Green Business and Infrastructure Committees

“Smart Hong Kong”

French Chamber of Commerce
January 2013
Why should Cities become smarter?
The Energy challenge and the cities

Cities today...

- Earth’s surface: 2%
- World population: 50%
- Global energy consumption: 75%
- Global CO₂ emissions: 80%

...and by 2050

- World population: 70%
- Years to double the urban capacity developed over the past 4000 years: 40

The battle will be won, or lost, in the cities
As cities grow, so do their challenges.

Overloaded infrastructure
Congestion
Environmental targets
Pollution
Scarcity of resources

Reduce costs & manage debt
Attract global investment, jobs, talent

Cities need to solve these challenges to make the difference!
Cities need to become smarter

Urban efficiency delivers liveability and sustainability

- An efficient, liveable, sustainable city
- Improving the efficiency of the city’s underlying urban infrastructures
- Improving public services: schools, safety, transportation...
- Becoming a better place to live, work and play
- Improving attractiveness for residents, citizens and visitors
- Creating jobs
- Increasing competitiveness

Cities need to become smarter
Urban efficiency made real

- up to 30% Energy savings
- reduction of Water losses by up to 15%
- reduction of Travel time and Traffic delays by up to 20%
- and longer-term Environmental, Social & Economic sustainability
  - reduced air pollution and carbon emissions
  - economic boost from infrastructure investment
  - improved security and local jobs
Making cities smarter means empowering both operators and end users

City Government
More efficient city management

City Residents
Services & information

Integrated City Management Platform
Information Sharing
Business Intelligence
Decision Support
Incident Management

Smart Energy Systems
Smart Mobility Systems
Smart Water Systems
Smart Public Services Systems
Smart Buildings & Homes Systems

Communications Network(s)

Continuous Optimization of Infrastructure Efficiency

We can make cities more integrated: not for the sake of integration, but targeting the areas where it brings true observable value for end users
This demands stakeholders collaboration

A Smart City will combine public governance, people ownership and business collaboration

- **Governments**
  Includes National, regional as well as local city officials

- **Private Investors**
  Includes international development banks and private organizations

- **Planners & Developers**
  Includes real estate developers, urban planners, & property managers

- **Industry suppliers**
  Includes ICT, energy, transportation & infrastructure vendors & service providers

- **Utilities**
  Includes city and private electric, water, & gas utilities

- **NGO’s & associations**
  Includes all local organizations - citizens, businesses & NGOs
Introducing AECOM
Outline

• Introduction
• City trends
• Systems approach
• Liveability approach
• Lessons learnt so far
• Way forward
Introduction

- Cities are the nexus of social and economic activities and will become the points of mankind’s development for the future.

- “We do a lot of analytics. When we crunch the numbers, cities get tired of hearing about ‘smart.’ Where is the wisdom? What is the outcome? Who are you today really? What kinds of problems are you having with poverty alleviation, for example? Who are you trying to become? What is the city you are trying to govern?”

Gary Lawrence (Chief Sustainability Officer, AECOM)
City trends

- Increased urban migration
- Pollution concentration in urban areas (e.g. air and water pollution)
- Risk of spread of infection
- Higher impacts from natural disasters (e.g. earthquakes, floods, landslides)
- Ageing populations, as longevity of citizens increases due to better healthcare and living conditions
- Increasing disparities in wealth, exacerbated by divisions in housing standards
- Climate resilience.
Systems approach

Vision
Clear Air
Safe Road
Sustainable Energy
Better life

Smart Energy
Smart Homes
Smart Security
Smart Buildings
Smart Mobility
Smart Water
Hong Kong Examples

- Smart Cards
- Traffic Information System
- Healthcare
- Public security
- Intelligent betting systems
- Many others

But will these tackle air pollution, housing, an ageing population and the wealth gap?
Liveability approach

- Land use: optimal building density for housing and commerce as well as public facilities
- Mobility: extensive use of public transit systems, integrated zones for residential, industrial and commercial use
- Energy: reliability, security and clean sources
- Urban water demand management: safeguarding of supply sources and maintaining efficient delivery and disposal systems
- Open communal spaces: park systems with extensive greenery and natural ventilation systems
- Smart growth: reduced urban sprawl and construction of green buildings or green retro-fitting
Lessons learnt so far

• Systems to manage infrastructure like water, energy and mobility are widely applied - significant efficiency gains due to robust feedback mechanisms and automated responses.

