ISO/TC268/SC1

— Smart Community Infrastructures —

05 February 2013

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IEC TC111 and
ISO/TC268/SC1 Chair

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2. Backgrounds
3. Purpose of international standardization
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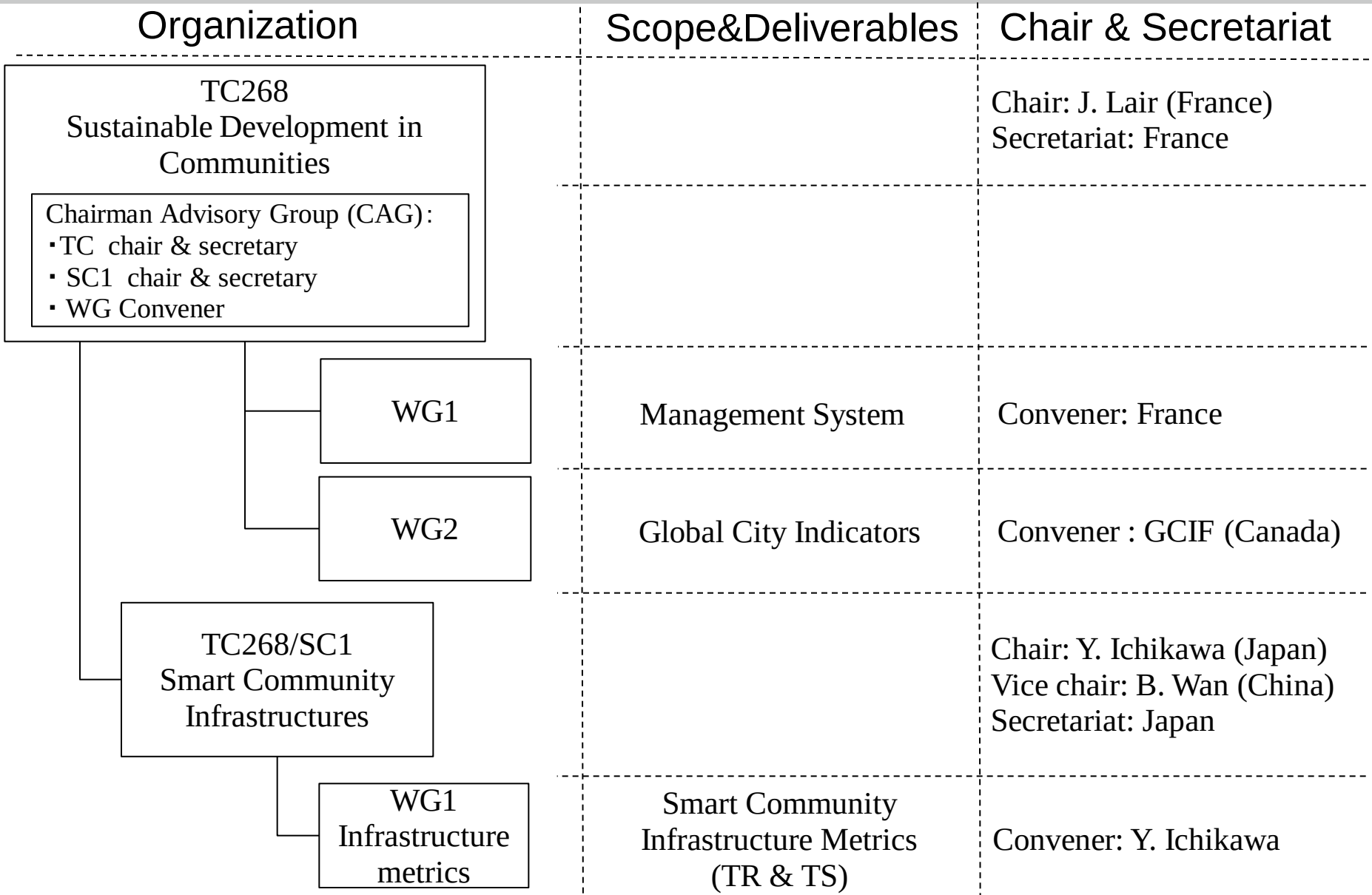
1. TC268/SC1 at a glance –Structure



TC:Technical committee, SC: Subcommittee, WG: Working Group,
TR: Technical Report, TS: Technical Specification

1-1. TC268/SC1 at a glance –Title and Scope

■Title：“Smart Community Infrastructures”

■Scope：

Standardization in the field of smart community infrastructures, including basic concepts to define and describe smartness of community infrastructures as scalable and integrable systems, harmonized metrics for benchmarking, usage of the metrics for application to the diverse types of communities, and specifications for measurement, reporting and verification, ensuring avoidance of overlaps and contradictions with ISO/TC 268 deliverables.

