

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



European Commission

Log in Search

Eurocodes: Building the future

Home EN Eurocodes 2nd Generation News Events Learning Corner Resources Policies & Standards

EUROCODES

The EN Eurocodes are a series of 10 European Standards, EN 1990 - EN 1999, providing a common approach for the design of buildings and other civil engineering works and construction products. They are the recommended reference for technical specifications in public contracts.

The next generation of the Eurocodes, the second generation, will be published by 2026.

Read more >

News

News announcement | 22 September 2023

Technical Report on Structural Robustness – Take the questionnaire! (deadline 29 September 2023)

To support the development of a Technical Report on Robustness, WG6 has launched a practitioner’s questionnaire to confirm key requirements of designers, owners, regulators, and approvers when designing for robustness. Replies can be given until 29 September 2023.

News announcement | 19 June 2023

JRC Conference and Workshop Report: The Eurocodes Balkan Summer School 2021

This report presents the scope, programme, conclusions and follow-up of the Eurocodes Balkan Summer School on the seismic design of concrete buildings, from 5 to 16 July 2021.

News article | 6 June 2023

EUROCODE Conference 2023 at DIBt: Great interest in the Second Generation of the Eurocodes

More than 1,500 structural design engineers, architects, specifiers, experts and regulators from 66 countries around the world came together on 24 May 2023 to the conference “The Second Generation Eurocodes: What is new and why?” at DIBt in Berlin and online.

All news >

Events

12 December 2023 - 13 December 2023

Putting Science into Standards (PSIS) workshop – Circular Technologies for construction industry

All Events >

Publications

2023

Design of Concrete Structures: Hormigón y Acero Vol. 74 N. 299-300 (2023) - Special Issue

All Publications >

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)**

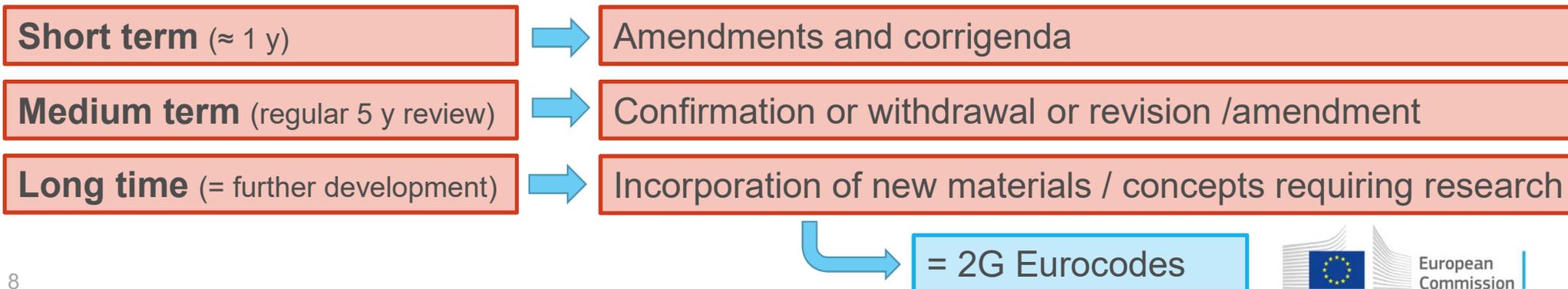
Eurocodes website



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

The screenshot shows the 'Worldwide interest in the Eurocodes' interactive map. On the left is a map of Europe with various countries shaded in different colors of blue. On the right is a control panel with a title 'Worldwide interest in the Eurocodes' and a right-pointing arrow. Below the title are four filter options, each with a checked checkbox and a vertical color bar: 'Adopted (CEN, EU/EFTA MS)' (dark blue bar), 'Adopted (CEN, non-EU/EFTA MS)' (medium blue bar), 'In progress of adoption' (light blue bar), and 'Expression of interest' (very light blue bar). At the bottom of the map area, there is a footer: 'Webtools + © EC-GISCO + Leaflet | © OpenStreetMap contributors © EuroGeographics © UN-FAO for the administrative boundaries | Disclaimer'.

