



Converged Heterogeneous Advanced 5G Cloud-RAN Architecture for Intelligent and Secure Media Access

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Management guidelines and Data Management Plan

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Dissemination Level

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Change history

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Executive Summary

This document outlines the management guidelines and Data Management Plan for CHARISMA, including a set of rules and guidelines for an effective execution of the project operations in the different work packages and tasks by the whole consortium.

The document provides an overview of the management structure and the major management and coordination roles, focusing on the responsibilities of the different boards and managers. It also defines the communication channels among partners (such as email distribution lists, conference calls, collaboration through sharing content, action points and issue tracking tool) that will facilitate the execution of the project, as well as a set of basic guidelines for using them.

The management guidelines provide information about general rules for planning and reporting, defines the quality assurance roles and responsibilities, establishes a deliverable acceptance and review process, and defines the document management rules and tools.

This document also includes the Data Management Plan (DMP) that deals with the project digital research data. The purpose of the DMP is to define a policy regarding the data management life cycle for all data that will be collected, processed and generated through the project execution. The DMP also specifies the data that will be made available to the public and the one that will be for internal use only.

This document is intended to complement the information already included in the Description of Action (Annex 1 of the Grant agreement) and the Consortium Agreement of CHARISMA.

The first part of the deliverable (Sections 1 and 2) defines the roles and functions of the partners and the individuals involved in the management structure providing a set of contact references that are necessary to carry out the work effectively and deliver quality results.

The second part (Section 3) defines the project Quality Plan, which is based on best practices implementation in a project of this nature. Quality management of the project results is implemented as a continuous improvement process highly related to the project agile methodologies (SCRUM), adopted to manage the software development activities.

The third part (Section 4) is devoted to the DMP which outlines the method used for collecting, organizing, backing up and storing the data generated in the framework of CHARISMA.

1. Management structure

With the aim of a successful execution of CHARISMA, it is key to ensure that the project accomplishes the stated objectives, within the given deadlines and that the results can guarantee its exploitation after the project. From a technical point of view and from an administrative point of view it is also very important that the timing and budget are successfully met, as stated in the DoA.

Currently, the project consortium comprises 13 partners. An additional partner will be incorporated to the consortium during the first months of the project as agreed with the European Commission.

The Description of the Action (Part A) and the Consortium Agreement describe in detail the project management goals and the project management structure, and summarizing here their contents and obligations.

