



JRC SCIENTIFIC AND POLICY REPORTS

# Adoption of the Eurocodes in the Balkan Region

JRC Enlargement and Integration Action

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2014



Report EUR 26458 EN

European Commission  
Joint Research Centre  
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JRC87657

EUR 26458 EN

ISBN 978-92-79-35160-0

ISSN 1831-9424

doi:10.2788/61927

Luxembourg: Publications Office of the European Union, 2014

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Cover Design by Martin Poljansek

Printed in Italy

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# Foreword

This report presents the activities carried out within the Workshop “Adoption of the Eurocodes in the Balkan region”, held on 5-6 December 2013 in Milan and at the JRC, Ispra, Italy. It was organized by DG Joint Research Centre of the European Commission and supported by the JRC Enlargement and Integration Action.

All information can be found at the official web page of the Eurocodes at:  
<http://eurocodes.jrc.ec.europa.eu/>.

Fabio Taucer  
Roberta Apostolska



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# Abstract

This report addresses the activities carried out for the adoption and implementation of the Eurocodes in the non-EU countries in the Balkan region within the context of the Enlargement and Integration Action of the JRC.

The considerable interest in the implementation and adoption of the Eurocodes in the Balkan region is based on the opportunity to have an advanced common standardization environment, which is adaptable to the particular requirements of each country with regard to the geographical, geological or climatic conditions and also allows selecting the level of safety. Moreover, adoption and implementation of Eurocodes will help the Candidate Countries to fully implement EU acquis at the time of accession and support Potential Candidate Countries to progressively align themselves with the EU acquis.

The main objective of the activities presented herein was to focus on progress and specific needs for adoption and implementation of the Eurocodes and related EN standards in the Balkan region.

Generally, it may be concluded that most of the non-EU countries in the Balkan region are going to use the Eurocodes as primary standards. These countries are aware about needs for harmonization of national legislation and standardization framework for construction with EU legislation. However, in most of the countries there is a lack of relevant institutional support for adoption and implementation of the Eurocodes.

*Keywords: Eurocodes, National Annexes, NDPs, National Standardization Body, adoption, questionnaire*



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## Acknowledgments

The work reported is corresponds to Deliverable 1.2 “Organization of a workshop with the participation and invitation of national experts to foster the implementation of the Eurocodes in the Balkan countries” as part of Objective 1 “To continue contributing to the full implementation of the Eurocodes in the EU MS, to define strategies for further harmonization through reduction of the Nationally Determined Parameters (NDPs) and to support maintenance, promotion and training on the Eurocodes” of the Work Programme for 2003 of the SAFECONSTRUCT Action (n. 32003) of the Joint Research Centre.

The contribution of the CEN/TC250, CEN&CENELEC, DG ELARG representatives, as well as, of the invited experts from the EU Member States is highly appreciated.

The contribution of Martin Poljansek for the graphic support is acknowledged.





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# 1 Introduction

This report gives an overview of the activities carried out for the adoption and implementation of the Eurocodes in the non-EU countries in the Balkan region in the context of the Enlargement and Integration Action of the JRC.

The EN Eurocodes are a series of 10 European Standards, EN 1990 through EN 1999, providing a common and coherent approach to all aspects of structural design of buildings and civil engineering works.

The experience of the European Commission, the Member States and individual experts concerning adoption and implementation of the Eurocodes in the Balkan region shows that these countries have a considerable interest in the Eurocodes. The interest is based on their awareness that the Eurocodes are:

- A complete set of design standards that cover in a comprehensive manner all principle construction materials, all major fields of structural engineering and a wide range of types of structures and products
- Flexible codes, offering the possibility for each country to adapt to local conditions and practices through the so-called Nationally Determined Parameters (NDPs)
- The most advanced and coherent codes of practice
- A comprehensive design tool, which over a mid- to long-term period intends to cover additional fields of design, such as protection of the environment, resources, energy efficiency, safety-and health conditions and security.

The activities presented in the report intend to foster the adoption and implementation of the Eurocodes in the non-EU countries in the Balkan region.





## 2 Summary of activities

### 2.1 IDENTIFICATION OF TARGET COUNTRIES IN LINE WITH THE EU ENLARGEMENT AND NEIGHBOURHOOD POLICY

In line with the EU enlargement and neighbourhood policy the following non-EU countries in the Balkan region were identified: Albania, Bosnia and Herzegovina, Croatia<sup>1</sup>, former Yugoslav Republic of Macedonia, Montenegro, Serbia and Turkey, as well as Moldova, that belongs to the European neighbouring countries of Eastern Europe.

The current membership status of these countries is presented in the Table 2.1 (see [http://ec.europa.eu/enlargement/countries/check-current-status/index\\_en.htm](http://ec.europa.eu/enlargement/countries/check-current-status/index_en.htm)).

**Table 2.1 Membership status of targeted countries**

<b>Country</b>	<b>Membership status</b>
Albania	Potential candidate
Bosnia and Herzegovina	Potential candidate
Croatia	Member State as of 1st of July 2013
former Yugoslav Republic of Macedonia (fYRoM)	Candidate country
Moldova	European Neighborhood Policy Country
Montenegro	EU Neighbourhood country
Serbia	Candidate country
Turkey	Candidate country

In Table 2.2 is presented gross value added (GVA) by construction sector (%), as well as presence of the Eurocodes as standards for structural design in the last annual progress report of DG Enlargement, for each of the countries addressed in the report ([http://ec.europa.eu/enlargement/countries/check-current-status/index\\_en.htm](http://ec.europa.eu/enlargement/countries/check-current-status/index_en.htm)).

<sup>1</sup> Croatia became a Member State since July 1, 2013.

**Table 2.2 Construction sector in the targeted countries**

<b>Country</b>	<b>GVA (%)</b>	<b>Eurocodes in the progress report</b>
Albania	8.6	2.1.1 No
Bosnia and Herzegovina	4.7	2.1.2 No
Croatia	-	<i>Member State as of 1st of July 2013</i>
former Yugoslav Republic of Macedonia	7.4	2.1.3 Only three national annexes to Eurocodes have been developed and adopted.
Moldova	2.1.4 -	2.1.5 <i>Not part of Enlargement</i>
Montenegro	5.8	2.1.6 No
Serbia	4.3	2.1.7 No
Turkey	6.9	2.1.8 No

## **2.2 IDENTIFICATION OF RELEVANT NATIONAL STAKEHOLDERS IN EACH TARGET COUNTRY**

In each of the non-EU countries in the Balkan region four different groups of national stakeholders were identified:

- National authorities and policy decision makers (Ministries of Construction, Ministries of infrastructure, etc.)
- National Standardization Bodies (NSBs)
- Professional users of standards (Design and construction companies, Industry (trade) organizations, National Economic Chambers, Chambers of professionals involved in design and engineering, etc.)
- Institutions that will stream the determination of NDPs and the application and training on the Eurocodes (Universities, research institutions, Academies of Sciences, etc.)

A non-exhaustive list of the identified national stakeholders is given in Annex A.5 of this report.

## **3 Assessment of the progress of adoption and implementation of the Eurocodes**

### **3.1 WORKSHOP ON ADOPTION OF THE EUROCODES IN THE BALKAN REGION**

#### **3.1.1 Objectives**

The workshop “Adoption of the Eurocodes in the Balkan region” was focused on the progress and specific needs for adoption and implementation of the Eurocodes and related EN standards in the Balkan region.

The programme of the workshop was composed of three parts:

- Lectures delivered by invited experts from JRC and DG ENTR of European Commission, CEN/CENELEC and EU member states;
- National presentations of non-EU countries about adoption of the Eurocodes (standards and legislation); specific problems and needs, training, guidelines and training material;
- Round table discussions regarding adoption of the Eurocodes in the Balkan region – conclusions and recommendations

In particular, the workshop and the round table discussion served the following objectives:

- Assess the level of commitment and the progress of adopting the Eurocodes;
- Assess the level of harmonization of national policy/legislation with EU regulatory frameworks;
- Assess the progress of definition of Nationally Determined Parameters (NDP);
- Define the strategies for training and elaboration of guidelines and training materials;
- Facilitate exchange of views, knowledge and information between EU experts and representatives of non-EU countries in the Balkan region;
- Facilitate regional cooperation in preparing National Annexes (NA) and harmonization of NDPs.

#### **3.1.2 Participants**

The activities started with mapping of the relevant national authorities in each country (Ministries of Construction, Ministries of infrastructure, Ministries of environment, etc.) and the responsible persons in the sectors of construction and legislation framework. These persons were contacted via email, the objectives of the workshop were presented to them and they were asked to nominate appropriate persons from their countries to participate to the workshop. The nominated participants came from each of the following groups: high level officials from relevant governmental institutions (TG\_1); members from national standardization bodies (TG\_2); chambers of engineers and/or construction industry (TG\_3)

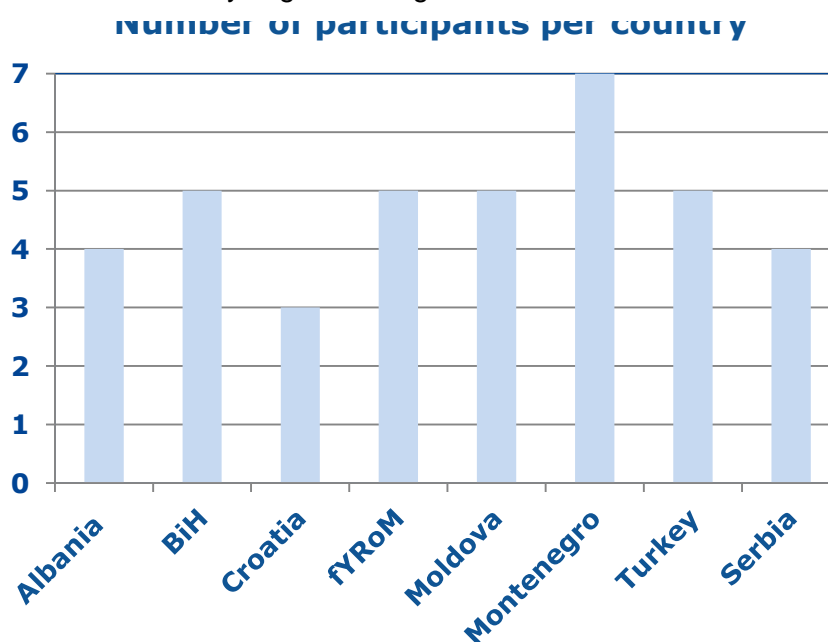
and universities and research institutions (TG\_4). There were also few cases where participants were nominated by National standardization bodies.

The time frame of the overall activities is presented in Table 3.1.

**Table 3.1 Time frame of activities**

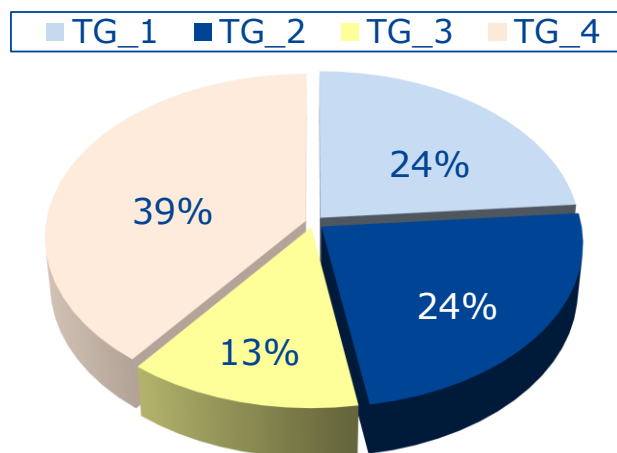
Activity	2013						
	June, 20	July	August	September	October	November	December, 5-6
Identification of target countries							
Identification of relevant national stakeholders							
First contact - invitation letters							
Receiving the lists of nominated participants							
Official invitation letters to the nominated participants and EU experts							
Compilation of the questionnaire and delivering to each country delegation							
Collecting the responses and preparation the summary of the questionnaires							
Collecting the Country reports							
Workshop							

In total, 37 participants from non-EU countries in the Balkan region, (Albania, Bosnia and Herzegovina, former Yugoslav Republic of Macedonia, Moldova, Montenegro, Serbia and Turkey), as well as from Croatia attended the Workshop. Distribution of the number of participants per non-EU country is given in Fig. 3.1.



**Fig. 3.1 Number of participants per non-EU country in the Balkan region**

The attendance from each group of participants is presented in Fig. 3.2.

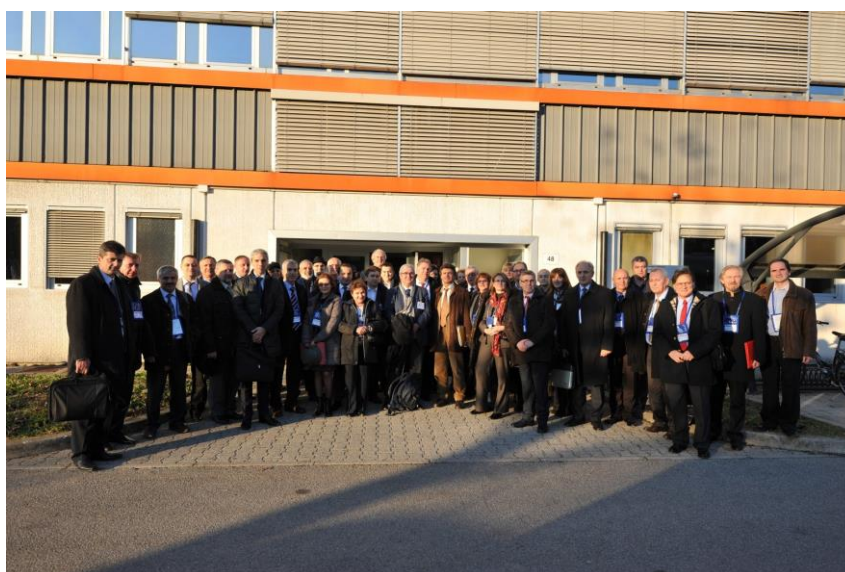


**Fig. 3.2 Groups of participants [%]**

Seven invited experts from CEN/TC250 Management Centre, DG ELARG and EU Member States and seven staff of the JRC (ELSA Unit) participated, also.

