

European Union support to the adoption and implementation of the Eurocodes

JRC support to dissemination and training on the Eurocodes

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Unit E.3 Safety and Security of Buildings

Summary

- The Eurocodes website
- JRC support to the Eurocodes implementation in third countries
- Training and guidance material



JRC: Science for policy

Our purpose

The **Joint Research Centre** provides independent, evidence-based knowledge and science, supporting EU policies to positively impact society.



Support to the Eurocodes implementation

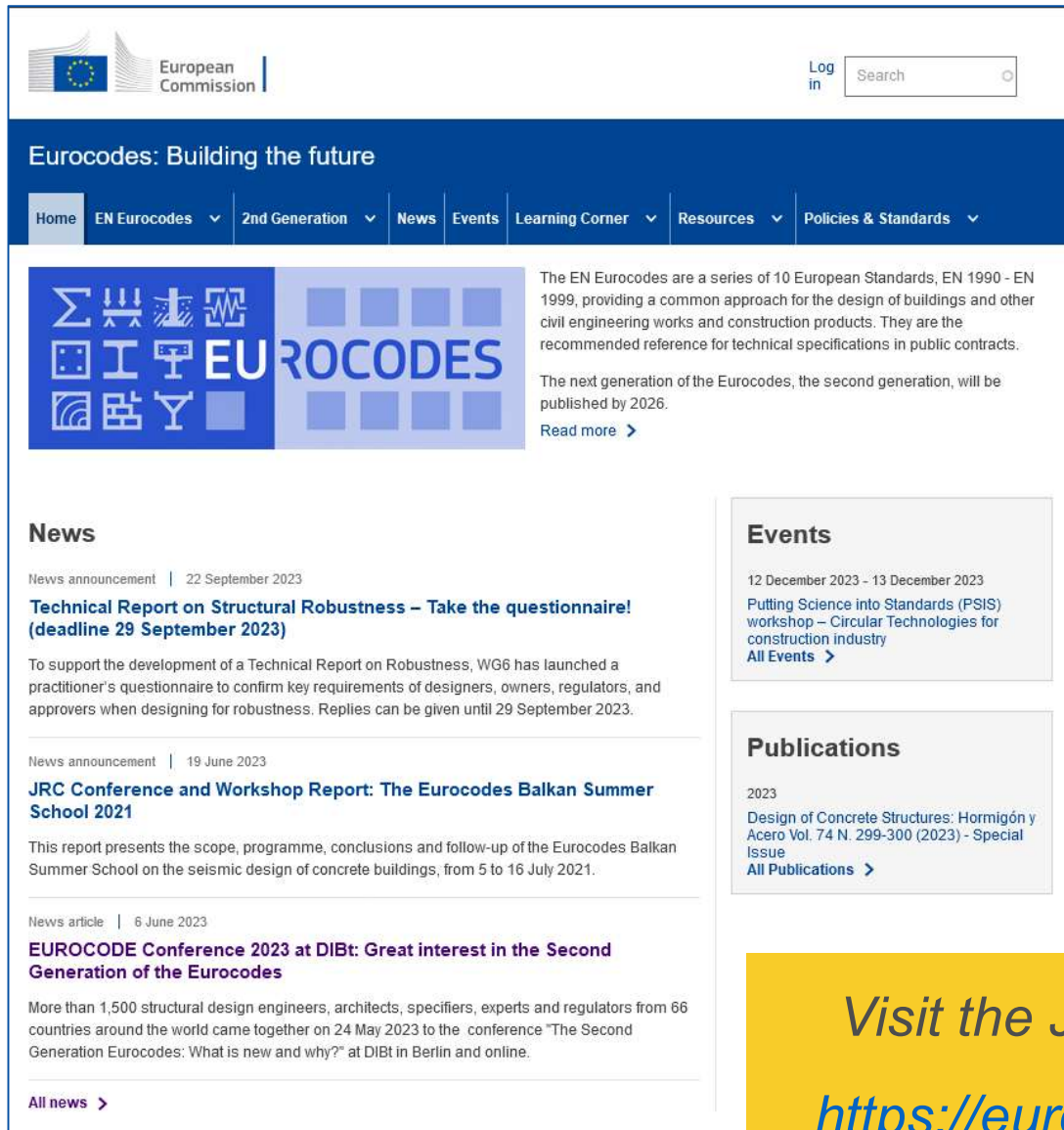
Who?

- European Commission (DG GROW and DG JRC together with DG INTPA, DG ENER, DG ENV, ...)
- In cooperation with CEN, EU Member States and National Standardisation Bodies

How?