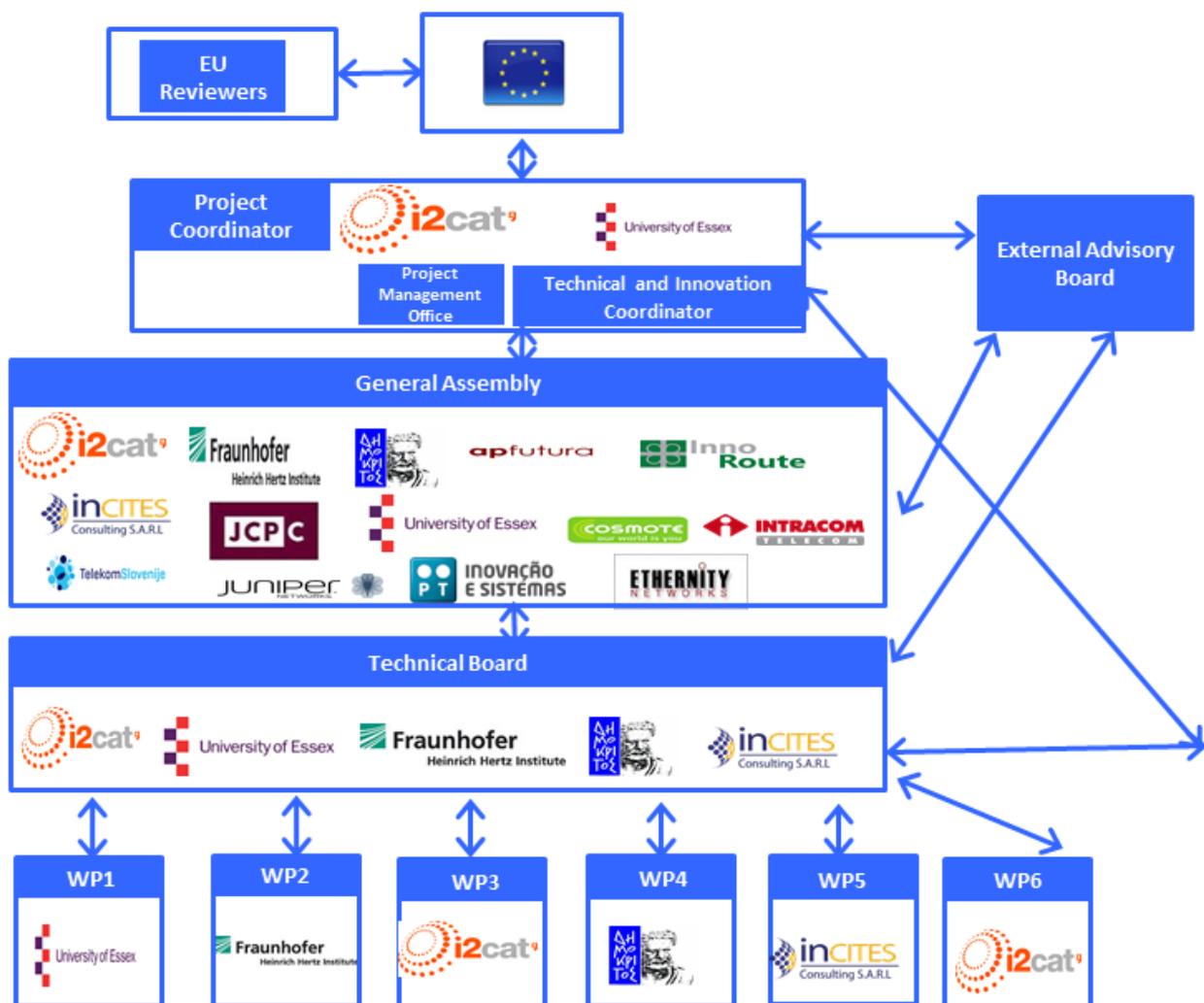


Figure 1-1: CHARISMA Project Management Structure

The management structure shown in Figure 1 has been set by the consortium aiming to accomplish the following general objectives:

-
- Ensure that the project is conducted in accordance with EC rules;
 - Reach the objectives of the project within the agreed budget and time scales;
 - Coordinate the work and ensure effective communication between partners;
 - Ensure the quality of the work performed as well as of the deliverables;
 - Maximize the potential for exploiting results;
 - Manage properly foreground and IPR matters;
 - Ensure that decisions are taken on the basis of data and factual information;
 - Solve any problem or conflicting situation;
 - Set the quality policy, including quality objectives for the project and;
 - Ensure that the appropriate infrastructure is set up to support the objectives above.

1.1. Governance structure

1.1.1. General Assembly

The General Assembly (GA) is the ultimate decision-making body of the consortium, meaning that the GA can make decisions on contractual matters, such as the budget, timeline, deliverables, PM shifts, adding/deleting partners. As outlined in the Consortium Agreement, the GA consists of one representative from each partner and is chaired by the Project Coordinator (PC). Each Partner has nominated a representative, with budget responsibility and able to assume the role as well as to represent contractor's interests.

In accordance with the Consortium agreement, the GA will assume the following responsibilities:

- Provide overall direction and policy;
- Control the satisfactory execution of the project in terms of road-map and monitor corrective actions, including deliverables review;
- Budget follow-up and transfer, including budget re-allocation and allocation of the contingency funds;
- Contractual changes including in the Consortium Agreement and selecting new contractors to enter in the partnership, termination of the contract and action against defaulting partners;
- Approving all reports and deliverables required in the frame of the Grant Agreement;
- Arbitrating on deadlock situations occurring within the WPs.

The GA shall be convened at least once a year in the framework of ordinary meeting and at any time upon written request of the Technical Board or 1/3 of the members of the GA in an extraordinary meeting.

Decisions will be taken by consensus whenever possible; only in case of conflict decisions will be taken by voting. In the latter case, the quorum has to be reached. In voting, each partner representative has one vote. Any decision may also be taken without the need of a meeting in person if the coordinator circulates to all members of the Consortium Body a written document which is then agreed by the defined majority of all members of the Consortium Body (see Section 6.2.3. of the Consortium Agreement). Such document shall include the deadline for responses.

Any substantial changes agreed at this level would typically be reflected in amendments to the project work plan, contractual documents or updates of the Consortium Agreement as required.

The GA meeting will normally take place as face-to-face meeting but may also be held by teleconference or other telecommunication means. It is required a minimum attendance of at least two-thirds of its members (Quorum: present or represented). The GA members are shown in the table below.

| Participant name | GA Member |
|--|----------------------------------|
| Fundacio Privada I2CAT, Internet i Innovació Digital a Catalunya | Eduard ESCALONA / Carles BOCK |
| Fraunhofer-Gesellschaft zur Foerderung der Angewandten Forschung E.V | Volker JUNGNICHEL |
| National Center for Scientific Research “Demokritos” | Tasos KOURTIS |
| APFutura Internacional Soluciones, SL | Oriol RIBA |
| Innoroute GMBH | Andreas FOGLAR |
| INCITES Consuting SARL | Theodoros ROKKAS |
| JCP-Consult SAS | Jean-Charles POINT |
| University of ESSEX | Mike PARKER |
| Cosmote Kinites Tilepikoinonies AE | Elina THEODOROPOULOU |
| Intracom S.A Telecom Solutions | Spiros SPIROU |
| Telekom Slovenije DD | Blaž PETERNEL |
| PT Inovação e Sitemas SA | Victor MARQUES |
| Ethernity Networks LTD | David LEVI |

