D1.5 Project Quality Plan (v2)

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PP: Restricted to other programme participants (including the Commission)	
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Quality Control

Role	Date	Who	Approved/Comment
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Definitions and acronyms

CC	CyberConnector
CyberConnector	An internal knowledge collaboration site and social network that is used to share all the information among partners. Referred to also as CC.
DoA	Description of Action
MST	Management and Support Team
PC	Project Coordinator
SC	Scientific Coordinator
WP	WorkPackage
PMC	Project Management Committee
PC	Project Coordinator
IR	Internal Reviewer
TERC	Trials and Ethical Review Committee
GA	General Assembly
TMC	Technical Management Committee

1. Introduction

This deliverable focuses on providing the partners with a common set of rules, and templates to:

- identify the governance scheme
- ensure consistency of content and presentation of all the deliverables of COMPACT

This deliverable also describes how quality assurance and the management of risks will be applied throughout the project, through the internal review process of deliverables prior to their official release.

This deliverable is an updated version of D1.1 Project Quality Plan. The main change is an additional section (Support for the Development activities) that describes the actions taken in order to manage the components evolution and integration phase.

2. Organization structure and governance scheme

In order for the project to be successful, a functional organisational structure must be in place that ensures efficient, result-driven management of the COMPACT consortium. The ambition and extensive involvement of all partners (including the users) requires a strong yet flexible management structure, supported by agile decision-making mechanisms.
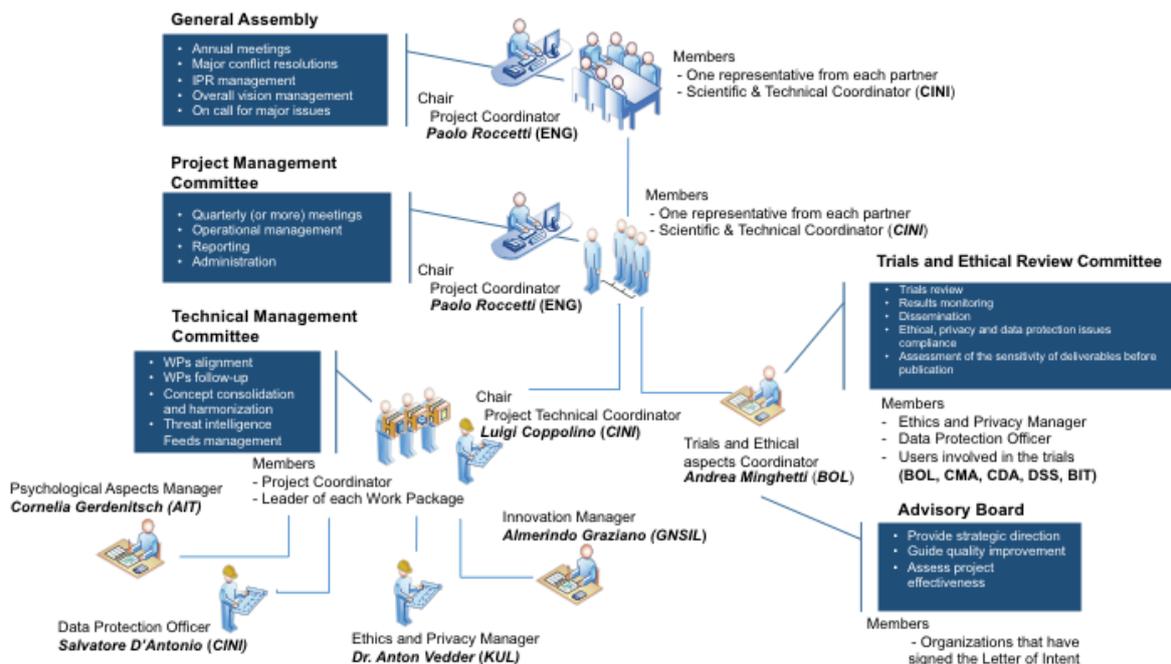

Figure 1 - Overall organizational structure

COMPACT management structure has been designed to ensure that individual project activities are properly coordinated, so that: i) the project attains its objectives and fulfils partners' individual expectations; ii) quality assurance is guaranteed throughout project implementation; iii) proper monitoring and self-assessment procedures are in place; iv) security, ethical, legal, privacy and psychological aspects - as defined by WP2 and validated by WP5 – are taken into account at all times.

The project is managed at four different levels, with four different committees:

1. Strategic and vision management: General Assembly (GA)

2. Administrative, financial, overall coordination: Project Management Committee (PMC)

3. Technical and content coordination: Technical Management Committee (TMC)

4. User community, ethics, privacy and data protection coordination: Trials and Ethical Review Committee (TERC)

These committees meet periodically (when possible face-to-face, or by telephone or video conference).

