**Project Progress Report**

**openETCS**

01.07.2013 – 31.12.2013

Edited by Peter Mahlmann on 17.12.2013

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Executive summary

* Project official start date: 01.07.2012
* Project end date: 30.06.2015
* Latest review: 03.07.2013 #1
* Next planned review: 12.06.2014 #2
* PCA Status: PCA has been signed by 23 of 31 partners

Managerial status

E.g., when relevant: PCA status[[1]](#footnote-1), funding status synthesis, project organisation, kick-off and project meetings, major outputs of review meetings, Change Requests, delays, etc.

For each of these issues, describe the changes or the progress achieved within the reporting period and/or recall the current status.

<Text to be inserted here>

Technical progress and achieved results

Describe the main innovations actually achieved within the reporting period (not just deliverables). Whenever helpful, you might highlight the status at the beginning and at the end of the reporting period.

<Text to be inserted here>

Impact

Describe the main achievements with regards to exploitation (fast exploitation opportunities, expected new/updated products, spin-offs/start-ups, etc.) and all its enables and facilitators: standardization activities (de jure/de facto standards, open source communities, etc.), dissemination (towards customers, partners, industrial or scientific communities: major contributions to conferences, seminars, journals, etc.)

<Text to be inserted here>

The Executive Summary should provide the highlights and be a stand-alone section of maximum one (1) page.

Starting projects, for which technical progress and impact are not yet significant, can skip these parts and only address the managerial topics.

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1. Project one-page description

## 1.1 The Context

Europe’s railways have developed over the last 150 years within national boundaries, resulting in a variety of different signalling and train control systems, which hampers cross-border traffic. The European Union has decided to improve interoperability for the railway sector. Therefore the European Train Control System (ETCS) as part of the European Rail Traffic Management System (ERTMS) is intended to replace almost all national legacy mainline signalling and train control systems all across Europe. ETCS consists of infrastruc-ture components and on-board units (OBU). A System Requirement Specification has been cooperatively created mainly by 6 major European railway signalling manufacturers. Beginning with the 3rd version of the SRS, this document has been published by the European Railway Agency (ERA), therefore in the “public domain” and will be mandatory by 2015 for all new infrastructure and train borne signalling and train control equipment.

## 1.2 The Goals and major expected impact of the outcomes

The purpose of the openETCS project is to develop an integrated modelling, development, validation and testing framework for leveraging the cost-efficient and reliable implementation of ETCS. The framework will provide a holistic tool chain across the whole development process of ETCS software. The tool chain will support the formal specification and verification of the ETCS system requirements, the automatic and ETCS compliant code generation and validation, and the model-based test case generation and execution. openETCS will utilize “Open Standards” on all levels, including hardware and software specification, interface definition, design tools, verification and validation procedures and last but not least embedded control soft-ware. By applying those technologies and related business concepts a significant cost cut for the final on-board product is expected down to or even below conventional high performance cab signalling systems (e.g. LZB Linien-Zug-Beeinflussung, as used in Germany, Austria and Spain). The open source concept provides for a neutral and formal method based “correct” functioning reference device that will help to overcome existing interoperability problems, supporting manufacturers, infrastructure managers and railway undertakings alike, avoiding exhaustive field tests, transferring verification and validation activities from the track site into laboratories, saving scarce resources and finally accelerating the migration phase and therefore supporting the European ERTMS deployment plan.

## 1.3 The innovative aspects

This project addresses mainly interoperability for the European railway sector, promoting competitiveness of the European industry giving them a leading edge and creating new jobs in the software service industry by applying first time a new concept called “open Proofs”, fulfilling safety and security demands as requested by EU parliament resolution A5-0264/2001.

## 1.4 The business relevance

Key element for improving that situation seems to be a greater degree of standardization in particular for the ETCS on-board equipment on various levels. Standardization by applying open source licensing concepts will be the focus of this project, and therefore has been called “openETCS”.

1. Context updates

NB: none of the following paragraphs should be regarded as an implicit Change Request.

* 1. Changes in the market relevance

Document the market relevance changes that occurred since the last PPR was issued.

Should you consider that they haven’t changed, then explicitly state it here.

<Text to be inserted here>

* 1. Changes in the technical and strategic relevance

Reconsider the relevance, importance and impact of the project in particular with respect to the current technological state-of-the-art (as opposed to the one described in the FPP). Address possible new or similar related projects.

