



# **Masterplan on Education about Standardization**

## **Executive Summary**

At a time when knowledge is increasingly abundant and innovation eco-systems are opening, it is crucial to raise awareness and spread knowledge about standardization as a powerful tool to bring new technologies to market and drive future businesses.

Some initiatives have been developed and launched in several European countries in order to foster education about standardization. However, a significant scaling-up is required so that, all over Europe, public authorities and educational institutions are aware about the benefits of education about standardization and include courses and trainings about standardization in their curricula.

CEN, CENELEC and ETSI, the three European Standards Organisations, are committed to promote and support education about standardization. This Masterplan on Education about Standardization defines a framework for action with European level leadership, initiatives and vision, which is also intended to support the national level in the member countries.

In section 2, benefits of standardization and education about standardization are highlighted. Key stakeholders are identified in section 3. The overall approach is explained in section 4. It envisages three workstreams: 'Build Capacity', 'Engage key stakeholders' and 'Reach target groups'. Finally, a high-level breakdown of the overall work programme is given. Key elements are governance, coordination and concrete work areas which are 'Analysis', 'Events', 'Consultation and Partnering', 'Teaching' and 'Projects'.

This Masterplan is complemented by an Implementation Plan describing the specific actions which will be run in the first year after the adoption of the Masterplan.

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## **1 Introduction**

CEN, CENELEC and ETSI have developed this ***Masterplan for Education about Standardization*** to set a strategy for achieving the vision set out in the Policy on education about standardization agreed in 2010.

## **2 What is Education about Standardization?**

Education about Standardization (EaS) is teaching pupils, students, CEOs, managers, employees in business, and life-long learners the subject of standards and standardization. The level of education has to be carefully tailored to these target audiences. It may include the use and benefits of standards, the strategic importance of standardization for business and Europe's competitiveness, how to implement standards in businesses and how to participate in standardization to influence the content of future standards.

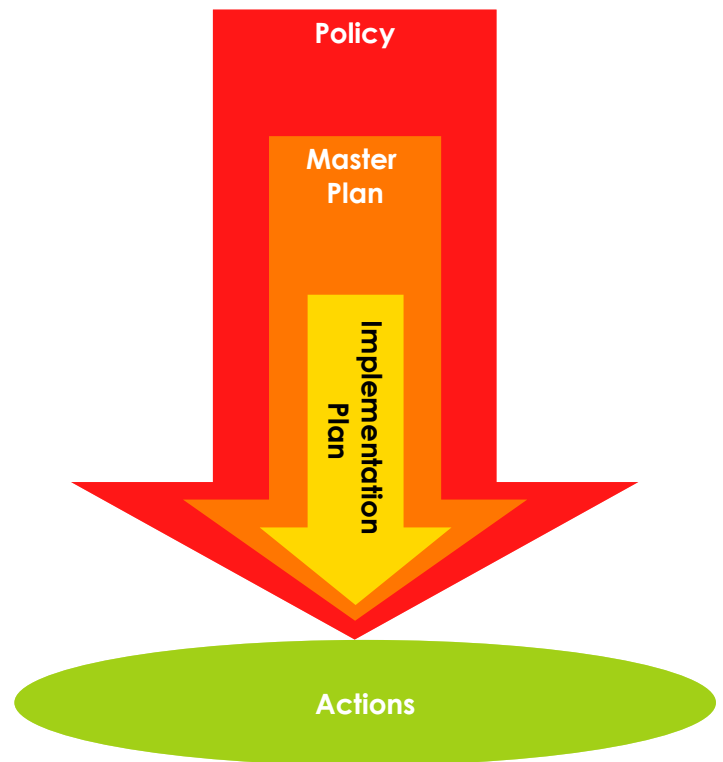
## 2.1 Context

In 2010 the CEN/CENELEC/ETSI Joint Working Group Education about Standardization (JWG-EaS) developed a Policy on education about standardization. This policy has been used to advise the content of this Masterplan which will, in turn, be supported by an Implementation Plan. All three documents will then be the basis for action, as shown in Figure 1.

