

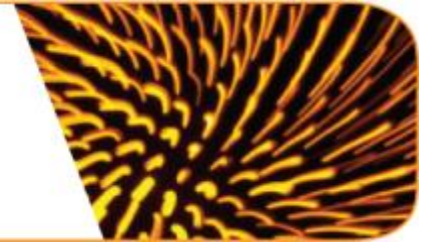
Development of (international) Standards for Flow Batteries ?

International Flow Battery Forum
Thursday 3rd May 2011, Edinburgh

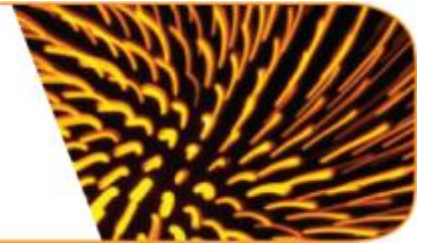
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Content



- Part I Standardisation: how does it work ?
- Part II Standardisation: a tool to incorporate innovation and create new markets
- Part III Why a CEN/CENELEC Workshop Agreement?
- Part IV Outcome of Tuesdays session on “**standards for flow batteries**”



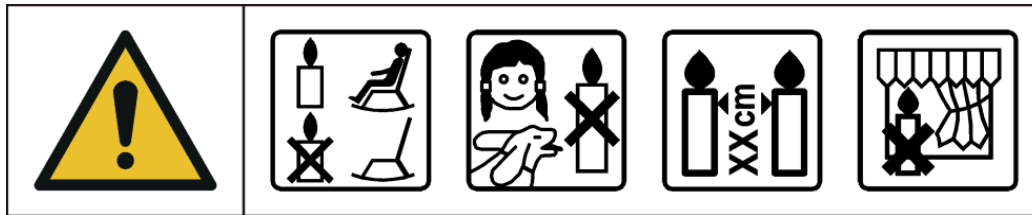
Part I

Standardisation: how does it work?

You already know us



stating compliance with
legislation, mostly by means of
European Standards

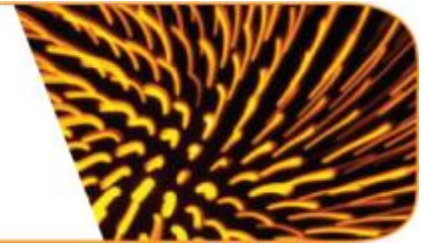


EN 15494:2007
*Product safety
labels of candles*



EN 71-6:1994
Graphical symbol for age warning labelling on toys

Formally recognized bodies



➤ International:



➤ Regional
(Europe):



➤ National:

National Standards Bodies (CEN) or
National Committees (CENELEC)



What are CEN & CENELEC ? (1)



- The European Standardization Organizations, the members of which are the *National Standards Bodies* of the EU and EFTA
- CEN & CENELEC are private non-profit organisations, incorporated under Belgian law
- 2 Counsellors (European Commission, EFTA)
- CEN-CENELEC Management Centre (CCMC), Brussels
- Recognized by the European Authorities as two of the three competent standardisation bodies for the EU (see Directive 98/34/EC)

What are CEN & CENELEC ? (2)



- In CEN, over 60 000 experts of all fields are active in standardisation work
- CENELEC has some 6 500 experts working in 58 Technical Committees and 14 Subcommittees
- Experts from authorities, industry, consumer organisations, etc. (i.e. the stakeholders) participate in the standardisation process, which is open and transparent