Table 1-1: CHARISMA General Assembly Members

1.1.2. Project Coordinator

The **Project Coordinator (PC)** is responsible for implementing the decisions taken by the assembly and for tracking the overall project progress according to the work plan. The PC provides the Commission, as the official communication channel, with technical, managerial and financial information. The coordinator is the authorized contact to negotiate on behalf of the consortium meaning that the project administration will be under his supervision, responds to important changes during the lifetime of the project and coordinates necessary adaptation to meet the conditions of the external environment. In this role he is assisted by the **Management Team (MT)** and the **Technical & Innovation Manager (TIM)**.

Dr. Eduard Escalona (i2CAT) is the Project Coordinator of CHARISMA. The project coordinator chairs the general Assembly. His major tasks are:

- Consortium Agreement coordination;
- Supervision of distribution of EC’s payments to partners;
- Preparation of the support of the MT for the reports, cost statements and project documents required by the EC;
- Solution provider of all conflicts among partners;
- Organization and coordination of the internal review of EC deliverables;
- Organization of EC review meetings;
- Supervision of IPR and knowledge management;
- Representative of the consortium in dissemination events;

The PC is helped by assistants responsible for the daily administrative supervision and financial reports and by the Technical and Innovation Coordinator.

| | |
|---------|---------------------------------|
| Name | Eduard Escalona |
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| Place | Barcelona |

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| Post Code | 08034 |
| Country | España |
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| Fax | +34 93 553 25 20 |
| E-mail | eduard.escalona@i2cat.net |

Table 1-2: Contact Details of the Project Coordinator

1.1.2.1. Project management Office

A **Project Management Office (PMO)** comprising a team of employees familiar with administrative, legal, financial, communication and IPR issues will support the Project Coordinator in all the above responsibilities. The PMO gets advice from financial, legal, IPR specialists whenever required.

The PMO Team:

- Assists the Project Coordinator in the project management tasks;
- Manages the delivery and the submission of administrative and financial documents;
- Is a permanent contact point for the coordinator and all the partners regarding their participation in CHARISMA, responding to any relevant request and maintaining a high level of communication within the consortium;
- PMO is in constant communication with the Project Coordinator about the status of the project (new results, new risks, modifications, etc.). PMO is also in regular contact with the WP and Task leaders, in order to maintain a close association with the implementation team of the project.

The PMO team is in charge of the day-to-day project management providing support to the different project bodies. In accordance with the EC requirements, PMO are responsible for the administrative actions, including periodic reports, Certificates on Financial Statements and communication about submission of deliverables. Additionally, the PMO team prepares the required logistical, legal and administrative documents and supervises the overall running of the project.

PMO are responsible for ensuring that all of the administrative steps required for effective progress of the project are fulfilled timely. The PMO team will rely on the partners' local administrative staff and is composed by i2CAT internal staff.

| | |
|-----------|--|
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| Fax | +34 93 553 25 20 |
| E-mail | Sandrine.schwartz@i2cat.net |

Table 1-3: Contact Details of the PMO representative

1.1.2.2. *Technical and Innovation Management (TIM) UEssex*

The responsibility of the **Technical and Innovation Manager (TIM)** is to maintain the technical focus of the project as a whole and to coordinate the innovation actions. More specifically, the TIM chairs the Technical Board (TB). Dr. Michael Parker from the University of Essex is the TIM of CHARISMA and is responsible for:

- Coordinating the technical work;
- Monitoring the alignment of the project work with the project technical objectives;
- Coordinating the technical issues of EC reviews;
- Solving all technical conflicts among tasks;
- Coordinating the dissemination of the technical information;
- Coordinating the communication and ease the flow of information among partners;
- Coordinating all technical reports within the deadlines agreed upon with the EC;
- Supporting the Project Coordinator in supervising the progress of the project;
- Monitoring and coordinating the research and innovation actions all along the project, in cooperation with the PC and the Technical Board.

The TIM is also in regular contact with the WP and Task leaders, in order to maintain a close association with the implementation team of the project.

With regard to innovation management, the TIM in CHARISMA will define a set of guidelines to WPLs, to be ratified by the TB, so that the project ensures proper sensibility to changing Cloud industry standards and technologies. This way the TIM, in cooperation with the TB and all project partners, will be open to detect new opportunities for CHARISMA for innovate ideas while they develop any phase of their solution.

