How UAE is Driving Smart Sustainable Cities: key Achievements and Future Considerations

By

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Chairman,

Smartworld

![Smartworld logo]

![Dubai South logo] ![Etisalat logo]

We are the leading Smart Solutions Integrator. With our far sight and well-rounded knowledge we have been able to pull off a great deal of tasks with utmost perfection. We are known for the design, implementation and integration coupled with the operation of the Smart Solutions.

SOME OF OUR **PROJECTS**

AL MAKTOUM INT' AIRPORT
Special Airport Systems Installation

DUBAI AIRPORTS – TERMINAL 2
Special Airport Systems Installation

DUBAI AIRPORTS – TERMINAL 1
Special Airport Systems Installation

DUBAI PARKS & RESORTS
ICT Backbone Cabling Package

NAKHEEL MALL
ICT & SECURITY Systems integration

ABU DHABI EDUCATIONAL COUNCIL
24/7 IT Managed Services

MINISTRY OF FOREIGN AFFAIRS
24/7 IT Managed Services

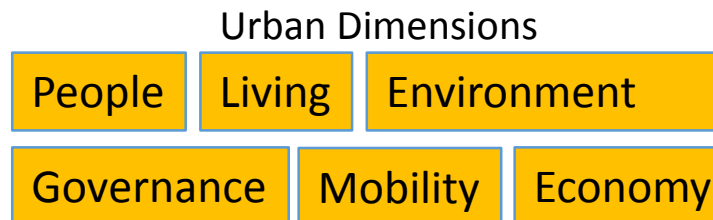**ABU DHABI NETWORKS**
24/7 IT Managed Services

How UAE is Driving Smart Sustainable Cities: key Achievements and Future Considerations

Agenda

- Overview of Smart Sustainable Cites

- UAE Active Role to Promote Smart Sustainable Cities

- Dubai Smart city initiatives and achievements

- Abu Dhabi Digital Government Initiative

- Key Considerations for the success of Smart cities program

Smart Sustainable Cities SSC: ITU Definition

- "*A smart sustainable city is an* innovative city *that uses information and communication technologies (ICTs) and other means to improve quality of life, efficiency of urban operation and services, and competitiveness, while ensuring that it meets the needs of present and future generations with respect to economic, social and environmental aspects*".

- Key attributes:
  - Sustainability
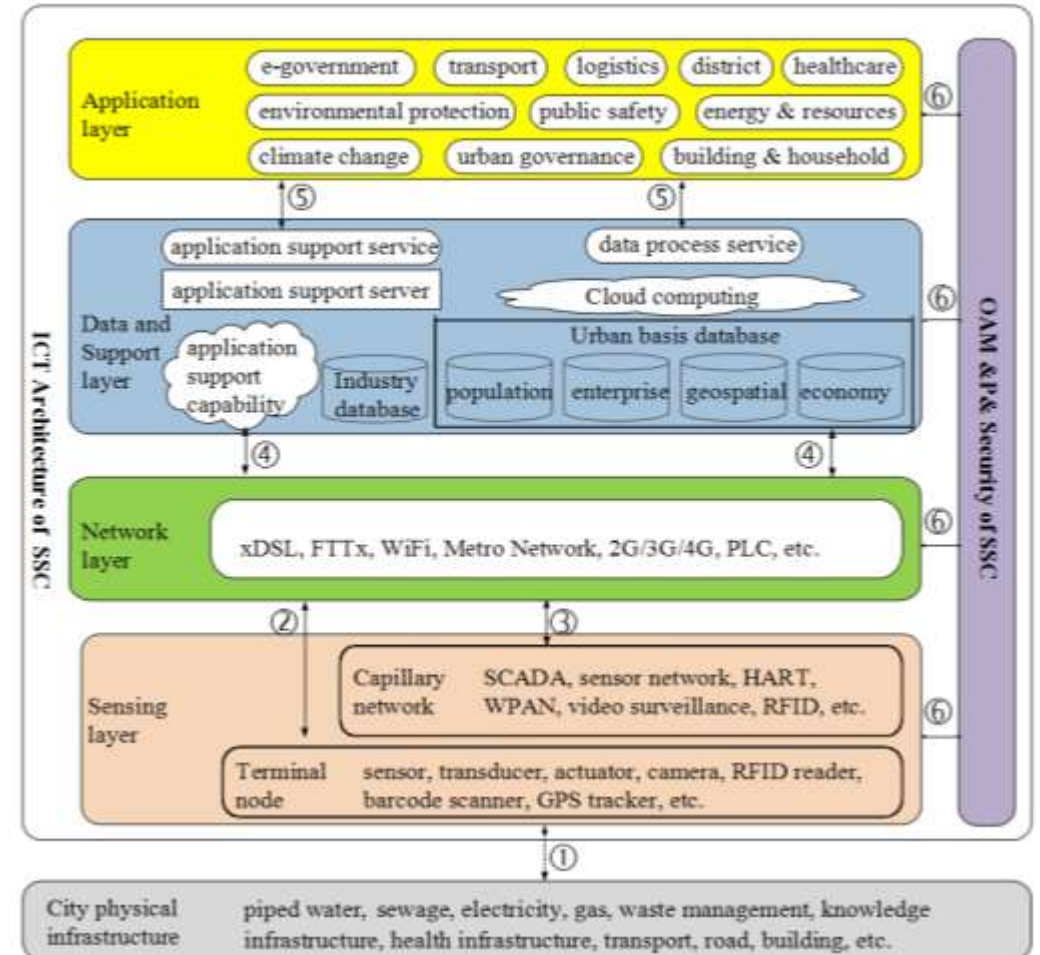 - Quality of life
  - "Smartness" or Intelligence