Member



Affiliate



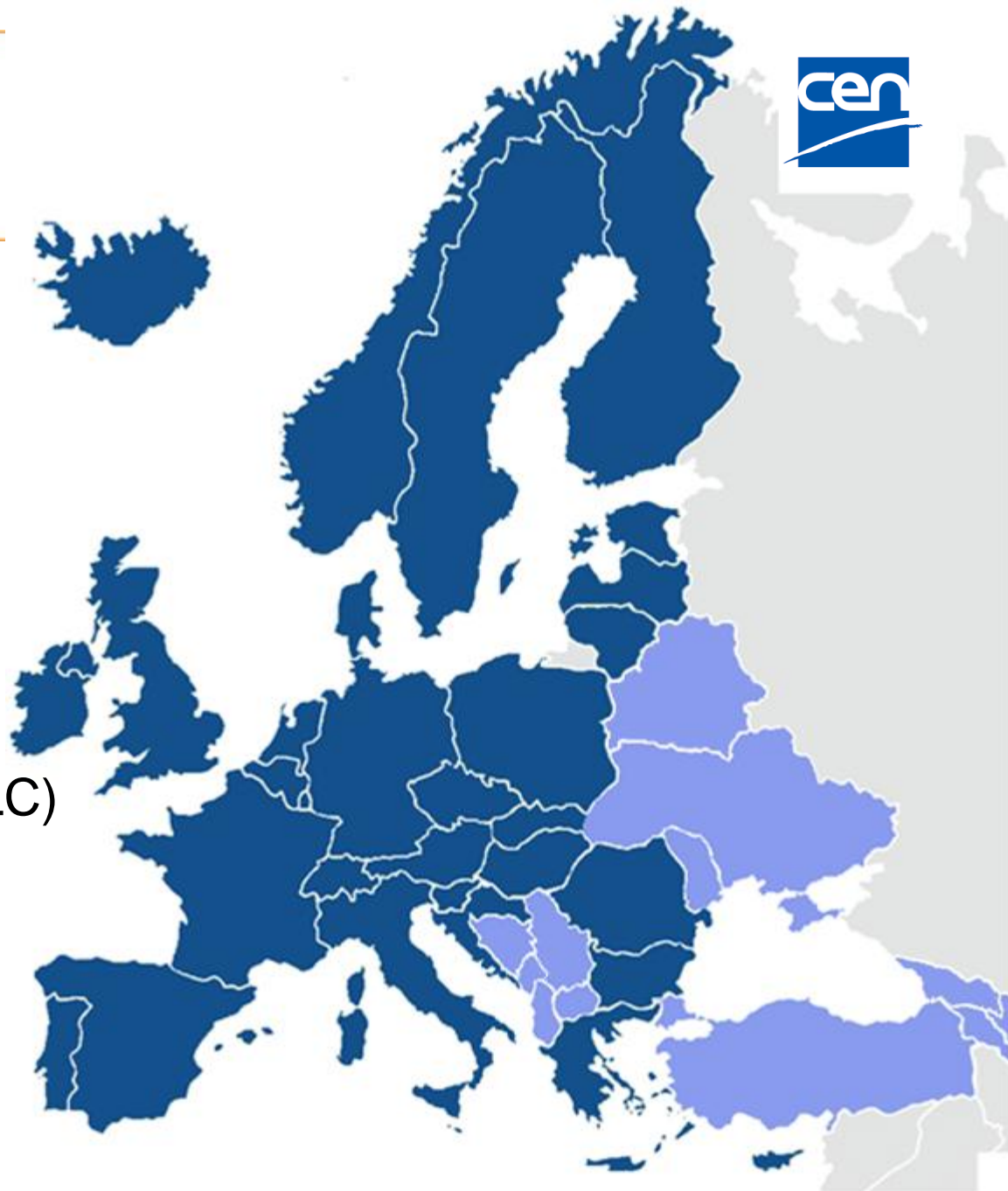
27 Members of EU

3 Members of EFTA

Affiliates

Associates (CEN)

Cooperating partners (CLC)



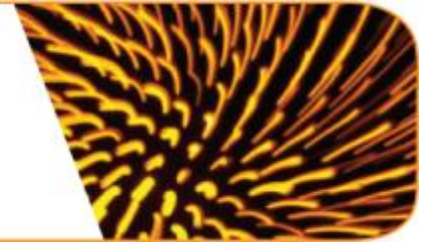
CEN & CENELEC Members



A map of Europe is shown in light blue, with various national standards organizations' logos overlaid on their respective countries. The logos are arranged in a grid-like fashion across the map.

