



European Smart City Standards

Green Digital Charter Workshop

EUROCITIES *Brussels, 14 October 2015*

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Agenda



- ❑ The European Standardizations Organization
- ❑ Smart City - why developing standards
- ❑ CEN-CENELEC-ETSI Smart and Sustainable Cities and Communities Coordination Group
- ❑ The national European and international context
- ❑ Conclusions

European Standardization Organizations (ESOs)



European Standardization actors



→ Electricity – Electrotechnical

CENELEC



European Committee
for Electrotechnical
Standardization

→ Electronic Communications



European
Telecommunications
Standards Institute

→ Chemistry

→ Material

→ Food

→ Energy

→ Services

→ Transport

→ Metrology

→ Healthcare

→ Construction

→ Environment

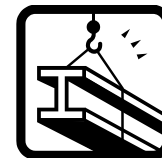
→ Security & defense

→ Information society

→ Mechanical engineering

→ Heating, cooling, ventilation

European Committee
for Standardization



CEN and CENELEC Network – broader perspective



9
MoUs (regions)

5
Cooperation
Agreements
(countries)



- 2** Counsellors (EC + EFTA)
- 16** Partner organizations
- 222** Liaison organizations (7 from Research)
- 2** Associated bodies
- 5** European Institutional stakeholders
- 15** Other Partner Organization





1 network

Fundamentalsof European Standards

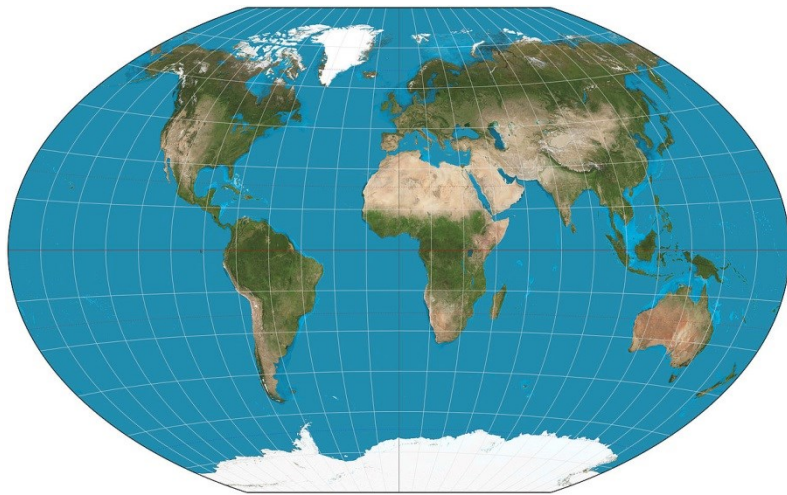


- Document meant for a **common** and **repeated** use
- **Market driven** and 'state of the art'
- Based on the **national delegation principle**
- Produced by all **interested parties** (including industry & SMEs and societal stakeholders) **through a transparent, inclusive, open and consensus based process**
- **Voluntary**
- A tool to **underpin legislation**, e.g. European Directives
- Integration with **international** standardization work

Added value of European standardization to EU single Market



- ❑ Imply a strong national commitment and implementation
 - **Mandatory** Implementation by CEN (CENELEC) Members
- ❑ **Identically implemented** EU + EFTA + Turkey + FYROM and far beyond
 - **Harmonisation means 1 European Standard (EN) replacing 33 different national standards**
- ❑ They can be aligned with ISO/IEC standards