ITU SSC KPIs aligned with UN Habitat dimension

SSC dimension
ICT
Environmental sustainability
Productivity
Quality of life
Equity and social inclusion
Physical infrastructure

Urban Dimensions

People	Living	Environment
Governance	Mobility	Economy

ITU: Setting a framework for an ICT Architecture for a SSC

- ITU provides a standardized framework for development of an ICT architecture for a SSC
  - Define the complex system as a system of subsystems
  - Interconnections and interfaces
  - Information exchange between subsystems
  - Info security and privacy requirements

- Arch. Development depends on stakeholders needs and requirements
- Should be linked to the mission and objectives of the SSC program
- Open standards to insure interoperability and Integration
- Should consider other enabling technologies
  - Cloud computing
  - IoT
  - Big data and analytics

Source: ITU-T FG-SSC setting a framework for an ICT Architecture for a SSC

IoT will spark a new wave of innovation in Smart Sustainable Cities

- More than 1.6 billion sensors will be installed in smart city projects in 2016 and will reach 21 billion by 2020 [Gartner]
- Sensors everywhere: roads, buildings, homes, cars, street lamps, energy meters, wearable devices
- People as "sensors" concept (mobile crowd sensing)
- Applications: smart mobility, smart buildings, smart homes, smart energy, smart health, smart environment
  - Internet traffic from one house in 2020 will be equivalent to all internet traffic in 2008 [Cisco]
- IoT and analytics is a crucial component to optimize smart city operations and achieve intelligence or smartness
  - Infrastructure monitoring,
  - Optimizing traffic efficiency,
  - Health monitoring
  - Reduction of greenhouse gas emission.
- Should be based on open standards to achieve interoperability
- IoT data management issue
- Creating news roles and jobs, ex. IoT architects, data scientists
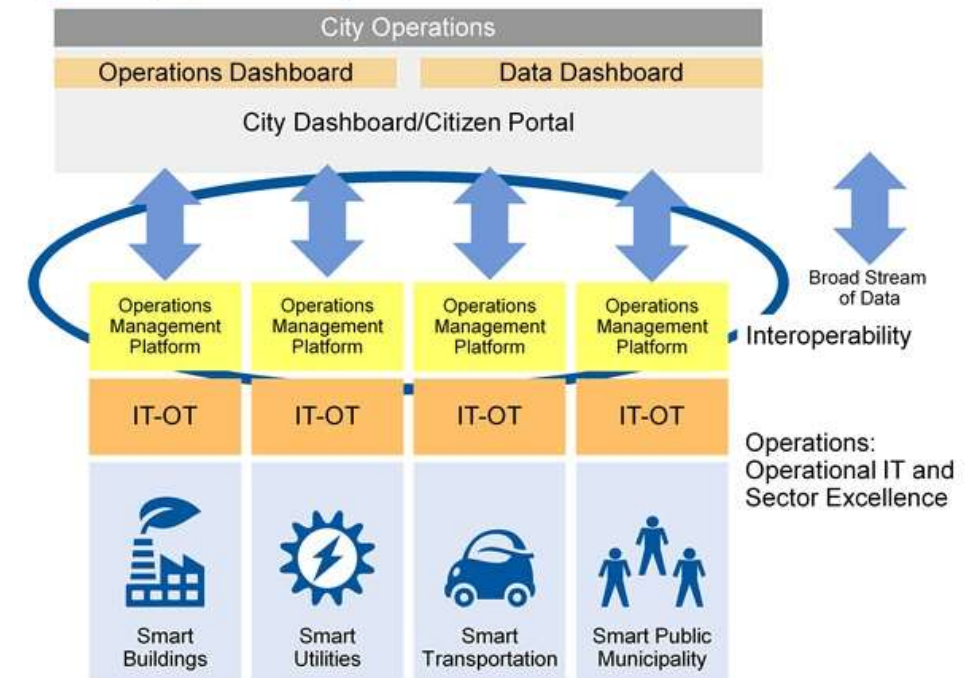- Challenges to maintain security and privacy