The list of the invited experts from the European Commission, EU Member States, and CEN/TC250, as well as the list of participants from non-EU countries in the Balkan region comprising their affiliations addresses is given in the Annex A.2 and A.3, respectively.

The Workshop was held on December 5 and 6, 2013 in Milan and JRC, Ispra, Italy with a visit of the ELSA lab (Fig. 3.3).



**Fig. 3.3 Visit of the ELSA lab**

The leaflet of the workshop is given in the Annex A.1 of this report.

## **3.2 MAPPING OF CURRENT SITUATION IN ADOPTION AND IMPLEMENTATION OF THE EUROCODES**

### **3.2.1 Objective and generalized data requirements**

The mapping of the current situation in the adoption and implementation of the Eurocodes in non-EU countries in the Balkan region was carried out by means of a questionnaire, which was compiled and sent to the members of each country delegation.

Generalized data requirements of the questionnaire are organized in four groups:

1. National regulatory framework
  - 1.1. Is there a National Action Plan (NAP) for adoption and implementation of the Eurocodes? If yes, please give reference and time table.
  - 1.2. In the case the Eurocodes are adopted as national standards, are they going to be used as primary standards or in parallel with no contradictory existing national standards?
  - 1.3. Does any relevant national institution support/participate in projects for adoption and/or implementation of Eurocodes? If yes, please give information and reference to any project financed by the European Union.
  - 1.4. Are there needs for harmonization of national legislation and standardisation framework for construction with EU legislation, related to the adoption of the Eurocodes?
2. National Determined parameters, National Annexes and harmonization
  - 2.1. Is there a Technical Committee for adoption of the Eurocodes already established? If yes, please give its title, date of creation, and Chairman.
  - 2.2. Please assess the progress of translation of each Eurocode (by placing an 'x' in one of the first four columns, and a grading between 1 and 5 in the last column for priorities ranging from the lowest to the highest).
  - 2.3. Please give reference to any existing regional cooperation in the process of translation of the Eurocodes.
  - 2.4. Please assess the progress of definition of the Nationally Determined Parameters of each Eurocode.
  - 2.5. Please assess the proportion of the recommended values of Nationally Determined Parameters of each Eurocode that have been/will be accepted.
  - 2.6. Please give reference to any regional cooperation and/or on-going projects for the definition of the Nationally Determined Parameters.
  - 2.7. Please suggest any national and/or regional institutions in neighbouring countries that might be interested to collaborate in the definition of Nationally Determined Parameters and their regional harmonization.
  - 2.8. Please identify barriers for the elaboration of the National Annexes, if any.
  - 2.9. Please assess the progress of adoption of Eurocodes related harmonized EN standards (optional).

3. Education and training

3.1. Are the Eurocodes included in the first cycle (Bachelor) study curriculum at the Universities?

3.2. Are the Eurocodes included in the second cycle (Master) study curriculum at the Universities?

3.3. Are the Eurocodes included in the training courses offered by professional associations?

3.4. Is there any training material, (booklets, leaflets, guidelines etc.) available on your national language? If yes, please give the references.

4. Additional comments that are not covered in the questionnaire

The questionnaire sample is given in Annex A.4. The list of countries (national stakeholders) that responded and the filled in questionnaires are given in Annex A.5.

### 3.2.2 Data analysis and conclusions

Analysis of the received data and drawing of conclusions were done for four groups of questions, respectively.

#### National regulatory framework

In fYRoM, Montenegro and Serbia there are National Action Plans (NAP) for adoption of Eurocodes. In Albania, Moldova and Turkey there are no such plans, but there are some roadmaps which are incorporated in different State strategies or programs. In Bosnia and Herzegovina there is no NAP.

The Eurocodes are going to be used as primary standards in most of the non-EU countries in the Balkan region (see Fig. 3.4). Turkey expressed its willingness for using as primary standards those parts of the Eurocodes for which there is no existing contemporary national standards.

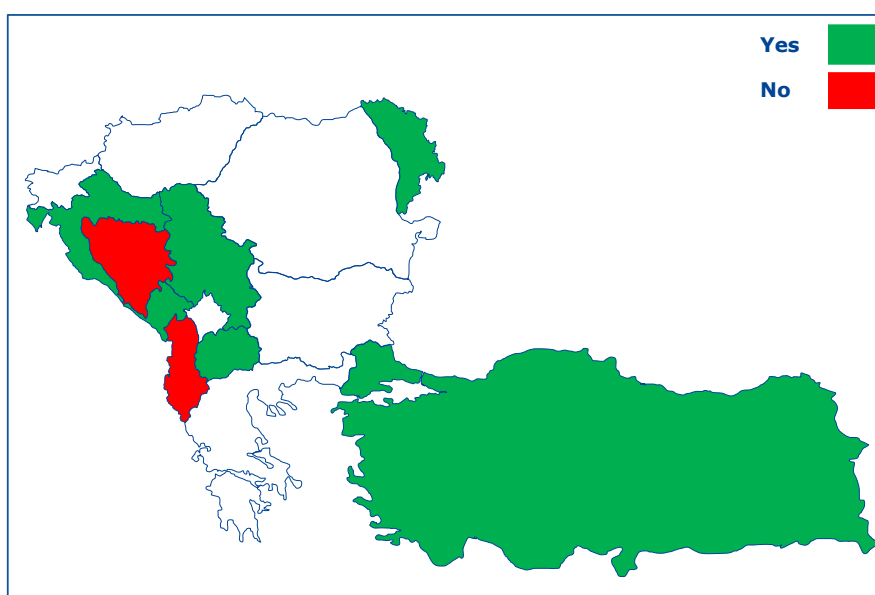
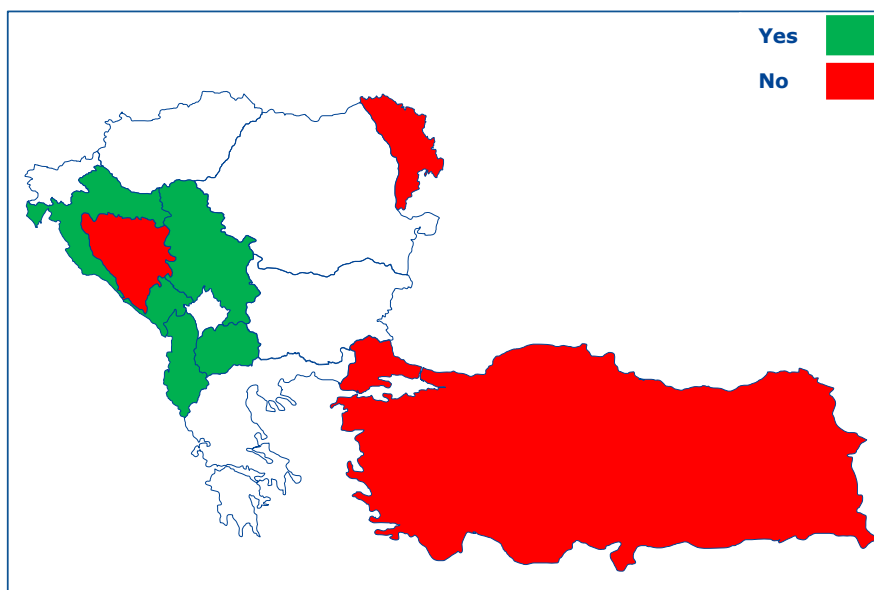


Fig. 3.4 Countries in which Eurocodes will be used as primary standards

In most of the countries national institutional support for adoption and implementation of the Eurocodes came from NSBs, from professional institutions and from Academia but generally there is a lack of support from the relevant National authorities (Ministries), (see Fig. 3.5).



**Fig. 3.5 National institutional support in the process of adoption of the Eurocodes**

All countries confirm that there is a strong need for harmonization of national legislation and standardisation framework for construction with EU legislation.

#### **NDPs, National Annexes and harmonization**

Technical Committees for adoption of the Eurocodes have already been established within NSBs in all targeted countries except Moldova.

Concerning the process of translation of the Eurocodes it is finished in FYRoM, Moldova, Croatia (except EN 1993 and EN 1999) and Serbia (except EN 1992, EN 1997 and EN 1998). Albania is in an advanced phase and translation is already finished for EN 1990, EN 1991, EN 1992, EN 1993 and EN 1998). More details are presented in Fig. 3.6.

Existing regional cooperation in the process of translation of the Eurocodes is very limited and it was reported that the Institute of Standardization of Serbia (ISS) delivered (free of charge) versions of Eurocodes translated in Serbian language and adopted by ISS to the Institutes for Standardization of FYRoM and Montenegro. Also the NSB of Moldova received Romanian translations of all Eurocodes from the Romanian Standards Association.

Concerning the process of definition of NDPs for each Eurocode, Croatia is the only country which has completed it. In Bosnia and Herzegovina, Moldova, Turkey and Albania (except EN 1998), the process has not yet started (see Fig. 3.7).



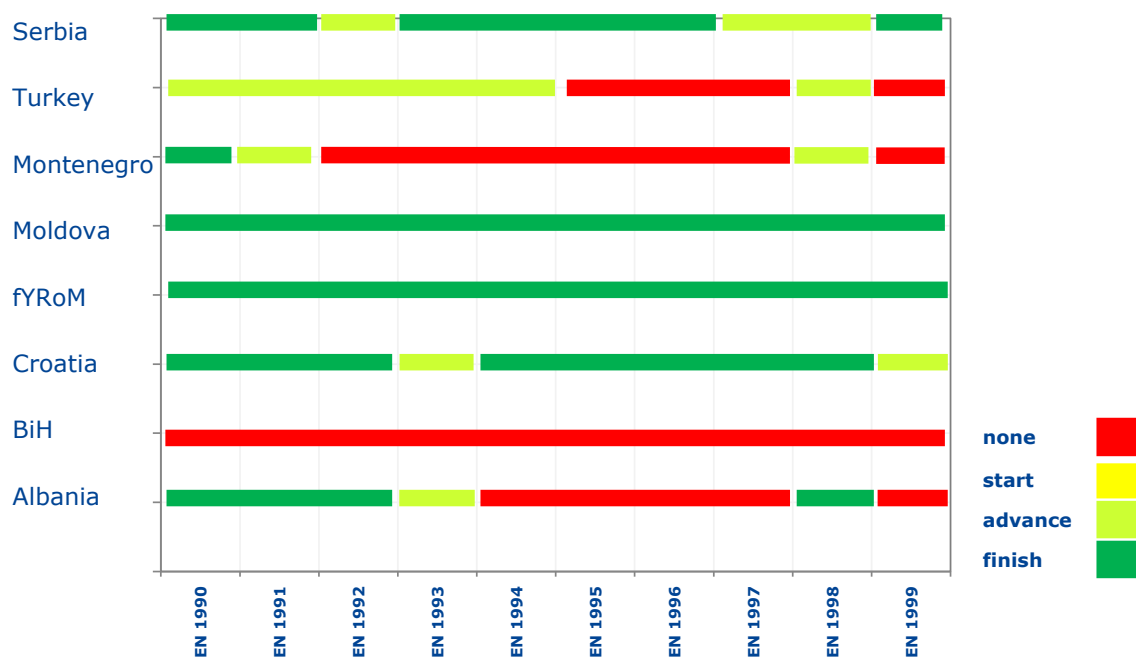


Fig. 3.6 Progress of translation of the Eurocodes

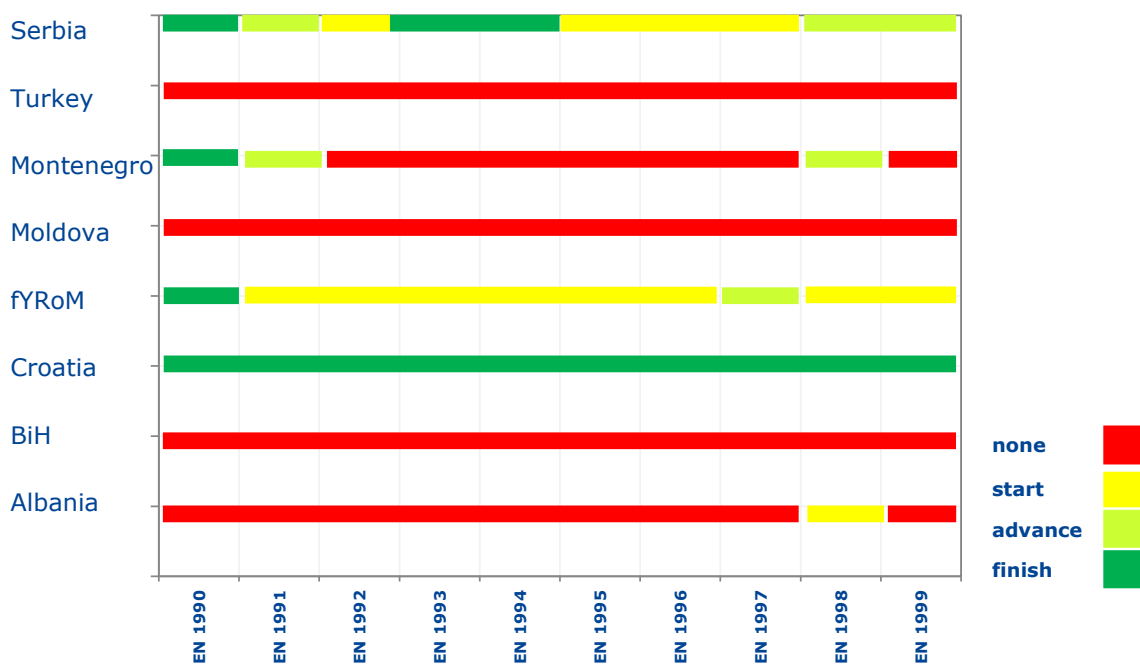
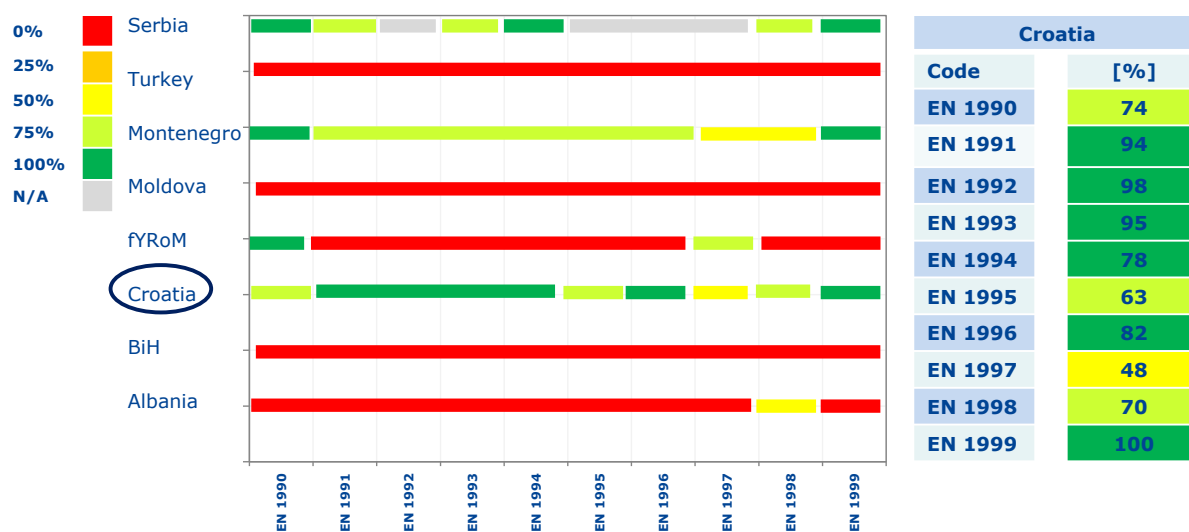


Fig. 3.7 Progress of definition of the NDPs

Analysis of collected data for the proportion of the recommended values of NDPs of each Eurocode that have been/will be accepted shows that Croatia, Montenegro and Serbia (for EN 1990, EN 1991, EN 1993 and EN 1998) have high percentages of acceptance of the recommended values – over 75% (see Fig. 3.8). In Croatia, who delivered detailed data for each Eurocode, the average percentage of acceptance is 80%. For the rest of the countries

this assessment couldn't be done since they are at the beginning of the process of definition of NDPs.



