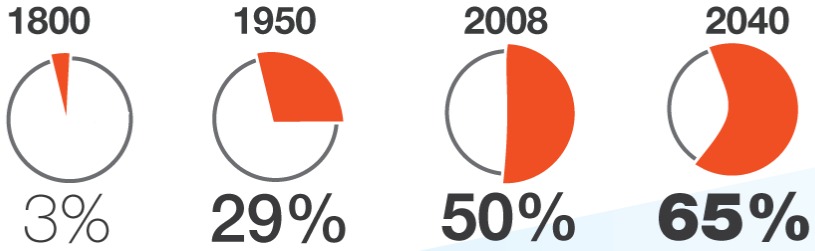
Smart and Sustainable Cities POV

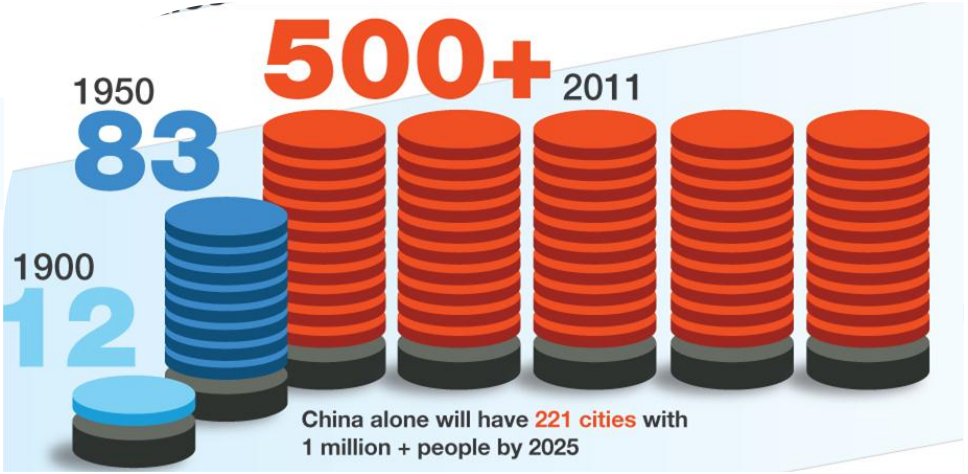
Using analytics to create smart cities

History of Cities…

- % of population living in cities



- # of cities with more than 1 million people



- **21** Megacities with over 10 million people **29 by 2025** – up until 1975 there were 3
- Cities use **60%-80%** of the world's annual energy needs

Source: Anatomy of a smart city

Infosys®
Building Tomorrow's Enterprise

Rising Urbanization……

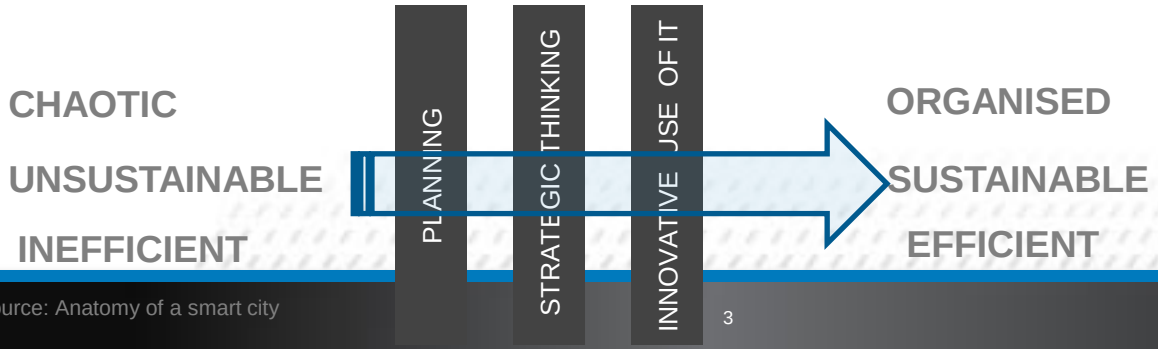
Urbanization is the key to the development of the world' economies; but in developing countries 32% of the urban population live in "slums".

Shadow cities
Informal Settlements
"Slums"

1 billon

people call "slums" their home today

2X by 2030



Source: Anatomy of a smart city

Sustainability Macro Trends

What is a Sustainable and Smart City?

