GEOSPATIAL WORLD FORUM

15-19 January, 2018, Hyderabad, India

ONE GLOBAL PLATFORM – FOUR KEY EVENTS!

GEO BUIZ SUMMIT	AI & IoT SUMMIT	GEO 4SDGs Addressing Agenda 2030	LOCATION — WORLD —
15-16 January, 2018	18-19 January, 2018	18-19 January, 2018	18-19 January, 2018

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Using standards to make cities smarter

Dan Palmer

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BSI Smart city standards strategy

Standards for smart cities are needed to:

Provide good practice for **developing smart cities**

Allow the development of **replicable solutions**

Increase **confidence in procurement** of infrastructure and services

The Cities Standards Institute aims to accelerate the development of smart cities, by working with cities and their partners to find common solutions

Phase 1 of the programme is helping cities to take the first steps

Phase 2 aims to help create the long-term smart city market

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Cities Standards Institute

CITIES STANDARDS INSTITUTE | bsi. | CATAPULT Future Cities

A community of good practice for cities, based on standards

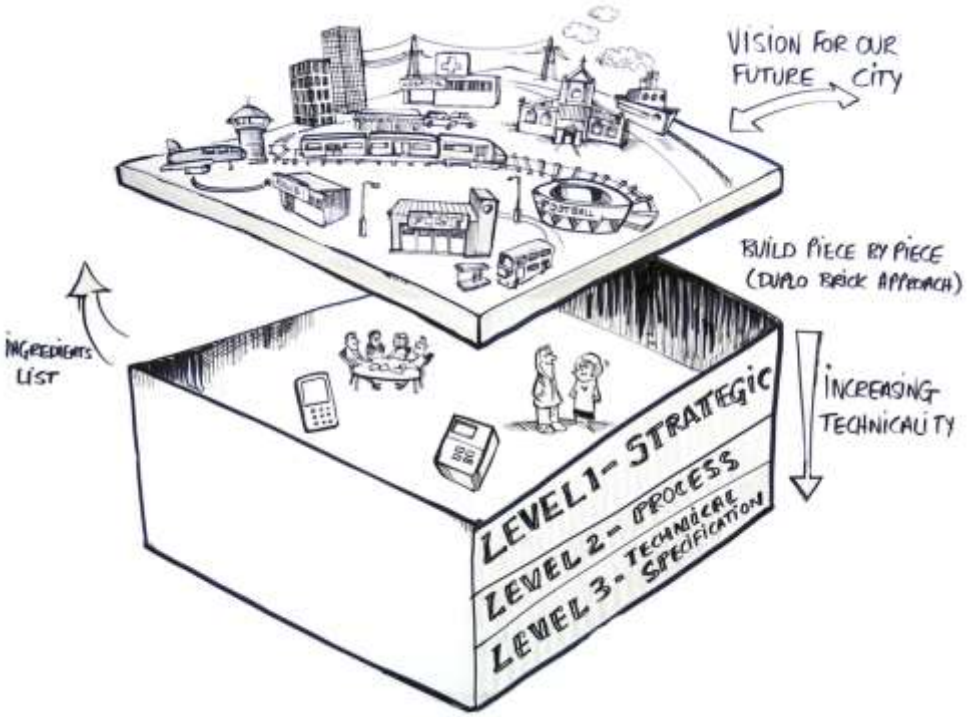
- Standards creation to accelerate the development of the future cities market
- Promotion of good practice, in the UK and internationally

Smart city standards landscape

✓ **Principles-based standards**
guidance to help the City Authority define its targets

✓ **Performance standards**
help the City Authority procure and deliver the infrastructure and services

✓ **Interoperability standards**
ensure data across the city is suitable for use in a range of service delivery sectors