**Fig. 3.8 Proportion of acceptance of recommended values of NDPs**

There is a lack of existing regional cooperation for the definition of NDPs. The only cooperation reported has been between the Institute for Standardization of Serbia that delivered NDPs adopted in their NA to the Institute for standardization of Republic of Macedonia. Nevertheless, all countries expressed their willing for establishing regional cooperation among NSBs, Academia & Research institutes and professional organizations.

The barriers for elaboration of NAs were identified and in general they are: lack of resources (e.g. for elaboration of maps), legal framework, insufficient experience and specialists, etc.

Concerning the progress of adoption of the Eurocodes related harmonized standards, it has been completed in Bosnia and Herzegovina, Croatia, Montenegro and Serbia, (see Fig. 3.9). The process is in an advanced phase in Albania and Moldova and at the beginning in fYRoM. No data was provided for Turkey.

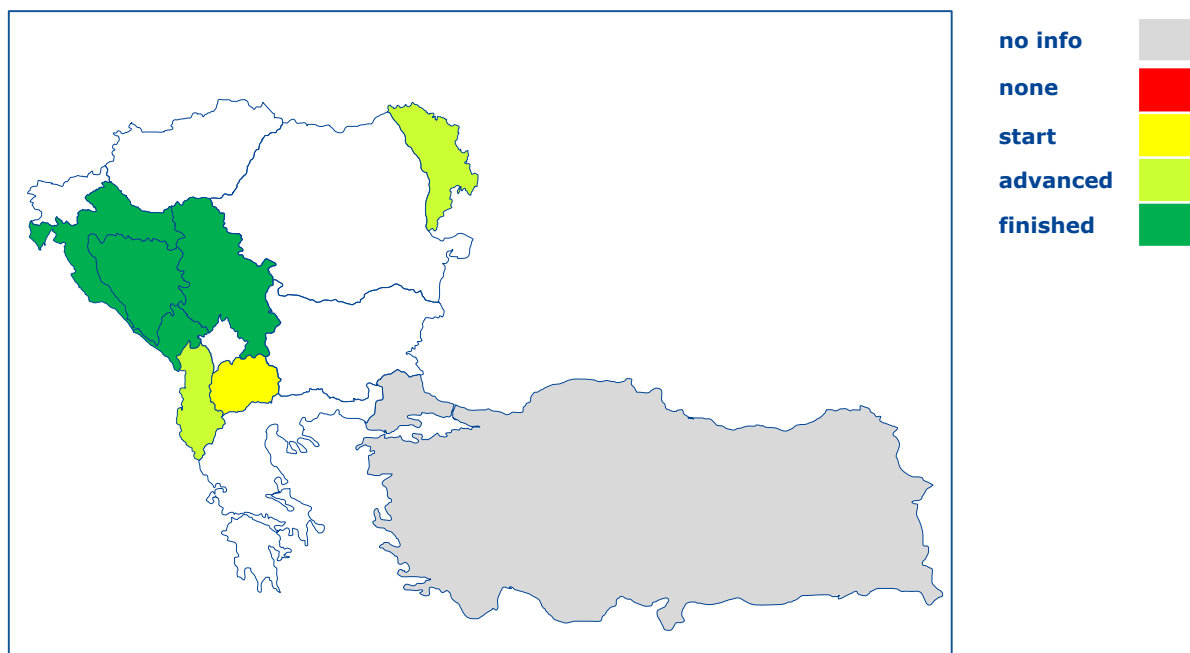


Fig. 3.9 Progress of adoption of the Eurocodes related harmonized EN standards

### Education and training

Based on the data provided in the questionnaires, the Eurocodes are comprehensively included in the first study cycle (Bachelor level) of Universities in Bosnia and Herzegovina (BiH), and in Croatia (see Fig. 3.10). In Albania and Moldova the Eurocodes are not included at all. Montenegro, Serbia and Turkey show some progress (in average four of ten Eurocodes are included) and fYRoM included only EN1990.



Fig. 3.10 Presence of the Eurocodes in the first cycle studies (Bachelor level)

At the second cycle studies (Master level), the situation is more promising. BiH, Croatia, fYRoM and Montenegro (except EN 1990) include all Eurocodes in the educational process (see Fig. 3.11).



**Fig. 3.11 Presence of the Eurocodes in the second cycle studies (Master level)**

Training courses are offered in Croatia, Montenegro (except EN 1999) and partially in Albania (only EN 1990 and EN 1998). Training material (booklets, leaflets, guidelines, etc.) in national languages are available in Croatia, fYRoM, Montenegro (except EN 1994 and EN 1999) and Serbia. However, it is important to emphasise the lack of common strategic approach at national level.

**Additional comments**

Additional comments that are not covered by the questionnaire were provided by Albania, fYRoM, Moldova, Montenegro and Serbia. They are all included in Annex A.5.

## 4 General conclusions and recommendations

The Workshop on the Adoption of the Eurocodes in the Balkan region was held on 5-6 December 2013 in Milan and at the JRC, Ispra, Italy. It was organized by DG Joint Research Centre of the European Commission and supported by the JRC Enlargement and Integration Action.

The workshop was focused on the progress and specific needs for adoption and implementation of the Eurocodes and related EN standards in the Balkan region. Thirty seven representatives of the National Authorities, National Standardization Bodies, Academia and Chambers of Engineers from non-EU countries in the Balkan region participated, as well as seven invited experts from CEN/TC250, CEN&CENELEC Management Centre, DG ELARG and EU Member States and seven staff of the JRC (ELSA Unit). The total number of the participants was 51.

After two-days of presentations and discussions the following conclusions were delivered:

- Most of the non-EU countries in the Balkan region are planning to use the Eurocodes as primary standards. They are aware about the need for harmonization of their national legislation and standardization framework for construction with the EU legislation. However, in most of the countries there is a lack of relevant institutional support for adoption and implementation of the Eurocodes.
- There is good progress on Eurocodes translations, especially on EN 1990, EN 1991 and EN 1992 (except in Bosnia and Herzegovina). This process is completed in the former Yugoslav Republic of Macedonia (fYRoM) and Moldova (the latter accepted the Romanian translation) and in a very advanced phase in Serbia. The process of elaboration of Nationally Determined Parameters (NDPs) and National Annexes (NA) has started in the majority of the non-EU countries in the Balkan region.
- Eurocodes are included in higher education; more extensively in the second cycle (Master courses). In general, training courses are not offered by professional associations (except in Montenegro) and there is lack of comprehensive training material. Croatia could serve as a regional example of “good practice” concerning the organization of training programs and involvement of all relevant stakeholders in the process. The financing at National level for the elaboration of guidelines for application of EN Eurocodes and design aids is insufficient.
- There is a need for creating a regional platform for collaboration concerning adoption of the Eurocodes, for example by setting up itinerant regional conferences/meetings/seminars/workshops/training hosted by each of the countries in the Balkan region. The National Standardization Body of fYRoM “Standardization Institute of Republic of Macedonia” kindly offered to host the first event.

In order to assist the further progress in adoption and implementation of the Eurocodes in non-EU countries in the Balkan region, the following main recommendations were formulated:

- To speed the process of harmonization of national legislation and standardization framework for construction with EU legislation.
- Increase the exchange of experience and strengthen regional cooperation for the harmonization of national legislation and standardization framework for construction.
- Transfer of “good practice” from EU Member States concerning the process of harmonization of national legislation with EN standards.
- Explore the possibility of organizing Level 1 training workshops, which will deal with policies of Eurocodes implementation, National Annexes, co-existence with National Codes, the Eurocodes system, etc. These courses will be aimed at National Authorities, National Standards Bodies and senior staff of companies in the non-EU countries in the Balkan region.
- Increase regional cooperation in translation of the Eurocodes using positive experience from the neighboring countries.
- Increase exchange of experience and strengthen regional cooperation for elaboration of National Annexes and cross-border harmonization of the NDPs.
- To map on-going projects under different EU programs and initiatives to facilitate the process of elaboration of NAs.
- Transfer of “good practice” from EU Member States in adoption of the Eurocodes.
- Use of existing instruments for delivering EU external assistance to each target country (TAIEX, twinning projects, IPA funds, etc.) to support adoption of the Eurocodes.
- Websites providing information and promoting adoption and implementation of the Eurocodes should be promoted and/or created in the non-EU countries in the Balkan region.
- The region can benefit from the experience of EU MS concerning: university programmes, professional training, handbooks, research, testing and software.

The workshop brought together representatives from relevant services of the European Commission and EU Member States with national stakeholders from non-EU countries in the Balkan region and created a good opportunity of dialogue between all participants in the process of adoption of the Eurocodes.

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- <http://eurocodes.jrc.ec.europa.eu/>





## **Appendix A**

### **A Workshop on adoption of the Eurocodes in the Balkan region**

## A.1 LEAFLET OF THE WORKSHOP

The leaflet features the European Commission logo on the left. The main title is 'ADOPTION OF THE EUROCODES IN THE BALKAN REGION'. The date and location are '5-6 December 2013 MILAN & JRC-ISPRÁ, ITALY'. It is organized by the 'EUROPEAN COMMISSION DG Joint Research Centre' and supported by the 'EUROPEAN COMMISSION JRC Enlargement and Integration Action'. The background shows silhouettes of construction workers on a site. The JRC logo is in the bottom right corner.

### Venue

5 (morning) and 6 December: Hotel Rosa Grand, Piazza Fontana, 3 20122 Milan, Italy  
 tel.: +39 02 883111; fax: +39 02 805 7964  
[rosa.mi@starhotels.it](mailto:rosa.mi@starhotels.it); [reservations.rosa.mi@starhotels.it](mailto:reservations.rosa.mi@starhotels.it)  
[www.starhotels.com](http://www.starhotels.com)

5 December (afternoon): ELSA and IPR room 03, JRC, European Commission, Ispra (VA), Italy  
 A social dinner will be offered in the evening of 5 December

### Language

The Workshop presentations will be in English (no translation will be provided).

### Workshop Organising Committee

A. Pinto, F. Taucer, S. Dimova, R. Apostolska and D. Strezova  
 Joint Research Centre

### With the Support of

European Commission  
 JRC Enlargement and Integration Action

### Further Information

European Commission:  
 Joint Research Centre (JRC)  
 ELSA, IPSC  
 TP 480, Via E. Fermi, 2749  
 I-21027 Ispra (VA), Italy  
 Tel.: +39 0332 783605; Fax: +39 0332 789049  
 Email: [roberta.apostolska@jrc.ec.europa.eu](mailto:roberta.apostolska@jrc.ec.europa.eu)



<http://eurocodes.jrc.ec.europa.eu>

The European Commission website on the Eurocodes

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### Participants

Participants from non-EU countries in the Balkan region, (Albania, Bosnia and Herzegovina, former Yugoslav Republic of Macedonia, Moldova, Montenegro, Serbia and Turkey) and Croatia will attend the Workshop by invitation from the Organising Committee. Participation of high level officials from relevant governmental institutions, members from national standardization bodies, chambers of engineers and/or construction industry and universities and research institutions is expected. Priority will be given to participants recommended by National Authorities.

Nominated experts from the European Commission, EU Member States, and CEN/TC250 will also participate.

### Event Registration and Submission of Contributions

Participants are expected to return the registration form by November, 11<sup>th</sup>. Details for the event registration procedure will be provided by the Organising Committee.

The questionnaire aimed at providing insight into current progress in adoption and implementation of the Eurocodes in the non-EU Balkan countries should be filled by invited participants and should be submitted by email not later than November 1<sup>st</sup>.

The template for the presentation of the Country report will be provided by the Organising Committee. Each participant country will be allocated 30 minutes of presentation time.

### Attendance Fees

There will be no registration fee for the Workshop. Travel and subsistence costs will be reimbursed by the European Commission. The workshop secretariat will provide to participants further information about travel and accommodation arrangements. Participants are responsible for reserving their accommodations.

### Workshop Material

Relevant Workshop material will be distributed at the Workshop.

## Towards adoption of the Eurocodes in the Balkan region

The considerable interest in implementation and adoption of the Eurocodes in the Balkan region is based on the opportunity to have an advanced common standardization environment, which is adaptable to the particular requirements of each country with regard to the geographical, geological or climatic conditions and also allows selecting the level of safety. Moreover, adoption and implementation of Eurocodes will help the Candidate Countries to fully implement EU acquis at the time of accession and support Potential Candidate Countries to progressively align themselves with the EU acquis.

