



# スマートシティ国際標準化の目的と課題

- 都市の課題に対処する国際標準化の必要性 -

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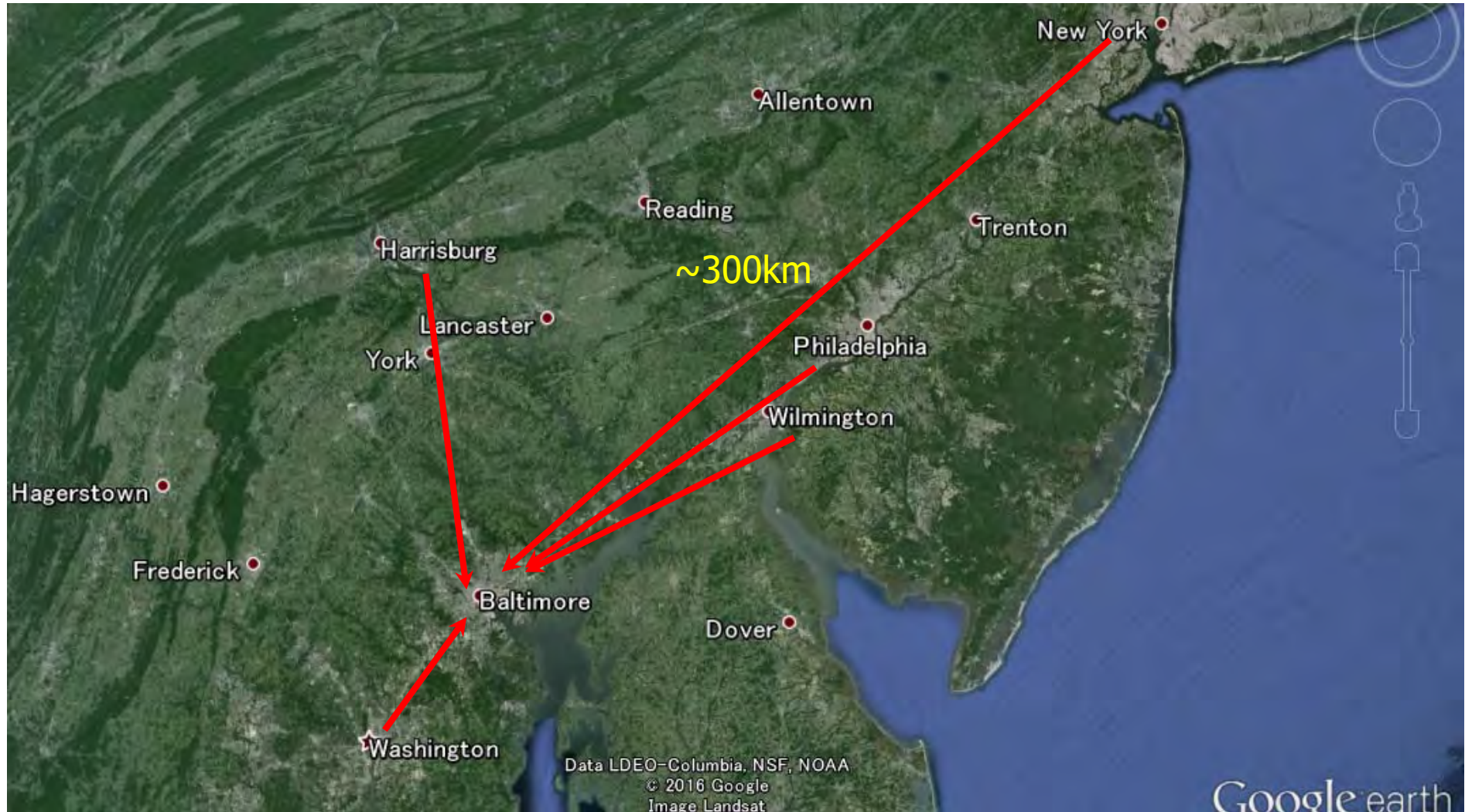
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From high school standard education text books;  
There happed a terrible fire in Baltimore, 1904.



Many cities sent their fire-fighting forces, but...