The proposed standards will **focus on technical aspects** of community infrastructures including energy, water, transportation, waste and ICT that support the operations and activities of communities.

The concept of smartness is addressed in terms of performance relevant to technologically implementable solutions, in accordance with sustainable development in communities as elaborated in ISO/TC 268.

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TC 268/SC 1 Smart community infrastructures

About | Contact details | Structure | Liaisons | Meetings | Tools

Secretariat: JISC
Secretary: Mr. Isao Endou
Chairperson: Dr. Yoshiaki Ichikawa until end 2017
ISO Central Secretariat contact: Mr. Gerrit Harjung
Creation date: 2012

Participating countries:	14
Observing countries:	10

Quick links

Work programme
(drafts and new work items of TC 268/SC 1)

Business plan

Working area on ISOTC and Public information folder

http://www.iso.org/iso/home/standards_development/list_of_iso_technical_committees/iso_technical_committee.htm?commid=656967

1-2. TC268/SC1 at a glance –Progress to date

Member countries

Membership	Countries
Secretariat	Japan
Participating Countries	Argentina, Austria, Canada, China, Denmark, France, Germany Korea, Republic of, Netherlands, South Africa, Spain, Sweden, United Kingdom
Observing Countries	Brazil, Czech Republic, Egypt, Finland, India, Malaysia, Norway, Singapore, USA, United Arab Emirates

Liaison organizations

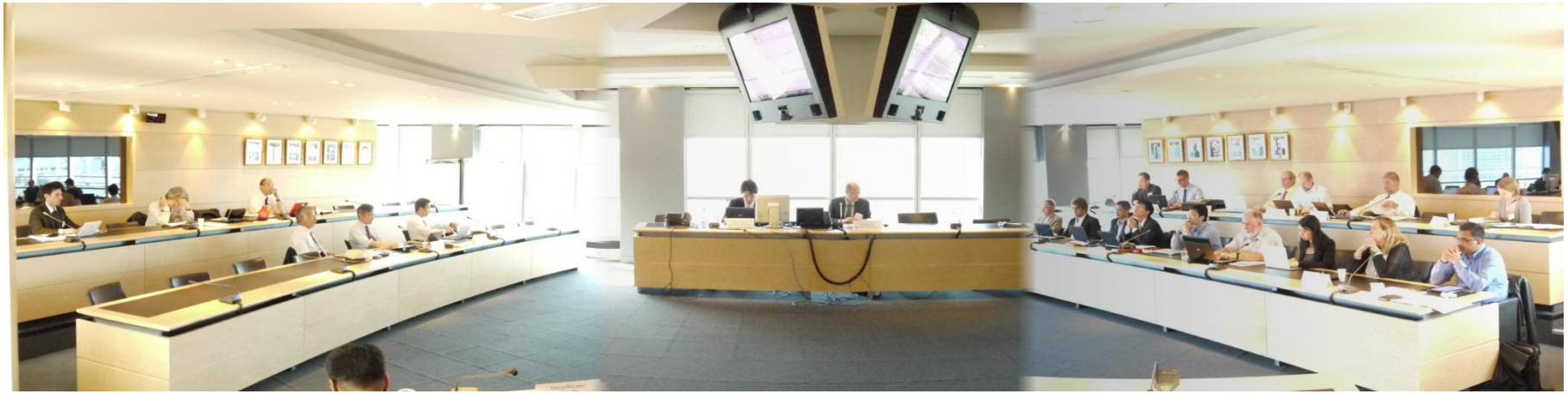
- IEC TC 111: Environmental standardization for electrical and electronic products and systems
- ISO TC 207: Environmental Management
- WBCSD: World Business Council for Sustainable Development

1-3. TC268/SC1 at a glance – Liaisons

■Progress to date

- Feb. 2012: Establishment of SC1 has been approved by ISO Member Body ballot.
- May 2012: SC1 Preliminary meeting (Tokyo)
- Jul. 2012: SC1 1st Plenary meeting (Paris)
  SC1/WG1 1st meeting (Paris)
- Oct. 2012: SC1/WG1 meeting (London)
- Feb. 2013: SC1/WG1 meeting (Paris)
- July. 2013: SC1 2nd Plenary meeting (Copenhagen)