- IT tools: **Eurocodes website**, NDPs database, Helpdesk
- Expert support, training events and guidance material
- Harmonization and further development





The screenshot shows the Eurocodes website homepage. At the top, there is the European Commission logo and a search bar. Below this is a blue header with the text "Eurocodes: Building the future" and a navigation menu with links: Home, EN Eurocodes, 2nd Generation, News, Events, Learning Corner, Resources, and Policies & Standards. The main content area features a large banner for "EUROCODES" with a grid of icons. To the right of the banner, there is text about the EN Eurocodes and a link to "Read more". Below the banner, there are three sections: "News", "Events", and "Publications". The "News" section includes a headline "Technical Report on Structural Robustness – Take the questionnaire! (deadline 29 September 2023)" and a paragraph about the report. The "Events" section includes a headline "Putting Science into Standards (PSIS) workshop – Circular Technologies for construction industry" and a link to "All Events". The "Publications" section includes a headline "Design of Concrete Structures: Hormigón y Acero Vol. 74 N. 299-300 (2023) - Special Issue" and a link to "All Publications". At the bottom left, there is a link to "All news".

Eurocodes Website

- General information
- Events & News
- Archive of all training events
- Publications database
- Resources
- Policy background
- Revamped in 2022

Visit the JRC Eurocodes website

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

Eurocodes website



Home > EN Eurocodes



EN 1990 Basis of design



EN 1991 Actions



EN 1992-1996, EN 1999

Structural materials (concrete, steel, concrete+steel, timber, masonry, aluminium)

Second gen: glass, FRP, membranes



EN 1997 Geotechnics



EN 1998 Earthquake

General information

<https://eurocodes.jrc.ec.europa.eu/en-eurocodes/about-en-eurocodes>

- 'Eurocodes at a glance' + detailed descriptions of each EN Eurocode ('Eurocode family')
- Fields of applications
- History
- Major concepts



Eurocodes website



Home > EN Eurocodes

General information

- **Implementation** in EU by National Authorities in liaison with NSBs and other parties
<https://eurocodes.jrc.ec.europa.eu/en-eurocodes/eurocodes-national-implementation>

1. **Translation** into national language

2. **National calibration** publish the National Standard repeating or endorsing the Eurocode part, publish the National Annex with the NDPs and notify the EC

3. **Coexistence** adaptation of National provisions, promotion of training on Eurocodes; finally, withdrawal of any conflicting national standard (before 6m from DAV)

JRC Report **The implementation of the Eurocodes in the national regulatory framework (2019)**

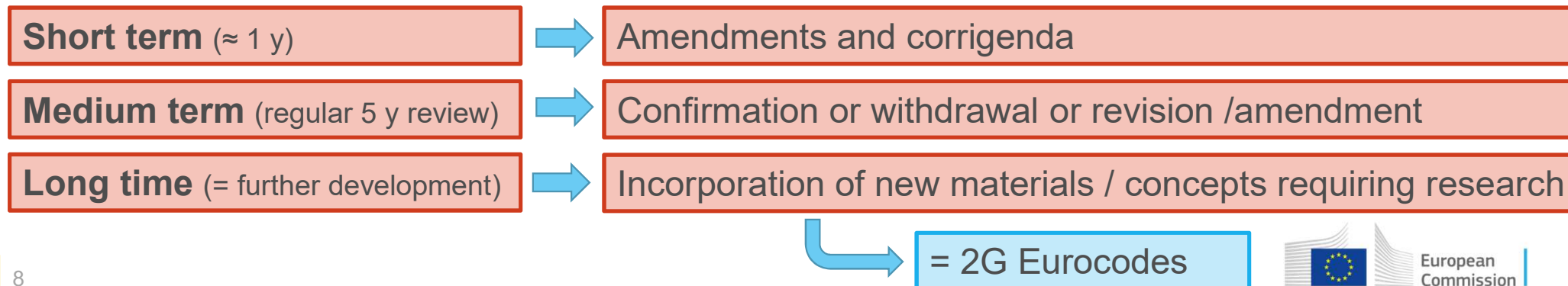
Eurocodes website



Home > EN Eurocodes

General information

- **Maintenance** according to CEN rules <https://eurocodes.jrc.ec.europa.eu/en-eurocodes/maintenance>
 - Based on the national feedback
 - CEN is responsible
 - support of JRC's Centralised Eurocodes Helpdesk



Eurocodes website



Home > EN Eurocodes

General information

- Further **harmonisation** <https://eurocodes.jrc.ec.europa.eu/en-eurocodes/further-harmonisation-en-eurocodes>
 - Goal: gradual alignment of safety levels across EU
 - Benefits to the market while granting a high level of constructions' safety
 - It's an objective of 2G Eurocodes, through:

Reduction of number of NDPs

Increased acceptance of Recommended Values (RVs)