General information

Interactive map

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

+ Newsletter on the worldwide promotion of Eurocodes

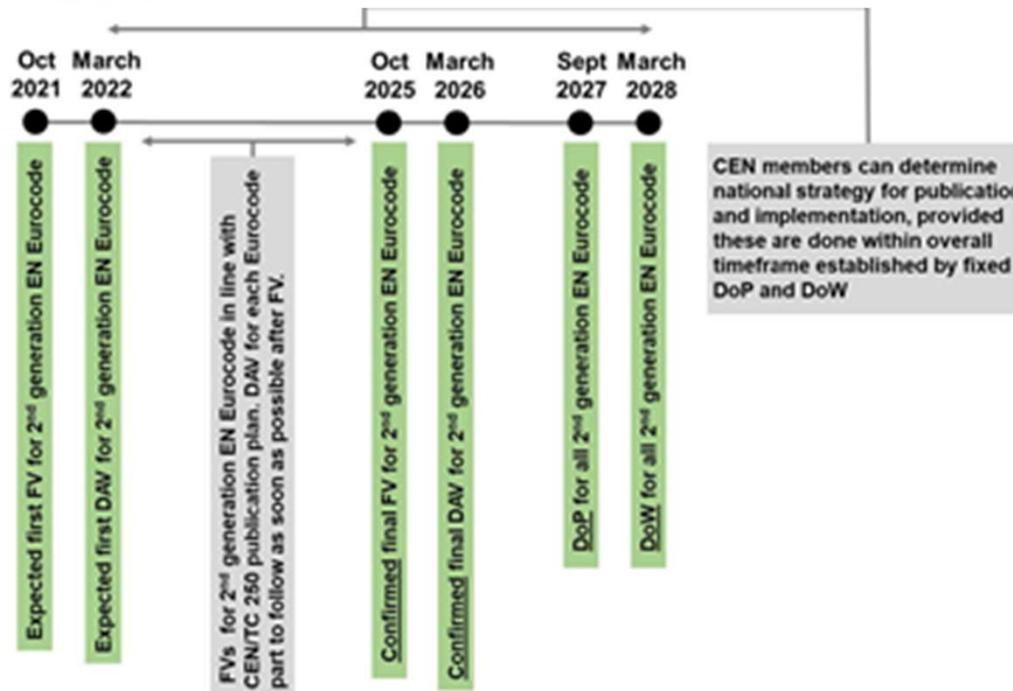
The image shows the Circabc logo, which consists of a cluster of white dots of varying sizes. To the right of the logo is the text 'circabc'. Below the logo and text is a dark blue rectangular box containing the text 'The easiest way to share information in the European Commission'. To the right of this box is a yellow rectangular box containing the text 'Please contact me to subscribe!' in a cursive font.



Eurocodes website



Home > 2nd Generation



Publication timeline of 2G Eurocodes

© CEN/TC 250

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

 ▼

Not associated with a specific Eurocode

 ▼

Title

Filter

Clear



Users can submit their Eurocode-related publications

Eurocodes website

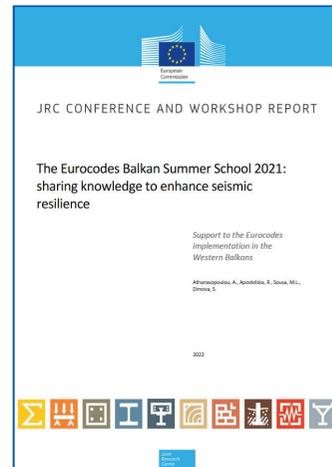
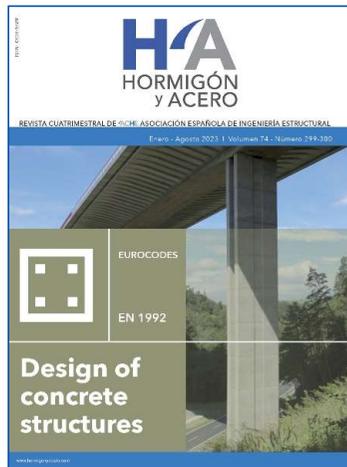