# What was the results?

Distinguished after 36 hours  
1526 buildings were burnt down  
150m\$ loss





# The reason why the assist from other cities didn't help?



Each city has its different fire-hydrant specification



# Value of International Standards



## **WTO/Technical barriers to trade (TBT) agreement**

**The Technical Barriers to Trade (TBT) Agreement aims to ensure that technical regulations, standards, and conformity assessment procedures are non-discriminatory and do not create unnecessary obstacles to trade. At the same time, it recognizes WTO members' right to implement measures to achieve legitimate policy objectives, such as the protection of human health and safety, or protection of the environment. The TBT Agreement strongly encourages members to base their measures on international standards as a means to facilitate trade. Through its transparency provisions, it also aims to create a predictable trading environment.**

## **WTO/Agreement on Government Procurement (GPA)**

**To ensure open, fair and transparent conditions of competition in the government procurement markets, a number of WTO members have negotiated the Agreement on Government Procurement (GPA).**



# Standards Developing Organizations (SDOs)

ITU-T; International Telecommunication Union–  
Telecommunication Standardization Sector

IEC; International Electrotechnical Commission

ISO; International Organization for Standardization

CEN/CENELEC/ETSI

IEEE, ASME, UL, CSA, ...

Forums, Consortiums, ...



# IEC White Paper Orchestrating infrastructure for sustainable Smart Cities

This white paper explains what it needs to move cities to greater smartness; the what, who and how of smart city development. It calls for a wide collaboration between many stakeholders, including other international Standardization bodies to ultimately lead to integrated, cost-efficient, and Sustainable solutions.







Needs of cities differ strongly but...  
the main three pillars of development  
remain the same

# Economic sustainability

# Social sustainability

# Environmental sustainability



# The 78th IEC GM Open Session Tokyo Statement 2014 Integration Toward a Smarter World - Co-existence and Sustainability

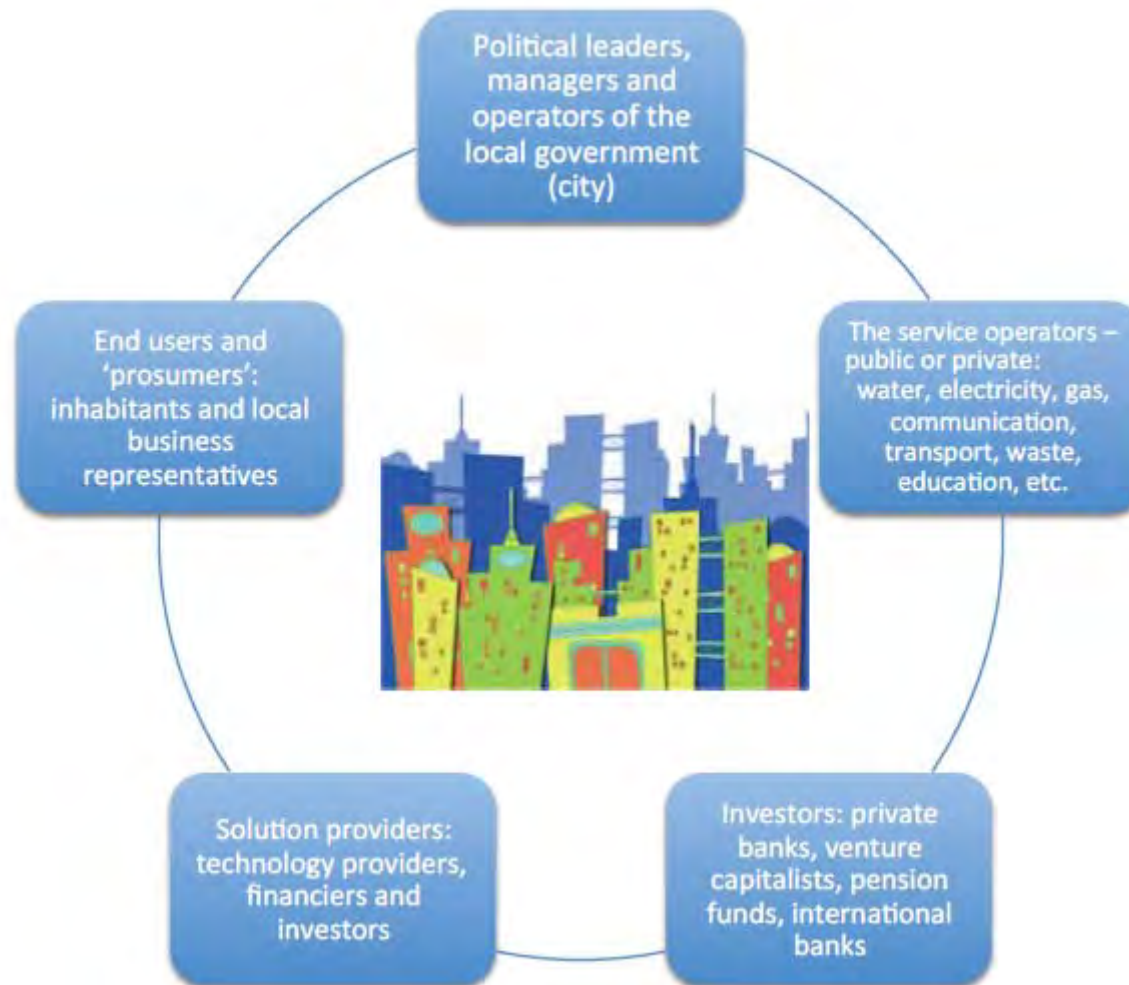
- i. Integration:** Different perspectives and ideas of a wide range of stakeholders including industries, citizens, governments and international organizations should be integrated in a harmonized way into the process of conception, design, development, continued improvement and growth for a Smarter World. The IEC may provide a platform for international collaboration of all stakeholders, encouraging the sharing of best practices and ensuring interoperability of all elements of these complex systems.
- ii. Diversity and Co-existence:** Each city or region may require different solutions in recognizing the diversity resulting from geographical, historical and cultural differences, economical situation and the nature of the stakeholders of each region. International Standards should allow people to choose most appropriate technological solutions for them by applying a modular approach and by securing interoperability.
- iii. Sustainability:** A Smarter World needs to be viable and sustainable based not only on the sound technologies but also on a durable economic basis as well as a stable societal system. This means that a city should be scalable for its continuous growth and improvements at all times embracing attractive business models. International Standards also need to be supportive of these aspects.



