

Workshop – Design of Concrete Buildings, Brussels, 20-21 October 2011

Eurocodes: Implementation, Training and Further Development

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Joint Research Centre

Institute for Protection and Security of the Citizen

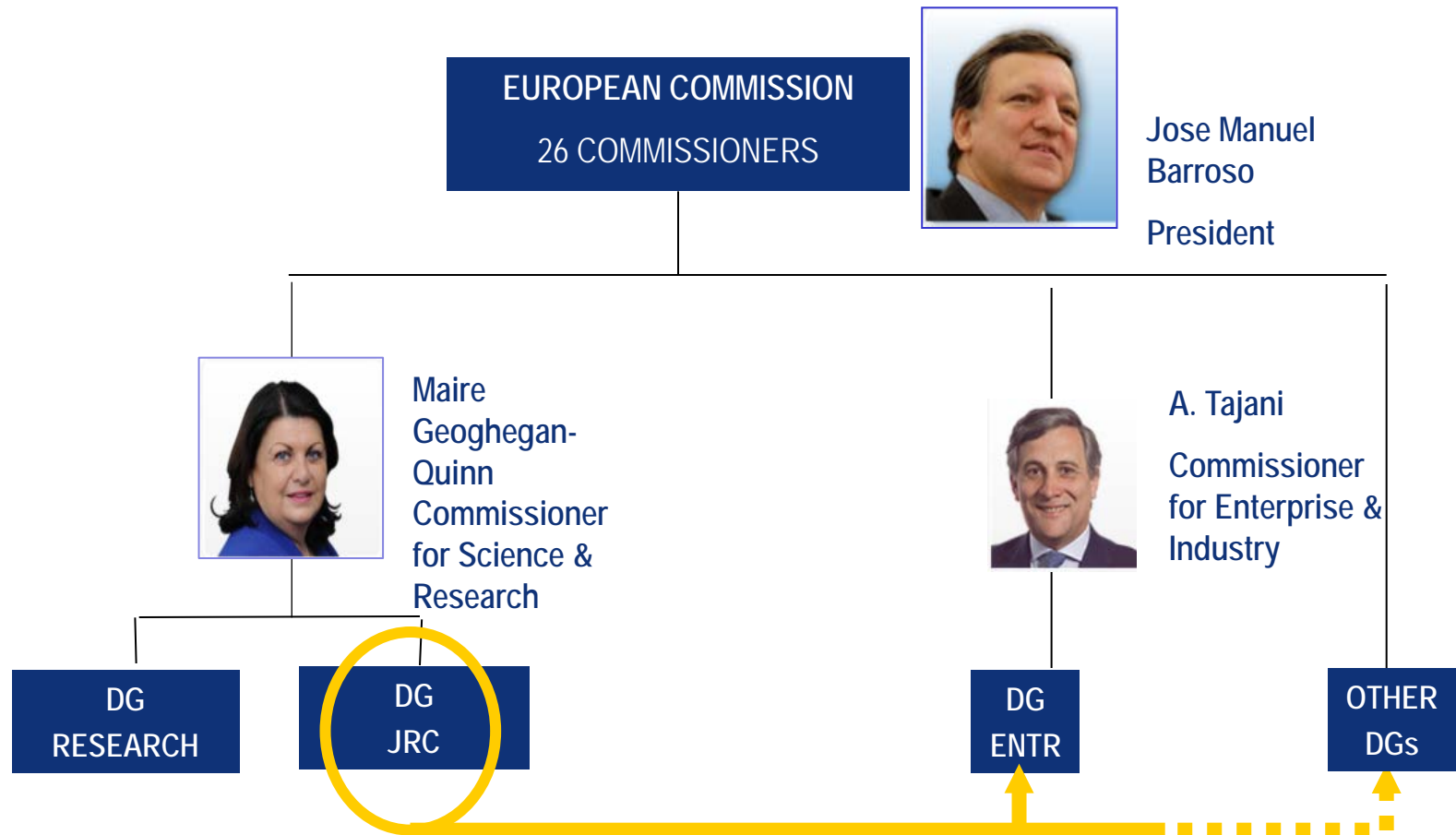
European Laboratory for Structural Assessment



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



The Joint Research Centre – JRC



JRC Support to the Implementation of the Eurocodes

MoU between the JRC and DG ENTR

Implementation & promotion	Harmonisation	Further development
Website	NDPs database	
Background documents database		
Centralised Eurocodes Helpdesk		
Training strategy	Pilot project on further harmonisation	Standardisation needs for new materials: - FRP - glass
Booklets		Research needs: - seismic design - fire design
Workshops		
		2005 - 2008
Maintenance & development of e-tools	Statistical and expert analysis of NDPs	Methodology for extension to additional fields of structural design: - new materials - existing structures - robustness, ...
Level 2 training	Harmonisation strategy & projects	
Promotion outside EU		Concept to incorporate sustainability aspects and other emerging aspects
		2008 - 2011