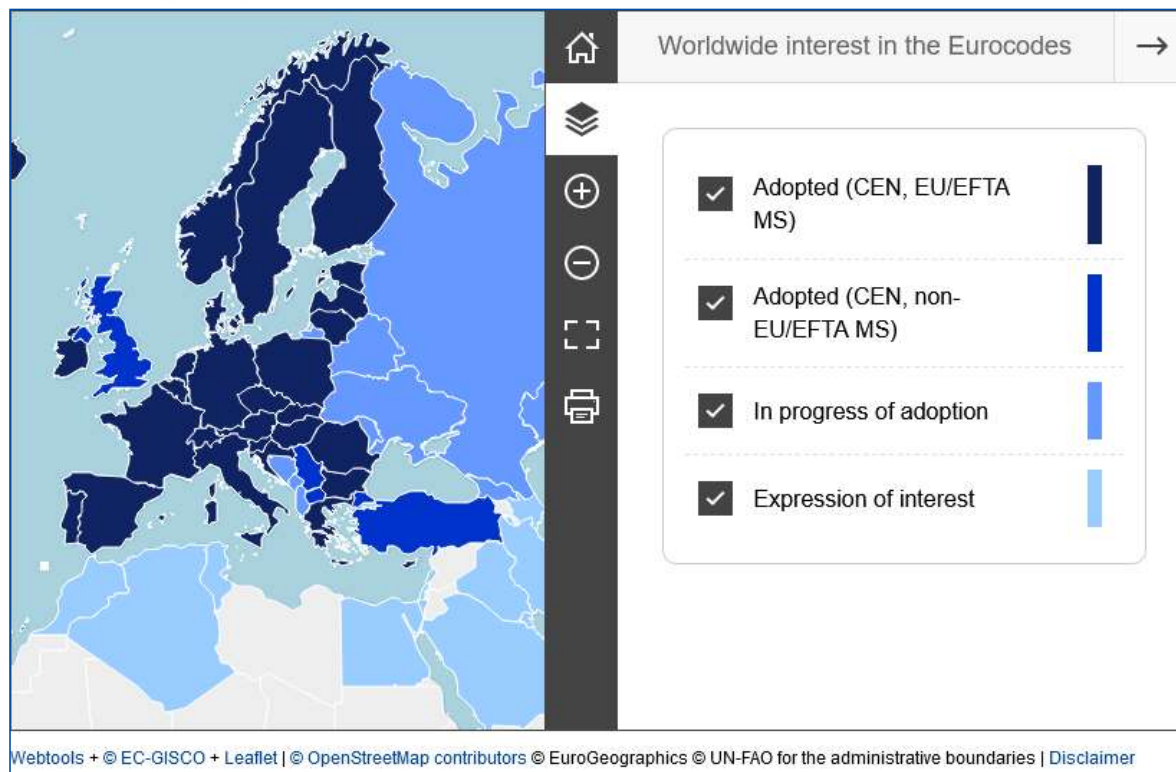
Unification of methodologies for design and NDPs

JRC Report **State of harmonized use of the Eurocodes (2019)**

Eurocodes website



Home > EN Eurocodes



General information

Interactive map

<https://eurocodes.jrc.ec.europa.eu/en-eurocodes/use-outside-euefta-member-states>