- Austria:** ON, OVE
- Belgium:** standards for .be, CEB BEC
- Bulgaria:** BDS
- Croatia:** HZN, Croatian Standards Institute
- Cyprus:** [Logo]
- Czech Republic:** ÚNMZ
- Denmark:** DS
- Estonia:** EVS
- Finland:** SFS, SESKO
- France:** afnor, UTE
- Germany:** DIN, DKE, VDE, DIN
- Greece:** EAOT
- Hungary:** MSZT 1921
- Iceland:** IST
- Ireland:** NSAI, [Logo]
- Italy:** UNI, [Logo]
- Latvia:** LVS
- Lithuania:** LT
- Luxembourg:** ILNAS
- Malta:** MSA, MALTA STANDARDS AUTHORITY
- Netherlands:** NEN
- Norway:** standard norge, NEK
- Poland:** PKN
- Portugal:** IPO
- Romania:** ASRO
- Slovakia:** STN
- Slovenia:** SIST
- Spain:** AENOR
- Sweden:** SIS, SEK, SVENSK ELSTANDARD
- Switzerland:** SNV, electrosuisse
- United Kingdom:** BSI

How do we harmonize and contribute to the market ?



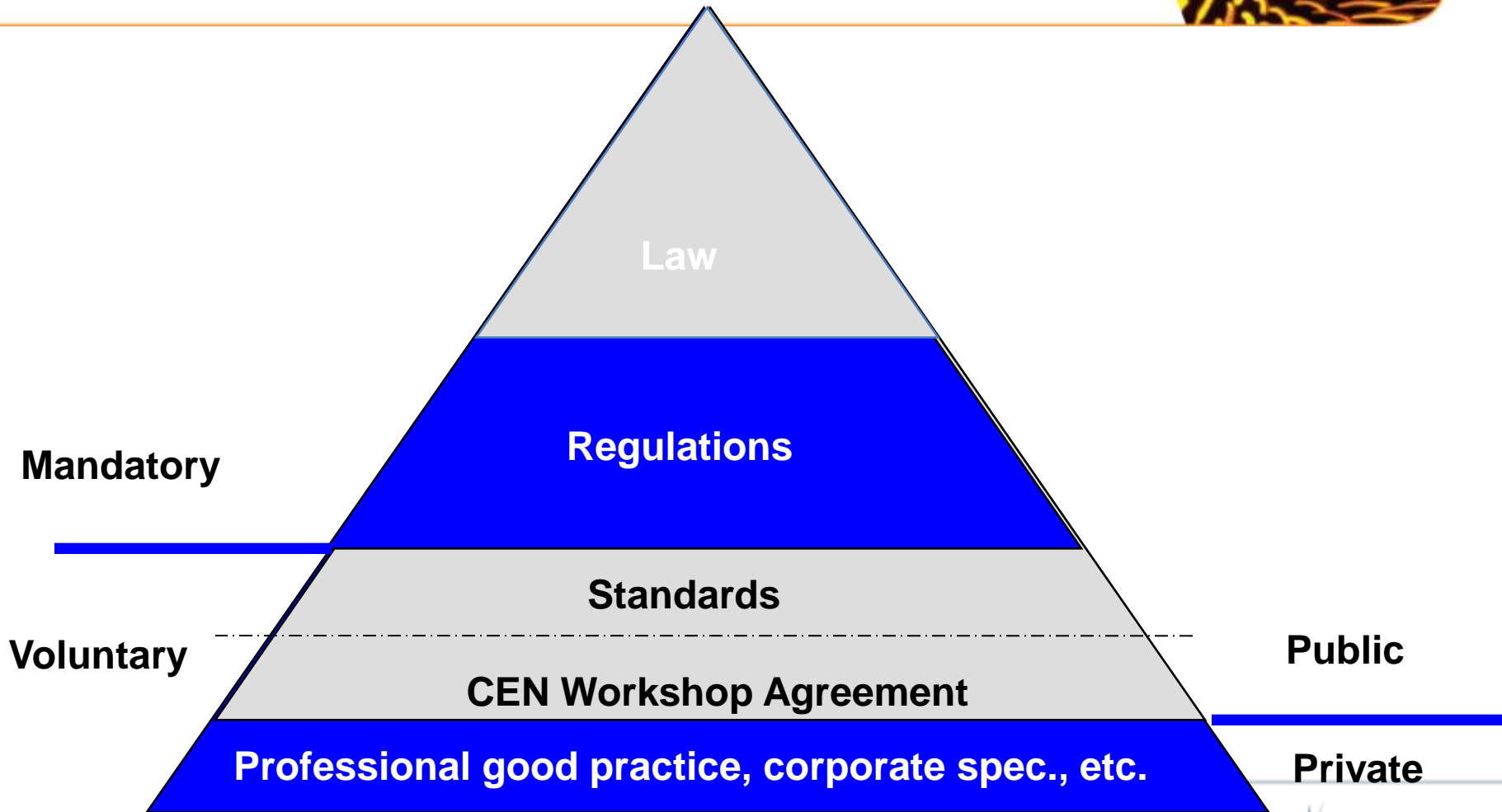
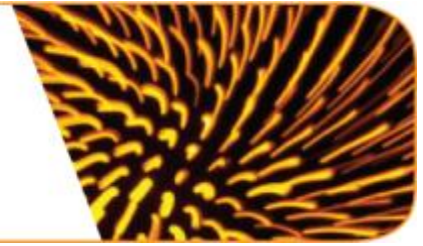
➤ European Standards (EN)

