



Current status and further development of Eurocodes in the Republic of Moldova

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ISM – National Standards Body (NSB) of Moldova

ISM is a public institution founded by the Ministry of Economy

It was established as INS in 2013

Name changed from National Institute for Standardization (INS) to Institute for Standardization of Moldova (ISM) - 2016



Main attributions:

- **Development, adoption, withdrawal of standards**
- **Management of National Standards Database**
- **Management of the of the technical committees in standardization**
- **Representation of the Republic Of Moldova in the European/International standardization organizations**
- **Cooperation with other similar standards bodies from other states**
- **Promotion of the benefits of standards and standardization**

Legal framework

Law No. 20 dated 04.03.2016 „On national standardization”

- **the specific legislative framework for voluntary standardization is in place and fully operational**
- **developed based on transposition of the Regulation (EU) No 1025/2012 of the European Parliament and of the Council of 25 October 2012 on European standardization**

National standardization in the Republic of Moldova

is mainly industry initiated and market driven

the national standardization processes are collaborative and consensus based as they take into account all views expressed and bring together diverging opinions

standards are developed and examined in TC only



National Technical Committees

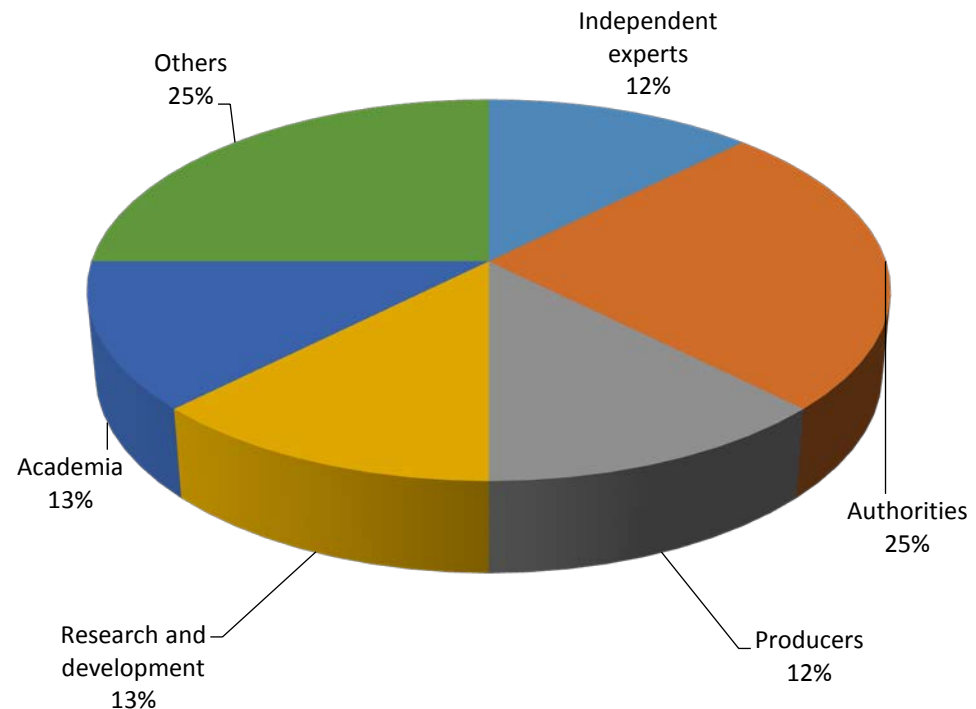
ISM provides a flexible and transparent platform for consensus building between all participants in National Technical Committees

- **The NTCs have a balanced composition, without over representation from one organization**
- **Working by correspondence**
- **Meetings when needed**
- **Decisions are taken with consensus**

