

Workshop – Seismic Design of Buildings, Lisbon, February 10-11, 2011

Eurocodes: Implementation and Further Development

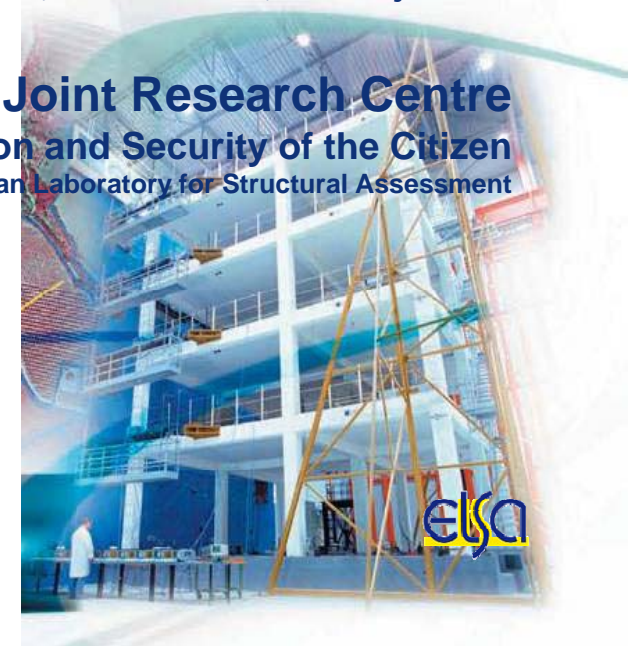
Artur Pinto,

Credits: A. Athanasopoulou,, B. Acun, D. Strezova, M. Poljansek



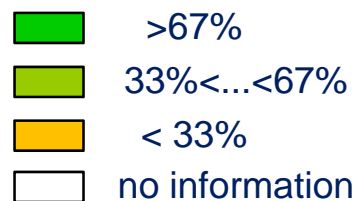
<http://eurocodes.jrc.ec.europa.eu/>

Joint Research Centre
Institute for Protection and Security of the Citizen
European Laboratory for Structural Assessment