If the technical and strategic relevance have not changed, state it here.

If major changes occurred since the last PPR or FPP release, document such changes in this paragraph.

<Text to be inserted here>

1. Progress

This chapter must report on the progress madeand/orachievements reachedsince the last reporting period.

* 1. Technical progress

Summarise the technical and quantitative results achieved in the reporting period by providing the equivalent of an “executive summary” for each work package (maximum 1 page per WP).

* + 1. Work Package 1: <NAME>

**Responsible: Pierre-Jean Ginoux**

<Text to be inserted here>

* + 1. Work Package 3: Modelling – Code Generation

**Responsible: Pierre-Francois Jauquet**

<Text to be inserted here>

* + 1. Work Package 4: Validation & Verification Strategy

**Responsible: Marc Behrens**

The verification and validation activities in openETCS have progressed largely as planned in the Description of Work. Adjustments consist in adding mechanisms to flexibly react to developments in WP 3 and WP 7 and experiences in performing the tasks of WP 4.

The following changes in the work plan have been made.

* It is planned to revise the deliverable D4.1 “Report on V&V Plan and Methodology” after each of three planned levels of V&V activities.
* The Sub-System Requirements Specification (SSRS) has been identified as an additional object for V&V

The following results have been achieved in WP 4 in the second half of 2013.

* The first version of the deliverable D 4.1 has been completed and reviewed (Task 4.1).
* The first level of V&V activities has been performed on six targets, four models (Tasks 4.2) and two code blocks (Task 4.3)
* Reports on the first level of V&V results have been prepared for review Tasks 4.2 and 4.3)
* The internal assessment has been performed on available documents (Task 4.5)

The following activities have been started or prepared.

* The safety plan for the EVC software development is in preparation (Task 4.4)
* The internal assessment of the safety aspect has been prepared. A workshop will be held on this topic in Q1 2014.
* An interface to apply model based testing methods to the DLR test laboratory which will host the demonstrator has been defined.

During the second half of 2013 a number of project meetings concerning WP 4 were held.

* Weekly web conferences organizing the ongoing work
* Web conferences according to the SCRUM process (sprint planning, daily meetings)
* Collaboration meetings between Siemens, DLR, University Bremen and ERTMS Solutions
* A project-wide workshop on verification and tools in 10/2013
  + 1. Work Package 5: openETCS Demonstrator

**Responsible: Patrick Deutsch**

<Text to be inserted here>

* + 1. Work Package 6: Dissemination, Exploitation Standardization

**Responsible: Michael Ditze**

<Text to be inserted here>

* + 1. Work Package 7: openETCS Tool Chain

**Responsible: Michael Jastram**

<Text to be inserted here>

* 1. Compliance with plans
     1. Milestones and deliverables

Document the status of all the milestones & deliverables using the following table.

The three first columns should contain:

* the table provided at the "Major milestones/deliverables" § of the FPP;
* every possible additional deliverable addressed in the various Work Packages descriptions.

The fourth column documents the status (“✔” when delivered or at least available, “Late” when late or left blank when not yet due). The fifth column should contain the actual (past) or expected (future) delivery date.