+ Newsletter on the worldwide promotion of Eurocodes

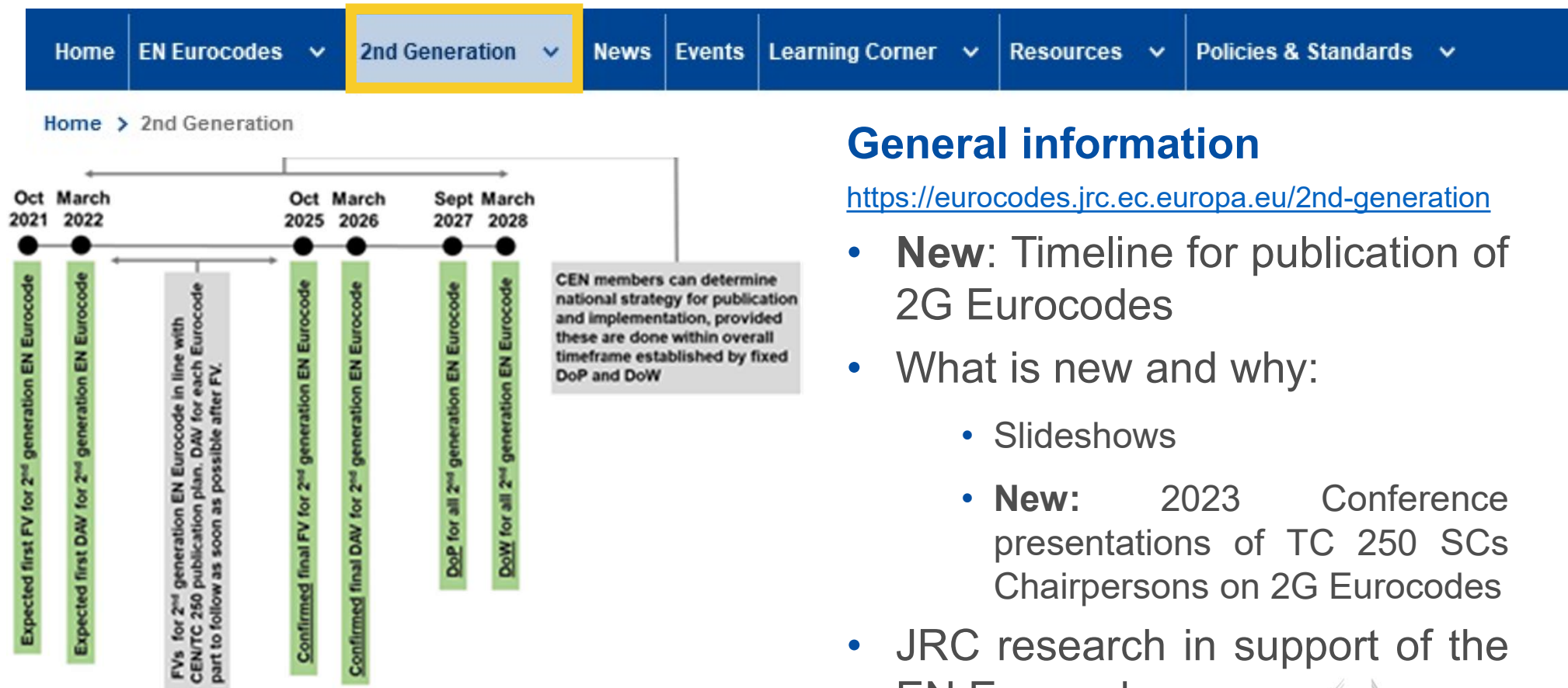


The easiest way to share information
in the European Commission

*Please
contact me
to
subscribe!*



Eurocodes website



General information

<https://eurocodes.jrc.ec.europa.eu/2nd-generation>

- **New:** Timeline for publication of 2G Eurocodes
- What is new and why:
 - Slideshows
 - **New:** 2023 Conference presentations of TC 250 SCs Chairpersons on 2G Eurocodes
- JRC research in support of the EN Eurocodes

Eurocodes website



Home > News

News and Events

<https://eurocodes.jrc.ec.europa.eu/news>

<https://eurocodes.jrc.ec.europa.eu/events>

Users can:

- **Search** in the News or Events archive with structured search tools
- **Submit** news or events related to the Eurocodes for publication on the website
 - Event types: Conference, Award, Training, Exhibition, Info day, Partners/Political meeting, Debate, ...

Submit your event >

Eurocodes

Select

Not associated with a specific Eurocode

- Any -

Title

Filter

Clear



Users can submit their Eurocode-related publications

Eurocodes website

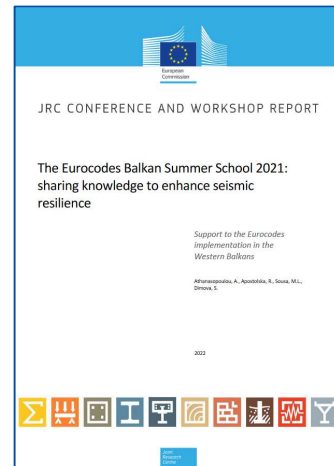
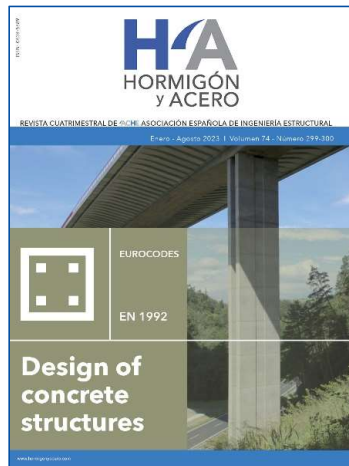


Home > Learning Corner

Learning Corner <https://eurocodes.jrc.ec.europa.eu/learning-corner/publications>

Users can search through Eurocode-related **Publications**:

Articles, books & designer guides, JRC reports, training & dissemination, worked examples, ...



Submit your publication ➔



Users can submit their Eurocode-related publications

Eurocodes website



Home > Learning Corner

Learning Corner

<https://eurocodes.jrc.ec.europa.eu/learning-corner/background-documents>

Users can access a list of **Background documents** (list compiled by the Chairs of CEN/TC250 Subcommittees)

Info on the theoretical justification of the Eurocodes technical rules, on the recommendations for the NDPs and on the National decisions about the choice of the NDPs