Eurocodes Implementation: e-tools

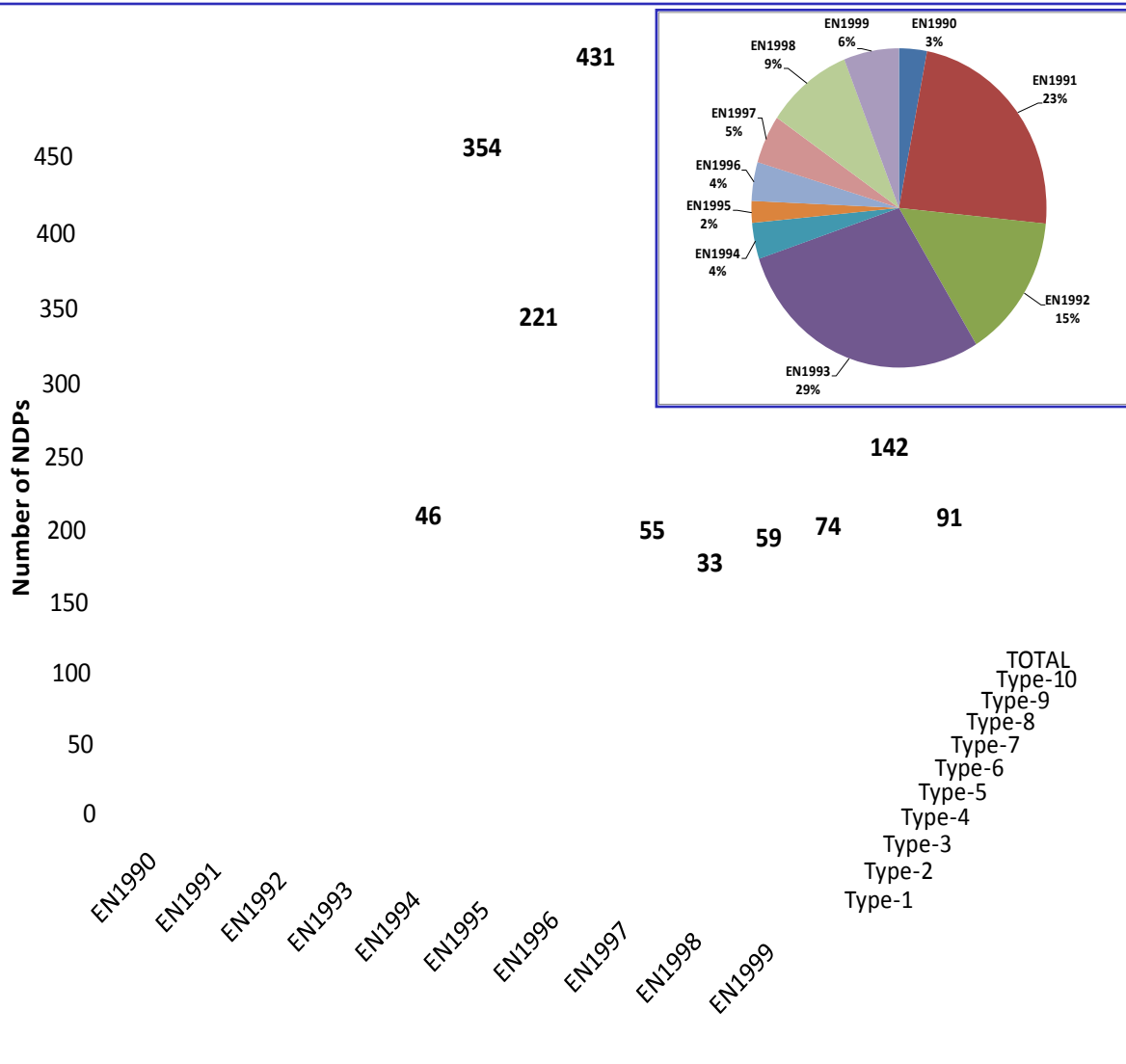
Development of e-tools to facilitate national implementation, training, further harmonisation and development of the Eurocodes

- Eurocodes website
- **NDPs database**
- Background documents database
- Centralised Eurocodes helpdesk



The screenshot displays the Eurocodes website interface. The header features the Eurocodes logo and navigation links. The main content area is titled "The EN Eurocodes" and provides an overview of the standards. A sidebar on the left contains a menu with links such as "About the EN Eurocodes", "CEN/TC250 Newsletter", "Parts and Packages", "EU Legislation & Standardisation", "Implementation", "Designing with the Eurocodes", "Maintenance", "Further Harmonization", "Research & Development", "Use outside EU-EFTA", "Glossary", "Publications", "Events", and "JRC support to implementation and development". The main content area includes a "Message from CEN/TC250 chairman", a "National Implementation" section, a "Te Wero Bridge, New Zealand" project description, and a "JRC support to implementation and use" section. A sidebar on the right highlights the "EUROCODE 2 BACKGROUND & APPLICATIONS" workshop, scheduled for 20-21 October 2011 in Brussels, Belgium. It also mentions the "Seismic Design of Buildings" workshop held in Lisbon on 10-11 February 2011.

