



D1.1

Project Presentation and Management Guidelines

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Pouria Sayyad Khodashenas	i2CAT	Editor

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"The following document has been reviewed by the CAMEL External Security Advisory Board as well as the Ethics and Data Management Committee of the project. Hereby, it is confirmed that it does not contain any sensitive security, ethical or data privacy issues."

Table of Contents

List of Figures	5
List of Tables	6
List of Acronyms	7
Executive Summary	8
1. Project structure	9
1.1 Overview	9
1.2 Organization and Roles	10
1.3 Overall Strategy of the Work Plan and interdependencies	12
1.4 Reference Documents	14
1.4.1 Grant Agreement	14
1.4.2 Consortium Agreement	15
1.4.3 Additional documentation	15
2. Project collaborative platform and email communication	16
2.1 Meetings	20
2.2 Hosting a face to face meeting	20
2.3 Voting rules	21
3. Project Reporting	22
3.1 General rules	22
3.2 Events that must be immediately reported	22
3.3 Project reporting calendar	22
3.4 Deliverables	24
3.4.1 Deliverables classification and dissemination level	24
3.4.2 Deliverables procedures:	24
3.4.3 Quality criteria	25
3.5 Milestones	26
3.6 Internal reporting	26
3.7 Periodic Reporting	26
3.7.1 The Periodic Technical report	27
3.7.2 Individual Financial Report	27
4. Risk management	29
5. Dissemination	35
5.1 Acknowledgements	35
5.1.1 Publications, conferences and events	35
5.1.2 Patents and standards	35
5.1.3 Communications, major results, equipment	35
5.2 Reporting the outputs	36

List of Figures

Figure 1: CAMEL Project Structure	9
Figure 2: CAMEL PERT Diagram.	14
Figure 3: CAMEL Confluence Space – Home Page	17
Figure 4: CAMEL Confluence Space – WP2.....	18
Figure 5: CAMEL Kanban board on Jira.....	19
Figure 6: CAMEL Bitbucket repository	19

List of Tables

Table 1: CARMEL Project work packages.	13
Table 2: List of mails	20
Table 3: Project Schedule.....	24
Table 4: Deliverable review workflow.	25
Table 5: Deadline Internal Reporting	26
Table 6: List of risks	34

List of Acronyms

CA	Consortium Agreement
CFS	Certificate on Financial Statement
DESCA	Development of a Simplified Consortium Agreement
DoA	Description of Action
EC	European Commission
EAB	External and advisory board
EDC	Ethics and data management committee
EIB	Exploitation and Innovation Board
F2F	Face to face
FS	Financial Statement
GA	Grant Agreement
IM	Innovation manager
IPR	Intellectual Property Rights
LEAR	Legal Entity Appointed Representative
MT	Management support team
PC	Project coordinator
PI	Principal Investigator
PO	Project Office
PR	Periodic report
PSO	Project Security Officer
SAB	Security and Advisory Board
SMR	Semester Management Report
TB	Technical Board
TM	Technical Manager
TOC	Table of contents
WP	Work Package
WPL	Work Package Leader

Executive Summary

CARMEL is formed by a complete group with complementary areas of expertise. The project comprehends 15 partners and includes important sectors of the industry, research institutes and academia. The partners of CARMEL were carefully selected to provide such complementary skills and competences, which adequately cover all the project objectives and activities, starting from the generation of ideas, to analysis of requirements, to specification and design, implementation, system integration, up to verticals' demonstration and validation, dissemination and exploitation

This deliverable describes the strategy to implement an appropriate coordination framework. It presents guidelines, key issues, technical approach and achievements. It includes project organisation, communication among partners, reporting tools, organisation of deliverables, financial management, and quality procedures.

The main points included in this deliverable are:

- Description of the project structure, including roles and responsibilities.
- Documents of reference.
- Overall project status and progress monitoring of the work.
- Meetings, decision-making and conflict resolution procedures.
- Project reporting procedures including financial reporting.
- Initial Risk assessment.
- Disseminations of the project.

This deliverable is a guideline for the partners to have a common understanding of project procedures to efficiently implement it and achieving the objectives fixed in the Grant Agreement. Its purpose is to complement the information already provided by the Grant agreement and the Consortium Agreement.

1. Project structure

1.1 Overview

The main purpose of the CARMEL project management structure is to establish an appropriate framework to achieve the effective implementation of the project. This structure will allow effective day-by-day management, faster decision-making processes and the better implementation of the work plan. The project structure is represented in Figure 1.

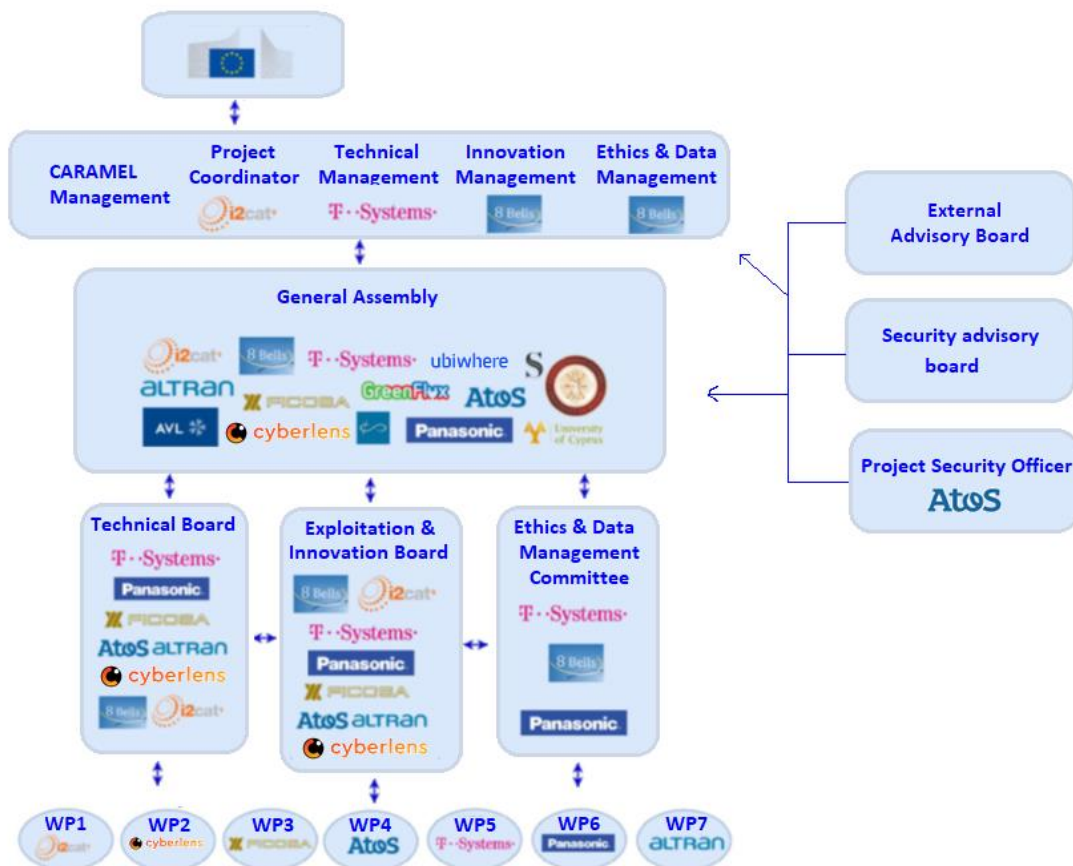


Figure 1: CARMEL Project Structure

In short, the *General Assembly* is the highest body and it will control the execution of the project and will monitor the project development. The *Project Coordinator (PC)*, assisted by the *Management Team (MT)*, will coordinate the activities of all partners in the project according to the work plan and will be the contact point with the EC. The *Technical Manager (TM)* will chair the *Technical Board (TB)*, composed by the *WP Leaders* and the PC, and will be responsible for monitoring of the project and the coordination between the different work packages. The *Innovation Manager (IM)* assisted by the *Exploitation & Innovation Board (EIB)* will assure an effective innovation management, developing and constantly updating both a market analysis and a business plan for the results achieved by CARMEL. The *Ethics and Data Management Committee (EDC)*, chaired by the *project coordinator*, will guarantee the respect and the constant monitoring of ethics and data management issues. The *External Advisory Board (EAB)* chaired by the *project coordinator*, will help to monitor the CARMEL development and ensure visibility of the project. Due to the project nature and upon the European Commission request, CARMEL management structure includes *Project Security Officer (PSO)*. PSO along with the *External Security*

Advisory Board (SAB) are responsible to guarantee the constant monitoring of security issues and protection of EU classified information. SAB meetings will be chaired by the PC with the PSO support.

The Grant Agreement and the Consortium Agreement describe in detail the project management goals, the project management structure and the contractual obligation of each part.

1.2 **Organization and Roles**

The roles of the Partners as well as the consortium government structures are defined in the Grant Agreement (GA) and the Consortium Agreement (CA). Below the main bodies and their responsibilities and roles are presented.

General Assembly	Highest body of the CAMEL project and ultimate decision-making body.
Chaired by	Project coordinator: Pouria Sayyad Khodashenas (i2CAT)
Participants	All partners, one member per partner minimum.
Meeting frequency	At least twice a year.
Attributions	The General Assembly will assume responsibility for deciding the technical, political and strategic orientation of the project. The General Assembly should approve any modification of GA or CA and any evolution of the consortium. Mainly, the General Assembly will also follow these aspects: (1) Control the execution of the project. (2) Budget follow-up and payments. (3) Manage the changes in the CA and GA. (4) Conflict resolution.