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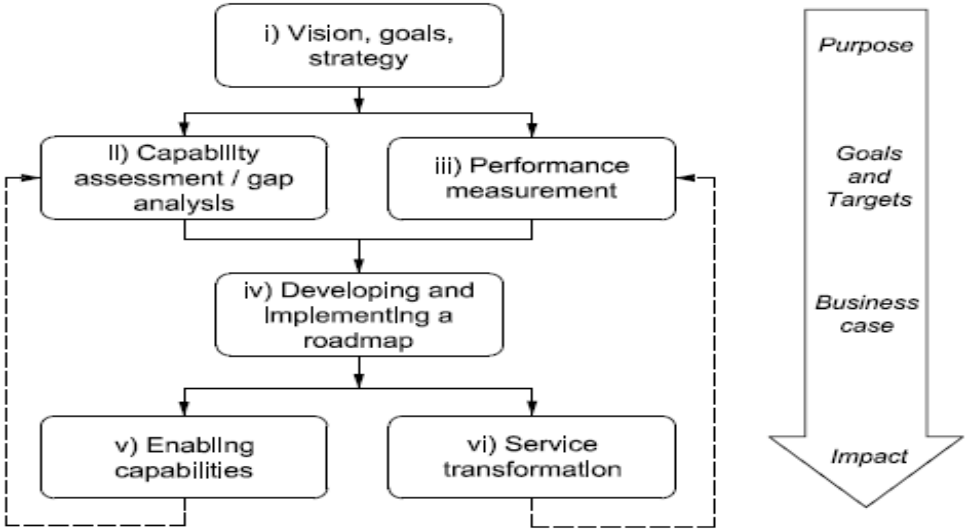
The smart city journey

The city's vision is the starting point for development of a smart city



Source: PD 8100, BSI.

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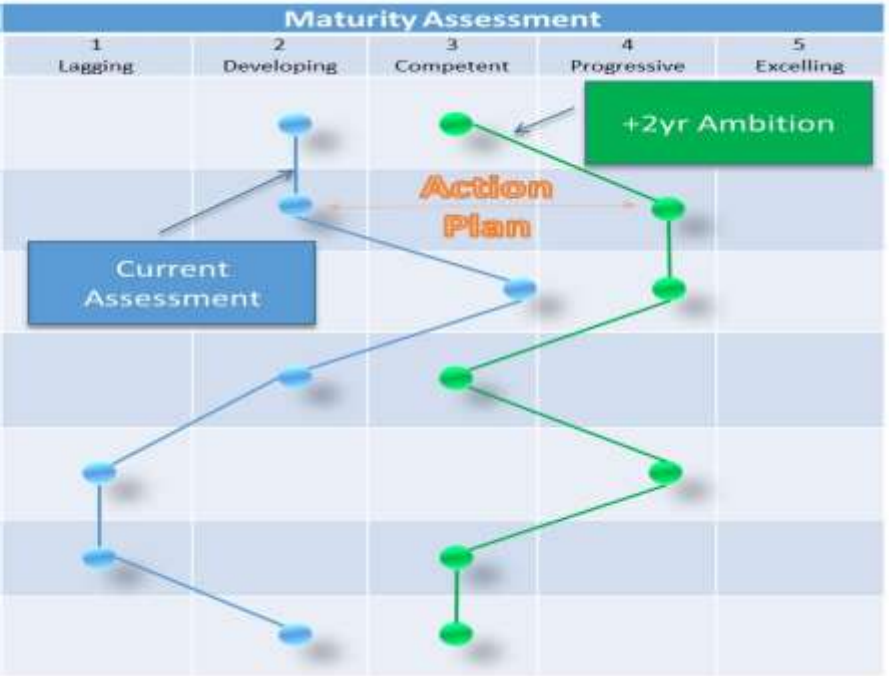
PD 8100 Making cities smarter – A guide for city leaders

Guidance on using standards to develop the city vision

Component	181 Ref	Characteristics
Leadership Environment	A B1 B3 B8 D	Providing a strong city leadership network that advocates a common vision; operates as an effective leadership team; role-models the desired style; sets priorities; creates and maintains a coherent roadmap; and ensures city success
Customer / Stakeholder Focus	B9 B10	A city that is built around its citizens, business community and visitors (as key stakeholders / customers); that truly understand them; engages them effectively; and proactively ensures their active contribution to progress
Service Enablement	B2 B3 B5 B7	Providing the enabling context for success: including policy, planning, common protocols; means of collaboration; capability / capacity mgmt.; financing; business models; procurement processes; & an underpinning operating model
Service Delivery		Offering and managing quality services to city stakeholders, through direct or indirect means.
Digital Asset Mgmt	B6 B13 B14 B11 B12	Exploiting the power of data sharing and modern technologies (e.g. social media, analytics, mobile, cloud, sensors) through investment in and mgmt of digital assets; including respect of privacy and digital abilities
Physical Asset Mgmt		Inventorising and exploiting physical assets; for multi-purpose; managing life-cycles and investments; and integrating physical and digital assets; complete capture and open sharing of asset information
Performance Mgmt	C	Setting appropriate goals and targets; establishing measures and monitoring practices; ensuring a performance culture; predictive use of data; robust public value measurement; open reporting of value to stakeholders