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

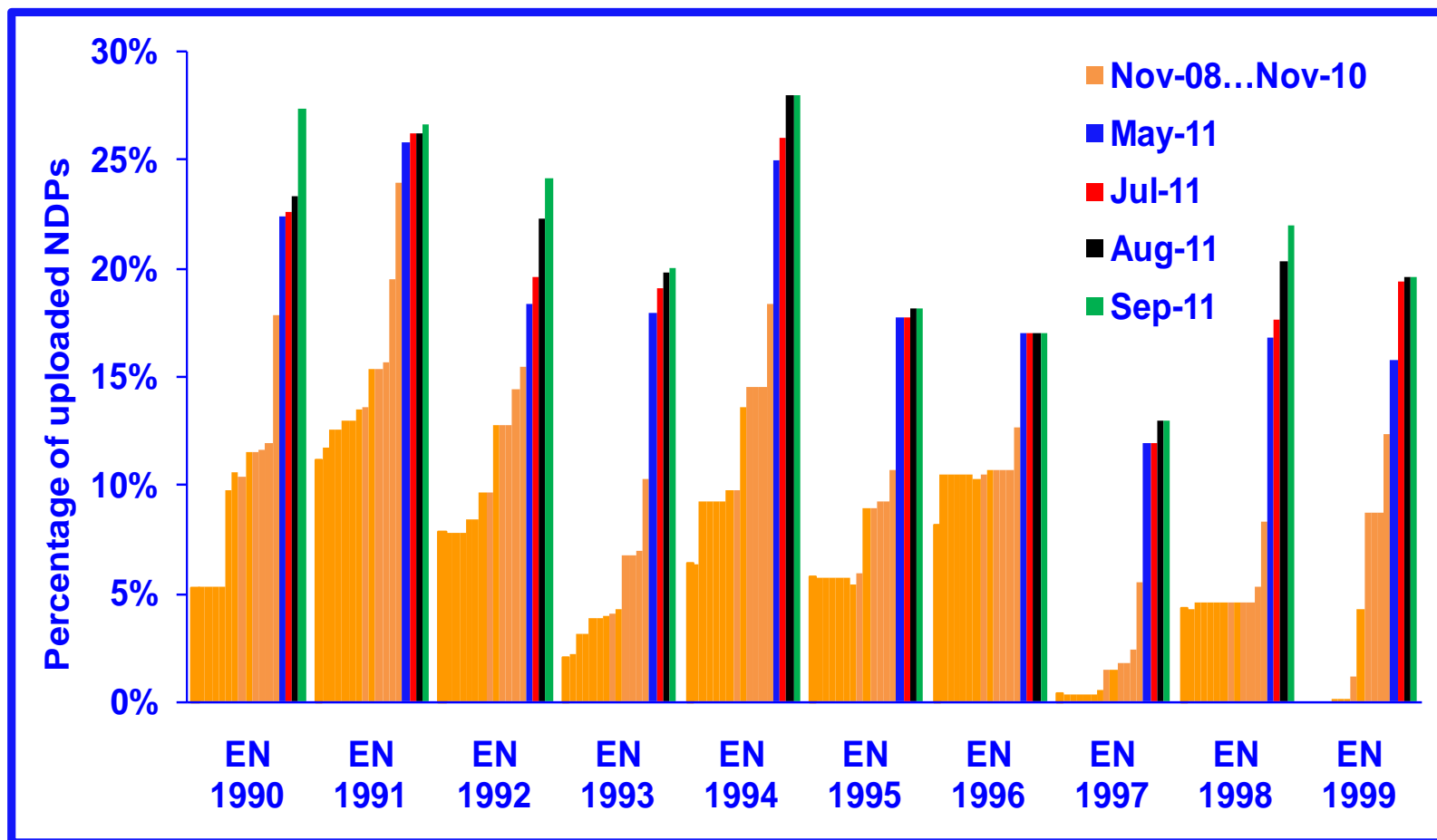


1504 NDPs in 58 parts are expected to be set by countries.

In 40% of the cases the divergence could be estimated by statistical analysis.

