Standardisation input for EU H2020 projects

(status 05/2014)

Author: Karin Eufinger, Centexbel

Executive Summary

This document is intended for the writers of EU Horizon 2020 projects, who wish to have more guidance on how to implement standardisation related issues into their project proposals.

Quite often these proposals are written by researchers or others who are not familiar with the 'world of standardisation', so this document hopes to provide the necessary information and vocabulary to (1) be able to prepare a realistic planning of standardisation related tasks in the proposal – including involving the necessary project partners, (2) to judge which contributions to standardisation are possible in the framework of the project and (3) to understand better how research and development can contribute to standardisation and/ or support ongoing standardisation efforts. This document is potentially also of use for standardisers who wish to more closely interact with researchers.

This document was prepared as a result of the work performed under the EU FP7 project SUSTA-SMART, grant agreement no: 319055, in cooperation with the CEN-CENELEC management Centre. It is intended to make this document available to researchers and standardisers via the website of the SUSTA-SMART project, the website of the SUSTA-SMART partners and the CEN-CENELEC research help desk

Table of Contents

Foreword

This document is intended for the writers of EU Horizon 2020 projects, who wish to have more guidance on how to implement standardisation related issues into their project proposals.

Quite often these proposals are written by researchers or others who are not familiar with the 'world of standardisation', so this document hopes to provide the necessary information and vocabulary to (1) be able to prepare a realistic planning of standardisation related tasks in the proposal – including involving the necessary project partners, (2) to judge which contributions to standardisation are possible in the framework of the project and (3) to understand better how research and development can contribute to standardisation and/ or support ongoing standardisation efforts. This document is potentially also of use for standardisers who wish to more closely interact with researchers.

Acknowledgements

This document was prepared as a result of the work performed under the EU FP7 project SUSTA-SMART, grant agreement no: 319055, in cooperation with the CEN-CENELEC management Centre. It is intended to make this document available to researchers and standardisers via the website of the SUSTA-SMART project, the website of the SUSTA-SMART partners and the CEN-CENELEC research help desk[1].

---

[1] http://www.cencenelec.eu/research/ResearchHelpdesk/Pages/default.aspx

Standardisation, certification and conformity assessment

The terms *standardisation*, *certification* and *conformity assessment towards EU legislation* are used quite often as interchangeable terms by researchers, without realising that they actually have a very different meaning and implications. In order to provide the reader of this document with at least a basic understanding and distinction of these three terms they will be described in more detail below.

Standardisation:

Standardisation refers to the development and implementation of normative documents, e.g. for product requirements and product testing, but also for services and terminology. Standards are voluntary documents developed as means to be able to compare results, have common evaluation criteria, ensure compatibility of components (cables, software, etc.). Standards can be developed by National, Regional (e.g. European), or International standardisation organisations or by a group of companies (industrial standards, e.g. USB, IEEE).

Certification

Certification is the process of attestation that a product (or service or person) complies with the provisions of a certification scheme. Certification is usually carried out by an independent third party (certification body). To obtain a certificate the product has to fulfil a list of requirements, which are assessed by testing or other evaluation criteria. The certification process is more transparent for all parties involved if it refers to technical specifications laid down in standards. This is why the reference to standards is preferred in certification schemes, but not legally obligatory.

Certificates often support mandatory or voluntary labels or markings, which are used as a visual indication that the product fulfils the requirements of the certification scheme. Certificates may or may not be linked to conformity assessment imposed by EU legislation.

Conformity assessment in support of EU legislation

Products being sold in the EU must comply with the provisions of the EU legislation applicable to these products. Manufacturers need to prove that their products comply with these legal provisions.

A large range of products (construction products, PPE, medical devices, machinery, etc.) are covered by so-called "new approach" legislation. This legislation specifies the essential requirements, with which the products shall comply, and the route to be followed to give proof of compliance. This may include self-assessment by the manufacturer, an intervention by an external conformity assessment body or a combination of both.

New approach legislation supports the principle of "presumption of conformity". This means that conformity of a product with the provisions of a harmonised European standard gives that product the presumption of conformity with essential requirements of the legislation. A table in the standard indicates which essential requirements are covered. Lists of harmonised standards are published in the Official Journal of the EU. This mechanism makes standardisation a preferential tool in proving compliance with the law. This is especially the case for products where safety & reliability are very important like building products and personal protective equipment.