SMART CITIES

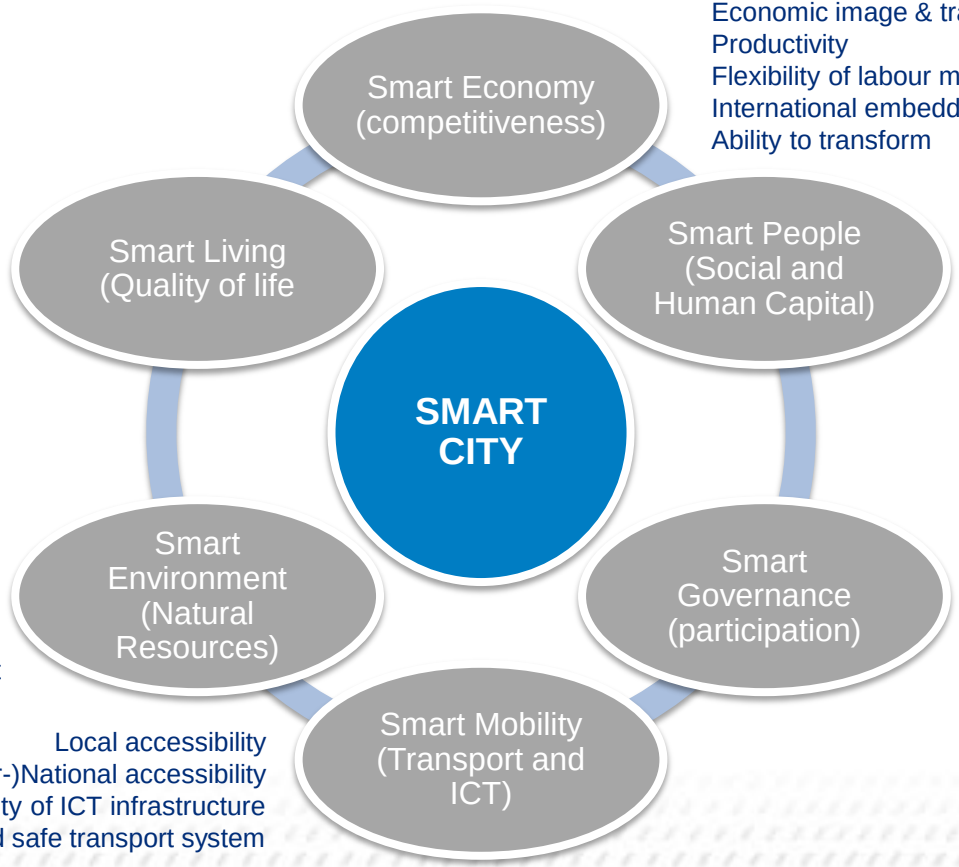
requires an integrated management of the economic, social and infrastructure aspect of urbanization with the use of advanced networked information

reconcile the challenges of rapid growth with “SMARTNESS”

SUSTAINABLE CITIES

"improving the quality of life in a city, including ecological, cultural, political, institutional, social and economic components without leaving a burden on future generations…".

All elements?



Innovation spirit
Entrepreneurship
Economic image & trademarks
Productivity
Flexibility of labour markets
International embeddedness
Ability to transform

Level of qualification
Affinity to life long learning
Social and ethnic plurality
Flexibility
Creativity
Cosmopolitanism / Open-mindedness
Participation in public life

Participation in decision making
Public and Social services
Transparent governance
Political strategies & perspective

Local accessibility
(Inter-)National accessibility
Availability of ICT infrastructure
Sustainable, innovative and safe transport system

Natural conditions
Pollution
Environmental protection
Sustainable resource management

Cultural facilities
Health conditions
Individual safety
Housing quality
Education facilities
Touristic attractivity
Social cohesion

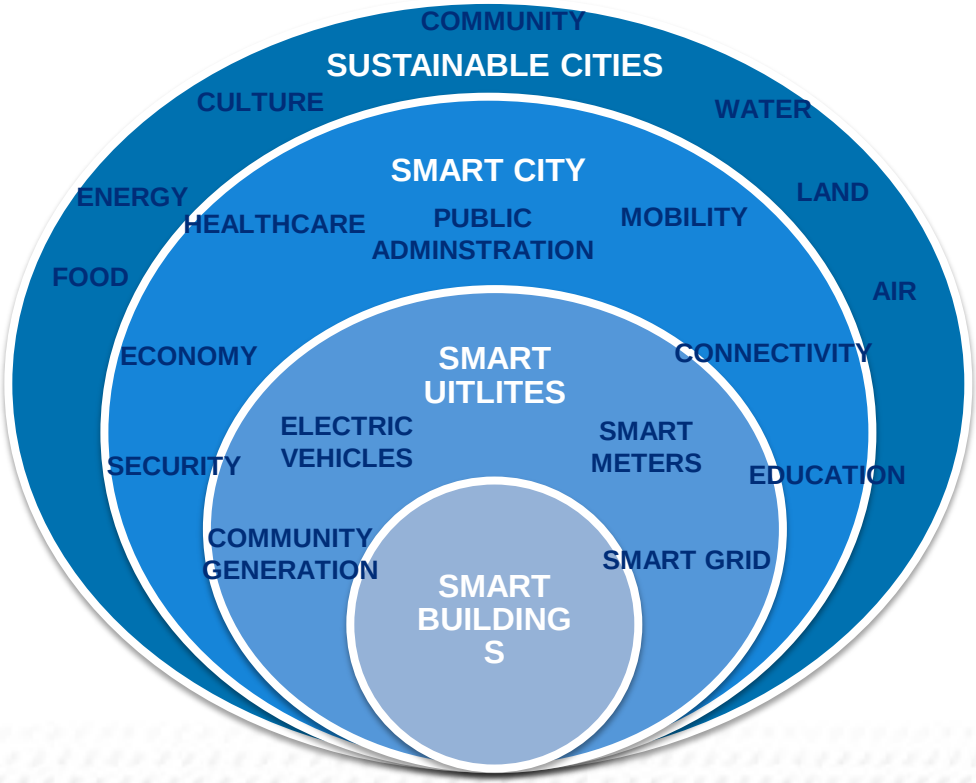
Source: Springer, 2012 – Smart cities of the future

