

Evolution of the Structural Eurocodes

Steve Denton

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Head of Civil, Bridge and Ground Engineering, WSP

Visiting Professor, University of Bath

Chairman, CEN/TC 250

500 000
Engineers

500 000
Engineers

€65 Billion

500 000
Engineers

€65 Billion

10-59

500 000
Engineers

€65 Billion

10-59

5000
Pages

500 000
Engineers

€65 Billion

10-59

5000
Pages

1055 NDPs

500 000
Engineers

€65 Billion

10-59

5000
Pages

1055 NDPs

33
Countries

500 000
Engineers

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10-59

5000
Pages

1055 NDPs

33
Countries

97
SCs/WGs/
TGs

500 000
Engineers

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Pages

1055 NDPs

33
Countries

97
SCs/WGs/
TGs

€4.5
Million

500 000
Engineers

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10-59

5000
Pages

1055 NDPs

33
Countries

97
SCs/WGs/
TGs

€4.5
Million

€11.5
Million

500 000
Engineers

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10-59

5000
Pages

1055 NDPs

33
Countries

97
SCs/WGs/
TGs

€4.5
Million

€11.5
Million

76 Project
Teams

500 000
Engineers

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10-59

5000
Pages

1055 NDPs

33
Countries

97
SCs/WGs/
TGs

€4.5
Million

€11.5
Million

76 Project
Teams

25
Phase 1 PTs

500 000
Engineers

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10-59

5000
Pages

1055 NDPs

33
Countries

97
SCs/WGs/
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€4.5
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76 Project
Teams

25
Phase 1 PTs

22
Phase 2 PTs

500 000
Engineers

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Countries

97
SCs/WGs/
TGs

€4.5
Million

€11.5
Million

76 Project
Teams

25
Phase 1 PTs

22
Phase 2 PTs

300+
Phase 1&2
Contracts

500 000
Engineers

€65 Billion

10-59

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1055 NDPs

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97
SCs/WGs/
TGs

€4.5
Million

€11.5
Million

76 Project
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25
Phase 1 PTs

22
Phase 2 PTs

300+
Phase 1&2
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August
2018

500 000
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10-59

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1055 NDPs

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€4.5
Million

€11.5
Million

76 Project
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25
Phase 1 PTs

22
Phase 2 PTs

300+
Phase 1&2
Contracts

August
2018

2021

Agenda

- Background
- Why Design Standards Matter
- Aims for the evolution of Structural Eurocodes
- Process and timing

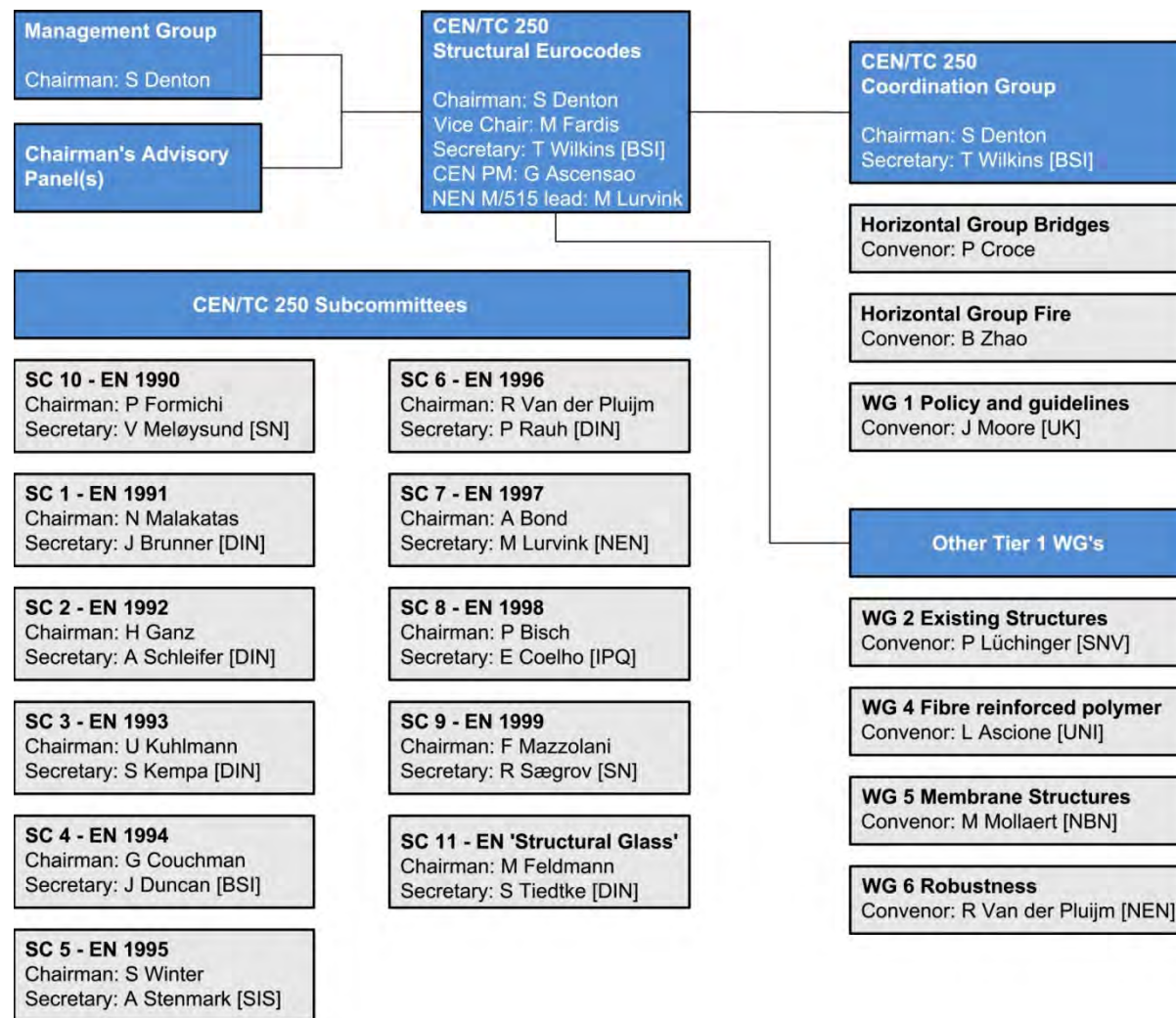
Agenda

- Background
- Why Design Standards Matter
- Aims for the evolution of Structural Eurocodes
- Process and timing

My background

- Chairman of CEN/TC 250 Structural Eurocodes
- WSP's Head of Civil, Bridge and Ground Engineering
- Visiting Professor at the University of Bath
- Advisor to Clients and Government

CEN/TC 250 Structural Eurocodes



Background

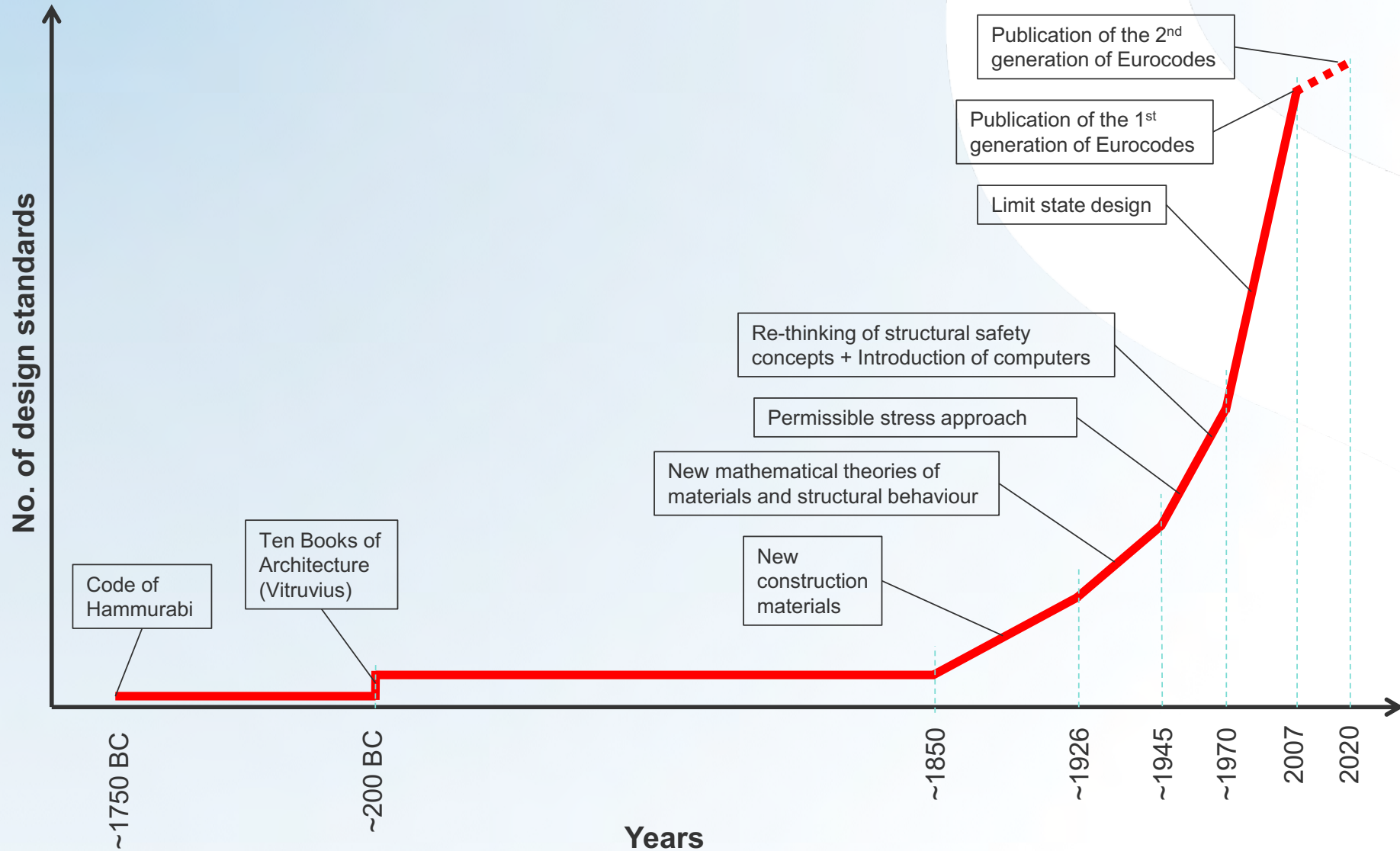
“Like life in general our codes seem to get more and more complicated.”

Background

If a designer-builder has designed-built a home for a man and his work is not good, and if the house he has designed-built falls in and kills the householder, that designer-builder shall be slain

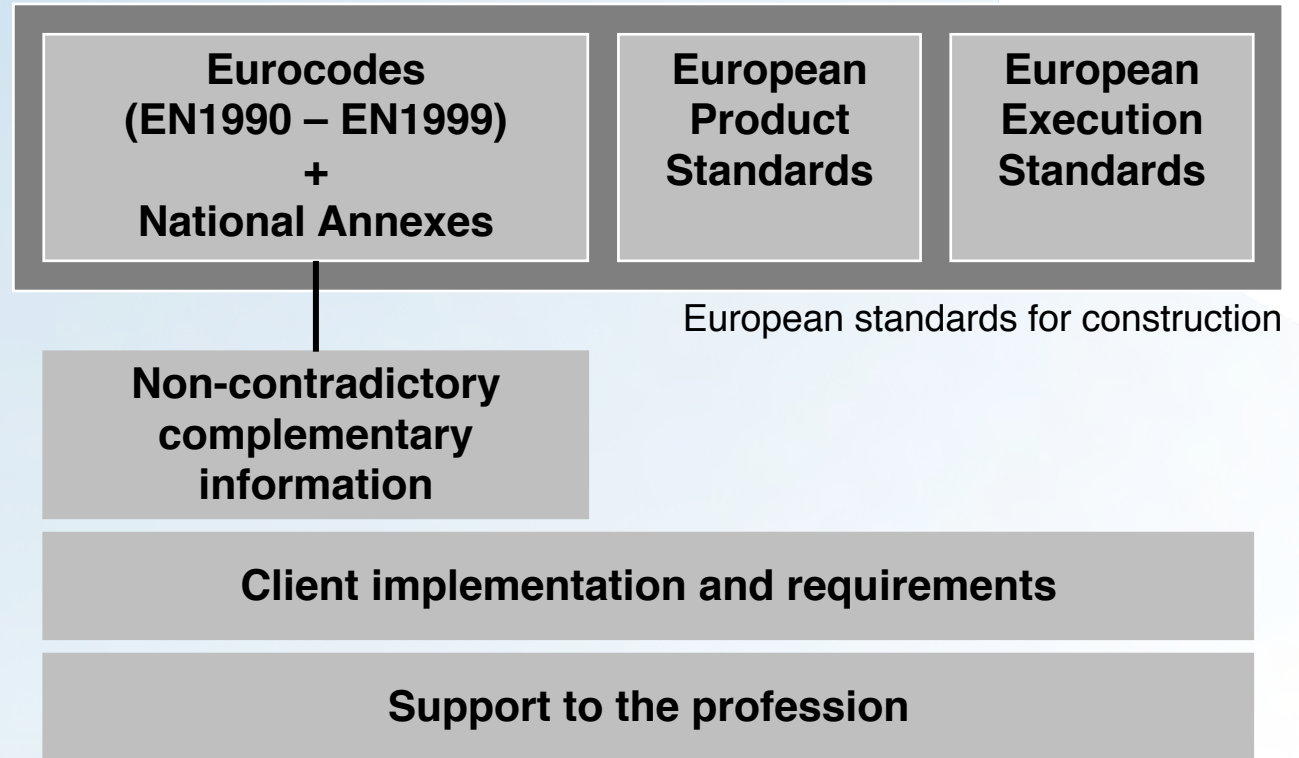
Rule 229, Code of Hammurabi

Historical evolution (*)