# 「よりスマートな世界」の実現に向けた3つの鍵

- インテグレーション
  - 幅広いステークホルダーの視点やアイデアを、構想・設計・開発・継続的改善・成長の過程で調和された形で統合
  - すべてのステークホルダーの国際協力のため、ベストプラクティスの共有を推進し、複雑なシステムの相互接続性を確保するためのプラットフォームを提供
- 多様性のなかでの共生
  - 地理、歴史、文化、経済などの状況が異なる都市や地域には、それぞれ異なった解決方法が必要
  - 国際標準により、モジュール単位での相互接続性が確保された 最適な技術的解決方法を選択可能
- 持続性
  - 技術発展だけでなく、安定した経済的基盤と社会システムの中で実現、持続していく必要
  - 持続的な発展・改善により規模を拡張していくことが可能であるためには、国際標準による支援が必要

# Stakeholder analysis



# IEC/Systems Committee on electrotechnical aspect of Smart Cities

## Objectives:

1. To Share best practices as international standards
2. To provide reasonable gages for fair completion & reasonable funding as international standards

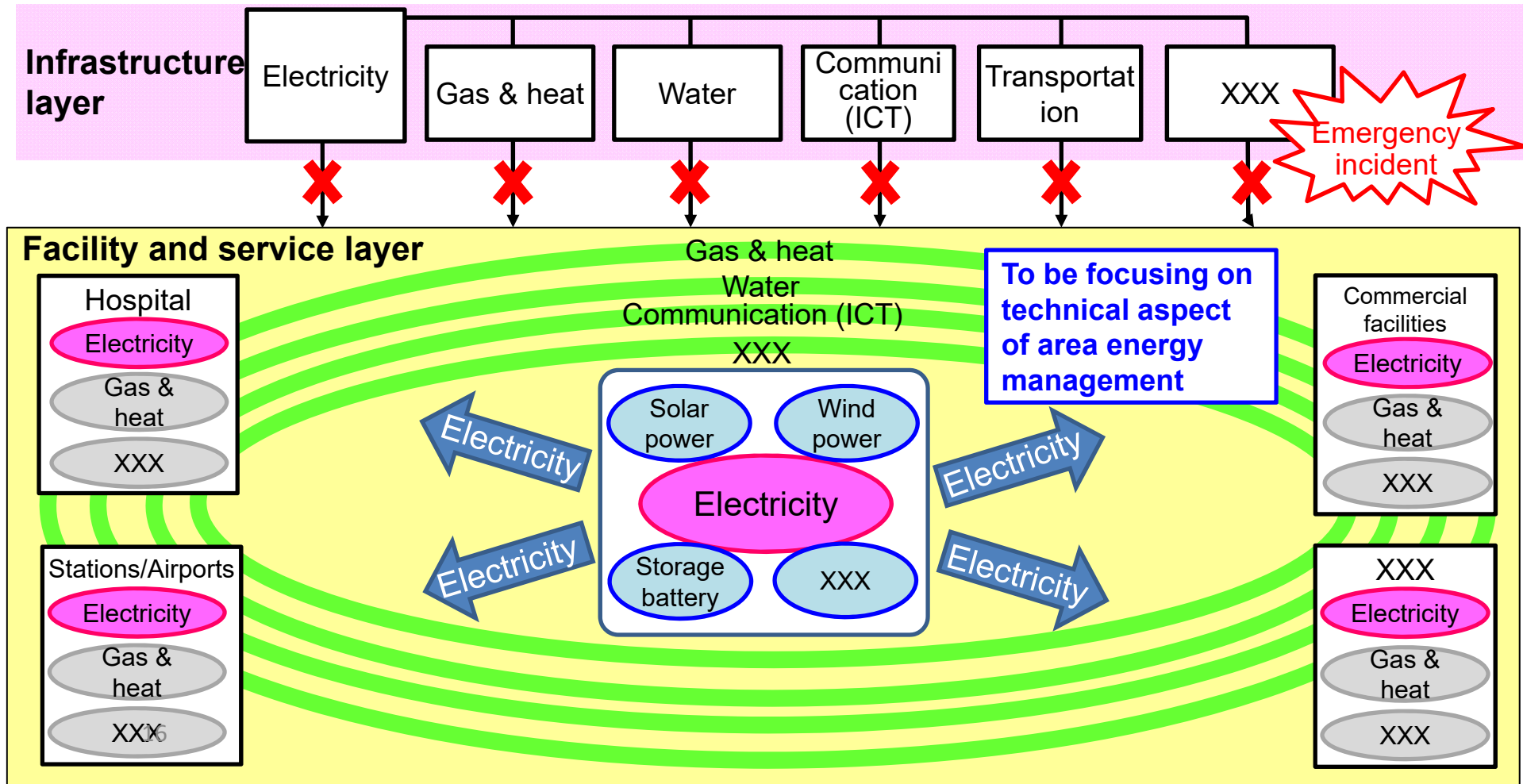


- SEG on Smart Citiesの期間中に検討された分野は下記の8つ。
  1. City service continuity: 電力の供給が社会インフラに直接・間接におよぼす影響を考え、災害が起きたり、電力供給が途絶えた場合への備え、万一発生した際のオペレーション、復帰を電力供給の立場から検討するという日本からの提案。
  2. Urban planning and simulation system
  3. City facilities management (CFM)
  4. Use case – Smart home
  5. Use case – Smart education
  6. Smart cities assessment
  7. Standards Development for Smart Cities using the City of Johannesburg- in a Rapidly Emerging Country –  