Infosys®
Building Tomorrow's Enterprise

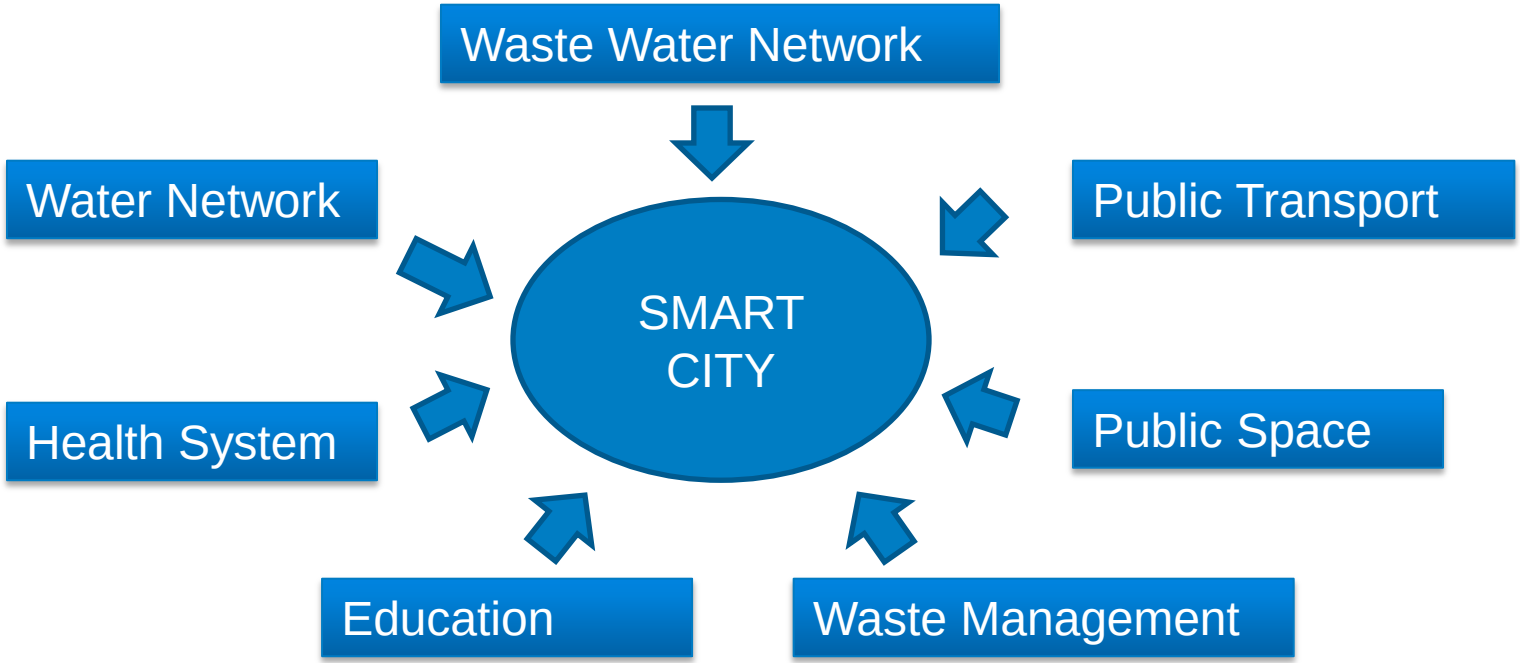
Sustainable and Smart City

SUSTAINABLE CITIES

(encompasses)



Problem Statement – How to reconcile and manage so many issues?



The challenge that we will all face

Big Issues + Big Problems = Big Data

Smart City? Yes if we are talking new city.

http://www.smartcity-planning.co.jp

New Cities

VS

Old Cities

Is this Smart?

Does installing a smart meter of this old pipe make it smart?

+

= Smart?

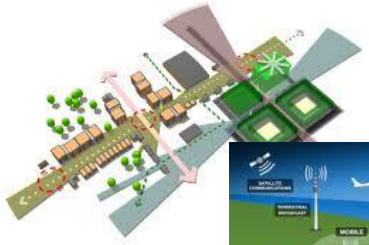
Smart Meter

Corroded Old Pipe

Smart should not be a substitute for Efficient

Experts – Lots of them!

