

Current status and further development of Eurocodes in Bosnia and Herzegovina

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Eurocodes - beginnings

- BAS/TC 21, *Concrete and related products*
 - Prof. Azra Kurtović, PhD – chairperson
 - 15 members
 - Technical secretaries
 - Slavica Budimir
 - Nihada Kulenović Sijerčić
 - Bojana Zečević

Adoption of Eurocodes (ENs) in Bosnia and Herzegovina - 1st edition (endorsement method)

- BAS EN 1990 - 2003 to 2010
- BAS EN 1991 - 2004 to 2010
- BAS EN 1992 - 2006 to 2011
- BAS EN 1993 - 2006 to 2011
- BAS EN 1994 - 2006 to 2011
- BAS EN 1995 - 2007 to 2010
- BAS EN 1996 - 2007 to 2011
- BAS EN 1997 - 2007 to 2011
- BAS EN 1998 - 2006 to 2012
- BAS EN 1999 - 2008 to 2012

First BAS/TC for Eurocodes

- BAS/TC 58, *Eurocodes* – established in December 2013
 - Prof. Sanin Džidić, PhD – chairperson
 - 16 members (24 members at the moment)
 - Corresponding to CEN/TC 250 with all SCs and WGs

Translation and adoption of EN 1990 and development of NA

- Establishment of 2 WGs:
 - BAS/TC 58/WG 1 – translation of EN 1990
 - BAS/TC 58/WG 2 – development of NA to EN 1990
- Results:
 - **BAS EN 1990:2014**
 - **BAS EN 1990/NA:2015**

Project for Eurocodes

- Project „*Support to the Capacities of the Institute for Standardization of Bosnia and Herzegovina in the Area of Implementation of Eurocodes*“ – launched in January 2015
- Czech Republic Development Cooperation – financial support
- ÚNMZ – implementator
- BAS - beneficiary

Work plan on adoption Eurocodes 2nd edition (translation method)

BAS/TC	Eurocode	BAS EN	EN	pv	bs	42											
BAS/TC	Eurocode	BAS EN	EN	pv	sr	228	Januar 2017.	Februar 2017.	Mart 2017.	April 2017.	Maj 2017.	Juni 2017.	Juli 2017.	Novembar 2017.	Decembar 2017.	Predviđeni datum objavljivanja BAS standarda	Datum objavljivanja BAS standarda
BAS/TC 58	Eurocode 1	BAS EN 1991-4:2016	EN 1991-4	pv	bs	42											
BAS/TC 61	Eurocode 2	BAS EN 1992-1-1:2017	EN 1992-1-1	pv	sr	228											
BAS/TC 61	Eurocode 2	BAS EN 1992-1-2:2017															
BAS/TC 61	Eurocode 2	BAS EN 1992-2:2017															
BAS/TC 61	Eurocode 2	BAS EN 1992-3:2017															
BAS/TC 62	Eurocode 3	BAS EN 1993-1-1:2017															
BAS/TC 62	Eurocode 3	BAS EN 1993-1-2:2017															31.12.2014
BAS/TC 62	Eurocode 3	BAS EN 1993-1-3:2017															7.10.2015
BAS/TC 62	Eurocode 3	psBAS EN 1993-1-4:2017															7.10.2015
																	21.12.2015.
BAS/TC 62	Eurocode 3	psBAS EN 1993-1-5:2017															25.02.2016.
							60.60										25.2.2016.
							60.60										23.9.2016
BAS/TC 62	Eurocode 3	nsBAS EN 1993-1-6:2017						60.60									13.12.2016
							40.20		50.99	60.60							22.12.2016
							40.20		50.99	60.60							26.1.2017
								50.99	60.00								22.2.2017
							40.20		50.99	60.60							22.2.2017
BAS/TC 62	Eurocode 3	nsBAS EN 1993-1-7:2017					30.20		40.20		50.99	60.60				12.4.2017	13.4.2017
BAS/TC 62	Eurocode 3	nsBAS EN 1993-1-7:2017	EN 1993-1-7	pv	sr	36	10.99		30.20		Sjednica TC-a održana 25.5.	40.20				12.4.2017	13.4.2017
																	13.2.2017
BAS/TC 62	Eurocode 3	psBAS EN 1993-1-8:2017	EN 1993-1-8	pv	hr	133	10.99		30.20		Sjednica TC-a održat će se 25.5.	40.20				12.5.2017	10.5.2017
																30.6.2017	22.6.2017
BAS/TC 62	Eurocode 3	psBAS EN 1993-1-9:2017	EN 1993-1-9	pv	hr	36	10.99					30.20				1.9.2017	
													Sjednica TC-a održat će se 12.7.2017.			1.9.2017	