Home > Learning Corner

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



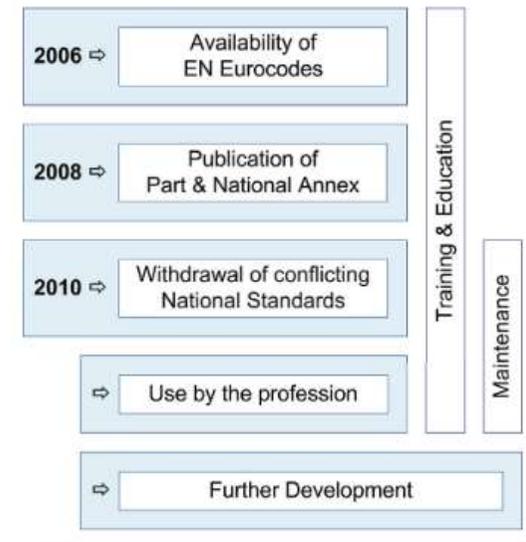
Home > Learning Corner

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.
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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

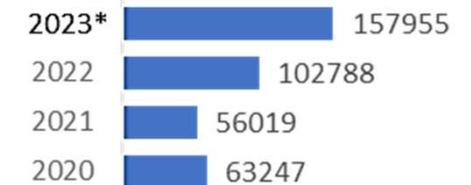
Number of Eurocodes website visitors by country (October 2022 - May 2023)



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

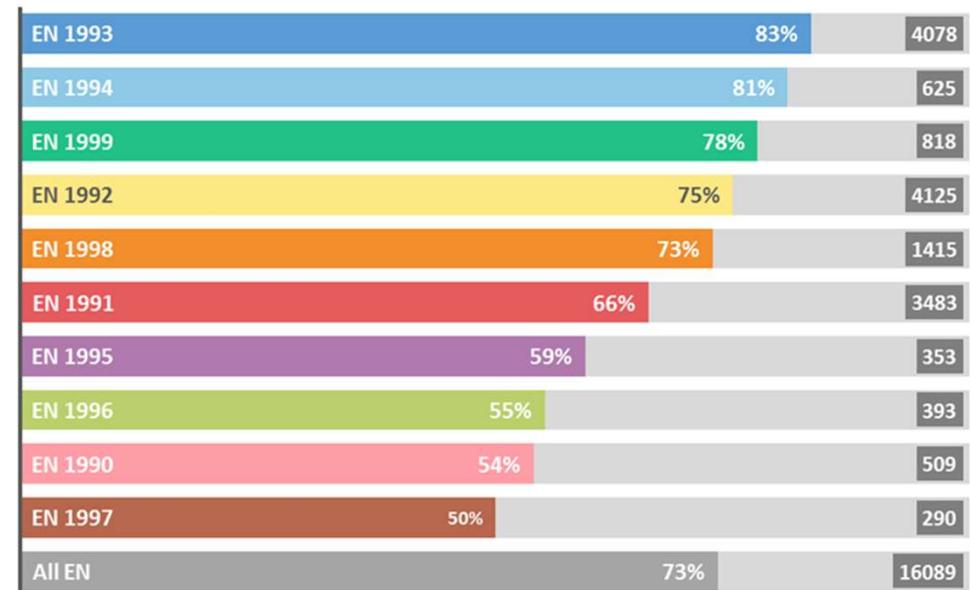


Also in the top 20 most viewed pages:

- ✓ 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



2005

Start of the JRC – Eurocodes promotion with pilot events

2008

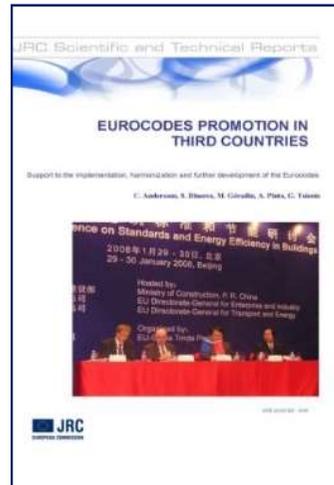
Strategy for Promotion (JRC Report)