The TIM main innovation related tasks include:

- Monitor all the overall exploitation-related activities in the project, according to the exploitation plan defined in WP5, and put emphasis on the overall exploitation impact of the project outcomes and its branding.
- Provide support to the partners in order to define the access rights and usage of their background and project results.
- Advise the project with the right policies for protecting partners/project IPR.
- Support the project coordinator by setting up an open innovation model that, according to Innovation goals of H2020, facilitates, from the coordination point of view, the generation of Innovation all along the project and strengthen the exploitation impact of the project results.
- Provide advice about tools and mechanisms to improve the management.

| | |
|-----------|--|
| Name | Michael Parker |
| Address | Wivenhoe Park |
| Place | University of Essex |
| Post Code | CO4 3SQ |
| Country | United Kingdom |
| Telephone | XXXXXXX |
| Fax | XXXXXXX |
| E-mail | mcpark@essex.ac.uk |

Table 1-4: Contact Details of the Technical and Innovation Management

1.1.3. Technical Board (TB)

The **Technical Board** consists of the Coordinator and all the work package leaders. The **TB** shall be chaired by the TIM and this board is accountable to the GA. The TIM is responsible for calling the meeting, preparing the agenda and writing the minutes.

The TB is overall responsible for the success and smooth running of the technical overall management of the project, including assessment of progress reports, maintenance of work plans, resource re-allocation (if required) and first level conflict resolution. External factors, such unique opportunities for dissemination or novelties should also be considered.

As mentioned above, the TB is especially involved in resolving technical conflicts between partners. All the decisions within this group are consensus driven. However, resolutions taken in the framework of the TB are binding and can only be overturned by a specific alternative decision of the GA.

The TB meets regularly at least every 4 months and at any time upon request of any member of the TB. The members' Board are continuously in contact between the meetings by e-mail and audio/video conferences.

The TB should aim at achieving consensus of partners on important issues.

1.1.3.1. Work Package Leader (WPL)

The **Work Package Leader (WPL)** is responsible for the technical management of the work package (WP). The WPL may be supported by a number of task leaders of the same WP that report to the WPL on a regular basis. The responsibility of each WPL is to ensure the activities of the WP proceed according to the project work plan. The WPL is responsible for the production of the relevant deliverables and may delegate parts of this responsibility to other WP participants.

The WPL reports to the PC, the TB and the TIM regarding all technical coordination and progress reporting (e.g. periodic reports or financial reporting). The responsibilities of a WP leader are:

- Manage and follow-up the progress and technical activity of the Work Package;
- Follow-up the timely achievement of milestone and production of deliverables;
- Report on the activity to the Project Management Committee;

| Role | Name | Email | Affiliation |
|------------|--------------|-------------------------------------|--|
| WP1 Leader | M.Parker | mcpark@essex.ac.uk | UESSEX |
| WP2 Leader | V.Jungnickel | volker.jungnickel@hhi.fraunhofer.de | Fraunhofer |
| WP3 Leader | A.Legarrea | amaia.legarrea@i2cat.net | i2CAT |
| WP4 Leader | E.Trouva | trouva@iit.demokritos.gr | National Center for Scientific Research "Demokritos" |
| WP5 Leader | T.Rokkas | trokkas@incites.eu | INCITES Consulting |
| WP6 Leader | E.Escalona | eduard.escalona@i2cat.net | i2CAT |

Table 1-5: CHARISMA Technical Board

1.1.3.2. Task Leader (TL)

The Task Leader (TL) is a partner that is appointed responsible for a particular task. The Task Leader will report to the WPL. All TLs follow the Document of Action and stick to specific project development plans defined by WPLs.

1.1.4. External Advisory Board (EAB)

A panel of external experts will support the consortium all along the project duration in advising on project strategy, complex technical decisions and long-term sustainability issues. This group of expert will compose the **External Advisory Board (EAB)** of CHARISMA project.

This Board (EAB) will serve as external adviser to the Project coordinator and the members of the GA and TB. The EAB will meet separately and interact with the different managing bodies being part of the management structure. In this way, regular communication will be established between the EAB and the different managing bodies (PC; GA and TB), in order to provide appropriate information and assist the managing bodies with independent strategic recommendations on the project objectives, actions and long term developments. Resorting to such instrument provides additional quality assurance and guidance for the project and its activities.

The communication will be done by different means: meetings, conference call, emails, etc.

The **CHARISMA EAB** is comprised of specialists from domains relevant to CHARISMA and will be appointed during the first year of the project.

The EAB main tasks include:

- overseeing quality of project deliverables (internal evaluation in a form of peer-reviews) when required;
- orientating the project activities towards the expected results and objectives;
- establishing the project strategy in accordance with the PC, GA and TB and adapt it during the project life, if necessary;
- providing recommendations and contribute to the implementation of the project in order to maximize the impact of the project results;
- advising and assistance on the dissemination, international discussion and promotion of project results.