The Workshop is organized within the framework of JRC Enlargement and Integration Action and intends to foster the implementation of the Eurocodes in non-EU countries in the Balkan region.

The programme of the workshop is composed of three parts:

- o Lectures delivered by invited experts from JRC and DG ENTR of European Commission, CEN/CENELEC and EU member states;
- o National presentations of non-EU countries about adoption of the Eurocodes (standards and legislation); specific problems and needs, training, guidelines and training material;
- o Round table discussions regarding adoption of the Eurocodes in the Balkan region – conclusions and recommendations.

## Objectives

The workshop is focused on progress and specific needs for adoption and implementation of the Eurocodes and related EN standards in the Balkan region.

In particular, it is envisaged that the Workshop and round table discussion will serve the following objectives:

- o Assess the level of commitment and the progress of adopting the Eurocodes;
- o Assess the level of harmonization of national policy/legislation with EU regulatory frameworks;
- o Assess the progress of definition of Nationally Determined Parameters (NDPs)
- o Define the strategies for training and elaboration of guidelines and training materials;
- o Facilitate exchange of views, knowledge and information between EU experts and representatives of non-EU countries in the Balkan region;
- o Facilitate regional cooperation in preparing National Annexes and harmonization of NDPs

## Programme

### Thursday, 5 December, 2013

#### Morning session, Milan

09:00 – 09:30 Registration

**Chairs: A. Pinto, A. Zilhao, G. Breitschaft, G. Ascensao, V. Angelieva and F. Taucer**

**Welcome addresses and introduction**

A. Pinto, DG JRC, European Commission  
A. Zilhao – DG ELARG, European Commission  
G. Breitschaft – Vice Chairman TC250  
G. Ascensao – CEN/CENELEC Programme Manager  
V. Angelieva – MID, Bulgaria  
F. Taucer, DG JRC, European Commission

10:00 – 10:30 **EU policies and legislation for the construction sector**

G. Katsarakis – DG ENTR, European Commission

10:30 – 11:00 **Coffee break**

**Chairs: G. Breitschaft and R. Apostolisika**

**CEN strategies and plans for a global acceptance of the Eurocodes**

G. Ascensao – CEN/CENELEC Programme Manager

11:30 – 12:00 **JRC support to the implementation of the Eurocodes**

S. Dimova – DG, JRC, European Commission

12:00 – 13:00 **Lunch break**

#### Afternoon session, JRC, ELSA, Ispra

14:30 – 15:30 **Visit to ELSA**

F. Taucer – DG JRC, European Commission

**Chairs: G. Katsarakis and S. Dimova**

**The Eurocodes: present and future**

G. Breitschaft – Vice Chairman TC250

16:00 – 16:30 **Coffee break**

16:30 – 17:30 **Experience in preparing the National Annexes in EU MS**

P. Spehl – SECO, Belgium  
V. Angelieva & I. Dabizheva – MID & BDS, Bulgaria  
Z. Savor – University of Zagreb, Croatia

17:30 – 18:00 **Existing instruments for funding and technical assistance (TAJEX)**

A. Zilhao – DG ELARG, European Commission

18:00 – 18:30 **Experience gathered from Austria/Montenegro Twinning project**

T. Nawaz – Resident Twinning Adviser,

Austria/Montenegro Twinning project

18:30 – 19:00 **Discussion**

20:00 **Social dinner**

Organizing Committee will provide transportation from Milan to JRC, Ispra and back.

## Programme

### Friday, 6 December, 2013

**Current situation in adoption of the Eurocodes (standards and legislation); specific problems and needs, training, guidelines and training material**

**Morning session, Milan**

**Chairs: Chairs: A. Zilhao and T. Nawaz**

9:00 – 9:30 **Country report-Albania**

9:30 – 10:00 **Country report-Bosnia and Herzegovina**

10:00 – 10:30 **Country report-Croatia\***  
(\*Croatia became a member state on July 1, 2013)

10:30 – 11:00 **Coffee break**

**Chairs: P. Spehl and I. Dabizheva**

11:00 – 11:30 **Country report the former Yugoslav Republic of Macedonia**

11:30 – 12:00 **Country report-Turkey**

12:00 – 13:00 **Lunch break**

#### Afternoon session, Milan

**Chairs: V. Angelieva and G. Ascensao**

13:00 – 13:30 **Country report-Montenegro**

13:30 – 14:00 **Country report-Serbia**

14:00 – 14:30 **Country report-Moldova**

14:30 – 15:00 **Summary of the Questionnaires**

R. Apostolisika – DG, JRC, European Commission

15:00 – 15:30 **Coffee break**

15:30 – 16:30 **Round table discussion – conclusions and recommendations**

16:30 – 16:45 **Closure**

**EUROCODES**  
BUILDING THE FUTURE

<http://eurocodes.jrc.ec.europa.eu>

The European Commission website on the Eurocodes

**A.2 LIST OF INVITED EXPERTS FROM THE EU MEMBER STATES**

<b>No</b>	<b>EU invited expert</b>	<b>Country</b>	<b>Affiliation</b>
1	Ms Luciana Zanier		DG, JRC, Interinstitutional and Stakeholder Relations Unit (A05)
2	Mr Georgios Katsarakis		European Commission, DG ENTR
3	Mr Goncalo Ascensao	Belgium	CEN/CENELEC Programme Manager-Industry, Technology & Infrastructure - Standards
4	Mr Gerhard Breitschaft	Germany	Vice Chair TC_250
5	Mr Pierre Spehl	Belgium	SECO, Belgium
6	Ms Violeta Angelieva	Bulgaria	Ministry of Regional Development and Public Work, Regulations and Norms for design and construction Department-Director
7	Ms Iren Dabijeva	Bulgaria	Bulgarian Institute for Standardization – Managing Director
8	Adriano Zilhao		HoU Institution Building, TAIEX, Twinning
9	Mr Tariq Nawaz	UK	RTA, Austria/Montenegro Twinning project

### A.3 LIST OF PARTICIPANTS FROM NON-EU COUNTRIES IN THE BALKAN REGION

No	Non-EU participant	Country	Affiliation
1	Mr Ilir Qerfozi	Albania	Ministry of Public Works and Transport - Director of Construction Policy & Member of the Board of standardization
2	Mr Fisnik Kadiu	Albania	Polytechnic University of Tirana & Chairman of the TC 250 "Eurocodes" ( <i>national</i> )
3	Mr Vasil Muka	Albania	Studio "TX-Muka"- Technical Director & Builder Association Member
4	Mr Riza Hasanaj	Albania	General Directorate of Standardization, Directorate of Standards
5	Mr Stojan Vujatovic	BiH	Projekat a.d. Banja Luka
6	Mr Sanin Dzidic	BiH	International Burch University
7	Ms Nihada Kulenovic	BiH	Institute for standardization of Bosnia and Herzegovina
8	Mr Aleksandar Cincar	BiH	Institute for standardization of Bosnia and Herzegovina - General Director
9	Mr Mustafa Hrasnica	BiH	Faculty of Civil Engineering, University of Sarajevo
10	Ms Vlatka Rajcic	Croatia	Faculty of Civil Engineering, University of Zagreb
11	Ms Vlasta Gacesa-Moric	Croatia	Croatian Standard Institute
12	Mr Zlatko Savor	Croatia	University of Zagreb, Faculty of Civil Engineering - Senior professional consultant
13	Mr Ljupco Davcev	FYROM	Macedonian Institute for standardization - Director
14	Ms Todorka Samardjioska	FYROM	Faculty of Civil Engineering - Vice Dean
15	Mr Goce Dimovski	FYROM	Ministry of transport and communication
16	Ms Snezana Meskova	FYROM	Ministry of transport and communication
17	Mr Josif Josifovski	FYROM	Civil Engineering Faculty
18	Mr Gheorghe Croitoru	Moldova	Ministry of Regional Development and Construction - Head of Technical and Economic Regulation Department
19	Mr Iurii Sokol	Moldova	National Standardization Institute - Director

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20	Mr Anatoly Izbinda	Moldova	Research Institute in Building (INCERCOM) - Director
21	Mr Vasile Eremciuc	Moldova	State Service for Verification and Expertise of Projects and Construction
22	Mr Dumitru Eremciuc	Moldova	National Research and Planning Institute, URBANPROIECT
23	Ms Svetlana Vuksanovic	Montenegro	Ministry of Sustainable Development and Tourism/Resident Twinning Adviser
24	Mr Radomir Zejak	Montenegro	Faculty of Civil Engineering, Chairman of ISME, TK 002
25	Ms Zeljka Radovanovic	Montenegro	Faculty of Civil Engineering/Engineers Chambers
26	Ms Ljiljana Soskic	Montenegro	Institute for Standardization of Montenegro/ Technical secretary of TK 002
27	Mr Danilo Gvozdenovic	Montenegro	Ministry of Sustainable Development and Tourism/Director General
28	Mr Branislav Glavatovic	Montenegro	Seismological Observatory of Montenegro
29	Ms Tatjana Vujosevic	Montenegro	Ministry of Sustainable Development and Tourism
30	Mr Zlatko Markovic	Serbia	University of Belgrade, Faculty of Civil Engineering
31	Mr Radisa Knezevic	Serbia	Institute for standardization of Serbia, Department for General Fields of Standardization
32	Mr Dusan Pajovic	Serbia	Institute for standardization of Serbia, Department for General Fields of Standardization
33	Mr Gjorge Ladjinovic	Serbia	University of Novi Sad, Faculty of Technical Sciences
34	Mr Atila Erenler	Turkey	Ministry of Environment and Urbanism - Deputy General Director
35	Mr Mesut Cicek	Turkey	Ministry of Environment and Urbanism - Civil Engineer
36	Mr Ahmet Yakut	Turkey	Middle East Technical University - Professor, D-r
37	Mr Alper Ilki	Turkey	Istanbul Technical University - Professor, D-r
38	Mr Levent Ozdemir	Turkey	Ministry of Environment and Urbanism - Civil Engineer

## A.4 QUESTIONNAIRE SAMPLE

### Questionnaire for National Authority relevant representatives

#### 1. National regulatory framework

- 1.1 Is there a National action plan for adoption and implementation of the Eurocodes? If yes, please give reference and time table.

Yes/No

- 1.2 In the case the Eurocodes are adopted as national standards, are they going to be used as primary standards or in parallel with no contradictory existing national standards?

Yes/No

- 1.3 Does any relevant national institution support/participate in projects for adoption and/or implementation of Eurocodes? If yes, please give information and reference to any project financed by the European Union.

Yes/No

1.4 Are there needs for harmonization of national legislation and standardisation framework for construction with EU legislation, related to the adoption of the Eurocodes?

Yes/No

**2. NDPs and National Annexes & Harmonization to EN standards**

2.1 Is there a Technical Committee for adoption of the Eurocodes already established? If yes, please give its title, date of creation, and Chairman.

Yes/No

Title:  
Date of creation:  
Chairmen:

2.2 Please assess the progress of translation of each Eurocode (by placing an 'x' in one of the first four columns, and a grading between 1 and 5 in the last column for priorities ranging from the lowest to the highest)

	none	start	advance	finish	priority
EN 1990					
EN 1991					
EN 1992					
EN 1993					
EN 1994					
EN 1995					
EN 1996					
EN 1997					
EN 1998					
EN 1999					

2.3 Please give reference to any existing regional cooperation in the process of translation of the Eurocodes.



2.4 Please assess the progress of definition of the Nationally Determined Parameters of each Eurocode

	none	start	advance	finish	priority
EN 1990					
EN 1991					
EN 1992					
EN 1993					
EN 1994					
EN 1995					
EN 1996					
EN 1997					
EN 1998					
EN 1999					

2.5 Please assess the proportion of the recommended values of Nationally Determined Parameters of each Eurocode that have been/will be accepted.

	0%	25%	50%	75%	100%
EN 1990					
EN 1991					
EN 1992					
EN 1993					
EN 1994					
EN 1995					
EN 1996					
EN 1997					
EN 1998					
EN 1999					

2.6 Please give reference to any regional cooperation and/or on-going projects for the definition of the Nationally Determined Parameters.

2.7 Please suggest any national and/or regional institutions in neighbouring countries that might be interested to collaborate in the definition of Nationally Determined Parameters and their regional harmonization.

2.8 Please identify barriers for the elaboration of the National Annexes, if any.

2.9 Please assess the progress of adoption of Eurocodes related harmonized EN standards (optional)

	none	start	advance	finish
hEN standards				

### 3. Education and training

3.1 Are the Eurocodes included in the first cycle (Bachelor) study curriculum at the Universities?

	no	Yes
EN 1990		
EN 1991		
EN 1992		
EN 1993		
EN 1994		
EN 1995		
EN 1996		
EN 1997		
EN 1998		
EN 1999		

3.2 Are the Eurocodes included in the second cycle (Master) study curriculum at the Universities?

	no	yes
EN 1990		
EN 1991		
EN 1992		
EN 1993		
EN 1994		
EN 1995		
EN 1996		
EN 1997		
EN 1998		
EN 1999		

3.3 Are the Eurocodes included in the training courses offered by professional associations?

	no	yes
EN 1990		
EN 1991		
EN 1992		
EN 1993		
EN 1994		
EN 1995		
EN 1996		
EN 1997		
EN 1998		
EN 1999		

3.4 Is there any training material, (booklets, leaflets, guidelines etc.) available on your national language? If yes, please give the references.

Yes/No

**4. Additional comments that are not covered in the questionnaire**

*Questionnaire complied*

*by:*

*Affiliation:*

*Position:*

*Email:*

For any questions concerning the questionnaire please contact Roberta Apostolska at [roberta.apostolska@jrc.ec.europa.eu](mailto:roberta.apostolska@jrc.ec.europa.eu)

Thank you for your collaboration.