• Assembling systems kit is not just about installing hardware - systems need to be aligned with citizen needs and managed accordingly whenever there are changes in society or the environment.

• Different systems are set up to manage different concerns - there may or may not be synergy in integrating them i.e. you cannot force fit systems together if the outcomes and the metrics are different.

• Investment decisions are difficult to make as what to prioritize over others – should energy and water usage be given urgent attention over healthcare and public security expectations?
Way forward

- Designing a city involves:

Sustainable mapping is a possible option, followed by using solutions (including systems solutions) to support the outcome; this results in a much more satisfactory outcome in terms of customer “feel” and satisfaction - a common platform of spatial land use can be used and the ROI based on sustainability performance determined accordingly.
Collaboration?
France – AFEP initiative

Supports French “Sustainable Urban environment offering”

● Strong support from French state
  ▪ Coordinated by Ministers for Sustainable Development, Foreign Trade, and Housing
  ▪ With involvement from Ministry of Finance
  ▪ Supervision from French Government

● Brings together 10 leading French companies:
  ▪ Alstom, Bouygues, GDF-Suez, Lafarge, Orange, Renault, St Gobain, Veolia, Vinci – and of course Schneider Electric

● Combines economic, environmental & social performance

AFEP has set 3 priorities to meet France’s ambitions

● 1-3 demonstrator projects in France and/or abroad
  ▪ Involving several companies
  ▪ Connecting several domains of expertise

● Promotion outside France
  ▪ With strong support from Ministry of Foreign Trade

● Communications plan
  ▪ Differentiated from other countries’ SmartCity offerings: ‘French touch’, focus on users (citizen value, social inclusiveness etc.)

● Timeline: recommendations to be submitted to French State in April ‘13

AFEP: Association Française des Entreprises Privées
World – WBCSD initiative

Urban Infrastructure collaborative initiative

● WBCSD is:
  ▪ a CEO-driven business association
  ▪ with focus on sustainable development and strong moral credibility

● The Urban Infrastructure Initiative:
  ▪ Brings together 14 companies: Acciona, Aecom, AGC, Cemex, EDF, GDF-Suez, Honda, Nissan, Philips, Siemens, Tepco, TNT, Toyota, United Technologies – and Schneider Electric
  ▪ With objective to engage with city officials upstream of any commercial project
  ▪ And demonstrate value of business involvement in early urban planning
  ▪ And value of multi-sector collaboration to address inter-related urban issues
World – WBCSD initiative

Roadmap and results

- Engagements with city in:
  - Europe: Finland, Netherlands
  - Asia: India, China, Japan
  - Americas: Mexico, USA
  - Africa (underway)

- Through a unique methodology
  - identifying potential partner cities through ‘bridging organizations’
  - sitting down with city officials to discuss specific requirements & challenges
  - sending down an expert transformation team
  - and sharing publicly the recommendations

- Results: approach recognized by cities looking for:
  - global visibility,
  - access to global expertise
  - Access to global best practices & benchmarks
Open discussion
Discussion to move forward

What is our target?

- What do we want to deliver?
  - Proposal for specific project?
  - Pilot project?
  - Event (s)
  - Collaborative workshop with officials?
  - Policy Recommendations?
  - Others … ?

- Scope
  - What themes to focus on?
  - Technology or Social?
  - Limited or entire city?

- We are NOT
  - Organizing a new Smart City conference
  - Trying to push a package of solutions to the city through business as usual approach

How can we reach it?

- How to make it happen?
  - What preliminary work to do in order to better understand HK need?
  - What is our vision? (tech innovation for social inclusiveness? Other?)
  - Would we consider setting up a Smart HK initiative together?
  - Which players to involve (French companies, AECOM, others?)
  - Draw experience from previous collaborative initiatives (AFEP, WBCSD, …) ?

- What kind of resources?
  - How much financial and human resources from each company?
  - Young recruit to coordinate the initiative?
Make the most of your energy™