As stated in the European Standards Organisations' Policy on education about standardization, the importance of standards and standardization for businesses and society has increased dramatically over the last decade. Standards provide a range of major benefits, including:

- **Facilitating trade** in the global market and enabling global market access by removing technical barriers to trade and increasing competitiveness;
- Providing **investment confidence** for businesses through the certainty achieved by codifying in standards existing knowledge e.g. proven technologies;
- **Standardization fosters innovation**, which is indispensable for economic growth especially in developed countries through establishment of new technologies in the market and providing interoperability and compatibility between new and existing products, services, processes and systems;
- Being a **policy tool** which facilitates regulation aimed at developing new markets for products and services as well as the Single European market;

Education and awareness of standards and standardization in Europe have not kept pace and this has resulted in a deficit in the understanding of both the use and the development of standards.



**Figure 1: The relationship between the policy, Masterplan and implementation for education about standardization.**

Other regions of the world, notably Asia, have increased efforts on education about standardization, with resulting benefits. In the medium and long term, the lack of knowledge, skills and scientific research in Europe about standardization will result in a reduction in the competitive abilities of European businesses.

Europe needs to maintain competitiveness of European businesses at world-class level and prepare current and future CEOs, managers and workers for the changing needs of the emerging markets. A key factor in this will be education about standardization, using a wide spectrum of learning approaches including conventional and innovative methods. This is expected to improve the employability of the European workforce as they understand, to a greater level the significance of using standards and how to participate in the standardization process.

Figure 2 shows how harnessing these approaches to integrate education about standardization could deliver benefits to Europe.

CEN, CENELEC and ETSI have decided to put significant effort into addressing this shortfall in awareness, knowledge and skills.

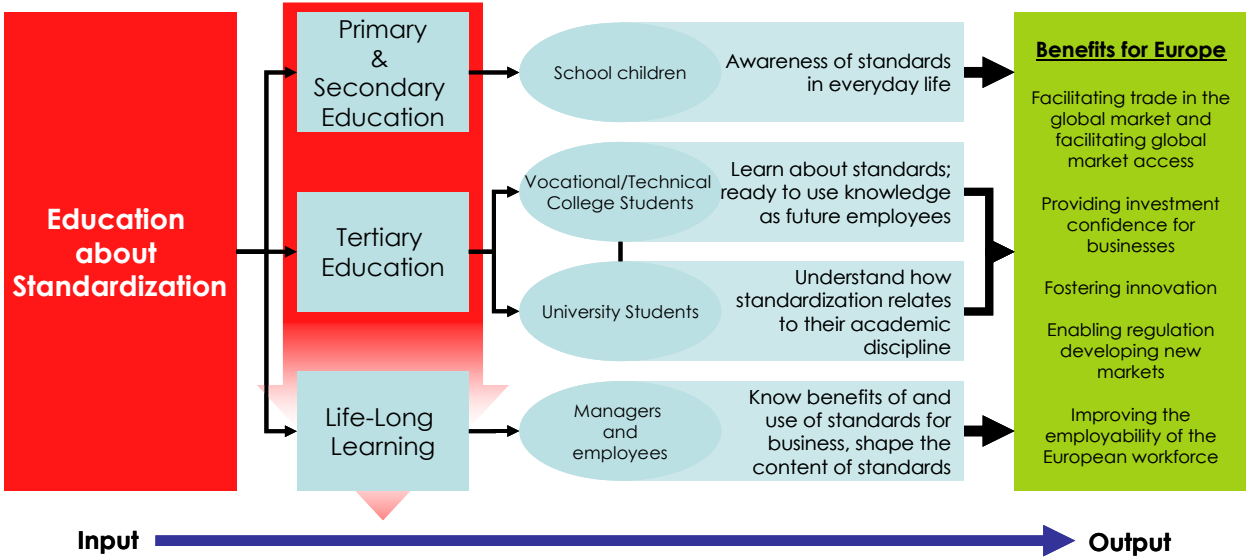


Figure 2: How education about standardization can benefit Europe

### 2.2 The Challenge

Throughout Europe we can observe some practices in performing standardization education or stimulating it. However, these activities are fragmented and the impact is limited. The major challenge is to achieve a much better inclusion of standardization in education and learning processes in Europe by improving and extending current activities in a systematic way.