- Over 19 000 EN's (CEN & CENELEC) exist today, some 1 400 new documents are being published every year
- High status, used to support legislation or are directly referred in legislation

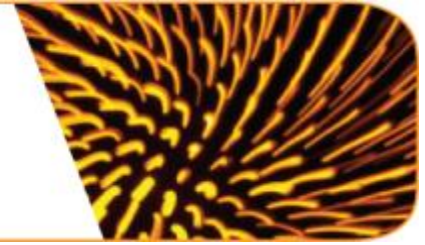
➤ CEN Workshop Agreements (CWA)

- Consensus based document, directly made by the stakeholders
- Often used in innovative areas, e.g. biofuels or Information Technology

Standards, regulations and private specifications



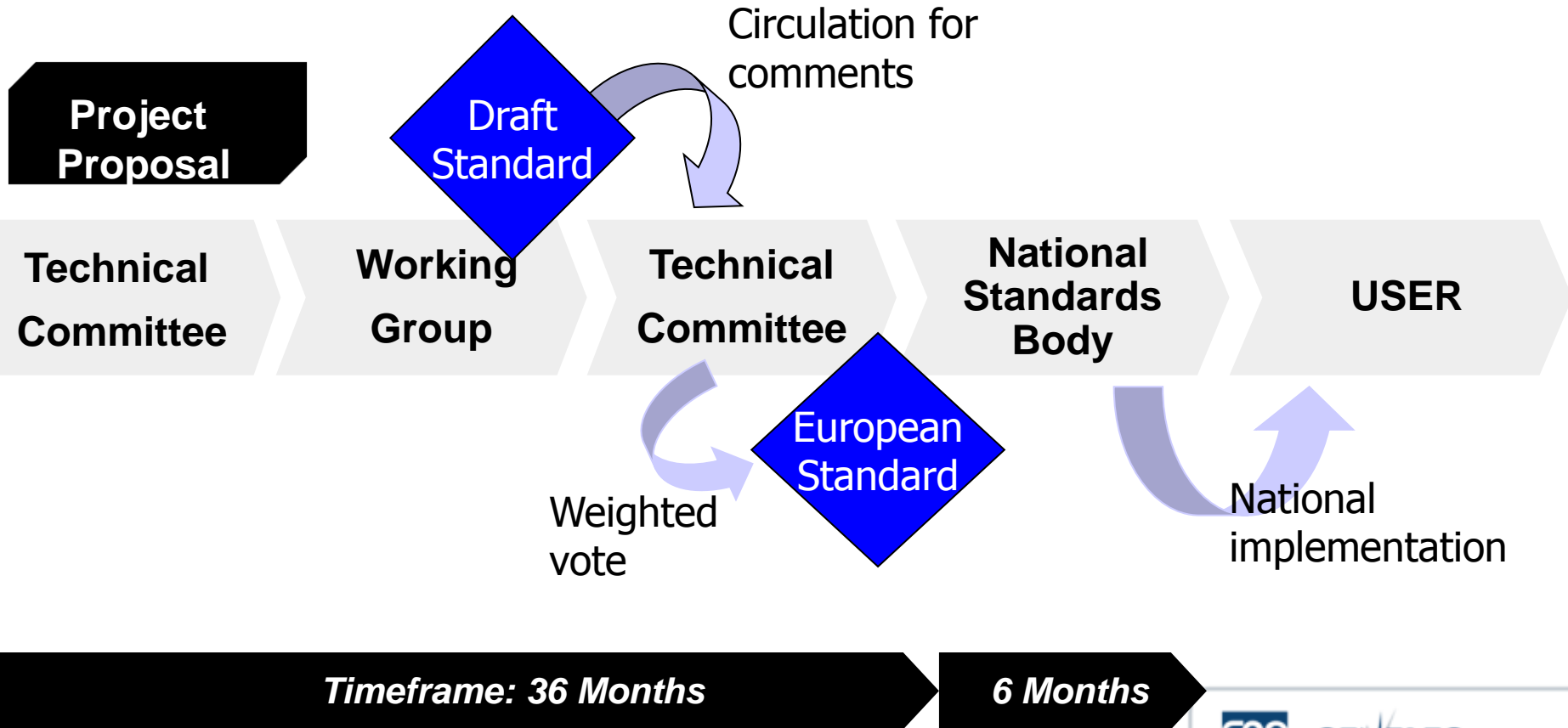
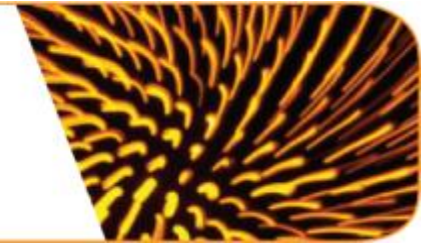
What is a standard ?



