

An aerial view of a dense city skyline at sunset, with a network overlay of white lines and nodes connecting various points across the city. The sky is a mix of orange, yellow, and blue. The city is filled with numerous high-rise buildings and a river winding through the lower part of the frame.

Smart Cities China Report

Siemens Cities Center of Competence, VW Group and OAV
August 2018



Aim

Aim and planned activities OAV China smart city initiative – driven by Siemens and Volkswagen

**Smart Cities Report with OAV
Announcement of the project on OAV
website**

**Develop an alliance of OAV members
around smart cities topic**

**Develop engagement for follow up
marketing & communications plan e.g.
OAV Business Magazine (IAP), events...**

**Explore opportunities for city
engagement lighthouse projects with
OAV partners**

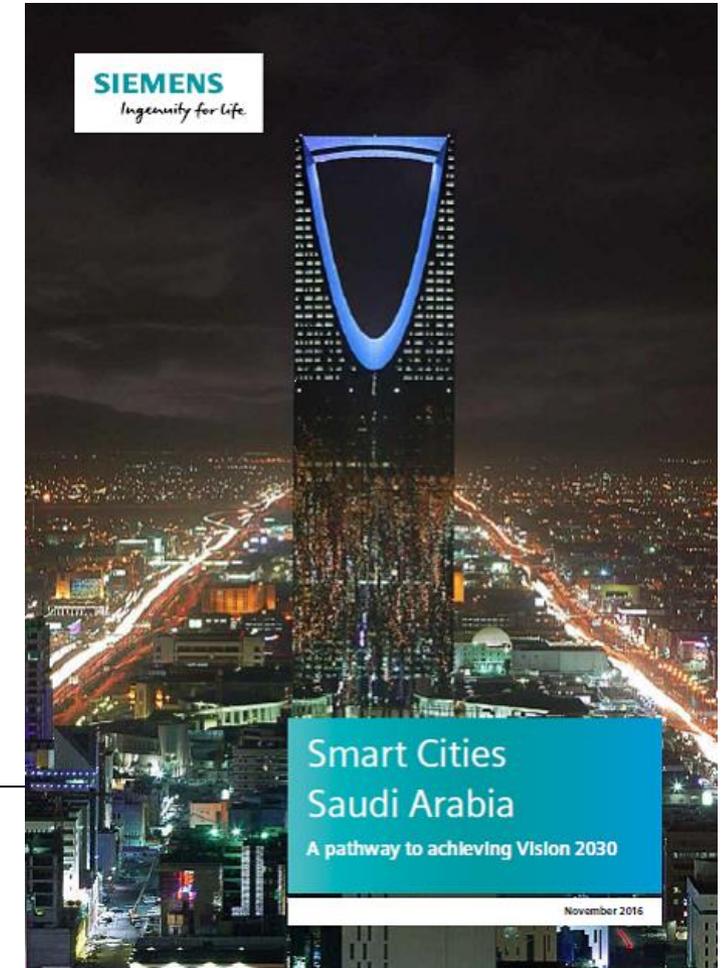
**Smart City China Report publication
planned in FY 2019**



Planned Report Structure

1. Smart City policy context
2. City clusters
3. Key issues / challenges of the Smart City China program
4. Smart City sectors & our approach
 - How 'smart' can address the issues /challenges
 - Case studies from members

Report Examples from Siemens



The Smart Cities China report will be geared towards positioning members of OAV (with relevant smart city portfolios) as smart city leaders and innovators. This will give us the opportunity to provide products and solutions that meet China's smart city requirements and urban challenges.

We aim to produce a short report (approx 40-50 pages), that can be used to show capabilities and to begin discussions with relevant stakeholders.

Approach

We are proposing a smart cities report that does three things:

1. Set the national context

Introduce the topic of smart cities within the context of China, focussing on the national government's definition of 'smart'.

2. Focus on key city regional clusters

Building on the national context and the smart city clusters identified by the government (there are 19 identified) we focus on five key city region clusters. Here we outline the regions, the opportunities and priorities as well as the challenges they need to meet. We use this to help focus on key issues for cities such as driving economic growth, managing air pollution, keeping water clean etc.