Technical Board & WP Leaders	Technical board is the responsible of the management and monitoring of the project and the coordination between the different work packages.
Chaired by	Technical manager: Peter Hofmann (T-SYSTEMS)
Participants	WPs leaders, PC and TM
Meeting frequency	Regularly every 3 to 4 months and works continuously between the meetings by e-mail and audio/video conferences.
Attributions	Monitor the effective implementation of the project, coordinate the technical work and technical issues of EC reviews, resolving technical conflicts, support preparation of meetings with the EC and preparing related data and deliverables, keep the General Assembly informed about the progress and achievements, coordinating the dissemination of the technical information, and support the PC.

Exploitation and Innovation Board	The responsible body for exploitation and innovation activities during the project lifetime.
Chaired by	Innovation manager: Ioannis Giannoulakis (8Bells)
Participants	Technical board members
Meeting frequency	Regularly every 3 to 4 months and works continuously between the meetings by e-mail and audio/video conferences.
Attributions	Validation of project's approach from the point of view of industrial and regulator representatives, assure an effective innovation management, developing and constantly updating both market analysis and a business plan for the results achieved by the project, and monitoring IPR issues as regulated in the CA.

Ethics and data management committee	The responsible committee for ethics issues
Chaired by	Project manager: Pouria Sayyad Khodashenas (i2CAT)
Participants	T-SYSTEMS, 8Bells and Panasonic
Meeting frequency	Regularly every 4 to 6 months and works continuously between the meetings by e-mail and audio/video conferences.
Attributions	Monitor compliance with the requirements regarding ethical, privacy and data protection issues and assess the sensitive of all deliverables before any publication and assure the classification level.

External advisory board	External body to ensure visibility of the project.
Chaired by	Project coordinator: Pouria Sayyad Khodashenas (i2CAT)
Participants	Jesus Alonso-Zarate (CTTC), Pedro Dias Rodrigues (EDP), Antonio M. López Peña (CVC), Johanna Tzanidaki (ERTICO)
Meeting frequency	Updates every 6 to 8 months by e-mail and/or audio/video conferences. If needed, physical meetings will be arranged with all or some selected members.
Attributions	Developments and ensure visibility of the project, give high level suggestions to improve the quality of the work done in the project.

Security advisory board	Highest body of the security management
Chaired by	Project coordinator: Pouria Sayyad Khodashenas (i2CAT)
Participants	José María Blanco (PROSEGUR), Charalampos Sergiou (UCY) and Michal Choras (ITTi)
Meeting frequency	Strictly necessary meetings
Attributions	Review deliverables and other documents that will be released to the public to ensure that they do not contain any sensitive information.

Project Coordinator	He coordinates the activities of all partners in the project according to work plan, and provides the Commission with technical, managerial and financial information.
Contact	Pouria Sayyad Khodashenas (i2CAT)
Attributions	He coordinates the activities of all partners in the project according to the work plan and he will act as the unique focal point for contacts and coordination with the European Commission, with other relevant projects, and external relationships with relevant bodies and other related activities. The Project Coordinator chairs the General Assembly. He will be in charge of supervision of the overall project progress, the distribution of EC's payments to partners and the Consortium Agreement coordination. The PC will prepare the reports with the support of the Management Support Team. He will also coordinate the technical work and the technical issues of EC reviews, in addition to monitor the alignment of the project work with the project technical objectives. He will be a solution provider of all technical conflicts among tasks and coordinate the internal review of EC deliverables, the dissemination and communication activities. Besides that, the PC will organise the EC review meetings, supervise the IPR and knowledge management.

Management Support Team	The Management Support Team (MT) is composed by a team of employees familiar with administrative, legal and financial issues who will support the Project Coordinator.
Contact	Violeta Morquecho (i2CAT)
Attributions	She will get advice from financial and legal issues. She will assist the PC in the project management tasks, manage the delivery and the follow-up of administrative, legal and financial documents (GA, CA, deliverables, amendments...)

Technical Manager	He coordinates the technical activities of all partners in the project according to work plan.
Contact	Peter Hofmann (T-Systems)
Attributions	<p>He is responsible for coordinating the technical work and the technical issues of EC reviews, solving all technical conflicts among tasks, monitoring the alignment of the project work with the project technical objectives.</p> <p>The TM will be also in charge of organising and coordinating the internal review of EC deliverables; and as well as coordinating the dissemination of the technical information; the communication and ease the flow of information among partners and all requested reports within the deadlines agreed upon with the EC. He will support the PC in supervising the progress of the project. Finally, the TM will monitor and coordinate the innovation actions all along the project, in cooperation with the PC and the Technical Board.</p>

Innovation Manager	He is responsible to assure an effective innovation management developing and constantly updating both a market analysis and a business plan for the results achieved by CARMEL, monitoring also IPR issues as regulated in the CA.
Contact	Ioannis Giannoulakis (8Bells)
Attributions	Chair the Exploitation and innovation board. To monitor closely all CARMEL activities and will establish meetings with CARMEL partners to identify key results and evaluate their innovation potential.

Project security officer	Highest responsible of security
Contact	Pedro Soria-Rodríguez (ATOS)
Attributions	Support the work of the SAB about security issues.

1.3 ***Overall Strategy of the Work Plan and interdependencies***

The overall work of CARMEL is divided into eight work packages (WPs) as illustrated in Table 1. Project management activities have been concentrated into a dedicated and separate work package (WP1). Hence, the consortium technical activities could focus more on their actual technical responsibilities, aiming to boost their progress towards the achievements of the objectives.

WP	Work package title	Leader	Person-months	Start month	End month
1	Project management	I2CAT	44.5	M01	M30
2	Use cases, risk assessment, requirements and architecture	CLS	126	M01	M08

3	Countermeasures and mitigation techniques for advanced cybersecurity	FICOSA	170	M04	M18
4	Cross-cutting intrusion detection and cyberattack prevention	ATOS	103	M05	M16
5	Development of antihacking device and in-depth defence	T-SYS	105	M06	M25
6	System integration, validation and demonstration	PANA	157	M15	M30
7	Dissemination, Communication and Exploitation of Results	ALTRAN	85	M01	M30
8	Ethics requirements	i2CAT	N/A	M01	M30
	TOTAL		790.5		

Table 1: CAMEL Project work packages.

The workplan is structured as illustrated in the Figure 2. This diagram contains the specific interdependencies of the CAMEL WPs and tasks. The main aspects are: (i) All WPs are under supervision of WP1 (Project Management). (ii) WP2 which sets up the architecture and system design, identifies the attack surfaces, analyses the security and privacy requirements and elaborates use cases will feed WP3 and WP4. (iii) WP5 develops the CAMEL solution based on the outcomes of WP3 and WP4. (iv) WP6 will evaluate the CAMEL outcome and, therefore, gets fed by WP2 and WP5. (v) All technical WPs (2-6) feed WP7 for dissemination, communication and exploitation. WP8 focuses on the ethics aspects of the project and makes sure that the project meets all the ethical and data protection requirements.

In detail, WP1 works the project management activities and it will run throughout the entire duration of the project. The dissemination, communication and exploitation activities also constitute another work package, the WP7, which will also be active throughout the project, running in parallel and interacting with the technical and demonstration phases at every stage of the project. Similarly, WP8 makes sure the overall project progress and activities are in line with ethical and data protection requirements set by EC.

The categorisation of the work into WPs follows the natural progress of the project. The first phase will be a requirements analysis, use case elaboration, high-level and detailed specifications, architectural characteristics of the system, identification of the attack surfaces, and analysis of security and privacy requirements. This work is concentrated in WP2 (use cases, risk assessment, requirements and architecture). Following the definition and specification phase, the research and implementation of CAMEL components is carried out in two WPs running in parallel: WP3 (countermeasures and mitigation techniques for advanced cybersecurity) and WP4 (cross-cutting intrusion detection and cyberattack prevention). WP3 and WP4 include most of the developments of the project, as well as the initial phase of integration of the CAMEL solution. CAMEL is also certainly oriented towards the actual demonstration of its results to real life scenarios. Hence, the project follows a pragmatic approach of establishing two work packages, WP5 and WP6, dedicated to the development of CAMEL anti-hacking and in-depth defence solution as well as the system integration, validation and demonstration respectively. WP6 is aimed to assess and validate the performance of the project by demonstrating the benefits and potential of the CAMEL technology over the three targeted innovation pillars within the project.