(*) The graph is indicative

The Structural Eurocodes



Agenda

- Background
- Why Design Standards Matter
- Aims for the evolution of Structural Eurocodes
- Process and timing

Why Design Standards Matter

Impact

Why Design Standards Matter

International trade

Why Design Standards Matter

Verification of adequacy

Why Design Standards Matter

Feedback

Why Design Standards Matter

New societal demands

Why Design Standards Matter

Research to application

Agenda

- Background
- Why Design Standards Matter
- Aims for the evolution of Structural Eurocodes
- Process and timing

Aims of the Evolution of the Eurocode

Aims of the Evolution of the Eurocode

✓ **Enhanced
Ease of Use**

Aims of the Evolution of the Eurocode

✓ **Enhanced
Ease of Use**

✓ **Exemplary
levels of
international
consensus**

Aims of the Evolution of the Eurocode

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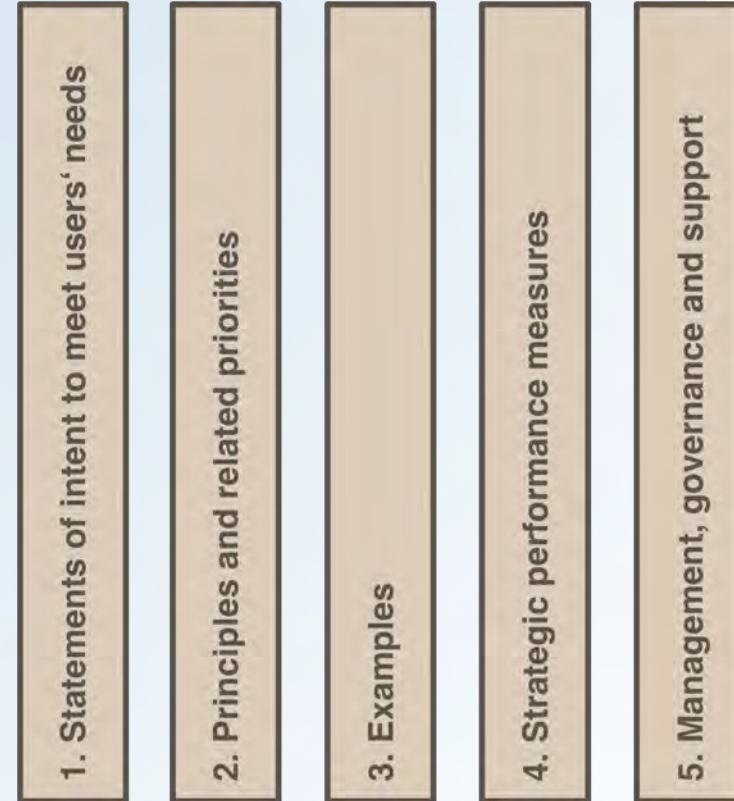
✓ **Exemplary
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Aims of the Evolution of the Eurocode

CEN/TC 250's vision on the second generation of the Structural Eurocodes

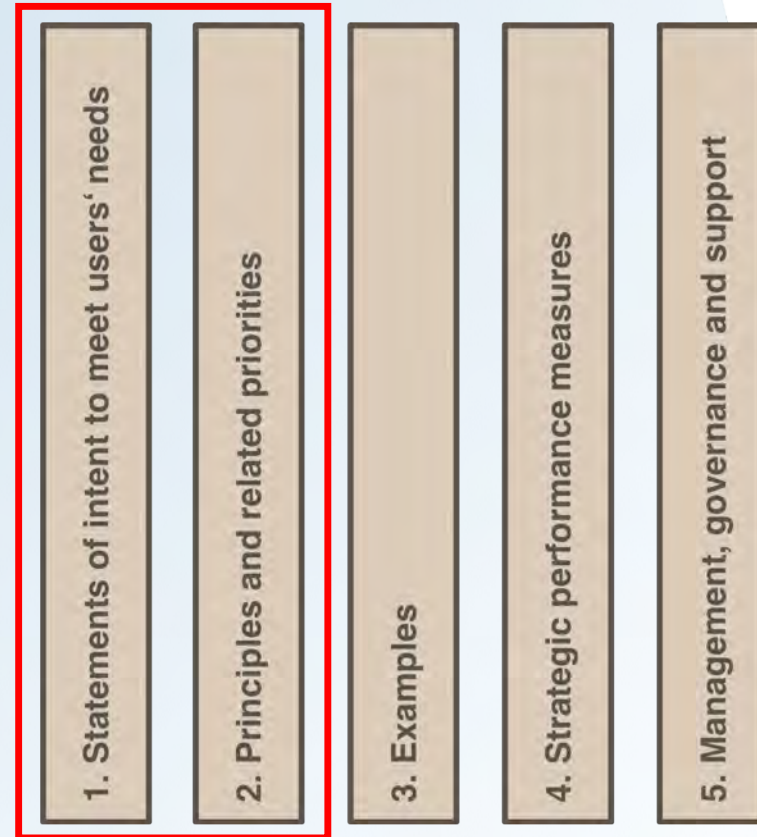
Whilst respecting the achievements of the past, our vision for the second generation of Structural Eurocodes is to create **a more user-orientated** suite of design standards that are recognised as the most trusted and preferred in the world.

CEN/TC 250 Position Paper on Ease of Use



Five pillars to enhance ease of use of the Eurocodes

CEN/TC 250 Position Paper on Ease of Use



Five pillars to enhance ease of use of the Eurocodes

Recommendation 1: Statements of intent to meet users' needs

PRIMARY TARGET AUDIENCE

Practitioners – Competent engineers

DEFINITION

Competent civil, structural and geotechnical engineers, typically qualified professionals able to work independently in relevant fields

Aims of the Evolution of the Eurocode

Recommendation 1: Statements of intent to meet users' needs

CATEGORIES OF EUROCODES' USERS	CEN/TC 250 STATEMENTS OF INTENT
Practitioners – Competent engineers [Primary target audience]	We will aim to produce Standards that are suitable and clear for all common design cases without demanding disproportionate levels of effort to apply them
Practitioners – Graduates	We will aim to produce Eurocodes that can be used by Graduates where necessary supplemented by suitable guidance documents and textbooks and under the supervision of an experienced practitioner when appropriate
Expert specialists	We will aim not to restrict innovation by providing freedom to experts to apply their specialist knowledge and expertise
Product Manufacturers	Working with other CEN/TCs we will aim to eliminate incompatibilities or ambiguities between the Eurocodes and Product Standards
Software developers	We will aim to provide unambiguous and complete design procedures. Accompanying formulae will be provided for charts and tables where possible
Educators	We will aim to use consistent underlying technical principles irrespective of the intended use of a structure (e.g. bridge, building, etc.) and that facilitate the linkage between physical behaviour and design rules
National regulator	We will endeavour to produce standards that can be referenced or quoted by National Regulations
Private sectors businesses	We will continue to promote technical harmonization across European markets in order to reduce barriers to trade
Clients	We will produce Eurocodes that enable the design of safe, serviceable, robust and durable structures, aiming to promoting cost effectiveness throughout their whole life cycle, including design, construction and maintenance
Other CEN/TCs	We will engage proactively to promote effective collaboration with those other CEN/TCs that have shared interests

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Recommendation 2: Principles and related priorities

General principles (primary)

- 1 Improving clarity and understandability of technical provisions of the Eurocodes
- 2 Improving accessibility to technical provisions and ease of navigation between them
- 3 Improving consistency within and between the Eurocodes
- 4 Including state-of-the-art material the use of which is based on commonly accepted results of research and has been validated through sufficient practical experience
- 5 Considering the second generation of the Eurocodes as an “evolution” avoiding fundamental changes to the approach to design and to the structure of the Eurocodes unless adequately justified

Specific principles (secondary)

- 6 Providing clear guidance for all common design cases encountered by typical competent practitioners in the relevant field
- 7 Omitting or providing only general and basic technical provisions for special cases that will be very rarely encountered by typical competent practitioners in the relevant field
- 8 Not inhibiting the freedom of experts to work from first principles and providing adequate freedom for innovation
- 9 Limiting the inclusion of alternative application rules
- 10 Including simplified methods only where they are of general application, address commonly encountered situations, are technically justified and give more conservative results than the rigorous methods they are intended to simplify
- 11 Improving consistency with product standards and standards for execution
- 12 Providing technical provisions that are not excessive sensitive to execution tolerances beyond what can be practically achieved on site

Recommendation 2: Principles and related priorities

General principles (primary)

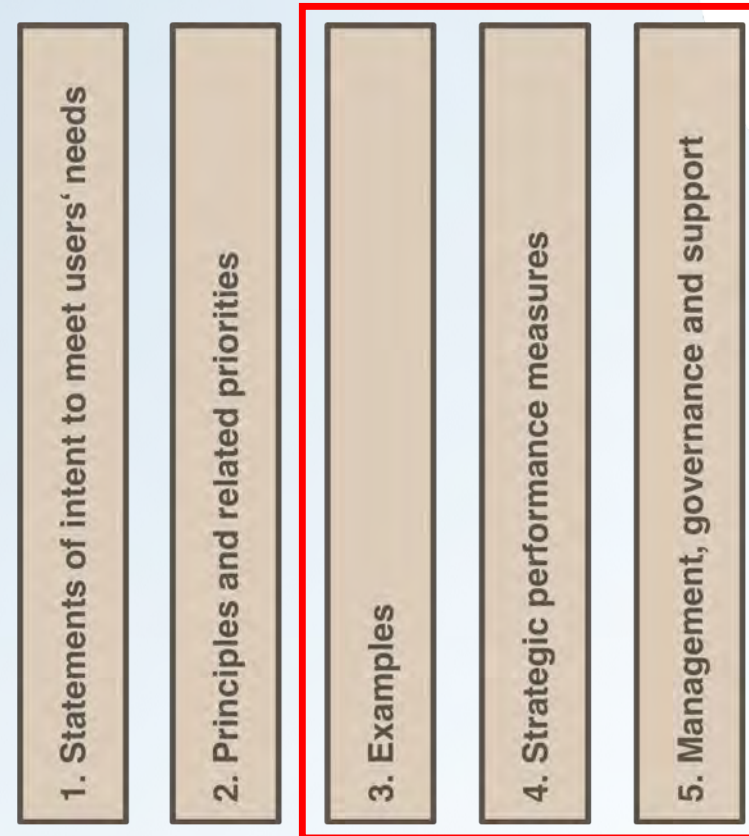
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Specific principles (secondary)

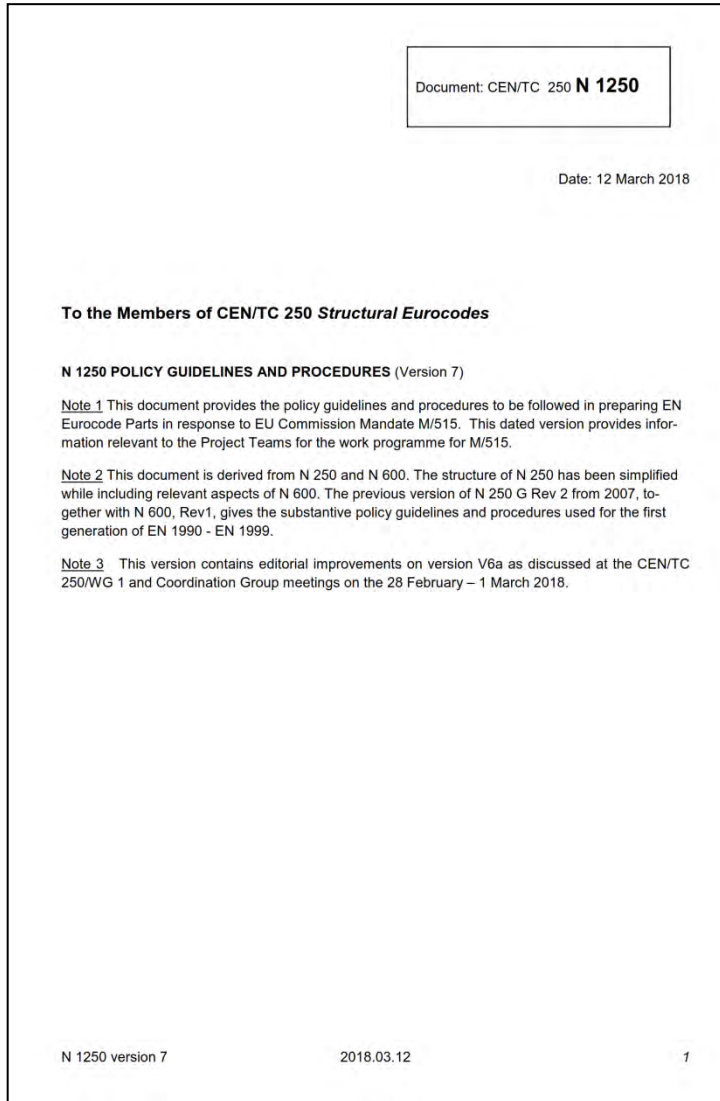
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-

