.**) and been implemented during the project implementation.
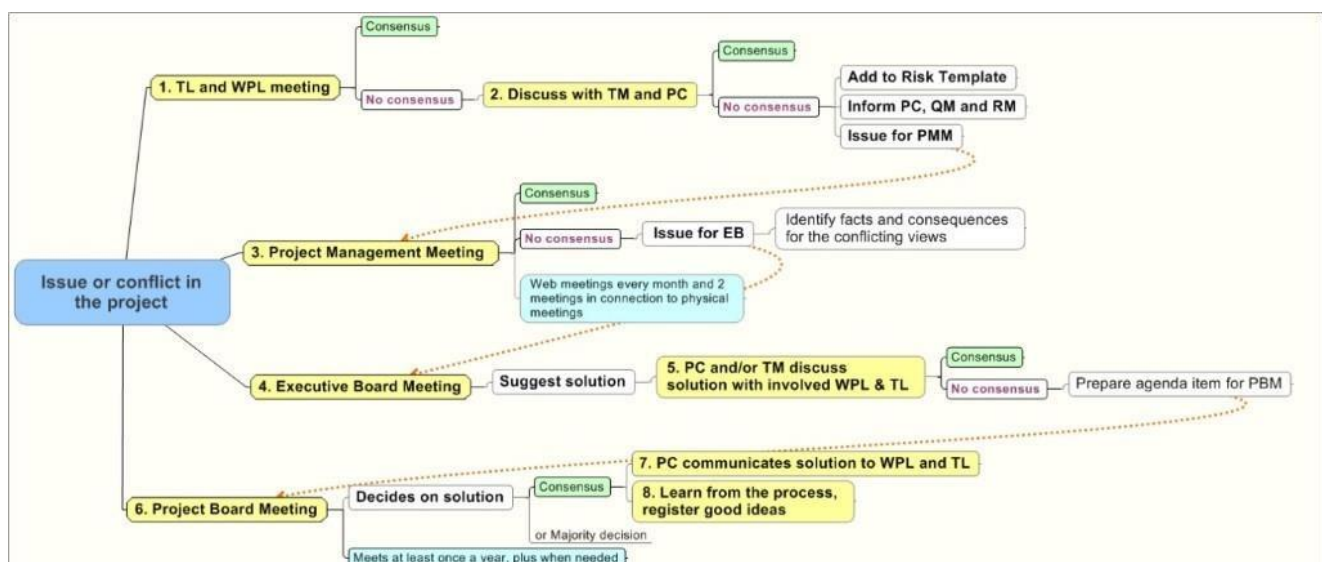

Figure 3 Conflict resolution procedure

The following tasks have been conducted to ensure all the deliverables and objectives are accomplished as specified, within timescales, to budget and agreed quality standards:

- Development of Business Continuity Plan with the Project Risk Manager which was used to develop alternative solutions for CIRC4Life demonstration activities and Living Lab events, in order to address the restrictions caused by the outbreak of COVID-19.
- Continuous risk management and the coordination of contingency measures, including the maintenance of a regularly updated risk register: three unforeseen risks occurred in this period which regards to the physical demonstration difficulties caused by the pandemic, and all of the risks were collaboratively addressed and solved during the project lifecycle.
- Comply with the ethics requirements to conduct the project activities as reported in deliverables D11.1 – D11.8.