- Urban Designers
- Traffic Planners
- Engineers
- Police/Law Enforcement
- Telecommunications
- Politicians?



Smart Cities we can say are all about working together.

London 2012 Olympics Redevelopment

But do we consider it to be a smart city?

Some Facts

- 98% of construction waste diverted from landfill and reused or recycled instead
- Nearly 2 million tonnes of contaminated soil was cleaned for reuse on the Olympic Park in the UK's largest soil-washing operation
- 63% of materials delivered to the Olympic Park site by weight by rail or water. 4 million tonnes of goods will have been moved by rail by the start of the Games, saving 120,000 tonnes of CO_2 from an equivalent delivery operation by lorry
- 4,000 smooth newts, 100 toads and 300 common lizards relocated off the park, as well as fish including pike and eels. Over 1 hectare of new wildlife habitat was created on Hackney Marsh to accommodate these
- Over 4,000 trees, 74.000 plants, 60,000 bulbs and 240,000 wetland plants will be planted to create a new open green space for London, one of the largest planting projects ever undertaken in the UK
- Park and venues feature 45 hectares of wildlife habitats - including reedbeds, grasslands, woodlands, 525 bird boxes, 150 bat boxes and artificial otter holts
- Olympic Park sports venues will use 56% less drinking water than equivalent buildings - through features such as low flow water fixtures and toilets and the use of reclaimed water
- New energy infrastructure will help achieve 50% reduction in CO_2 emissions from permanent buildings on the site
- The Olympic Village will achieve 44% reduction in carbon emissions and 30% reduction in water use - meeting Government's 'Code for Sustainable Homes Level Four'