Smart City Platform to manage smart city operations

- Platforms not product will win customer relationship in SSC
- The platform should integrated with the ICT ecosystem
- To monitor and analyze the city's current conditions
- Ex. Visualize air pollution and traffic conditions from IoT data
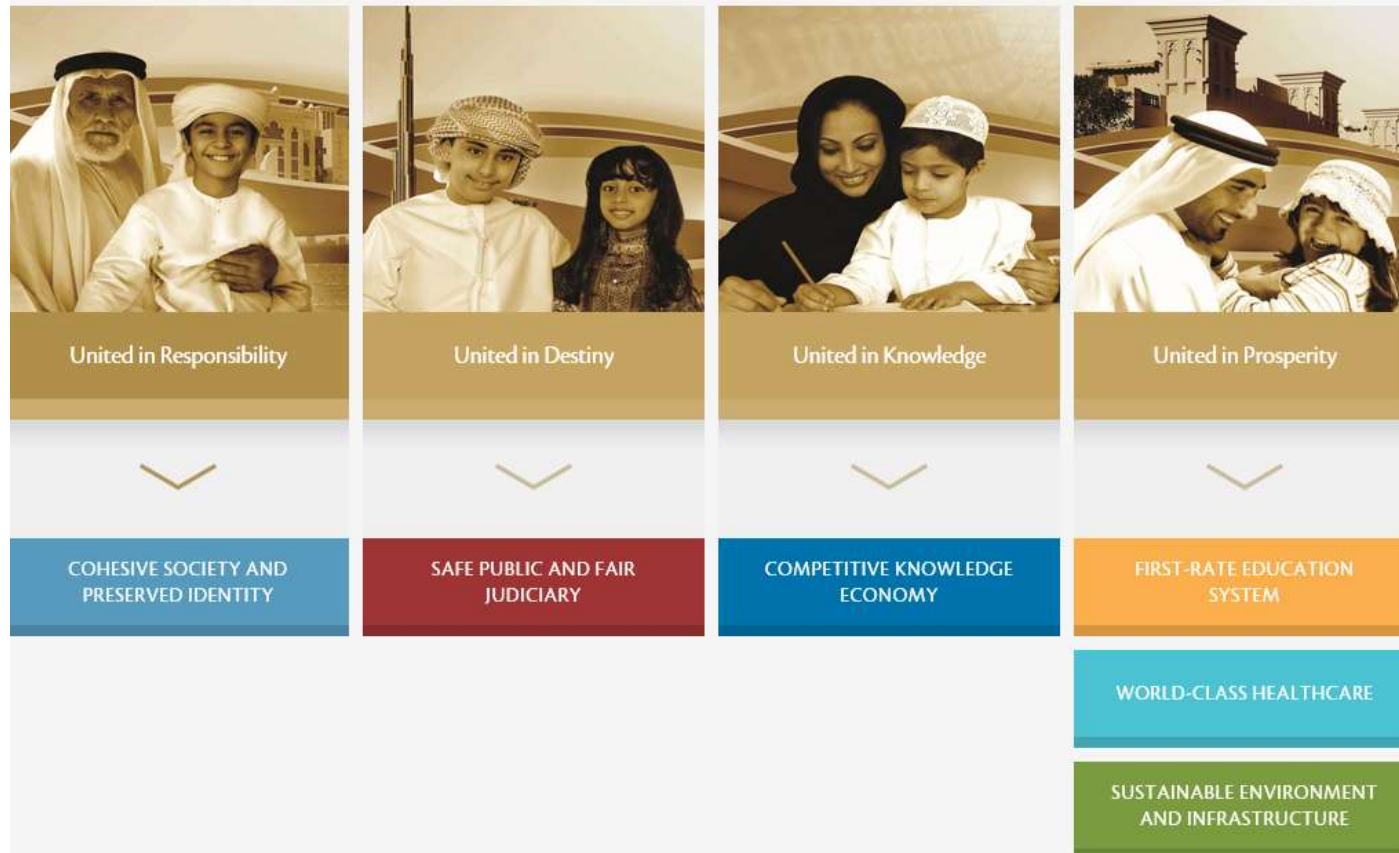- Evaluate OP performance against targets