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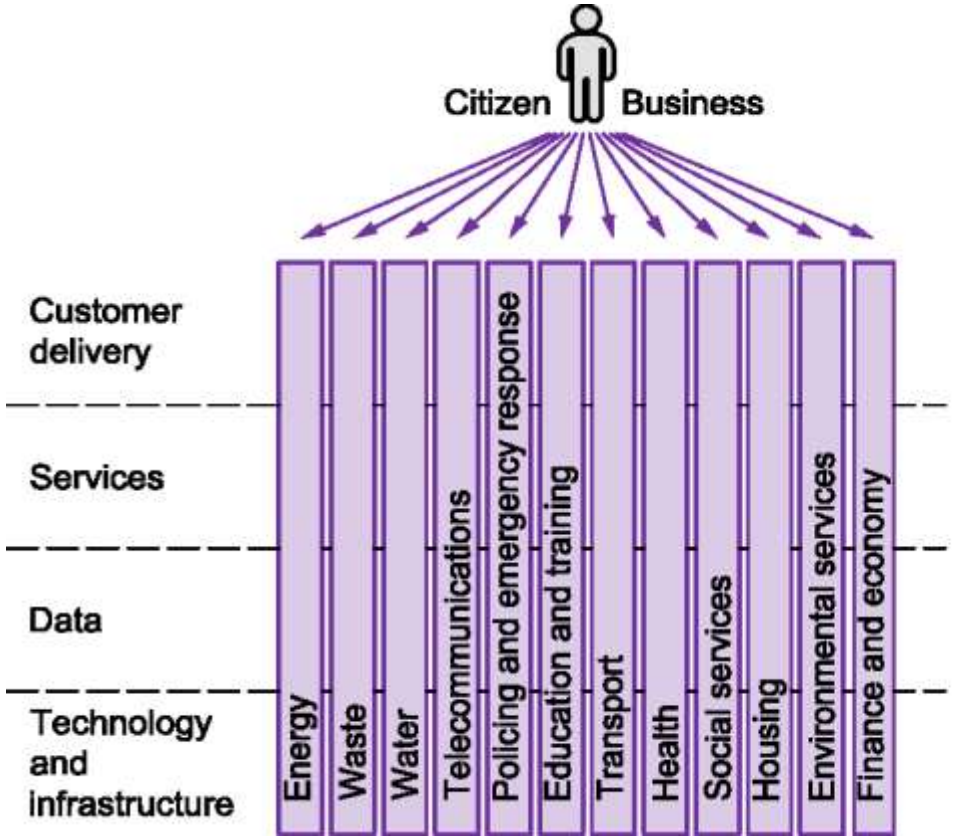
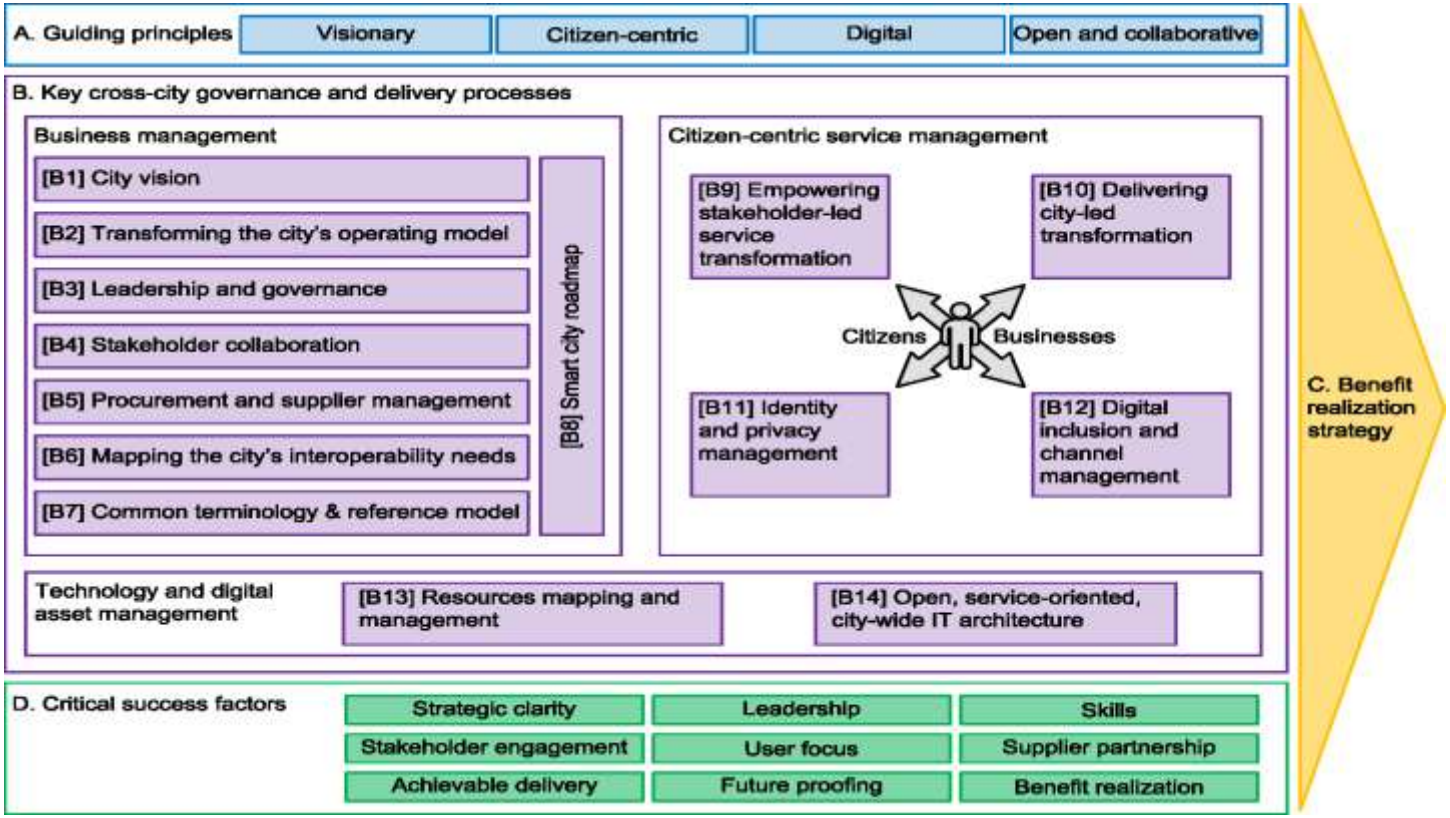
PAS 181 – Transforming the city's operating model