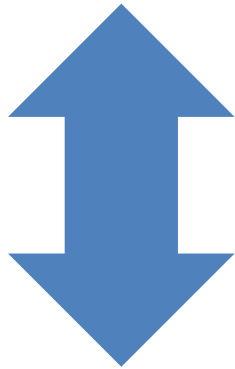


Vienna (ISO-CEN) and Dresden (IEC-CENELEC) Agreements

Principal aim: Identical European and international standards

CEN: 31% of portfolio identical to ISO

CENELEC: 72% of portfolio identical to (+ another 6% based on) IEC standards

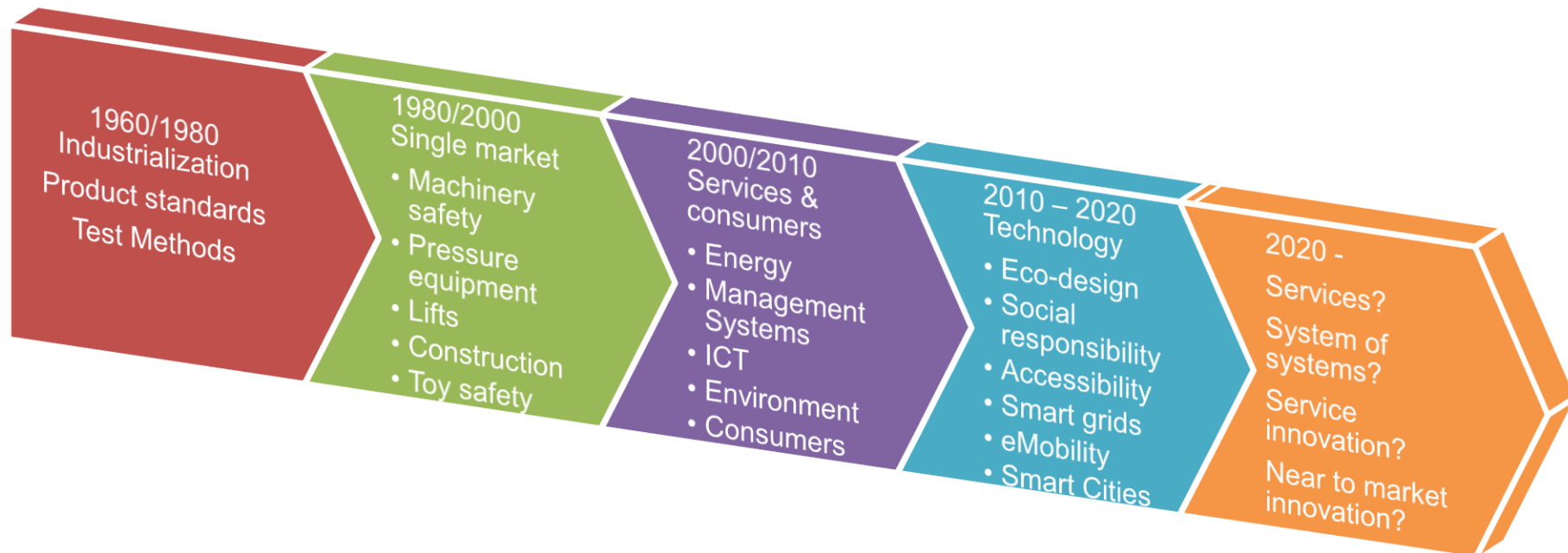


European standards provide a range of benefits for stakeholders



- Enhance the safety of products, consumer protection and confidence
- Help manufacturers comply with legislation & market expectations
- Promote interoperability of products and services
- Facilitate trade by removing trade barriers and enhance competition
- Improve management systems' assets, processes and performance
- Market creation and access for innovative products/services
- Promote sustainability and help safeguard the environment

European Standards – evolution



***To fulfil the evolving expectations
of business & society***

What is a Smart City ?



EUROPEAN STANDARDIZATION ORGANIZATIONS





The Context

- ❑ Cities are a driving force in generating Europe's economic and sustainable growth
- ❑ They are expected to deliver more and new services, be globally competitive and to meet the EU 20/20/20 energy and climate goals
- ❑ A growing market, estimated globally to be worth € 1.3 trillion in 2020
- ❑ Opportunities and challenges for Europe



Why developing STD for Smart Cities ?

- Underpinning common understanding
- Enabling integration between systems, and between the physical and the digital
- Accelerate smart city solutions and provide confidence in the market
- They facilitate a collaborative, consensus-driven process open to all stakeholders

Because STD will create Smart Cities !

... in response to the market and final beneficiaries needs (cities and citizens)



CEN-CENELEC-ETSI Smart and Sustainable Cities and Communities Coordination Group

- Set up at the end 2012 as **CEN-CENELEC Coordination Group**, following AFNOR proposal. Chairman Mr Jean Félix, EFCA/FDIC
- **ETSI** joined in 2014 making the group a **3 ESOs' group**
- Secretariat is provided by AFNOR (FR), Mrs Mélanie Raimbault
- **Members:** representatives of CEN-CENELEC-ETSI including relevant Technical Committees, Advisory Bodies, CCMC, ETSI Secretariat, national members, representatives from cities and communities' organizations (EUROCITIES, ICLEI, etc..), ANEC
- **Observers:** ISO (ISO/TC 268 Sustainable development in communities), IEC, ITU, European Commission and the EFTA Secretariat