The sixth column may provide a comment when short or the N° of a comment to be then provided after the table otherwise.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| WP[[2]](#footnote-2) | Milestone or Deliverable title | Planned (FPP3.0.2) delivery date  (YYYY/Qx) | Status | Actual or expected delivery date[[3]](#footnote-3)  (YYYY/Qx) | Short comment or comment N° |
| **WP1 Project Management** | | | | | |
| 1 | D1.1.1 Report on final Project Plan and Meeting Agenda | 2013/Q1 | ✔ | 2013/Q4 | The final project plan and meeting agenda in the form of a change request and updated FPP 3.0.2 has been submitted.  Different views on scope shift between WP2 and WP3 due to a new task (SSRS) considered as necessary by majority of partners and resulting different views on who should lead and provide resources for the activity has caused that delay to update the Project Plan. |
| 1 | D1.3.1 Project Guide on Quality Assurance | 2013/Q1 | Late | 2013/Q4 | Institute Telecom was not able to deliver due to budget cuts, substitute did not meet expectations, and therefore new start of activity by SQS after funding was approved. Intermediate solution by adapting eclipse QA plan, see “Ecosystem” repository. |
| 1 | D1.2.1 Periodic Report | 2013/Q1 | ✔ | 2013/Q1 |  |
| 1 | D1.2.2 Periodic Report | 2013/Q3 | ✔ | 2013/Q3 |  |
| 1 | D1.2.3 Periodic Report | 2014/Q1 | ✔ | 2014/Q1 |  |
| 1 | D1.2.4 Periodic Report | 2014/Q3 |  | 2014/Q3 |  |
| 1 | D1.2.5 Periodic Report | 2015/Q1 |  | 2015/Q1 |  |
| 1 | D1.2.6 Final Project Report | 2015/Q3 |  | 2015/Q3 |  |
| **WP2 Requirements for Open Proofs** | | | | | |
| 2 | D2.1 Report on existing methodologies | 2013/Q1 | ✔ | 2013/Q1 |  |
| 2 | D2.2 Report on CENELEC standards | 2013/Q1 | ✔ | 2013/Q2 |  |
| 2 | D2.3 Process definition | 2013/Q2 | ✔ | 2013/Q2 |  |
| 2 | D2.4 Methods definition | 2013/Q1 | Late | 2014/Q1 | Final version currently in review. Finalizaition had been postponed after decision of WP7 on the primary tool chain. |
| 2 | D2.5 Description of ETCS using those methodologies | 2013/Q2 | ✔ | 2013/Q2 |  |
| 2 | D2.6 Requirements for the model | 2013/Q2 | ✔ | 2013/Q2 |  |
| 2 | D2.7 Set of requirements for API, tools, V&V | 2013/Q2 | ✔ | 2013/Q2 |  |
| 2 | D2.8 Set of requirements for tools | 2013/Q2 | ✔ | 2013/Q2 |  |
| 2 | D2.9 Set of requirements for V&V | 2013/Q2 | ✔ | 2013/Q2 |  |
| **WP7 openETCS Tool Chain** | | | | | |
| 7 | D7.1 Report on the final choice(s) for the primary tool chain (means of description, tool and platform) | 2013/Q3 | ✔ | 2013/Q1 |  |
| 7 | D7.2 Report on all aspects of secondary tooling (results of T7.2) | 2013/Q3 |  |  |  |
| 7 | D7.3 Tool chain qualification process description | 2014/Q1 |  |  |  |
| 7 | D7.4 Tool chain first release | 2014/Q1 | ✔ | 2013/Q4 | Ahead of time. |
| 7 | D7.5 Ecosystem Artefacts: Proposed Terms of use, Proposed Committer Agreements, Proposed IP Policy, Proposed Development Process Description, Development Process Guidelines, Infrastructure Documentation, Infrastructure Template, Evolution Report of previous Deliverables | 2015/Q2 |  |  |  |
| **WP3 Modelling - Code Generation** | | | | | |
| 3 | D3.5 System Specification Model | 2014/Q1 |  |  |  |
| 3 | D3.6 Functional Model | 2014/Q3 |  |  |  |
| 3 | D3.7 System architecture model with physical allocation | 2014/Q4 |  |  |  |
| 3 | D3.8 Open Source Code | 2015/Q2 |  |  |  |