National Technical Committees in construction

TC 49 Energy efficiency of buildings

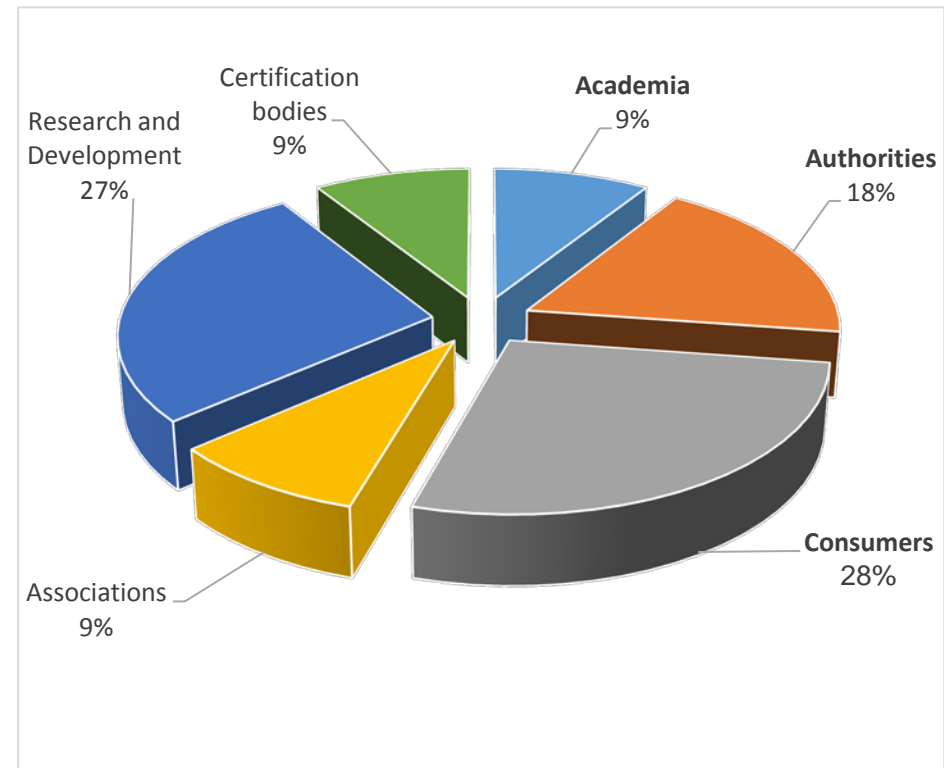
- established in 2016
- 8 TC members
- standardization in the field of energy efficiency of buildings



National Technical Committees in construction

TC 51 Construction materials and articles

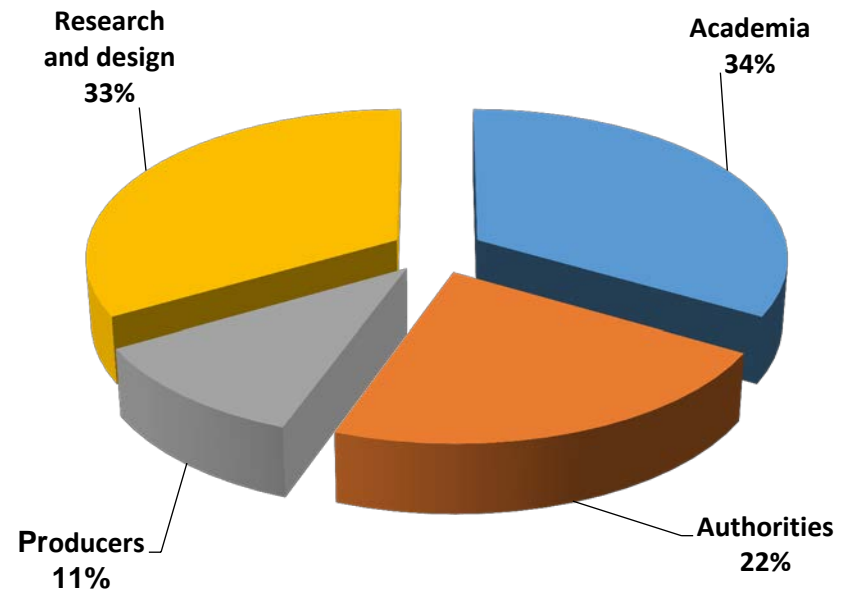
- **established in 2016**
- **11 TC members**
- **standardization in the field of construction materials**