The members of the EAB will represent relevant international stakeholders and will be recognized as experts from academic and/or private sector. After a round of consultations, the GA will select a number of distinguished researchers and representatives of research institutions (or private sector??) in order to carry out these responsibilities.

2. Project Communication & Collaboration

2.1. Email Communication

The email communication reflector of the project will be kindly hosted by the Coordinator, i2CAT who established and maintains the following email lists:

charisma-admin@i2cat.net

The purpose of this email list is to exchange information between the CHARISMA administrative representatives and delegates. At least one administrative participant from each partner will be included in this email list.

| | |
|------------|--|
| Wp1 | charisma-wp1@i2cat.net |
| Wp2 | charisma-wp2@i2cat.net |
| Wp3 | charisma-wp3@i2cat.net |
| Wp4 | charisma-wp4@i2cat.net |
| Wp5 | charisma-wp5@i2cat.net |

The purpose of this set of emails is to exchange information between all technical CHARISMA participants. The email address of all technical personnel participating in the different WPs will be included in this list of 6 emails list in accordance with the project's WPs.

All emails that will be sent to the reflector will have the following format for their subject:

[charisma-admin] **Subject**

[charisma-wpx] **Subject**

In case a new member joins the project, an email with the specific request should be sent to the i2CAT contacts for the project reachable at the following email addresses:

- Eduard Escalona (i2CAT), eduard.escalona@i2cat.net
- Amaia Legarrea (i2CAT), amaia.legarrea@i2cat.net

2.2. Conference-Call Collaboration

CHARISMA will utilise on a regular daily basis telephone conference calls to evaluate the progress of the project along the planned Sprints and define further actions.

A dedicated conference bridge (updated every 6 months) will be provided by i2CAT. All details regarding the access to the bridge will be provided by i2CAT technical team and will be stored in the documents repository at the following page:

<http://confluence.i2cat.net/display/CHARISMA/CHARISMA+Home>

When video sharing will be required the consortium will use WebEx video conference tool provided by Cisco and hosted by i2CAT.

Additional ad-hoc conference calls should be regulated by the following general rules:

- The partners will schedule the date of the conference, using also appropriate support tools. (e.g., doodle).

-
- An invitation to the project email list with the exact time, agenda and information on how to join the conference call will be circulated, at least one day before the conference call.
 - i2CAT technical team will manage the conference platform and inform the consortium how to login to that conference system.

2.3. Meetings

Face to face meetings will be organized periodically throughout the project lifetime. Conference calls will also be used extensively for progress meetings. The foreseen frequency of meetings is:

- Project Coordinator Body (PC, PMO, TIM): foreseen conference calls at least every three months and face to face meetings co-located with the General Assembly.
- General Assembly: face to face meetings at least two times every year. Conference calls to be set up when needed.
- Work packages: dedicated WP meetings will be organized by the WP leaders according to the emerging needs during the project lifetime. It is up to the WP leaders to try to arrange these meetings in co-location with General Assembly meetings.

Extraordinary meetings may be organized upon written request of:

- The TB for the GA meeting.
- Any member of the TB for a TB meeting.

Moreover, it is up to deliverable leaders to set up additional meetings or conference calls according to the specific activities in the workplan if required

For each meeting the following documentation will be produced and uploaded on the respective folder in the document repository:

- Meeting minutes from which it could be easily evinced the meeting objectives, agenda, location and required participants.
- Main discussion items, decisions and actions (with owners and deadlines assigned).
- A list of participants over each day of the meeting with signatures for each day.

2.3.1. Hosting a face to face meeting

Throughout the project lifetime, members may be asked to host general project meetings. Tasks involved in hosting a meeting are divided into obligatory and recommended tasks:

Obligatory tasks:

- Provide meeting rooms with audiovisual equipment necessary for the presentations.
- Provide network connectivity.

General practice (recommended although not obligatory):

- Provide water, coffee breaks and lunch.
- Organize one social event (e.g., invite partners for one evening meal).

3. Quality Assurance

The Project Coordinator will maintain a computer-based top-level project management system, based on a Gantt chart work-schedule model. This will be updated by inputs from the various managers at WP and task level. The Work Package Leaders will be encouraged to use a formal project management system, compatible with the one used by the Project Coordinator. Project meetings or teleconferences will take place as required by the workplan.