2009 – 2011

'BSI project' Promotion in 3rd countries

2014 – 2016 & beyond

Coordinated promotion of European standards and policies in third countries

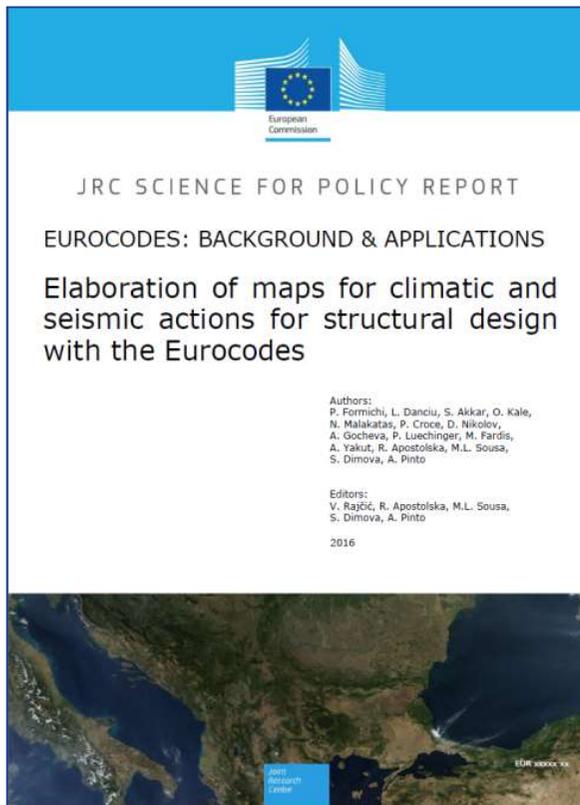


2012 -2014 Eurocodes Promotion on the Basis of Political Drivers
(e.g. EU-Russia dialogue and Balkan Region)