BAS Project Team

- Borislav Kraljević, Team Leader
- Nihada Kulenović Sijerčić, member (till July 2016)
- Bojana Zečević, member (from August 2016)
- Tihomir Anđelić, member
- Mirsada Sijamić, member
- Aleksandra Milidrag, member

New BAS/TCs for Eurocodes

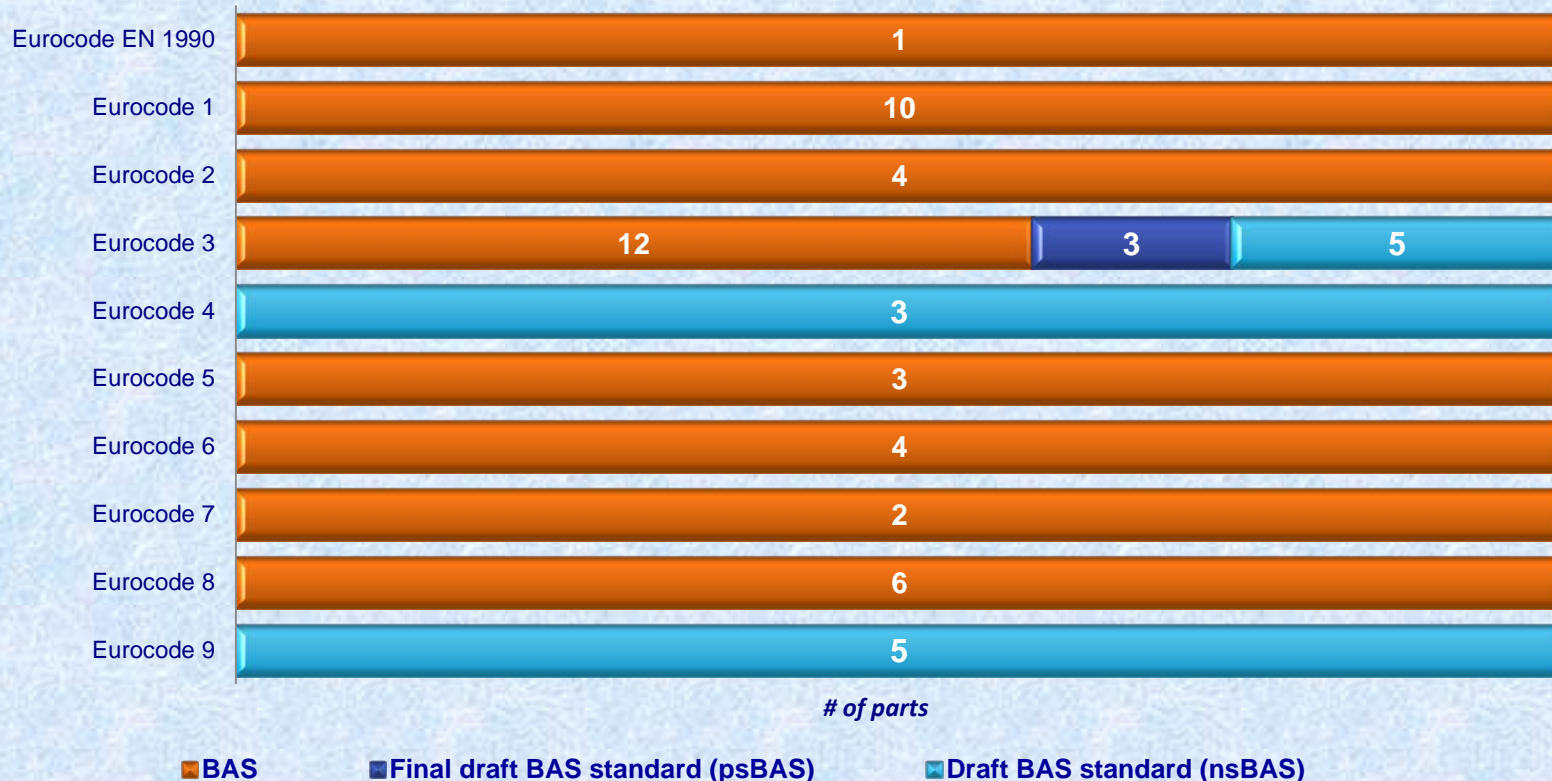
- [BAS/TC 61](#), *Design of construction structures – Eurocode 2, Eurocode 4 and Eurocode 6 – established in February 2016*
 - Prof. Mustafa Hrasnica, PhD, chairman
 - 19 members
- [BAS/TC 62](#), *Design of construction structures – Eurocode 3 and Eurocode 5– established in February 2016*
 - Prof. Slađana Miljanović, PhD, chairman
 - 9 members
- [BAS/TC 58](#), *Design of construction structures – Eurocode EN 1990, Eurocode 1, Eurocode 7, Eurocode 8 and Eurocode 9*