### A.5 LIST OF COUNTRIES AND NATIONAL STAKEHOLDERS THAT RESPOND TO THE QUESTIONNAIRE AND FILLED IN QUESTIONNAIRES

No	Non-EU participant	Country	Affiliation
1	Mr Ilir Qerfozi	Albania	Ministry of Public Works and Transport - Director of Construction Policy & Member of the Board of standardization
2	Ms Nihada Kulenovic	BiH	Institute for standardization of Bosnia and Herzegovina
3	Mr Lino Fucic	Croatia	Ministry for Construction and Physical Planning, RoC, Head of sector
4	Ms Snezana Meskova	FYROM	Ministry of transport and communication
5	Mr Gheorghe Croitoru	Moldova	Ministry of Regional Development and Construction - Head of Technical and Economic Regulation Department
6	Ms Svetlana Vuksanovic	Montenegro	Ministry of Sustainable Development and Tourism/Resident Twinning Adviser
7	Mr Radomir Zejak	Montenegro	Faculty of Civil Engineering, Chairman of ISME, TK 002
8	Ms Ljiljana Soskic	Montenegro	Institute for Standardization of Montenegro/ Technical secretary of TK 002
9	Mr Radisa Knezevic	Serbia	Institute for standardization of Serbia, Department for General Fields of Standardization
10	Mr Atila Erenler	Turkey	Ministry of Environment and Urbanism - Deputy General Director
11	Mr Mustafa Yasar	Turkey	Turkish Standards Institution

## ALBANIA – Filled in Questionnaire

### 1. National regulatory framework

- 1.1 Is there a National action plan for adoption and implementation of the Eurocodes? If yes, please give reference and time table.

Yes/No

Report on the strategy of the Directorate of Construction in the multi-annual program of Ministry of Public Works & Transport. Priority many years of 2011 - 2014 the preparation of Eurocodes 0,1,2,3 and 8 in Albanian language.

Priority- 2014-2016 Preparation of the Eurocodes 4, 5,6,7 and 9 in Albanian language.

- 1.2 In the case the Eurocodes are adopted as national standards, are they going to be used as primary standards or in parallel with no contradictory existing national standards?

Yes/No

Eurocode 0, 1, 2 and 8 are designed to be adopted as a national standard in 2014. During this process, should be complemented with national annexes and then used as a primary standard, in parallel with no contradictory existing national standards.

- 1.3 Does any relevant national institution support/participate in projects for adoption and/or implementation of Eurocodes? If yes, please give information and reference to any project financed by the European Union.

Yes/No

Competent authorities with a view to the adoption of the Eurocode, is General Directorate of Standardisation ( GDS- DPS)

1.4 Are there needs for harmonization of national legislation and standardisation framework for construction with EU legislation, related to the adoption of the Eurocodes?

Yes/No

Yes, European Directive 89/106/EEC on construction products. (And after Construction Products Regulation)

2. NDPs and National Annexes & Harmonization to EN standards

2.1 Is there a Technical Committee for adoption of the Eurocodes already established? If yes, please give its title, date of creation, and Chairman.

Yes/No

Title: KT 250 "Eurocode"

Date of creation: 2007-05-14

Chairmen: Prof. Ass. Fisnik Kadiu

Polytechnic University of Tirana.

2.2 Please assess the progress of translation of each Eurocode (by placing an 'x' in one of the first four columns, and a grading between 1 and 5 in the last column for priorities ranging from the lowest to the highest)

	none	start	advance	finish	priority
EN 1990				x	
EN 1991				x	
EN 1992				x	
EN 1993				x	
EN 1994					5
EN 1995					5
EN 1996					5
EN 1997					5
EN 1998				x	
EN 1999					4

2.3 Please give reference to any existing regional cooperation in the process of translation of the Eurocodes.

.....

2.4 Please assess the progress of definition of the Nationally Determined Parameters of each Eurocode

	none	start	advance	finish	priority
EN 1990					
EN 1991	x				
EN 1992	x				
EN 1993	x				
EN 1994	x				
EN 1995	x				
EN 1996	x				
EN 1997	x				
EN 1998	x				
EN 1999	x				

2.5 Please assess the proportion of the recommended values of Nationally Determined Parameters of each Eurocode that have been/will be accepted.

	0%	25%	50%	75%	100%
EN 1990	x				
EN 1991	x				
EN 1992	x				
EN 1993	x				
EN 1994	x				
EN 1995	x				
EN 1996	x				
EN 1997	x				
EN 1998			x		
EN 1999	x				

2.6 Please give reference to any regional cooperation and/or on-going projects for the definition of the Nationally Determined Parameters.

.....



2.7 Please suggest any national and/or regional institutions in neighbouring countries that might be interested to collaborate in the definition of Nationally Determined Parameters and their regional harmonization.

Maybe we would collaborate with Republic of Kosovo and FYROM.

2.8 Please identify barriers for the elaboration of the National Annexes, if any.

I think it may have as the first phase, more barriers to time character, the technical knowledge and administrative-bureaucratic.

2.9 Please assess the progress of adoption of Eurocodes related harmonized EN standards (optional)

	none	start	advance	finish
hEN standards			x	

### 3. Education and training

3.1 Are the Eurocodes included in the first cycle (Bachelor) study curriculum at the Universities?

	no	Yes
EN 1990	x	
EN 1991	x	
EN 1992	x	
EN 1993	x	
EN 1994	x	
EN 1995	x	
EN 1996	x	
EN 1997	x	
EN 1998	x	
EN 1999	x	

3.2 Are the Eurocodes included in the second cycle (Master) study curriculum at the Universities?

	no	yes
EN 1990	x	
EN 1991	x	
EN 1992	x	
EN 1993	x	
EN 1994	x	
EN 1995	x	
EN 1996	x	
EN 1997	x	
EN 1998	x	
EN 1999	x	

3.3 Are the Eurocodes included in the training courses offered by professional associations?

	no	yes
EN 1990		x
EN 1991	x	
EN 1992	x	
EN 1993	x	
EN 1994	x	
EN 1995	x	
EN 1996	x	
EN 1997	x	
EN 1998		x
EN 1999	x	

3.4 Is there any training material, (booklets, leaflets, guidelines etc.) available on your national language? If yes, please give the references.

Yes/No

Yes is booklets training material, for the design analysis of a reinforced concrete building.

#### 4. Additional comments that are not covered in the questionnaire

In the framework of the EU Integration process the Albanian Government is introducing new legislation adopt the requirements of the Directive

.....  
The project named Albania Disaster Mitigation and Adaptation (AL-DRMAP), is part of a broader the regional program (SEE-DRMAP), developed by the World Bank together with the United Nations International Strategy for Disaster Reduction (UN ISDR).

The Ministry of Interior through the Project Management Team (PMT) within the GDCE is the responsible agency for the implementation of Albania Disaster Mitigation and Adaptation Project. All activities undertaken as part of these consultancy services shall carried out in cooperation and coordination with the Project Implementation Team (PIT) established within the Ministry of Public Works and Transports (MoPWT).

Component 3 *Building Code Development*. This activity assists in the review of building code legislation currently under consideration, focusing on applicable earthquake design requirements. It will also provide assistance for the adoption of EU codes in Albania. Development of Building Codes – EC-8

*Questionnaire complied by:* Ilir Qerfozi  
*Affiliation:* Member of the Board of standardization, at the GDS  
*Position:* Director of Construction Policy at the MPW&T  
*Email:* [Ilir.Qerfozi@mppt.gov.al](mailto:Ilir.Qerfozi@mppt.gov.al); [iqerfozi@yahoo.it](mailto:iqerfozi@yahoo.it);

## BOSNIA and HERZEGOVINA – Filled in Questionnaire

### 1. National regulatory framework

- 1.1 Is there a National action plan for adoption and implementation of the Eurocodes? If yes, please give reference and time table.

**No**

- 1.2 In the case the Eurocodes are adopted as national standards, are they going to be used as primary standards or in parallel with no contradictory existing national standards?

Yes/No

In Bosnia and Herzegovina, the Eurocodes are adopted without national annexes and are used parallel with existing national standards.

- 1.3 Does any relevant national institution support/participate in projects for adoption and/or implementation of Eurocodes? If yes, please give information and reference to any project financed by the European Union.

**No**

- 1.4 Are there needs for harmonization of national legislation and standardisation framework for construction with EU legislation, related to the adoption of the Eurocodes?

Yes

**2. NDPs and National Annexes & Harmonization to EN standards**

- 2.1 Is there a Technical Committee for adoption of the Eurocodes already established? If yes, please give its title, date of creation, and Chairman.

Yes/No

Title:

Date of creation:

Chairmen:

NOTE 1: All standards are adopted by endorsement method by technical committee BAS/TC 21 - Concrete and related products.

NOTE 2: The Institute (BAS) is currently in the phase of the establishment (2013-11-28) of the technical committee responsible for the Eurocodes - BAS/TC 58.

- 2.2 Please assess the progress of translation of each Eurocode (by placing an 'x' in one of the first four columns, and a grading between 1 and 5 in the last column for priorities ranging from the lowest to the highest)

	none	start	advance	finish	priority
EN 1990	x				5
EN 1991	x				5
EN 1992	x				5
EN 1993	x				5
EN 1994	x				3
EN 1995	x				3
EN 1996	x				3
EN 1997	x				4
EN 1998	x				4
EN 1999	x				1

- 2.3 Please give reference to any existing regional cooperation in the process of translation of the Eurocodes.

2.4 Please assess the progress of definition of the Nationally Determined Parameters of each Eurocode

	none	start	advance	finish	priority
EN 1990	x				
EN 1991	x				
EN 1992	x				
EN 1993	x				
EN 1994	x				
EN 1995	x				
EN 1996	x				
EN 1997	x				
EN 1998	x				
EN 1999	x				

2.5 Please assess the proportion of the recommended values of Nationally Determined Parameters of each Eurocode that have been/will be accepted.

	0%	25%	50%	75%	100%
EN 1990	x				
EN 1991	x				
EN 1992	x				
EN 1993	x				
EN 1994	x				
EN 1995	x				
EN 1996	x				
EN 1997	x				
EN 1998	x				
EN 1999	x				

2.6 Please give reference to any regional cooperation and/or on-going projects for the definition of the Nationally Determined Parameters.

2.7 Please suggest any national and/or regional institutions in neighbouring countries that might be interested to collaborate in the definition of Nationally Determined Parameters and their regional harmonization.

All the national standards bodies in the region.

2.8 Please identify barriers for the elaboration of the National Annexes, if any.

- legal framework;
- making of the required maps: snow, wind, earthquake etc.

2.9 Please assess the progress of adoption of Eurocodes related harmonized EN standards (optional)

	none	start	advance	finish
hEN standards				x

### 3. Education and training

3.1 Are the Eurocodes included in the first cycle (Bachelor) study curriculum at the Universities?

	no	Yes
EN 1990		x
EN 1991		x
EN 1992		x
EN 1993		x
EN 1994		x
EN 1995		x
EN 1996		x
EN 1997		x
EN 1998		x
EN 1999		x

3.2 Are the Eurocodes included in the second cycle (Master) study curriculum at the Universities?

	no	yes
EN 1990		x
EN 1991		x
EN 1992		x
EN 1993		x
EN 1994		x
EN 1995		x
EN 1996		x
EN 1997		x
EN 1998		x
EN 1999		x

3.3 Are the Eurocodes included in the training courses offered by professional associations?

	no	yes
EN 1990	x	
EN 1991	x	
EN 1992	x	
EN 1993	x	
EN 1994	x	
EN 1995	x	
EN 1996	x	
EN 1997	x	
EN 1998	x	
EN 1999	x	

3.4 Is there any training material, (booklets, leaflets, guidelines etc.) available on your national language? If yes, please give the references.

**No**



**4. Additional comments that are not covered in the questionnaire**

<i>Questionnaire compiled by:</i>	Nihada Kulenović
<i>Affiliation:</i>	Institute for Standardization of Bosnia and Herzegovina
<i>Position:</i>	Expert in Standardization Department
<i>Email:</i>	nihada.kulenovic@bas.gov.ba

For any questions concerning the questionnaire please contact Roberta Apostolska at [roberta.apostolska@jrc.ec.europa.eu](mailto:roberta.apostolska@jrc.ec.europa.eu)

Thank you for your collaboration.

## CROATIA – Filled in Questionnaire

### 1. National regulatory framework

- 1.1 Is there a National action plan for adoption and implementation of the Eurocodes? If yes, please give reference and time table.

Yes/No

Not applicable. They are all already adopted.

- 1.2 In the case the Eurocodes are adopted as national standards, are they going to be used as primary standards or in parallel with no contradictory existing national standards?

Yes/No

Yes

- 1.3 Does any relevant national institution support/participate in projects for adoption and/or implementation of Eurocodes? If yes, please give information and reference to any project financed by the European Union.

Yes/No

Yes: the adoption of Eurocodes was jointed task of the Ministry of Construction and Physical Planning as a National Authority, Croatian Standards Institute as a National standardization institution and Croatian Chamber of Civil Engineers as representative of the users of Eurocodes

- 1.4 Are there needs for harmonization of national legislation and standardisation framework for construction with EU legislation, related to the adoption of the Eurocodes?

Yes, but the scale of harmonization is yet to be determined

## 2. NDPs and National Annexes & Harmonization to EN standards

- 2.1 Is there a Technical Committee for adoption of the Eurocodes already established? If yes, please give its title, date of creation, and Chairman.

Yes/No

Title: HZN/TO 548, Konstrukcijski eurokodovi (en: *Structural Eurocodes*)  
 Date of creation: 2006-11-28  
 Chairmen: Ivica Džeba, Phd

- 2.2 Please assess the progress of translation of each Eurocode (by placing an 'x' in one of the first four columns, and a grading between 1 and 5 in the last column for priorities ranging from the lowest to the highest)

	none	start	advance	finish	priority
EN 1990				x	
EN 1991				x	
EN 1992				x	
EN 1993			x		5
EN 1994				x	
EN 1995				x	
EN 1996				x	
EN 1997				x	
EN 1998				x	
EN 1999			x		5

- 2.3 Please give reference to any existing regional cooperation in the process of translation of

Not applicable. No regional cooperation so far.

2.4 Please assess the progress of definition of the Nationally Determined Parameters of each Eurocode

	none	start	advance	finish	priority
EN 1990				x	
EN 1991				x	
EN 1992				x	
EN 1993				x	
EN 1994				x	
EN 1995				x	
EN 1996				x	
EN 1997				x	
EN 1998				x	
EN 1999				x	

2.5 Please assess the proportion of the recommended values of Nationally Determined Parameters

The data regarding this question are not yet available; Croatia would try to prepare it for the Ispra meeting.