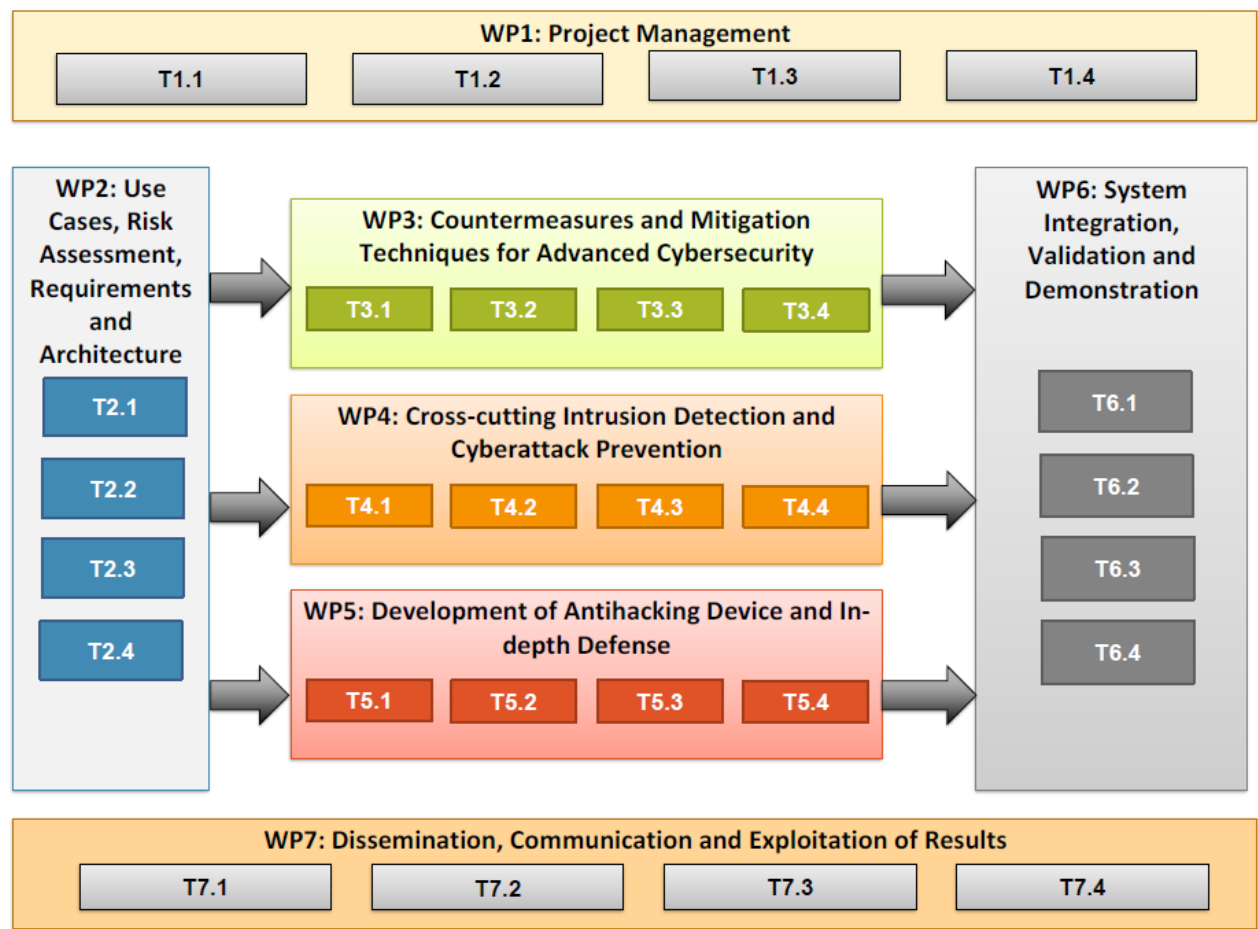


Figure 2: CARMEL PERT Diagram.

1.4 Reference Documents

There are two documents that define the rights and obligations that apply to the entities involved in the project, the Grant Agreement and the Consortium Agreement. The first regulates the contractual obligations with the EC and the Consortium Agreement is the internal agreement between the consortium members.

1.4.1 Grant Agreement

The Grant Agreement (GA) is the contract signed between beneficiaries and the Commission. The signature of this contract will determine beneficiaries' commitments. It has seven parts:

- Terms and Conditions
- Annex 1 Description of the action (DOA)
- Annex 2 Estimated budget for the action & Additional information on the estimated budget
- Annex 3 Accession Forms
- Annex 4 Model for the financial statements
- Annex 5 Model for the certificate on the financial statements (CFS)
- Annex 6 Model for the certificate on the methodology

Any modification of the Grant Agreement must be approved by the General Assembly, the EC and implemented through an amendment of the document. The latest version of the document will be uploaded in the Participant Portal and in Confluence.

1.4.2 Consortium Agreement

The Consortium Agreement (CA) regulates the relationship among the Parties, in particular concerning the organisation of the work between the Parties, the management of the project and the rights and obligations of the parties concerning inter alia liability, access rights and dispute resolution. In our case, the CA is based in an adaptation of the DESCA model.

Just as the Grant Agreement, any modification of the Consortium Agreement must be approved by the General Assembly and implemented through an amendment of the document. The latest version of the document can be found in the Confluence.

1.4.3 Additional documentation

In order to facilitate the management of the project, additional documents and guidelines will be regularly uploaded in the Confluence.

2. Project collaborative platform and email communication

To facilitate the collaboration between partners CAMEL uses few online tools as listed below:

- Confluence solution provided by Atlassian: It is a wiki-like platform to create, collaborate, and organize all work in one place. CAMEL uses Confluence to keep track of all project deliverables, agendas, presentations, discussions, minute, etc. CAMEL Confluence page is available here: <https://confluence.i2cat.net/pages/viewpage.action?pageId=38240505>

The snapshot of the CAMEL confluence space is presented below on Figure 3. The confluence space is divided into several sections:

- Weekly Meetings: a reminder of CAMEL teleconference meetings, identifying the date and the responsible partner to host them. To hold teleconferences, CAMEL uses a dedicated interactive remote conference call tool, named Zoom.
- Work packages and tasks: each work package and task in CAMEL has a dedicated page on Confluence where the related materials and discussions of the WP / task will be stored. Figure 4 shows an example of a dedicated page for a work package – WP2.
- Events: this section keeps track of all materials related to the CAMEL events, face to face meetings, etc.
- Related materials: all relevant materials and links to CAMEL are listed under this section. It includes GA, CA, presentation / deliverable templates as well as the links to CAMEL website, twitter account, etc.
- Deliverables and reports: this part keeps track of the ongoing deliverables and reports. At the same time, this part of confluence is used to store final version of submitted deliverables and reports to EC.
- Pilots: all related materials to pilots and trials of CAMEL will be stored under this part.

Jira solution provided by Atlassian: Jira is part of a family of products designed to help teams of all types manage work. Originally, Jira was designed as a bug and issue tracker. But today, Jira has evolved into a powerful work management tool for all kinds of use cases, from requirements and test case management to agile software development. For teams who practice agile methodologies, Jira provides scrum and Kanban boards. Boards are a task management hub, where tasks are mapped to customizable workflows. Boards provide transparency across teamwork and visibility into the status of every work item. Time tracking capabilities, and real-time performance reports enable teams to closely monitor their productivity over time. CAMEL Jira is available on:

<https://jira.i2cat.net/secure/RapidBoard.jspa?rapidView=200&projectKey=CAR>

CAMEL uses a Jira Kanban board as shown in Figure 5. Kanban board is an agile project management tool designed to help visualize work, limit work-in-progress, and maximize efficiency (or flow). Kanban boards use cards, columns, and continuous improvement to help technology and service teams commit to the right amount of work, and get it done.

- Bitbucket solution provided by Atlassian: Bitbucket is a web-based version control repository hosting service owned by Atlassian, for source code and development projects that use either Mercurial or Git revision control systems. CAMEL uses a dedicated Bitbucket repository for collaborative code developments as presented in Figure 6. CAMEL Bitbucket is available on: <https://bitbucket.i2cat.net/projects/CAR/repos/h2020-camel/browse>

Confluence Spaces People Calendars Blogs Create

Dashboard 999 view(s)

H2020 CAMEL (No. 833611)

Created by MediaCAT Support, last modified by Sayyad Khodashenas, Pouria about 2 hours ago

Weekly Meetings

WP	Day	Time	Organizer
WP1	A week day	A time slot CET	I2CAT
WP2	Friday	10 - 11:30 am CET	CLS
WP3	A week day	A time slot CET	FICOSA
WP4	A week day	A time slot CET	ATOS
WP5	A week day	A time slot CET	T-SYS
WP6	A week day	A time slot CET	PANA
WP7	A week day	A time slot CET	ALTRAN
WP Leaders	A week day	A time slot CET	I2CAT