Adoption of Eurocodes by BAS/TCs

- **BAS/TC 58:**
 - EN 1990 – translated and adopted
 - EN 1991 – all parts translated and adopted
 - EN 1997 – all parts translated and adopted
 - EN 1998 – all parts translated and adopted
 - EN 1999 – all parts translated, adoption in the progress
- **BAS/TC 61:**
 - EN 1992 - all parts translated and adopted
 - EN 1994 - all parts translated, adoption in the progress
 - EN 1996 - all parts translated and adopted
- **BAS/TC 62:**
 - EN 1993 - all parts translated, adoption in the progress
 - EN 1995 - all parts translated and adopted

Adoption Eurocodes (ENs) in Bosnia and Herzegovina 2nd edition (translation method)

2018-05-28



Note 1: Eurocode EN 1990 adopted by translation method before the start of the Project for Eurocodes.

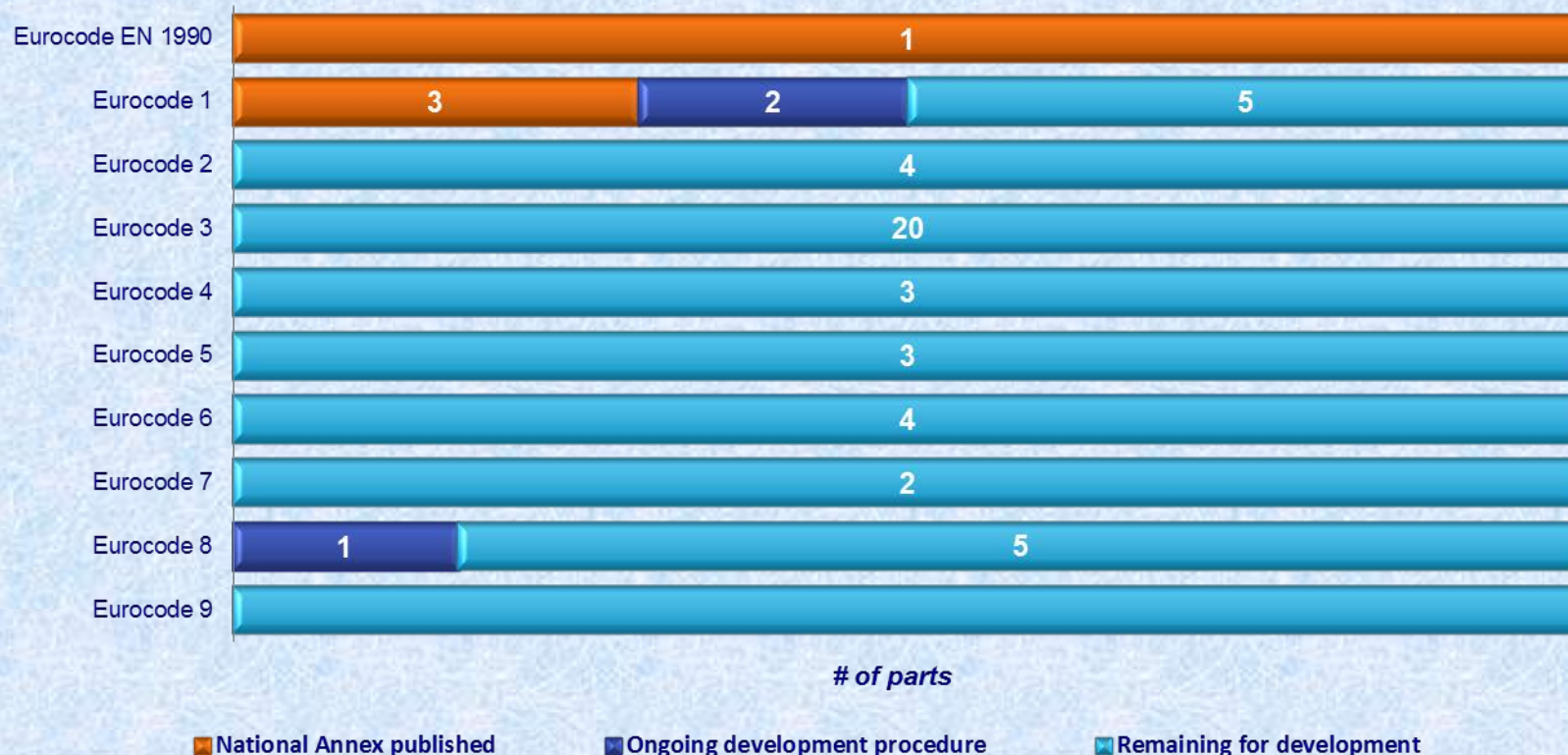
Note 2: Including all related to amendments and corrigenda.

Establishment of WGs for the development of NAs

- BAS/TC 58/WG 3 – development of NAs for Eurocode 1
 - Prof. Azra Kurtović, PhD – chairperson
 - 10 members
- BAS/TC 58/WG 4 – development of NAs for Eurocode 8
 - Prof. Naida Ademović, PhD – chairperson
 - 6 members

Adoption of National Annexes (NAs) in Bosnia and Herzegovina - 1st edition

2018-05-28