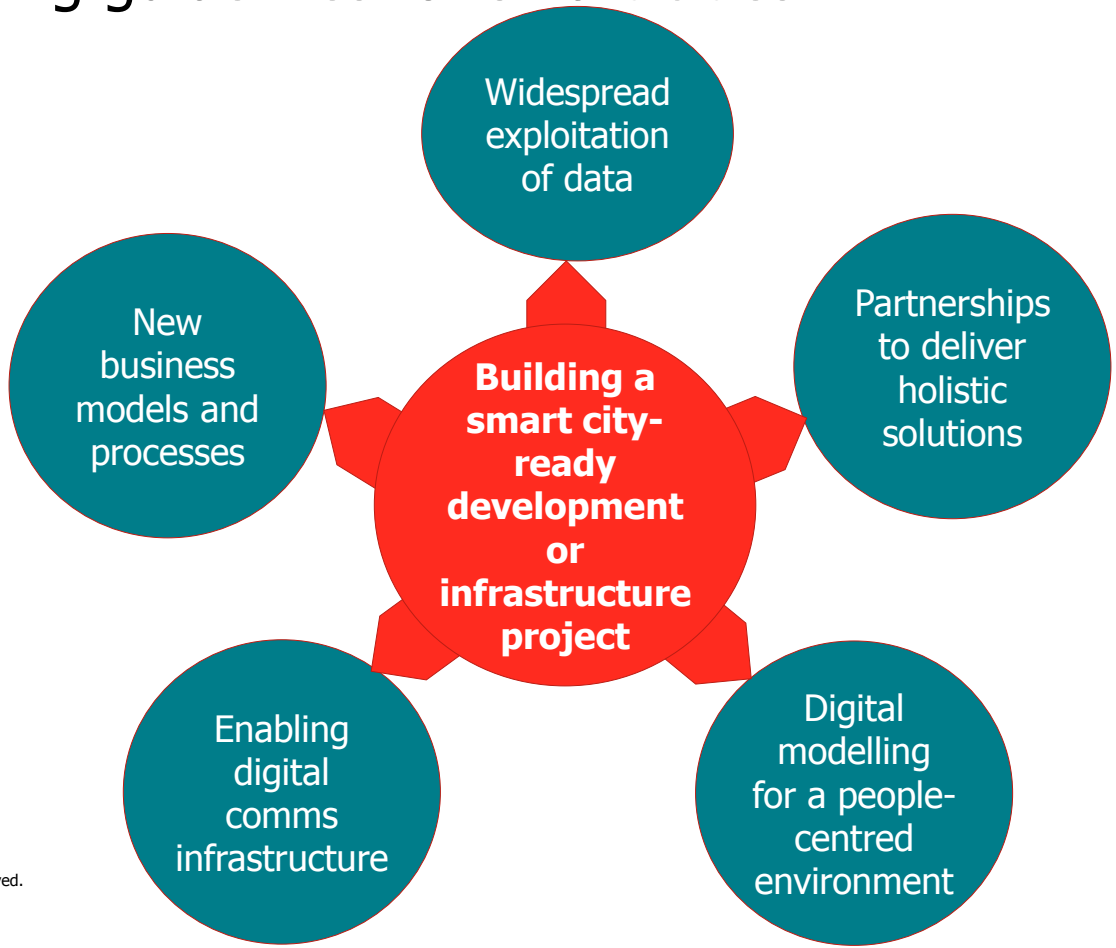
Impact:

- Unconnected
- Not customer-focused
- Inefficient
- Closed systems, not open to externally-led innovation
- No ability to drive cross-system innovation
- No ability to drive city-scale change at speed

Smart city framework from PAS 181



PD 8101 Planning guidelines for smart cities



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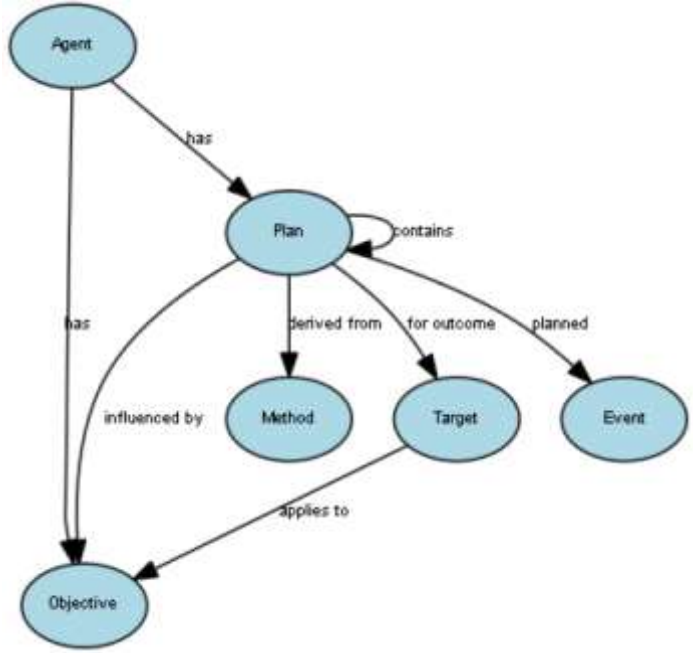
PAS 182 Smart city data concept model

A high-level ontology for comparing city datasets

The SCCM can be used to:

- catalogue data holdings from different organizations, leading to improved discovery and reuse;
- promote definitive identifiers and categorizations as reference information for each concept against which city data can be harmonized and joined up;
- agree data standards for specialisms within a concept that are of particular interest to a city;
- understand datasets from other sectors;
- construct a local data ecosystem where data can be contributed and consumed by different organizations and people for a city.



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PAS 183 Decision-making framework for sharing data and information (in development)

Addresses the organisational barriers to sharing data in a city

- Establishing a data sharing culture
- Type of data required to be shared
- Establishing the roles and responsibilities for the data value chain
- Purposes for data use
- Defining access rights for data
- Assessing data states
- Data formats and transportation