CE marking

The CE marking is a visual indication of a product's compliance with EU legislation. CE marking is compulsory if it is explicitly imposed by the specific legislation applicable to that product. CE marking is forbidden if there is no such legislation. It is the manufacturer's responsibility to affix the CE marking on his products. More information is available on the website of the European commission[2].

---

[2] http://ec.europa.eu/enterprise/policies/single-market-goods/cemarking/about-ce-marking/index_en.htm

Glossary

STANDARDIZATION:

ASTM	American Society for Testing and Materials, now ASTM International
ANSI	American National Standards Institute
BT:	Technical Board (CEN, CENELEC), stands above all TCs
CEN:	European Committee for Standardisation
CENELEC:	European Committee for Electrotechnical Standardisation
CW	CEN-CENELEC workshop; temporary technical body, established to develop CEN workshop agreements
CWA	CEN Workshop Agreement; standardisation deliverable from a CEN workshop
ESO:	European Standardisation organisation; The ESO's are CEN, CENELEC and ETSI
ETSI:	European Telecommunications Standards Institute
ISO:	International Standardisation Organisation
IEC:	International Electrotechnical Commission
ITU:	International Telecommunication Union
Liaison:	A relationship that allows different organizations or groups to work together and provide information to each other. The liaison is always from one committee to another (unidirectional)
Liaison officer:	Person maintaining the liaison
Request for standardisation:	(Formerly: Mandate) A request from the EC to the ESOs for developing new standards
National Mirror Committee:	Committee that follows (mirrors) on a national level the work a Technical Committee (TC), subcommittee (SC) or Working Group (WG) on European or International level.
National member:	Participant in a national Mirror Committee
NC:	National Committee, member of CENELEC
NSB:	National Standardisation Body, member of CEN
SO:	Sectorial operator; entity that coordinates standardisation activities on national level in one or more sectors (e.g. chemistry, textile, metal, machinery, personal protective equipment, construction)
Standardisation deliverable (EU):	Standard (EN), Technical Specification (CEN/TS), Technical Report (CEN/TR) CEN/ CENELEC workshop agreement (CWA), CEN/ CENELEC Guides.

Standardisation deliverable (ISO): ISO Standards, ISO/PAS Publicly Available Specifications, ISO/TS Technical Specifications, ISO/TR Technical Reports, IWA International Workshop Agreements and ISO Guides

Standardisation deliverable (IEC): IEC Standards, IEC/PAS Publicly Available Specifications, IEC/TS Technical Specifications, IEC/TR Technical Reports, CISPR Interpretation sheets and IEC Guides

SC: Subcommittee, under a technical committee; frequently in large ISO or IEC TCs, but being phased out in CEN and CENELEC TC's. Operate more independently than WGs.

TC: Technical committee; approves new work items (NWI) and standardisation deliverables

WG: working group; develops standardisation deliverables and prepares proposals for new work items.

WI: Work item; specifies among other the title, scope and necessary expertise for developing a standardisation deliverable; the idea can also already be deposited at *preliminary work item*, which is then further developed into a first full draft before it is activated.

PWI: Preliminary Work Item; idea which is then further developed into a first full draft before activating as WI.

NWI Proposal: Proposal for a new WI; is submitted to the TC for approval (usually by the respective WG which will be working on it)

EU RESEARCH

European Framework Programme Funding scheme under the EU, in different stages, the 1st started in 1984 and the 7th ended in 2013, each lasting from 4 to 7 years

H2020 Horizon 2020, the new funding scheme of the EU

Work programme (Detailed) planning of technical and other work to be performed during the project

Work package (WP) Part of the work programme, describing a distinct section of the work, e.g. testing, management, development of a road map.

Task (T) Part of a work package, describing one of the steps or smaller section of the work, e.g. for the WPX Management: TX.1 follow up of the partners, TX.2 reporting to the EC, TX.3 management of intellectual property, etc.

CERTIFICATION AND CONFORMITY ASSESSMENT

Certification Establishing proof of compliance with the provisions of a certification scheme, usually concluded by issuing a certificate stating that a product fulfils a set of requirements.

Conformity assessment Evaluation, e.g. by performing tests, of the conformity of a product with a given technical specification or with the provisions of the law.