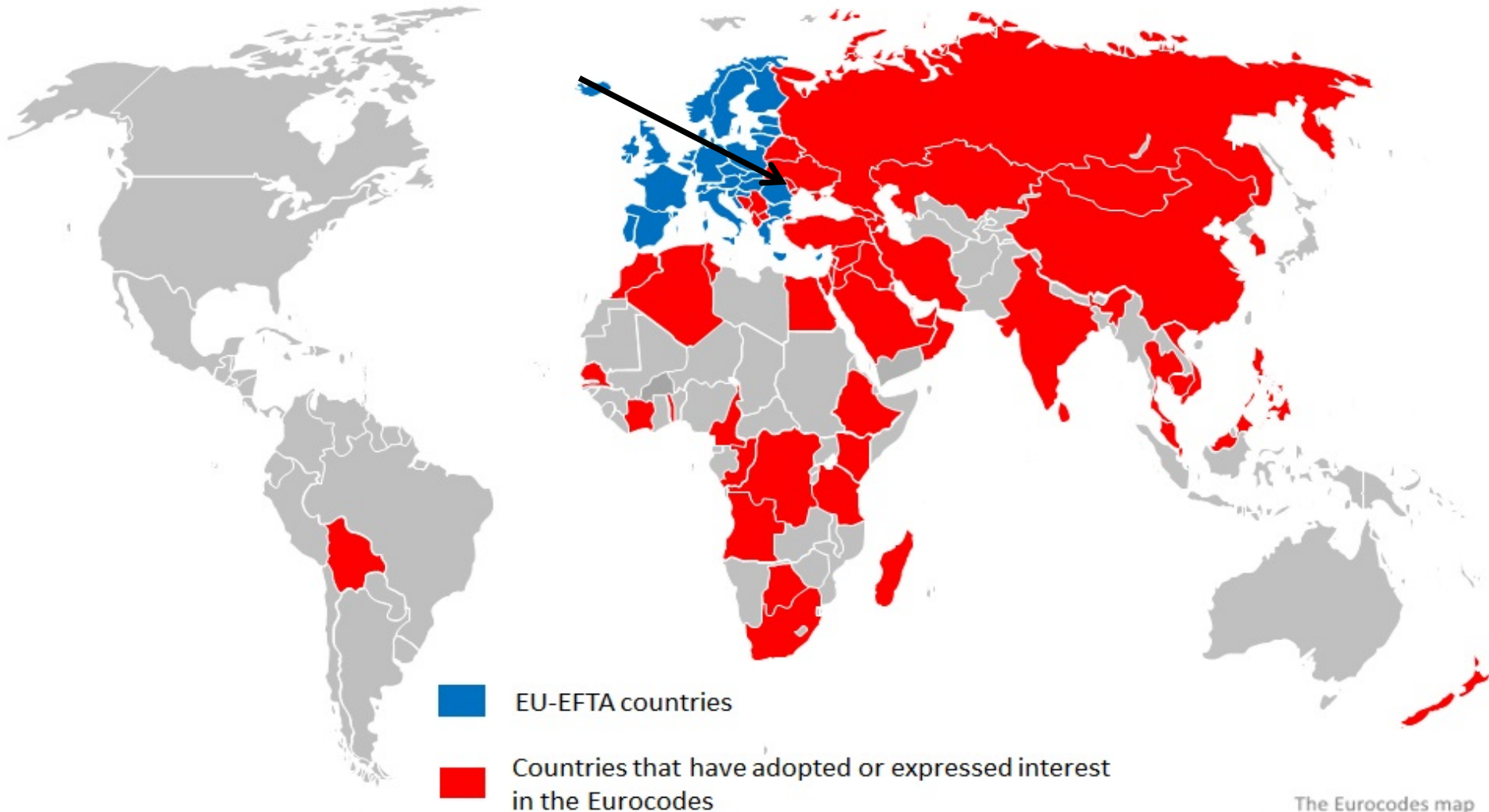
National Technical Committees in construction

TC 54 Eurocodes

- established in 2016
- 9 TC members
- development of the national annexes for the eurocodes



Eurocodes adoption



Eurocodes adoption

10 standards (EN 1990 – 1999) 58 Eurocodes parts adopted as national

SM EN 1990	Eurocode 0: Basis of structural design
SM EN 1991	Eurocode 1: Actions on structures
SM EN 1992	Eurocode 2: Design of concrete structures
SM EN 1993	Eurocode 3: Design of steel structures
SM EN 1994	Eurocode 4: Design of composite steel and concrete structures
SM EN 1995	Eurocode 5: Design of timber structures
SM EN 1996	Eurocode 6: Design of masonry structures
SM EN 1997	Eurocode 7: Geotechnical design
SM EN 1998	Eurocode 8: Design of structures for earthquake resistance
SM EN 1999	Eurocode 9: Design of aluminum structures



