



STANDARDIZATION

A FRAMEWORK
FOR PROGRESS
FOR ALL

THE ROLE OF VOLUNTARY STANDARDIZATION

INTERNATIONAL WORKSHOP
**METROLOGY FOR SUSTAINABLE
HYDROGEN ENERGY APPLICATIONS**

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STANDARDIZATION

A VOLUNTARY STANDARD, WHAT IS IT



A FRAMEWORK FOR REFERENCE

A voluntary standard provides guidelines, technical or qualitative requirements for products, services or practices

It thus provides a framework for reference for all professional sectors



Digital
information &
communication



Industrial engineering,
capital goods and
materials



Electro-
technologies



Petroleum



Rational use of
energy



Gas



Consumer goods,
sports and leisure



Management &
services



Environment
and social
responsibility



Water large
cycle



Agri-food



Transport &
logistics



Occupational
health and
safety



Health and
social action



Construction
and urban
planning

A COLLECTIVELY CO-PRODUCED TOOL OF VOLUNTARY IMPLEMENTATION

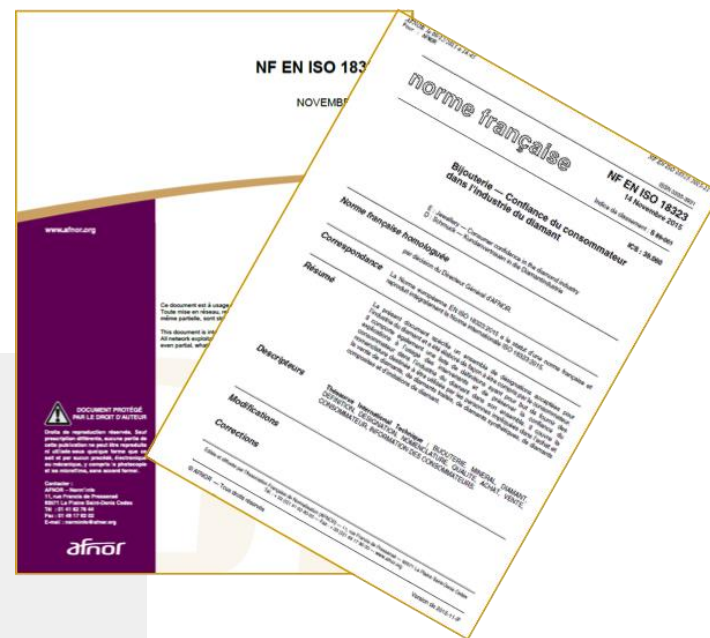


It is the market players who :

- **propose** its elaboration
- **develop** it by **consensus**, within a dedicated collective of work
- **validate** it
- and **implement** it

THE STANDARD IS VOLUNTARY

You can participate or not in it
and refer or not to it



Do not confuse **standard** (voluntary)
and **regulation** (mandatory)

THE VOLUNTARY STANDARD SERVING THE GENERAL INTEREST

- ➔ **For businesses**, the voluntary standard is synonymous with performance, competitiveness, quality, innovation and safety
- ➔ **For the company staff**, it improves working conditions and safety
- ➔ **For public stakeholders**, it helps to implement public policies and to address societal issues
- ➔ **For local authorities**, it facilitates and simplifies their consultations and purchases
- ➔ **For consumers**, it improves their trust in the purchased products and services



"Standardization consensually identifies good practices and associates them durably with the life of the company".



Le responsable de l'une des divisions Ingénierie d'EDF

THE INTERNATIONAL STANDARDIZATION SYSTEM

INTERNATIONAL LEVEL



EUROPEAN LEVEL



NATIONAL LEVEL



DIFFERENT TYPES OF STANDARDS

➤ Fundamental standards

- *ISO/IEC 13273-1:2015 Energy efficiency and renewable energy sources -- Common international terminology -- Part 1: Energy efficiency*

➤ Test methods and analysis standards

- *ISO 16110-2:2010 Hydrogen generators using fuel processing technologies -- Part 2: Test methods for performance*

➤ Specification standards

- *ISO 14687-2:2012 Hydrogen fuel -- Product specification -- Part 2: Proton exchange membrane (PEM) fuel cell applications for road vehicles*

➤ Organization standards

- *ISO 50001:2018 – Energy Management System*

THE STANDARDIZATION : WHAT BENEFITS?



BENEFITS REGARDING RESEARCH AND INNOVATION...

For Policy Makers

- Economic growth
- International competitiveness
- Knowledge economy

For Researchers and research Organisations

Transfer of knowledge
Dissemination of research results
Enhancement of recognition and reputation
Networking
Inclusions of interested parties

The standardization
A tool at the service of stakeholders

For Enterprises

New and emerging market
Access of new technologies to the market
Access to knowledge of other stakeholders
Networking
Interoperability of technologies
...

For Organisations funding research and innovation

Dissemination of knowledge
Exploitation of funded research results
Maximizing the practical application of research results

TO PUT IT IN A NUTSHELL...HOW CAN STANDARDIZATION REALLY SUPPORT INNOVATION?

- **TERMINOLOGY**: defining terms
- **MEASUREMENT AND TESTING**: comparing results and verifying progress within R&D
- **INTERFACE AND COMPATIBILITY**: achieving the integration of new products and services
- **KNOWLEDGE TRANSFER, EXCHANGE OF DATA**
- **DISSEMINATION OF RESEARCH FINDINGS**
- **THE BASELINE FOR FURTHER R&D**: consulting existing standards and identifying gaps

IT STARTS WITH...

...the researchers' needs

First steps to implement:

- **Building a community**
- **Analysing which standards are already used**
- **Analysing which standards can be needed**
- **Elaborating a standardization strategy**



STANDARDIZATION IN RESEARCH AND INNOVATION : **HOW IT WORKS?**



TO LINK STANDARDIZATION WITH RESEARCH

- European Commission - Communication on the
« Innovation Union » within the EU 2020 Strategy
 « Standards play an important role for innovation »

- European Commission – Communication of June 2011
 *« A strategic vision for European Standards: moving forward
to enhance and accelerate the sustainable growth of the
European economy by 2020 »*

TO LINK STANDARDIZATION WITH RESEARCH

Creation of the CEN-CENELEC *Working Group STAIR « STAndardization, Innovation and Research »*

- To provide strategic advice to CEN and CENELEC Boards on synchronizing standardization with innovation and research
- To ensure that standardization has to be considered during **all stages** of a research or innovation project

Creation of a *Research Integration Unit* in CEN-CENELEC

- To raise awareness of the benefits of standardization in the research and innovation process, the « *Integrated Approach* »
- Research projects are provided with practical help to link to standardization

STANDARDIZATION IN METROLOGY

- **Since 2010 : Co-operation agreement between CEN-CENELEC and EURAMET**
- **Since July 2014 : existence o a STAIR/EMPIR platform**
 - To establish and facilitate dialogue between the community of research in metrology in Europe and members of CEN-CENELEC

Useful contact : research@cencenelec.eu

THANKS !

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