Scope

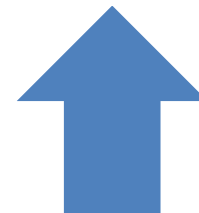
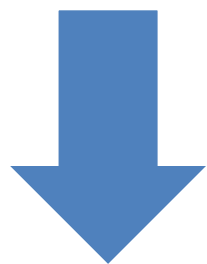


- ❑ Collaboration among the ESOs on this topic
- ❑ Advise CEN and CENELEC (Technical) and ETSI Boards on European interests and needs related to SSCC
- ❑ Facilitate a coordinated approach at technical level
- ❑ Take into account existing ISO/IEC/ITU deliverables and activities in view to achieve consistency, where possible, at international level
- ❑ Ensure an overview is available of European needs and ensure these needs are reflected in the work on global standards
- ❑ ESOs play an active role towards the EU initiatives and projects
- ❑ The SSCC-CG will not elaborate standards itself



Our integrated approach

- **SMART**



SUSTAINABLE



Collaboration with European Innovation Partnership on Smart Cities and Communities

[The EIP Strategic Implementation Plan](#)

[The EIP Operational Implementation Plan](#) (Priority Area 10 – Standards)

- Standards as one of the key horizontal enabler, providing the framework for consistency commonality and repeatability, without stifling innovation
- The CEN-CENELEC-ETSI SSCC-CG EIP Commitment n° 7352
- The Action Clusters : a future AC on standards?

high
impact
solutions



smart city
ecosystems for
replicable high
impact



Areas of work in 2015-2016

1. Promote a enabling framework/model

- Further develop the city model
- Proposal for a set core key definition concepts related to SSCC

2. Promote Stakeholder Involvement and Engagement

Enlarge the SSCC-CG community

3. The SSCC-CG as focal point to


- Review the ongoing work in the SDOs
- Make recommendations and guidelines for future STD work

4. Communication and promotion of standards in SSCC

An awareness raising campaign, press-releases, dedicated events

5. Assess smart citizen - related standards

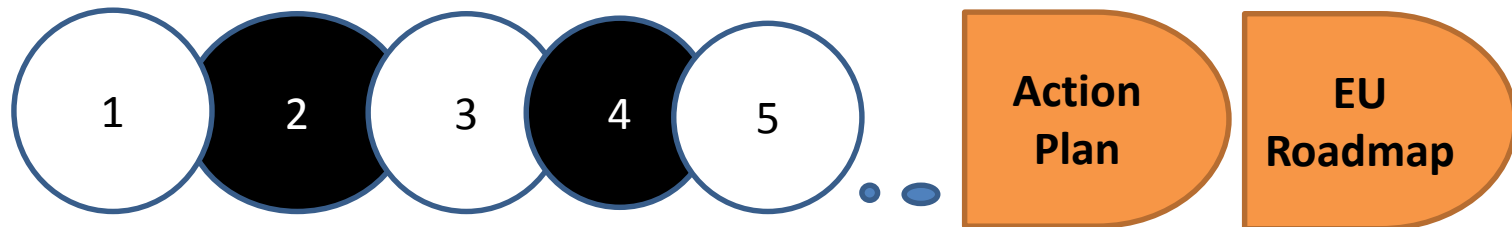
Modelling Sustainable and Smart Cities and Communities

	City/Community history and characteristics What is the city or community story, its “brand” and values? Is it a stand-alone city, a hub city or satellite city, or is it a network of rural towns and villages? What is the size of population? Is it growing, stable or shrinking? What is its demographic mix?	
Environmental context How flat or hilly On what kind of rock it is built If it is by the sea or inland Climate	City/Community actors Local authority, Health trusts, service providers, electricity and gas suppliers, police, bus and tram companies, voluntary groups, businesses, banks, investors, and, most important of all, the citizen. Activities Planning, managing, purchasing, regulating, building and repairing, providing services, generating profit, gaining finance ... Community facilities and buildings Homes, hospitals, schools, electricity substations, sports facilities, cinemas, water treatment plants, district heating plants, factories, offices, shops ... Infrastructures Gas, electricity, water, sewerage, telecoms, roads and rail, district heating systems ... Soft Infrastructures Business / Science / Community / Innovation networks and collaboration structures Technical systems Traffic light management, ticketing, billing and payment, automatic number plate recognition ... City/Community functions or service areas Employment, Housing, Education, Health, Security, Mobility, Energy, Water, Waste Management, Food Supply chain, Consumer Goods Supply Chain .. Scale Citizen, building, block, neighbourhood or village, district or town, city, metropolis ...	Societal context Laws & regulations Division of power between national and city/community governments Division of power between agencies within the city or community Cultural norms Economic structures and situation Political context
	City/Community Governance The task of City and Community Governance is to ensure that all of the functions of the city or community are delivered effectively at all levels of scale, and are properly co-ordinated to best deliver on the purposes the city or community has set itself.  City/Community Purposes The key challenges facing the city or community that need to be tackled and the opportunities that need to be grasped. Social, Economic, Environmental ...	