Figure 2. City Operations Management Platform

Source: Gartner (July 2015)

UAE is Playing a Leading International Role Towards Achieving the SDGs

OUR VISION

United in Responsibility — COHESIVE SOCIETY AND PRESERVED IDENTITY

United in Destiny — SAFE PUBLIC AND FAIR JUDICIARY

United in Knowledge — COMPETITIVE KNOWLEDGE ECONOMY

United in Prosperity — FIRST-RATE EDUCATION SYSTEM / WORLD-CLASS HEALTHCARE / SUSTAINABLE ENVIRONMENT AND INFRASTRUCTURE

VISION 2021

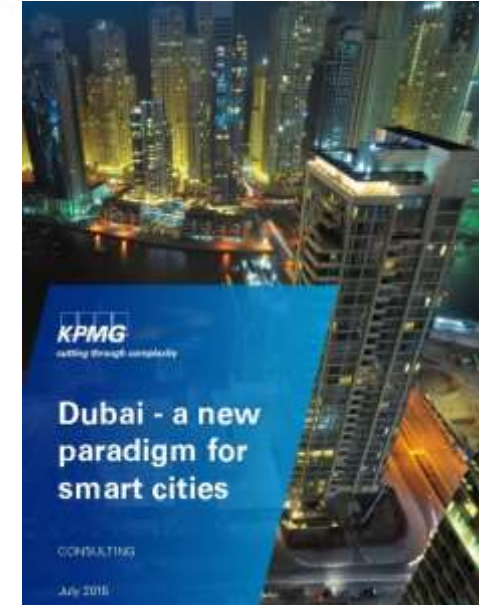## Sustainable Environment and Infrastructure

- Improving air quality
- Preserving water resources
- Increase contribution of clean energy
- Implement green growth plans
- Increase efficiency of infrastructure (world class infrastructure)

UAE is Leading the Global Sustainable Cities Network (GSCN)

- GSCN is one of the Clean Energy Ministerial (CEM) initiative

- Members: UAE, China, Sweden, France, Finland

- GSCN goal and objectives

  - GSCN functions as a knowledge-sharing and matchmaking platform
    for representatives with policymaking and procurement responsibilities in city management

  - Objectives: provide network members with unbiased, customized information about policy, technology, and supplier performance in clean energy supply, as well as introduce them to potential partners.

- UAE - MoE is the Secretariat

Dubai Smart City Initiative (Smart Dubai) Adopting a Unique Approach

A Smart City for Public Value

Digital Transformation through Agile Governance – The Case of Smart Dubai

Mohammed Bin Rashid School of Government

#SmartDubai   #WorldGovSummit

KPMG
cutting through complexity

Dubai - a new paradigm for smart cities

CONSULTING
July 2015

"Our goal is for the entire city's services and facilities to be available on smartphones. We want to provide a better quality of life for all."