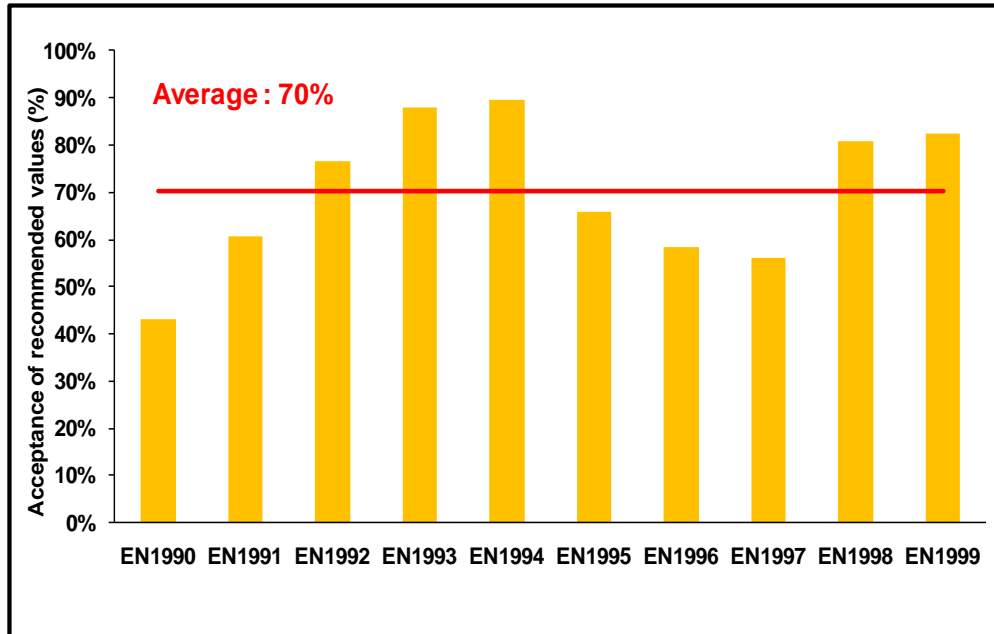
Expert analysis is needed of the rest of the cases.

NDPs database – progress of uploading



Increase in rate of upload within last months.. !

DBPs database: acceptance of recommended values (05/08/11)