CEN/TC 250 Position Paper on Ease of Use



Five pillars to enhance ease of use of the Eurocodes

Enhancing Ease of Use



- *Appointment of Technical Reviewer*
- *Detailed review of deliverables*
- *Development of TC 250 document N1250 ‘Policy Guidelines and Procedures’*
- *Provision of examples and advice*

Enhancing Ease of Use

— Guidance materials, examples and briefings developed

CEN/TC 250 – Chairman's briefing note 2017/4

Achieving exemplary levels of international consensus

Introduction

CEN/TC 250 has es
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Achieving consensu
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Background

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Current proces

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CEN/TC 250 – Chairman's briefing note 2017/6

References to project specific agreements and the requirements of relevant authorities

Bristol 7/11/2017

Introduction

The Eurocodes currently contain a significant numbers of clauses that state that matters 'may' or 'should' be agreed for 'individual projects'. In some cases, clauses also make reference to 'national authorities' or a similar term, but the approach taken is inconsistent.
The review of interim deliverables by the CEN/TC 250 Technical Reviewer for Phase 1 (see CEN/TC 250 Document N1792) has also highlighted inconsistencies in the way in which reference is made to decisions taken on a project-specific basis and/or where authorities can have specific requirements.
The CEN/TC 250 position paper on enhancing ease of use of the Eurocodes sets out the principle that consistency within and between the Eurocodes should be improved. There is therefore a need to agree a common approach to the treatment of matters relating to project specific agreements and the requirements of relevant authorities, and for the associated guidance to be included in N1250.

Purpose of this paper

The purpose of this paper is to set out options for the treatment of project specific matters and those that can be subject to the requirements of authorities as a basis for discussion by CEN/TC 250. Once consensus has been reached, it is intended that N1250 will be updated to include relevant guidance.

Use of references to project specific agreements and the requirements of relevant authorities

Many decisions taking during design will be made on a project specific basis and can be affected by the contractual or statutory requirements of clients and/or national authorities. However, this does not mean that extensive references to project specific agreements and the requirements of relevant authorities in the Eurocodes are necessary or helpful.
There are, however, some significant design decisions for which it is important that there is clarity between relevant parties on the approach to be adopted, particularly when these have implications for the long-term operation or performance of the structure / civil engineering works or for its construction. In such cases, it may be appropriate to include references to project specific agreements and the requirements of relevant authorities.
The use of references to project specific agreements and the requirements of relevant authorities should be carefully considered and only used where specifically justified. Generally, such references are discouraged.

Style of references to project specific agreements and the requirements of relevant authorities

The style used for references to project specific agreements and the requirements of relevant authorities should satisfy the following requirements; it should:

- be 'contract neutral', i.e. it shall be suitable whatever form of contract is used for the appointment of the designer and the roles of other parties engaged in the project. This means that obligations shall not be assigned to named parties, e.g. the term 'client' should not be used;
- be specific about the matter that is subject to project specific agreements and/or the requirements of relevant authorities, with that matter as narrowly defined as possible – sentences like 'Other aspects should be considered for each project and agreed with the client' are not allowed as too vague;

Annex 1 Checklist

General prin

1 Improve underst
provisio

2 Improve technica
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4 Includin
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M515 TECHNICAL

General principles (primary)

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alternative s

M515 TECHNICAL

Key questions in terms of ease of use

4.11. Alternative application rules

More consistency is needed in terms of presentation of alternative application rules. Review of the drafts shows the following issues:

- a) Some alternative rules are provided without clarification of how a choice among them should be made, which criteria should be adopted, and who should make that choice.

Table 11. Example of difficulty to make a choice among different alternative rules

Text from April 2017 deliverables	Comment
(2) Verification of fire resistance should be in the time domain: $t_{R,d} \geq t_{R,req}$ or in the strength domain: $R_{R,d} \geq E_{R,d}$ or in the temperature domain: $\Delta t_{R,d} \leq \Delta t_{R,d}$	(2.1) (2.2) This general rule needs referencing clauses in EN 1992-1-2, EN 1993-1-2, EN 1994-1-2, etc. where conditions for each option or choice of option are spelled out.

b) Some alternative rules give conflicting results.

Table 12. Example of alternative rules giving conflicting results

EN 1998-3, clause 6.6.4.2.1.2 gives one set of application rules for the calculation of the effect of the confinement due to FRP-wrapping of concrete members. Clause 6.6.4.4 gives another set of rules, which give different results.

c) The scope of application or the conditions for the use of alternative rules is not clearly defined. This leaves room for misinterpretation.

Table 13. Example of unclear conditions for use

Text from April 2017 deliverables	Comment
5.1 General (3) Analyses shall be carried out using idealisations of both the geometry and the behaviour of the structure. The idealisations selected shall be appropriate to the problem being considered. (5) Common idealisations used for analysis are: <ul style="list-style-type: none">• linear elastic behaviour (see 5.4)• linear elastic behaviour with limited redistribution (see 5.5)• plastic behaviour (see 5.6), including strut and tie models (see 5.6.4)• non-linear behaviour (see 5.7)	These clauses do not give conditions for the use of each idealisation (except the first one to the ULS).

M515 TECHNICAL REVIEWER NOTE V2_10/2017

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wsp

Aims of the Evolution of the Eurocode

✓ **Enhanced
Ease of Use**

✓ **Exemplary
levels of
international
consensus**

Aims of the Evolution of the Eurocode

✓ **Enhanced
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Future Challenges

The chairman shall do everything possible to obtain a unanimous decision of the Technical Committee. If unanimity on a subject is not obtainable, the chairman shall try to seek consensus rather than rely simply on a majority decision.

**CEN Internal Regulations -
Responsibility of the Chairman of a CEN TC**

CEN/TC 250 – Chairman's briefing note 2017/4

Achieving exemplary levels of international consensus

Bristol 31/10/2017

Introduction

CEN/TC 250 has established two overarching objectives for the evolution of the Structural Eurocodes: firstly, to enhance ease of use; and secondly, to achieve exemplary levels of international consensus, evidenced through positive votes from CEN members.

Achieving consensus is an essential step in our work and clearly a key challenge in the delivery of the CEN/TC 250 work programme, given its scale, complexity and international impact.

The purpose of this Chairman's Briefing Note is to set out a framework, which encourages behaviours conducive to fulfilling CEN/TC 250's objective. It is based on discussions at meetings of CEN/TC 250 and was requested by the CEN/TC 250 Coordination Group. It will be discussed further at the CEN/TC 250 meeting to be held in Berlin in November 2017.

Background

In defining the responsibilities of the Chairman of a Technical Committee, the CEN Internal Regulations state, 'The chairman shall do everything possible to obtain a unanimous decision of the Technical Committee. If unanimity on a subject is not obtainable, the chairman shall try to seek consensus rather than rely simply on a majority decision.'

Consensus in this context means that there is general agreement on an outcome that everyone can support or commit to, even if it is not the 'favourite' of each party. Crucially, therefore, it must be recognised that consensus is the outcome of a process of engagement and dialogue during which (i) the understanding of needs and perspectives of all parties concerned builds collectively over time and (ii) any conflicting arguments are reconciled.

Enabling consensus building

The CEN Internal Regulations establish roles, responsibilities and processes that promote consensus building between CEN members and stakeholders.

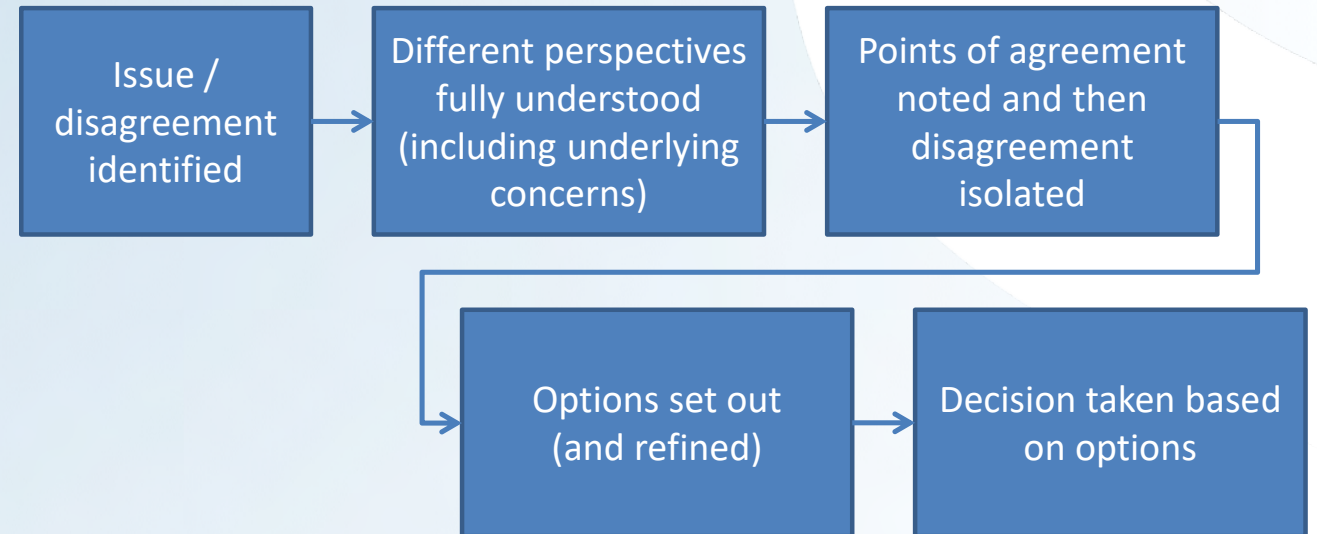
In addition, CEN/TC 250 has taken significant steps to support consensus building, aligned with the TC's commitment to openness and transparency throughout the execution of Mandate M/515 and the development of the second generation of EN Eurocodes.

These steps have included:

- widespread consultation on the development of the CEN/TC 250 work programme, that was unanimously endorsed by the TC;
- development of unanimously agreed position papers on enhancing ease of use and the reduction of NDPs;
- establishing ad-hoc groups to examine issues of concern to CEN/TC 250 members, particularly when of a horizontal nature;
- open calls for experts to serve on Project Teams, providing transparency of obligations and terms of appointment;
- requirement for Project Teams to develop background documents;
- providing opportunities for CEN members to comment on draft interim deliverables at multiple milestones during their development by Project Teams;
- development and on-going review of N1250, providing consistent guidance to all those engaged in Eurocode evolution.

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Page 1



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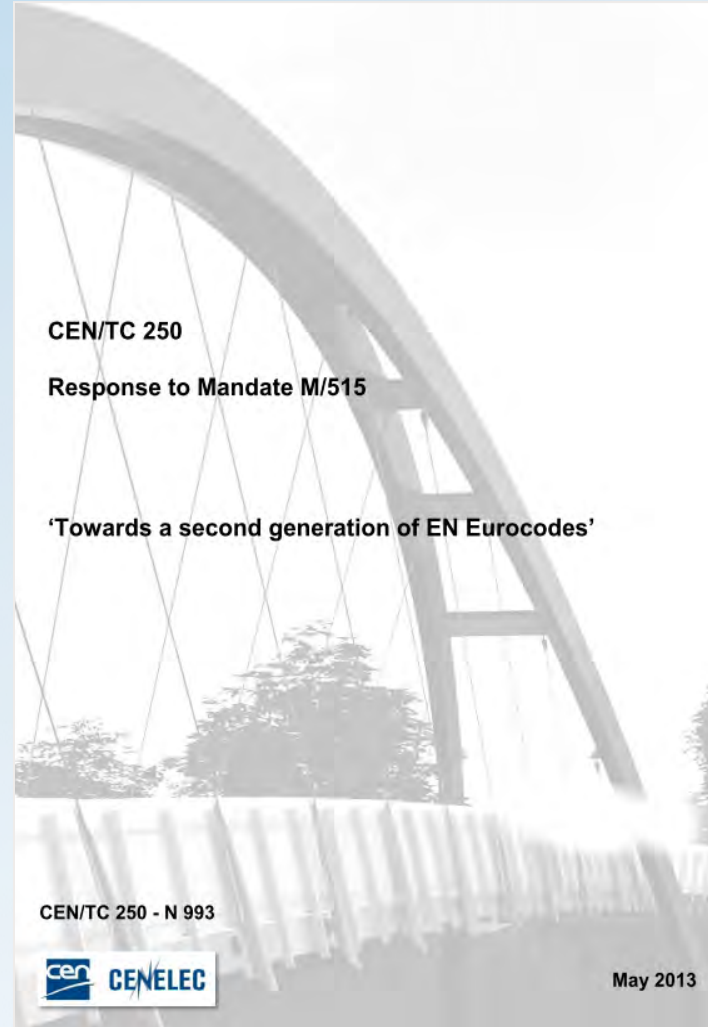
Evolution process and timing

European Commission Mandate M/515



Evolution process and timing

CEN/TC 250 Technical response



- 138 pages
- Over 1000 experts from across Europe involved
- Structure of tasks and sub-tasks
- Phased programme

Evolution
process and
timing

Tiered structured with detailed task plans

TCEN1990

Response to

Task Ref:	TCEN1990.T1	Task Name:	Evolution of EN1990 – General		
Proposed Task Phase:	P1	Deliverable:	A new version of EN 1990 with an increased scope reflecting needs identified by National Standard Bodies and the other Eurocodes, together with Annex A2 for bridges and new Annex Es relating to bearings and expansion joints.		
Outline Task Scope:	Revision of EN 1990 to incorporate comments from the EN 1990, 5 year review and requirements from other Eurocodes for principle guidance on fatigue, non-linear analysis Eurocodes and extending the scope of structural Eurocodes (Document Doc.28/2012 – EN, Brussels, 13th July 2012). Scope does not include specific work relating to Br				
Starting documents:	EN 1990: Basis of Structural Design				
Justification for inclusion in Phase 1:	EN 1990 is the head Eurocode, setting the rules for achieving safety, serviceability, robustness and durability as well as Reliability and Quality Management for the other Eurocodes. It is the cornerstone for all other Structural Eurocodes and serves as a template for the development of new parts as well as revision of existing standards. The items identified in the proposal have been developed collaboratively with a representative cross section of stakeholders and need to be given priority. The selected tasks will further support and enhance the construction sector. The work takes into account market and research developments in materials, products, construction techniques and design methods in the sector of buildings and other construction works. Therefore EN 1990 as the head code needs to be updated at the earliest convenience so as to form a basis for the work of the other Eurocodes in Phase 1.				