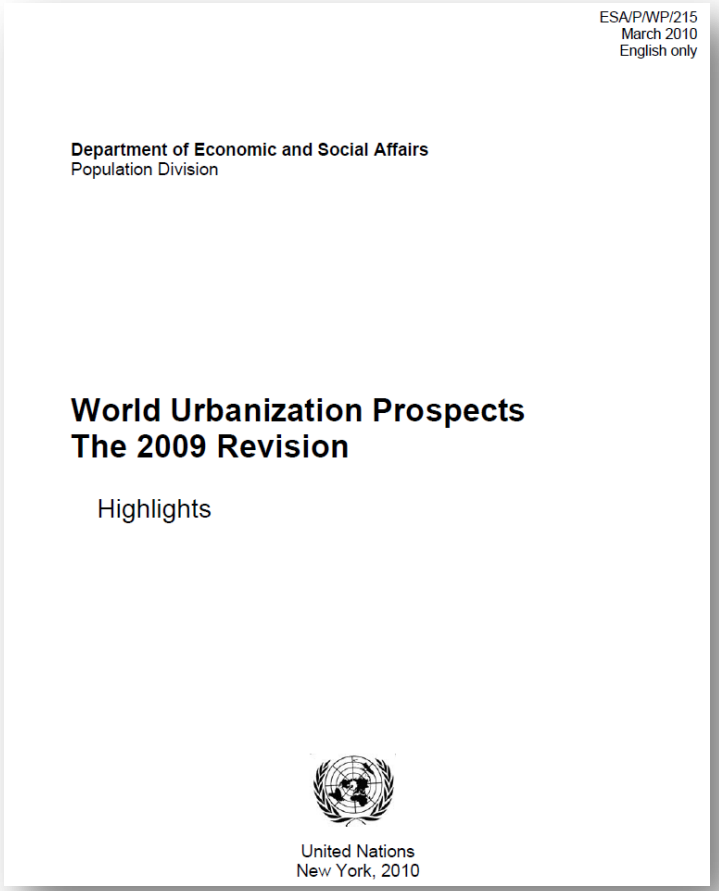
Jul. 2012: SC1 Inaugural Plenary meeting (Paris)



Oct. 2012: SC1/WG1 meeting (London)

2-1. Backgrounds -Importance of community infrastructures

■ 70% of world population will live in urban areas


ESA/P/WP/215
March 2010
English only

Department of Economic and Social Affairs
Population Division

World Urbanization Prospects
The 2009 Revision

Highlights

United Nations
New York, 2010

The 2009 Revision confirms that the world population is currently slightly more urban than rural, since the level of world urbanization crossed the 50 per cent mark in 2009. Nevertheless, major parts of the world remain largely rural. In both Africa and Asia, still six out of every ten persons live in rural areas.
（中略）
Overall, the world population is expected to be 69 per cent urban in 2050.

Urban congestion causes diverse urban and societal problems.

2-2. Backgrounds -Importance of community infrastructures

■ Urban congestion causes diverse societal problems.

Public hygiene

Polution

Traffic congestion

Noize

Poverty

Crime

2-3. Backgrounds -Importance of community infrastructures

■ Community infrastructure is essential to solve societal problems

➢Economic growth is effective and essential to solve societal problems including poverty, polution, public hygiene, etc.

➢Fundamental community infrastructures including energy, water, transportation, waste-management and ICT are essential to achieve economic growth.

2-4. Backgrounds -Necessity of standardization

■ Diverse expressions for next generation cities

Public Organizations

● UN-HABITAT	**Sustainable** Cities Programme
● The World Bank	Eco2-Cities (**Ecological**, Economical)
● APEC	**Low Carbon** Model Town
● EU	**Smart** Cities and Communities Initiative

Industry

● Siemens	**Green** Cities
● IBM	**Smarter** Planet
● GE	**Smarter** Network, **Digital** Energy
● Toshiba	**Smart** Community
● Hitachi	**Smart** City

2-5. Backgrounds -Necessity of standardization

- Diverse ideas of “smartness”

Environmental sustainability	Eg. “Siemens Green City Index”
ICT integrated intelligence	Eg. “Smart” concepts suggested by EU commission and ICT venders.
QoL (Quality of Life)	Eg. “Smart cities ranking”(University of Vienna)

- Evaluation methods are not always open to public.

- Harmonized and transparent metrics for evaluating the smartness of community infrastructures is necessary.

- International Standardization

3-1. Purpose of international standardization

- Promoting international trade of community infrastructure products and services by international standardization of community infrastructure metrics.