H.H. Sheikh Mohammed bin Rashid Al Maktoum, vice president, and Prime minister of the UAE and Ruler of Dubai

Dubai Smart City Initiative (Smart Dubai) Adopting a Unique Approach

Vision

To be the first the "smartest" city in the world

To be the happiest city in the world

Dubai Smart City Strategy

Encourge collaboration between the public and private sectors to achieve targets in six 'smart' focus areas:
 smart living, smart transportation, smart society, smart economy, smart governance and **smart environment.**

Principles
Communication, **Integration**, and **Collaboration**

خطة دبي
2021
DUBAI PLAN

A City of Happy, Creative & Empowered People

An Inclusive & Cohesive Society

The Preferred Place to Live, Work & Visit

A Smart & Sustainable City

A Pivotal hub in the Global Economy

A Pioneering & Excellent Government

Source: Dubai Plan 2021 website

Key Achievements of Dubai Smart City

- Dubai Smart City Office – Dec 2015
  - To develop overall policies and strategic plans, supervise and provide guidance and approve city-wide projects and services
  - Launched Smart Dubai Portal (smartdubai.ae)

- Happiness meter – April 2015
  - A Live sentiment capture engine

- Issued Dubai Open Data Law – Oct 2015
  - allows sharing of non-confidential data between government entities and other stakeholders

- Dubai Data initiative to stimulate new data economy for the City – March 2016
  - Lead by Dubai Data Establishment
  - Guidelines for opening and sharing of city data across the public and private sector
  - Develop Dubai Data Platform and Dubai Data Manual
  - Enhance data analysis capacity for the city

- Dubai City Platform – awarded to Du in March 2016

- Road map to provision 545 service
- 1St wave: smart city enablement services (smart government and smart mobility)
- 2nd wave: mid 2016 – 2017
- Targeting smart living and smart economy

Happiness meter

Smart Dubai Index: A new pioneering approach to Smart City KPIs

- Universally applicable set of indicators
- Highlights achievement and future opportunities
- Jointly developed with ITU and Dubai statistics center
- Based on 6 dimensions of smart Dubai
- Smart Dubai index sets a standard easily transferred into other cities.

Source: smartdubai.ae

Dubai Chamber of Commerce Smartpreneur Competition

- Competition is in partnership with Smart Dubai Office
- To engage entrepreneurs to come up with innovative solutions
  in the six dimensions of Dubai Smart city
- Calls for smart business ideas
- Promote thinking out-of-the-box to support the vision of smart Dubai
- Provide mentorship and guidance to the teams
  - Three pillars: assessment, development, and empowerment
- 150,000 Dhs award for the three winners
  - 1st winner: 75,000 Dhs
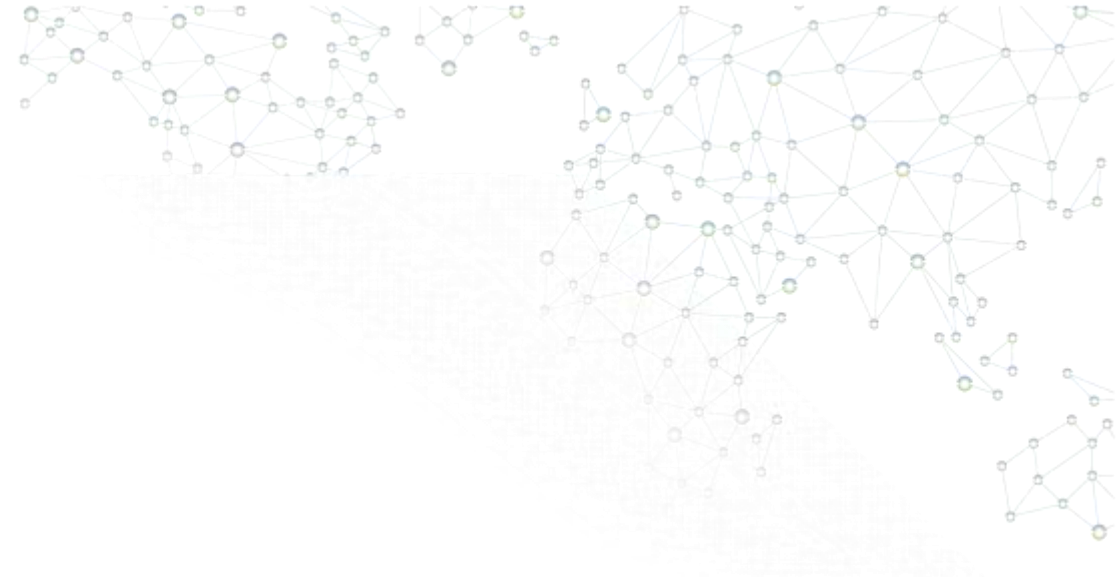 - 2nd winner: 50,000 Dhs
  - 3rd winner: 25,000 Dhs