This organisational structure has been established to optimise planning, monitoring and co-ordination of COMPACT project activities and in particular task performance, reporting and accountability. COMPACT will be steered and guided in a top-down fashion, while issues will be raised and problems will be solved in a bottom-up manner.

Figure 1 summarizes the management structure and the associated leaders (Paolo Roccetti from ENG as project coordinator, Luigi Coppolino from CINI as project technical coordinator, Andrea Minghetti from BOL as trials and ethical aspects coordinator), with detailed descriptions of each component below. This is complemented by the innovation management support, the legal and ethics manager, and the psychological aspects manager, with the link being implemented through the TMC.

3. Online Tool - Cyber Connector

CyberConnector[1] (CC) is an online collaborative space to create and enhance collective knowledge to improve cybersecurity. It has been designed to host communities operating in the context of cybersecurity, composed by private organisations, public administrations, CERTs, and law-enforcement agencies. These communities can operate either as funded European projects or as self-sustained communities, focusing on diverse cybersecurity topics (botnets, cyber-risks assessment, social vulnerability assessments, etc.).

The key benefit of CC is to widen the visibility and scope across the different communities, whilst at the same time providing a closed and secure space for a single community to interact only with its member.

COMPACT uses this tool to provide an online collaborative space among partners (workspace). More details about this tool, its configuration and relative processes will be provided in the deliverable D1.3 Project Reference Manual.

4. Support for the Development activities

Considering the COMPACT objectives and the planned TRL of each COMPACT service, way the development and integration phases need to be appropriately coordinated and supported. For this purpose the following actions have been taken:

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[1] cyberconnector.eu

- The component evolution has been divided in 5 groups and each group has a responsible partner that is in charge of coordinating the work and interactions between partners. The created groups are:
    - Dashboard (lead by S21SEC)
    - Communication channel (lead by CINI)
    - Risk assessment (lead by ENG)
    - Education (lead by SIL)
    - Knowledge sharing services (lead by ENG)
- A VPN has been set up in order to provide a secure communication channel between partners' sites. It will be used during the integration and testing phase (each technical partner will be required to provide a node where its services are installed and used by other partners for the project purpose).
- A dedicated collaboration hub is used in order to coordinate the development and integration phases. Slack[2] has been selected as collaboration service. Each group has a dedicated slack channel for messaging, and tools and files exchange — helping everyone to save time and collaborate together.
- A Git[3] repository will be used as versioning system in order to store and share project software code.

5.   Templates

A set of project templates are defined for COMPACT activities and stored in the template folder of the COMPACT workspace (CC).

Partners are asked to download the latest version of the template before filling it from scratch (existing documents will not be moved to the new template version, unless needed by specific circumstances).

The following section contains the list of templates currently defined for the COMPACT project. More could be added during the project lifetime.

5.1.   List of templates

Table 1 – COMPACT template list

Template	Description
COMPACT Deliverable Template	Word document for writing deliverables (this template has been updated in order to cover the DPIA aspects)
Template COMPACT Presentations	PowerPoint document for delivering official presentations
Memorandum of Meeting	Word document for reporting about, participants and minutes meeting
Meeting Agenda	Word document for meeting agenda

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[2] https://slack.com/

[3] https://git-scm.com/

All templates have been provided in Office format (*.docx*, *.pptx*, etc.). This open format is also supported by free office products (OpenOffice[4], LibreOffice[5], etc.).

6. Dissemination

6.1. Logo

The COMPACT logo (Figure 2) will be used in all communications. It is available in different formats in the "WP6 - Communication & Dissemination\Logo and Website" folder of the COMPACT workspace.

Figure 2 - COMPACT logo

6.2. Press releases

All partners are allowed to issue individual press releases mentioning COMPACT. Common press releases will be issued jointly by the dissemination partner INOV and the coordinating partner ENG.

Common press releases can be proposed by any partner by sending a request to INOV, copy to ENG. The requesting partner may also propose an initial text.

7. Contact points

Main contact points for each partner must always be available in the COMPACT workspace for important communications.

Each partner is responsible for indicating in the **Official Contact List** (available in the corresponding wiki page in the project workspace) the main contact point, and the financial contact point for the organization, and keeping this information updated during the lifetime of the project.

8. Quality Assurance

8.1. Quality Assurance Context

Planning and ensuring quality is part of the overall management and is applied to all project activities.