Palava City

Lavasa City

Amanora Township

Road Infrastructure

Uninterrupted power

24 x 7 water supply

Piped Gas

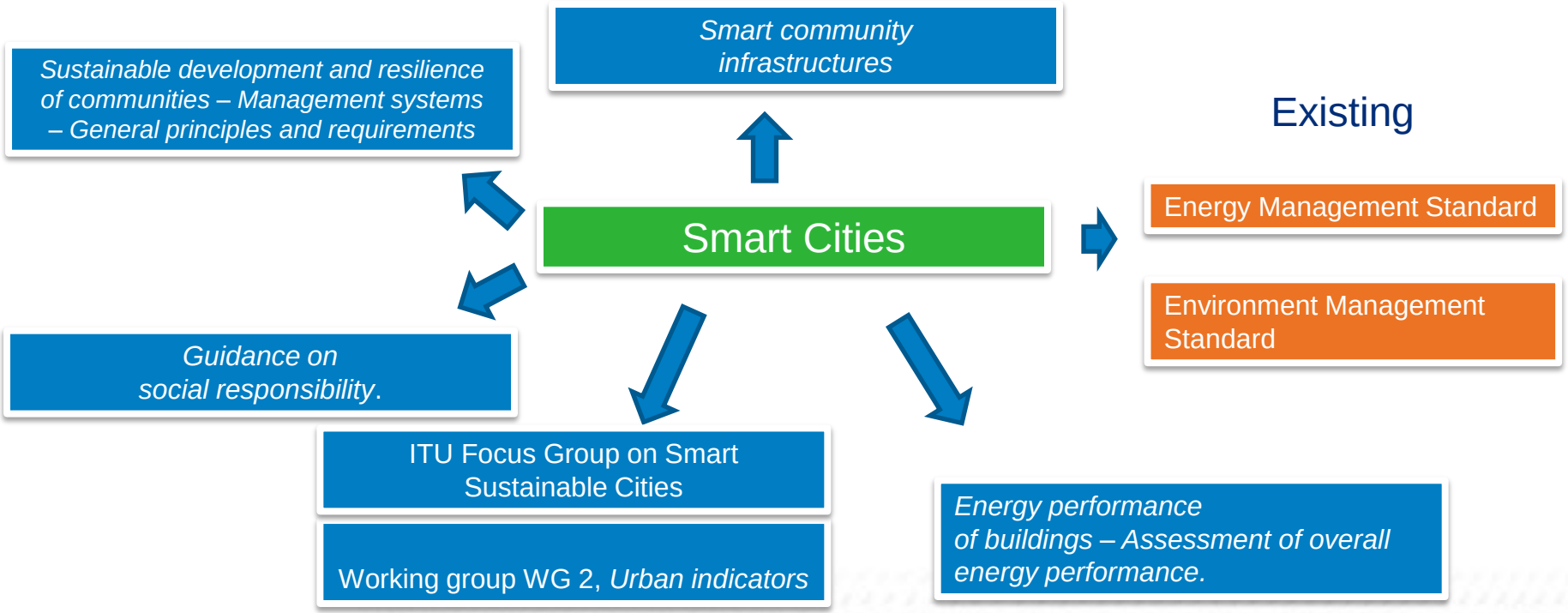
Health care

Education

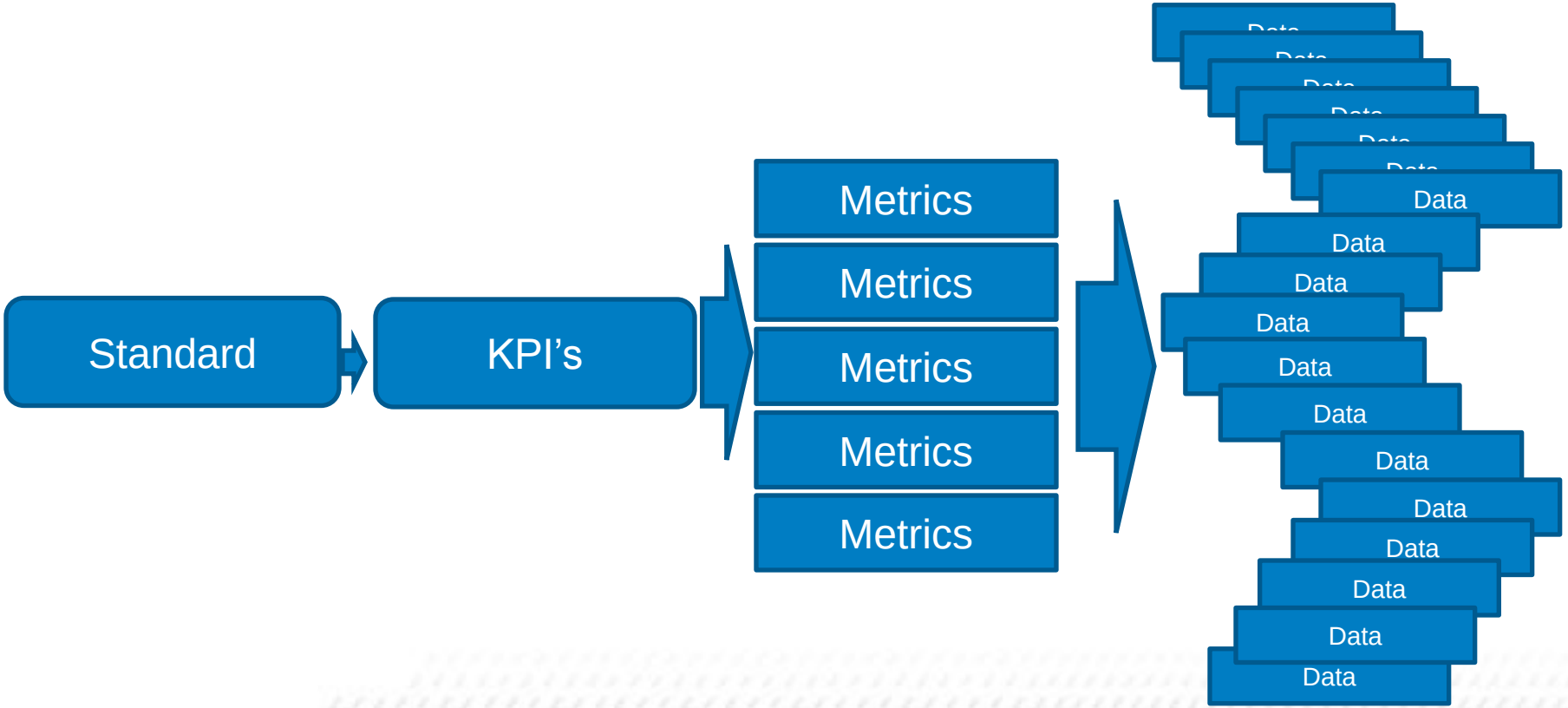