Work Packages and Tasks

- WP1: Project management (M01-M30), Leader: I2CAT**
 - Task 1.1 - Project Coordination and Financial Management (M01-M30), Leader: I2CAT
 - Task 1.2 - Technical Coordination (M01-M30), Leader: T-SYS
 - Task 1.3 - Innovation Management, (M01-M30), Leader: BBELLS
 - Task 1.4 - Ethics and Data Management, (M01-M30), Leader: BBELLS
- WP2: Use cases, risk assessment, requirements and architecture (M01-M08), Leader: CLS**
 - Task 2.1 - Use Cases Elaboration (M01-M02), Leader: FICOSA
 - Task 2.2 - Identification of Attack Surfaces for CAMEL, Modern Vehicles and Risk Assessment (M02-M05), Leader: ATOS
 - Task 2.3 - Analysis of Security and Privacy Requirements (M02-M05), Leader: CLS
 - Task 2.4 - System Specifications and Architecture (M02-M08), Leader: T-SYS
- WP3: Countermeasures and mitigation techniques for advanced cybersecurity (M04-M18), Leader: FICOSA**
 - Task 3.1 - Automotive Threat Modelling, (M04-M10), Leader: BBELLS
 - Task 3.2 - Cyberthreat Detection and Response Techniques for Autonomous Automated Vehicles (M06-M18), Leader: PANA
 - Task 3.3 - Cyberthreat Detection and Response Techniques for Cooperative Automated Vehicles (M06-M18), Leader: FICOSA
 - Task 3.4 - Cyberthreat Detection and Response Techniques for Plug-in Electrical Vehicles (M06-M18), Leader: GFX
- WP4: Cross-cutting intrusion detection and cyberattack prevention (M05-M16), Leader: ATOS**
 - Task 4.1 - PII-enabled Vehicle Identity Management Against Identity Theft (M05-M16), Leader: ATOS
 - Task 4.2 - AI-based Context-rich and Context-aware Cybersecurity, (M05-M16), Leader: DINP
 - Task 4.3 - Holistic Situational Awareness with ML Application (M05-M16), Leader: UCY
 - Task 4.4 - Feedback Actions for Minimal Risk Condition (M05-M16), Leader: ALTRAN
- WP5: Development of antihacking device and in-depth defence (M06-M25), Leader: T-SYS**
 - Task 5.1 - Collection and Storage of Data from Smart Vehicle's Internal Network (M06-M18), Leader: UCY
 - Task 5.2 - Advanced Algorithmic Detection of Attacks via passive Antihacking Device (M06-M18), Leader: ALTRAN
 - Task 5.3 - Hardware Security Modules for CAMEL Antihacking Device (M06-M25), Leader: T-SYS
 - Task 5.4 - In-depth Defence Protecting the Chain-of-trust (M06-M25), Leader: T-SYS
- WP6: System integration, validation and demonstration (M15-M30), Leader: PANA**
 - Task 6.1 - Integration, Configuration and Deployment (M15-M27), Leader: AVL
 - Task 6.2 - Penetration Testing and Validation (M18-M27), Leader: SID
 - Task 6.3 - Scenario Driven Attacks and Pilots (M18-M30), Leader: FICOSA
 - Task 6.4 - Demonstration and Evaluation of CAMEL Outcomes (M20-M30), Leader: PANA
- WP7: Dissemination, Communication and Exploitation of Results (M01-M30), Leader: ALTRAN**
 - Task 7.1 - Dissemination and Maximisation of Project Impact (M01-M30), Leader: ALTRAN
 - Task 7.2 - Market Analysis, Business Models and Exploitation (M01-M30), Leader: BBELLS
 - Task 7.3 - Exploitation of Innovation and Technological Results (M22-M30), Leader: ATOS
 - Task 7.4 - Interaction with Relevant Stakeholders, Standardisation (M01-M30), Leader: AVL

Events

- Project Kick-off - 15 Oct 2019 to 17 Oct 2019, Barcelona, Spain**
 - Agenda and Logistic info
 - Minutes and Action Points
 - Presentations
 - Attendance list
- 2nd GA Meeting - 29 Jan 2020 to 30 Jan 2020, Aveiro, Portugal**
 - Agenda and Logistic info
 - Minutes and Action Points
 - Presentations
 - Attendance list

Related Material

- Description of Work
- Grant Agreement
- Consortium Agreement
- Deliverable Template
- Presentation Template
- Risk Registry
- External Advisory Board
- Security Advisory Board
- CAMEL Logo
- CAMEL Gantt Chart
- CAMEL Pert Diagram
- CAMEL Consortium Geographical Distribution
- CAMEL Project Management Structure
- CAMEL Overview Presentation
- Mailing Lists
- Jira Ticket Assignment
- CAMEL G-Drive
- Communication, Dissemination and Exploitation Specific Activities
- Newsletter
- Brochures
- CAMEL Code Repository
- CAMEL Website
- CAMEL Twitter
- CAMEL LinkedIn
- CAMEL ResearchGate
- CAMEL YouTube Channel

Deliverables and Reports

- Ongoing Deliverables
- Final Deliverables
- Quarterly Periodic Reports
- 1st Review
- Final Review