Buyers

Governments, developers, Operators, etc.

Benefits:

Easier infrastructure procurement

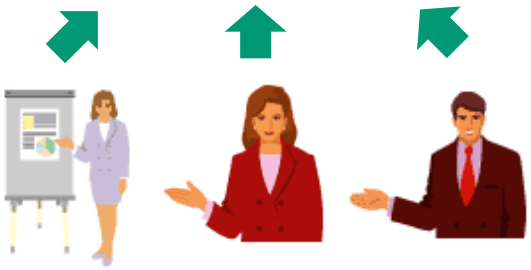
Easier purchase decision

Standardized metrics

Urban infrastructure as a large scale integrable product

Providers

Vendors, consultants, etc.



Benefits:

More efficient and effective global sales

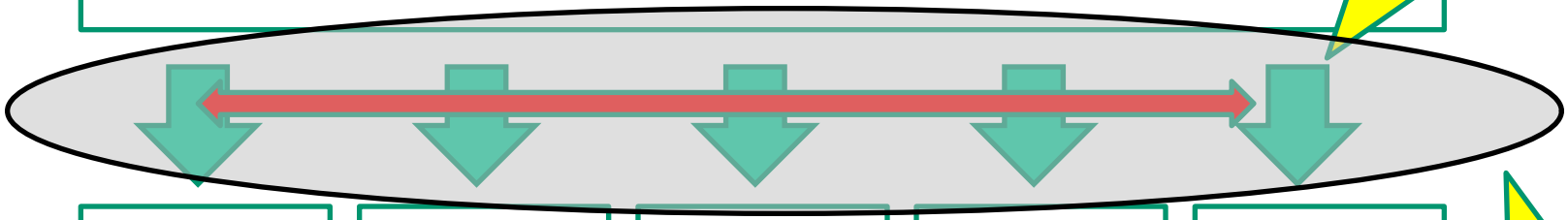
More efficient and effective R&D

3-2. Purpose of international standardization

Smart Communities

- the value, lifestyle, rules and systems are different from ordinary communities -

A smart community requires its fundamental infrastructures widely different specifications compared to those an ordianry community requires.
- from suboptimisation to total optimisation -



Energy（TC242）	Water（TC224）	Mobility（IEC/TC9）（TC204）	Waste Management	ICT（ITU）

Each infrastructure has its own indices

It is imminent to establish globally harmonised metrics since a rapidly growing number of plans and projects for building smart community infrastructures are now under way and decisions made now will affect the situation in the far future.

4-1. Possible directions for the development of metrics

1. Focus on the ***comunity infrastructures***, which can be improved by technologies, and define it as the ***"measurement" standards***, not as "management", "social", or "process" standards.