Abu Dhabi Approach to Smart City

- More of a digital transformation for the Abu Dhabi City

- The Abu Dhabi Executive Council formed A Digital government supervisory committee in February 2016

- The committee is to supervise the digital transformation in Abu Dhabi City

- Chaired by a member of the executive council, the Chairman of the Health Authority and Consists of 14 members representing Government Departments

- Role:
  - Implement a digital governance framework
  - reviewing and adopting digital strategies and transformation plans
  - Define priorities, insure digital governance, and support digital policies
  - identifying challenges or risks related to modernising government services by providing effective guidance.

- Digital transformation leadership team lead by ADSIC
  - responsible for reviewing the e-government strategy and its initiatives, raising recommendations to the Committee, and reviewing and evaluating various requests made by participating government entities
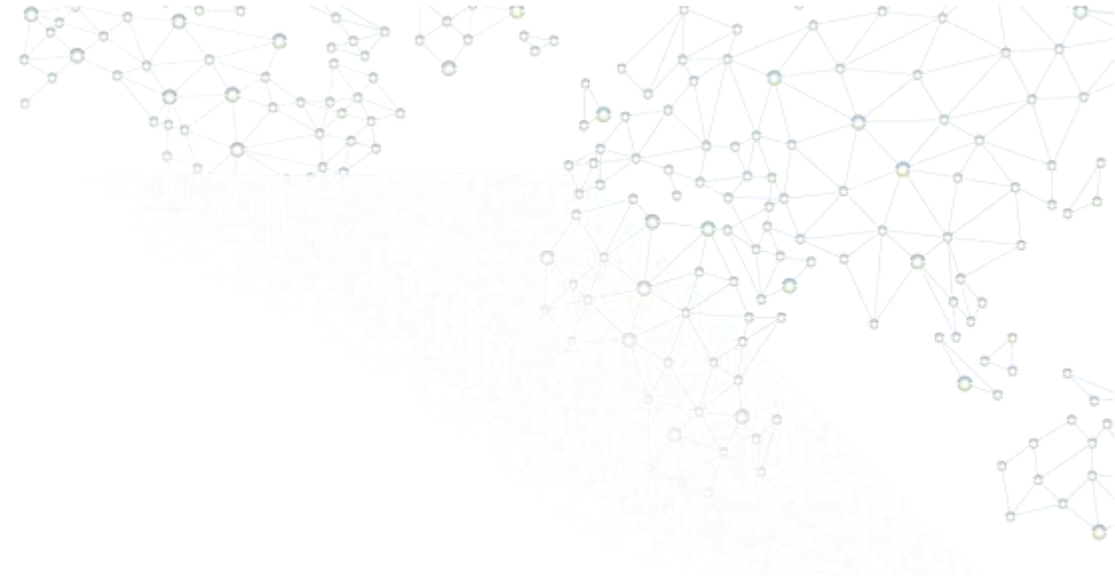
Key Considerations for the Success of SSC

- Visions and ambitions driven by a strong leadership
  - Coordination, decision making, change management, overcoming challenges, and designation of responsibilities
- Clear objectives to allow quantifiable evaluation of the results
- Policies and regulations
- Services Should be designed with a focus on customer experience
- Innovation and agility
- Continuous evaluation of results through clear KPIs
- Develop models for public-private collaboration
- SSC initiatives must support important economic savings or implementation of new services
- Citizens are the cornerstone of any SSC initiative and should be actively engaged
- Learning from other SSC initiatives

"This city is what it is because our citizens are what they are"

- Plato

Thank You

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