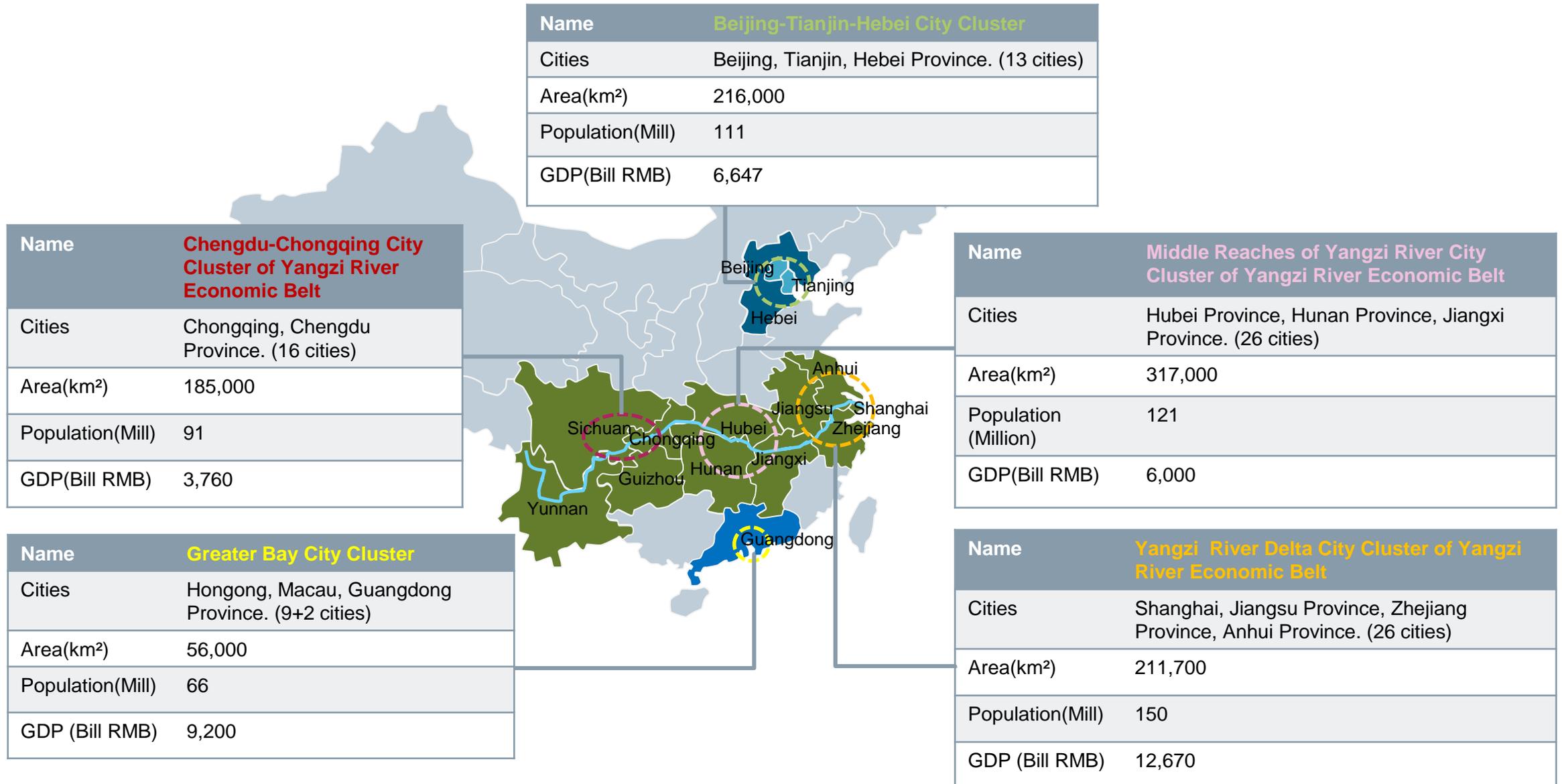
3. Focus on smart city technologies

This section focuses on city smart city sectors (we have aligned these to the national government's smart cities priorities). Here we focus on the technology and solutions that can help cities deliver their needs. This section will showcase references of 'real projects' or best **practises** being delivered in China by OAV members and highlight innovative approaches being offered.