Users can submit their Eurocode-related publications

Eurocodes website



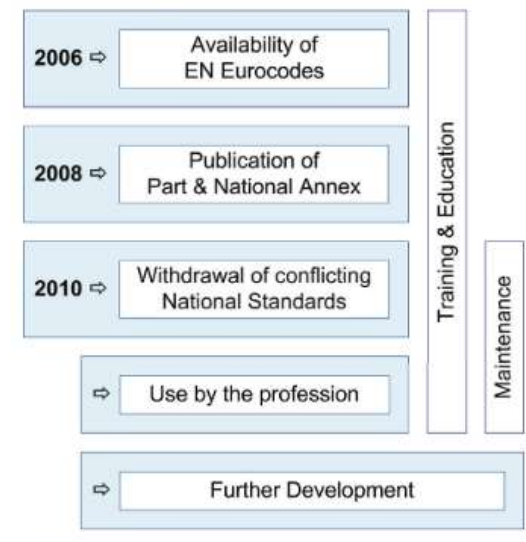
Home > Learning Corner

Learning Corner

<https://eurocodes.jrc.ec.europa.eu/learning-corner#ecl-inpage-732>

Users can download free **Training materials**:

- **Workshops by the European Commission:** presentations, summaries and reports
- **Worked Examples** → Publication category 'Worked examples'
- **Leaflets & booklets** prepared by the JRC



Eurocodes website



Home > Resources

Resources <https://eurocodes.jrc.ec.europa.eu/resources>

- Eurocodes in your country
 - **Guidance document** by CEN/TC 250 for National Standardization Bodies (NSBs) on drafting National Annexes to EN Eurocodes
- List of commercial / free structural design **software** based on Eurocodes
- Tools: NDP Database, Uploading of NDPs, **Centralised Helpdesk**
- **Useful links** to CEN member NSBs - other bodies



Centralised Eurocodes Helpdesk

- Link between Eurocode users, NSBs and CEN/TC250
- Allows National Contact Points to submit questions received at national level
- Queries are answered by CEN/TC250 and its Subcommittees

Eurocodes website



Home > Policies and Standards

Design Standards: the Eurocodes

Material and Product Standards:
steel, concrete, structural bearings,
barriers, parapets, etc.

European Technical Approvals:
expansion joints, prestressing tendons,
etc.

Execution standards: execution of concrete and steel structures, etc.

Test standards: testing of concrete, masonry units, fire tests, etc.

European Standards (EN) family

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

More than 400 European standards are referred within the Eurocodes

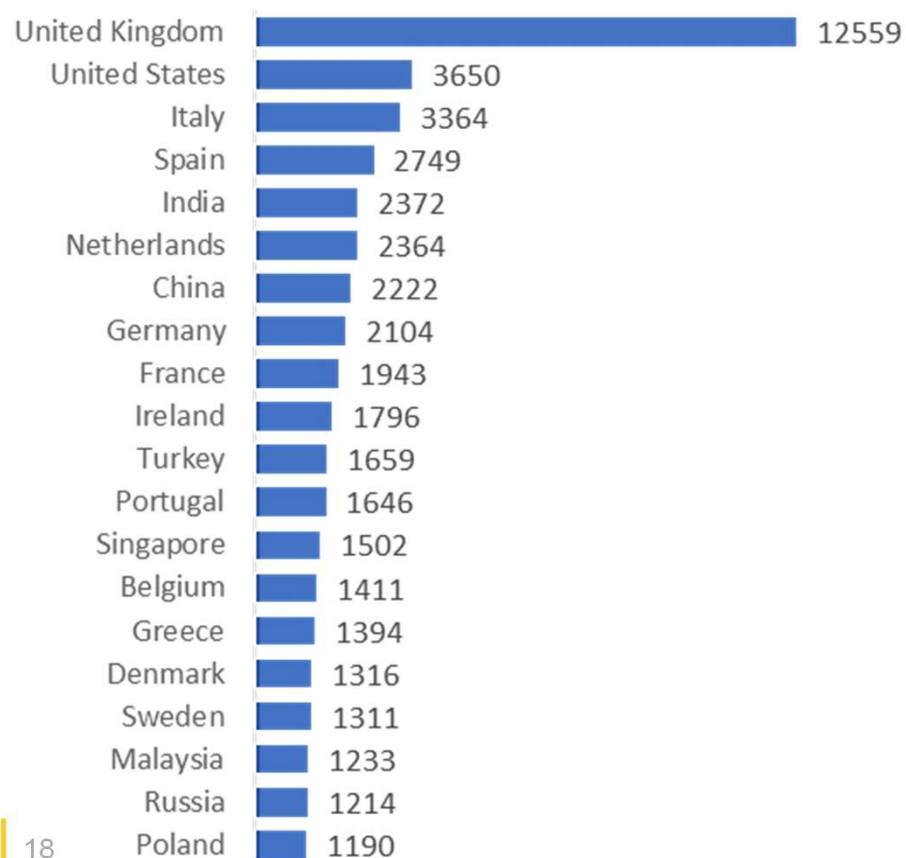
Policies and Standards

<https://eurocodes.jrc.ec.europa.eu/policies-and-standards>

- Policies and standards for the construction sector
- EN Eurocodes and related standards
- CEN/TC 250