Sub-task Ref.	Sub-task name	Brief description, background and reasons for the work (including any additional comments / notes)	Interdependencies Identify known Task (sub-tasks) that must be substantially completed before this sub-task can commence. (Interdependencies within individual Tasks do not need to be identified)	Key benefits
1	Reduction in number of National Choices (NDPs)	Review the contents of all Countries' National Annexes and supporting documents, where they provide information needed to implement the Eurocode Part. Compare the values or choices made by all Countries in their relevant National Annex, using if possible, the JRC database of collected National values and choices. Where little or no variation exists between Countries, eliminate the NDP; where there is good consensus, but not unanimity, seek to persuade those not using that value or choice to adopt it. In cases of wide variation between Countries, seek the reasons for them and try to eliminate them so that consensus can be achieved, for example by use of international studies and research.	-	
2	Enhanced ease of use	Enhance ease of use by improving clarity, simplifying routes through the Eurocode, avoiding or removing rules of little practical use in design and avoiding additional and/or empirical rules for particular structure or structural-element types, all to the extent that it can be technically justified whilst safeguarding the core of essential technical requirements. Take into account feedback from users of the Eurocode.	-	
3	Transfer of Basis of Design rules from EN 1991-1-6, EN 1991-3, EN 1991-4, EN 1993-3-1, EN 1993-3-2 and EN 1991-7.	There are a number of Basis of Design clauses at present included in EN 1991, such as EN 1991-1-6, EN 1991-3 and EN 1991-4, and EN 1993-3-1 and EN 1993-3-2 on Towers and Masts and EN 1991-1-7. These parts, including y factors will be moved to EN 1990, to guarantee consistency with general rules and harmonisation. (N.B. as this is a maintenance activity no resources have been allowed for it).	All work to provide information completed	All Basis of Design information will be in EN 1990 thus avoiding mixed responsibilities that can lead to inconsistency.
4	Evolution of management of structural reliability of construction works (Annex B)	Adapt EN 1990 by establishing and implementing control procedures for design and execution in agreement with the principles of the standard, on a national level recognizing differences between the various countries. Making Annex B of EN 1990 more comprehensive by increasing its scope to construction works with higher consequences of failure than Consequence Class 3 and recognizing complexity of design. Improving alignment with Execution Standards (EN 1090 and EN 13670) and appropriate material Eurocodes.	EN 1990 as the head code needs to be updated first so as to form a basis for the work on reliability differentiation of the other SCs and WGs and CEN Committees developing Execution Standards	The evolution of Annex B, which is expected to be kept informative, will assist NSBs in helping ensure that the assumptions in the Eurocodes relating to quality management during design and execution are fulfilled and thus leading to increased levels of safety. EN 1990 as the Head code will ensure alignment with related annexes in material parts together with consistent approach.
5	Robustness	Review and update as necessary the requirements for Robustness in Section 2 of EN 1990 in the light of recent published cost action (COST Action TU0601, 2011) report. It is expected that work will also include moving some information from EN 1991-1-7 to EN 1990 and further developing these rules. This will be in liaison with WG6: Robustness.	In liaison with WG6: Robustness	Ensure that the requirements for robustness reflect the latest state of the art.
6	Sustainability	Update EN 1990 to include aspects of sustainability relevant to the scope of the Eurocodes, responding to the relevant requirements for Sustainability developed by e.g. TC 350. At the present time any amendment will be Section 2 Requirements.	EN 1990 as the head code needs to be updated first so as to form a basis for the work of the other SCs and WGs.	EN 1990 will address the new Requirement the "Sustainable use of natural resources" in particular as it addresses durability in the CPR.

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TC EN 1990 – page: 1 of 3

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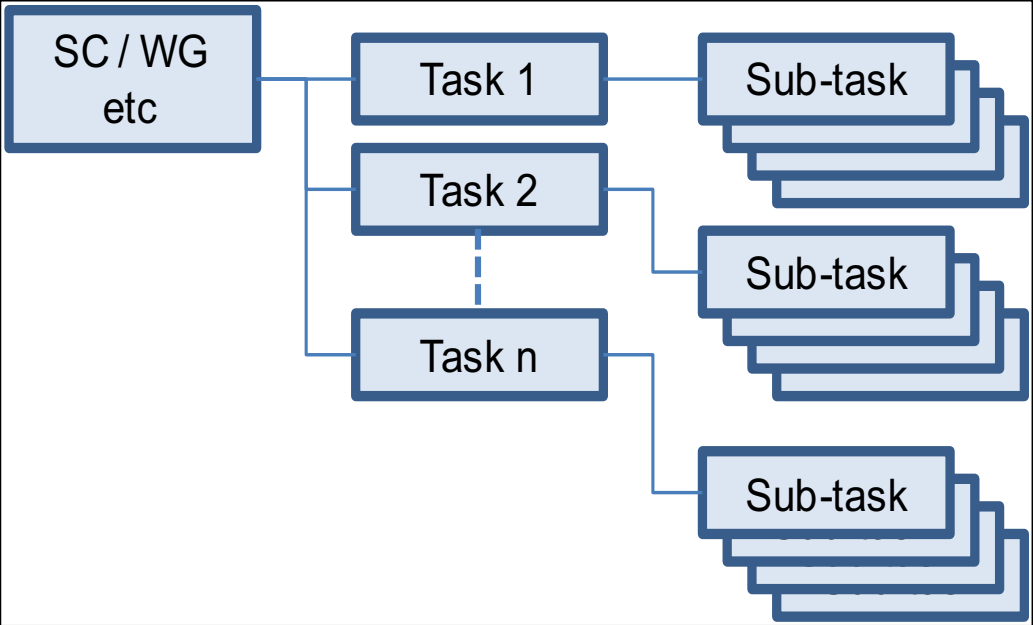
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TC EN 1990 – page: 2 of 3