Pilots

- 1st Demo
- 2nd Demo
- 3rd Demo

Figure 3: CAMEL Confluence Space – Home Page

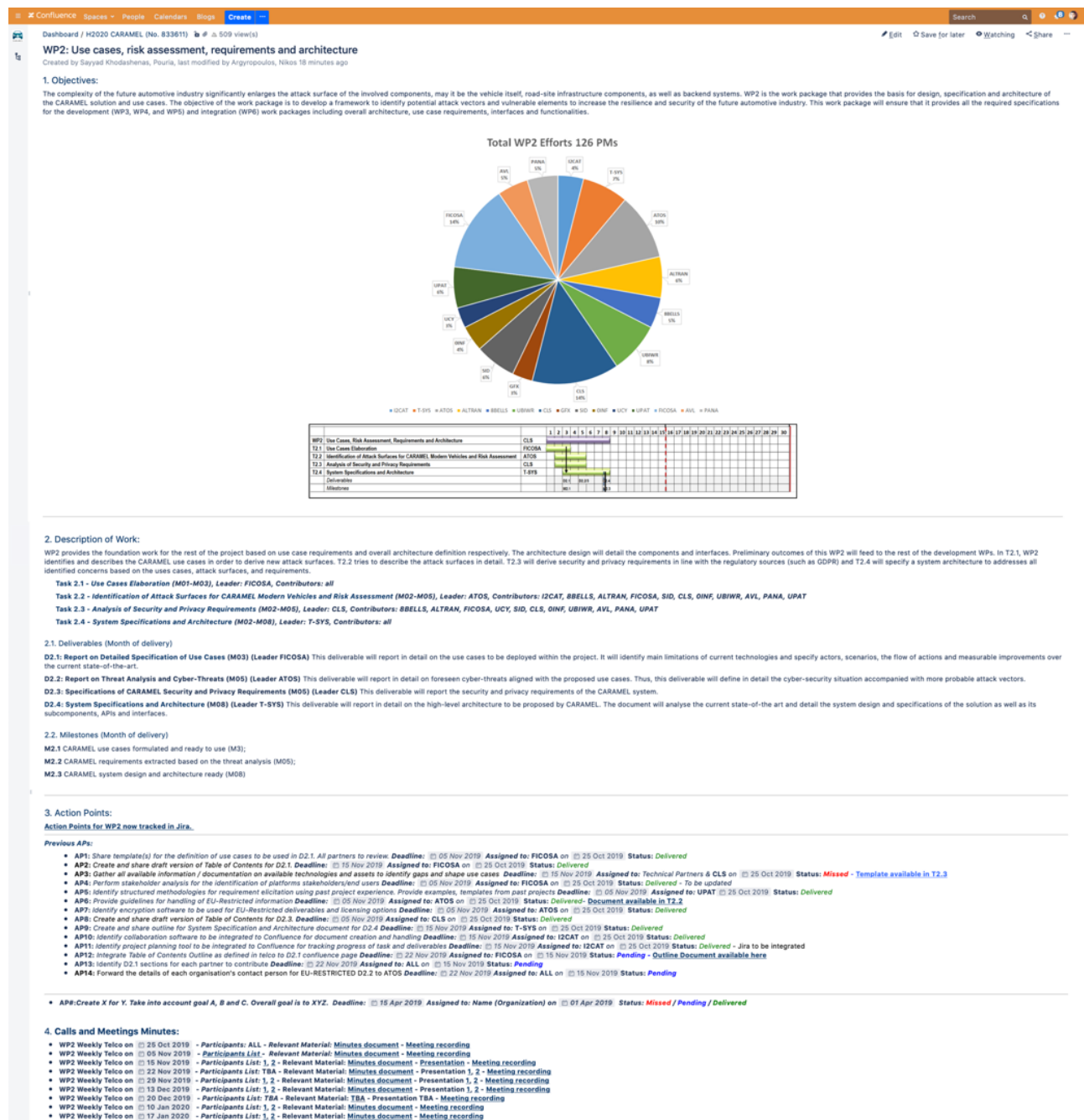


Figure 4: CAMEL Confluence Space – WP2

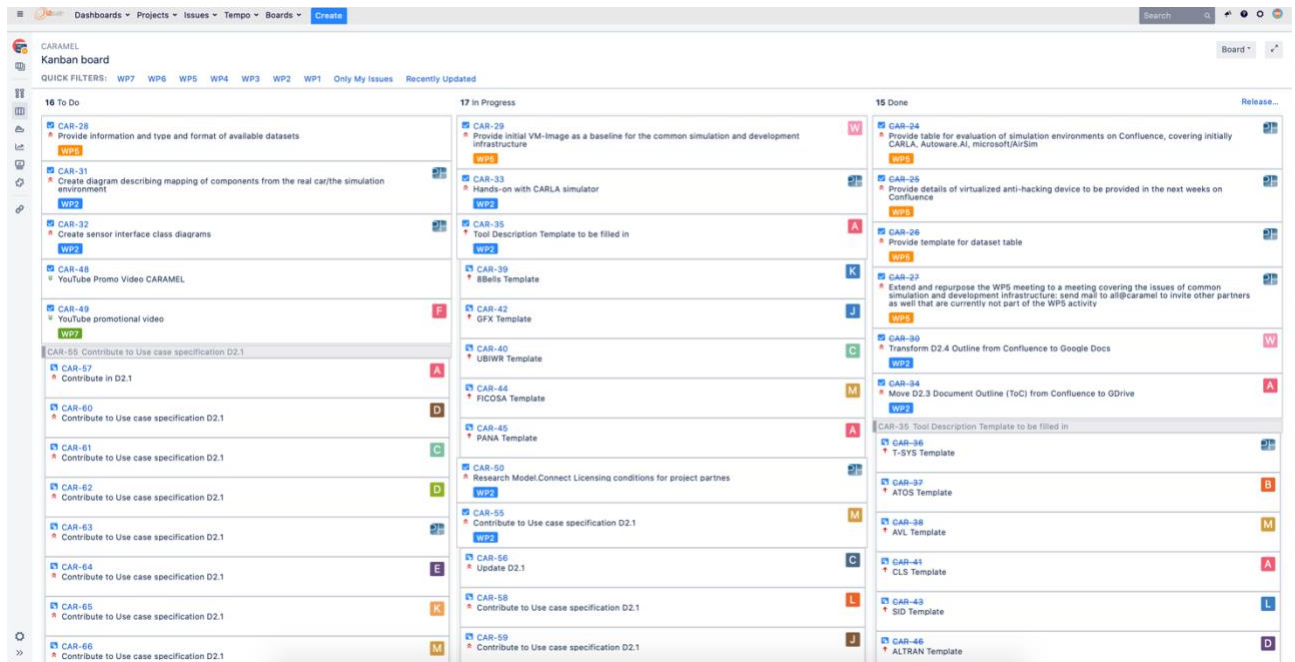


Figure 5: CAMEL Kanban board on Jira

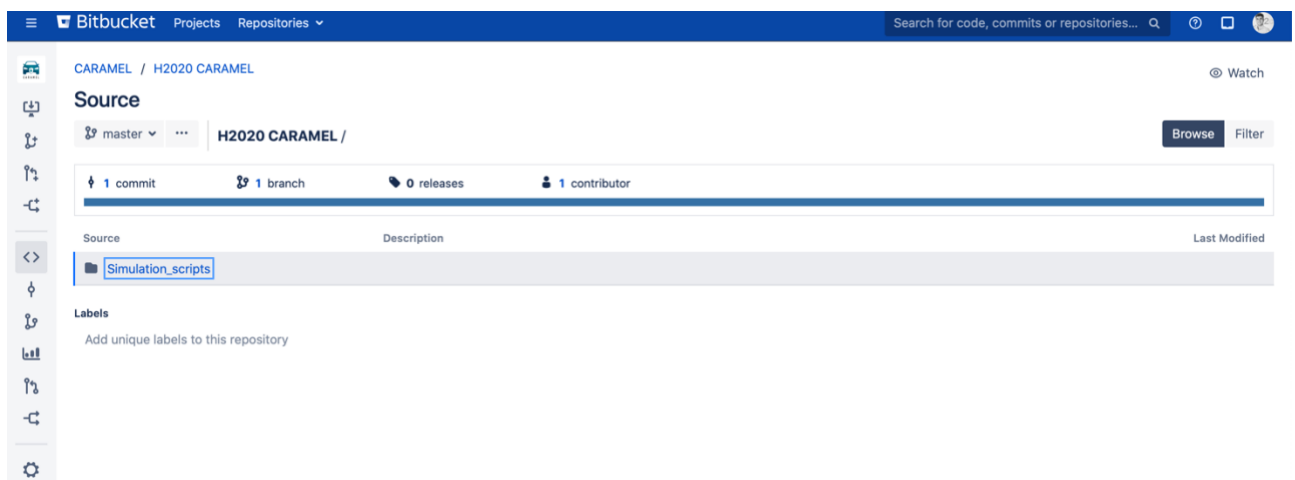


Figure 6: CAMEL Bitbucket repository

The Project Coordinator, in cooperation with the management team, will be the ultimate responsible for maintaining with coherence the contents, organization and availability of these tools for the partners.

In addition, the email communication of the project will be hosted by the coordinator, i2CAT, who established and uploaded the following mailing lists (Table 2):

ALLCAMEL	General Assembly members	All@caramel.i2cat.net
PMO CAMEL	Legal and financial issues	pmo@caramel.i2cat.net
WP1 CAMEL	WP1 Project Management issues	wp1@caramel.i2cat.net
WP2 CAMEL	WP2	wp2@caramel.i2cat.net
WP3 CAMEL	WP3	wp3@caramel.i2cat.net

WP4 CARMEL	WP4	wp4@caramel.i2cat.net
WP5 CARMEL	WP5	wp5@caramel.i2cat.net
WP6 CARMEL	WP6	wp6@caramel.i2cat.net
WP7 CARMEL	WP7	wp7@caramel.i2cat.net

Table 2: List of mails

All emails sent to the reflector will include the following text in brackets in the subject [CARMEL].

2.1 *Meetings*

Meetings can be either face to face or virtual meetings. For each meeting the following documentation will be produced and uploaded on confluence:

- Notifications: All formal face to face meetings (General Assembly, TB, etc.) will be notified at least three weeks in advance. Virtual meetings will be notified at soon as possible.
- Documentation: Agenda, proposed resolutions, decisions and supporting documentation will be available to all attendees at least one week before the face to face meeting. In virtual meeting's agenda and discussions points will be shared as soon as possible through confluence or email.
- Minutes:
 - Meeting minutes of all meetings (F2F or online) will be formally reported. The chairperson shall produce written minutes of each meeting which shall be the formal record of all decisions taken. In face to face meetings he/she shall send the draft minutes to all members within 10 calendar days of the meeting. In virtual meetings the minutes will be uploaded in confluence within one week of the meeting.
 - The minutes shall be considered as accepted if, within 15 calendar days from sending or uploading no 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 in the confluence and are the document that's binds the decisions taken by the different bodies.
 - Face to face minutes will have to include a list of participants on each day of the meeting. Virtual meetings minutes will have to include a list of the participants attending to the call.
- Action points: Action points of meetings will be issued and tracked over Jira. CARMEL Kanban board helps tracking of the actions and making sure they will be delivered on the due time.

2.2 *Hosting a face to face meeting*

Throughout the project lifetime, members may host project meetings.

- With the aim of to avoid extra costs, it is advisable that the location is reachable for all partners. The host has to provide logistic information on how to reach the venue of the meeting.
- The costs of hosting the meeting will be covered by the hosting partner and the travel costs will be covered by each participant.
- The host must provide meeting rooms with audio-visual equipment necessary for the presentations and network connectivity.
- It is also recommended (general practice although not obligatory) to provide water, coffee breaks and lunch and to organize one social event (e.g., invite partners for one evening meal).

2.3 ***Voting rules***

- General voting rules:
 - The GA is the ultimate decision-making body. Decisions will be made by consensus whenever possible. Only in case of conflict, decision will be made by voting, where **each partner will have a power of one vote.**
 - Decisions within the TB will be made by consensus whenever possible. No voting will occur within the TB. In case of conflict or for decisions beyond WP responsibilities, the WP leader will prepare a description of the problem and its possible solution and the TM will refer it to the GA
 - Within EIB will be made by consensus whenever possible. No voting will occur within EIB. In case of conflict or for decisions beyond EIB's responsibilities, the IM will refer it to the General Assembly
- Quorum: each consortium member shall not deliberate and decide validly unless two-thirds (2/3) of its members are present or represented.

3. Project Reporting

3.1 *General rules*

The following general rules will be followed for all the outputs of the project:

Language: English is the official language in CAMEL. In consequence all relevant documents and written communications will be written in English. The only exception is related with the dissemination materials, such as press releases or technical publications, which can be translated to other languages. In this scenario, each partner is responsible for translation of official CAMEL documents to its language of interest.

Responsibility: Each partner is responsible for the quality of their contribution and should provide the information to fulfil any requirement to complete a deliverable, milestone or report. The editor of the document is responsible for the overall quality of the work, including requesting and collecting contributions and integrating them in the different releases. Overall scientific coordination is responsibility of WP leaders, TM and the Coordinator

The PC will provide templates to ensure a homogenous output of all project documents. It is mandatory for all partners to follow the project templates. When needed each template will provide a style guide for assuring a coherent output. These templates will be shared by email and Confluence.

3.2 *Events that must be immediately reported*

The partners must inform immediately the PC, who will inform the PO and the Consortium, of any events which are likely to affect significantly or delay the implementation of the action or the EU's financial interests:

- Change of the PI or LEAR.
- Changes in its legal, financial, technical, organizational or ownership situation or those of its linked third parties.
- Changes in the name, address, legal form, organization type of its linked third parties.
- Any circumstance affecting the decision to award the grant or compliance with the requirements under the agreement.

In addition, throughout the project lifetime, each beneficiary must keep information stored in the Participant Portal Beneficiary Register up to date, in particular, its name, address, legal representatives, legal form and organization type.

3.3 *Project reporting calendar*

The list of official commitments is summarized in Table 3.

Month	Month (ii)	Events	Leader
1	Oct 19	Kick of meeting	-
1	Oct 19	Milestone 7.1-Project website and social networks launched	-
3	Dec 19	D1.1 Project presentation and management guidelines	I2CAT
3	Dec 19	Milestone 2.1-CAMEL use cases formulated and ready to use	-
3	Dec 19	D2.1 Report on detailed specification of uses cases	FICOSA
5	Feb 20	D2.2 Report on threat analysis and cyber-threats	ATOS
5	Feb 20	D2.3 Specifications of CAMEL security and privacy requirements	CLS
6	Mar 20	D1.2 Ethics framework and data management plan	8BELLS