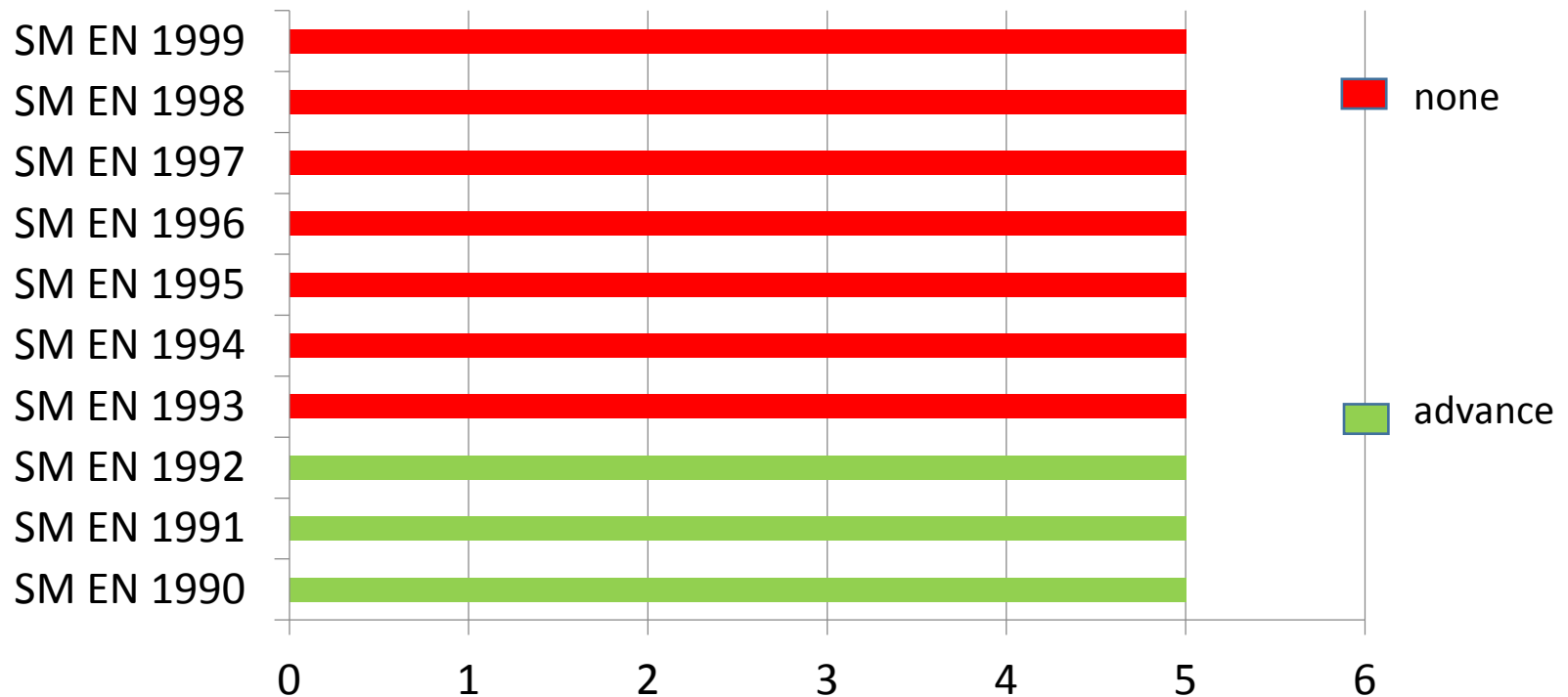
Eurocodes translation

- **100 % of Eurocodes translated in Romanian language**
- **Moldova received Romanian translations of all Eurocodes from the Romanian Standards Association (signed Agreement with ASRO)**



National Annexes and harmonization

12 national annexes to Eurocodes - under development



National Annexes and harmonization

SM EN 1990:2011/NA 1:2018 National Annex to Eurocode - Basis of structural design