(10/09/2010) – 68%

(11/04/2011) – 70%

(19/05/2011) – 69%

NDPs database – preliminary statistical analysis

A case study on EN 1992

NDPs database – preliminary statistical analysis

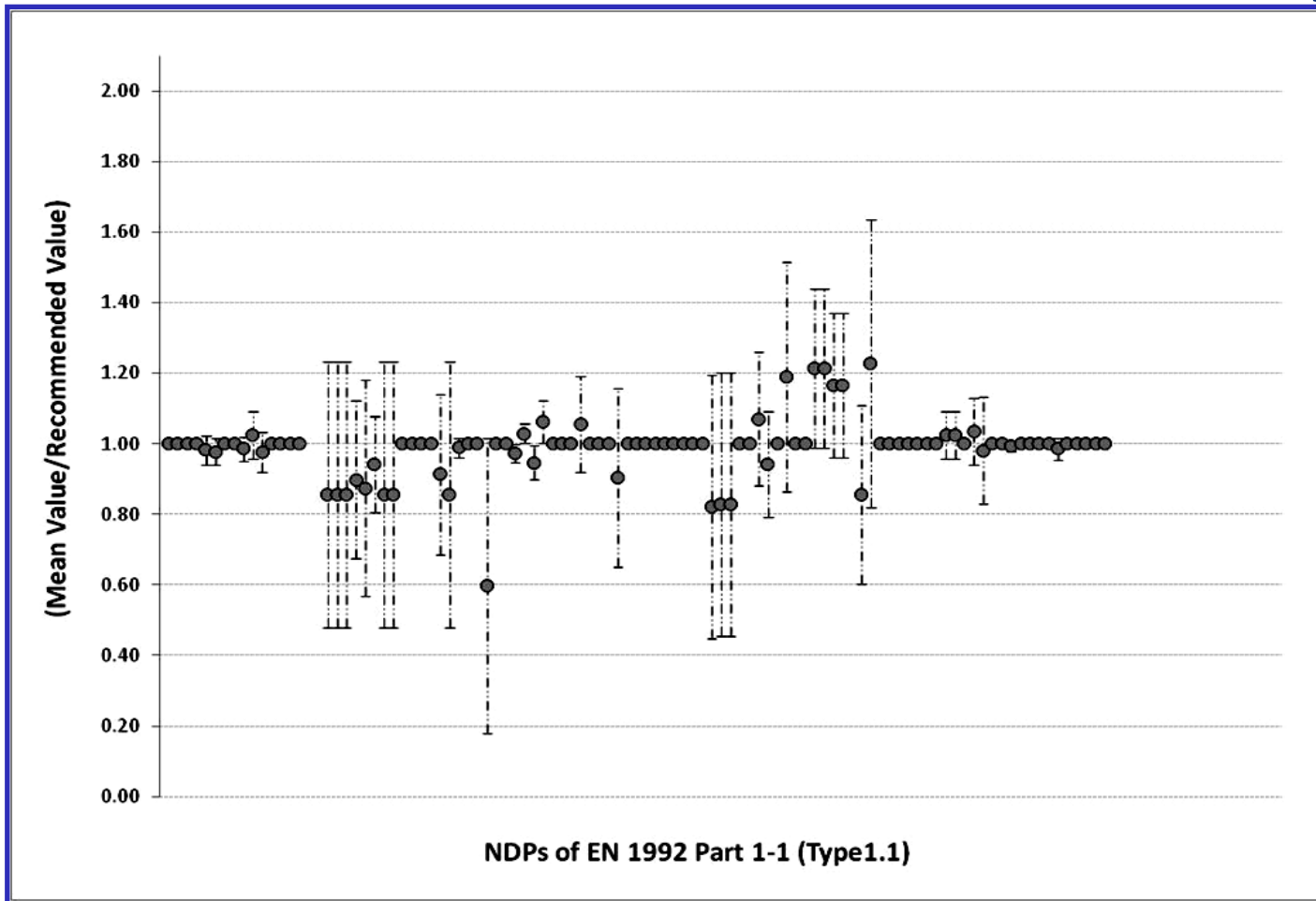
A case study on EN 1992

Only **Type-1.1 NDPs of EN 1992 Part 1-1** are considered
(parameters with recommended values)

- NDPs from **7 countries**, namely, Czech Republic, Denmark, Finland, The Netherlands, Portugal, Romania and Slovakia were used. These countries were the only ones that completed uploading their NDPs for the considered EN 1992 Part 1-1

NDPs database – preliminary statistical analysis

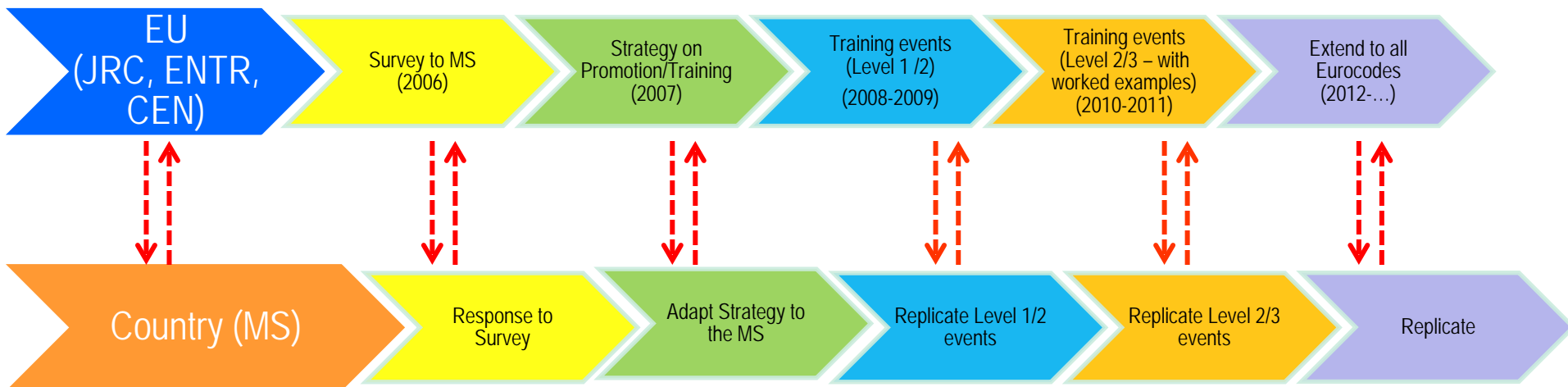
A case study on EN 1992



Nb. Of
"Recommended
Values"
approx. 81%

NDPs with mean values and standard deviations

Eurocodes Training and promotion: Strategy and Actions (events)



Training Workshops

- Three levels of training:
 - ✓ **Level 1** - policy of Eurocodes implementation, National Annexes, co-existence with National Codes etc. aimed at National Authorities, NSBs and senior personnel in the companies
 - ✓ **Level 2** - introductory courses to each individual Eurocode
 - ✓ **Level 3** – comprehensive design examples of a number of typical structures using a particular package of Eurocodes
- All material from the workshop (presentations, papers etc) are available to download from the JRC Eurocodes website