Note 1: National Annexes for Eurocode EN 1990 and Part 1-2 of Eurocode 1 are developed independently of the Project for Eurocodes.

Note 2: National Annexes for Parts 1-1, 1-3, 1-4 and 1-5 of Eurocode 1, and Part 1 of Eurocode 8 are developed or are developing in the framework of the Project for Eurocodes.

Eurocodes – next steps

- Development of NAs for all other parts of Eurocodes and their translation into English
- Upload of NDPs in JRC Eurocodes Nationally Determined Parameters Database
- Translation and adoption of new amendments and corrigenda
- Translation and adoption of new generation of Eurocodes

Role of FHMI regarding to national annexes for temperature, snow and wind

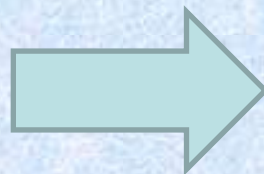
- Provide available data
 - Prepare project for digitalization
 - Implement this Project
 - Quality control for all data
 - Prepare final tables with QC data sets
- Actively involved in working group of experts for this National Annexes

Initial state of digital data

- Max and min temperature for station in Federation of Bosnia and Herzegovina
- Water content for Federation of Bosnia and Herzegovina
- Wind speed and direction only for a few stations in Federation of Bosnia and Herzegovina