6	Mar 20	D1.3 Project innovation strategy	8BELLS
6	Mar 20	POPD-Requirement No 2	I2cat
7	Ap 20	Milestone 7.2-Dissemination, communication and exploitation plan ready	-
7	Ap 20	D7.1 Dissemination, communication and exploitation plan	ALTRAN
8	May 20	Milestone 2.3-CAMEL system design and architecture ready	-
8	May 20	D2.4 System specifications and architecture	T-SYS
10	Jul 20	Milestone 3.2-CAMEL innovation pillars design and specifications done	-
10	Jul 20	D3.1 Automotive threat modelling	8BELLS
11	Ag 20	D7.2 Market analysis and exploitation potentials	8BELLS
12	Sep 20	Milestone 1.2-1 st intermediate review	-
12	Sep 20	D3.2 Cyberthreat detection using sparse and deep priors – interim	PANA
12	Sep 20	D3.4 Multi-modal data fusion module for responding reliably to the threats -interim	PANA
15	Nov 20	D1.4 1 st project management report	I2cat
15	Nov 20	D5.1 Hardware security module specifications	T-SYS
16	Dec 20	Milestones 4.3-Cross-cutting intrusion detection and cyberattack prevention solutions delivered	-
16	Dec 20	D4.1 CAMEL PKI-enabled vehicle identity management system	ATOS
16	Dec 20	D4.2 Robust to cyberattack machine vision models based on improved training methods and anomaly detection deep network	OINF
16	Dec 20	D4.3 CAMEL situational awareness solution based on the machine learning applications	UCY
16	Dec 20	D4.4 Report on the fallback actions for minimal risk condition	ALTRAN
18	Jan 21	D3.3 Cyberthreat detection using sparse and deep priors – final	PANA
18	Jan 21	D3.5 Multi-modal data fusion module for responding reliably to the threats -final	PANA
18	Jan 21	D3.6 Cyberthreat detection and response techniques for cooperative automated vehicles	FICOSA
18	Jan 21	D3.7 Cyberthreat detection and response techniques for plug-in electrical vehicles	GFX
18	Jan 21	D5.2 Report on the collection and storage of data from smart vehicle's internal network	UCY
18	Jan 21	D5.3 Machine learning based detection of attacks into antihacking device	ALTRAN
19	Feb 21	D5.4 CAMEL IDP/IPS security module	T-SYS
19	Feb 21	D7.3 Report of standardisation, dissemination, communication and digital presence	ATOS
21	Ap 21	D1.5 Progress activity report & innovation assessment	T-SYS
21	Ap 21	D5.5 Secure hardware platform specification	T-SYS
24	Jul 21	Milestone 1.3-2 nd intermediate review	-
25	Ag 21	Milestone 5.7-CAMEL secure hardware platform delivered	-
25	Ag 21	D5.6 CAMEL secure hardware platform	T-SYS
27	Oct 21	D6.1 Consolidated CAMEL solution and technical report	AVL
27	Oct 21	D6.2 Pilot environment and penetration testing	SID
30	Jan 22	Milestone 1.4-Final review	-
30	Jan 22	Milestone 6.6-CAMEL final validation results	-
30	Jan 22	Milestone 7.6-CAMEL business model and roadmap ready	-
30	Jan 22	D1.6 Final project report	I2cat

30	Jan 22	D6.3 Final demonstration and evaluation	FICOSA
30	Jan 22	D7.4 Standardisation, dissemination, communication and digital presence final report	AVL
30	Jan 22	D7.5 Road mapping and business modelling reports	8BELLS

Table 3: Project Schedule

3.4 ***Deliverables***

This section describes the deliverables that ought to be submitted during the project and its procedure. It should be highlighted that the deliverables must be submitted in due time (end of the month indicated in the DoA) and the definitive version of the deliverables will be submitted to the Participant Portal by the PC.

3.4.1 **Deliverables classification and dissemination level**

According the dissemination level, the deliverables should be uploaded to confluence and Cordis. In CAMEL, the dissemination level can be Public, Confidential (EC and members of the Consortium) or EU Restricted. In the case of public deliverables, once have been submitted to the EC the definitive content will be shared internally with the Consortium through confluence. If there are not written objections, public deliverables will be uploaded to the project webpage once are approved by the EC. Public deliverables will be published by the EC immediately in Cordis once have been approved. By contrast, confidential deliverables only can be shared with the Consortium. And finally, the EU Restricted deliverable, in CAMEL, the D2.2, must be respect a specifically security measures and its access is restricted.

3.4.2 **Deliverables procedures:**

Deliverable template: The latest version of the document can be found in the Confluence. All partners must use CAMEL template.

Deliverable preparation schedule: following the recommendation to security scrutiny, all deliverables that will be released to the public should be reviewed by the Security Advisory Board to ensure that they do not contain any sensitive information.

All deliverables (except for the EU restricted deliverable which should follow a special procedure) of CAMEL will be submitted to SAB and EDC 15 days ahead of submission to the EC portal. Committees have 10 days to inform the coordinator about any security, ethics and data management issues. If within this period no comment was received the deliverable will be considered "White", meaning no issues. For "White" deliverables the following text will be added on " DISCLOSURE STATEMENT " (see the example below):

"The following document has been reviewed by the CAMEL External Security Advisory Board as well as the Ethics and Data Management Committee of the project. Hereby, it is confirmed that it does not contain any sensitive security, ethical or data privacy issues."

In case of any security, ethical or data privacy issue, the document is considered "Orange". The CAMEL coordinator will inform the project officer within 10 days about the "Orange" document and based on his advice will apply proper measures.

Deliverables acceptance process: with the aim to implement a quality process the review and approval process before delivery including the appointment of specific reviewers for each deliverable. Deliverables will be elaborated as a joint effort among the partners involved in the related WP. Their completion will be under the responsibility of the relevant WP Leader (WPL), who will be assisted by the task leader and the deliverable editor, identified in the work plan, and will count on contributions from other partners. The responsibilities in the consortium are the following:

- The WPL and TM are responsible for fostering the discussions well in advance so the editor can propose a Table of Content (TOC) at least 180 days before the deadline.

- The editor for each deliverable will be appointed by the lead partner of the deliverable. He/she will propose to the rest of the consortium a distribution of the tasks. He/she will 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 editor will send to the consortium at least 30 days before the submission, the final draft of the deliverable.
- The reviewer(s) will be selected from the partners involved. Reviewers will make revision of the deliverable and assess if some modifications or conflict resolution would be needed. The reviewer will assure the conformity of the document with the quality criteria and also act as interface to the editor. The reviewers will send their feedback on the deliverable at least 20 days before the submission. In 5 days after receiving the feedback, reviewer's comments have to be addressed by editor and the parties involved on the writing process.
- The coordinator will send to SAB and EDC at least 15 days before the submission to ensure that they do not contain any sensitive information following the procedure described in the previous paragraph. SAB and EDC in 10 days will provide their feedback to the PC.
- The final submission of the deliverable will be made by the PC.

The internal schedule for deliverables is summarized on Table 4:

Action	Days to deadline	Responsible	Receiver
TOC, section assignment to partners,	180 days	Lead beneficiary (editor).	Partners involved + WPL involved + TM
First consolidated draft of the deliverable + initial feedback from editor	90 days.	Lead beneficiary (editor).	Partners involved + WPL involved + TM
Second consolidated draft of the deliverable	60 days.	Lead beneficiary (editor).	Partners involved + WPL involved + TM
Final draft (ready to be sent to reviewers)	30 days	Lead beneficiary (editor).	Partners involved + WPL involved + TM
Reviewers feedback	20 days.	Reviewers.	Editor.
Revised version (ready to be sent to SAB and EDC)	15 days.	All authors.	PC/MT.
SAB and EDC feedback	5 days.	SAB and EDC	PC/MT.
Final version	2 days.	PC/MT.	EC.

Table 4: Deliverable review workflow.

3.4.3 Quality criteria

The **editor** and the **reviewer** must take into account the following quality criteria against which every single deliverable will be evaluated:

- The deliverable must address all aspects related to the purpose and scope for which the related activity is carried out. Each deliverable should provide information according to the scope of the specific work and should be focused on the key aspects of the deliverable scope.
- Each deliverable should have a coherent depth of information with respect to the deliverable scope, purpose and type of activity described. The deliverable must include an executive summary and proper conclusions if necessary. The contribution of each partner involved should be correctly reported.

- The impact of the deliverable and any progress beyond the state-of-the-art has to be clearly identified, and any expected output (paper, patents, standard...) included. All background information used in the documents should be linked to appropriate references. Foreground information and results should be clearly described and should be technically supported in order to avoid any misinterpretation or misunderstanding.
- All the documents must follow the style guidelines to provide a uniform appearance and structure. A clear and correct language has to be used, appropriate abbreviations and references have to be included and listed and a logical order followed.

3.5 **Milestones**

Milestones will be marked as *achieved* by the PC in the Participant Portal. At least with two days in advance of the deadline the lead beneficiary of the milestone will send the PC and the TB a short paragraph explaining the arguments that support having achieved the milestone. After that this paragraph will be updated in Confluence. In case that is necessary the Lead Beneficiary will provide as support the necessary documents or reports that will be kept by the PC.

3.6 **Internal reporting**

In order to follow-up the effort of the partners, each six months the partners will be asked to fill-in through confluence, a Semester Management Report (SMR) of tasks, effort and the expenses executed during the previous six months. The internal reporting will be according to Table 5:

SMR	Covering	Deadline
1	M1-M6	20.04.2020
2	M7-M12	20.10.2020
3	RP1 (M1-M15)	20.01.2021
4	M16-M21	20.07.2021
5	M22-M27	20.01.2022
6	RP2 (M16-M30)	20.04.2022

Table 5: Deadline Internal Reporting

The Semester Management Report (SMR) includes of the following parts:

WP	WPL	Description of the activities	Focus area	Near term outlook	Risk issues and potential escalations
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3.7 **Periodic Reporting**

To comply with article 20.3 of the Grant Agreement, the PC will submit a periodic report within 60 days following the end of each reporting period. The Periodic Reporting is submitted through the Participant Portal. In the CAMEL project there are two periodic reports, first one covering the activity and costs of months 1-15, second one covering months 16-30. Along with the second Periodic Report a Final Report will be submitted. Details on this report will be provided in advance.