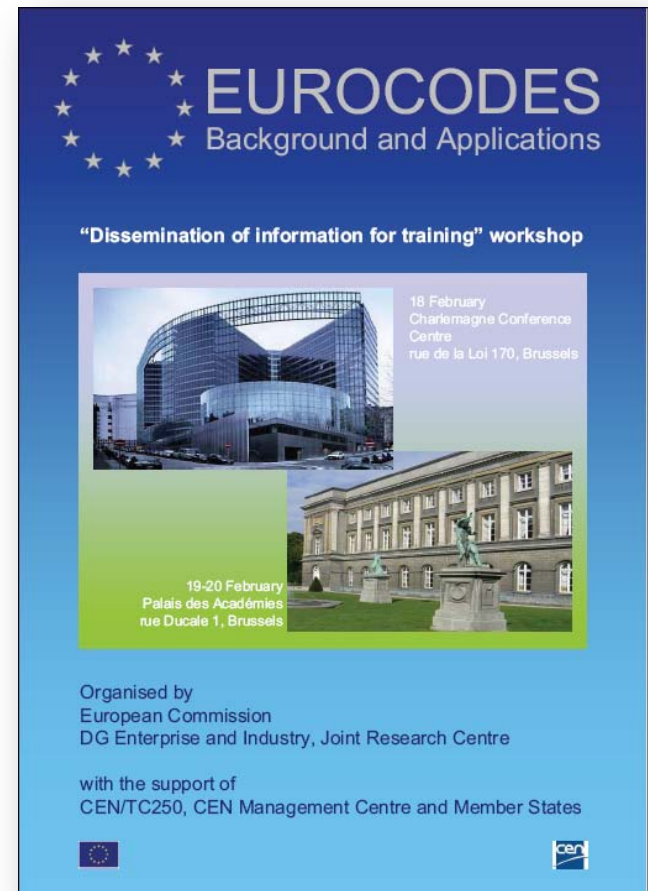


Level 1 Training Workshop

Eurocodes: Background and Applications

Brussels, 18-20 Feb 2008

- *First European-wide workshop covering all Eurocodes (except EC6)*
- *Prepared by expert involved in the development of the Eurocodes*
- *320 participants, 60 lecturers*
- *All material from the workshop available to download from the Eurocodes website, translate and use*



The poster features the Eurocodes logo at the top, followed by the title "EUROCODES Background and Applications". Below this, it specifies the event as a "Dissemination of information for training" workshop. Two photographs are included: one of the Charlemagne Conference Centre and another of the Palais des Académies. The text provides dates and locations for the workshop sessions. At the bottom, it lists the organizing body (European Commission, DG Enterprise and Industry, Joint Research Centre) and the supporting organizations (CEN/TC250, CEN Management Centre and Member States). Logos for the European Union and CEN are also present.

EUROCODES
Background and Applications

"Dissemination of information for training" workshop

18 February
Charlemagne Conference
Centre
rue de la Loi 170, Brussels

19-20 February
Palais des Académies
rue Ducale 1, Brussels

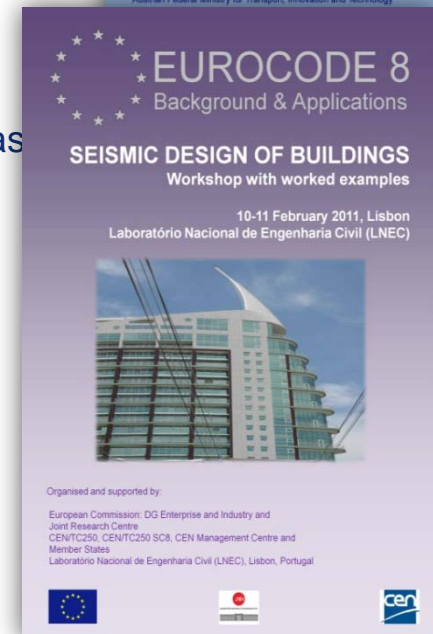
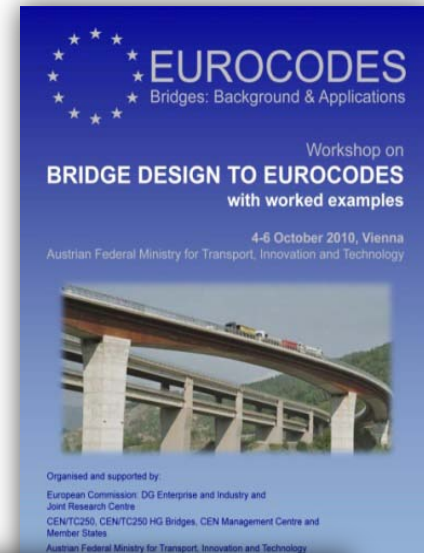
Organised by
European Commission
DG Enterprise and Industry, Joint Research Centre