| **WP4 Validation & Verification Strategy** | | | | | |
| 4 | D4.1 V&V Plan & Methodology | 2013/Q3 |  | 2013/Q4 |  |
| 4 | D4.2.1 1st interim V&V report on the applicability of the V&V approach to the formal abstract model | 2013/Q4 |  |  |  |
| 4 | D4.2.2 1st interim V&V report on the applicability of the V&V approach to the implementation / code | 2013/Q4 |  |  |  |
| 4 | D4.3.1 Report on the prototypical application of the V&V tool chain and processes - for the formal model & formal abstract model | 2015/Q1 |  |  |  |
| 4 | D4.3.2 Report on the prototypical application of the V&V tool chain and processes - for the implementation / code of the formal model | 2015/Q1 |  |  |  |
| 4 | D4.3.3 Report on the prototypical application of the V&V tool chain and processes - Safety case for the tool chain and the processes | 2015/Q1 |  |  |  |
| 4 | D4.4 Final report and conclusions of the whole WP4 | 2015/Q2 |  |  |  |
| **WP5 openETCS Demonstrator** | | | | | |
| 5 | D5.1 Functional Specification of Demonstrator | 2012/Q4 | Late | 2014/Q1 | Document is currently under review. Work on D5.1 has been delayed due to restructuring of the project (i.e. split of WP3 into WP3 and WP7), input from other WPs that was needed, and lack of technical resources. |
| 5 | M5.1 First iteration of OBU Simulator available | 2013/Q4 |  | 2014/Q1 |  |
| 5 | M5.2 Data for testing available | 2014/Q1 |  | 2014/Q2 |  |
| 5 | M5.3 Preliminary test Environment with Logical interfaces and remote access | 2014/Q2 |  | 2014/Q3 |  |
| 5 | M5.4 Test Environment with Logical interfaces and remote access available | 2014/Q3 |  |  |  |
| 5 | D5.2 OBU Simulator Demonstrator | 2014/Q4 |  |  |  |
| 5 | M5.5 Main Tests Executed | 2015/Q2 |  |  |  |
| 5 | D5.3 Report on Test results | 2015/Q2 |  |  |  |
| **WP6 Dissemination, Exploitation and Standardization** | | | | | |
| 6 | D6.1 Dissemination Plan and Report | 2013/Q1 | ✔ | 2013/Q1 |  |
| 6 | D6.2 Initial Exploitation Plan and Standardization Strategy, Open Source Business Model | 2013/Q4 | ✔ | 2014/Q1 | Delayed by two weeks only. |
| 6 | D6.3 Updated Dissemination Report | 2014/Q3 |  |  |  |
| 6 | M6.1 Midterm Workshop Organization | 2014/Q3 |  |  |  |
| 6 | D6.4 Updated Exploitation Plan, Report on Standardization | 2014/Q2 |  |  |  |
| 6 | D6.5 Final Dissemination Report, Final Exploitation Plan, Final Standardization Report | 2015/Q2 |  |  |  |
| 6 | M6.2 Final Workshop Organization | 2015/Q2 |  |  |  |
| **Milestones** | | | | | |
| 1 | M1 Project guide: final project plan, meeting agenda, IPR plan, quality assurance plan | 2013/Q1 | Late | 2014/Q1 | Except for the quality assurance plan, M1 has been achieved. |
| 2,4,5,7 | M2 openETCS tool chain development plan: Definition of Process and Methods, tool chain architecture, OpenETCS language, functional specification of demonstrator | 2013/Q2 | Late | 2014/Q1 | Except for the functional specification of the demonstrator, M2 has been reached. |
| 2,3,4,6,7 | M3 Full openETCS design and early prototype: requirements, tool chain, open Source Business Model, Exploitation Plan | 2013/Q4 | ✔ | 2013/Q4 |  |
| 2,3,4,5,7 | M4 openETCS beta platform: First OBU Simulator, Set of requirements for API, tools, V&V | 2014/Q2 |  |  |  |
| 3,4,5,7 | M5 openETCS final platform, ready for testing | 2015/Q1 |  |  |  |
| 3,4,6,7 | M6 Final assessment, benchmarking and success measures | 2015/Q2 |  |  |  |