File name: EN1990 Template 3 draft 4.0

Draft/Final version of: 26/04/2013

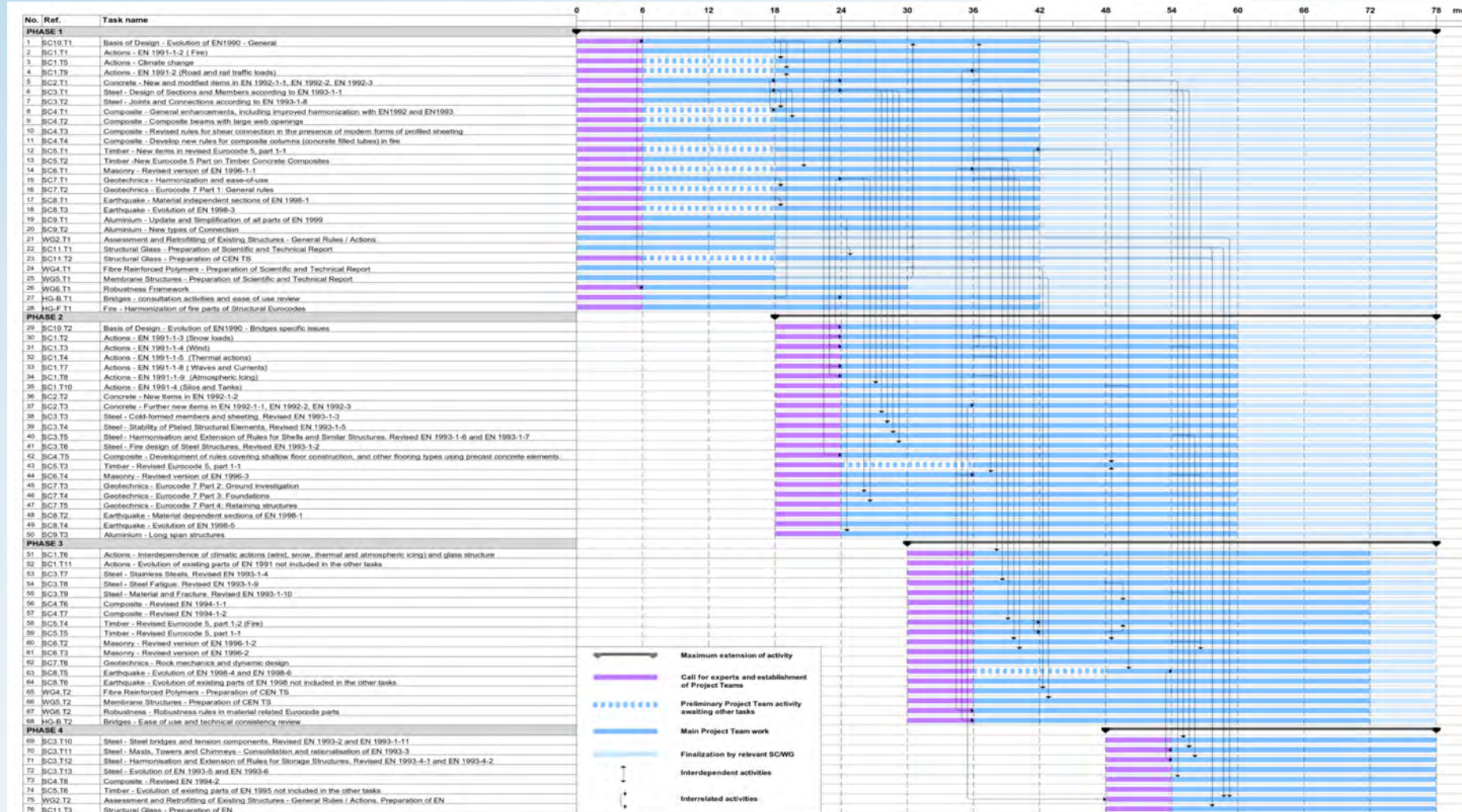
TC EN 1990 – page: 3 of 3



Evolution process and timing

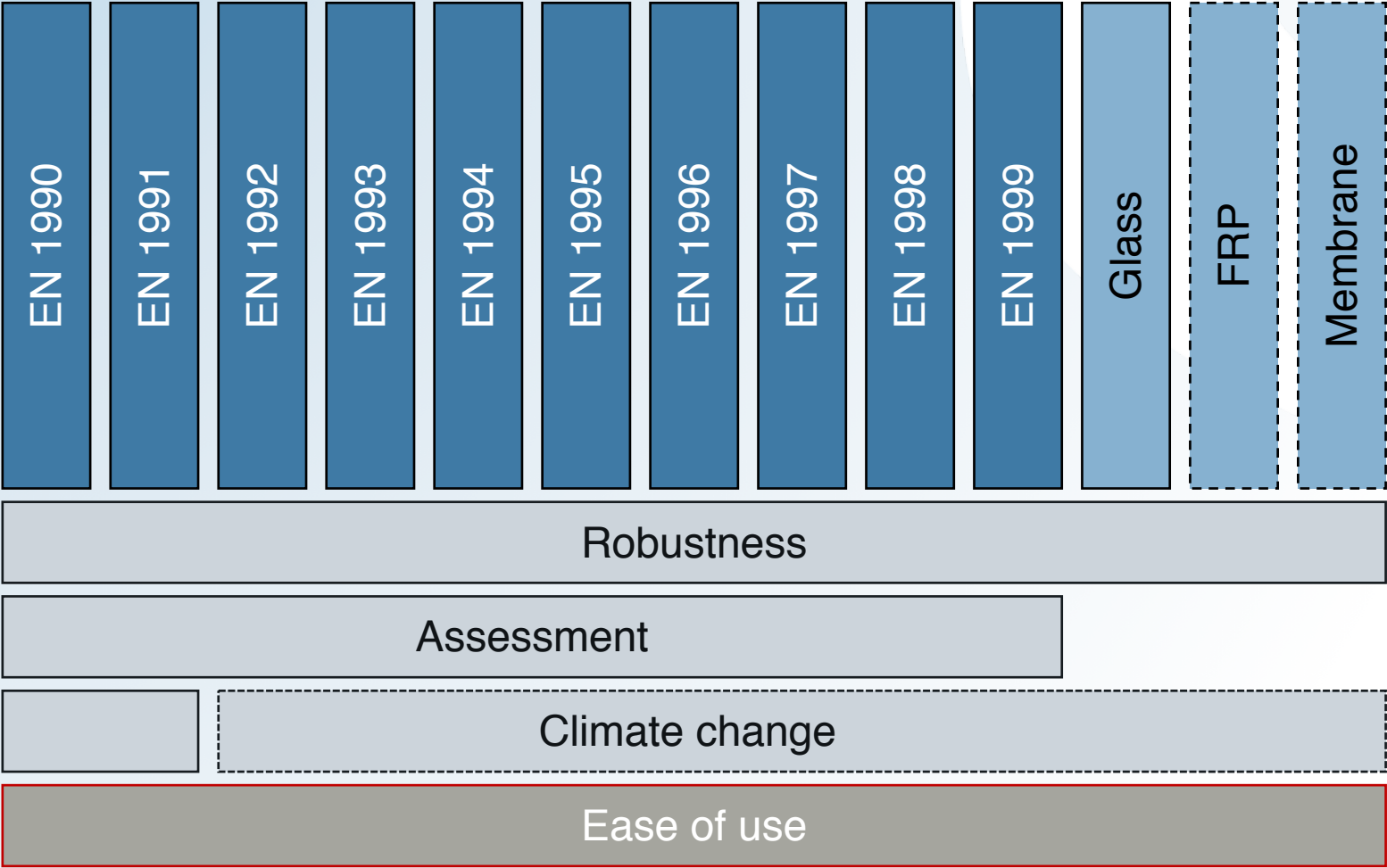
CEN/TC 250 Work Programme (as proposed)

- 76 tasks
- Four overlapping phases of drafting work
- Actual start dates have changed from original plan



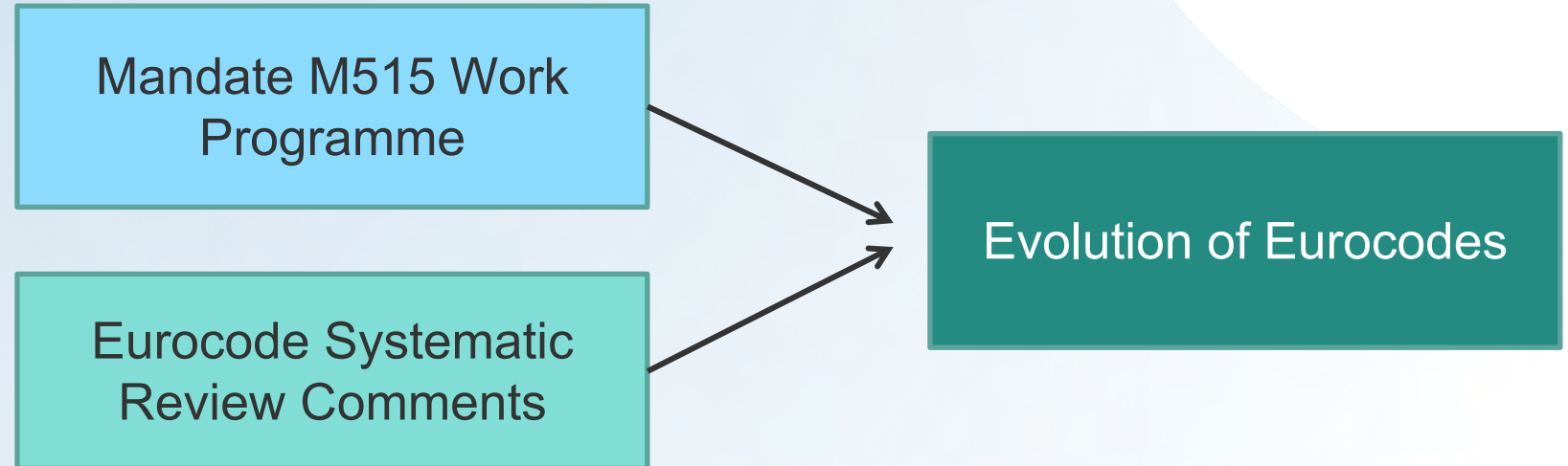
Evolution
process and
timing

Key changes



Evolution process and timing

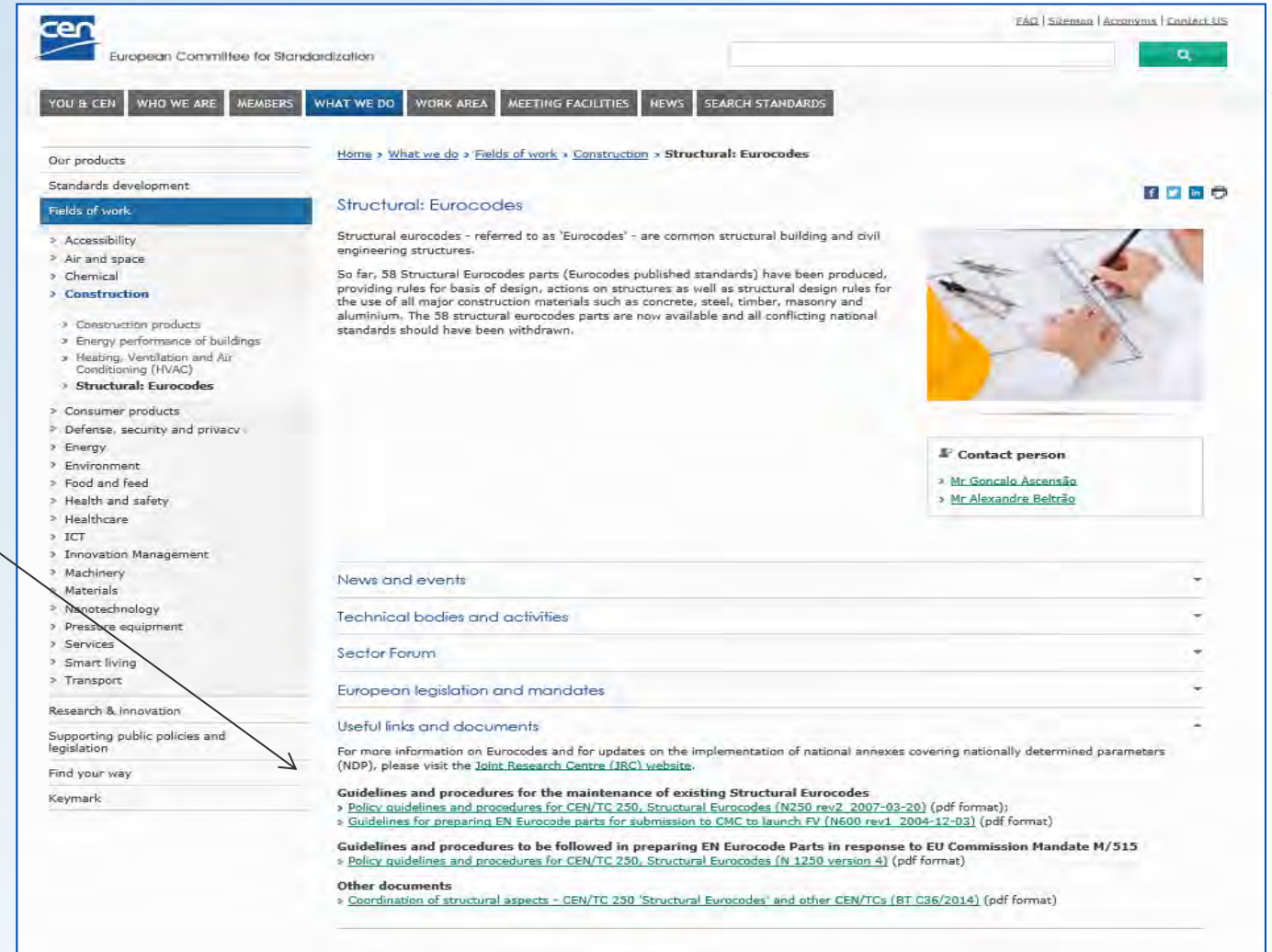
Responding to systematic review comments



Evolution process and timing

Drafting approach and further details

- Follow CEN Internal Regulations
- Specific information available in CEN/TC 250 document N1250 [CEN, Eurocodes]
- Further details available in Phase 1 call for experts specification (Vol 3) [NEN, Eurocodes 2020]



Evolution process and timing

Drafting approach and further details

- Follow CEN Internal Regulations
- Specific information available in CEN/TC 250 document N1250 [CEN, Eurocodes]
- Further details available in Phase 1 call for experts specification (Vol 3) [NEN, Eurocodes 2020]

Call for tender - Evolution of Structural Eurocodes



Call for Tender for experts for the development of the second generation of Structural Eurocodes.

- Updated 20th of May 2015 -

The Eurocodes (EN 1990 – EN 1999) enable the design of building and civil engineering works, and comprises of 10 European Standards in 58 parts. The first generation of EN Eurocodes were the most comprehensive and technically advanced suite of standards for structural and geotechnical design in the world. Their development was a tremendous achievement and represented the culmination of over 30 years collaborative effort. Their impact has been considerable. It has been estimated that they affecting the work of around 500.000 professional

Volume 1: Instructions to Tenderers – This volume provides full instructions on how the Tender Process shall be organized and how and when Tenderers should submit their responses to the questions contained within and to the award criteria;

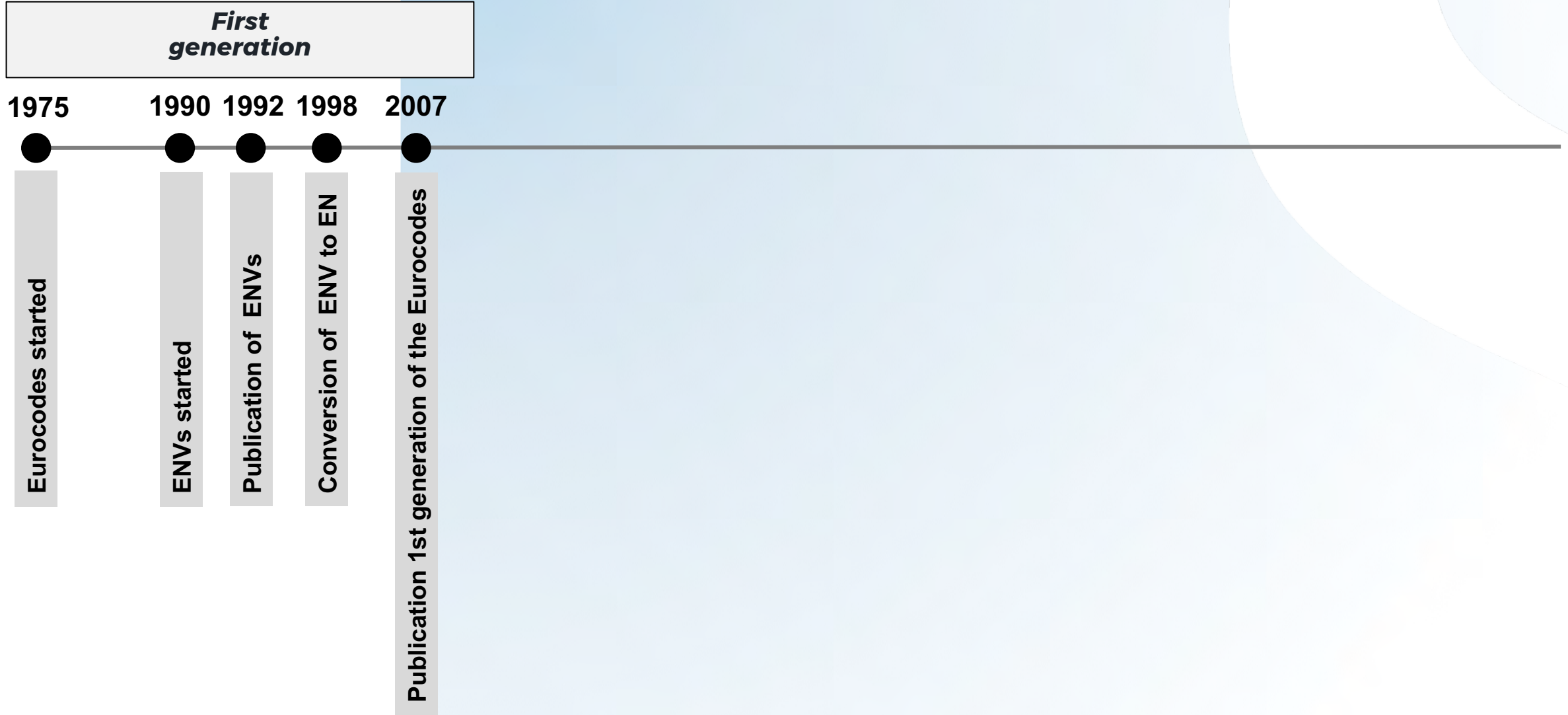
Volume 2: Contract terms and Conditions - This Volume contains the documentation for Contracts and general terms and conditions;

