

## **Study**

*“Enhancing the involvement of ECCE members in continuing education activities related to the implementation of structural Eurocodes”*

## **FINAL REPORT**

**(REPORT 2/2012 of SC E&T)**

**ECCE Standing Committee on  
Education & Training**

Chairman: Prof. Iacint Manoliu

October 2012

# **Executive summary of the study**

1. Eurocodes: preparation, implementation, revision
2. Two surveys undertaken by the ECCE SC E&T
3. Conclusions

# **Main phases of the EUROCODES process**

# Preparation

- Ratification by CEN of *provisional standards* ENV
- A 3-year period of testing the ENVs
- An inquiry among CEN members states Technical Committee 250 Producing drafts
- Approving the drafts by formal vote of the CEN member organizations
- The publication of all Eurocodes in three official languages (English, French, German) was completed by 2006

# Implementation

- Translation in the respective language (if the case)
- A calibration period of 2-year (by the voluntary use)
- Preparation of “National Annex” for each part of the Eurocode
- A 3-year coexistence period between the Eurocode and the national design codes for the respective domain, followed by:
  - withdrawal of national design codes in conflict with the Eurocode .According to the CEN calendary by April 2010 the process of implementation should have been completed. However, this goal will not be, probably, reached before the end of 2013.

# Revision

- On 19<sup>th</sup> May 2012, the European Commission published the mandate MI 466 EN with the objective

*“To initiate the process for further evaluation of Eurocodes”*

- Calendary set up by CEN to comply with the EC mandate
  - 2013: launching a 5-year process of revision of Eurocodes;
  - 2013-2015: works for a new, revised form of Eurocodes;
  - 2015-2017: debate on the revised Eurocodes;
  - 2017: final vote on the revised Eurocodes.

# A 2-phase study

**Phase I**    *“Survey on the state-of-the art of implementation of the Eurocodes in the respective country”*

(13 answers)

**Phase II**    *“Survey on continuing education activities conducted for the implementation of structural Eurocodes in the respective country”*

(7 answers)

# **Phase I**

**6 questions**

**13 respondents**



# **Phase II**

**6 questions**

**7 respondents**

# Conclusions

The situation of the implementation of the structural Eurocodes is very diverse across Europe.

While the process of translating parts or sub-parts of Eurocodes is practically completed, the preparation of National Annexes is almost completed in 8 countries, is at half way in 2 countries but just started in 3 countries.

In situation when not all parts of the Eurocodes have already National Annexes prepared and translated, it is anticipated that the process will be completed in most cases in 2012, which means 5 year later than the calendary set up by CEN.

In 7 out of 13 countries, Eurocodes are going to be used in combination with national codes adapted in order not to contradict with Eurocodes and to assist the designers in the use of Eurocodes.

The Eurocodes are already used in the design of structures in 9 countries, while in the other 4 the use is foreseen for 2013.

In almost all cases, entities engaged in the implementation of Eurocodes are the National Standard Organization and the Ministry of Public Works or similar.

Professional associations are in most countries actively involved in continuing education activities related to the implementation of Eurocodes. In one case, Slovenia, the Slovenian Chamber of Engineers (IZS) appears to be, until now, the only organization engaged in such activities.

Short duration seminars, of 1-2 days, represent the common type of training activity. They are organized, as a rule, by universities, but also by professional associations.

A rather rich and diverse literature made of books, guides, collection of design examples etc, is helping in the organisation of continuing education activities. Most ECCE members which participated in the survey evaluated the training activities undertaken so far in the respective country as satisfactory.

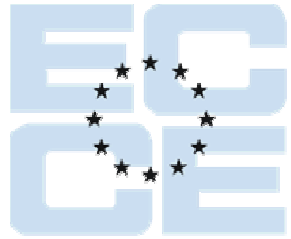
**The introduction of the Eurocodes produced dramatic changes in the design of structures. ECCE members, having among their constituency a great number of designers, should be more actively engaged in the implementation of Eurocodes, primarily through continuing education activities.**

**This is the main conclusion of the study undertaken by the ECCE SC on E&T.**

# **Contributions to the study**

<b>Country</b>	<b>ECCE member</b>	<b>Respondent</b>
CY	Cyprus Council of Civil Engineers	<b>Nicos Stylianou</b>
CZ	Czech Chamber of Chartered Engineers and Technicians	<b>Alois Materna</b>
FR	Ingénieur et Scientifiques de France (I.E.S.F.)	<b>Jean-François Coste</b>
HU	Hungarian Chamber of Engineers	<b>Gábor Szöllőssy</b>
IE	Engineers Ireland	<b>John Power</b>
IT	Consiglio Nazionale degli Ingegneri (C.N.I.)	<b>Hansjorg Letzner</b>
LV	Ministry of Environmental protection and Regional Development	<b>Aivars Jurjans</b>
MT	Department of Civil and Structural Engineering, Faculty for the Built Environment, University of Malta	<b>Alex Torpiano</b>
PL	Polish Chamber of Civil Engineers (PCCE)	<b>Zygmunt Meyer</b>
PT	Ordem dos Engenheiros, Portugal	<b>José F G Mendes</b>
RO	Union of Associations of Civil Engineers of Romania (UACER)	<b>Iacint Manoliu</b>
SI	Slovenian Chamber of Engineers	<b>Branko Zadnik</b>
SK	Slovak Chamber of Civil Engineers (SKSI)	<b>Vladimír Benko</b>