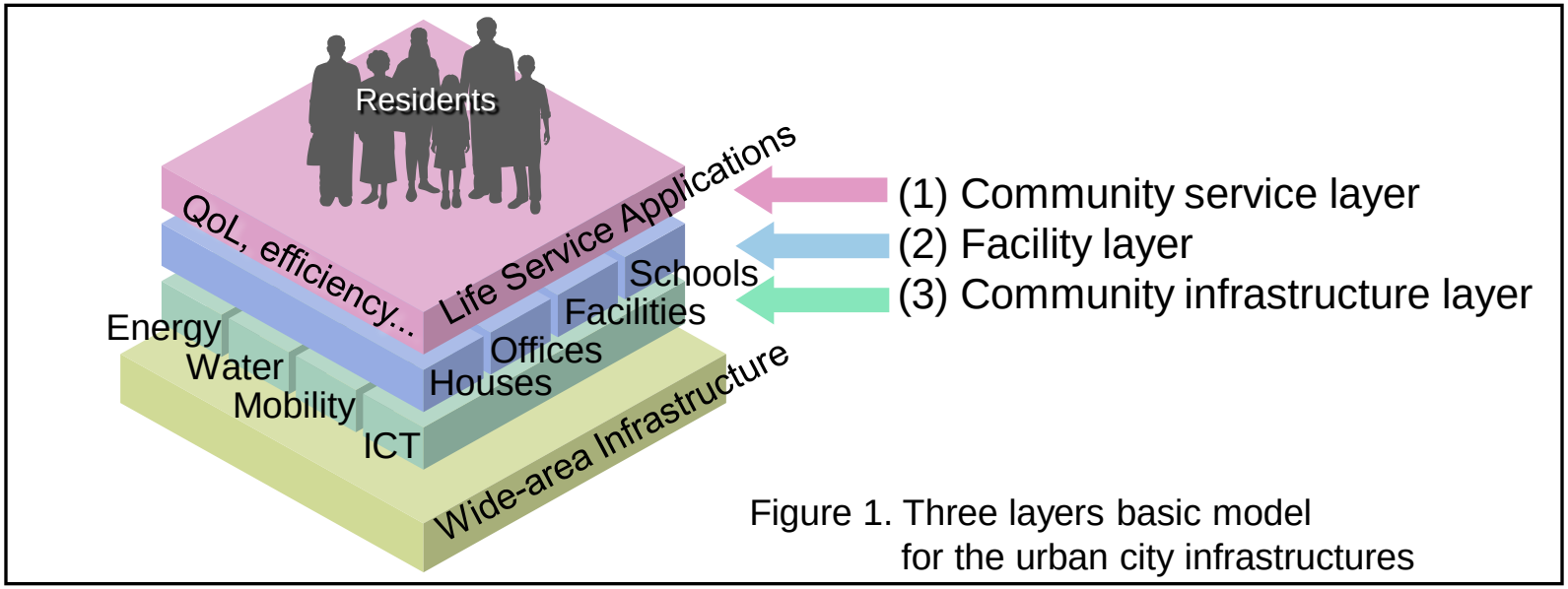


Figure 1. Three layers basic model for the urban city infrastructures

* The "smartness" of the urban city infrastructures should be discussed from the viewpoints of technology under the universal consensus, because these infrastructures are apparantly necessary for human life as they provide the fundamentals such as energy, water, etc.

On the other hand, it is difficult to discuss the social systems with the common understanding, because they are the characteristics of each country and city, so it is difficult to standardize.

*Hence the focus is set on the **community infrastructures**, consider from the **viewpoints of technology**.*

2. Define the ***metrics (measure)*** for evaluation of the community infrastructures. Target setting will be left to users.
3. Take into account *existing standards* of the city components (ex. the energy-conservation standards for building), do not intend to revise them.

4-2. Possible directions for the development of metrics

4. Take into account the ***category*** *(variation) of the city.* We distill the common items from the variation,consolidate them as netrual metrics applicable to smart communities in the world.

* Examples of the ***category*** *of the city*
~ The propotion of infrastructures in a city and required performances for them are different in each city, because the industrial structure of each city is different.
So we define the category of city from the profile of proportion of infrastructures.
Ex. 1. ***Industrial city***: The proportion of manufacturing in the industry is more than the avarage amount.
Ex. 2. ***Academic city***: The propotion of academic study, specialized technical services, and educations in the industry is more than the average amount.
Resort city, ***Administrative city***, etc. are also defined in the same way.

5. The metrics should be applicable for *different stages of the development of community infrastructures*, from planning to renovation.

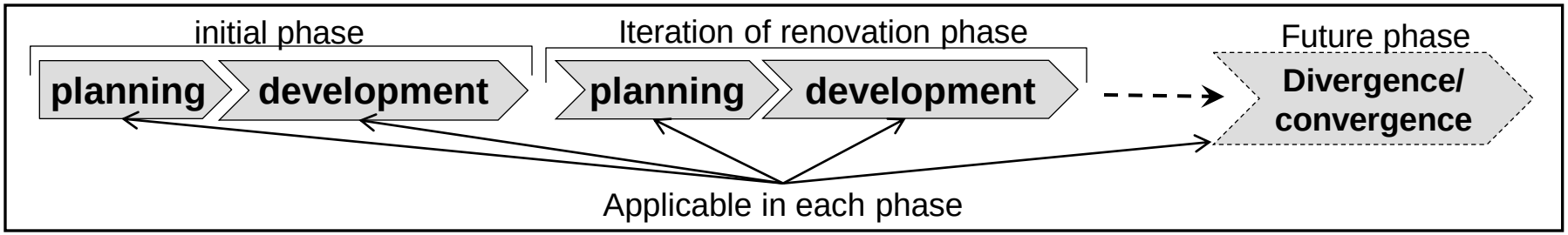


Figure 2. The lifecycle of the growth of the urban city infrastructure

4-3. Possible directions for the development of metrics

(1) Example of ***"Community Infrastructures"***

1	Energy	Power grid, Gas, Fuels (gas station), ...
2	Water	Water treatment process, water for industrial use, treated water, sewage disposal, ...
3	Mobility	Road, railroad, airport, port, river, ...
4	Waste	Waste recovery, recycling, ...
5	ICT	Information processing, internet, carrier, broadcasting, ...
	...	...