This requires a significant scaling up of the activities on and visibility about education about standardization, with correspondingly increased leadership, commitment and coordination.

## 2.3 National Responsibility

The Masterplan is a framework for orchestrated action of major stakeholders in Europe, with European level leadership, initiatives and vision, which support nationally coordinated and implemented actions. This recognises that education in general (including education about standardization) is primarily a national responsibility which leads to diverse national education 'landscapes'.

As Figure 3 shows below, European approach is designed to support national standards bodies in creating their own structures to drive national activities and share best practices.

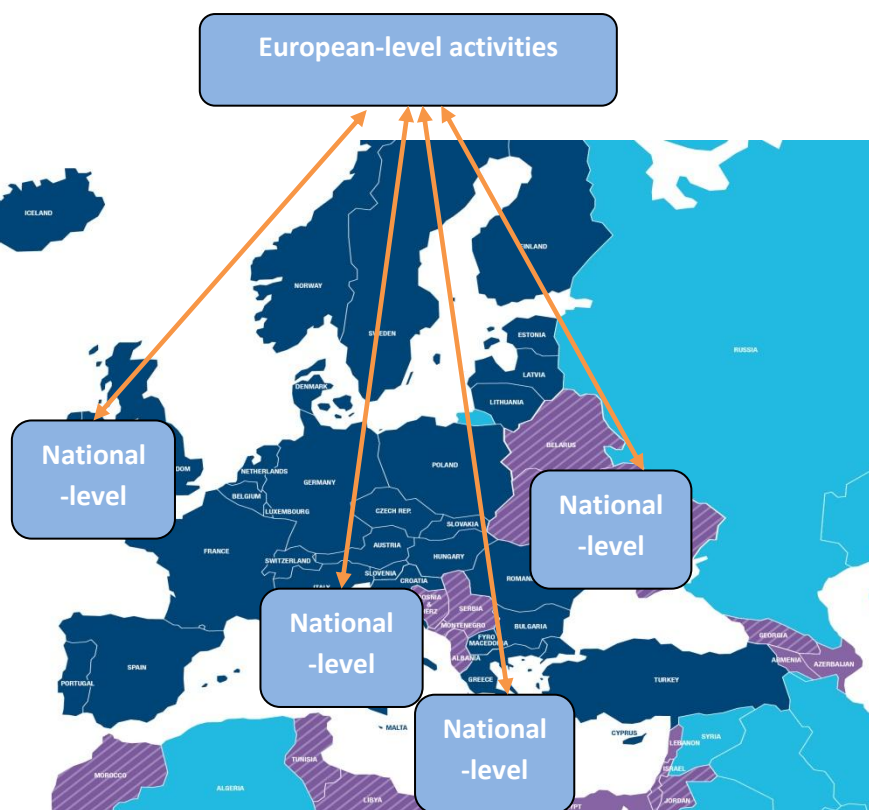


Figure 3- European approach supporting national initiatives

## 3 Stakeholders

This Masterplan aims at enhancing knowledge and skills about standards and standardization to make European business more competitive, sustainable and innovative on the world stage by addressing:

- **Education systems in member states:** engaging educators, academia and business to include standardization in education and life long learning; **(top-down)**

- **The Target groups:** Informing, inspiring and involving pupils, students, CEOs, managers and employees as well as teachers and trainers about standards and standardization. (**bottom-up**)

As Figure 4 shows below, stakeholders at both European and national level will be involved in engagement activities through a range of top-down actions and directly with school pupils, students, managers, employees and teachers by way of bottom-up actions.