Shopping and fun

Digital living

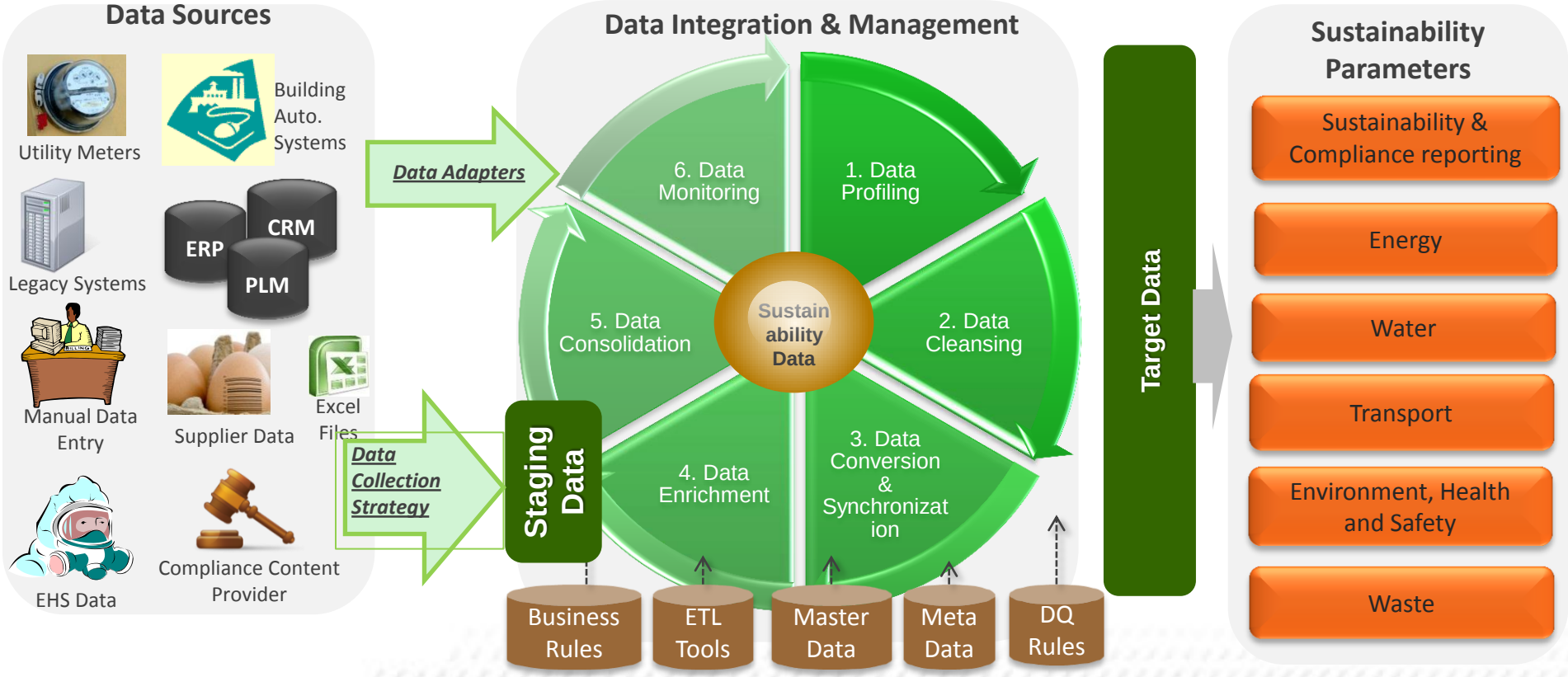
There will be Future Standards to guide us



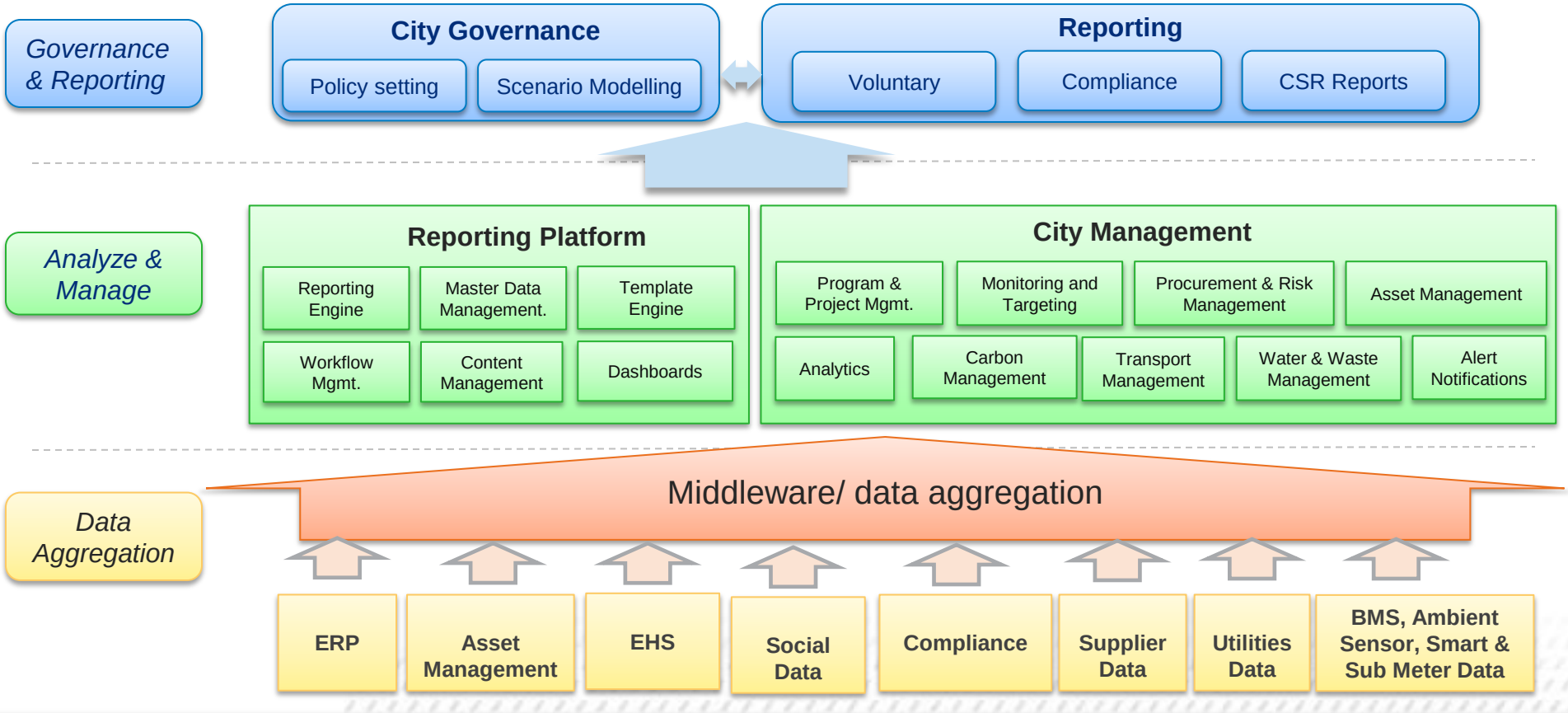
Standards will require data.