with the support of
CEN/TC250, CEN Management Centre and Member States

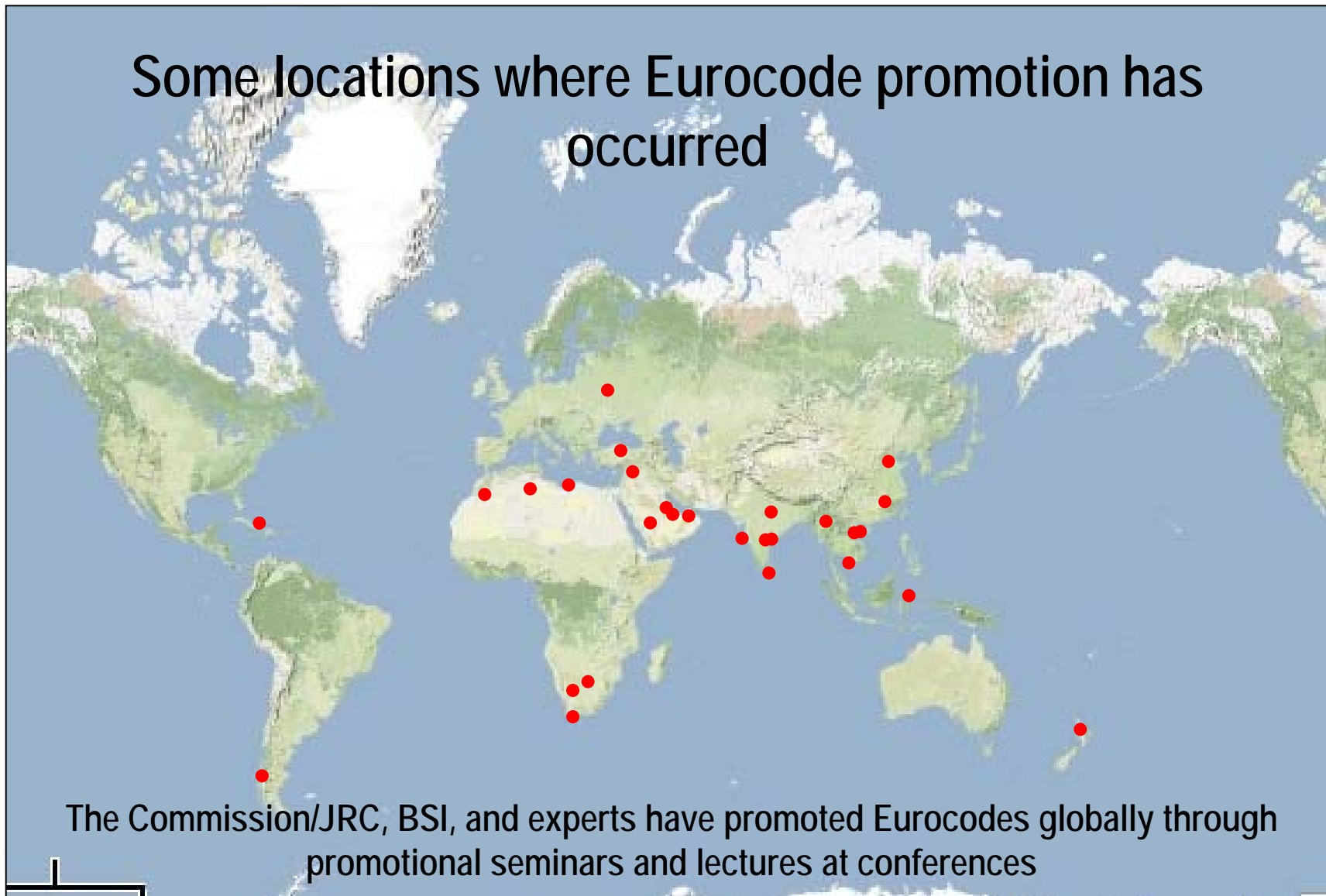
Level 2/3 Training Workshops

Workshops with worked examples

- **Design of Bridges** with the Eurocodes
Programme coordination: Steve Denton (HG Bridges)
4-6 Oct 2010, Vienna
- Eurocode 8: **Seismic Design of Buildings** (RC and Steel)
Programme coordination: Eduardo Carvalho (SC8)
10-11 Feb 2011, Lisbon
- Eurocode 2: **Design of Reinforced Concrete Buildings**
Programme coordination: Giuseppe Mancini (SC2) and Francesco Biasi
Oct 20-21 2011, Brussels
- **Eurocodes 3, 4, 5, 6, 7, 9 and fire design:**
Programme coordination: Chairmen of SCs
2 days average (2012-2013)



Some locations where Eurocode promotion has occurred



The Commission/JRC, BSI, and experts have promoted Eurocodes globally through promotional seminars and lectures at conferences