Comment n°1: <Text to be inserted here if relevant – elsewise remove the line>

Comment n°2: <Text to be inserted here if relevant – elsewise remove the line>

<Etc.>

* + 1. Workplan

Discuss the current status and progress of the overall project with respect to the current FPP.

Indicate any possible change or delay that occurred during the reporting period and their cause.

<Text to be inserted here>

* + 1. Manpower

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Partner |  |  | 2012 | 2013 | 2014 | 2015 | Total |
| AEbt GmbH | DEU | Spent | 0,50 | 0,25 |  |  | 0,75 |
|  |  | Planned | 0,30 | 0,85 | 0,75 | 0,60 | 2,50 |
| ALL4TEC | FRA | Spent | 1,65 | 1,48 |  |  | 3,13 |
|  |  | Planned | 1,65 | 3,55 | 2,70 | 1,70 | 9,60 |
| ALSTOM | BEL | Spent | 0,10 | 0,66 |  |  | 0,76 |
|  |  | Planned | 0,25 | 1,64 | 2,02 | 1,01 | 4,92 |
| ALSTOM Transport | FRA | Spent |  | 0,10 |  |  | 0,10 |
|  |  | Planned | 0,06 | 0,36 | 0,45 | 0,21 | 1,08 |
| ALSTOM Transport GmbH | DEU | Spent | 0,20 | 0,45 |  |  | 0,65 |
|  |  | Planned | 0,20 | 0,65 | 0,55 | 0,30 | 1,70 |
| ATOC | GBR | Spent |  |  |  |  |  |
|  |  | Planned | 0,02 | 0,03 | 0,03 | 0,02 | 0,10 |
| CEA | FRA | Spent | 5,43 | 1,63 |  |  | 7,06 |
|  |  | Planned | 0,77 | 3,37 | 3,14 | 0,89 | 8,17 |
| LAAS - CNRS | FRA | Spent | 0,78 | 0,63 |  |  | 1,41 |
|  |  | Planned | 0,78 | 1,62 | 1,70 | 0,75 | 4,85 |
| Deutsche Bahn AG | DEU | Spent | 2,29 | 4,84 |  |  | 7,13 |
|  |  | Planned | 2,40 | 4,90 | 5,00 | 3,50 | 15,80 |
| DLR |  |  |  |  |  |  |  |
|  |  | Planned | 0,43 | 1,48 | 1,55 | 0,74 | 4,20 |
| Eclipse Foundation Europe Gmbh | DEU | Spent |  |  |  |  |  |
|  |  | Planned | 0,02 | 0,04 | 0,04 | 0,02 | 0,12 |
| EclipseSource Group | DEU | Spent | 0,95 | 1,11 |  |  | 2,06 |
|  |  | Planned | 0,54 | 1,14 | 0,83 | 0,50 | 3,01 |
| ERSA | FRA | Spent | 0,18 | 0,05 |  |  | 0,23 |
|  |  | Planned | 0,58 | 2,71 | 3,75 | 1,12 | 8,16 |
| ERTMS Solutions | BEL | Spent | 0,75 | 0,99 |  |  | 1,74 |
|  |  | Planned | 4,26 | 2,04 | 1,28 | 0,90 | 8,48 |
| Formal Mind | DEU | Spent |  |  |  |  |  |
|  |  | Planned | 0,40 | 1,00 | 1,00 | 0,50 | 2,90 |
| Fraunhofer Gesellschaft | DEU | Spent | 0,86 | 0,76 |  |  | 1,62 |
|  |  | Planned | 0,80 | 1,50 | 1,50 | 0,70 | 4,50 |
| GE Transportation | ITA | Spent | 0,03 | 0,02 |  |  | 0,05 |
|  |  | Planned | 0,20 | 0,40 | 0,50 | 0,10 | 1,20 |
| Innovalia | ESP | Spent | 1,10 | 0,69 |  |  | 1,79 |
|  |  | Planned | 0,65 | 1,15 | 1,55 | 0,55 | 3,90 |
| INPT Toulouse | FRA | Spent | 0,60 | 0,50 |  |  | 1,10 |
|  |  | Planned | 0,90 | 1,50 | 1,50 | 0,90 | 4,80 |
| Institut Télécom | FRA | Spent | 1,20 | 1,40 |  |  | 2,60 |
|  |  | Planned | 2,61 | 3,20 | 3,20 | 0,80 | 9,81 |
| lloyd's register rail B.V. | NLD | Spent | 0,05 | 0,05 |  |  | 0,10 |
|  |  | Planned | 0,20 | 0,10 | 0,10 | 0,30 | 0,70 |
| Mitsubishi Electric | FRA | Spent | 0,76 | 0,37 |  |  | 1,13 |
|  |  | Planned | 0,74 | 1,49 | 1,53 | 0,74 | 4,50 |
| NS Nederlandse Spoorwegen | NLD | Spent | 0,20 | 0,60 |  |  | 0,80 |
|  |  | Planned | 0,38 | 0,40 | 0,20 | 0,20 | 1,18 |
| Siemens AG | DEU | Spent | 0,15 | 0,91 |  |  | 1,06 |
|  |  | Planned | 0,60 | 2,90 | 3,00 | 2,60 | 9,10 |
| SNCF | FRA | Spent | 0,27 | 0,81 |  |  | 1,08 |
|  |  | Planned | 0,80 | 1,80 | 1,10 | 0,30 | 4,00 |
| Software Quality Systems S.A. | ESP | Spent | 1,65 | 2,24 |  |  | 3,89 |
|  |  | Planned | 1,98 | 4,91 | 5,53 | 2,40 | 14,82 |
| Systerel | FRA | Spent | 1,30 | 1,12 |  |  | 2,42 |
|  |  | Planned | 2,95 | 2,85 | 1,75 | 0,67 | 8,22 |
| Technical University Braunschweig | DEU | Spent | 0,80 | 0,45 |  |  | 1,25 |
|  |  | Planned | 0,70 | 1,70 | 1,20 | 0,60 | 4,20 |
| TWT GmbH | DEU | Spent | 0,55 | 1,91 |  |  | 2,46 |
|  |  | Planned | 0,35 | 1,43 | 1,68 | 0,89 | 4,35 |
| Universität Bremen | DEU | Spent | 0,42 | 1,00 |  |  | 1,42 |
|  |  | Planned | 0,70 | 1,38 | 1,38 | 0,80 | 4,26 |
| University of Rostock | DEU | Spent | 0,51 | 0,31 |  |  | 0,82 |
|  |  | Planned | 0,51 | 1,67 | 1,49 | 0,51 | 4,18 |
|  |  |  |  |  |  |  |  |
|  | **Total** | **Spent** | **23,53** | **25,84** |  |  | **49,37** |
|  |  | **Planned** | **27,73** | **53,76** | **52,00** | **25,82** | **159,31** |