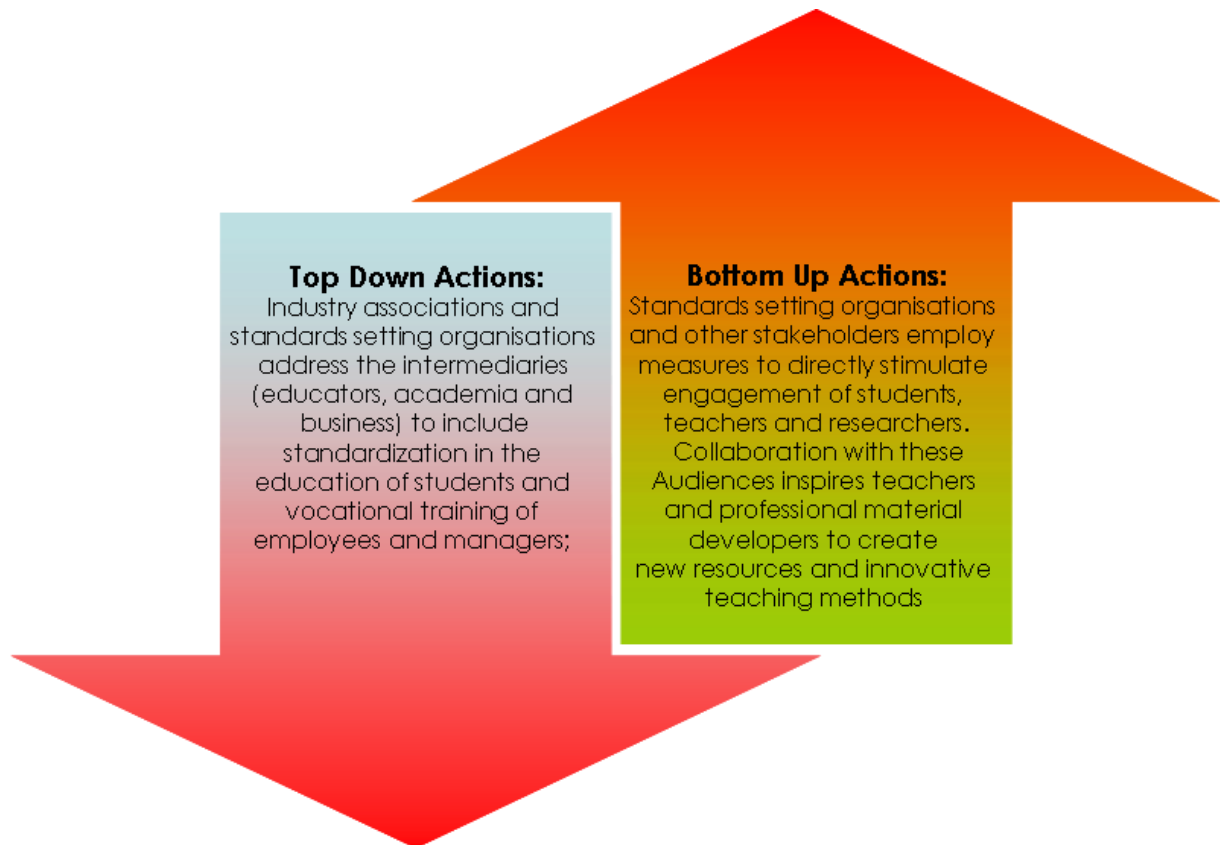


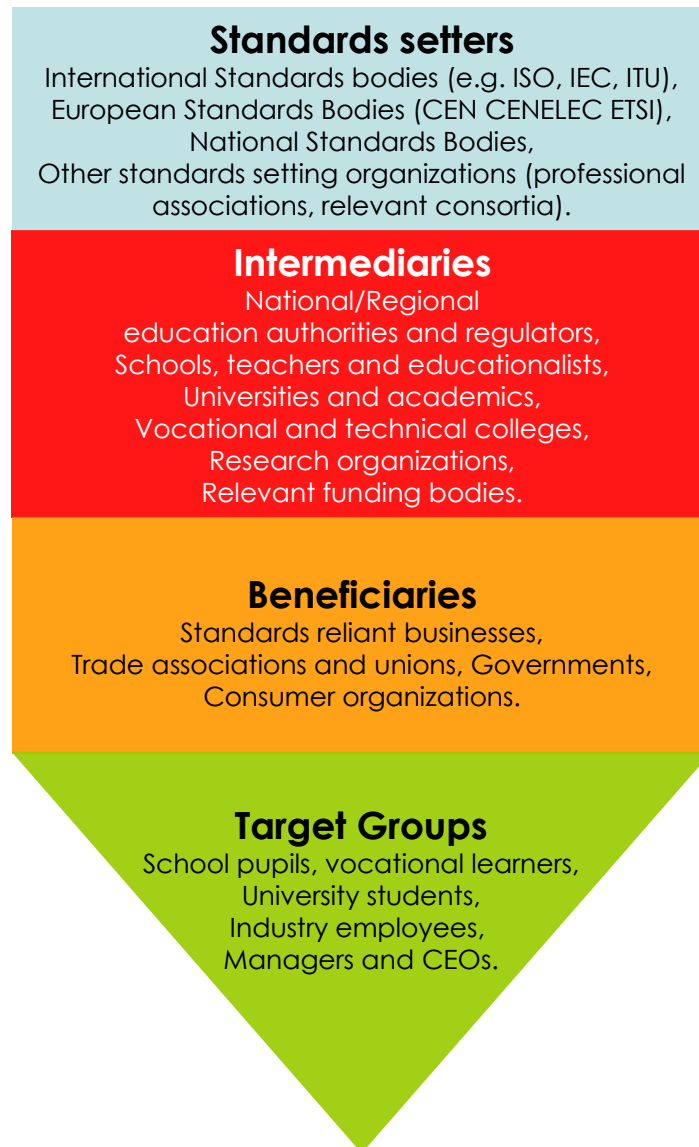
Figure 4: Illustration of top-down and bottom-up approach

The main stakeholder groups are:

- **Standards setting organisations:** the formal and non formal standards organisations, facilitating the development of standard at national, European and global level. This also includes the technical experts contributing to the standardization work.
- **Intermediaries:** the education systems and responsible public authorities
- **Beneficiaries:** organizations for which standards and standardization are important

- **Target groups:** the final targets

Figure 5 sets out these stakeholder groups and shows that, in order to succeed in reaching the target groups, a high degree of collaboration between the groups is needed.



**Figure 5: Identified stakeholders of education about standardization**



## 4 EaS Approach

The EaS Policy aims are addressed through three work streams, which form the basis of this Masterplan:



Figure 6: The three work streams of the approach to education about standardization

### **Build Capacity**

Creating a new framework of structures to support the composition and management of education in standardization in Europe is a necessity. At European level three primary structures will be set up: The European Stakeholder Steering Group (ESSG) for governance, the JWG EaS for management and coordination, and task forces for generating and executing specific projects.

Member countries are encouraged to set up similar structures at the national level to ensure sufficient education about standardization in their country.

### **Engage key stakeholders**

Key stakeholders should be engaged in activities focused toward target groups. Increasing the amount and level of education about standardization in Europe must be a joint effort in which the key stakeholders work together in achieving the best possible results.