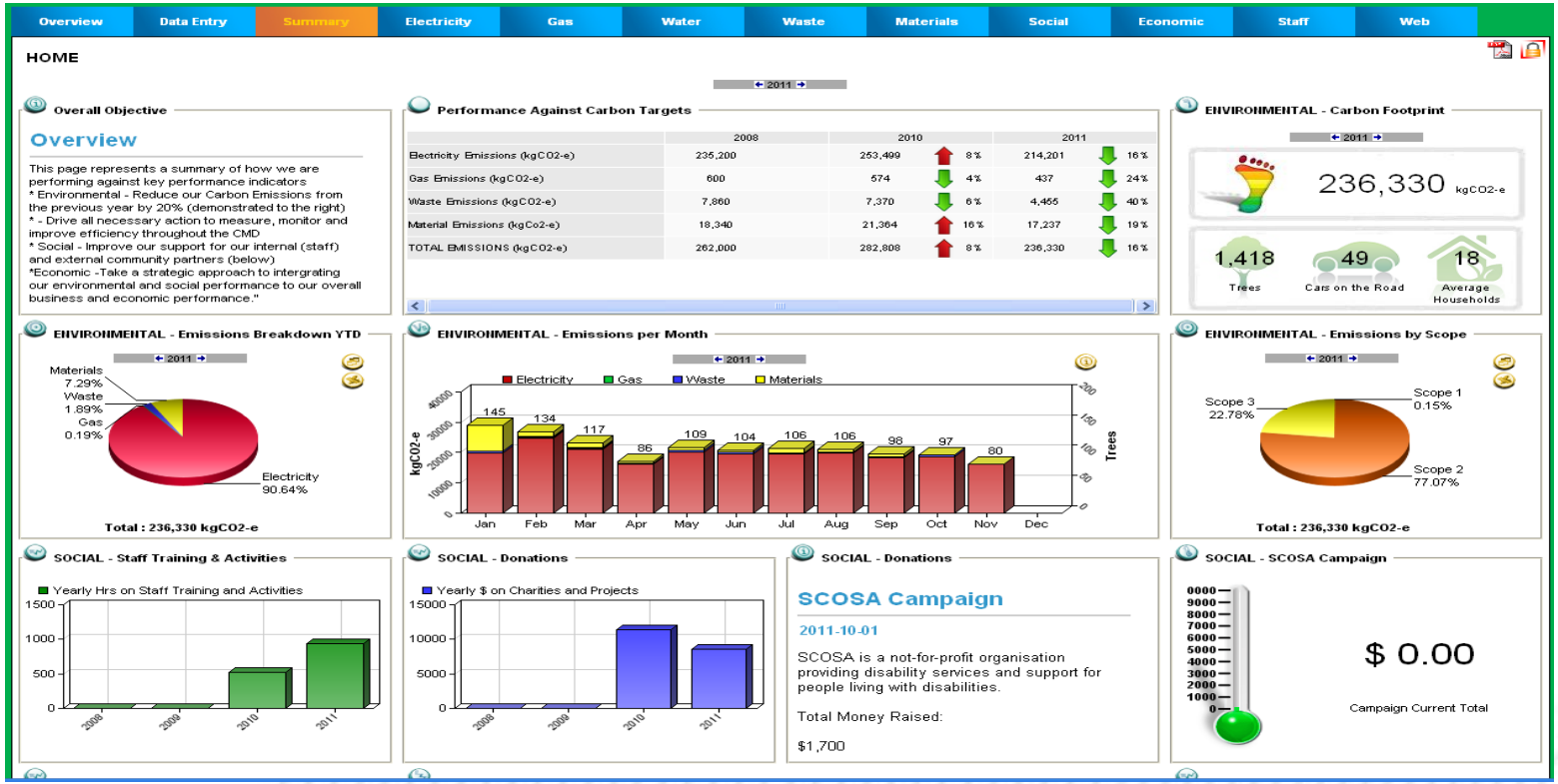
Metric Require Inputs - Sustainability Data Management Systems