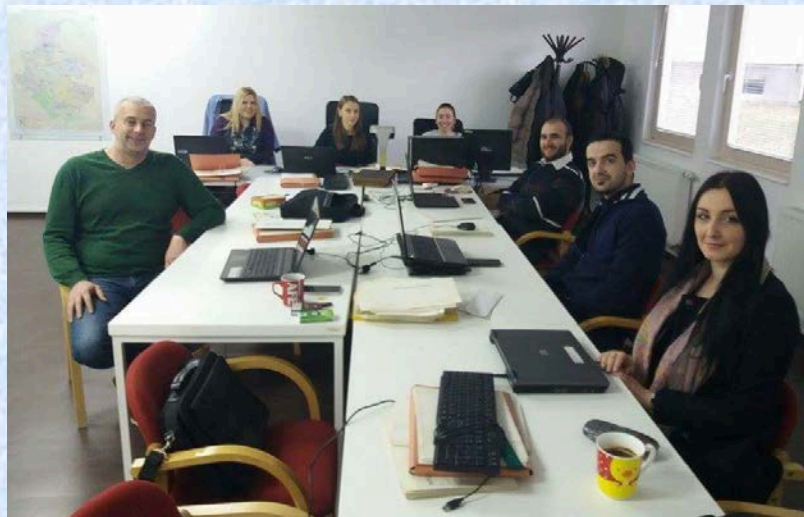
This was not enough for the start of work on National Annexes

Digitalization of data sets



Appropriate archiving source historical hydrological and meteorological data in FHMI as important condition for monitoring of climate change in FBiH; financed by environment fund of the FBiH.

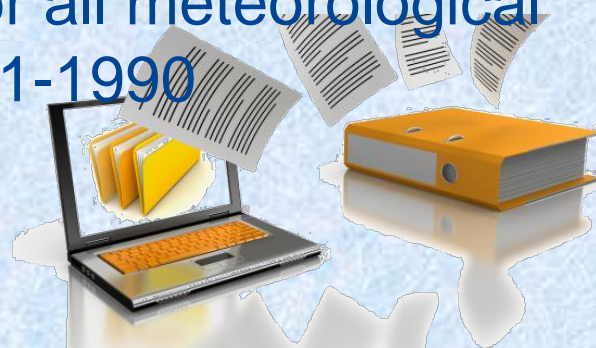
Digitalization supported by CDA and ÚNMZ



This presentation was prepared in the framework of the project “Support of Capacities of the Institute for Standardization of Bosnia and Herzegovina in the Area of Implementation of EUROCODES” supported under the Czech Republic Development Cooperation and realized by the Czech Office for Standards, Metrology and Testing (ÚNMZ).

The results

- Digitalized data sets:
 - Daily data for max and min temperature for all climatological stations in BIH for period 1961-1990
 - Daily data for max snow cover for all climatological stations in BIH for period 1961-1990
 - Daily data for snow water content for all climatological stations in BIH for period 1961-1990
 - Hourly data for wind speed for all meteorological stations in BIH for period 1961-1990



The role of FHMI in future

- Hydrological and Meteorological Observing Network and Data Exchange Procedures in Serbia and Bosnia and Herzegovina 0.4 ME - IMPLEMENTED
- IPA II BiH Component 1- Hydrological forecasting system for Sava River Basin in Bosnia and Herzegovina (Phase 1. Bosnia River) 2 ME – IN PROGRES
- UNDP 'Integrating climate change and reducing the risk of flooding in the Vrbas River basin Cca 4 MUS\$ - IMPLEMENTED
- WBIF / GEF / SCCF projects on the Drina River Basin: Implementer World Bank Cca 10 ME – IN PROGRES



The role of FHMI in future

- Modernized and adjusted network of meteorological stations
- Increased number of measuring stations
- Reduction of period of measurement to 10 min
- Adjustment location of meteo. stations to the needs of civil engineering an other professions



Web site for Eurocodes

<http://eurokodovi.ba/>

Thank you for your attention!