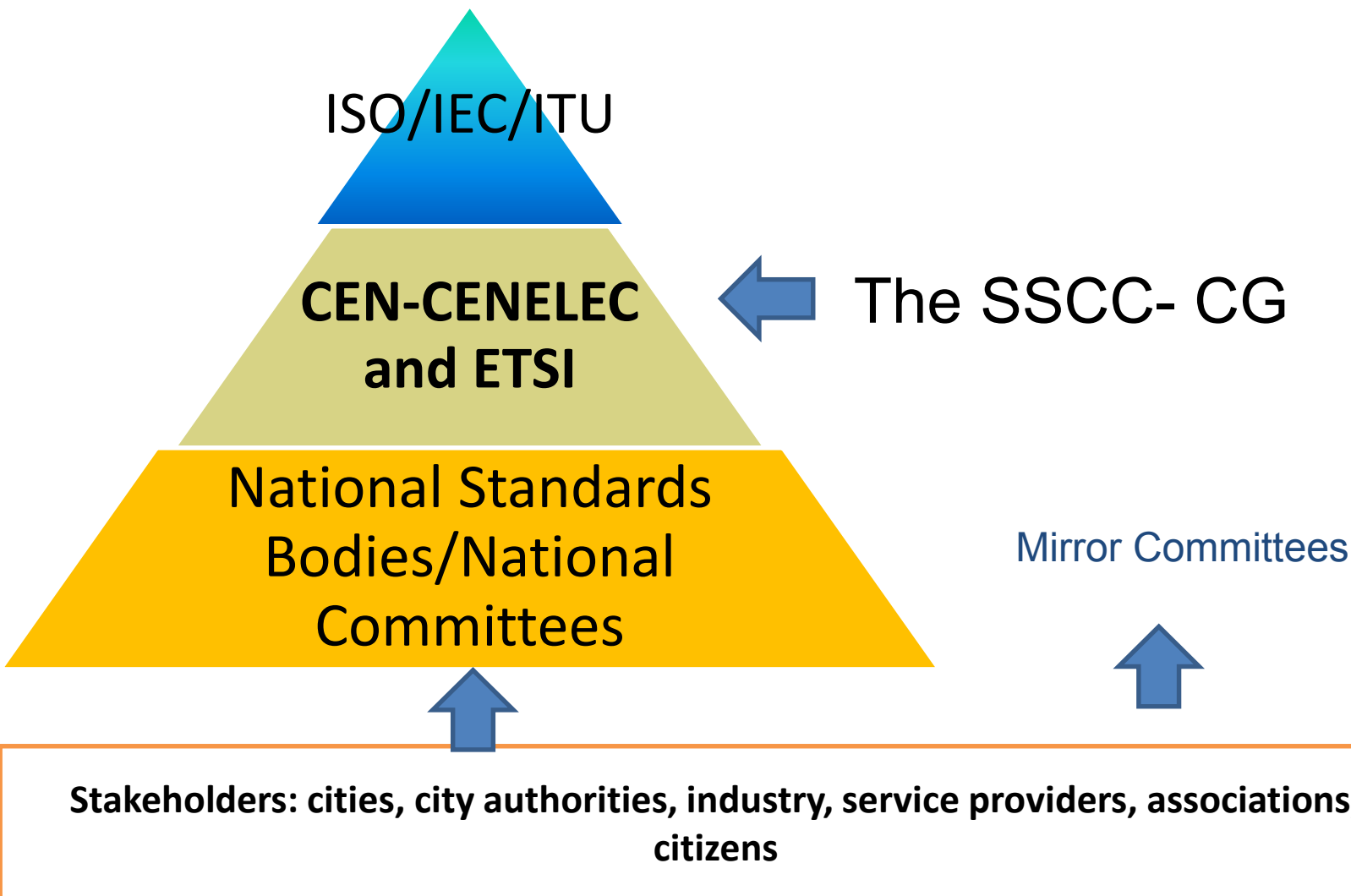
Outcome by 2016

- A Roadmap for future standardization activities in Europe and its promotion amongst stakeholders
- Recommendations for future standard development