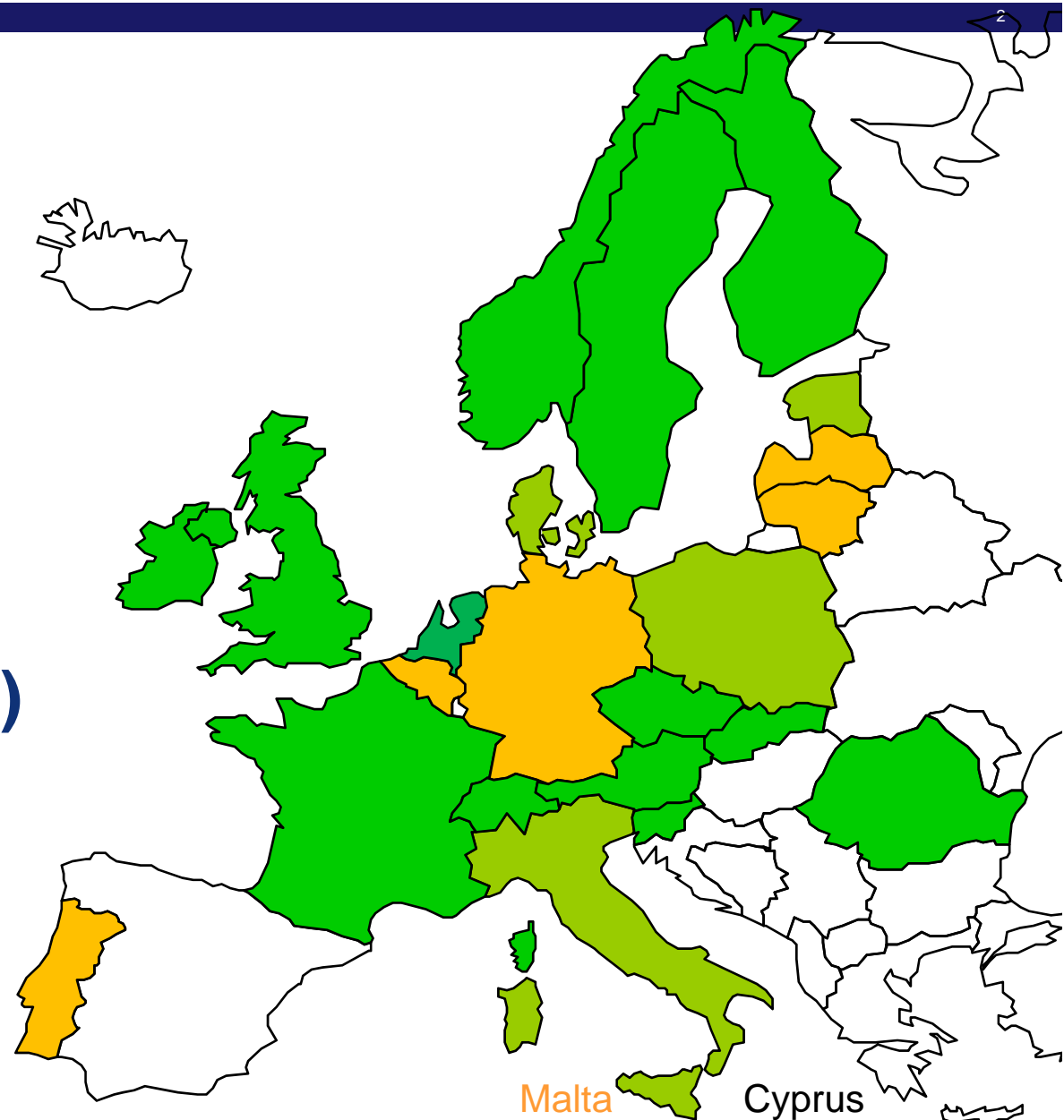


National
Implementation of
the Eurocodes:

**Publication of
national annexes
until 2010 (58 parts)**



(ENC Meeting September, 2010)



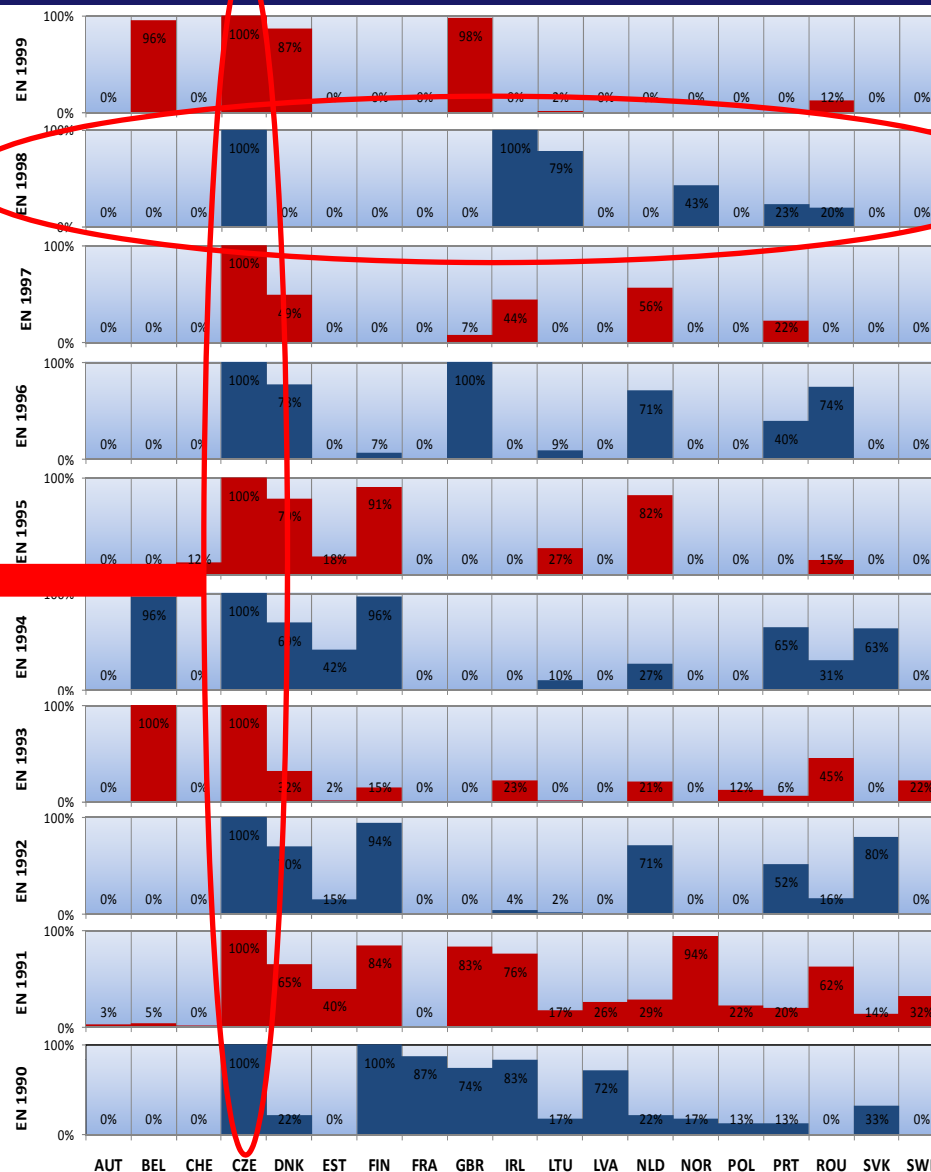
NDP database:

EN 1998 ←

CZE – 100% ←

The percentage of
uploading of NDPs on the
Eurocodes by countries

(8 February 2011)



Training and Promotion

In this series:

Booklets

- B1: The Eurocodes: Implementation and use
- B2: The role of EN 1990: the key head Eurocode
- B3: The Eurocodes and construction products
- B4: The Eurocodes: Supporting EU policies and increasing competitiveness
- B5: The Eurocodes: Use outside EU
- B6: The Eurocodes and cooperation in the Euro-Mediterranean area

Leaflets

- L1: The Eurocodes: What are they?
- L2: The Eurocodes: Getting prepared
- L3: The Eurocodes: Increasing competitiveness
- L4: The Eurocodes: Opportunity to innovate

Awareness material



International workshops



Training workshops

Level 2/3 Training Workshops

Bridge Design to Eurocodes


Vienna, 4-6 Oct 2010

- Workshop with worked examples
- Approximately 140 participants
- All presentations are available in the JRC Eurocodes website
- A JRC report with the background information and worked design examples will be prepared and uploaded on the JRC Eurocodes website



JRC Reports published in collaboration with TC250

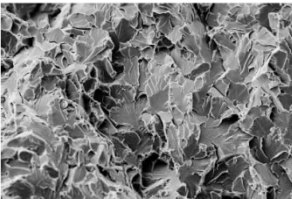
JRC Scientific and Technical Reports



**COMMENTARY AND WORKED EXAMPLES
to EN 1993-1-10 "Material toughness and
through thickness properties"
and other toughness oriented rules in EN 1993**

G. Sedlacek, M. Feldmann, D. Köhn, D. Teichkardt, S. Höfner, C. Müller, W. Hanson, M. Stranghöner
W. Dahl, P. Langenberg, S. Mianstermann, J. Brozzetti, J. Raouf, R. Pope, F. Bijlaard

Background documents in support to the implementation, harmonization and
further development of the Eurocodes





Joint Report
Prepared under the JRC - ECCS cooperation agreement for the evolution of Eurocode 3
(programme of CEN / TC 250)


Editors: M. Gérardin, A. Pinto and S. Dimova

First Edition, September 2008

EUR 23010 EN - 2008


JRC Scientific and Technical Reports




**NEEDS TO ACHIEVE IMPROVED FIRE
PROTECTION AS REGARDS THE
IMPLEMENTATION AND DEVELOPMENT
OF THE EN EUROCODES**

Support to the implementation, harmonization and further development of the Eurocodes