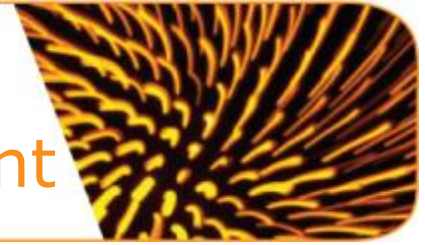
- It is a document
 - established by all interested parties (e.g. also yourself)
 - reflecting consensus
- In addition, a European standard
 - is automatically transposed in national standards and therefore conflicting national standards are to be withdrawn
- European standards are, from a legal point of view, voluntary in their use, but at the same time “unavoidable” in practice
- A tool to underpin the details of directives
 - e.g. Medical device directive



Drafting European Standards ?

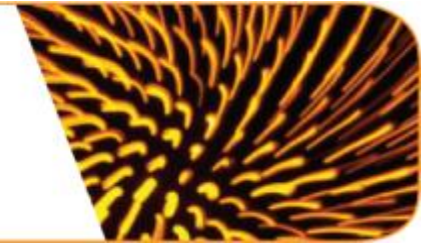



Not only European Standards: The CEN/CENELEC Workshop Agreement



- The CEN/CENELEC Workshop Agreement (CWA) represents the consensus of identified stakeholders
- Anybody interested can join (including anyone outside Europe) – direct participation
- A public process
- Rules are very simple (non-bureaucratic)
- Workshops are fast (5 months is the record, 12-15 months average!)
- The CEN/CENELEC Workshop Agreement shall not conflict with European Standards, but can compete

Different steps to publish a CEN Workshop Agreement



Business Plan	Kick-off Meeting	Drafting and adoption of CWA	Publication of CWA
TIMEFRAME: 6 – 18 MONTHS 			
<p><i>Describing</i></p> <ul style="list-style-type: none"> – Scope – Objectives – Financing – Schedule 	<p><i>Confirming Business Plan :</i></p> <ul style="list-style-type: none"> – Rules of the Workshop – Financing – Chairmanship – Secretariat 	<p><i>Consensus process</i></p> <ul style="list-style-type: none"> – Workshop participants – Public consultation as appropriate 	<p><i>Announced</i> by <i>CEN National Members</i></p>

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 13718-2

August 2008

ICS 11.040.01; 11.160; 49.020

Supersedes EN 13718-2:2002

English Version

**Medical vehicles and their equipment - Air ambulances - Part 2:
Operational and technical requirements of air ambulances**

Véhicules sanitaire et leur équipement - Ambulances
aérienne - Partie 2: Exigences opérationnelles et
techniques pour les ambulances aériennes

Medizinische Fahrzeuge und ihre Ausrüstung -
Luftfahrzeuge zum Patiententransport - Teil 2:
Operationelle und technische Anforderungen an
Luftfahrzeuge zum Patiententransport