- defines the conditions of application of the SM EN 1990:2011 standard in the design of buildings on the territory of the Republic of Moldova
- provides Nationally Determined Parameters (NDP) for the articles A1.1 (1), A1.2.1 (1), A 1.2.2 (table A 1.1), A1.3.1 (1) (table A1.2(A) to (C)), A1.3.1 (5), A 1.3.2 (table A 1.3), A 1.4.2 (2) of Annex A1, allowing for the national choice in the selection limit states and load groups for designing buildings

National Annexes and harmonization

SM EN 1991-1-1:2015/NA:2018 National Annex to Eurocode 1. Actions on structures. General actions. Densities, self-weight, imposed loads for buildings

- provides Nationally Determined Parameters (NDP) for the articles 2.2(3), 5.2.3(1) to 5.2.3.(5), 6.3.1.1 (table 6.1), 6.3.1.2 (1)P (table 6.2), 6.3.1.2 (10) and (11), 6.3.2.2.(1)P (table 6.4), 6.3.2.2.(3), 6.3.3.2 (1) (table 6.8), 6.3.4.2. (table 6.10), 6.4.(1)P (table 6.12) of the European Standard SM EN 1991-1-1:2015 allowing for national choice
- establishes the conditions of use of the informative annexes A and B of the SM EN 1991-1-1:2015 standard

National Annexes and harmonization

SM EN 1991-1-2:2016/NA:2018 National Annex to Eurocode 1. Actions on structures. General actions. Actions on structures exposed to fire

- gives the procedures and values that are recommended for use in Moldova where SM EN 1991-1-2 allows for national choice for the articles 2.4(4), 3.1(10), 3.3.1.2(1), 3.3.1.3.(1), 3.3.2 (2), 4.2.2 (2), 4.3.1(2)
- it includes all Nationally Determined Parameters (NDP) to be used for the design of buildings and civil engineering works to be built in Moldova related to SM EN 1991-1-2:2016

National Annexes and harmonization

SM EN 1991-1-5:2011/NA:2018 National Annex to Eurocode 1. Actions on structures. General actions.

Thermal actions

- contains the isothermal maps of the Republic of Moldova for the characteristic values of the maximum and minimum annual temperatures, with an average recurrence interval of 50 years
- contains the characteristic values, with an average recurrence interval of 50 years, of the extreme annual temperatures for a number of 16 meteorological stations in the Republic of Moldova, obtained on the basis of statistical processing of the maximum and minimum annual temperatures of the shade air recorded between 1961-2015

National Annexes and harmonization

SM EN 1991-1-6:2011/NA:2018 National Annex to Eurocode 1. Actions on structures. General actions. Actions during execution

- gives the procedures and values that are recommended for use in Moldova where SM EN 1991-1-6 allows for national choice for the articles 1.1(3), 2.2(4), 3.1(1)P, 3.1(5) note 1, note 2, 3.1(7), 3.1(8) note 1, 3.3(2), 3.3(6), 4.9(6) note 2, 4.10 (1)P, 4.11.1(1) table 4.1, 4.11.2(1), 4.12(1)P note 2, 4.12(2), 4.12(3), 4.13(2), annex A1, A1.1(1), annex A1, A1.3(2), annex A2, A2.3(1), annex A2, A2.4(2), annex A2, A2.4(3), annex A2, A2.5(2), annex A2, A2.5(3)

National Annexes and harmonization

SM EN 1991-2:2011/NA:2018 National Annex to Eurocode 1. Actions on structures. General actions. Traffic loads on bridges

- gives the procedures and values that are recommended for use in Moldova where SM EN 1991-2 allows for national choice
- It includes all Nationally Determined Parameters (NDP) to be used for the design of new bridges, including piles, turned walls, guard walls and their foundations

➤ **Relevant authorities:**

For railway bridges - *State Enterprise „Railways of Moldova”*,
for local roads and bridges - *„State Road Administration of the Republic of Moldova”*

National Annexes and harmonization

SM EN 1991-3:2011/NA:2018 National Annex to Eurocode 1. Actions on structures. General actions. Actions – induced by cranes and machinery

- gives the procedures and values that are recommended for use in Moldova where SM EN 1991-3 allows for national choice for the articles 2.1 (2), 2.5.2.1 (2), 2.5.3 (2), 2.7.3 (3), A.2.2 (1), A.2.2 (2), A.2.3 (1)
- establishes the conditions of use of the annexes of the standard SM EN 1991-3:2011, Annex A normative, respectively Annex B informative

National Annexes and harmonization

SM EN 1991-4:2011/NA:2018 National Annex to Eurocode 1. Actions on structures. General actions. Silos and tanks

- gives the procedures and values that are recommended for use in Moldova where SM EN 1991-4 allows for national choice for the articles 2.5(5), 3.6 (2), 5.2.4.3.1 (3), 5.4.1 (3), 5.4.1 (4), A.4 (3), B.2.14 (1).