J. Kruppa, G. Sedlacek, C. Heinemeyer, S. Dimova, A. Pinto, A. Oztas



EUR XXXXX EN - 2008



JRC Scientific and Technical Reports



**EUROCODES PROMOTION IN
THIRD COUNTRIES**

Support to the implementation, harmonization and further development of the Eurocodes

C. Andersson, S. Dimova, M. Gérardin, A. Pinto, G. Tsonis

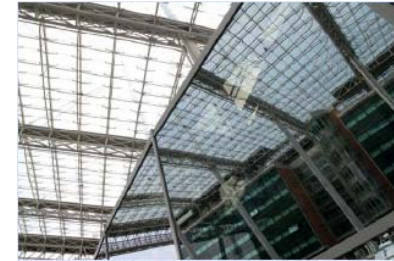


EUR 33562 EN - 2008

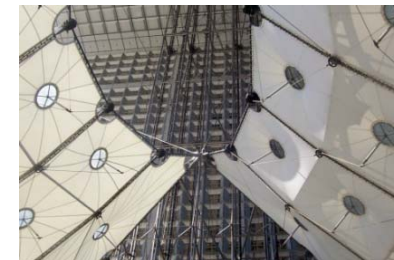


Eurocodes: Further development

New materials: FRP, glass, ...



New fields of design: robustness, existing structures, membrane structures, ...



Sustainability: recyclability, durability, use of environmentally compatible materials