JRC Eurocodes website worldwide use

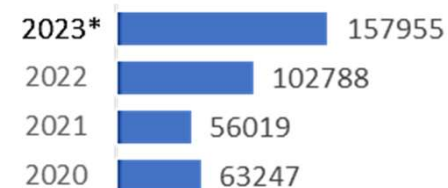
Number of Eurocodes website visitors by country (October 2022 - May 2023)



Most visited pages:

- 1) EN 1993 - steel
- 2) EN 1992 - concrete
- 3) EN 1991 - actions
- 4) EN 1990 - basis
- 5) EN 1998 - seismic
- 6) EN 1997 - geotechnic

Total number of sessions up to 31 May 2023

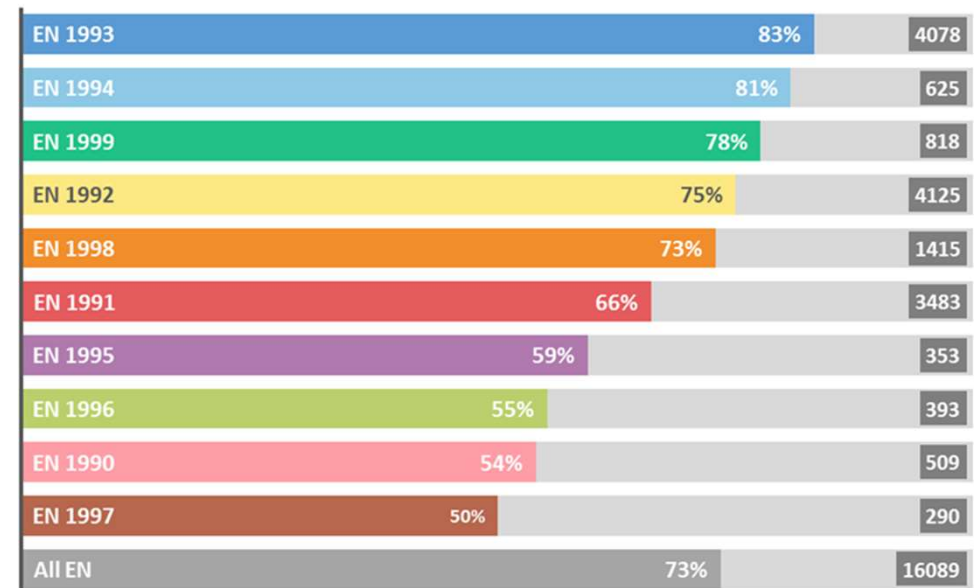


Also in the top 20 most viewed pages:

- ✓ Eurocodes family
- ✓ General features
- ✓ Second Generation

Eurocodes implementation in the EU

- The Eurocodes are used in different regulatory systems in the EU.
- The Eurocodes contribute to harmonisation of levels of safety, construction practices and markets.
- The Nationally Determined Parameters (NDPs) offer each country the possibility to adapt the standards to local conditions and needs



Percentage of acceptance (colour labelled bars) and number of uploaded NDPs with RVs (grey labelled boxes), per Eurocode and for all Eurocodes, in the 30 EU/EFTA MS

Reference: Sousa M. L., Dimova S., Athanasopoulou A., Sousa L., Iannaccone S., Markova, J.; 2019. State of harmonised use of the Eurocodes; EUR 29732 EN; doi:10.2760/777466, JRC115181

Training and dissemination in third countries

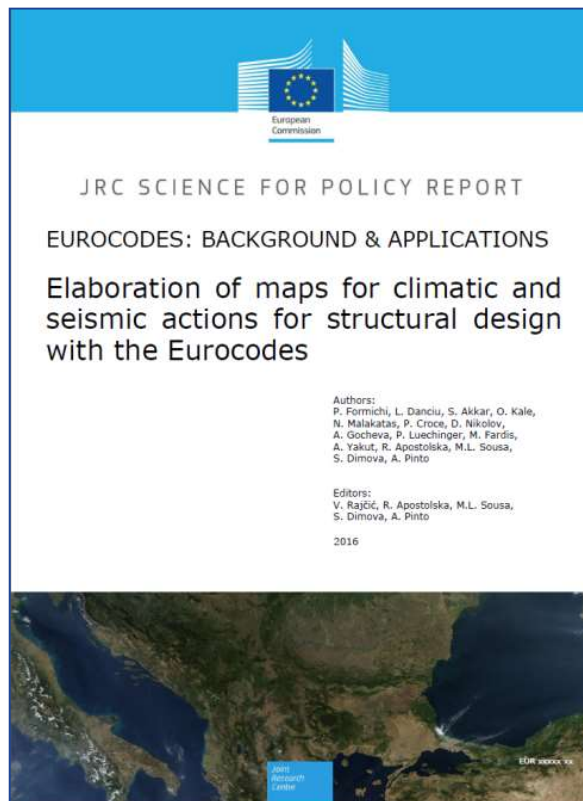


2012 -2014 Eurocodes
Promotion on the Basis of
Political Drivers
(e.g. EU-Russia dialogue and
Balkan Region)