Volume 3: The Specification – This volume contains the scope/brief, outlining the requirements;

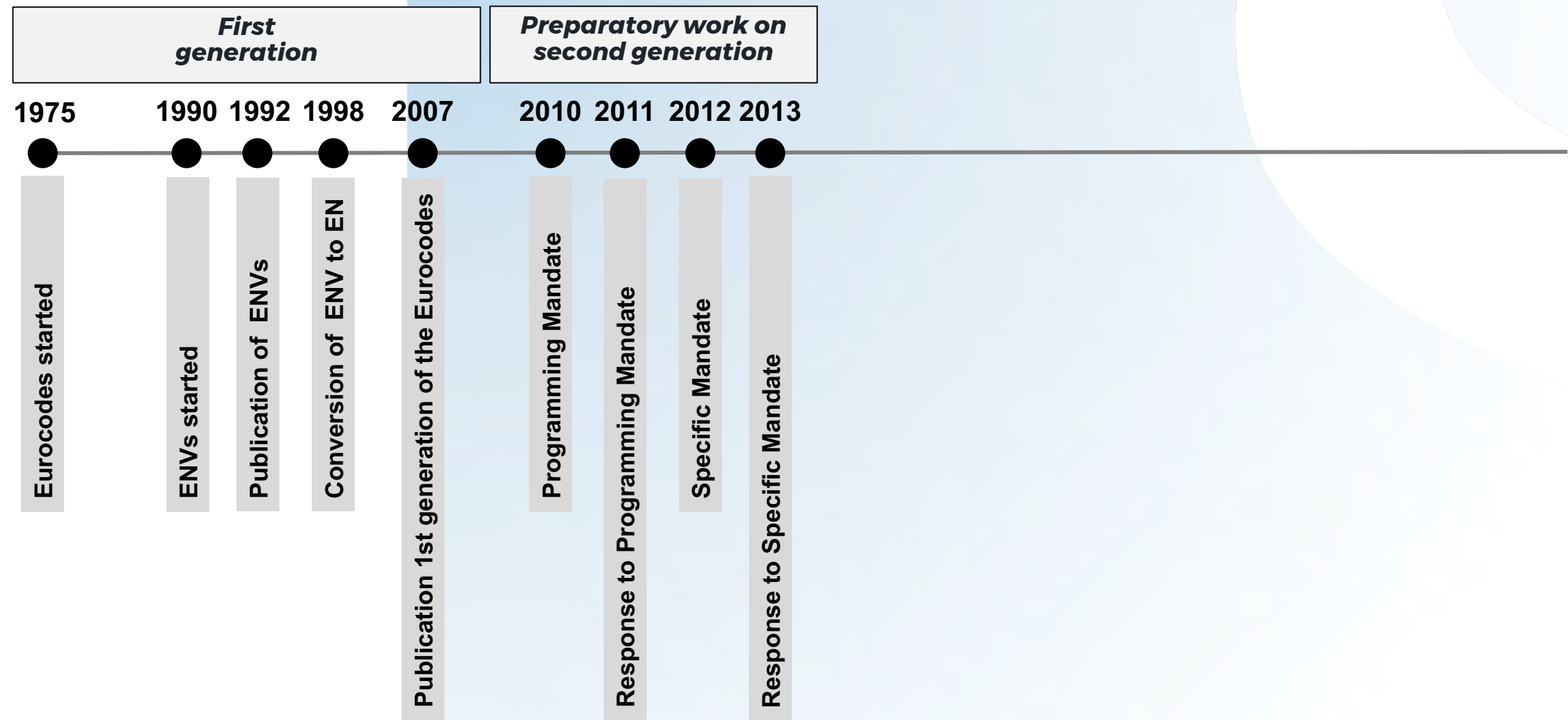
Volume 1 Annex 2: Template for quality submission – This word document provides the template for the quality submission;

Volume 1 Annex 3: Template for financial submission – This excel document provides the template for the financial submission.