as a Piloting Benchmark for Smart Cities Implementation
  8. Mobility and logistics: 都市の交通と物流を全体最適化するための方策を規格の観点から検討するというドイツの提案

# Let's select "top runner" and prepare our priority roadmap based on the proposal of CAG strategy

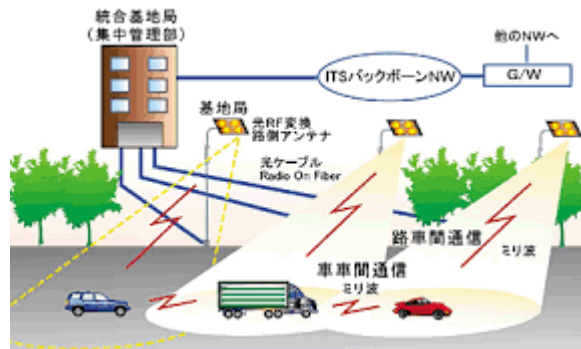
	Energy	Mobility & logistics	Building & home,	water & waste	Public services
KPI					
Simulation for city planning					
City management					
Infrastructure development & maintenance					
ICT & big data management					
Security & resilience					
Indicators & assessment					

# Image of international standardization of City Service Continuity (CSC)





# Total optimization of city logistics and mobility



- ITS VICS
- BRT: Bus Rapid Transit
- LRT: Light Rail Transit
- Driverless car
- EV, PHEV, FCV,,,

**How to reduce traffic jam  
with minimum investment  
to increase social  
productivity and  
not to lose  
business chance**



# 他の国際標準機関での活動

- ISO/TMB/SAG Cities  
"Strategic Advisory Group on smart cities"
- ISO/TC268 "Sustainable development in communities"
- ISO/TC268/SC1 "Smart community infrastructures"
- ISO/IEC JTC 001/SG 01 "Smart Cities"
- ITU-T SG 5 FG SSC