Only by cooperating and partnering with intermediaries and beneficiaries will the impact be high enough to ensure that present and future generations will have sufficient skills and knowledge about standardization.

## **Reach target groups**

The final work stream is reaching the target groups. Here activities should be set up which have a direct effect on the target group both at national and European level. This can for example be giving guest lectures, having internships, or developing innovative material such as games and applications. Additionally, the materials and approaches developed at the European level may be beneficial at national level

The overall EaS work programme has to be implemented in several stages. Three phases are envisaged:

- a set-up and initiation-phase
- a trial-phase
- a roll-out phase.

## **5 High level breakdown of the EaS approach**

This section describes the high level breakdown of the EaS approach.

The following levels are distinguished (Figure 7):

- a governance level, i.e. the European Stakeholder Steering Group for high level guidance and scope
- a management level taken over by the JWG-EaS to share practices and leverage knowledge
- concrete work areas.

In the first work stream of the EaS approach (Figure 6), Internal Capacity for handling the above mentioned levels should be build. The two additional work streams, Engaging Key Stakeholders and Reaching Target Groups will be governed by the ESSG (governance level) and management by JWG EaS (management level). In addition to this concrete work areas will be set up in each of the work streams in order to ensure that the goals for education about standardization are met.

Figure 7 forms the basis for the Implementation Plan.