„On the territory of the Republic of Moldova, since the calculation of explosion pressures is not in place, it is preferable that there are no silo less buildings less than 100 m for Class 1 and 2 silos, or 200 m for silos in Class 3 loads”

National Annexes and harmonization

SM EN 1992-1-1:2011/NA:2018 National Annex to Eurocode 2. Design of concrete structures General rules and rules for buildings

- incorporates changes to National Determined Parameters and explains Moldova's particular requirements in relation to the areas covered by SM EN 1992-1-1

National Annexes and harmonization

SM EN 1992-1-2:2011/NA:2018 National Annex to Eurocode 2. Design of concrete structures.

General Structural fire design

- gives the procedures and values that are recommended for use in Moldova where SM EN 1992-1-2 allows for national choice for the articles:

-2.1.3 (2)	-5.3.2 (2)
-2.3 (2)P	-5.6.1 (1)
-3.2.3 (5)	-5.7.3 (2)
-3.2.4 (2)	-6.1 (5)
-3.3.3 (1)	-6.2 (2)
-4.1 (1)P	-6.3 (1)
-4.5.1 (2)	-6.4.2.1 (3)
-5.2 (3)	-6.4.2.2 (2)

National Annexes and harmonization

SM EN 1992-2:2011/NA:2018 National Annex to Eurocode 2. Design of concrete structures . Concrete bridges. Design and detailing rules

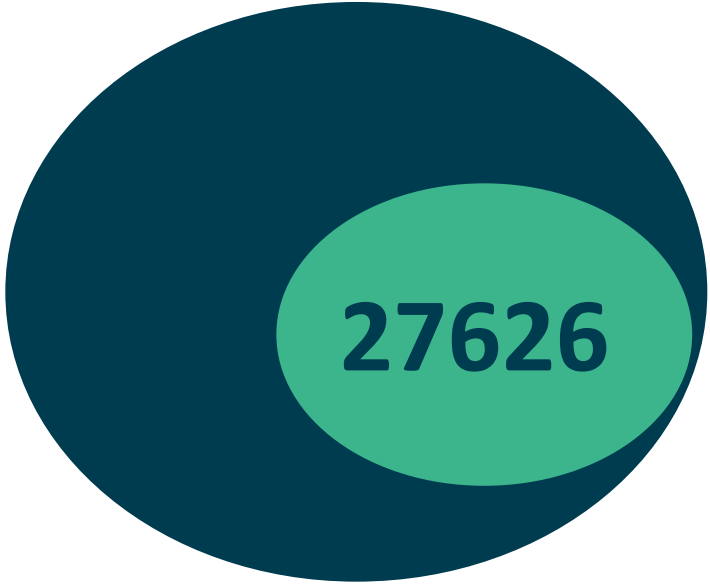
- establishes the conditions of use of the annexes of the standard SM EN 1992-2:2011
- provides non-contradictory complementary information to facilitate the application of SM EN 1992-2:2011

National Annexes and harmonization

SM EN 1992-3:2011/NA:2018 National Annex to Eurocode 2. Design of concrete structures . Liquid retaining and containment structures

- gives the procedures and values that are recommended for use in Moldova where SM EN 1992-3 allows for national choice, for the articles:
 - 7.3.1 (111)
 - 7.3.1 (112)
 - 7.3.3
 - 8.10.3.1 (102) și (103)
 - 9.11.1 (102)

ISM IN FIGURE



27626

Total number of the standards

ISM IN FIGURE



19863

European standards adopted as national

ISM IN FIGURE



3168

**international standards adopted as
national**

ISM IN FIGURE



317

**interested parties - in the activity of
the 30 TC**

Thank you for your attention!

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