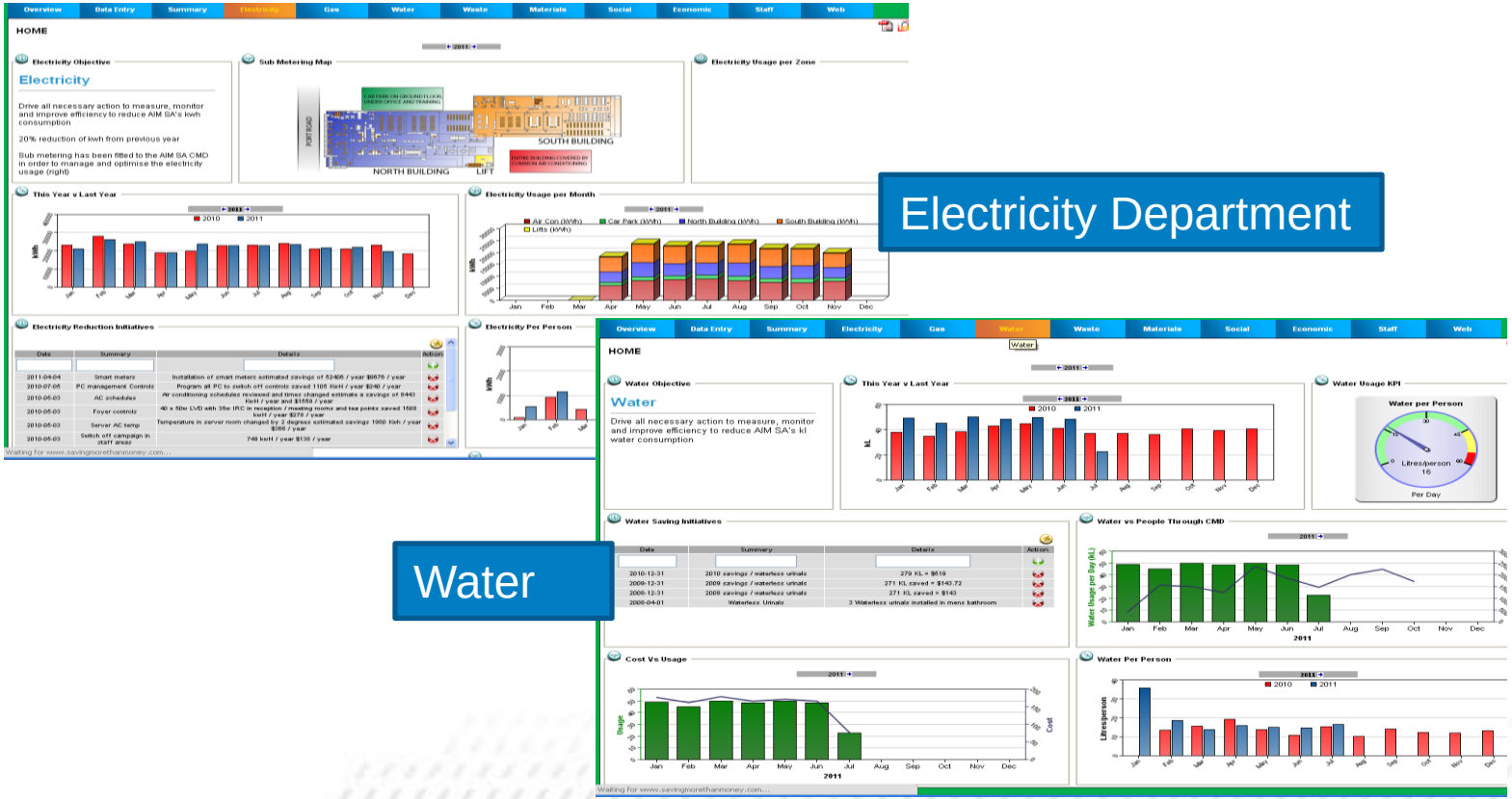
Metrics will give you big data - Conceptual Solution to Smart Cities



What in reality would people actually see – Mayor Level



Specialists Views



Infosys® | Building Tomorrow's Enterprise

THANK YOU

www.infosys.com

The contents of this document are proprietary and confidential to Infosys Limited and may not be disclosed in whole or in part at any time, to any third party without the prior written consent of Infosys Limited.

© 2012 Infosys Limited. All rights reserved. Copyright in the whole and any part of this document belongs to Infosys Limited. This work may not be used, sold, transferred, adapted, abridged, copied or reproduced in whole or in part, in any manner or form, or in any media, without the prior written consent of Infosys Limited.