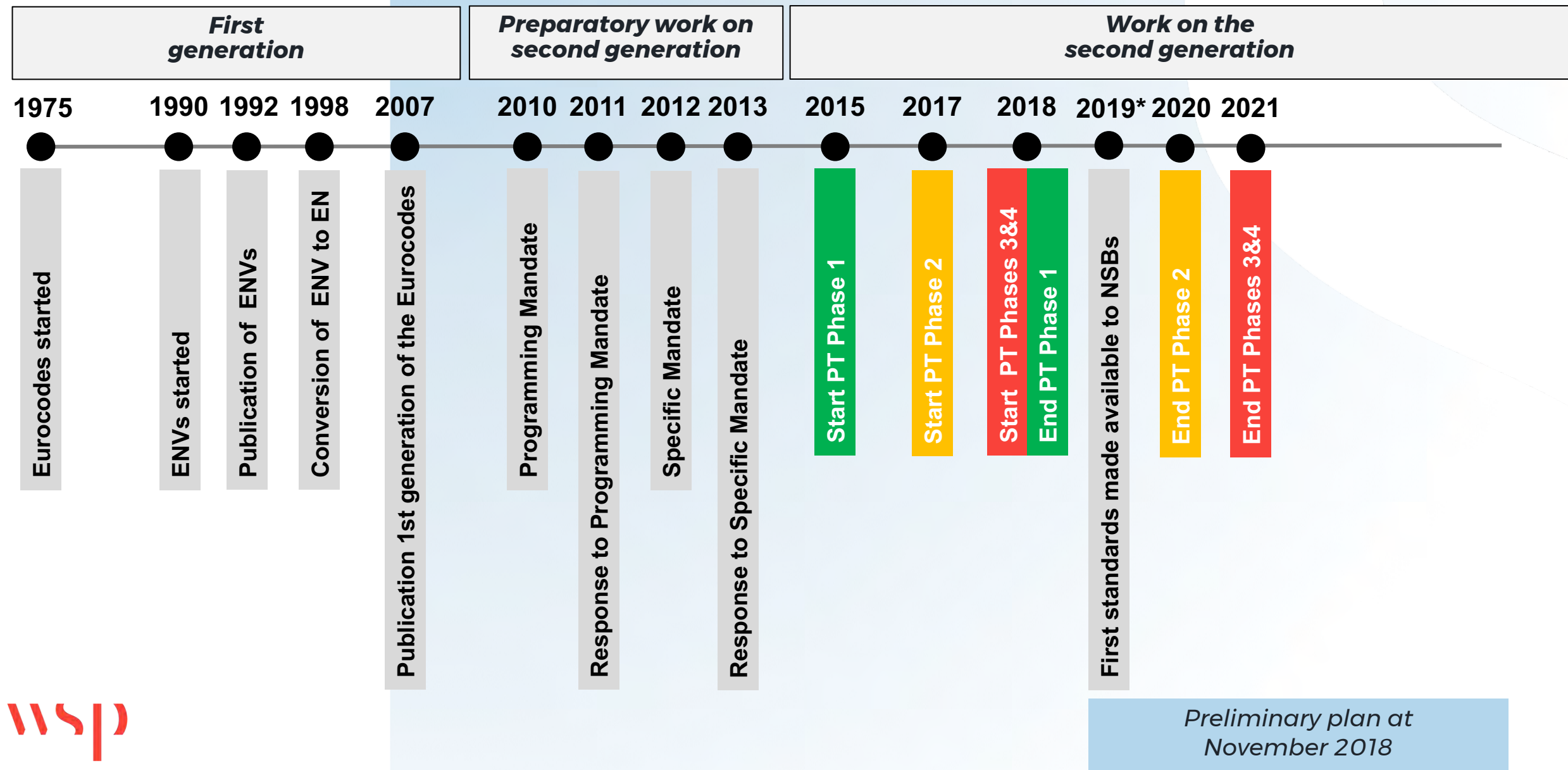
Timeline



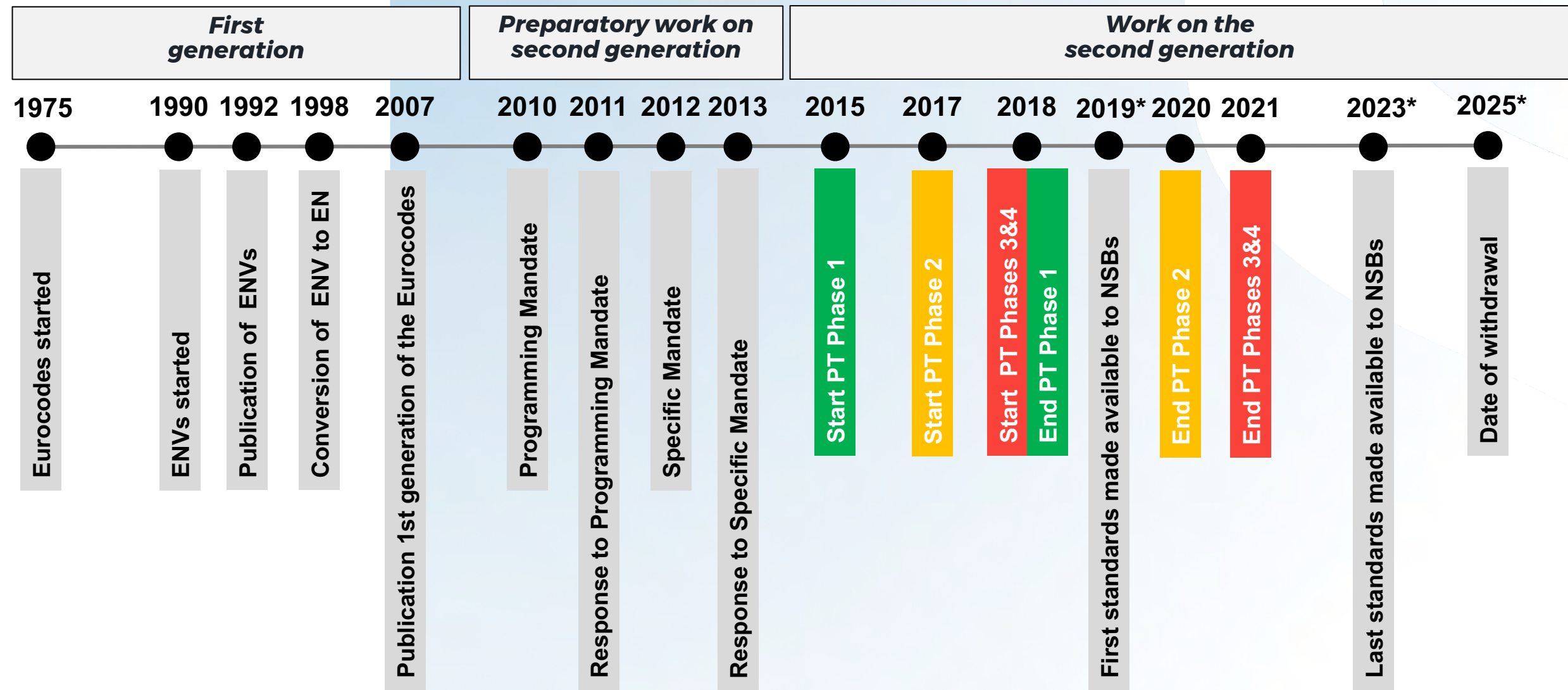
Timeline



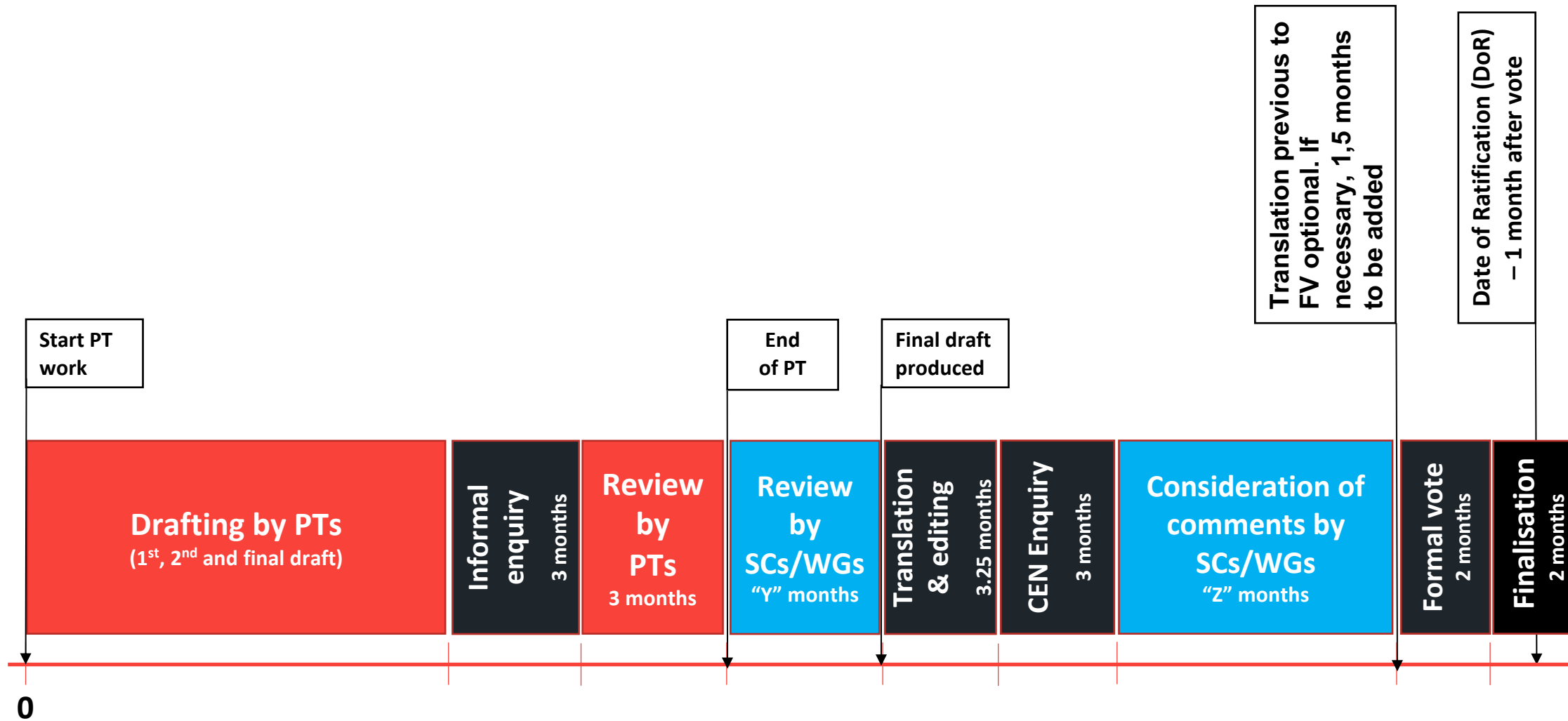
Timeline



Timeline

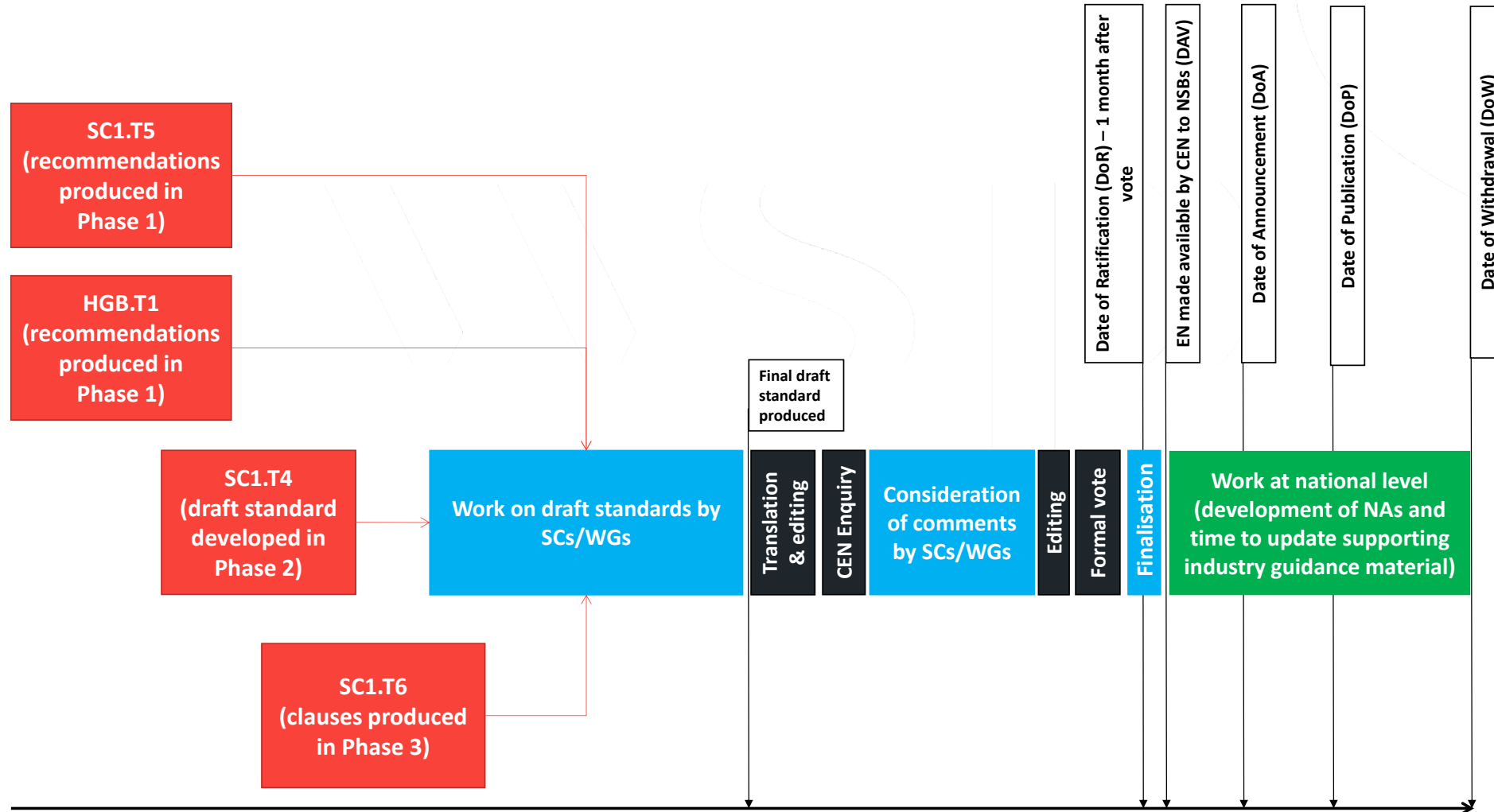


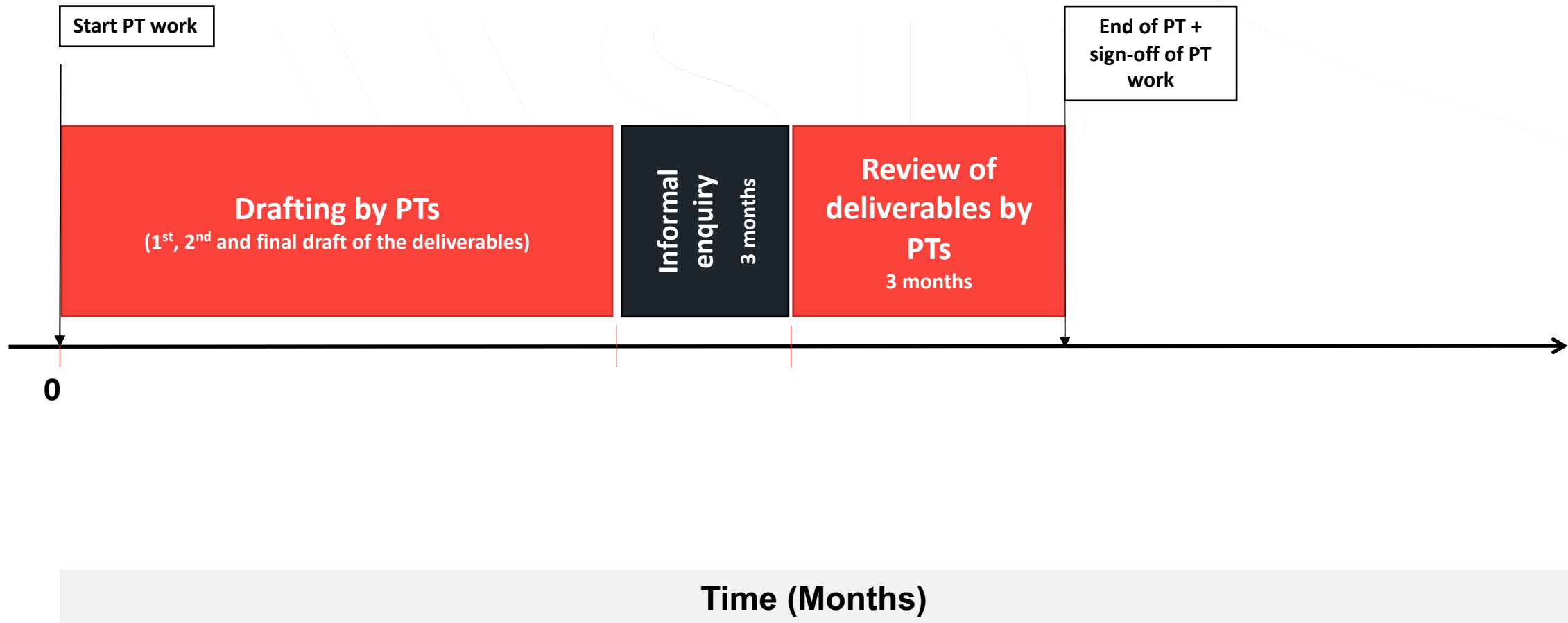
*Preliminary plan at November 2018

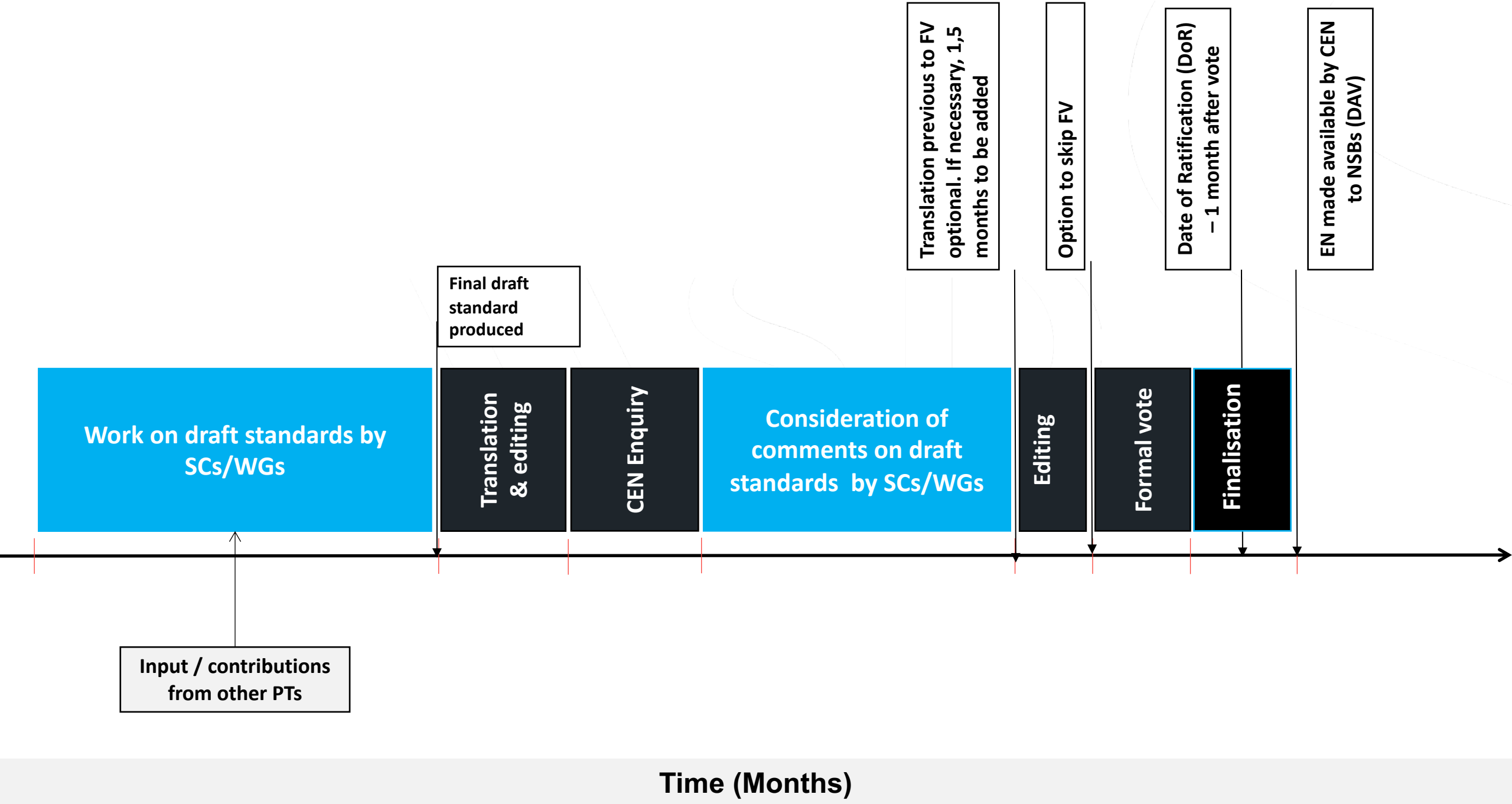


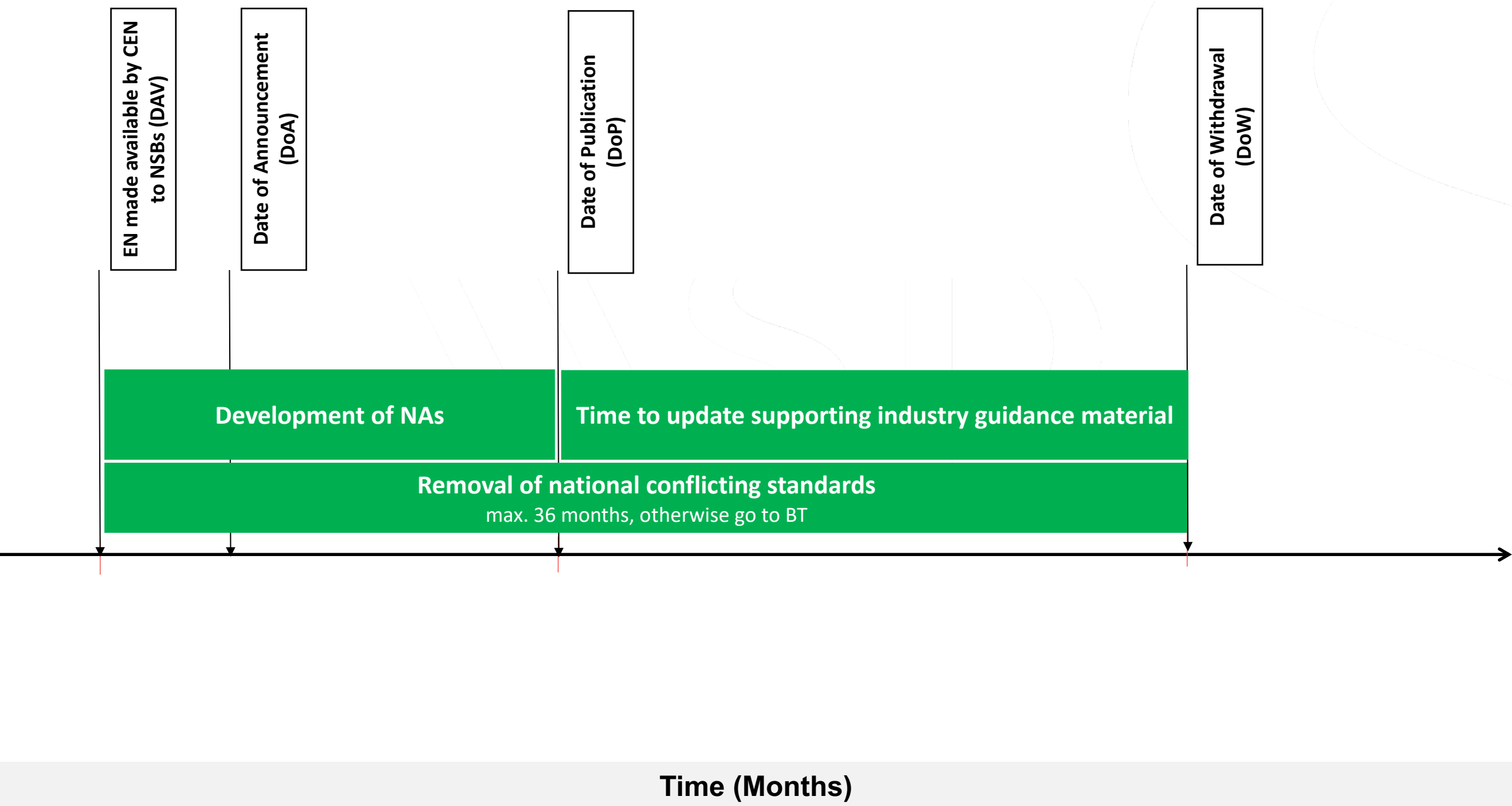
Publication process outline

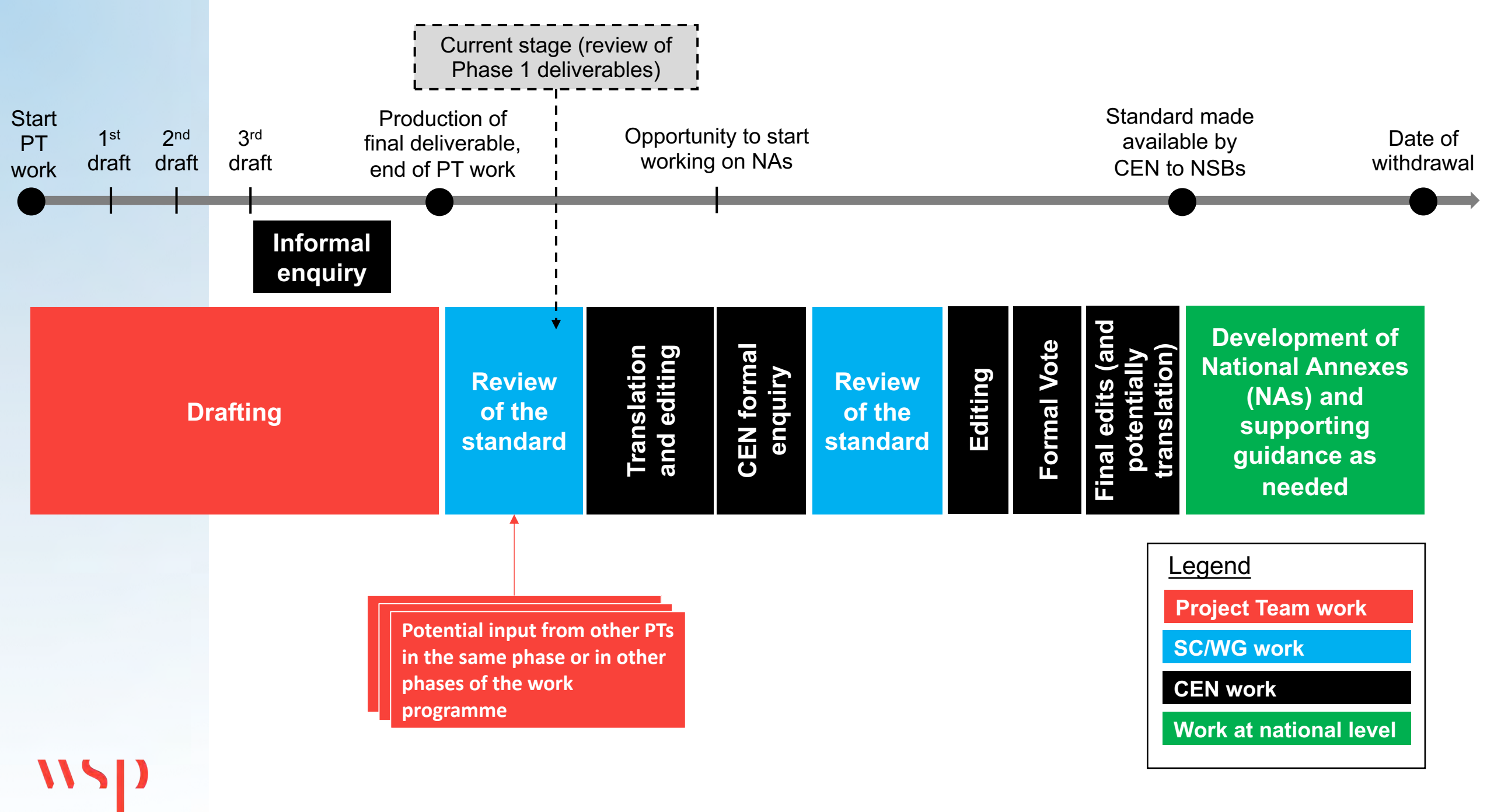
EN 1991-1-5











Objectives for CEN/TC 250 publication plan for second generation of Eurocodes (1 of 2)

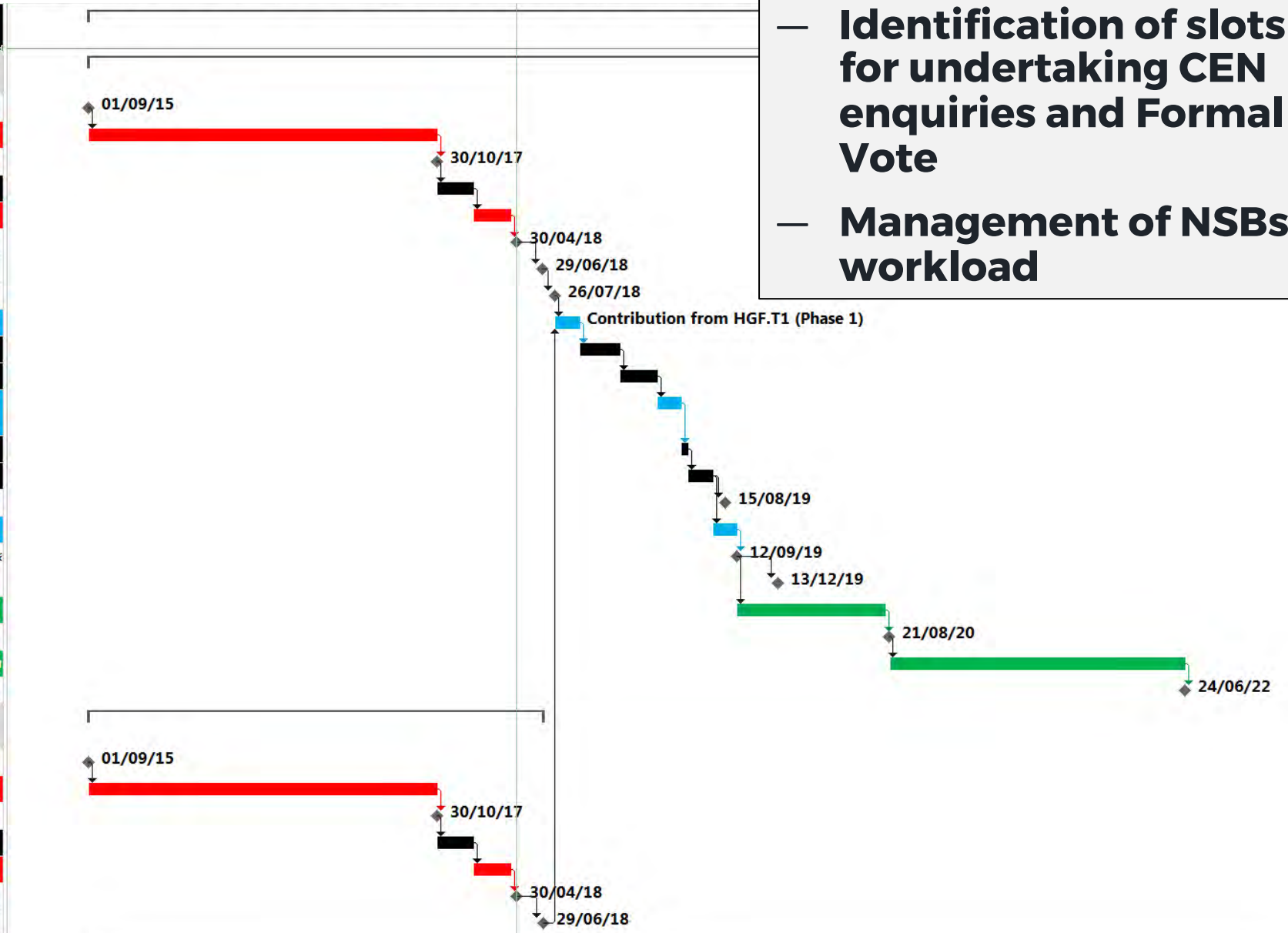
1. Ensure that we have a fully compatible suite of standards at all times for use by industry.
2. Schedule enquiries and formal votes so that they do not place an excessive burden on CEN members and their mirror committees, and on SCs and WGs .

Objectives for CEN/TC 250 publication plan for second generation of Eurocodes (2 of 2)

3. Make new Eurocode parts available as early as possible, whilst respecting interdependencies with other Eurocode parts.
4. Ensure that sufficient time is available for development of National Annexes.