1. Exploitation
   1. Exploitation enablers

For each of the topics listed below:

* document the Dissemination & Exploitation overview[[4]](#footnote-4) (template available on the ‘ITEA 2 Community website’) by exhaustively updating it;
* highlight in this chapter the major activities performed in the reporting period;
* provide further details (with regards to the separate overview) hereafter whenever judged appropriate.

Please only address here new activities from the reporting period (the exploitation perspectives are to be addressed in §4.3).

* + 1. Dissemination

Consider here dissemination towards customers, communities (industrial, scientific, etc.), incl. communication, seminars, workshops, conferences, papers, courses, etc.

<Text to be inserted here>

* + 1. Standardisation

Standardisation includes de jure/de facto standards, published APIs, open source repositories and associated communities, etc.

<Text to be inserted here>

* + 1. Patents

<Text to be inserted here>

* + 1. Start-ups / Spin-offs

<Text to be inserted here>

* 1. Fast exploitation

Please only address here the fast exploitations performed in the reporting period (the exploitation perspectives are to be addressed in §4.3).

<Text to be inserted here>

* 1. Perspectives

Present, for each project partner, the exploitation perspectives for the project results.

Examples of results that may be later exploited, either internally or turned into products or services, are as follows:

* new products or services, existing products or services upgrades, etc.;
* software packages, tools, etc.;
* methodologies, etc.;
* Patents or Intellectual Property Rights, licenses, etc.;
* new standards, published APIs, etc.;
* open source software and community, “freeware”, etc.;

or a combination thereof.

For the exploitation perspectives of all partners we refer to PPR 2013 / S1, where these have been presented for all partners.

1. Plus/minus report

This part should highlight, in a simple table form, what went well/wrong with the project in the reporting period.

You may use the proposed categorisation (i.e. ‘Organisational’, ‘Overall progress’, ‘Demonstrators’ and ‘Work Packages’) of the following table or another one that you judge more appropriate to your project. Add or remove lines depending on your needs.

|  |  |  |  |
| --- | --- | --- | --- |
| +/- | Description | Impact description | Action |
|  |  |  |  |
|  | Organisational |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  | Overall progress |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  | Demonstrators |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  | Work Packages |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

<Text to be inserted here, if relevant>

1. Risk analysis

Discuss any possible risk (technological, managerial, commercial, etc.) identified during the reporting period. For each of them, present appropriate and realistic contingency plans.

You may use the proposed categorisation of the following table or another one that you judge more appropriate to your project. Add or remove lines depending on your needs.

|  |  |
| --- | --- |
| Identified risks | Contingency plan |
|  |  |
| Technological |  |
|  |  |
|  |  |
|  |  |
| Managerial |  |
|  |  |
|  |  |
|  |  |
| Commercial |  |
|  |  |
|  |  |
|  |  |
| Misc. |  |
|  |  |
|  |  |
|  |  |

<Text to be inserted here, if relevant>

1. In some countries, a signed PCA is a pre-requisite for the partners actually getting the funding. [↑](#footnote-ref-1)
2. Work Package producing the milestone or deliverable. [↑](#footnote-ref-2)
3. Left blank when not yet due. [↑](#footnote-ref-3)
4. Providing information in this format will enable the ITEA 2 Office to use this information for statistics and publication. [↑](#footnote-ref-4)