Label	Voluntary marking, demonstrates that the product fulfils certain quality criteria (eco-friendly, low amount of chemicals, low ecological footprint, etc.)
CE marking	Compulsory marking indicating conformity with EU legislation
Notified body	Conformity assessment body designated by an EU Member State and notified to the European Commission. Notified Bodies fulfil certain tasks in the process of demonstrating conformity of a product with EU law.

General considerations for input

The information given in this section is intended to be used in preparation of the project, for general input into the proposal as well as for any detailed work package on standardisation (see second part).

Note: Care should be taken to clearly distinguish the terms standardisation and certification or conformity assessment. This document discusses only the issue of standardisation. If relevant to the project referencing the importance of standards for certification and conformity assessment may be of interest.

Before starting with writing out the proposal it should be identified which role standardisation will play in the project and which partners will be needed in the consortium to provide the necessary support. The following questions and comments can offer some guidance:

- How advanced is standardisation in this technology area?
    - Is the terminology well defined, do there exist a lot of test methods, are evaluation criteria well known, etc.?

    In this case there will be a good basis to build on, there is a good chance that a lot of documentation already exists. Here one could check how the project could contribute to and support ongoing activities.

    - Is this a new technology area, where even the terminology is not well defined yet?

    In this case it may be better to start with preparing a roadmap for standardisation first: identifying the needs and giving them a priority ranking. Preparing actual standardisation documents may not be feasible in the framework of the initial project, but could be addressed in follow up actions.

    For completely new sectors it may be necessary to establish a new technical standardisation body (TC, SC, WG)

- Is this technology related to another sector or is there a strong link to a sector so that some of the standardisation efforts from this sector can be adapted?
    In this case one has to carefully evaluate the applicability of existing documentation and identify needs for adaptations or development of new documents. For cross-sectorial topics it may also not be straightforward to identify the most suitable TC, SC or WG for introducing this topic.

If assistance is needed, the CEN-CENELEC Research Help Desk[1] can be contacted, or the research help desk of a national standardisation body (NSB), a list of which can be found on the respective websites of CEN, CENELEC and ETSI[3]. Note that some NSBs work with Sectorial Operators (SO), but this information can be obtained at the respective NSB.

Project partners

Depending on the importance of standardisation for the success of the work programme or the final output of the project, especially if activities in technical bodies and working groups are planned, it should be considered to involve an NSB. The level of involvement can go from a letter of support to being a full member of the consortium. Note that some NSB have the policy to not become directly involved in European projects. Here a letter of support or the involvement of a SO can be an

---

[3] www.cen.eu; www.cenelec.eu; www.etsi.org

alternative. In all cases it must be ensured that the necessary support towards following up the planned project activities can be ensured.

CEN or CENELEC have the general policy to not become directly involved in EU projects (as partner)[4].

Budget

It is very important to describe the budgetary needs of the different standardisation related activities, planned actions and deliverables. Some examples are:

- Fees for membership with an NSB (varies among NSBs/ SOs)
- Project liaisons with a CEN or CENELEC TC (see below for more information)
- Travel budget to attend TC or WG meetings
- CWAs, which require a separate business plan (see also[5]). Secretarial support by an NSB is required and must be taken into account (either as subcontracting budget, if the NSB is not member of the consortium or as budget for the NSB as partner).
- Person Months to work on the development of standardisation deliverables, attend meetings, organise a CWA, etc.
- Purchase of standards and other publications if needed for the work
- Any other related costs

If some very specific expertise is not present in the consortium, subcontracting may be considered to hand out specific tasks to external experts, e.g. the secretariat of a CWA to be held by a national standardisation body.

Copyright issues

All standardisation deliverables are copyright protected and are only for sale at NSBs or NCs. This is also valid for CWA's. CWA's can therefore not in general be made available as public deliverables. Please contact the CEN/ CENELEC Research Help Desk for more information on this issue and to find out what the possibilities are.

IPR issues

Specific IPR issues apply when developing standardisation deliverables. For one there is the IPR of standards. All documents published by standardisation organisations are copyright protected and may only be purchased at NSBs (CEN, CENELEC) or at the standardisation organisation. Some industrial standards are freely available (incl. ETSI standards). E.g. at each CEN or CENELEC WG meeting the attendees need to sign a statement that all IPR on the standards is given to CEN or CENELEC. More information on copyright is available in CEN-CENELEC Guide 10[6]. Note that this also applies to standardisation deliverables developed in research and development projects. The project will not by default receive a free copy of the standardisation deliverable.