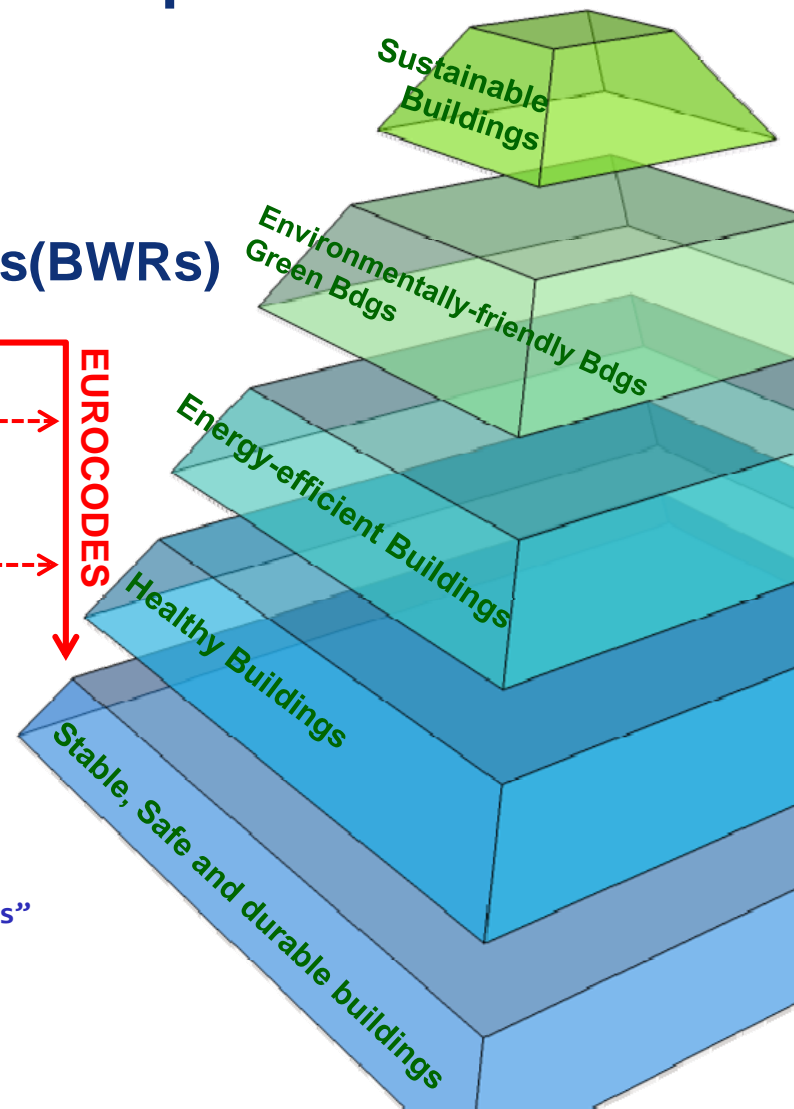
Eurocodes: Further development

Basic Requirements for Construction Works(BWRs)

- BWR1 - MECHANICAL RESISTANCE AND STABILITY
- BWR2 - SAFETY IN CASE OF FIRE
- BWR3 - HYGIENE, HEALTH AND THE ENVIRONMENT
- BWR4 – SAFETY IN USE
- BWR5 – PROTECTION AGAINST NOISE
- BWR6 – ENERGY ECONOMY AND HEAT RETENTION
- BWR7 – SUSTAINABLE USE OF NATURAL RESOURCES

Goal:

“A set of Interoperable European Standards addressing all BWRs”



For further information
on the Eurocodes

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



EUROCODE 8
Background & Applications

SEISMIC DESIGN OF BUILDINGS
Workshop with worked examples

10-11 February 2011, Lisbon
Laboratório Nacional de Engenharia Civil (LNEC)



Organised and supported by:

European Commission: DG Enterprise and Industry and
Joint Research Centre
CEN/TC250, CEN/TC250 SC8, CEN Management Centre and
Member States
Laboratório Nacional de Engenharia Civil (LNEC), Lisbon, Portugal



Next generation of the Eurocodes

EC's New Mandate to CEN (2010)



PROGRAMMING MANDATE ADDRESSED TO CEN IN THE FIELD OF THE STRUCTURAL EUROCODES

1. OBJECTIVE

The overall objective of this mandate is to initiate the process of further evolution of the Eurocodes. Based on an extensive assessment process with wide consultations a set of ten priority actions are included in this mandate to facilitate implementation at national level and take on board market developments, innovation and research both through modifications/additions to existing standards as well as development of new standards.

2. BACKGROUND

This programming mandate is established in line with the agreement in the Eurocodes National Correspondents (ENC) meeting on 1 July 2009 following discussions on issues relevant for the evolution of the Eurocodes during several ENC meetings in 2008 and 2009. The development work was extensively supported by a working group with representatives from CEN, DG ENTR, DG JRC and EU MS.

2.1. Policy framework

- Council Directive 89/106/EEC of 21 December 1988 on the approximation of laws, regulations and administrative provisions of the Member States relating to construction products supports the establishment and functioning of the internal market for construction products (the Construction Products Directive - CPD). This Directive indicates that the products must be suitable for the construction works where they are used and indicates a set of six Essential Requirements on the level of the works. An important part of the construction products market, with a central role regarding safety, is constituted by the "Structural construction products". The Eurocodes are developed to enable the design of structural construction works (building and civil engineering works) in order to comply with the Essential Requirement n°1 (mechanical resistance and stability) and partially Essential Requirement n°2 (safety in case of fire) and n°4 (safety in use) and to determine the performance of structural construction products. The Commission

Contents

1. New Eurocodes or Eurocode parts

- Assess existing buildings
- Structural glass
- Fibre Reinforced Polymers
- Membrane Structures
- Robustness

2. Development Existing Eurocodes

- Harmonization – Reduce NDPs
- Innovation/Design Methods/Calculation
- Sustainability/Structural Design
- Incorporate ISO standards
- Simplification of rules

Eurocodes: Further development

- Extend European Standards for Construction to cover all six Essential Requirements and Sustainability

- “Head-Standards” for all BWRs

For each Basic Works Requirement:

- ✓ Basic principles
- ✓ Performance assessment methodology
- ✓ Minimum performance requirements
- ✓ Performance classes

NDP database:

Date of registration in
the NDPs database