Global training material

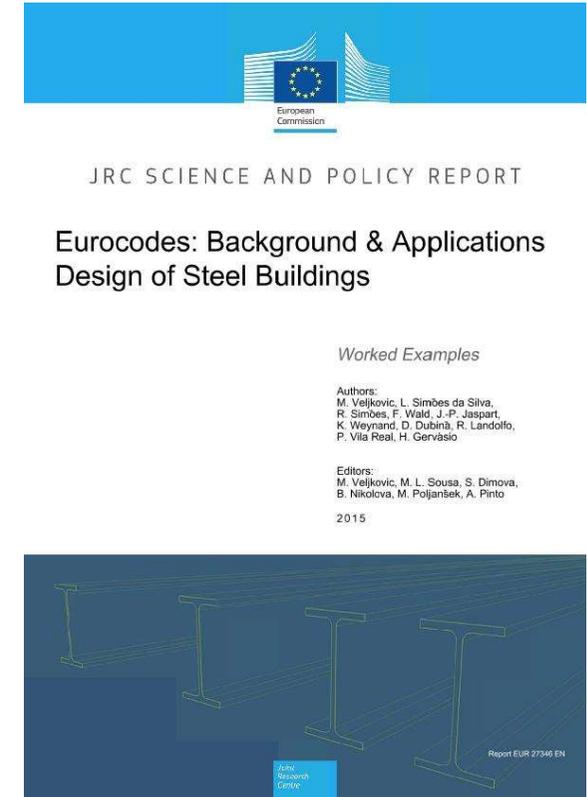
Best practices



Guidance

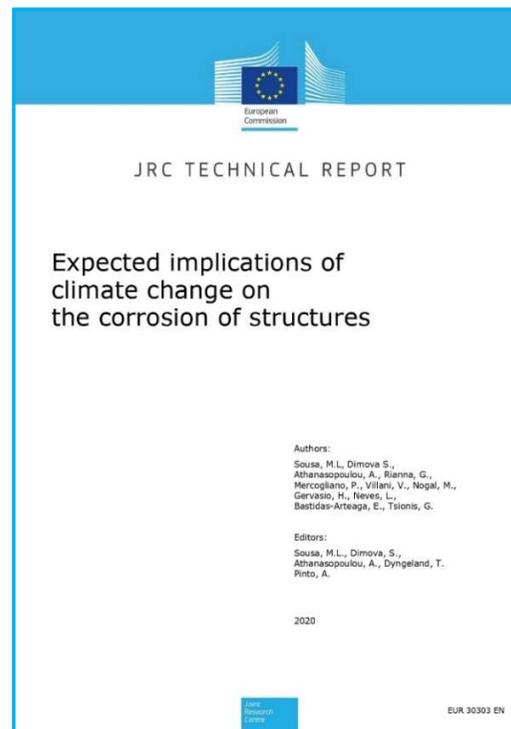
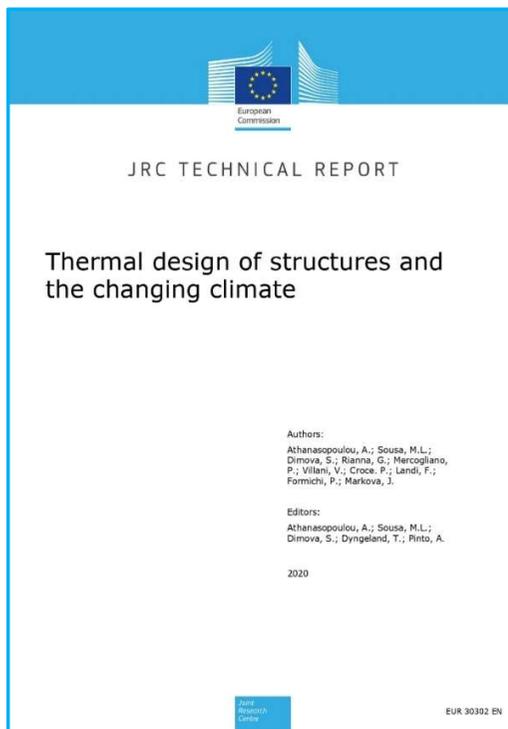


Worked examples

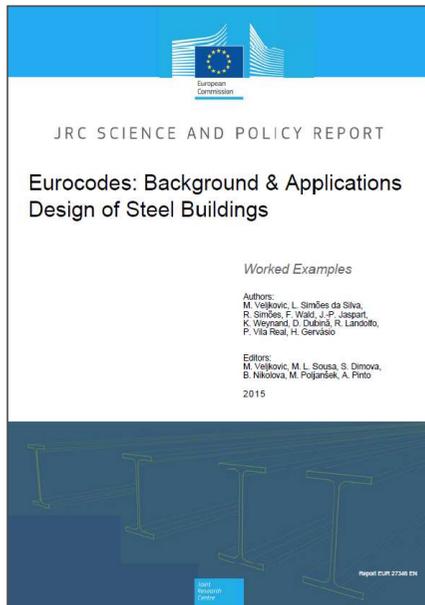


Support to standardization needs

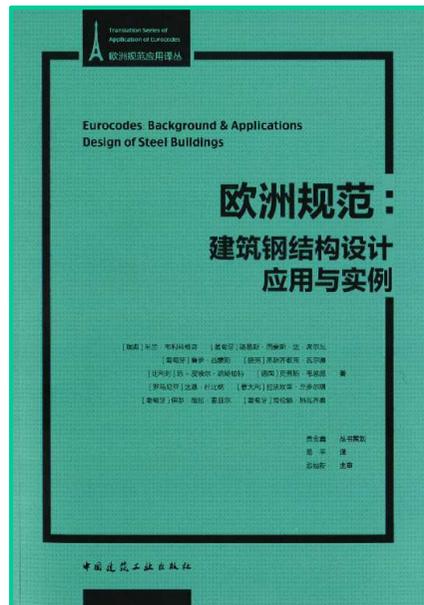
JRC scientific networks on climate change adaptation, underground structures, fire safety engineering.



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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