For another there is the use of IPR in standards, i.e. implementing some knowledge protected by patents. This should only be done if for one the standard cannot be developed without implementing the IPR protected information and, for another, that the holder of the patent has granted use of protected information at FRAND (Fair, Reasonable And Non Discriminatory) conditions. Note that latter also applies to results from a research and development project: care has to be taken to ensure

---

[4] http://www.cencenelec.eu/research/tools/fp7projects/Documents/participation-policy-projects.pdf

[5] http://boss.cen.eu/developingdeliverables/CWA/Pages/default.aspx

[6] ftp://ftp.cencenelec.eu/EN/EuropeanStandardization/Guides/10_CENCLCGuide10.pdf

that later no conflict arises from using research results for developing a standardisation deliverable, wile also intending to protect their IPR.

For more information please contact the CEN/ CENELEC Research Help Desk or refer to CEN-CENELEC Guide 8[7].

Objectives

- Identify the key technical standardization bodies in *the relevant domain*, liaise and interact with them, including possible active participation of research experts in the work of the technical standardization body

- Identify the items that are not (yet) sufficiently addressed in standardization and/ or where a need for support by research exists

- Research and development for supporting the identified needs; this may include development and validation of test methods, simulation software, evaluation criteria, etc.

- Development of documents, which are considered useful for the progress of the standardization work

Key technical standardization bodies

List of Key technical standardization bodies and partners involved or planning to become involved:

The table below gives a suggestion on how to list the key technical standardisation bodies and the possibilities for interacting with them.

Organisation	TC/ WG	Title	Partner	Involved/ *planned*	Type of link
CEN	TC 248 WG 31	Smart textiles	Partner 1	involved	Convenor
IEC	TC 119	Printed Electronics	*Partner 3*	*planned*	Expert
ISO	TC 61 SC 9	Thermoplastic materials	Partner 2	involved	National Member

Project Liaison:

It must be evaluated if it is beneficial to establish an official research project liaison with the standardization bodies identified. The project liaison is important for interaction of the project consortium (via the liaison officer) to interact with the group and to contribute to the on-going standardization process. It may not be necessary to establish a liaison if a project partner is already involved in the work of the technical standardization body as a national delegate or expert, designated by his/her NSB. More information can also be found on the website of the CEN-CENELEC Research Help Desk[8]

Note: The terms and conditions of a project liaison (Liaison Organisation) are described in CEN Guide 25[9]; a fee of 500€ per committee and per year applies.

[7] ftp://ftp.cencenelec.eu/EN/EuropeanStandardization/Guides/8_CENCLCGuide8.pdf

[8] http://www.cencenelec.eu/research/tools/fp7projects/ongoingENwork/Pages/default.aspx

[9] ftp://ftp.cencenelec.eu/EN/EuropeanStandardization/Guides/25_CENCLCGuide25.pdf

Monitoring System:

After the initial screening during the project preparation phase, a monitoring system should be set-up to keep up to date on any standardization efforts on national, European and international level relevant to the project.

Items that are not (yet) sufficiently addressed in standardization and where a need for support by research exists

Overview over existing standardisation documents - state of the art

Before starting to define possible topics for new work items it is necessary to first get an overview over existing published standards, active new work items and preliminary work items. Care must be taken to not overlook standards that have been published or are being developed under other TCs or in other sectors, but which may be relevant for the developments in the proposed research project.

Care must also be taken to not limit the search to European and International standardisation organisations. For example the Americas (e.g. ASTM, ANSI) have their own standardisation organisations which may be of relevance to the projects. If the proposed test method, technical specification already exists as such standard, then development of a similar EN or ISO standard is not always possible for copyright reasons.

CEN and some NSBs offer data bases for searching the content of standards on key words, allowing access to title, scope and referenced standards. Also the American standardisation organisations have such data bases. Since these are not always straightforward to use, especially if one is not familiar with the terminology used, it can be advisable to ask an NSB or SO for assistance.

