

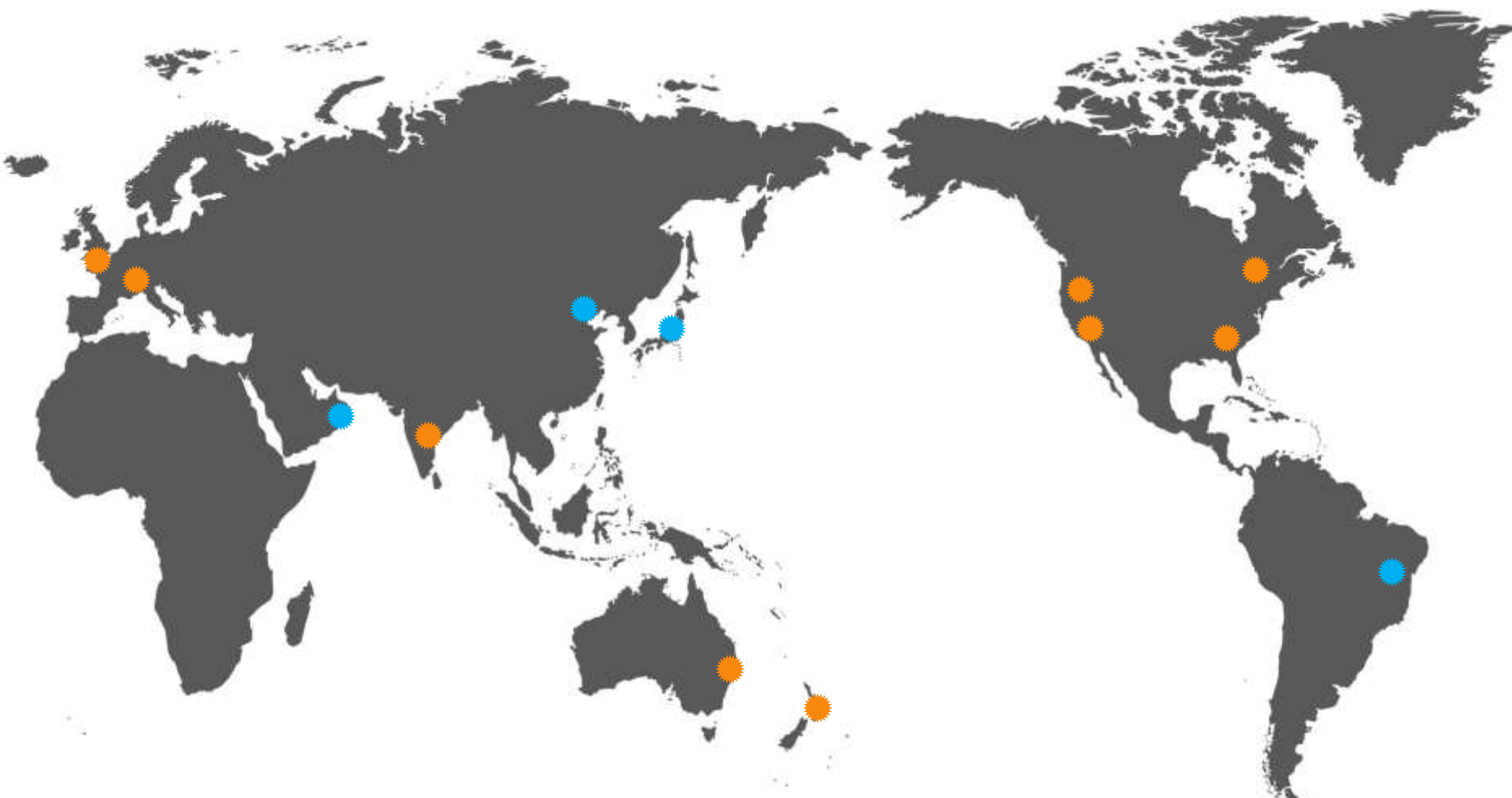
The Internet of Things as the Smart Cities Backbone

Future Ready Webinar

June 13, 2017

smartcitiescouncil.com

Smart**Cities**Council® Liveability
Australia New Zealand Workability
Sustainability



About the Smart Cities Council – It's a Global Agenda

Smart Cities Readiness Guide



PDF and online.

World's leading smart city handbook,
now in its third edition.

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SMART CITIES READINESS GUIDE

The planning manual for building tomorrow's cities today



Welcome to the Readiness Guide. This document was assembled with input from many of the world's leading smart city practitioners – the members and advisors of the Smart Cities Council. It will help you create a vision for the future of your own city. Equally important, it will help you build an action plan to get to that better future.