	0%	25%	50%	75%	100%
EN 1990					
EN 1991					
EN 1992					
EN 1993					
EN 1994					
EN 1995					
EN 1996					
EN 1997					
EN 1998					
EN 1999					

2.6 Please give reference to any regional cooperation and/or on-going projects for the definition of the Nationally Determined Parameters.

Not applicable. No regional cooperation so far.

2.7 Please suggest any national and/or regional institutions in neighbouring countries that might be interested to collaborate in the definition of Nationally Determined Parameters and their regional harmonization.

Possible collaboration with neighbouring countries, eg Macedonia in the definition of NDPs concerning earthquake.

2.8 Please identify barriers for the elaboration of the National Annexes, if any.

Not applicable. Possible barrier might be absence of national experience in some fields.

2.9 Please assess the progress of adoption of Eurocodes related harmonized EN standards (optional)

The data regarding this question are not yet available; Croatia would try to prepare it for the Ispra meeting.

	none	start	advance	finish
hEN standards				

### 3. Education and training

3.1 Are the Eurocodes included in the first cycle (Bachelor) study curriculum at the Universities?

	no	Yes
EN 1990		X
EN 1991		X
EN 1992		X
EN 1993		X
EN 1994		X
EN 1995		X
EN 1996		X
EN 1997		X
EN 1998		X
EN 1999		X

3.2 Are the Eurocodes included in the second cycle (Master) study curriculum at the Universities?

	no	yes
EN 1990		X
EN 1991		X
EN 1992		X
EN 1993		X
EN 1994		X
EN 1995		X
EN 1996		X
EN 1997		X
EN 1998		X
EN 1999		X

3.3 Are the Eurocodes included in the training courses offered by professional associations?

	no	yes
EN 1990		X
EN 1991		X
EN 1992		X
EN 1993		X
EN 1994		X
EN 1995		X
EN 1996		X
EN 1997		X
EN 1998		X
EN 1999		X

3.4 Is there any training material, (booklets, leaflets, guidelines etc.) available on your national language? If yes, please give the references.

Yes

The data regarding this question are not yet available; Croatia would try to prepare it for the Ispra meeting.

**4. Additional comments that are not covered in the questionnaire**

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*Questionnaire compiled by:* **Lino Fučić**  
*Affiliation:* **Ministry for Construction and Physical Planning,**  
*Position:* **Head of Sector**  
*Email:* **lino.fucic@mgipu.hr**

For any questions concerning the questionnaire please contact Roberta Apostolska at [roberta.apostolska@jrc.ec.europa.eu](mailto:roberta.apostolska@jrc.ec.europa.eu)

Thank you for your collaboration.

**Question 2.5** Please assess the proportion of the recommended values of Nationally Determined Parameters of each Eurocode that have been/will be accepted.

**Percentage of accepted recommended NDP values  
CROATIA**

Standard	No. of recommended values	No. of accepted values	%
EN 1990	176	131	74
EN 1991	1152	1086	94
EN 1992	estimate on sample of NDP's		98
EN 1993	estimate on sample of NDP's		95
EN 1994	37	29	78
EN 1995	48	30	63
EN 1996	171	141	82
EN 1997	149	71	48
EN 1998	169	117	70
EN 1999	all recommended values accepted		100

**Question 2.9** Please assess the progress of adoption of Eurocodes related harmonized EN standards (optional)

Croatia, as a EU Member State, follows the rules regarding adoption of the harmonized EN standards, therefore, the progress can be assessed as „proper“.

**Question 3.4** Is there any training material, (booklets, leaflets, guidelines etc.) available on your national language? If yes, please give the references.

There are several books, as well as training materials for workshops available for use of ENV Eurocodes, and some for use of EN Eurocodes in Croatian, as a result of efforts of several authors and/or organisations.

There is no common programme (on state level) of production of training materials and workshops for implementation of Eurocodes in Croatia.



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**former YUGOSLAV REPUBLIC of MACEDONIA –  
Filled in Questionnaire**

**1. National regulatory framework**

1.1 Is there a National action plan for adoption and implementation of the Eurocodes? If yes, please give reference and time table.

Yes.

Please find attached:

-Presentation of time frame for translation and adoption of Eurocodes (prepared October 2011)

-Action plan for preparation of National Annexes (prepared October 2011)

1.2 In the case the Eurocodes are adopted as national standards, are they going to be used as primary standards or in parallel with no contradictory existing national standards?

Yes, when the Eurocodes are adopted as national standards, they will be primary standards.

1.3 Does any relevant national institution support/participate in projects for adoption and/or implementation of Eurocodes? If yes, please give information and reference to any project financed by the European Union.

Standardization Institute of the Republic of Macedonia (ISRM) as national standard body realizes all activities in adoption of Eurocodes. Chamber of authorized architects and authorized engineers gave a support in translating the Eurocodes.

Projects financed by the European Union:

- National Annexes MKC EN 1990:2012 /NA:2012, H MKC EN 1997-1:2012 prepared and published by GTZ support,
- National Annexes MKC EN 1991-1-1:2012/NA:2012, MKC EN 1998-3:2012/NA:2012, prepared and published by IPA Project support,
- Workshop with TAIEX support – 6/7 May 2009 “Nationally Determined Parameters within Eurocodes”
- Expert Mission with TAIEX support – 17/20 May 2010, “Expert Mission on Nationally Determined Parameters to Eurocode 7”
- Expert Mission with TAIEX support – 1/2 October 2011 “Expert Mission on Nationally Determined Parameters to Eurocode 2”

- 1.4 Are there needs for harmonization of national legislation and standardisation framework for construction with EU legislation, related to the adoption of the Eurocodes?

Yes

**2. NDPs and National Annexes & Harmonization to EN standards**

- 2.1 Is there a Technical Committee for adoption of the Eurocodes already established? If yes, please give its title, date of creation, and Chairman.

Yes/No

Title: ISRM TC 30 Eurocodes  
 Date of creation/ disbanded 04.09.2007 – 07.09.2012  
 Chairman: Prof. Goran Markovski, PhD

Title: ISRM TC 40 – Eurocodes and National Annexes  
 Date of creation: 30.11.2012  
 Chairmen: Mr. Todor Delipetrov

- 2.2 Please assess the progress of translation of each Eurocode (by placing an 'x' in one of the first four columns, and a grading between 1 and 5 in the last column for priorities ranging from the lowest to the highest)

	none	start	advance	finish	priority
EN 1990				x	
EN 1991				x	
EN 1992				x	
EN 1993				x	
EN 1994				x	
EN 1995				x	
EN 1996				x	
EN 1997				x	
EN 1998				x	
EN 1999				x	

- 2.3 Please give reference to any existing regional cooperation in the process of translation of the Eurocodes.

There was regional cooperation in the process of translation with Standardization Institute of Serbia.

2.4 Please assess the progress of definition of the Nationally Determined Parameters of each Eurocode

	none	start	advance	finish	priority
EN 1990				x	
EN 1991		x			
EN 1992		x			
EN 1993		x			
EN 1994		x			
EN 1995		x			
EN 1996		x			
EN 1997			x		
EN 1998		x			
EN 1999		x			

2.5 Please assess the proportion of the recommended values of Nationally Determined Parameters

	0%	25%	50%	75%	100%
EN 1990					x
EN 1991					
EN 1992					
EN 1993					
EN 1994					
EN 1995					
EN 1996					
EN 1997					*
EN 1998					
EN 1999					

\*We are in phase of accepting the NDP

2.6 Please give reference to any regional cooperation and/or on-going projects for the definition of the Nationally Determined Parameters.

With no one.

2.7 Please suggest any national and/or regional institutions in neighbouring countries that might be interested to collaborate in the definition of Nationally Determined Parameters and their regional harmonization.

Standardization Institute of Serbia, Standardization Institute of Bulgaria and Standardization Institute of Slovenia.

2.8 Please identify barriers for the elaboration of the National Annexes, if any.

The main barriers for the elaboration of the National Annexes are from the financial aspect (funds).

2.9 Please assess the progress of adoption of Eurocodes related harmonized EN standards (optional)

	none	start	advance	finish
hEN standards		x		

### 3. Education and training

3.1 Are the Eurocodes included in the first cycle (Bachelor) study curriculum at the Universities?

	no	Yes
EN 1990		x
EN 1991	x	
EN 1992	x	
EN 1993	x	
EN 1994	x	
EN 1995	x	
EN 1996	x	
EN 1997	x	
EN 1998	x	
EN 1999	x	

3.2 Are the Eurocodes included in the second cycle (Master) study curriculum at the Universities?

	no	yes
EN 1990		x
EN 1991		x
EN 1992		x
EN 1993		x
EN 1994		x
EN 1995		x
EN 1996		x
EN 1997		x
EN 1998		x
EN 1999		x

3.3 Are the Eurocodes included in the training courses offered by professional associations?

	no	yes
EN 1990	x	
EN 1991	x	
EN 1992	x	
EN 1993	x	
EN 1994	x	
EN 1995	x	
EN 1996	x	
EN 1997	x	
EN 1998	x	
EN 1999	x	

3.4 Is there any training material, (booklets, leaflets, guidelines etc.) available on your national language? If yes, please give the references.

Yes.  
 Translated "Guidance Paper L"  
 Translated and published two leaflets "L1" and "L2"

#### 4. Additional comments that are not covered in the questionnaire

Participation on seminars and workshop:

1. 12th International symposium of Macedonian association of structural engineers - September 2007
2. International seminar of Macedonian association for geotechnics - June 2008
3. Workshop „Eurocodes Background and Applications“, 18-20 February 2008 – Brussels  
Hands-on training, CARDS 2006
4. 14th International symposium of Macedonian association of structural engineers - September 2011

Cooperation of ISRM TC 30:

- Macedonian association of structural engineers
- Chamber of authorized architects and authorized engineers
- Macedonian association for geotechnics
- Civil engineering faculty –“Ss Cyril and Methodius “ University - Skopje
- Institute of Earthquake Engineering an Engineering Seismology (IZIIS)

Three experts participate in Evolution Groups of the CEN TC 250/SC 7 :

1. EG 5 Reinforced Soil :

Prof. D-r Ljupco Dimitrievski; PhD

Professor at Faculty of Civil Engineering, Skopje - Ss Ciril and Methodius University - R.Macedonia

Department of Geotechnics, Skopje, Macedonia

e-mail: ljupcod@geing.com.mk

2. EG 6-Seismic design:

Vlatko Sesov, PhD

Associate Professor

University "Ss Cyril and Methodius" - Skopje

Institute of Earthquake Engineering and Engineering Seismology, IZIIS

Head of Department for Geotechnics and Special Structures,

e-mail: vlatko@pluto.iziis.ukim.edu.mk

3. EG 7 Pile design:

Doc. Josif Josifovski, PhD

Docent at Faculty of Civil Engineering, Skopje - Ss Ciril and Methodius University - R.Macedonia

e-mail: jjosifovski@gf.ukim.edu.mk

<i>Questionnaire complied by:</i>	Snezhana Meshkova
<i>Affiliation:</i>	Involvement into the monitoring of the status of adoption of the Eurocodes
<i>Position:</i>	Advisor, Project Implementation Unit Ministry of Transport and Communications
<i>Email:</i>	snezana.meshkova@mtc.gov.mk

For any questions concerning the questionnaire please contact Roberta Apostolska at [roberta.apostolska@jrc.ec.europa.eu](mailto:roberta.apostolska@jrc.ec.europa.eu)

Thank you for your collaboration.

**ADDITION 1** Subject: Action plan for preparation of National Annexes

Eurocode	Number of standards	Number of National Annexes (NA)	Total number of NDP	Total number of prepared NA/NDP	NDP For which is needed additional research	Methodology for determination of NDP			Maps	Required time	Note
						Parametric studies	Numerical simulations	Experimental researches			
EC	1	1	46	1/46	/	/	/	/	/	/	See note 1
EC1	10	10	354	1/10	344	181	95	68	2	24	See note 2
EC2	4	4	221	/	221	161	45	15	/	18	
EC3	20	20	432	/	431	264	161	6	/	20	
EC4	3	3	55	/	55	/	/	/	/	/	In second phase
EC5	3	3	33	/	33	5	18	10	/	18	
EC6	4	4	59	/	59	8	39	12	/	18	
EC7	2	2	74	1/37	37	37	/	/	/	12	Adopted NDP
EC8	6	6	142	1/8	134	61	75	8	5	24	See note 3
EC9	5	5	95	/	85	/	/	/	/	/	In second phase
<b>TOTAL</b>	<b>53</b>	<b>53</b>	<b>1601</b>	<b>1/50</b>	<b>1406</b>	<b>207</b>	<b>346</b>	<b>207</b>	<b>34</b>	<b>120</b>	

Note 1: For this National Annex, harmonization with the other prepared National Annexes from the other EC parts if it needed to be made.  
 Note 2: Data maps for the average wind speed, the biggest pressure of the wind speed and additional values caused by the rest of the terrain, the data on snowfall and temperature trends.  
 Note 3: Seismic hazard maps

Secretary of TC 30  
 Msc. Soria Cherepankowska

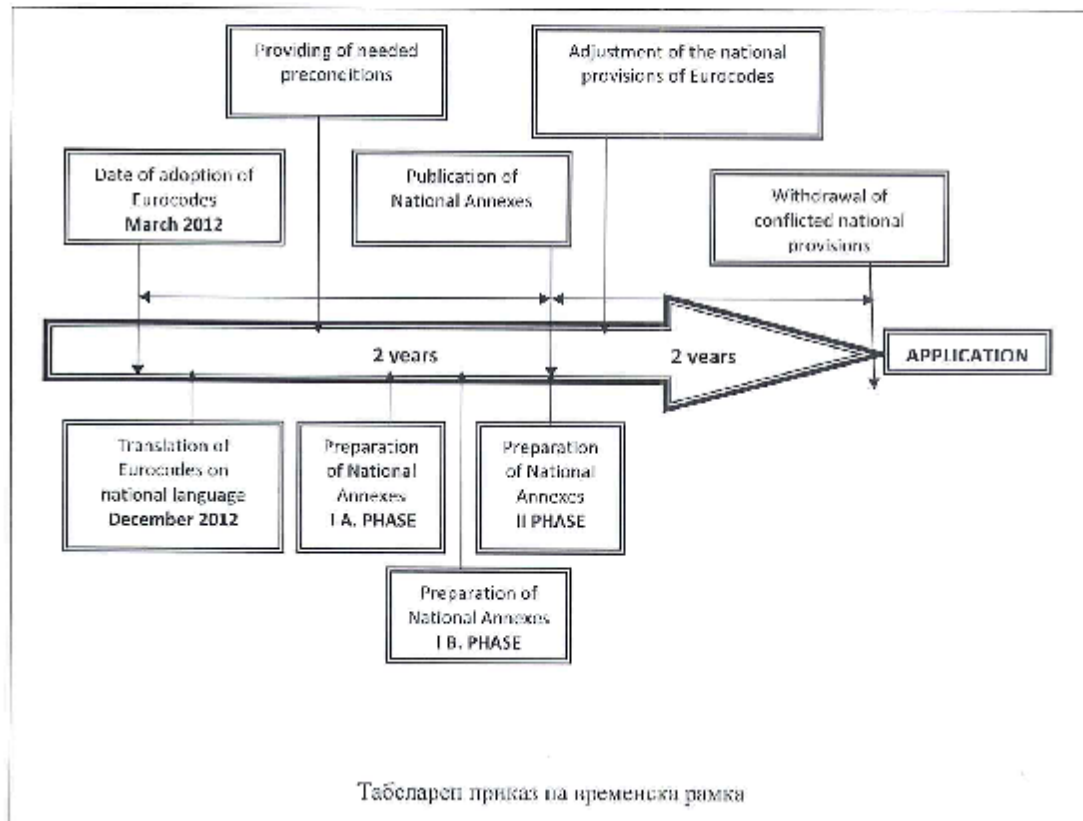
PRESIDENT of TC 30  
 Prof. Dr. Goran Markovski







Институт за стандардизација на Република Македонија  
ИСТРМ ТК 30 ЕВРОКОДОВИ



Табеларен приказ на временски рамка

Presentation of timeframe

PRESIDENT of TC 30  
Prof. Dr. Goran Markovski

## MOLDOVA – Filled in Questionnaire

### 1. National regulatory framework

- 1.1 Is there a National action plan for adoption and implementation of the Eurocodes? If yes, please give reference and time table.

