



**Horizon 2020 - DIRECTORATE-GENERAL FOR RESEARCH & INNOVATION**  
**Directorate D - Key Enabling Technologies**

# **Does standardisation contribute to economic impact of projects?**



**AMANAC Workshop**  
**Standardisation**  
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# CEN: What can be achieved with standards?

- **improve competitiveness, increase efficiency and facilitate innovation.** Standards can **set a benchmark** against which businesses can measure the quality and performance of their own services/products or of the services/products they are purchasing. Standards can also be used to **promote new technologies and best practices, spreading innovation and knowledge throughout the market;**
- promote the interoperability of products and services;
- increase the **safety of products** and foster the protection of health and the environment;
- **help trade by eliminating technical barriers;**
- help businesses to comply with existing legal obligations.

<http://www.cen.eu/news/brochures/brochures/Handsonstandards.pdf>

# ISO: Aim of standardisation

- Overall economy in terms of human effort, materials, power etc in the production and exchange of goods
- The protection of consumer interest through adequate and consistent quality of goods and services
- Safety, health and protection of life
- Provision of a means of expression and of communication amongst all interested parties

Communicating ideas and technical data, creating order out of disorder, and offering simplification in place of complexity

<http://www.iso.org/sites/edumaterials/trbsaunders.pdf>

# ISO: Economic benefits of standards

- "ISO Methodology": identify and quantify the microeconomic benefits of standards (profits, cost/revenue)
  - **Understanding the company value chain**
  - **Identifying the impacts of standards internally**
  - **Analysing the internal value drivers and determining operational indicators**
  - **Assessing & calculating results**
- **Benefits:**
  - **Streamlining internal operations**
  - **Innovating & scaling up operations**
  - **Creating or entering new markets**

[http://www.iso.org/iso/ebs\\_case\\_studies\\_factsheets.pdf](http://www.iso.org/iso/ebs_case_studies_factsheets.pdf)

# The economic benefits of standardisation

Country	Publisher	Time frame	Growth rate of GDP (%)	Contribution of standards (%)
Germany	DIN (2000)	1960-1996	3.3	0.9
France	Afnor (2009)	1950-2007	3.4	0.8
UK	DTI (2005)	1948-2002	2.5	0.3
Canada	Standards Council of Canada (2007)	1981-2004	2.7	0.2
Australia	Standards Australia (2006)	1962-2003	3.6	0.8

<http://www.din.de/blob/89552/68849fab0eeeaafb56c5a3ffee9959c5/economic-benefits-of-standardization-en-data.pdf>

# DIN: the economic benefits of standardisation (2011)

- Technological improvement constitutes the main source of growth
- Generation of new knowledge:
  - **Number of patents in a given country**
  - **Number of licence payments abroad describes import of knowledge**
- Standards contribute to dissemination and diffusion of technical knowledge, resulting in continual economic growth
- Model to evaluate growth and impact of standards
- Model and empirical values are in excellent agreement

<http://www.din.de/blob/89552/68849fab0eeaaafb56c5a3ffee9959c5/economic-benefits-of-standardization-en-data.pdf>

# Afnor: the economic impact of standardisation (2009)

- Standardisation contributes 0,81%/year growth of French economy (25% GDP growth)
- Methods:
  - **German macroeconomic model**
  - **in-depth survey of 1790 companies & organisations**
- 69% of interviewees state that standardisation contributes to the generation of profits
- SMEs also consider that standardisation have a positive impact on their activity
- Participating in standardisation allows to anticipate future market requirements

<http://groupe.afnor.org/economic-impact-standardization/data/catalogue.pdf>



# Afnor: the economic impact of standardisation (2009)

- Benefits of standards:
  - **product interoperability,**
  - **increased productivity,**
  - **market share gains,**
  - **improved interaction with public R&D institutions,**
  - **Company value enhancement**
  - **Innovation**
  - **Transparency & ethics**
  - **International**
  - **Product & service quality**

<http://groupe.afnor.org/economic-impact-standardization/data/catalogue.pdf>

# Standardisation in Construction

- Most standards in construction are mandatory in Europe (implementation of legislation CPD/CPR)
- Survey made in 2014 by the EC on "Which materials for sustainable construction?"
- More than 300 construction experts replied
- Comments on standardisation:

# Standardisation seen by construction experts

Very slow process, hardly adapted to innovation. Need for updated standards

**Lack of specific standards & tests for new materials or concepts** (new binders, wastes, embodied energy...)

Emphasise performance standards instead of prescriptive standards

National certification still required (national/regional building codes...)

Reduce standards because they limit developments (time & costs)

Standards & design rules overemphasise security & safety

CDW: clarify classification wastes/secondary materials

## Standardisation - Proposed solutions

More harmonised rules at EU level: standard & testing requirements

More EU standards, less national standards

Higher standards for new sustainable buildings

Introduce more stringent performance requirements & standards

Ensuring that standardisation is in line with capabilities of materials & modelling

Standardise predictive testing of materials

Put a programme focused on innovation in national standard bodies

Establish specific practical rules for new materials, to be transformed in building code provisions

Adapt building codes to innovation. Performance based building codes

Reuse of industrial wastes need support of national administrations

Collaborative research with certifying bodies

# Standardisation: recommendations from experts

Favour performance based standards

Harmonised and simplified way to aggregate info on life cycle impacts of construction products at building level (eg BIM)

Consensus needed on environmental aspects at end of life, particularly recyclability (mandatory module D in EN 15804) (metal ind)

Develop new standard on rate of CO<sub>2</sub> release per m<sup>3</sup> of concrete (or per ton of hydraulic binder used)

Improve ecolabelling of construction materials

# Standardisation in Work Programmes

## EeB-PPP Materials

- Strong encouragement to consider standardisation in parallel to research
- Lack of adequate standard can block innovation
- Every project finds its way:
  - **Liaison with relevant CEN/TC**
  - **Participation in relevant CEN/TC**
  - **Regular contacts with CEN**
  - **CEN in advisory board**

# Further thoughts on Standardisation...

- "Whoever sets the standard also makes the market"
- Most standards in construction are mandatory, they can also be helpful to establish new business
- Standards allow to anticipate future market requirements

***Many thanks for your attention!***

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