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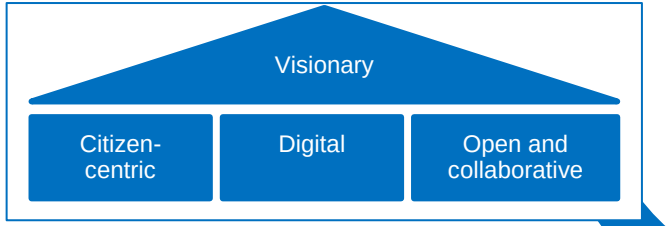
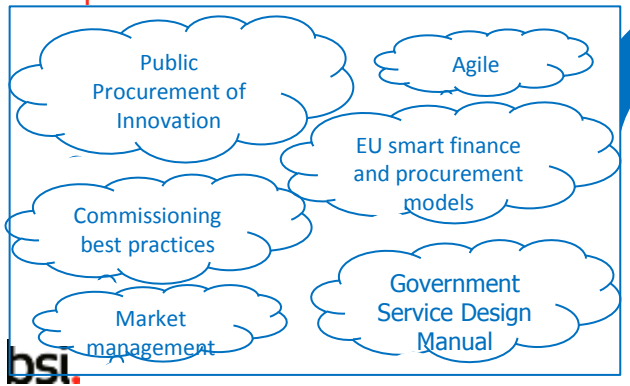
PAS 184 Developing project proposals for smart city solutions (in development)

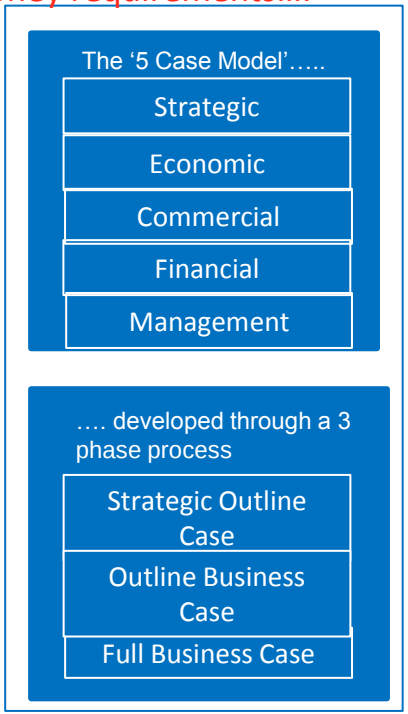
How PAS 181 Guiding Principles….



…. can be deployed through project-level best practices….



… to meet mandatory Value for Money requirements….



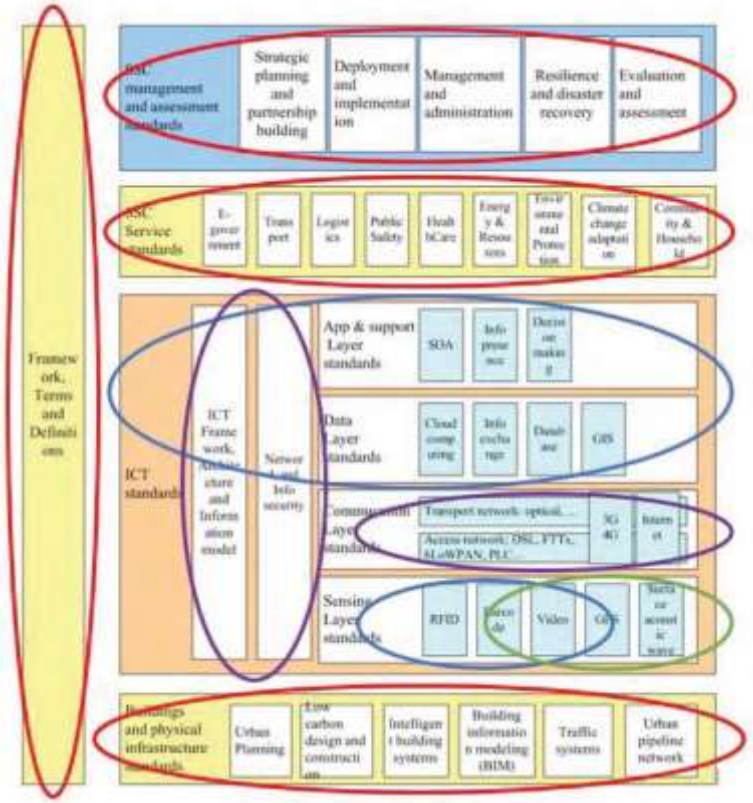
… in ways that demonstrate significantly improved outcomes and a step change in innovation

International perspective

BSI contributes to the smart cities work in ISO, IEC, ISO/IEC JTC1 and CEN/CLC/ETSI

New UK committee, SDS/2, to contribute to all international standards work on smart cities