3.1. General Rules for Planning and Reporting

The foreseen procedures and tools for the CHARISMA project are the following:

- All formal meetings (GA, TB, etc.) will be notified at least three weeks in advance. Agenda, proposed resolutions, decisions and supporting documentation will be available to all attendees at least one week before the meeting. Issuing of all documents will be via the chairman, who is responsible for compiling all submissions from partners and will be appointed at the beginning of the meeting.
- All meetings will be formally minuted and a draft version of the meeting minutes shall be sent to all the members within 10 calendar days after the completion of the meeting.
- The minutes shall be considered as accepted if, within 15 calendar days from sending, no consortium member has sent an objection in writing to the chairperson with respect to the accuracy of the draft of the minutes.
- The accepted minutes will be accessible from the documents repository:
<http://confluence.i2cat.net/display/CHARISMA/Management>

3.2. Quality Assurance Roles and Responsibilities

All documents and deliverables concerned in the Quality Assurance process will be evaluated through a dedicated internal team, **Quality Check Team (QCT)**, generally composed by at least two members of the CHARISMA consortium. The members of QCT are selected on the basis of their expertise and experience on the subject treated in the deliverable under consideration. As general rule the team should consist of:

- The project Technical Coordinator for the overall quality management of the deliverable, having the overall responsibility for the qualitative integrity of the document;
- The leader responsible for the work package or tasks related to the deliverable.

The review process will be iterative until final acceptance by the QCT.

This Quality Assurance procedure should be used by all partners involved in the documents release process, more precisely:

- All partners directly involved in deliverable and prototype production.
- The QCT involved in the review of the documents produced.

3.3. Deliverable Acceptance Process

A clear quality process will be applied for the final acceptance of a deliverable:

- The team responsible for the deliverable has to be in charge to verify the contents of the documents, assuring that the information contained is relevant and of importance to the research work and activity carried out in a given project task.
- The Quality Check Team will make a first internal revision of the deliverable and assess if some modifications or conflict resolution would be needed. The Quality Check Team will assure the conformity of the document with the quality criteria and also act as interface to TMB, before the final submission of the work.

The quality criteria against which every single deliverable will be evaluated include the following:

1. **Completeness.** The deliverable must address all aspects related to the purpose and scope for which the related research activity is carried out. Each deliverable leader is responsible for the content of the document and the QCT is responsible to supervise the compliance.
2. **Depth.** Each deliverable should have a coherent depth of information with respect to the deliverable scope, purpose and type of research activity described. The lead partner has the role to verify that the contents are detailed in the correct way. The Quality Check Team should evaluate if such depth is adequate, with respect to what was stated in the Description of Action.
3. **Accuracy.** The information provided in the deliverables should be supported by real and tangible motivations. All background information used in the documents should be linked to appropriate references. Moreover, foreground information and results, should be clearly described and should be technically supported in order to avoid any misinterpretation or misunderstanding.
4. **Relevance.** Each deliverable should provide information according to the scope of the specific research work and should be focused on the key aspects of the deliverable scope.
5. **Adherence.** Each deliverable must be produced using a common project template to have a uniform appearance and structure, independently from the original authors of the document.

The above quality criteria have to be considered by the authors when writing and drafting the deliverables since they constitute the basic principles on which the Quality Check Team operates for the evaluation of the work.

3.4. Deliverable Review Procedure

The deliverable will be distributed by the lead partner in its first full draft version at least **two weeks before its official deadline**. The Quality Check Team will perform the review and send their comments back to the deliverable lead partner. Moreover, the QCT is responsible for deciding upon any conflict in the review process.

The final rating of the deliverable draft is agreed by the Quality Check Team and will be marked as:

- Fully accepted,
- Minor revisions required,
- Major revisions required,
- Rejected.

The above procedure is intended to be iterative. After the first round of review from the Quality Check Team, the lead partner and the document authors will integrate the revisions into the deliverable, addressing the comments provided by the Quality Check Team. The final revision will be produced when the deliverable is marked as fully accepted by the Quality Check Team. The whole review procedure should take no more than an agreed deadline, established before starting of the deliverable production.

In the unlikely case of a deliverable marked as rejected at the end of the review process, the Project Coordinator will apply the needed actions to overcome the situation.

3.5. Periodic Progress Reporting

In order to reflect the status and the progress of the project, a number of management reports are produced periodically.

| Report | Content | Responsible | Distribution | Periodicity |
|---------------------------------|---|--------------|--------------|----------------|
| Semester Progress Report | Project progress and technical activities carried out by each partner. Includes costs and efforts for each partner. | All partners | Internal/PO | Every 6 months |
| Periodic Report | Overview of project progress in terms of achievements of each WP. Includes costs and efforts for each partner. | All partners | EC | M18 – M30 |
| Financial Statement | Financial Statements + Audit Certificate if required | All partners | EC | M18 – M30 |

Table 3-1: Planned CHARISMA reporting

3.5.1. Semester Progress Report

The Semester Progress report is made up of the following parts:

- a textual part to report on work progress by each WP towards the project objectives,
- a list of activities executed by each partner in each WP,
- effort/cost estimates and projections by each partner for each WP.

The Project Coordinator will keep the EC Project Officer informed about changes, problems, and deviations from the work plan or the budget.