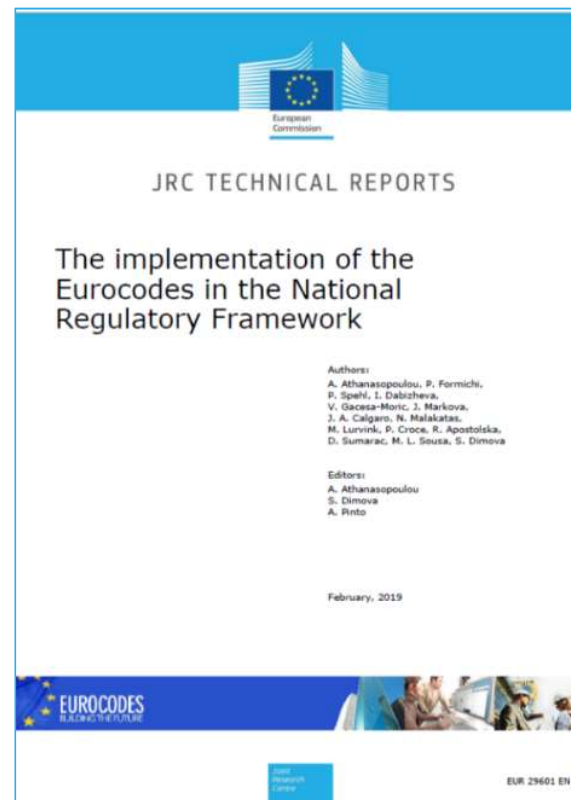


Global training material

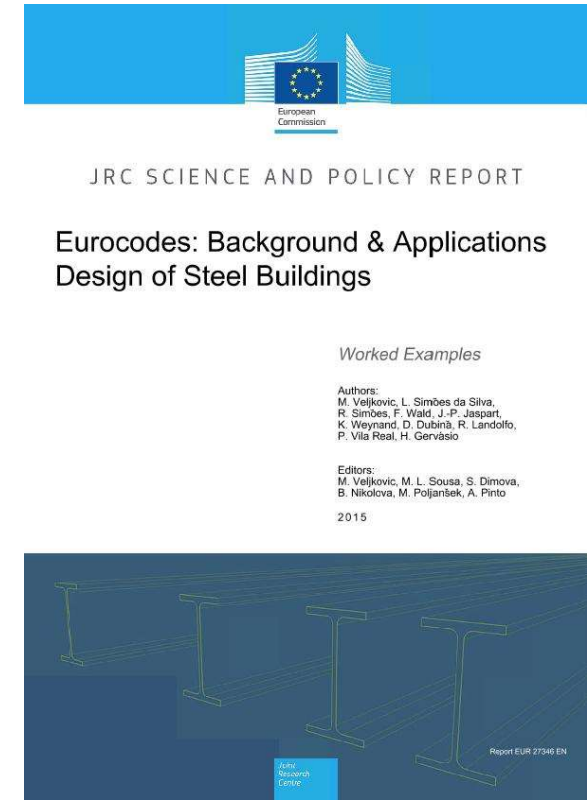
Best practices



Guidance

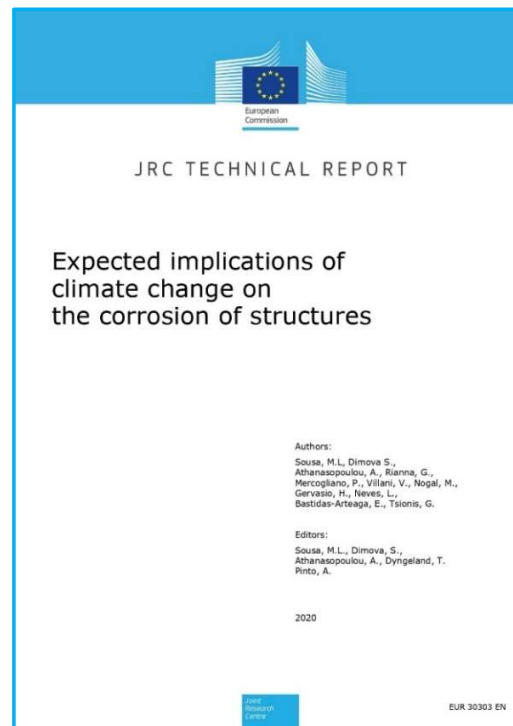
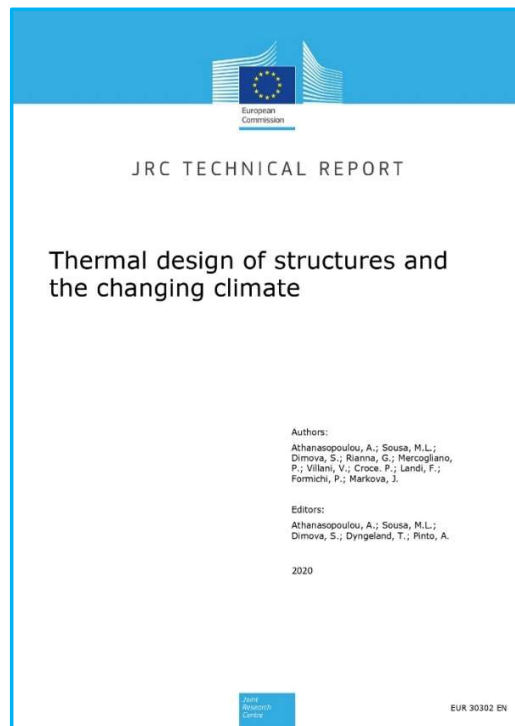