**European Council  
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**Results of the European project EUGENE European  
and Global Engineering Education  
(01.10.2009 – 30.09.2012),  
in which ECCE was partner**

**Prof. Iacint Manoliu  
ECCE contact person in EUGENE**

**56<sup>th</sup> ECCE meeting  
Dubrovnik, 26<sup>th</sup> October 2012**



**EUGENE**

**European and Global Engineering  
Education**



Partners	
Universities	54
Professional associations (Including ECCE)	9
Academic associations	3
Companies	3
Research institutes	2
Total	71



## **EUGENE - Aims and objectives (main activity lines):**

- *A) Ph. D. STUDIES*: Structure and Bologna follow-up in the competitiveness issues (main question: are Ph D studies in Engineering and Technology in Europe effective/innovative/competitive enough?);
- *B) PROMOTE EE IN EUROPE AS A TRUE RESEARCH FIELD* (with comparison of worldwide developments in EER ...): a true and innovative research area to improve entrepreneurship, innovation and competitiveness;
- *C) IMPROVE transnational MOBILITY* of engineering students, graduates and Professionals
- *D) LLL & CONTINUING EDUCATION* as a tool to improve competitiveness and innovation of European engineers DIPOLI-HUT/UPV; M. Markkula, G. Haug
- *E) INCREASE ATTRACTIVENESS of studies in science and engineering and to EHERA*: involve students organisations (ERASMUS Mundus Network, TEMPUS Mediterranean, as follow-up ...) and promote awareness outside the EU of EE evolution and opportunities;



**23 work packages**

**44 deliverables**



## **Line C: IMPROVE transnational MOBILITY of engineering students, graduates and professionals**

This item involved two main aspects:

Ca) Within EHEA: Checking and improving the applicability and consistency (in the Engineering field) of European Qualification Frameworks, EU Directive on Recognition of Professional Qualifications, Accreditation Standards and other relevant “European” documents.

Deliverable output(s): Revised documents, tested during the project.

Cb) On the global scale: Comparison of the “European” documents with other documents and agreements (Washington and other Accords in the IEA, but also regional and national Standards in the other parts of the world: e.g. North Africa, S.E. Asia, Latin America); tentative agreements for mutual recognition.

## **Work Package 7**

### **European Engineering Standards and Qualification Frameworks**

**Deliverable 22** Round Table Discussion on paper “High Level Qualifications Frameworks and the EUR-ACE Framework Standards – do they fit together?”

**Deliverable 23** Public Discussion on first draft of WP7 Final Report.

**Deliverable 24** High Level European Qualifications Frameworks and Engineering Standards: a critical comparative review and suggestions for improving applicability and consistency”

# Work Package 8

## Comparison of EUR-ACE and International Engineering Alliance Standards (Line C)

**Deliverable 45** Updated version of the Glossary of Terms Relevant to Higher Education (Engineering) – NOT FORESEEN IN THE ORIGINAL APPLICATION

**Deliverable 25** Public Discussion on first draft of WP8 Final Report

**Deliverable 26** Comparison of the EUR-ACE Standards and the requirements of the Washington and Sydney Accords.



## **Work Package 9**

### **Engineering Standards Worldwide**

#### **Deliverable 27 Engineering Standards worldwide; a comparative collection.**

This Work Package began in October 2010, and initial work has focused on contributing to an important project led by OECD (Organization for Economic Co-operation and Development). This project, Assessment of Higher Education Learning Outcome (AHELO), is a feasibility study to investigate the development of assessment methods for higher education that would be globally 'valid for all cultures and languages'. This project is complementary to the work of EUGENE Work Package 9 as engineering is one of the three academic subjects in the present feasibility study (civil engineering, mechanical engineering, economy).

## **Work Package 10**

### **Mutual recognition of engineering degrees and qualifications**

**Deliverable 28** Proposals for Mutual recognition of engineering degrees and qualifications

**Contributions of ECCE to the Line C,  
workpackage 10, of the project EUGENE**  
(submitted in the preparation of the 3<sup>rd</sup> Scientific Meeting,  
Valencia, 15-16 May 2012)

- **ECCE position on professional civil engineers**

based on documents:

*“ECCE professional recognition recommendation, including the Civil  
Engineering Charter” – 2009*

*and*

*“Professional recognition procedures in Europe” – 2011*

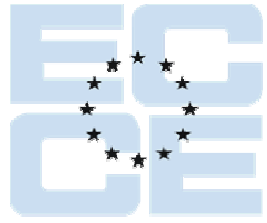
- **EU Directive 2005/36/EC on the recognition of professional  
qualification. Summary about proposal of changes**

Report no 7/SC 1 prepared by Prof. Fernando Branco, May 2012



## Main events

• Kick off meeting	Florence, 13 November 2009
• 1 <sup>st</sup> Scientific Conference	Gothenburg, 16 -17 December 2010
• 2 <sup>nd</sup> Scientific Conference	Leuven, 26-28 October 2011
• 3 <sup>rd</sup> Scientific Conference	Valencia, 15-16 May 2012
• Final meeting	Florence 14 September 2012



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## **Work plan for 2013**

### **Study**

**on the impact of the Bologna process**

**on civil engineering education and profession in Europe**

- |          |   |
|----------|---|
| Phase I  | State-of-the art of civil engineering study programmes in countries represented in ECCE |
| Phase II | Survey among ECCE members on the results of the implementation of the Bologna process   |