The first goal of the Readiness Guide is to give you a "vision" of a smart city, to help you understand how technology will transform the cities of tomorrow.

The second goal is to help you construct your own roadmap to that future. It suggests the goals to which you should aspire, the features and functions you should specify, the best practices that will gain you the maximum benefits for the minimum cost, at reduced risk.

The Readiness Guide is intended for mayors, city managers, city planners and their staffs. It helps cities help themselves by providing objective, vendor-neutral information to make confident, educated choices about the technologies that can transform a city.

Cities around the world are already making tremendous progress in achieving

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READINESS GUIDE TOC

Introduction to Smart Cities

How to Use the Readiness Guide

Smart People

Universal

Built Environment

Energy

Telecommunications

Transportation

Water and Wastewater

Waste Management

Health and Human Services

Public Safety

Smart Payments and Finance

Ideas to Action



Sustainability is the outcome.
Smart cities is the accelerator.



What is a Smart City?

Forrester Research emphasises the use of computing to monitor infrastructure and improve services: *“The use of smart computing technologies to make the critical infrastructure components and services of a city ... more intelligent, interconnected and efficient.”*

U.S. Office of Scientific and Technical Information also stresses infrastructure: *“A city that monitors and integrates conditions of all of its critical infrastructure – can better optimise its resources, plan its preventive maintenance activities, and monitor security aspects while maximising services to its citizens.”*

The Smart Cities Council: *“A city that uses information and communication technology (ICT) to enhance its liveability, workability and sustainability.”*

A smart city is one that...

...dramatically increases the pace at which it improves its sustainability and resilience,

...by fundamentally improving how it engages society, how it applies collaborative leadership methods, how it works across disciplines and city systems, and how it uses data and integrated technologies,

...in order to transform services and quality of life to those in and involved with the city (residents, businesses, visitors).

International Standards Organisation



Smart Cities 1.0

Technology Driven – lack of the fundamental dynamic of how cities interact with people

Smart Cities 2.0

Technology Enabled, City Driven – understanding the role of smart technologies and other innovations in realising the city's future vision

Smart Cities 3.0

Citizen Co-Created – grounded in equity and social inclusion, are sharing cities, embracing citizen co-creation models

Three Generations of Smart Cities

-Boyd Cohen

What are the Core Functions of Smart City?



Collect

- Information about conditions across all areas (power, water, traffic, weather, buildings, etc.). and store

Communicate

- Information, to other devices, to control centre and/or to operations servers
- Devices both “talk” and “listen”

Crunch

- Data to provide actionable intelligence
- 1) situational awareness, 2) real-time optimisation and 3) predictive analytics

The Smart Cites Framework

Technology Enablers

Instrumentation and Control
Connectivity
Interoperability
Security and Privacy
Data Management
Computing Resources
Analytics

Universal Principles

Universal Aspects

Built Environment
Energy
Telecommunications
Transportation
Water & Wastewater
Health & Human Services
Public Safety
Payments & Finance
Waste Management

City/State Responsibilities

The Smart Cites Framework

City/State Responsibilities

The Accelerators

- Sustained Collaborative Leadership & Governance
- City Systems Model
- Urban Data Platform
- Cross-City Intelligence
- Demand Aggregation
- Community Engagement

Technology Enablers

Interoperability
Security and Privacy
Data Management
Computing Resources
Analytics

Drivers: Aspects
Built Environment
Energy
Telecommunications
Transportation
Water & Wastewater
Health & Human Services
Public Safety
Payment & Finance
Waste Management

Smart City Enablers

Technology Enablers

Instrumentation and Control
Connectivity
Interoperability
Security and Privacy
Data Management
Computing Resources
Analytics

Universal Principles

Universal Aspects

Built Environment
Energy
Telecommunications
Transportation
Water & Wastewater
Health & Human Services
Public Safety
Payments & Finance
Waste Management

City/State Responsibilities

What are Smart City Universal Principles?

Technology Enabler	Universal Principles
Instrumentation and Control	1. Implement optimal instrumentation
Connectivity	2. Connect devices with citywide, multi-service communications
Interoperability	3. Adhere to open standards 4. Use open integration architectures and loosely coupled interfaces 5. Prioritise use of legacy investments
Security & Privacy	6. Publish privacy rules 7. Create a security framework 8. Implement cybersecurity

What are Smart City Universal Principles?

Technology Enabler	Universal Principles
Data Management	9. Create a citywide data management, transparency and sharing policy
Computing Resources	10. Consider a cloud computing framework 11. Use an open innovation platform 12. Have access to a central GIS 13. Have access to comprehensive network and device management
Analytics	14. Achieve full situational awareness 15. Achieve operational optimisation 16. Achieve asset optimisation 17. Pursue predictive analytics



Thank You

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