Worked examples

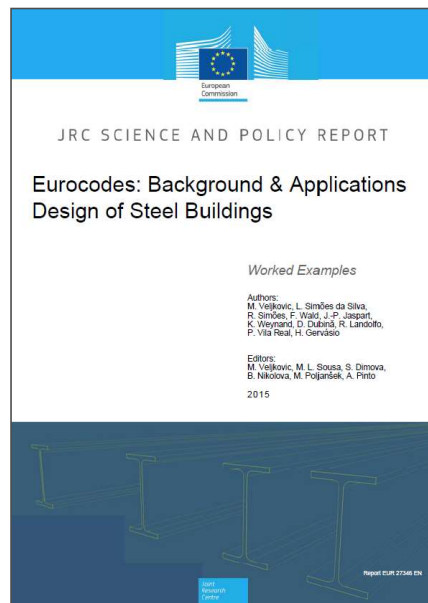


Support to standardization needs

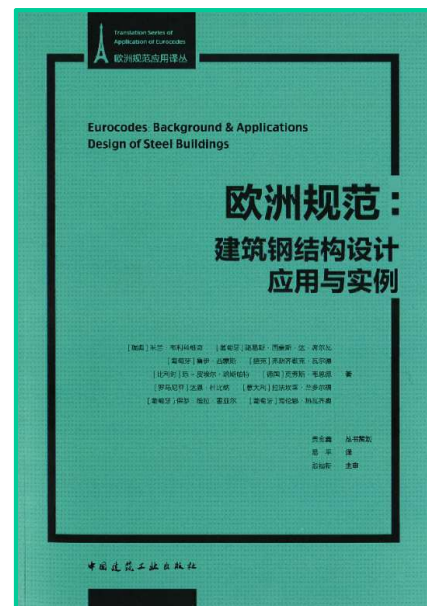
JRC scientific networks on climate change adaptation, underground structures, fire safety engineering.



Worldwide use of training material



JRC Report on Design of Steel Buildings
translated to Chinese (2018)



JRC Report on Design of Concrete Buildings
translated to Serbian (2019)



What is next?

*“ ... no one knows everything,
everyone knows something,
all knowledge resides in networks ...”*

Source: Pierre Levy,
*Collective Intelligence: Mankind's Emerging World in
Cyberspace*, 1997



Image source: Svanfeldt, Rancati, Cuccillato and Troussard, *Enabling Communities of Practice*, 2016, EUR 28432 EN

JRC...

- ✓ Offers **facilitation of liaisons with CEN**
- ✓ Can organize **Regional events in non-EU countries** interested in Eurocodes
- ✓ After this workshop, will launch a **new E-READI space in the Eurocodes website**

To learn more: JRC Reports

The implementation of the Eurocodes in the national regulatory framework (2019)

<https://op.europa.eu/en/publication-detail/-/publication/32c9c6a4-2836-11e9-8d04-01aa75ed71a1/language-en>

State of harmonized use of the Eurocodes (2019)

<https://publications.jrc.ec.europa.eu/repository/handle/JRC115181>

Prospects for designing tunnels and other underground structures in the context of the Eurocodes (2022)

<https://publications.jrc.ec.europa.eu/repository/handle/JRC130784>

Eurocodes: Background & Applications. Design of Steel Buildings. Worked examples (2015)

<https://publications.jrc.ec.europa.eu/repository/handle/JRC96658>

Eurocodes: Background & Applications. Elaboration of maps for climatic and seismic actions for structural design with the Eurocodes (2016)

<https://publications.jrc.ec.europa.eu/repository/handle/JRC103917>

Thermal design of structures and the changing climate (2020)

<https://publications.jrc.ec.europa.eu/repository/handle/JRC121351>

Expected implications of climate change on the corrosion of structures (2020)

<https://publications.jrc.ec.europa.eu/repository/handle/JRC121312>

Keep in touch

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Thank you



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