Promotion of Eurocodes to third counties

Eurocodes workshop in Moscow

Moscow, Russia, 2008

- Objective: gather and make available information on EU and Russia standardisation systems
- Support from CMC, CEN/TC250, Russian Federal Agency on Technical Regulation and Metrology, World Academy of Sciences for Complex Security



EUROCODES
A tool for building safety and reliability enhancement

Еврокоды
инструмент для повышения безопасности и надежности зданий

EU-Russia cooperation on standardisation for construction

Сотрудничество ЕС-Россия по стандартизации в строительстве

9-10 October 2008
President Hotel, Moscow

9-10 октября 2008
Президент-Отель, Москва

Programme

EUROCODES
Training the trainers

Workshop on
EUROCODES BoD, 1 & 2
Basis of structural design
Actions on structures
Design of concrete structures

9-10 December 2010, Moscow, Russian Federation

Organised by
Russian Federal Agency on Technical Regulation and Metrology

with the support of
European Commission, CEN and WASCS

European Union flag

Russian flag

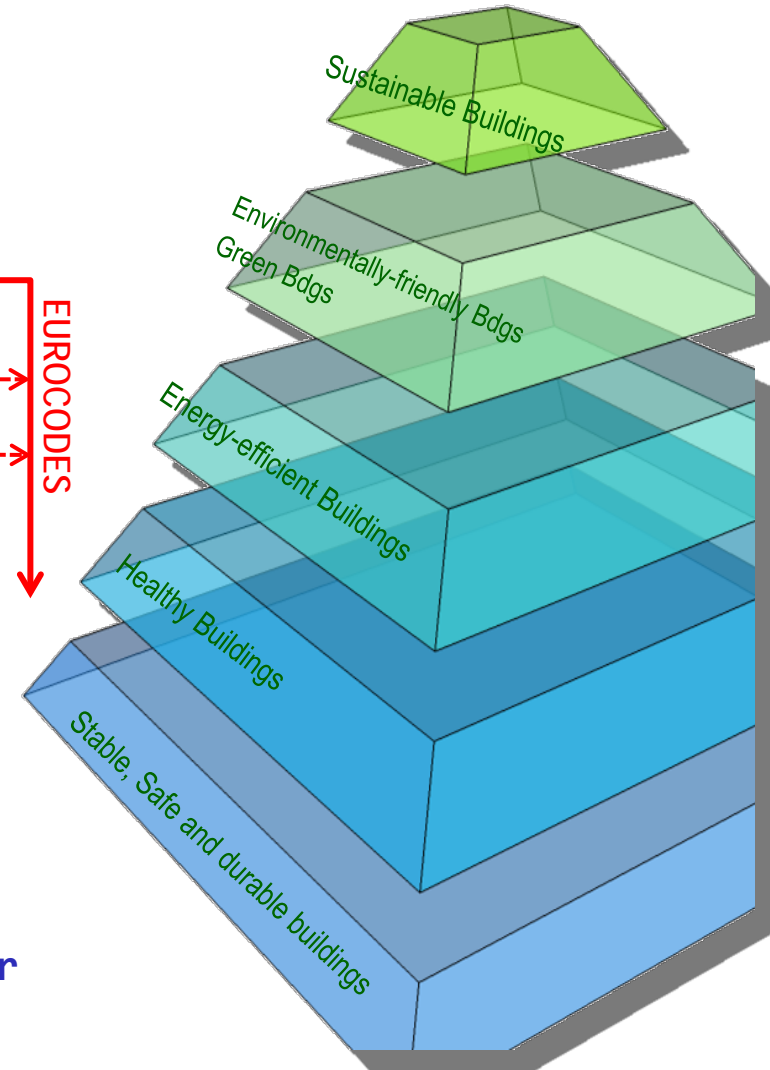
Further development

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 for construction works addressing all BWRs”



Eurocodes: DG ENTR – DG JRC Future Activities/Priorities

- Achieve full implementation (speed-up, training, exchange of information and tools between countries)
→ Facilitate implementation and Use
- New Programming Mandate: New Materials, Assessment and retrofit, More Harmonization, ...
- Other Basic Works Requirements (Energy efficiency, Env. Sustainability,
- Promotion outside of EU (Russia, East, Africa, ...)



EUROCODE 2
BACKGROUND & APPLICATIONS

DESIGN OF CONCRETE BUILDINGS

WORKSHOP WITH WORKED EXAMPLES

20 - 21 OCTOBER 2011
BRUSSELS, BELGIUM

ORGANISED AND SUPPORTED BY

EUROPEAN COMMISSION
DG ENTERPRISE AND INDUSTRY
JOINT RESEARCH CENTRE

CEN/TC250
CEN/TC250 SC2
CEN MANAGEMENT CENTRE

MEMBER STATES



Thank you for your attention



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