The periodic reporting is divided on two main parts (i) the Periodic Technical report which contains a progress report detailing the activity in the period reported and (ii) the financial statements that declare the expenses during the period. Submitting these reports is a contractual obligation with the EC.

3.7.1 The Periodic Technical report

The **periodic technical report** is sub-divided in 2 parts:

PART A to be filled in on-line into the SYGMA system, it is composed by the following forms:

1. **Publishable summary** – This is stand-alone document that must be written in a language easily understandable by broader public.
2. **Deliverables**: All deliverables foreseen for the reporting period must be included. If any deliverable has been delayed the new release date must be included.
3. **Milestones**: All milestones foreseen for the reporting period must be included. If any milestone has been delayed the new release date must be included.
4. **Critical implementation risks and mitigation actions**: At the end of each period beneficiaries should give the state of play of every risk identified in Annex 1 and, if necessary, give new mitigation measures.
5. **Publications**: detailed list of the publication related with the project. For reporting the publications, a DOI is mandatory.
6. **Dissemination and exploitation of results**: Scientific publications and Dissemination and communication activities specifying (i) total funding amount (ii) the number of Dissemination and Communication activities linked to the project by category, (iii) the estimated number of persons reached, in the context of all dissemination and communication activities.
7. **Patents**
8. **Innovation**: Any prototypes, new products launched to the market, innovations introduced in private companies.
9. **Impact on SME**: evolution of turnover and employees of the SMEs
10. **Gender**: information about the number of women involved in the project.

PART B: Is a detailed narrative report of the activities carried out by the consortium during the reporting period. This document has to be completed and uploaded by the PC and includes the following parts:

1. Explanation of the work carried out by the beneficiaries and overview of the progress. Any deviation has to be justified.
 - 1.1. Objectives. List of objectives and the work carried out to fulfil them
 - 1.2. Explanation of the work carried per WP detailing the contribution of each beneficiary
 - 1.3. Impact. Summary of objectives achieved as defined in section 2 of the DoA
2. Update of the plan for exploitation and dissemination of results.
3. Update of the data management plan.
4. Follow-up of recommendations and comments from previous review(s)
5. Deviations from Annex 1
 - 5.1. Tasks: Provide details on the status of the tasks including those not fully implemented, deliverables not submitted, or objectives not achieved.
 - 5.2. Use of resources: Explanation on how the financial resources have been used.

3.7.2 Individual Financial Report

At the end of period 1 (month 15) and period 2 (month 30), each partner will provide the Financial Statements (FS) to the coordinator. The FS will include the costs of the period and will be declared in order to claim reimbursement to the European Commission. In addition, if any partner requests a total contribution of EUR 325,000 or more, as reimbursement of actual costs and unit cost, must be complete the individual financial report with an audit certificate.

The following rules must be specially taken into account when addressing the financial report.¹ Each partner:

1. Shall be solely responsible for **justifying its own costs**, (not the EC contribution) that must be (i) linked with the project, (ii) incurred by the beneficiary, (iii) incurred during the duration of the project, (iv) according to usual practices of the beneficiary, (v) reasonable and justified and vi) identifiable and verifiable.

¹ Please refer to Article 6 of the [AMGA](#) for full explanation.

2. **Can only report eligible direct costs:** Those costs that are specifically incurred because of carrying out an action (personnel, travel, equipment, consumables, minor tasks, other...). Indirect Costs (overheads) is a Flat Rate of 25%. Non-Eligible costs cannot be reported (Dividends, Interests, provisions, debts, Exchange losses, bank Commissions, excessive costs, deductible VAT, etc.)
3. The beneficiaries must declare costs based on the **actual amounts spent:** Personnel costs based on actual staff costs (See article 6.2.A of the ECGA for more information on how to calculate personnel cost). Other direct costs based on actual costs for the project. Depreciation costs for assets. Real costs of consumables.

4. Risk management

The risk management plan identifies the threats to the project, their risk and the measure to mitigate them. The risk management process includes identification, evaluation (probability and impact), reduction actions (plans to avoid risks, manage and reduce them), monitoring and revisions (continuous revision of the risk plan during the entire project duration) and success/failure feedback. The PC will evaluate the risks with the information in each SPR. Some preliminary strategic, organisational and technical risks have been identified and discussed by the consortium, and a possible contingency solution is formulated for each of them. These critical risks are summarised in Table 6, where risks have been ordered as Technical (T), Management (M) and Financial (F) risks. Also, the likelihood (low – L, medium – M, high - H) of the corresponding risk has been assessed in the table.

Description of risk and associated WPs	Type	Likelihood	Risk mitigation plan, justification on probability level and contingency plan
Partner Risks			
Underperformance of one or more partners, not able to fulfil responsibilities according to project agreement (WP1)	M,F,T	L	This risk has been highly mitigated through the careful selection of all the partners, all of them with recognised expertise in similar projects. The well-structured Project Management approach followed by the project will allow spotting these possible issues very early (through Task 1.2); partners would receive a timely warning from the GA; not fulfilled engagement would be shifted to another partner according to the Consortium Agreement. If not possible, then outsourcing of concrete tasks will be pursued.
A partner leaves the Consortium for unforeseen reasons (All WPs).	M	L	Given the good reputation of the project partners, most of them with proven success records in European Projects, we consider this possibility unlikely. In that case, the GA will decide whether the uncovered project activities can be covered out by one of the existing partners. If this is not possible another partner will be recruited.
Project partner goes bankrupt (All WPs)	M,F	L	Advanced allocation of funding will be carefully organised, so as to minimise risk of a funding shortfall. Gaps would be filled, where possible, with existing partners. Back-up partners would be kept in mind.
Overspending of one of the partners (WP1)	M,F	L	This situation will be detected early via management reports. If this risk occurs, actions will be considered by the MT such as the escalation to the management of the affected partner(s), to mobilise more experienced or better skilled resources capable of working more efficiently.

Agreement and project management risks			
High management overhead due to medium/large CARMEL Consortium, (All WPs)	M	L	In CARMEL, each of the 15 partners has a clear and valid role, as well as adequate resources for conducting its commitments. The coordinating organisation and the project management team have substantial and proven experience in the coordination of both scientific and H2020 projects involving many partners and complex research goals. The PC has been involved in decision-making positions in other past research projects, while the TM has big experience in managing multi-people teams. At any case, the principles of PMI management will be in effect. If difficulties in the management arise, further experienced personnel will be involved.
Consortium partners cannot agree because of different interests, (all WPs)	M	L	This has been addressed by the careful selection of the partners, which will be further ensured by signing a comprehensive CA, and by developing an appropriate conflict resolution strategy. Besides, the project has already defined a specific procedure for conflict resolution to help mitigating this risk.
Financial difficulties and gaps between project phase and budget expenditure, (all WPs).	M,F	L	The MT will evaluate potential gaps in the financial expenditures and project advancement in order to prevent a potential risk in project. If some problems occur, they will work promptly with project partner/s in order to understand the reasons of the gaps and follow up on the problem/s resolution.
Difficulties to identify and/or engage with the External Innovation Advisory Board (EAB), (all WPs).	M	L	Several project partners are already collaborating with key stakeholders and have experience in handling user requirements at a major level, and such a risk can adequately be addressed by the involved partners, particularly, the partners involved in the use cases demonstrations.
Barriers on exploitation			

Regulatory limitations or safety constraints prevent from deploying Connected and Automated Driving Use Cases in realistic conditions. (WP2, WP3, WP6)	M,T	L	In the case that new regulatory and safety constraints come into force, through Task 1.2, CAMEL will become aligned with the updated exemption procedures. At any case, the CAMEL platform will be deployed in private tracks and not in public roads, i.e., in the Test Area Autonomous Driving Baden-Württemberg.
The standardisation impact is not sufficient (WP7).	T	L	The consortium plans to monitor and contribute to standardisation bodies as well as to find any relevant fora that CAMEL outcomes can be used to provide valuable contributions. This includes the ECSO, MISP, 3GPP, IEEE, ETSI, as well as, SAE, AUTOSAR, EuroNCAP, 5GAA, C2C-CC. To maximise the impact of standardisation activities, CAMEL industrial partners have already agreed to contribute in the standardisation bodies that they are already engaged, in tight cooperation with WP7 leader and the PC. Cooperation with 5G Automotive Working Group will be also encouraged.
The assessment of the business models shows poor viability, (WP7).	T	L	Multiple variations from the scenarios and use cases defined in WP2 will be studied, and relevant business roles and models will be compared accordingly, as well as their respective profitability perspectives, each with an adapted and realistic timeline. The EIB team has specific experience and commercialisation strategy for the CAMEL concepts and will act upon defining a clear and transparent business strategy.
Exploitation achievements lower than expected, (WP7).	T	L	The Consortium is based on recognised EU leaders in cybersecurity and automotive industries, supported by partners heavily involved in the definition and implementation of Future Internet in Europe. In addition, the product development departments of industrial partners will evaluate the possible application of CAMEL outcomes to car models of 2022 and beyond. All the above will be utilised so as to prevent this risk from taking place.
Technical risks			