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[4] www.openoffice.org

[5] www.libreoffice.org

COMPACT's Quality Assurance policy is guided by the following principles:

- implement and maintain a quality system
- identify for all partners involved their responsibilities regarding quality
- ensure that all deliverables comply with the grant agreement
- ensure that all processes relevant to the project are organised and monitored to a high level of effectiveness and quality

8.2. Quality Assurance Implementation

The quality assurance policy is defined by a quality assurance plan, whose definition and implementation fall under the overall responsibility of COMPACT's Project Management Committee (PMC), and specifically under the responsibility of the Project Coordinator (PC).

The specific role of the Project Coordinator in the context of quality is to formulate and safeguard an overall policy for quality in the project and take all actions necessary to ensure that there are no deviations. This role includes:

- ensuring the quality of all project deliverables
- monitoring the COMPACT project as a whole process and detecting important deviations in terms of results, quality, timing and resources spent. The monitoring and associated remediation activities include:
  - initiating action to prevent the occurrence of any non-conformity
  - identifying and recording any relevant problem
  - initiating, recommending and/or providing solutions through the reporting system
  - verifying the implementation of solutions
  - monitoring and controlling further processing, delivery or installation of any preferred solution to ensure that any reported non-conformance has been corrected

8.3. Quality Assurance for deliverables

About the quality review of deliverables, the COMPACT DoA states: "Each deliverable will be reviewed externally by two partners who did not take part in writing the deliverable, if possible external to the WP in which the deliverable is produced."

This will ensure that the quality assurance is implemented using the principles of peer review.

In addition to this approach, assigning reviewing partners also aims to take into account the know-how and skills of each partner, as well as the effort that partners have on specific tasks/WPs, and on the project as a whole.

The updated assignment of deliverable internal reviewers is available in the COMPACT workspace.

This deliverable has been reviewed by AIT and ENG.

8.3.1. Deliverables quality review process

For each deliverable, the reviewers are asked to:

- verify the conformity of the deliverable, with the initial criteria defined for them and guaranteeing that the deliverable is in accordance with the approved DoA
- if needed, consult the Work Package Leaders, on the expected technical characteristics of the deliverables
- use track changes to indicate recommendations, correct, question and highlight issues
- deliver the reviewed document to the deliverable coordinator within one calendar week

The content of each deliverable depends on the type of provided information.

As a general principle, the responsibility for the content of each deliverable report is always with the leading author. Nevertheless, the deliverables should always meet a set of requirements, based on the three aspects for quality of information namely, completeness of content, correctness of appearance and structure and alignment to project needs, described below.

These requirements result in six quality criteria for project deliverables and are to be evaluated to assure the consistency and the high quality of the deliverable in the context of the internal review.

Information produced must focus on all aspects related to the purpose for which the work is intended. However, a redundancy of information must be avoided, as in some cases it might obscure the clarity of research findings.

CRITERION 1: Completeness

Information provided in the deliverable report, must be reliable and must correspond with reality. This means that all background information used in the reports should be appropriately supported by references. Foreground information should be supplied in a clear way and be sufficiently supported, in order to avoid misinterpretation.

CRITERION 2: Accuracy

Information used in the deliverable report should be focused on the key issues and be written in a way that takes into consideration the scope of the specific research work and its target audience.

CRITERION 3: Methodological soundness

When applicable, the methodology used to elaborate data should be included.

CRITERION 4: Relevance

All information used should be provided to the depth needed for the purpose of the reports.

CRITERION 5: Appearance and structure

Although deliverables will be authored by different partners, it is important that reports are prepared with uniform appearance and structure. It is therefore necessary to use the COMPACT deliverable template (refer to Section 5), which specifies the structure, organisation of content, layout and appearance of project deliverables.

CRITERION 6: Alignment to timeline

The information must be provided in relation to the particular phase of the project's development and according to the Project Plan. When the deliverable is linked to other deliverables or will evolve through subsequent iterations, the positioning of the deliverable in the overall sequence should be specified.