Yes/No

No, at the moment there is no National action plan for adoption and implementation of the Eurocodes. The Ministry of Regional Development and Construction has already initiated the development of the mentioned National plan.

- 1.2 In the case the Eurocodes are adopted as national standards, are they going to be used as primary standards or in parallel with no contradictory existing national standards?

Yes/No

Yes, the Eurocodes will be used as primary standards.

- 1.3 Does any relevant national institution support/participate in projects for adoption and/or implementation of Eurocodes? If yes, please give information and reference to any project financed by the European Union.

Yes/No

No

1.4 Are there needs for harmonization of national legislation and standardisation framework for construction with EU legislation, related to the adoption of the Eurocodes?

Yes/No

**2. NDPs and National Annexes & Harmonization to EN standards**

2.1 Is there a Technical Committee for adoption of the Eurocodes already established? If yes, please give its title, date of creation, and Chairman.

Yes/No

Title:

Date of creation:

Chairmen:

No

2.2 Please assess the progress of translation of each Eurocode (by placing an 'x' in one of the first four columns, and a grading between 1 and 5 in the last column for priorities ranging from the lowest to the highest)

	none	start	advance	finish	priority
EN 1990				X	
EN 1991				X	
EN 1992				X	
EN 1993				X	
EN 1994				X	
EN 1995				X	
EN 1996				X	
EN 1997				X	
EN 1998				X	
EN 1999				X	

*Note: All of the Eurocodes has been translated by Romania into Romanian language*

2.3 Please give reference to any existing regional cooperation in the process of translation of the Eurocodes.

N/A

2.4 Please assess the progress of definition of the Nationally Determined Parameters of each Eurocode

	none	start	advance	finish	priority
EN 1990	X				
EN 1991	X				
EN 1992	X				
EN 1993	X				
EN 1994	X				
EN 1995	X				
EN 1996	X				
EN 1997	X				
EN 1998	X				
EN 1999	X				

2.5 Please assess the proportion of the recommended values of Nationally Determined Parameters of each Eurocode that have been/will be accepted.

	0%	25%	50%	75%	100%
EN 1990	X				
EN 1991	X				
EN 1992	X				
EN 1993	X				
EN 1994	X				
EN 1995	X				
EN 1996	X				
EN 1997	X				
EN 1998	X				
EN 1999	X				

2.6 Please give reference to any regional cooperation and/or on-going projects for the definition of the Nationally Determined Parameters.

N/A

2.7 Please suggest any national and/or regional institutions in neighbouring countries that might be interested to collaborate in the definition of Nationally Determined Parameters and their regional harmonization.

ASRO (Romanian Standards Association), Romania, may be interested because there are similar geological conditions in Moldova and Romania (one common epicentre of earthquakes in Vrancea, Romania)

2.8 Please identify barriers for the elaboration of the National Annexes, if any.

Insufficient experience/specialists.

2.9 Please assess the progress of adoption of Eurocodes related harmonized EN standards (optional)

	none	start	advance	finish
hEN standards			X	

### 3. Education and training

3.1 Are the Eurocodes included in the first cycle(Bachelor) study curriculum at the Universities?

	no	Yes
EN 1990	x	
EN 1991	x	
EN 1992	x	
EN 1993	x	
EN 1994	x	
EN 1995	x	
EN 1996	x	
EN 1997	x	
EN 1998	x	
EN 1999	x	

3.2 Are the Eurocodes included in the second cycle (Master) study curriculum at the Universities?

	no	yes
EN 1990	x	
EN 1991	x	
EN 1992	x	
EN 1993	x	
EN 1994	x	
EN 1995	x	
EN 1996	x	
EN 1997	x	
EN 1998	x	
EN 1999	x	

3.3 Are the Eurocodes included in the training courses offered by professional associations?

	no	yes
EN 1990	x	
EN 1991	x	
EN 1992	x	
EN 1993	x	
EN 1994	x	
EN 1995	x	
EN 1996	x	
EN 1997	x	
EN 1998	x	
EN 1999	x	

3.4 Is there any training material, (booklets, leaflets, guidelines etc.) available on your national language? If yes, please give the references.

Yes/No

Some training material is developed by Romania in Romanian language. No references are available.

#### 4. Additional comments that are not covered in the questionnaire

Adoption and implementation of Eurocodes is a very important issue for the Republic of Moldova, because there is a strong need to harmonize Moldovan building regulations and standards with European standards.

<i>Questionnaire compiled by:</i>	Gheorghe Croitoru
<i>Affiliation:</i>	Ministry of Regional Development and Construction
<i>Position:</i>	Head, Technical and Economic Regulation Department
<i>Email:</i>	<a href="mailto:gheorghe.croitoru@mdrc.gov.md">gheorghe.croitoru@mdrc.gov.md</a>

For any questions concerning the questionnaire please contact Roberta Apostolska at [roberta.apostolska@jrc.ec.europa.eu](mailto:roberta.apostolska@jrc.ec.europa.eu)

Thank you for your collaboration.





Suggestion: They are going to be used in parallel with no contradictory existing national standards during the period of coexistence (2-4 years), when their use will become mandatory.

- 1.3 Does any relevant national institutionsupport/participate in projects for adoption and/or implementation of Eurocodes?If yes, please give information and reference to any project financed by the European Union.

**Yes/No**

Project “Achieving the highest safety and technical quality of construction”, financed through the IPA funds.

It was realized through cooperation of the Ministry of Sustainable Development and Tourism and Austrian Standards Institute and French AFNOR, with participation of Institute for Standardization of Montenegro, Faculty of Civil Engineering Podgorica, Engineers Chamber of Montenegro, Hydrological and Meteorological Service of Montenegro, Geological Survey of Montenegro, Ministry of the Interior of Montenegro (Directorate for Emergency Situations)

- 1.4 Are there needs for harmonization of national legislation and standardisation framework for construction with EU legislation, related to the adoption of the Eurocodes?

**Yes/No**

## 2. NDPs and National Annexes&Harmonization to EN standards

2.1 Is there a Technical Committee for adoption of the Eurocodes already established? If yes, please give its title, date of creation, and Chairman.

Yes/No

Title: ISME/TK 002: Eurokodovi (Eurocodes)  
Date of creation: 11<sup>th</sup> July, 2011  
Chairmen: Prof. RadomirZejak, Phd, BSc Civil Eng

2.2 Please assess the progress of translation of each Eurocode (by placing an 'x' in one of the first four columns, and a grading between 1 and 5 in the last column for priorities ranging from the lowest to the highest)

	none	start	advance	finish	priority
EN 1990				x	5
EN 1991			x		5
EN 1992	x				4
EN 1993	x				3
EN 1994	x				3
EN 1995	x				3
EN 1996	x				4
EN 1997	x				4
EN 1998			x		5
EN 1999	x				2

2.3 Please give reference to any existing regional cooperation in the process of translation of the Eurocodes.

Institute for standardization of Serbia has offered the translation of the Eurocode 0, as well as the National Annex for the above-mentioned Eurocode as a part of the project "Achieving the highest safety and technical quality of construction", as a need for the work of the ISME/TK 002: Eurokodovi

2.4 Please assess the progress of definition of the Nationally Determined Parameters of each Eurocode

	none	start	advance	finish	priority
EN 1990				x	5
EN 1991			x		5
EN 1992	x				4
EN 1993	x				3
EN 1994	x				3
EN 1995	x				3
EN 1996	x				4
EN 1997	x				4
EN 1998			x		5
EN 1999	x				2

2.5 Please assess the proportion of the recommended values of Nationally Determined Parameters of each Eurocode that have been/will be accepted.

	0%	25%	50%	75%	100%
EN 1990					x
EN 1991				x	
EN 1992				x	
EN 1993				x	
EN 1994				x	
EN 1995				x	
EN 1996				x	
EN 1997			x		
EN 1998			x		
EN 1999					x

2.6 Please give reference to any regional cooperation and/or on-going projects for the definition of the Nationally Determined Parameters.

2.7 Please suggest any national and/or regional institutions in neighbouring countries that might be interested to collaborate in the definition of Nationally Determined Parameters and their regional harmonization.

Standardization Institute of the Republic of Macedonia  
 Institute for Standardization of Serbia  
 Institute for Standardization of Bosnia and Herzegovina

2.8 Please identify barriers for the elaboration of the National Annexes, if any.

Suggestion: Barriers are reflected as a lack of financial means for translation of the Eurocodes, as well as for drawing of the National Annexes, scientific research, science meetings etc.

2.9 Please assess the progress of adoption of Eurocodes related harmonized EN standards (optional)

	none	start	advance	finish
hEN standards				x

### 3. Education and training

3.1 Are the Eurocodes included in the first cycle(Bachelor) study curriculum at the Universities?

	no	Yes
EN 1990		x
EN 1991		x
EN 1992		x
EN 1993	x	
EN 1994	x	
EN 1995	x	
EN 1996		x
EN 1997	x	
EN 1998	x	
EN 1999	x	

3.2 Are the Eurocodes included in the second cycle (Master) study curriculum at the Universities?

	no	yes
EN 1990		x
EN 1991		x
EN 1992		x
EN 1993		x
EN 1994		x
EN 1995		x
EN 1996		x
EN 1997		x
EN 1998		x
EN 1999	x	

3.3 Are the Eurocodes included in the training courses offered by professional associations?

	no	yes
EN 1990		x
EN 1991		x
EN 1992		x
EN 1993		x
EN 1994		x
EN 1995		x
EN 1996		x
EN 1997		x
EN 1998		x
EN 1999	x	

3.4 Is there any training material, (booklets, leaflets, guidelines etc.) available on your national language? If yes, please give the references.

**Yes/No**

Suggestion: Parts of the Eurocodes which are translated in Serbian and Croatian language (similar to Montenegrin – we can understand it); these are the brochures for EN 1990, EN 1991, EN 1992, EN 1993, EN 1995, EN 1996, EN 1997, EN 1998, mainly the basic parts.

#### 4. Additional comments that are not covered in the questionnaire

Suggestion: The process of implementation has just begun, and the lack of financial means represents the main issue. Regardless of Montenegro being a small country, we do have the capacity to enter the adoption and implementation process along with the other EU member states. The expected term is the end of 2016. A better cooperation with the countries in the region is needed in order to define integral data base on the country borders etc.

<i>Questionnaire compiled by:</i>	Svetlana Vuksanović; Prof Dr Radomir Zejak, Chairman of the TC 002 Eurocodes; Ljiljana Šoškić
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Thank you for your collaboration.

## SERBIA – Filled in Questionnaire

### 1. National regulatory framework

- 1.1 Is there a National action plan for adoption and implementation of the Eurocodes? If yes, please give reference and time table.

Yes/No

Institute for Standardization of Serbia (ISS) established a long term objective and planned to adopt 80% of all European standards by the end of 2012. This plan has been achieved. Regarding the Eurocodes, the first published Eurocode is SRPS EN 1990:2012 in Serbian language. Furthermore, 47 Eurocodes and 1 National annex to Eurocode are adopted in 2012 in Serbian/English language. 4 Eurocodes and 22 National annexes to Eurocodes are adopted in 2013. 8 Eurocodes are intended to be adopted by the end of this and in the next year.

National regulation for implementation of Eurocode SRPS EN 1993 is planned to be adopted and expected to be finished in January 2014.

- 1.2 In the case the Eurocodes are adopted as national standards, are they going to be used as primary standards or in parallel with no contradictory existing national standards?

Yes/No

In the process of adopting Eurocodes as national standards all conflicting national standards shall be withdrawn and Eurocodes shall be used as primary standards.

Non contradictory information are going to be implemented in the National annex of Eurocode SRPS EN 1994-2. In further work, committees have intention to implement the existing non contradictory national standards as NCI in national annexes, if any.

- 1.3 Does any relevant national institution support/participate in projects for adoption and/or implementation of Eurocodes? If yes, please give information and reference to any project financed by the European Union.