Overview over existing (preliminary) work items – work in progress

Concerning work items, these can be found on the website of the respective standardisation organisation under the activities of the TC or SC. For obtaining an overview over preliminary work items of a TC it is best to contact the NSB or SO one is working together with. Here it should be evaluated whether the project can support ongoing standardisation activities.

Identified needs

If topics in the domain are identified, for which no standardization activities exist, these can be considered needs for developing standardisation documents. In order to evaluate how these needs are best addressed during the project it is necessary to rank them taking into account the criteria 'time needed for development' and 'required resources'. The needs shall then be assigned to a standardisation body, and the expertise needed to develop the deliverable shall be defined.

An example is given in the table below.

Priority	Need for resources	Time-frame	Parameter to be measured	Relevance to standard	Standardi-sation body	Relevant task or work package
High	Low /medium	Low	Capability of transporting data or electrical signals through textile-based tracks	Development of a test method and evaluation criteria.	CEN TC 248 WG31, experts in electronics & ICT	WPx, Task x.y

In some cases also standardisation committees have identified needs for standardisation projects but lack funding to develop them. Therefore it could be interesting to discuss the identified project needs with the respective TCs, SCs or WGs which has been chosen for working together with in the framework of the project.

Research and development for supporting the identified needs

It is obvious that efforts are needed to develop the test methods and determine evaluation criteria, including their validation. Depending on the nature of the test (time needed for the measurement, difficulties with developing the apparatus, cost of apparatus, etc.) these efforts can be substantial. But also the development of a roadmap or a terminology document can take time and requires (desk) research as well as the involvement of different experts and the requirements for resources should not be underestimated. Organising meetings and workshops also are efforts that should not be overlooked (as well in time as in resources), but can be very helpful for getting external expertise for the development of standardisation deliverables. It is important to take this into account when preparing the work programme of the project.

Development of technical documents needed for the progress of the standardization work

For deciding which standardisation deliverable is suitable as output of the research and development project, one needs to have a realistic idea on what can be done in the limited time frame of the project, taking into account which follow-up actions are possible inside the project consortium. Here one needs to take into account the time needed to establish contact with standardisation bodies and whether the standardisation activities can be carried on after the project. By having a partner in the consortium which is already active in standardisation in the sector related to the proposed project, the guarantee for succeeding with the publication of standardisation documents based on the results of the project are substantially higher. Here also the necessary follow-up can be guaranteed also after the project has ended. In contrast, a project consortium, which at the start of the project still has to establish contact to the relevant standardisation committees and at the end of the project will not follow up any identified needs or initiated standardisation project, will have a small chance to succeed with contributing to standardisation efforts.

The CEN deliverables[10] of relevance for researchers are:

- The European Standard (EN), leading to full implementation, as national standard, Europe-wide, which may also serve the European regulatory purposes of the New Approach
- The Technical Specification (CEN/TS),that serves as normative document in areas where the actual state of the art is not yet sufficiently stable for a European Standard
- The Technical Report (CEN/TR), for information and transfer of knowledge
- The CEN Workshop Agreement (CWA), which aims at bringing about consensual agreements based on deliberations of open Workshops with unrestricted direct representation of interested parties

All deliverables, with exception of the CWA and the Guides, are developed under a TC or SC in existing working groups. The case where a new TC, SC or WG needs to be established will be discussed at a later point.

CWAs are developed in a workshop, with secretarial support from an NSB (or SO). The members of the workshop do not need to be registered experts and are chosen to best represent the relevant stakeholders.

The approximate times needed to develop the CEN deliverable from the first idea to publication of the document are listed in the table below.

---

[10] http://boss.cen.eu/reference%20material/Guidancedoc/Pages/Del.aspx

CEN deliverable	Time to develop (idea to publication)
EN	Ca. 5 years (3y from first full draft)
CEN/TS	2-3 years
CEN/TR	2-3 years
CWA	<1 year

Since most EU projects have a duration of 4 years or less, it is not realistic to propose developing an EN standard during the lifetime of the project. What can be done is:

- Prepare a draft standard
- Prepare a draft CEN/TR or CEN/TS
- Prepare a CWA

Note on the language used in standardisation documents

Under European Framework Programmes (and now H2020) expressions have become common to the research and development community, which other communities are not familiar with. This extends also to the manner in which proposals, progress, results and conclusions are described. Documents are required to or from habit follow a certain layout and well known words (within the community) are used. Often people do not realise that outside this community these terms are not always well known and may have an other meaning. The same is valid for the standardisation community. Since historically the two communities have not been working together closely, quite often the two sides do not follow what the other is saying even if everyone speaks English.