This European Standard was approved by CEN on 11 July 2008.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: rue de Stassart, 36 B-1050 Brussels

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Ref. No. EN 13718-2:2008: E



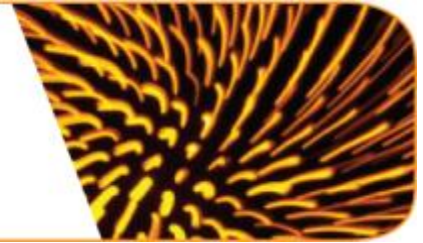
Our international partners: ISO & IEC



➤ Main difference

- ISO & IEC work at worldwide level
 - Consensus building process on ISO and IEC standards must take account of all regional interests
 - No automatic transposition of ISO or IEC standard at national level
- Collaboration agreements between CEN and ISO (Vienna Agreement) and CENELEC and IEC (Dresden Agreement) avoid duplication of work

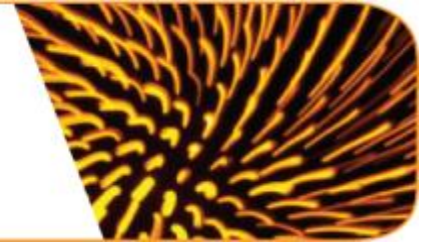




Part II

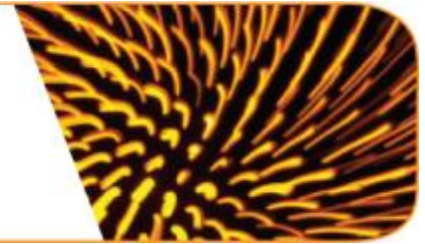
Standardisation:
a tool to incorporate innovation
and create new markets

European Commission's Research and Innovation policy



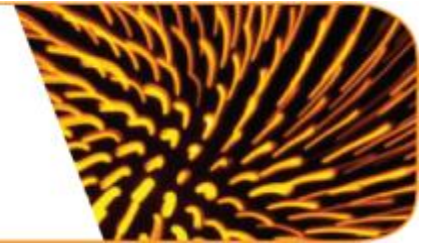
- Research and development (R&D) contributes to **economic growth and job creation**. New technology also helps address social challenges, such as poverty, health problems and environmental degradation.
- Standards can be an important driver of innovation, as they provide legal security for innovative companies, help creating large scale markets and building confidence among consumers
- **Commission communication (2008) 133 Final** on *increased contribution from standardisation to innovation in Europe*

Creating new markets



- build a new Single Market
- Facilitate free trade throughout the European Economic Area, i.e. over 490 million customers
- competitiveness and technical innovation
= state of the art and transfer of research results
- Easy access – prove of product compliance - to the Single European Market for Flow Batteries manufacturers

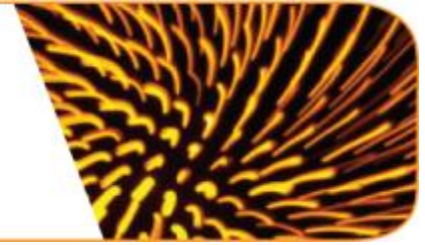
Smart Grid



Mandate M/490 - Standardisation mandate to the ESOs to support European Smart Grid deployment; requesting:

- Technical reference architecture
- Sustainable processes: Use Case collection, harmonization and mapping with standards as a source for the definition of future standards; allocation of work to existing or new bodies
- Prioritisation of work - first set of standards by 2012
- Iterative process: yearly iterations: revision of reference architecture, updated set of use cases and related processes; 2nd, ... batch of standards

Smart Grids



European Joint Working Group on Smart Grid standardization

established in May 2010

reports to the three European Standardization bodies: CEN, CENELEC and ETSI

Participation of approx. 40 organizations

representing European associations of all involved stakeholders

Main Tasks

report on European needs for standardization of Smart Grid
co-ordinating the work

Concentrates on European assets and requirements

based on services and functionalities of a European stakeholder Task Force
linked to a European Commission request (but Report's scope is wider)
international orientation – European work only if needed