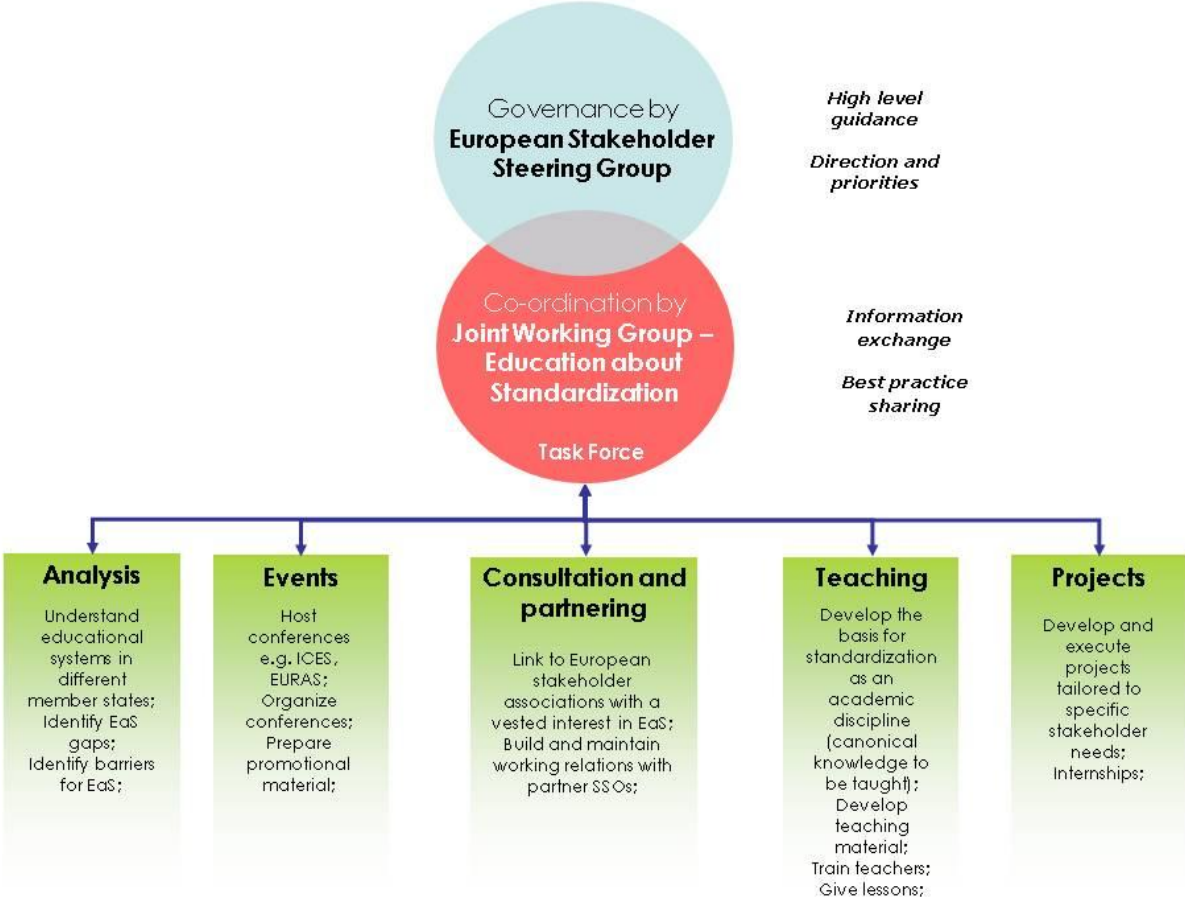


Figure 7: How the Masterplan structure feeds into the Implementation Plan

In the Implementation plan recommendations for actions, which should be launched at national and European level are described, goals are set and responsibilities laid out. The Implementation Plan focuses on the upcoming year, but gives an outlook to the future.

## **6 Annex: List of abbreviations**

**CEN**: European Committee for Standardization

**CENELEC**: European Committee for Electrotechnical Standardization

**CEO**: Chief Executive Officer

**ESSG**: European Stakeholders Steering Group

**ETSI**: European Telecommunications Standards Institute

**IEC**: International Electrotechnical Commission

**ISO**: International Standards Organisations

**ITU**: International Telecommunication Union

**JWG-EaS**: Joint working Group on Education about Standardization