5. Ensure that sufficient time is available for removal of national conflicting standards by NSBs and update of supporting industry guidance material.

Publication plan

EN 1991-1-2 General actions - Actions on structures exposed to fire	
EN 1991-1-2: Draft standard by SC1.T1 (PHASE 1)	
Start of PT work	
Drafting by PT	
Final draft to NEN	
Informal enquiry	
Review of deliverables by PT	
Delivery of final deliverables to NEN	
End of PT work	
Start of SC work	
Work on draft standard by SC1	
Translation and editing	
CEN enquiry	
Consideration of comments on draft standards by SC1	
Editing	
Formal Vote	
Date of Ratification (DoR)	
Finalisation of the draft standard	
EN made available by CEN to NSBs (DoA)	
Date of Announcement (DoA)	
Development of National Annexes	
Date of publication	
Development of supporting guidance	
Date of withdrawal	
EN 1991-1-2: Draft clauses by HGF.T1 (PHASE 1)	
Start of PT work	
Drafting by PT	
Final draft to NEN	
Informal enquiry	
Review of deliverables by PT	
Delivery of final deliverables to NEN	
End of PT work	



- Detailed plan with interdependences
- Identification of slots for undertaking CEN enquiries and Formal Vote
- Management of NSBs workload

Thank you

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