Yes/No

Faculties of Civil Engineering (Universities of Belgrade, Novi Sad and Niš), Seismological Survey Institute of Serbia (Belgrade), Institute for Testing Materials – IMS (Belgrade), Faculty of Mining and Geology (University of Belgrade) and Architectural Faculty (University of Belgrade) participate in adoption of Eurocodes as national standards. Institute for Standardization of Serbia in cooperation with German Institute for Standardization (DIN) and German Society for International Cooperation (GIZ) organized two seminars for experts in Serbia about adoption of national annexes for Eurocodes in January and May 2013. In addition, ISS representatives participated in seminar organized by DIN about national annexes for Eurocodes within the project “HOT 9” which was held in Berlin in February 2013.

- 1.4 Are there needs for harmonization of national legislation and standardisation framework for construction with EU legislation, related to the adoption of the Eurocodes?

Yes/No

Harmonization of national legislation is needed, but most of Eurocodes are already adopted at national level as Serbian standards.

## **2. NDPs and National Annexes & Harmonization to EN standards**

- 2.1 Is there a Technical Committee for adoption of the Eurocodes already established? If yes, please give its title, date of creation, and Chairman.

Yes/No

Title: KS U250-1,8 Basis of structural design, actions on structure and earthquake resistance design of structures

Date of creation: 2012-03-09

Chairman: Prof. Đorđe Vuksanović, Faculty of Civil Engineering, University of Belgrade

Title: KS U250-3,6,9 Steel structures, composite structures of steel and concrete and aluminium structures

Date of creation: 2006-01-23

Chairman: Prof. Zlatko Marković, Faculty of Civil Engineering, University of Belgrade

Title: KS U250-5,6 Design of timber and masonry structures

Date of creation: 2011-12-23

Chairman: Prof. Boško Stefanović, Faculty of Civil Engineering, University of Belgrade

Title: KS U182 Geotechnics

Date of creation: 2011-10-05

Chairman: Prof. Laslo Čaki, Faculty of Mining and Geology, University of Belgrade

Title: KS U250-2 Design of concrete structures

Date of creation: in the process of establishment

Chairman: Prof. Dušan Najdanović, Faculty of Civil Engineering, University of Belgrade



2.2 Please assess the progress of translation of each Eurocode (by placing an 'x' in one of the first four columns, and a grading between 1 and 5 in the last column for priorities ranging from the lowest to the highest)

	none	start	advance	finish	priority
EN 1990				x	5
	standard is published in Serbian language				
EN 1991				x	5
	4 translated, 3 adopted in English language				
EN 1992			x		5
	1 standard is in the process of adoption in Serbian language (in working draft stage), other Eurocodes will be adopted in English language				
EN 1993				x	5
	4 translated, 16 adopted in English language				
EN 1994				x	4
	1 translated, 2 adopted in English language				
EN 1995				x	2
	1 translated, 2 adopted in English language				
EN 1996				x	3
	1 translated, 3 adopted in English language				
EN 1997			x		3
	1 standard is in the process of adoption in Serbian language (in working draft stage), 1 adopted in English language				
EN 1998			x		4
	2 standards are in the process of adoption in Serbian language (in working draft stage), 4 adopted in English language				
EN 1999				x	1
	5 adopted in English language				

2.3 Please give reference to any existing regional cooperation in the process of translation of the Eurocodes.

Versions of Eurocodes translated in Serbian language adopted by ISS are delivered free of charge to the Institutes for Standardization of Macedonia and Montenegro.

- ISS participated at the meeting held in Struga (Macedonia) organised by Macedonian Association of Structural Engineers (MACE) in September 2011.

- Representative of ISS participated at the meeting in Podgorica (Montenegro) organised as part of twinning project between the Austrian Standard Institute (ASI) and Institute for Standardization of Montenegro (ISME) in November 2012.
- Translations of Eurocodes published by ISS are delivered to ASI representative Ms. Joanna Gajdek.

2.4 Please assess the progress of definition of the Nationally Determined Parameters of each Eurocode

	none	start	advance	finish	priority
EN 1990				x	5
EN 1991			x		4
EN 1992		x			4
EN 1993				x	4
EN 1994				x	3
EN 1995		x			2
EN 1996		x			2
EN 1997		x			4
EN 1998			x		4
EN 1999			x		1

2.5 Please assess the proportion of the recommended values of Nationally Determined Parameters of each Eurocode that have been/will be accepted.

	0%	25%	50%	75%	100%
EN 1990					x
EN 1991				x	
EN 1992					
EN 1993				x	
EN 1994					x
EN 1995					
EN 1996					
EN 1997					
EN 1998				x	
EN 1999					x

NOTE: Nationally Determined Parameters for Eurocodes EN 1992, EN 1995, EN 1996 and EN 1997 are not yet defined. NDP for EN 1999 are finished and they are in draft phase. NDP for EN 1991 and EN 1998 are in the process of development.

2.6 Please give reference to any regional cooperation and/or on-going projects for the definition of the Nationally Determined Parameters.

Nationally Determined Parameters adopted in National annexes are delivered to the Macedonian Standardization Institute.

- 2.7 Please suggest any national and/or regional institutions in neighbouring countries that might be interested to collaborate in the definition of Nationally Determined Parameters and their regional harmonization.

NSBs, faculties, hydro meteorological institutes, seismological institutes.

- 2.8 Please identify barriers for the elaboration of the National Annexes, if any.

Hydro Meteorological Institute of Serbia prepared maps of snow load and wind and temperature actions. Seismological Institute of Serbia prepared maps of seismological actions. Adjustments of these maps made in digital format are needed for implementation in the national annexes as national determined parameters.

Experts involved in the work of national committees related to elaboration of National Annexes are engaged in many professional activities. For this reason they cannot fully dedicate themselves to the work of national committees only, so it is needed to engage them more actively in the work on determination of national parameters and translation of Eurocodes.

- 2.9 Please assess the progress of adoption of Eurocodes related harmonized EN standards (optional)

	none	start	advance	finish
hEN standards			2%	98%

### 3. Education and training

- 3.1 Are the Eurocodes included in the first cycle (Bachelor) study curriculum at the Universities?

	no	Yes
EN 1990		x
EN 1991	x	
EN 1992	x	
EN 1993		x
EN 1994		x
EN 1995	x	
EN 1996	x	
EN 1997	x	
EN 1998	x	
EN 1999	x	

3.2 Are the Eurocodes included in the second cycle (Master) study curriculum at the Universities?

	no	yes
EN 1990	x	
EN 1991	x	
EN 1992	x	
EN 1993		x
EN 1994	x	
EN 1995	x	
EN 1996	x	
EN 1997	x	
EN 1998		x
EN 1999		x

3.3 Are the Eurocodes included in the training courses offered by professional associations?

	no	yes
EN 1990	x	
EN 1991	x	
EN 1992	x	
EN 1993	x	
EN 1994	x	
EN 1995	x	
EN 1996	x	
EN 1997	x	
EN 1998	x	
EN 1999	x	

NOTE: Basic informative courses were performed. Training courses have not been initiated yet.

3.4 Is there any training material, (booklets, leaflets, guidelines etc.) available on your national language? If yes, please give the references.

Yes/No

Universities have implemented Eurocodes in their education material.  
 Book from author Zlatko Marković, Faculty of Civil Engineering of the University of Belgrade, "Calculation of limit states of steel structures according to Eurocode" is in the final stage of preparation.

#### 4. Additional comments that are not covered in the questionnaire

- ISS has established a cooperation with the Hydro Meteorological Institute and Seismological Institute of Serbia for the purpose of drafting the National Annexes. These institutes prepared the maps of snow load, as well as the maps of wind, temperature and seismological actions. Committee members work on adjustment of these maps and simultaneously work on other national determined parameters for National Annexes to Eurocodes

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Thank you for your collaboration.

## TURKEY – Filled in Questionnaire

### 1. National regulatory framework

1.1 Is there a National action plan for adoption and implementation of the Eurocodes? If yes, please give reference and time table.

Yes/No

**The National Strategic Action Plan for Reduction of Earthquake Losses includes an item about revision of seismic design codes considering the Eurocodes.**

1.2 In the case the Eurocodes are adopted as national standards, are they going to be used as primary standards or in parallel with no contradictory existing national standards?

Yes/No

**Basically there are two comprehensive and up to date codes regarding “reinforced concrete structures” and “seismic design” in Turkey. The adoption of Eurocodes may lead to use some parts ( e.g. EN 1990, EN 1991, EN 1997) immediately, as there is no national standards.**

1.3 Does any relevant national institution support/participate in projects for adoption and/or implementation of Eurocodes? If yes, please give information and reference to any project financed by the European Union.

Yes/No

1.4 Are there needs for harmonization of national legislation and standardisation framework for construction with EU legislation, related to the adoption of the Eurocodes?

Yes/No

**2. NDPs and National Annexes & Harmonization to EN standards**

2.1 Is there a Technical Committee for adoption of the Eurocodes already established? If yes, please give its title, date of creation, and Chairman.

Yes/No

Title:

**There is a committee so called “Safety of Construction” established internally in the**

**Turkish Standards Institution acting as national standardization body.**

Date of creation:

Chairmen:

2.2 Please assess the progress of translation of each Eurocode (by placing an ‘x’ in one of the first four columns, and a grading between 1 and 5 in the last column for priorities ranging from the lowest to the highest)

	none	start	advance	finish	priority
EN 1990			x		5
EN 1991			x		5
EN 1992			x		5
EN 1993			x		5
EN 1994			x		5
EN 1995	x				2
EN 1996	x				2
EN 1997	x				2
EN 1998			x		5
EN 1999	x				2

2.3 Please give reference to any existing regional cooperation in the process of translation of the Eurocodes.

No

2.4 Please assess the progress of definition of the Nationally Determined Parameters of each Eurocode

	none	start	advance	finish	priority
EN 1990	x				
EN 1991	x				
EN 1992	x				
EN 1993	x				
EN 1994	x				
EN 1995	x				
EN 1996	x				
EN 1997	x				
EN 1998	x				
EN 1999	x				

2.5 Please assess the proportion of the recommended values of Nationally Determined Parameters of each Eurocode that have been/will be accepted.

	0%	25%	50%	75%	100%
EN 1990	x				
EN 1991	x				
EN 1992	x				
EN 1993	x				
EN 1994	x				
EN 1995	x				
EN 1996	x				
EN 1997	x				
EN 1998	x				
EN 1999	x				

2.6 Please give reference to any regional cooperation and/or on-going projects for the definition of the Nationally Determined Parameters.



2.7 Please suggest any national and/or regional institutions in neighbouring countries that might be interested to collaborate in the definition of Nationally Determined Parameters and their regional harmonization.

**IZIIS (Macedonia)**

**University of Patras (Greece)**

**UTCB, Technical University of Civil Engineering of Bucharest (Romania)**

**University of Architecture, Civil Engineering and Geodesy, Sofia (Bulgaria)**

2.8 Please identify barriers for the elaboration of the National Annexes, if any.

**Lack of sufficient resources for sufficient research on country-specific issues.**

**Lack of sufficient demand in practitioners for enhanced standards.**

2.9 Please assess the progress of adoption of Eurocodes related harmonized EN standards (optional)

	none	start	advance	finish
hEN standards				

### 3. Education and training

3.1 Are the Eurocodes included in the first cycle (Bachelor) study curriculum at the Universities?

	no	Yes
EN 1990		X
EN 1991		X
EN 1992	X	
EN 1993		X
EN 1994		X
EN 1995	X	
EN 1996	X	
EN 1997	X	
EN 1998	X	
EN 1999	X	

3.2 Are the Eurocodes included in the second cycle (Master) study curriculum at the Universities?

	no	yes
EN 1990	x	
EN 1991	x	
EN 1992	x	
EN 1993	x	
EN 1994	x	
EN 1995	x	
EN 1996	x	
EN 1997	x	
EN 1998		x
EN 1999	x	

3.3 Are the Eurocodes included in the training courses offered by professional associations?

	no	yes
EN 1990	x	
EN 1991	x	
EN 1992	x	
EN 1993	x	
EN 1994	x	
EN 1995	x	
EN 1996	x	
EN 1997	x	
EN 1998	x	
EN 1999	x	

3.4 Is there any training material, (booklets, leaflets, guidelines etc.) available on your national language? If yes, please give the references.

Yes/No

**Maybe only partially and limited instances.**

**4. Additional comments that are not covered in the questionnaire**

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## **A.6 COUNTRY REPORTS**

All Country reports can be found at the official web page of the Eurocodes <http://eurocodes.jrc.ec.europa.eu/>.

European Commission  
EUR 26458 EN – Joint Research Centre – Institute for the Protection and Security of the Citizen

Title: **Adoption of the Eurocodes in the Balkan Region**

Authors: Roberta Apostolska, Fabio Taucer, Silvia Dimova and Artur Pinto

Luxembourg: Publications Office of the European Union

2014 – 102 pp. – 21.0 x 29.7 cm

EUR – Scientific and Technical Research series – ISSN 1831-9424

ISBN 978-92-79-35160-0

doi:10.2788/61927

#### Abstract

This report addresses the activities carried out for the adoption and implementation of the Eurocodes in the non-EU countries in the Balkan region within the context of the Enlargement and Integration Action of the JRC. The considerable interest in the implementation and adoption of the Eurocodes in the Balkan region is based on the opportunity to have an advanced common standardization environment, which is adaptable to the particular requirements of each country with regard to the geographical, geological or climatic conditions and also allows selecting the level of safety. Moreover, adoption and implementation of Eurocodes will help the Candidate Countries to fully implement EU acquis at the time of accession and support Potential Candidate Countries to progressively align themselves with the EU acquis. The main objective of the activities presented herein was to focus on progress and specific needs for adoption and implementation of the Eurocodes and related EN standards in the Balkan region. Generally, it may be concluded that most of the non-EU countries in the Balkan region are going to use the Eurocodes as primary standards. These countries are aware about needs for harmonization of national legislation and standardization framework for construction with EU legislation. However, in most of the countries there is a lack of relevant institutional support for adoption and implementation of the Eurocodes..

As the Commission's in-house science service, the Joint Research Centre's mission is to provide EU policies with independent, evidence-based scientific and technical support throughout the whole policy cycle.

Working in close cooperation with policy Directorates-General, the JRC addresses key societal challenges while stimulating innovation through developing new standards, methods and tools, and sharing and transferring its know-how to the Member States and international community.

Key policy areas include: environment and climate change; energy and transport; agriculture and food security; health and consumer protection; information society and digital agenda; safety and security including nuclear; all supported through a cross-cutting and multi-disciplinary approach.