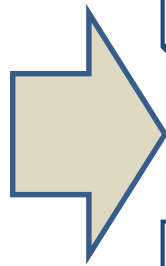
Standardization on Smart Cities





SSCC-CG & ISO/IEC/ITU

**CEN-CENELEC-
ETSI
SSCC-CG**



- ☐ ISO/TC 268 'Sustainable development in communities'
- ☐ ISO TMB Smart Cities Advisory Group SAG
- ☐ ISO/IEC JTC1 Smart Cities
- ☐ IEC SEG 1 Systems Evaluation Group
- ☐ ITU-T SG 5 Smart Cities



Conclusions

- Standards relevant for common understanding
- Standards as key enablers - they guarantee performance level, compatibility, interoperability and cohesion of systems
- Standards facilitate the development and management of a city strategy and vision
- Standards help the measurement of progresses
- Doing thing 'smarter'
- What we can do better and together is to engage with stakeholders (cities and citizens) and increase awareness on benefits standardization can bring



UNITED NATIONS ENVIRONMENT PROGRAMME

THE ABC FOR SUSTAINABLE CITIES

Clarifying concepts
on sustainable
urban development



EUROPEAN STANDARDIZATION ORGANIZATIONS

A glossary of key terms
related to Sustainable
Cities

- Methodology
- Contributions by stakeholders
- CEN-CENELEC-ETSI
SSCC-CG among peer reviewers



Communication- the SSCC-CG leaflet

Smart and sustainable cities and communities
A role for European standardization



1st Report of the CEN-CENELEC-ETSI
Smart and Sustainable Cities and Communities
Co-ordination Group (SSCC-CG)

Smart Cities - Introduction

There is growing awareness that the world has been considerably weakened by unsustainable development and rampant overconsumption has resulted in an increased focus on sustainable development. Partly to address this there is an increasing number of initiatives concerning "sustainable and smart cities/ communities".

As with all other innovative areas, common standards are critically important to ensure the success and special the interoperability of new applications and services.

The European Standardization Organizations, CEN, CENELEC and ETSI, have brought together a group of expert in this field. The Smart and Sustainable Cities and Communities Co-ordination Group (SSCC-CG) has issued its first report.

Tore Trondvold
Chairman CEN-CENELEC-ETSI Joint President's Group

On the report

The report gives a first overview of standardization issues at European level and makes a number of specific recommendations, listed below.

The participants in the report represent the three European Standardization Organizations, their members, partner bodies and stakeholder representatives of relevant specific standardization activities.

The report gives some initial background considerations. What constitutes smart and sustainable cities is defined, and the added value standards can provide is outlined together with some basic city and community objectives that standardization can help achieve. The report then goes into more detail on the city context and how a city operates, followed by a discussion of who needs to be involved, from city managers or local authorities not often currently participating in standard processes, to private service providers, and to the individual citizens as residents and consumers of goods and services in a city.

Enclosed is also information on current European initiatives in the domain of smart cities and communities in particular a European Innovation Partnership, and a standardization efforts in other parts of the world and at global level. A first assessment is made of European requirements for standardization that need to be met. Standards can provide help to cities' strategic planning and help put in place common frameworks as a "glue" to achieve the added-value from combining approaches to city services. Standards can also help with performance benchmarking and evaluation. Not all standards will be new – many existing standards can be adapted to include smart cities.

Looking ahead, the report sets out the outline of a strategy for developing the required standards, with a European-level roadmap that also will take account of international activities.



Report and the summary with the recommendations

You can download the full report and the ten page summary including the recommendations at:



www.cenelec.eu/standards/Sectors/SmartLiving/smartcities/Pages/default.aspx



www.etsi.org/technologies-clusters/technologies/smart-cities

Next steps

The European Standardization Organizations have agreed that the Smart and Sustainable Cities and Communities Co-ordination Group should continue its work through 2015 and 2016, defining the future roadmap for standards activities in collaboration with the various initiatives at global level and the European Innovation Partnership and its related projects.





Thank you for your attention!

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Visit [Smart Cities](http://www.cencenelec.eu) pages at www.cencenelec.eu

The Final SSCC-CG Report is [online](#) (NEWS and Events)