The preparation of the Semester Progress Report will be started by the Project Management Office at the closure of the reporting period (semester) and should be completed within the 30 days from the end of the reference period. All partners are invited to provide timely feedback and contributions for their parts.

3.5.2. Periodic Activity Report to the EC

Based on the template produced by the EC, this official activity report is produced at M12 and at M30 by the Project Coordinator, the Technical Coordinator and all the WP leaders based on the information contained in the progress activity reports.

This report states explicitly the advances of the CHARISMA project against the objectives and planned activities and should detail:

- activities carried out and obtained results,
- dissemination and exploitation actions,
- resource consumption.

This report will be used by the European Commission to assess the progress of the project in the period of time that will normally coincide with technical review meetings.

3.5.3. Financial Statements and Financial Summary Reports

At the end of the M12 and the M30, each partner will provide the Financial Statements to the coordinator where all the costs referring to the period will be declared in order to claim reimbursement to the European Commission. This financial statement will be complemented with an audit certificate (when required) that will ensure that the costs declared by each participant are correct and documented.

Special clause to the contract: audit certificates are required when accumulated funding surpasses 325.000 €. For example, if in Period 1, the claimed costs for reimbursement are 100.000 €, no audit certificate is required. If the requested funding for the project is under 325.000 €, no audit certificate is required.

4. Data Management Plan (DMP)

This section of Data Management Plan is a life document and will be subject to change and evolve to be adapted to needs and requirements that may arise during the project life cycle.

It is important to set up a Data Management Plan to achieve specific dissemination objectives and ease the access of the consortium and the general public to the data produced during the execution of CHARISMA to increase the research impact of the project and to save time by having a common repository to preserve the important data and maintain the integrity of the data. Making the data available to the community of researchers interested in the area can have a positive impact on the discovery of new applications and the general relevance of the work. The plan for Data Management should be set up at the beginning of the execution of the project, this way we could save time and resources during the project lifetime. A repository facility will provide a common reference archive where the consortium will save all the produced documentation and instruments for the project execution, avoiding the usage of different and replicated systems. Also, this will allow the interested parties to consult and review these data in the future. CHARISMA consortium is devoted to support open access to all the data produced during the project lifetime to the greatest extent that is possible.

4.1.1. Data set reference and name

The infrastructure chosen to hold the documentation produced by the project (interim reports, cost statements, working papers, and deliverables) will be based on the Confluence solution by Atlassian: (<http://confluence.i2cat.net/display/CHARISMA/CHARISMA+Home>). The **Project Coordinator (PC)** and the **Technical and Innovation Manager (TIM)** will be the ultimate responsible for maintaining this platform, with coherence of contents organization and availability to the partners. All the partners are encouraged to contribute with documents and information that could be deemed as useful to the project community.

4.1.2. Data set description

4.1.2.1. Documents Repository

The repository of documents will be used to share and store all documentation relating to the execution of the project, both for official documentation (to be sent to the European Commission) and the documentation for only internal use: tasks and meeting reports, in-progress documentation, etc.

The choice of the document repository has been defined considering the following general requirements:

- supports document sharing between different accounts,
- allows the definition of an organized documents structure,
- permits the versioning of the documentation,
- history tracking.

The following pages have been created at least the following categories of documents:

- **Dissemination Materials:** will contain papers, articles, newsletters, brochures resulting from the project tasks, trainings information, patents, etc.
- **Documents:** will contain the repository of deliverables of the project available to all the partners.
- **Meetings:** will contain documents presented or generated during plenary meetings and conference calls minutes.

- **Templates & logos:** in this category reference documents and guides to generate standard documents for the project have been uploaded as well as logos and visual material for media dissemination.
- **Audits:** store material exchanged among partners for audits preparation.
- **WP-x:** each WP data will have its dedicated space where the documentation specific to that WP will be accessible for all the partners including activities description, APs and others.

Note that additional categories may also be created, in case it is deemed to be necessary. The document D5.1 includes the specifics of the confluence document repository tool, explains how to use this repository and other dissemination tools. It has been submitted and shared across the consortium in M2. Further information about the Confluence tool can be found in CHARISMA Deliverable D5.1 [1].

4.1.3. Document Naming Convention

4.1.3.1. Official/Contractual Deliverables

The official deliverable will be named using the following naming format

CHARISMA_DX.Y_Mmm_Vx.y.ext

where:

X: is the WP number

Y: is the deliverable number

Mmm: is the project month in which the deliverable is finalized and sent to the PO

x: is the version major number

y: is the version minor number

ext: is the extension (.docx, .pdf, .ppt, .xlsx, .exe, .zip)

Note that the partner who has the responsibility for the document will have the authority to change the version number.