8.3.2. Deliverables timeline process

The deliverables are submitted according to the schedule agreed in the COMPACT Description of Action. To respect the submission deadline, the following steps are defined, with the "When" column below indicating the number of days prior to the submission date of the deliverable:

Table 2 – Deliverable creation process

Steps	When[6]	Who	What
1	90	Deliverable Coordinator	Circulate Table of Contents (ToC) to Deliverable Editors
2	31	Deliverable Coordinator/Editors	First draft of the deliverable
3	14	Deliverable Coordinator/Editors	Per-final version of the deliverable ready for the quality check (peer review)
4	7	Quality Control	Review the deliverable and send comments and changes to Deliverable Coordinator, cc'ing the Scientific and/or project Coordinator, if relevant
5	4	Deliverable Coordinator/Editor	Consolidate input of reviewer, make amendments and upload the final version of the deliverable
6	1	Project Coordinator	Verifies, if needed iterates and then approves and turns document to Final. Requests involvement of technical coordinator as needed
7	0	Project Coordinator	Submits deliverable to the European Commission

9. Risk Management

A risk is defined as a potential event that could have a negative impact on the project. Therefore, each risk is evaluated against two scales: likelihood (an estimation of the probability that the event occurs) and severity (an estimation of the effect of the event on

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[6] This column shows the days before the contractual delivery date

project activities). It is impossible to avoid all possible risks in the project, therefore the approach is to have tools and techniques in places to catalogue and prioritise risks, and to deal with those that may have the wider impact on the outcome of the project (meaning those with highest severity and likelihood). In order to ensure a real risk prevention strategy, the following risk management processes will be carried out:

I. Risk Identification: determines and documents the risks that may affect the project

II. Quality Risk Analysis: prioritises risks by assessing and combining their probability of occurrence and impact

III. Risk Responses Planning: develops actions to enhance opportunity and to reduce threats to project objectives

IV. Risk Monitoring and Control: implements risk response plans, tracks risks, monitors residual risks, identifies new risks and evaluates risk process effectiveness throughout the project

Risks identified during the COMPACT lifetime are reported in the Project Risks Register available in the COMPACT workspace

Each Risk has a unique **Id**, a short **Description**, and the list of **WPs** that may be impacted by the occurrence of the related event. The risk assessment process will lead, for each risk, to the definition of:

- **Likelihood** and **Impact** (both with values: Low, Medium or High)
- a **Responsible** partner, that will be in charge of monitoring the risk evolution and updating the risk status
- a set of proposed **Mitigation actions**, if any, aiming at reducing the risk likelihood and severity

Table 3 – COMPACT Risks Register

Type	Id	Description of risk	WP(s) involved	Likeli hood	Severity	Proposed risk-mitigation measures
Managerial	1	A Partner withdraws or is unable to provide a foreseen contribution	WPs in which that partner is involved	Low	Medium	The team composition of the consortium ensures a balance of skills. If in the unlikely case that expertise for the stopped activity cannot be found in the consortium, the consortium will consider bringing a new partner into the consortium, upon consultation with the EU PO.
	2	Lack of required know-how, possibly as a result of the departure of a key member	WPs in which that member is involved	Low	High	The partners committed to assign key technical staff to the project, assuring in-depth expertise of the work to perform, alongside operational and personal skills. The consortium members commit to identify and

					allocate alternative personnel in the case of the departure of key personnel.
3	Lack of coherence in project development and lack of cooperation among partners	All WPs	Medium	High	Most of consortium's members are very familiar and experienced in working with one another thanks to collaborations in previous projects.
4	Project overspending in travel or equipment	All WPs	Low	Low	Managerial and progress review meetings will coincide with the identified milestones, to be performed in the same location. The CPO will be informed in advance of TPL' intentions for meeting, travel, and equipment spending, to make full use of synergies.
5	Critical deliverables are delivered too late and milestones are missed	All WPs with those deliverables	Medium	Medium	Partners involved in delayed tasks will allocate additional resources to meet the planned deadlines. Agile project management and frequent status calls will mitigate the risk of falling behind schedule.
6	Insufficient involvement of stakeholders, or end users having privacy concerns on the use of the platform	WP2, WP5	Low	Medium	One of COMPACT's significant strengths will be the active participation and strong commitment of end users as full members of the consortium, hence equally responsible in terms of their contracted contributions.
7	Problems related to intellectual property (IPR) rights arise during the project execution and exploitation	WP7	Medium	Medium	The consortium agreement will constitute the primary source to resolve IPR issues. The General Assembly may be involved if conflicts remain.
8	Excessive legislation differences between	All WPs	Low	Low	The legal experts from the partners will be in contact with and advising the technical developers from all partners. The developers will provision for