Note that normative documents – although English is in most cases the reference language – are often translated in other languages (mostly French and German) and that legally all linguistic versions are equivalent.

For researchers it is therefore important to either (1) learn at least the basics in standardisation language or (2) to have a 'translator' in the consortium, who is familiar in both research and standardisation. This will facilitate preparing input documents for standardisation deliverables, which (1) are useful output documents for the project and (2) useful input documents for the standardisation body.

It will also be helpful to prepare a glossary, similar to the one that can be found in the beginning of this document. When preparing normative documents in support of a legislation, the meaning of terms and definitions used in that legislation should not be changed.

More information on how to prepare CEN and CENELEC documents (new work item proposals[11], and standardisation deliverables[12] like standards, etc.) can be found on the CEN BOSS website[13]. The respective documents for other standardisation organisations can be found on their websites (see also *Glossary* and *Further Reading*.

---

[11] http://boss.cen.eu/startingnewwork/propnewwork/Pages/default.aspx

[12] http://boss.cen.eu/developingdeliverables/Pages/default.aspx

[13] http://boss.cen.eu

Implementing standardisation tasks into the work programme

The different possibilities for implementing standardisation tasks have been discussed earlier in this document. Here we will give some detailed examples on how to describe them in the different parts of the proposal. An example layout of the structure of H2020 projects is given below. The order and ranking of the chapters of the project may vary, depending on the preference of the coordinator and the nature of the project.

1. *Excellence*
    1.1. *Objectives*
    1.2. *Relation to the work programme*
    1.3. *Concept and approach*
    1.4. *Ambition*
2. *Impact*
    2.1. *Expected impacts*
    2.2. *Measures to maximise impact*
3. *Implementation*
    3.1. *Work plan — Work packages, deliverables and milestones*
    3.2. *Management structure and procedures*
    3.3. *Consortium as a whole*
    3.4. *Resources to be committed*
    3.5. *Work plan — Work packages, deliverables and milestones*
4. *Members of the consortium.*
    4.1. *Participants (applicants)*
    4.2. *Third parties involved in the project (including use of third party resources)*
5. *Ethics and Security*
    5.1. *Ethics*
    5.2. *Security*

Excellence

In the chapter *Excellence* usually a short overview of the state of the art is given together with the objectives, a rough outline of the concept of the project and how the work will be performed. If standardisation is relevant it should be mentioned here; if it plays a major role this should already be clearly stated here. Also the type of activities planned as well as a short description of the limitations can be made here.

Impact

In the chapter *Impact* the impact of the project results and activities on the broader community are described. If standardisation activities are planned and especially if they will play an important role, they should be discussed here. This includes planned interaction and output towards standardisation committees.

Implementation

In the chapter *Implementation* the detailed work planning and efforts (time and money) have to be elaborated. Usually the time and effort needed for standardisation activities is strongly underestimated in work programmes. In most cases it will be necessary to start first steps at the beginning of the project and foresee sufficient manpower and budget. Here the information in the section **General Considerations** of this guidance document should be taken into account.

Some examples for implementing standardisation in the work programme will be given in the next sections. When describing the consortium as a whole care should be taken to clearly indicate the partner(s) that will be following up the standardisation efforts (see also next paragraph).

Members of the Consortium

In the chapter *Members of the Consortium* it will also be important to take into account the information given on this matter in the section **General Considerations** of this guidance document. If standardisation is an important issue a partner should be included that brings the necessary knowledge and connections to standardisation bodies into the consortium and this should be clearly stated in the partner and personnel description.

Ethics and security

In the chapter E*thics and Security* standardisation, certification and conformity assessment should be stated if applicable.

Specific examples

On the following pages first two examples are given for parts in the work programme describing standardisation work. One describes the development of a roadmap (as a separate task), the other the development of a new test method (as a separate work package).

Note: these are just examples. Depending on the nature of the road map, it may also be more suitable to dedicate a whole work package to this topic. Accordingly for the test method, in the case of the adaptation of an existing method it may be sufficient to dedicate only a limited number of tasks in a work package to this topic.