4.1.3.2. Internal/Public Documents

The Internal documents will have the following format:

CHARISMA_WPw_ACR_TTTd__ShortTitle_Vx.y-YYYYMMDD.ext

Or the shorter version

CHARISMA_WPw_ACR_TTTd__Vx.y-YYYYMMDD.ext

where:

w: is the WP number

ACR: is the partner Acronym that initiated and has the responsibility for the document

TTT: is a two or three letter acronym of the following

| | |
|-----|---------------------------|
| QRR | Quarterly Resource Report |
| MAG | Meeting Agenda |
| MM | Meeting Minutes |
| MS | Market Studies |
| SW | Software |

| | |
|-----|---|
| APL | Action Points List |
| TCM | Teleconference Meeting Minutes |
| TP | Technical Presentation |
| TPC | Technical/Research Publication (Conference) |
| TPJ | Technical/Research Publication (Journal/Magazine) |
| TR | Technical Report |

ShortTitle: is an optional, explanatory short title of the document

d: is the document number

x: is the version major number

y: is the version minor number

YYYY: is the year

MM: is the month

DD: is the day

ext: is the extension (.docx, .pdf, .ppt, .xlsx, .exe, .zip)

The same procedure applied to the official/contractual documents will be applied also to the internal/public documents.

4.1.4. Reference documentation tools

The following tools are suggested for document processing:

- Document Processing: Microsoft Word 2010,
- Spreadsheet Processing: Microsoft Excel 2010,
- Presentations Processing: Microsoft PowerPoint 2010,
- Compression Tool: 7-Zip,
- Portable Document Format: Adobe Acrobat 8.0 or later.

In case a partner aims to use a different software tool, he/she has to assure that the outcome is compatible with the above tools.

4.1.5. Code Repository

A git repository will be made available for the consortium with the purpose of CHARISMA code storage repository. This will mean a common tool where all the code can be appropriately versioned, committed for testing, etc. in a secured manner. The tool it is likely to be STASH (again by Atlassian). However, this will be decided through the project lifecycle and in consensus with all the partners involved in code development.

4.1.6. Data sharing

In general, for the CHARISMA data sharing purposes, all the documentation, reports, articles and additional data will be shared through the confluence tool to all the CHARISMA partners. Access to this platform is secured and granted to personal accounts, this can be requested to the project coordinator (i2CAT) through the usual channels of communication (email, mailing lists, etc.).

The public documentation will be made available through the public website (<http://www.charisma5g.eu>). The final version of each document in .pdf will be uploaded to the web once they are finalised and approved by the consortium according to the criteria previously defined in section **¡Error! No se encuentra el origen de la referencia.** of this document.

Only publicly available information will be included in the documentation to protect the intellectual property rights of the information shared within the consortium. Due to the innovative nature of CHARISMA, it is expected that partners will generate Intellectual Property that has to be protected through patents, yet made available for other partners for their own work in the CHARISMA project and exploited outside of the project by appropriate licensing.

CHARISMA handling of IPR is completely in-line with Annex III of the Model Contract and the “Guide to Intellectual Property Rules for H2020 projects”. A summary of the way that access rights and IPR have been handled in the project’s Consortium Agreement.

The intention of the consortium is that the research carried out as part of CHARISMA will be eligible to be published in technical journals, conferences and similar events.

4.1.7. Archiving and preservation (including storage and backup)

All the information shared through the confluence tool will be backed-up regularly as a measure to avoid accidental or intentional data-loss in case a disruption happens in the system hosting the data management tool. Ideally the following the subsequent criteria will be performed:

- Make several copies of the data (e.g. original + external/local + external/remote).
- Copies should be geographically distributed (local vs. remote).
- Cloud storage is the preferred option to carry out back up of the data.
- It is recommended to execute complete backups of all the data in a monthly basis.

Data archive should be encrypted to preserve privacy of the data.

The data produced by CHARISMA will be stored ideally uncompressed but if there are limitations of space and if the files production starts being unable to be handled, data will be compressed. It is recommended also to carry periodic test in the data to try to retrieve data files and make sure those are available.

References

- [1] “D5.1 CHARISMA web site, social network pages, open access server and mailing lists”

5. Abbreviations and Definitions

5.1. Abbreviations

| | |
|-----|------------------------------|
| DMP | Data Management Plan |
| DoA | Description of Action |
| EAB | External Advisory Board |
| EC | European Commission |
| GA | General Assembly |
| IPR | Intellectual Property Rights |
| MT | Management Team |
| PC | Project Coordinator |
| PMO | Project Management Office |
| PO | Project Officer |
| PoP | Point of Presence |
| QCT | Quality Check Team |
| TB | Technical Board |
| TC | Technical Coordinator |
| TIM | Technical Innovation Manager |
| TL | Task Leader |
| WP | Work Package |
| WPL | Work Package Leader |

<END OF DOCUMENT>