		different jurisdictions				variations in the system based on local differences.
Technical	9	The required applications and services cannot be developed within the time and resource constraints of the project	All WPs	Medium	High	The partners will prioritise applications and services development to ensure maximum deployment and evaluation within project constraints. The selection of a staged approach including mock-ups/early prototypes and pilot phases will ensure that if such a risk is encountered, it will be adequately and early assessed to be efficiently confronted.
	10	A new and unproven technology is selected and turns out to be not sufficiently robust	WP3, WP4	High	Low	Any new technologies to be deployed will enhance the capabilities of the platform but can be replaced with existing ICT tools to avoid this risk.
	11	The required components are not available	WP3, WP4	High	Medium	Selection of partners and allocation of technical tasks has been made based on previous research and development expertise in each area to ensure experience and early detection of technical problems.
	12	Identified user requirements cannot be met within the scope of the project	WP2	Medium	Low	Design of WP structure has been made in a way that ensures that user requirements collection and end user involvement is adequately linked to the technical specifications delivery and architecture design. There is special provision in the management structure for efficient monitoring of human related and technical related tasks and the compatibility of their results.
	13	Final product is not satisfactory to stakeholders	WP2, WP4, WP5	Medium	High	COMPACT's strong emphasis on active participation of users from the early stages of requirements specification throughout the project and until the final phase of pilot trials, ensures that the product will be both based on users' and stakeholders' feedback and tested with their active participation.

	14	Corrupted or insufficient data collected during pilots	All WPs	Medium	Medium	The multi-phase testing strategy of COMPACT will ensure that early testing in mock-ups will help fine-tune and make the data collection coherent before actual pilot trials.
	15	Heterogeneity in LPA processes and structures that may prevent large applicability of the COMPACT solution	WP2, WP3, WP4	Medium	Medium	It is difficult to evaluate this risk a priori, due to the lack of information at this stage of the project. The definition of the COMPACT use cases should also explore the real degree of heterogeneity in end-user processes and structures. This information will be precious when defining the COMPACT architecture (in WP3) and to consequently drive the integration activities (in WP4).
Specific	16	Consortium has no harmony	All WPs	Low	Medium	Previous experience within single partners has been very positive and should be maintained at consortium level. Whole project meetings and workshops will be held to ensure that good communications are established between partners.
	17	Diverging objectives between technical objectives (horizontal) and tested oriented objectives (vertical)	WP1, WP3, WP5	High	Low	The COMPACT management structure has been specifically designed to minimise this risk and to ensure the proper collaboration between user and SW developers. One of the key aims of the Management will be to avoid and manage this risk. This will stress the importance of the user validation and involvement.
	18	Lack of consensus on COMPACT solution methodologies	WP3	High	Low	Preliminary work has been carried out during the proposal preparation to clarify the methodology adopted for the COMPACT solution.
	19	Technical problems arise during prototyping and piloting phase	WP4, WP5	Medium	Medium	The COMPACT solution is a result of a research project where some COMPACT partners where involved and they already know the critical issues and development activities that have to be performed in order to implement the COMPACT solution.

20	User's functions do not respond to usability requirements	WP5	Medium	Medium	An intensive user evaluation process will be carried out in WP5 that will continuously influence adaptation of the COMPACT components to the end user needs.
21	Project results do not meet the innovation expectation	WP2	Medium	High	Innovative areas and scenarios have already been identified, enabling the integration and synergy among different technologies and innovative solution. These considerations can guarantee the highly innovative nature of the project. Moreover, the IC will define a concrete innovation strategy to be implemented in COMPACT.
22	Lack of motivation for participation in making up part of the COMPACT initiatives (especially for LPA employees)	WP6	Low	Low	Specific action will be put in place in order to aggregate a critical mass of potential users of the COMPACT solution. The main target will be those public and private organisations involved in cybersecurity awareness training. In addition, the consortium members have access to relevant target communities with a significant number of which will be tapped into to maximise further awareness.
23	LPA Bureaucracy and constraints that may hamper the validation of the COMPACT solution, especially taking into account tight project deadlines	WP5	Medium	Medium	Particular attention will be devoted to ensure an early involvement of the end-users in project activities, aiming at (a) modelling the COMPACT solution to keep LPA constraints into account and (b) start bureaucratic processes early enough, to clean the path for the COMPACT validation activities.

Each time a new Risk is identified, it will be jointly evaluated by the involved partners (Project Coordinator, Scientific Coordinator, WP Leaders) and the related information is added to the register. A partner is assigned to monitor the evolution of each risk and the implementation of the related mitigation actions, if any. In particular, project partners are responsible for:

- adding the risk to the Risks Register

- informing the Project Coordinator and/or the Scientific Coordinator (depending on the kind of risk)

Project Coordinator and/or Scientific Coordinator are responsible for:

- evaluating the risk (involving the WP leaders, as needed)
- defining a risk responsible, and mitigation actions, if any

Each "risk responsible" is responsible for:

- monitoring the evolution of the risk
- monitoring the implementation of the mitigation actions, if any
- reporting risk changes in the Risks Table and inform in case of relevant changes