- Smart and sustainable city management system
- City level and infrastucture indicators
- Reference models
- Terminology

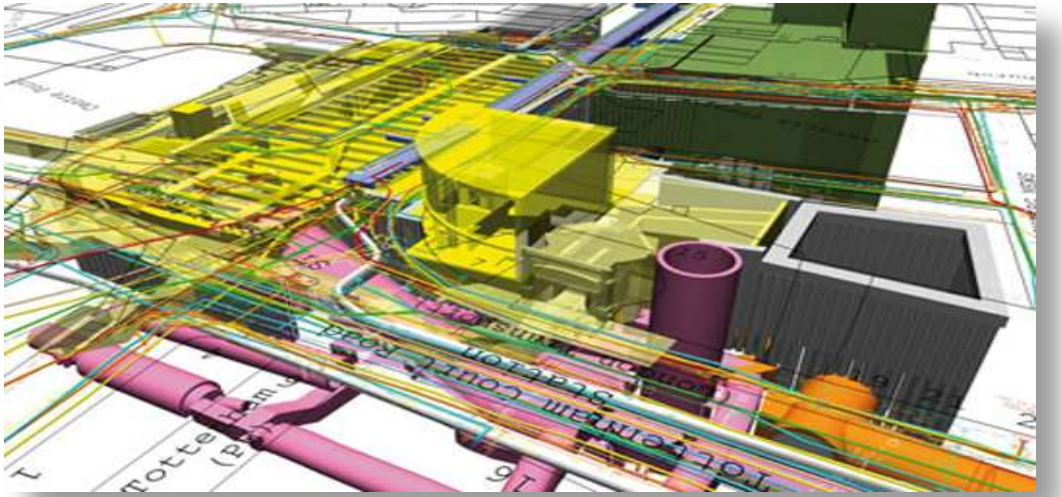


Source: ISO/IEC JTC1, *Smart cities premilinary report 2014*

Smart cities, BIM and geospatial data

The top-down strategic smart city approach needs to meet the bottom-up data-driven approach

BIM level 3 will geospatial data will provide in-use operational and performance information



The BSI smart cities programme

Free download available from
www.bsigroup.com/en-GB/smart-cities/

PHASE 1 - Delivered
PHASE 2 - Future work
ISO work

PAS 181 – Decision-making framework

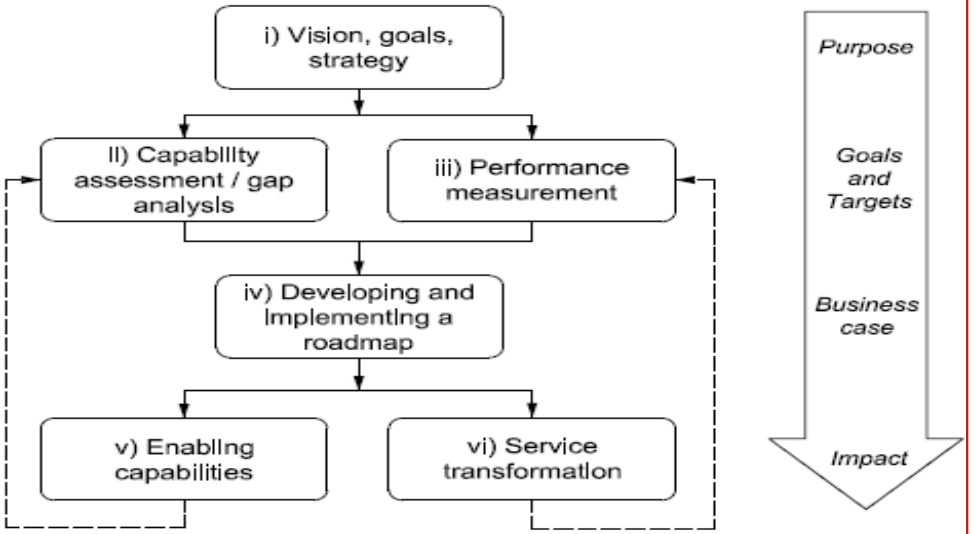
Smart city leadership programme

PAS 180 – Vocabulary

PD 8101 – Smart city planning guide

PAS 182 – Concept model for data interoperability

PD 8100 – Smart city overview



City performance assessment

Smart city solutions – procurement and business case

Data sharing framework

Circular city economy

Use cases (Street lighting, Parking sensors,…)

Citizen engagement

BIM alignment

IoT alignment

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