Diverging orientations, (All WPs)	T	L	The technical approach for CAMEL has been carefully discussed among partners and is clearly stated in this proposal. Project management structure and the work plan, which includes the specific Task 1.2 on technical management, have been specifically designed to minimise this risk and to ensure correct collaboration between the work packages and the partners. PC, TM and WP Leaders will ensure that the partners are working on the achievement of the common planned goals.
The developed architectural framework does not match with the expected benefits planned in the proposal, (WP2, WP3, WP4, WP5).	T	L	The CAMEL platform requirements will be formulated in WP2 following on the early outcomes of WP3, 4 and 5 to be included in the architecture. However, due to different evolution of each WP it may happen that some expected requirements are not met. If this risk happens, the involved partners will analyse the component(s) that cause the failure and assess whether this can be circumvented, or the constraints driving the system design relaxed.
The analysis does not fully cover the range of use cases / scenarios and so key requirements are left out, (WP2).	T	L	The CAMEL Consortium consists of industrial leaders both in the cybersecurity, automotive and in the telecom industries. Thus, they are fully aware of the needs and requirements of the challenging CAMEL use cases. Moreover, the EIB will support the Consortium in order to properly analyse all the key scenarios and requirements.
Delays in the acquisitions of the hardware/software components (e.g., MEC servers, 4G/5G small cells, SOBUs, RSUs) that cause significant delays in integration and are required for the pilots, (WP6).	T	L	The CAMEL consortium is well-balanced, and it includes partners that can supply all the individual components of the CAMEL platform (i.e., Radars, Lidars, Cameras, V2X onboard units, PEVs smart charging controllers, IDS/IPS modules, Penetration testing tools, test vehicles, etc.) In addition, by the start of the project it is reasonable to expect that further advances will give access to the products, hence making this risk minimal. As regarding the 4G/5G small cells the consortium will subcontract an appropriate European company (e.g., Accelleran, IP. Access, Casa Systems), in order to provide to the consortium eNBs capable to serve FICOSA UE's based on LTE Cat 16 FDD configuration. This is a widely used configuration and a subcontracting cost has been already reserved, so the risk in the delay of the purchase of the equipment is minimal. Also, the MT will constantly monitor project activities, and

			identify in advance any obstacle and will set the necessary correcting actions.
Vehicular CAN-bus data collected to be used by AI/ML algorithms do not follow a concrete data format or have been captured after some steps of data aggregation.	T	L	CAMEL is in favour of standardised and interoperable data and file formats when possible. In cases of unstructured, non-standardised data, the consortium will implement a data format to be published as a CAMEL specification, where data sets will be described explicitly. The consortium is aware that some specific car models aggregate data in order to deliver a standardised information to the OBDII interface. In case that the attacks are not detected at this aggregation level, CAMEL consortium has the appropriate packet analysers (and packet sniffers) to digest further all the data.
Actual test vehicles do not allow to showcase all technologies (WP6)	T	M	CAMEL consortium has agreed with PANA to provide a state-of-the-art test vehicle equipped with all modern AUTOSAR compatible ADAS components. In case of incompatibilities or missing functionalities, AVL can provide also with an alternative test vehicle platform for the purposes of CAMEL.
Diverse interests between the participating vehicular Tier-1 equipment providers, (WP2, WP3, WP4, WP5, WP6)	T	M	It is not unusual that different automotive industries have very different business interests, which can be reflected in the technical developments of the project. In the scope of CAMEL, AVL, PANA, and FICOSA have agreed in an optimised balance that offers them competing advantages and at the same time it is beneficial for the end customers.
Use of initially planned pilot site (Test Area in Baden-Württemberg) is not possible due to issues reported from committed partners or due to the restrictions imposed by the venue owners, (WP6).	T	L	Multiple validation sites for CCAM vehicles will be considered from the beginning of the project. In case one of those sites becomes unavailable the pilots will be rescheduled on another site. The project can also leverage on the Test Track in Gratkorn in Austria (owned by AVL).
Difficulties to engage with the relevant end-users, to obtain feedback on the developing work on user requirements. The developed solution has problems in stakeholder acceptance, (WP2, WP6).	T	L	Several project partners are already collaborating with key user groups and have experience in handling user requirements at a major level, and thus such a risk will be adequately addressed by the involved partners, in particular, the Tier-1 equipment providers. In addition, periodical exchanges between stakeholders will be conducted during the entire course of the project. In any case, the appearing problems, if any, will be

			detected and addressed in an early stage of it. The project management structure includes also an EAB of independent experts that will provide feedback and help to steer project activities.
Severe problems arise during interfacing and integration of components (e.g., the CAMEL onboard sensors, ADAS modules, IDS/IPS, backend servers, PEV charger controllers), (WP6, WP3, WP4, WP5).	T	M	The interfaces among the modules will be mostly based on AUTOSAR APIs and will be strictly defined from the very early stages of the project. Pre-integration actions will be taken, if possible, remotely. If not sufficient, integration will be concentrated in one physical site with the participation of engineers from involved partners, for as long as needed. All software development will follow a rigorous software development lifecycle with detailed (interface) requirements specification, detailed design guidelines, unit and sub-system testing; for relevant parts, automatic concurrent (unit) testing facilities are used along with the development process. In any case, automotive providers' value chain is fragmented and Tier-1 equipment providers (PANA and AVL) and automotive integrators (FICOSA) have long experience in integration with the involvement of siloed engineering departments.
The deployment of too many and diversified tools and products on the same platform causes instability, (WP2, WP6)	T	M	The CAMEL partners will warn the PC and TM as early as possible about the issue so as to be able to act proactively. This will provide the time required to find a suitable functional replacement.
Not enough valid data provided by partners, especially when dealing with real cost data, to make a profound techno-economic assessment, (WP2, WP7)	T	L	Big industrial partners will provide a detailed analysis contributing to economic aspects that are beneficial for them (achievable cost reduction can be demonstrated). Since damages resulting from a bad risk analysis can cause greater damage and a clear competitive disadvantage, with higher financial risks, this risk has very low probability.
Conflicting requirements across safety, security, privacy and performance, (WP2, WP3, WP4, WP5, WP6)	T	M	The consortium will prioritise the project objectives (technology development) and it will provide different variants and alternatives with different scenarios and costs.

Table 6: List of risks

5. Dissemination

Dissemination of the project outputs to society is one of the objectives included in the H2020 program. Dissemination however must not collide with the IPR of the partners or with results that need to be protected (see Article 29 and 38 of the Grant Agreement and article 8.4.2.1 of the CA for more information).

In this section we describe the mandatory rules for disseminating the results of the project and how to report the project outputs.

Dissemination strategy will be further complemented by WP7 work package leader, ALTRAN, in the Deliverable 7.1, Dissemination, Communication and Exploitation Plan.

5.1 Acknowledgements

All the publications, conference proceedings, presentations on workshops, seminars, press releases, equipment, communications, patents, standard or public events must take into account the following obligation towards the EC:

5.1.1 Publications, conferences and events

Unless the Commission requests or agrees otherwise or unless it is impossible, any dissemination of results (in any form, including electronic) must:

- (a) display the EU emblem and
- (b) include the following text:

“This project has received funding from the European Union’s Horizon 2020 research and innovation programme under grant agreement No 833611”.

When displayed together with another logo, the EU emblem must have appropriate prominence.

Any dissemination of results must indicate that it reflects only the author's view and that the Commission is not responsible for any use that may be made of the information it contains.

5.1.2 Patents and standards

Application for protection of results (including patent applications) filled by or in behalf of a beneficiary must include the following:

“The project leading to this application has received funding from the European Union’s Horizon 2020 research and innovation programme under grant agreement No 833611”.

If results could reasonably be expected to contribute to European or international standards, the beneficiary concerned must inform the Commission (up to four years after the end of the project), and ask the standardisation body to include the following statement in (information related to) the standard:

“Results incorporated in this standard received funding from the European Union’s Horizon 2020 research and innovation programme under grant agreement No 833611”.

5.1.3 Communications, major results, equipment

Any communication activity related to the action (including in electronic form, via social media, etc.) and any infrastructure, equipment and major results funded by the grant **must be informed to the PC** and:

- (a) display the EU emblem
- (b) include the following text:

For communication activities:

“This project has received funding from the European Union’s Horizon 2020 research and innovation programme under grant agreement No 833611”.

For infrastructure, equipment and major results:

“This [infrastructure][equipment][insert type of result] is part of a project that has received funding from the European Union’s Horizon 2020 research and innovation programme under grant agreement No 833611”.

In the same way as publications, conferences and events, when displayed together with another logo, the EU emblem must have appropriate prominence.

Any communication activity related to the action must indicate that it reflects only the author's view and that the Commission is not responsible for any use that may be made of the information it contains.

5.2 Reporting the outputs

All the outputs of the project (papers, proceedings, press releases, non-scientific publications...) and the dissemination actions (assistance to workshops, public demos, fairs...) have to be reported in a monthly basis to ensure a proper dissemination.

Despite of this periodic reporting, any relevant output, major result, equipment publicly displayed, patent or standard must be immediately informed.

The outputs of the project will be reported through an event tracking mechanism based on confluence. This event tracking mechanism will include the following sections:

1. Foreseen of assistance to events: In this section each partner will report the assistance to any event (congress, fair, workshop, demo...) and the objectives of the action.
2. Foreseen organization of events: In this section each partner will report the organization of any event related with the dissemination of the project and the foreseen objectives of the event.
3. Event reporting: In this section each partner will report the assistance to events. This report will include the date, place and name of the event, the members of the consortium that assisted, the audience profile and number of assistants, a short report of the results, any presentations or papers.
4. Publications reporting: The publications (book chapters, papers, proceedings, white paper or non-scientific and non-peer reviewed outputs) related with the project will be reported in this section. Each paper has to include the status (submitted, under review or accepted) and include the DOI. Other kind of publications has to include a link to the content.
As stated in CA the authors must inform the consortium of any foreseen publication at least 20 days in advance. Any objection must be done in writing within 10 calendar days after the receipt of the notice. If there is no objection the publication is permitted.