(2) Examples of "***Performances*** (to be technically improved)"

1	Societal	(1) convenient (2) comfortable (3) secure (4) safe	viewpoint of residents
2	Economic	(5) management eddiciency (6) vitalization of industry (7) rotation of generation of the residents	viewpoint of community managers
3	Environmental	(8) global warming, (9) natural resources saving, (10) protection of biodiversity	viewpoint of Environmentalists, world opinions

Smartness includes the consideration of the linkage among multiple aspects such as societal, economic environmetal sustainability.

5-1. Prospective documents and timeline

Documents under development

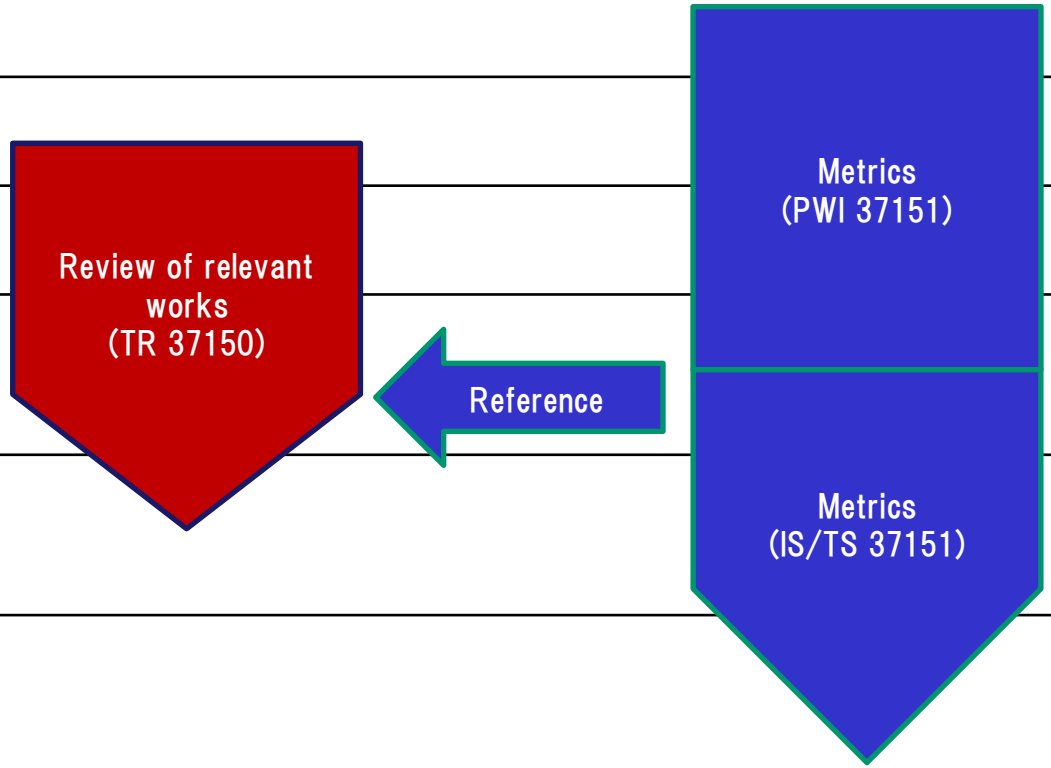
Deliverable	ISO TR 37150 (Technical Report)	ISO 37151 (Technical Specification)
Title	Review of works relevant to smart community infrastructure metrics and future directions of standardization	Smart community infrastructure metrics
Major Contents	• List of concepts, indicators and projects relevant to “smart community infrastructures” • Gap identification • Suggestion of the direction of standard development	•Metrics to evaluate the smartness of community infrastructures including energy, water, transportation, etc. • Will be developed according to the suggestion of TR 37150
Publication	2013(Expected)	2014(Expected)

5-2. Prospective documents and timeline

Year	Month	Action for the TR
2012	Oct.	- WG 1 meeting in London, UK - Agreed on basic direction
	Nov.	- WG1 conference call - Discussed WD1.0
2013	Jan.	- WG1 conference call - Discussing WD2.0
	Feb.	- WG 1 meeting in Paris, France - Finalizing the DTR
	Mar.-Jun.	- DTR Voting (two months)
	Sept.	- Publication of the TR

5-3. Prospective documents and timeline

Year	Month	Project development under WG 1
2012	…	
	Sept.	
	…	
2013	July	
	Sept	
2014	July	



Thank you for your attention

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