Interaction with standardisation bodies (TCs, SC's or WG's) may be integrated as separate task in these work packages, but such a task may also be integrated in a work package dedicated to dissemination of project results.

Additionally an example of how to budget at CWA is given, which can be a useful tool for preparing (draft) standardisation deliverables, but is often underestimated in effort it takes.

Example of a task in a work package on the development of a road map

Work package number	XX	Start date or starting event:			M1		
Work package title	Requirements and specifications						
Activity Type	RTD						
Participant number							
Participant short name							
Person-months per participant:							

Objectives

- …
- Identify and prioritize the standardization needs for prototyping and preparing the prototype for the market, develop of an action plan (road mapping)
- ….

Description of Work

Task X.X Roadmap for standardisation

In this task the standardisation needs for prototyping and preparing the prototype for the market will be addressed. This will include the following steps:

- Identify the standardisation needs (testing, evaluation, etc.)
- Prioritize the standardisation needs, taking into account producers, users and legal requirements
- Prepare a timeline for finding solutions to the identified standardisation needs
- Identify the means for finding solutions for these standardisation needs, e.g. by brining them to the attention of a standardisation body
- Identify the relevant standardisation bodies *[if this has not been done at the proposal stage]*

[This task should be further elaborated to provide details specific to the project and the prototype/ demonstrator being developed]

[If applicable one should also refer here to other work packages, tasks related to e.g. developing standardisation input documents, test methods, participation in standardisation committees or working groups]

Deliverables (brief description and month of delivery)

DX….

DX.X Roadmap for standardisation ([*Choose month compatible with the rest of the project, e.g. early on if needed for later parts in the project*])

DX….

Milestones (brief description and month of delivery)

[*chose as suitable for the project*]

Example of a work package for the development of a standard test method

Work package number	XX	Start date or starting event:		M1		
Work package title	Standardisation and test method development					
Activity Type	RTD					
Participant number						
Participant short name						
Person-months per participant:						

Objectives
- Identify standardization needs of the project
- Overview of relevant standardization actors and ongoing standardisation work and establishing links
- Development of a test method
- Preparation of standardisation input documents
-

Description of Work

[*These tasks are a suggestion, for each individual project they should be adjusted to more closely match the remaining part of the work programme*]

Task X.1 Identify standardization needs of the project

[*Elaborate why the technological developments envisaged in this project require re-evaluating the current standards, for example*

- *Current standards are not suitable for evaluating*
  - *The properties of the developed prototype*
  - *The safety of the prototype*
  - *…[other]*
- *This requires adaptation of existing standards*
- *This requires the development of new standards*

Give more details on what is needed. Be sure to give a good overview of the existing standards and their shortcomings, taking into account not only EN standards, but also international, other regional, national and industrial standards where applicable.

A link to EU and other legislation, if applicable, may be repeated here.

Describe which partner(s) in the consortium will be performing these tasks.

Note that some of this work should already have been done when the proposal was written, so that this task is 1) an update of this work and 2) provides a more detailed description]

Task X.2 Overview of relevant standardization actors and ongoing standardisation work and establishing links

[*In this task the link should be made between the needs identified in Task X.1 and the already on-going standardisation efforts on EU, national, international level.*

- *An overview over the standardisation bodies active on this topic and their current work programme should be made*
- *The in tasks X.1 identified needs should be linked to one of the identified standardisation bodies, where possible*
- *An action plan should be developed on how to establish a link to these activities, important for keeping up to date and for later dissemination of project results. This action plan can include:*
  - *Establishing contact to a national standardisation body*
  - *Establishing a project liaison to relevant TCs*
  - *Participating in relevant WGs*
  - *…*
- *A monitoring system should be established to keep up to date with ongoing standardisation activities, if possible*

It is recommended to link the project results to standardisation work mandated/ Requested from the European commission.

Describe which partner(s) in the consortium will be performing these tasks. It will be important to stress here any existing or planned involvement of project partners in the relevant standardisation bodies.

Note that some of this work should already have been done when the proposal was written, so that this task is 1) an update of this work and 2) provides a more detailed description.]