Structure of the Report



Overall topics

1 Executive Summary

2 Introduction

- Basic idea of a smart grid
- Political background in Europe
- Aim of a European Roadmap
- Activities around the world

3 Description of the overall concept

4 European S&R landscape

4.1 General recommendation

4.2 ESO Organisation

6 Further Activities

- Organizational Activities and Projects to be started
- Mandate
- Roadmap 2.0

7 Attachment

Specific Topics

5 Recommendations

5.1 Cross cutting Topics

5.1.1 Terminology / Glossary

5.1.2 Reference architecture

5.1.3 System Aspects

5.1.4 Communication

5.1.5 Information Security

5.1.6 Other cross-cutting issues

5.2 Domain specific topics

5.2.1 Generation

5.2.2 Transmission

5.2.3 Distribution

5.2.4 Smart Metering

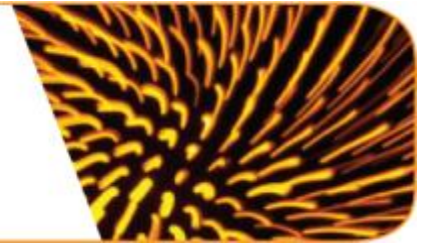
5.2.5 Industry

5.2.6 Home and Building Automation

5.2.7 Demand Response

5.3 Market actors and roles

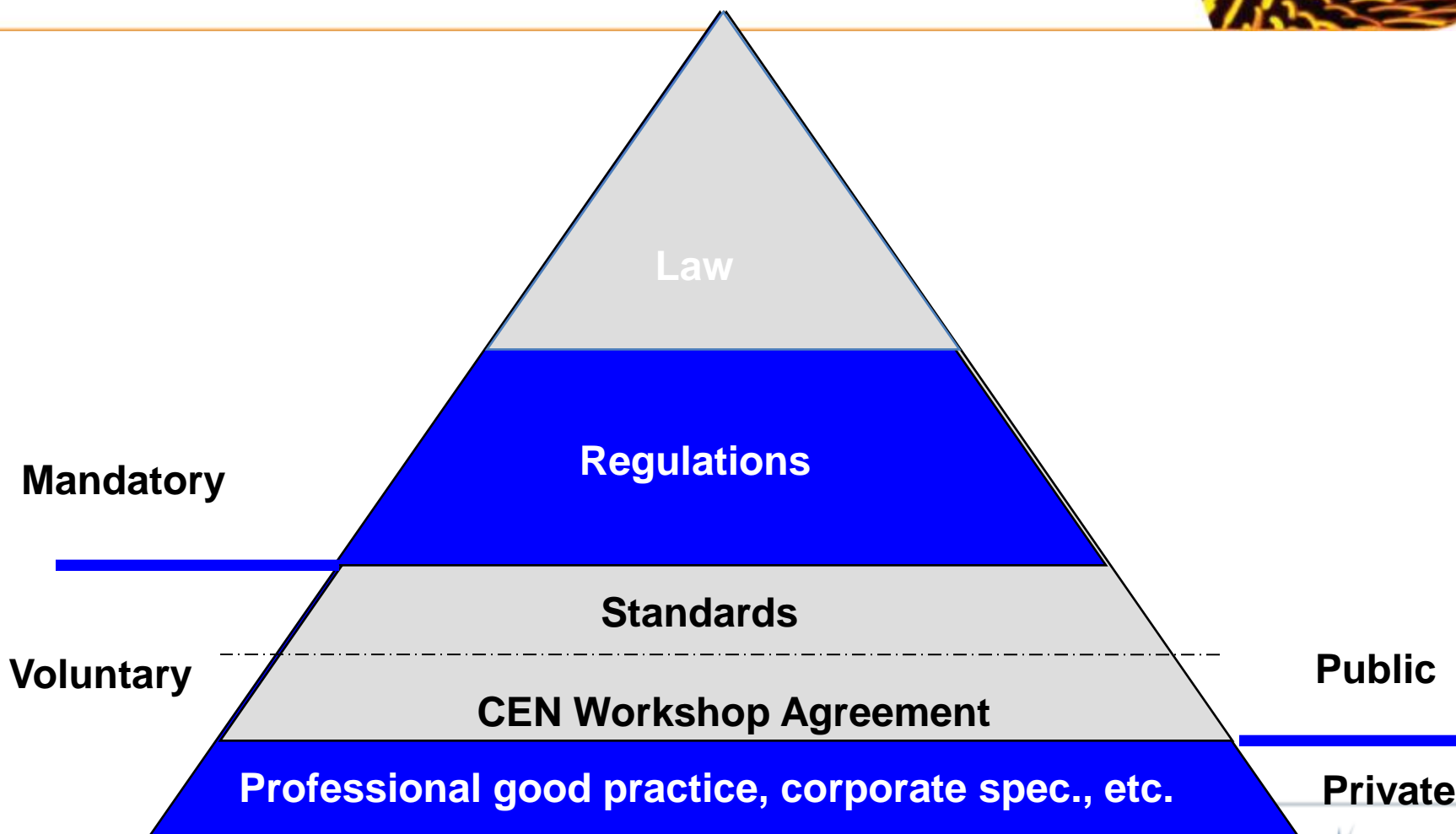




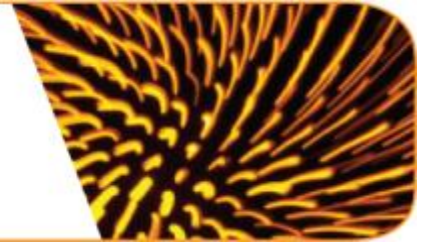
Part III

Why a CEN/CENELEC Workshop agreement ?

Standards, regulations and private specifications

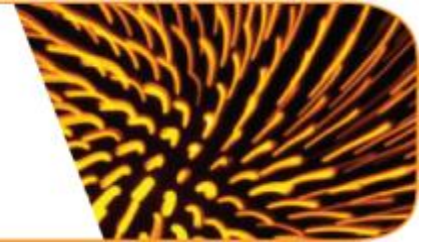


Why a CEN/CENELEC workshop agreement?

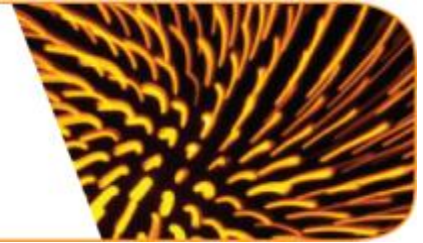


- A document to “benchmark”
- A document to address:
 - Commercial issues:
 - gives potential customers confidence in new technology, in flow battery technology