Task X.3 Development of a test method

[*This task should include*

- *a short explanation on how the development of the test method is linked to the previous two tasks*
- *the scope of the test method: what is it needed for and where does it apply to*
- *the expected results from the test (measurement, evaluation), including degree of accuracy*
- *the boundary conditions and requirements for setting up the testing, e.g. pre-treatment, pre-conditioning, sample preparation, atmosphere for testing, re-testing after durability testing, etc.*
- *any other important items.*

A detailed testing protocol should be developed and, if possible, the test method should be validated (the test protocol should be tested in different laboratories and ideally inter-laboratory trials should be conducted).]

[*Optionally this task could also discuss assistance with ongoing efforts for developing a test method and participation in ongoing inter-laboratory trials.*]

Task X.4 Preparation of standardisation input documents

[*When preparing standardisation input documents one best follows as closely as possible the final layout of e.g. new work item proposals and standardisation deliverables (for examples see section General considerations for input of this document. The closer the input documents are to the working documents of standardisation bodies, the easier communication with them will be.*]

[*Optionally the development of a CWA can be planned in this task. If this is done, it is advisable to already prepare a draft plan for the CWA, including the number of meetings, the necessary*

experts, the time frame and how the secretariat will be chosen (e.g. by subcontracting, a project partner)].

[*Concerning the timing of a CWA, care must be taken to allow for sufficient time for each step and to allocate the needed time and resources. An estimation is given in the section 'Example for b*udgeting and timing for a CWA'*]

Deliverables (brief description and month of delivery)

[*These deliverables are suggested according to the above described tasks. Depending on the project they should be adjusted to more closely match the work programme*]

DX.1 Overview report on the identified standardization needs of the project (M Y)

DX.2 Overview report on relevant standardization actors and ongoing standardisation work and establishing links (M Y)

DX.3 Test method developed (M Final - 6 months)

DX.4 Input documents for standardization available (public) (M Final)

(Optional: DX.5 Test method verified, if applicable (M Final))

Milestones:

[*chose as suitable for the project*]

Example for budgeting and timing for a CWA

Below scheme gives a suggestion on how to time the different steps needed for preparing a CWA. M1 refers here to the start of the work shop preparation:

Preparation of workshop	M1-2
Notice for kick-off meeting	M2
Kick-off meeting workshop	M4
Preparation of first draft CWA	M4-5
Notice for follow-up meeting and circulation of first draft CWA	M7 (latest)
Follow-up meeting	M8
Preparation of second draft CWA	M8-9
Notice for follow-up meeting and circulation of second draft CWA	M11 (latest)
Final meeting	M12
Preparation of final draft CWA	M12-13
Circulation of final draft of CWA	M13 – M16
Preparation of final version CWA	M17-18
Submission of final version Workshop Agreement	M18

Important considerations:

- Spacing of workshop meetings closer than 4 months is possible, but sufficient time between meetings may be necessary depending on the 'homework' between the meetings.
- Notice of meetings must be sent out a minimum of 1 month before the meeting date, preferably 2 months, especially for the kick-off meeting.
- Meetings should be 1 full day.
- If additional meetings are needed, the timing needs to be adjusted accordingly.

Note that more than one CWA can be developed by a CEN workshop.

Concerning the necessary man-days, the following steps need to be taken into account, with an estimate for the secretary of the CW:

Set-up of CW	1 md (man day)
Organisation of meeting	1 md
Secretariat at meeting (full day)	1 md
Minutes and other meeting documents	1 md
Preparation of first draft & updates of CWA incl. circulation among experts & processing feedback	1 md
Preparation of final version of CWA and submission to CEN-CENELEC Meeting Centre	1 md

For people attending the workshop, the duration and number of meetings and the time required to work on the draft document and prepare for the meetings needs to be taken into account.

Further reading

Some general information concerning standardisation can be found on the following websites:

Portal of the ESOs: *http://www.european-standardization-organizations.eu/*

CEN-CENELEC guides: *http://www.cencenelec.eu/standards/Guides/Pages/default.aspx*

Detailed description of CEN and CENELEC standardisation deliverables:
http://www.cen.eu/work/products/Pages/default.aspx or
http://www.cenelec.eu/standardsdevelopment/ourproducts/index.html

Horizon 2020 programme of the EU: *http://ec.europa.eu/programmes/horizon2020/en*

Peter Hatto, "Practical standardisation guide for researchers"
http://ec.europa.eu/research/industrial_technologies/pdf/practical-standardisation-guide-for-researchers_en.pdf