 - Helps technology selection, company selection
 - Technical issues:
 - Benchmarking: performance, endurance, testing procedures, solving compatibility issues, etc.
 - “guiding” the market on the new technology
 - Compliance, certification and liability issues:
 - Is the flow battery well designed?

Why a CEN/CENELEC workshop agreement?



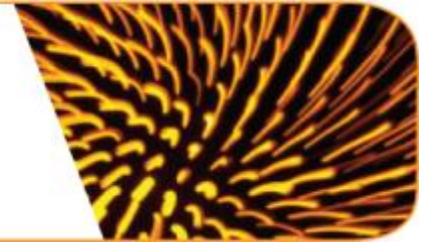
- Open process, written by experts as yourself (bottom-up approach, versus top-down approach of legislator)
- It is a European document, but with global reach (non-Europeans also sit at the table)
- A “Step-stone” to a genuine international standard of IEC or ISO
- Brings down costs of compliance, compatibility, etc.



Part IV

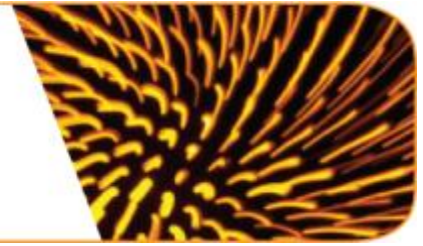
Outcome/Conclusions of Tuesdays session on **“Standards for flow batteries”**

Conclusions info session



A CEN/CENELEC Workshop agreement is:

- A tool to bring Flow battery technology from the lab to the market, solve compliance issues, give confidence and so expand the market of flow batteries
- Must be studied in more detail by a small group of interested experts
- **Interested experts/companies will soon meet in Vienna at CELLSTROM, to start the proceedings for drafting the CEN/CENELEC Workshop agreement and to secure the funds to start up the standardization work.**



Questions ?

Thank you