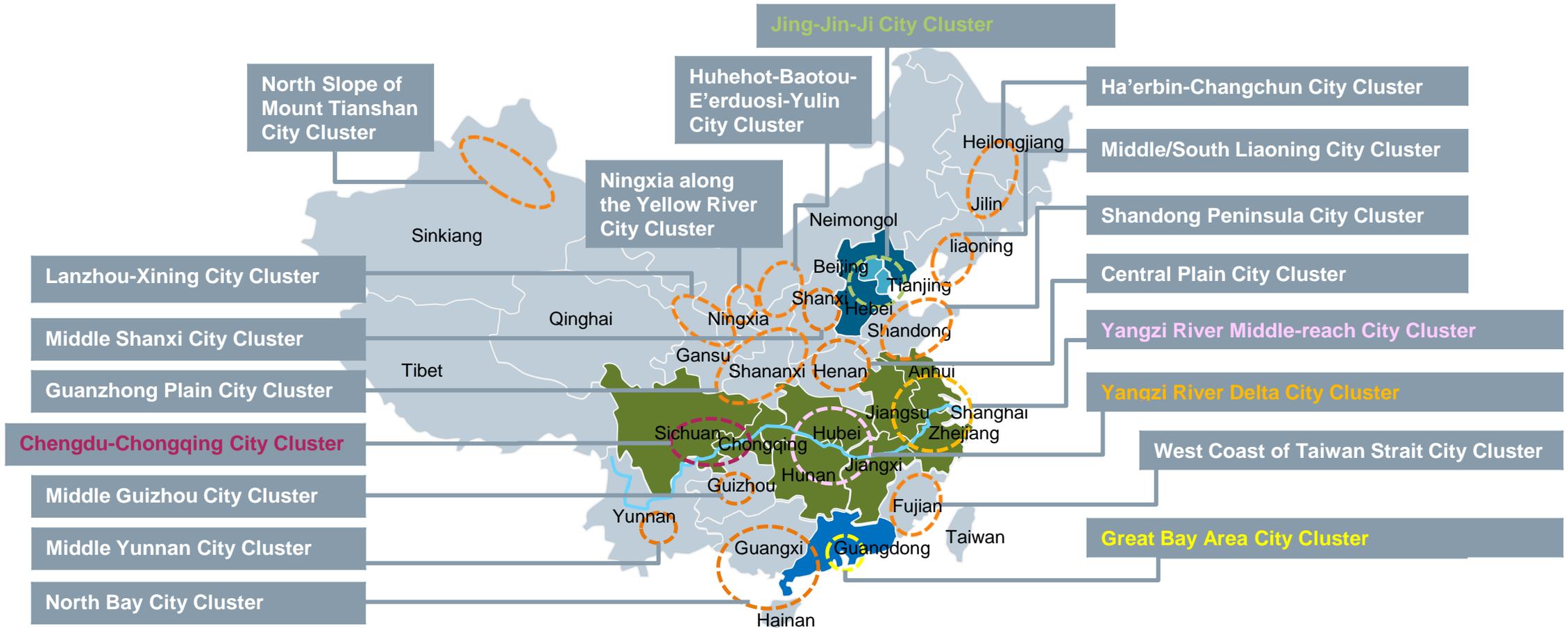
An aerial view of a city skyline at sunset, with a network overlay of white lines and nodes connecting various points across the city. The sky is a mix of orange, yellow, and blue. The city buildings are densely packed, and the network lines are semi-transparent, allowing the city view to be seen through them.

Aligning with China's smart city approach / identifying City Cluster

We have identified 5 focus city cluster regions to focus on in the report



The government's 13th Five-Year Plan identifies 19 city cluster regions.



Proposed smart city sectors and focus topics



- Internet of Things
- Artificial Intelligence
- Big data analytics & cloud

- Public safety & security
- Cyber/data security
- Privacy

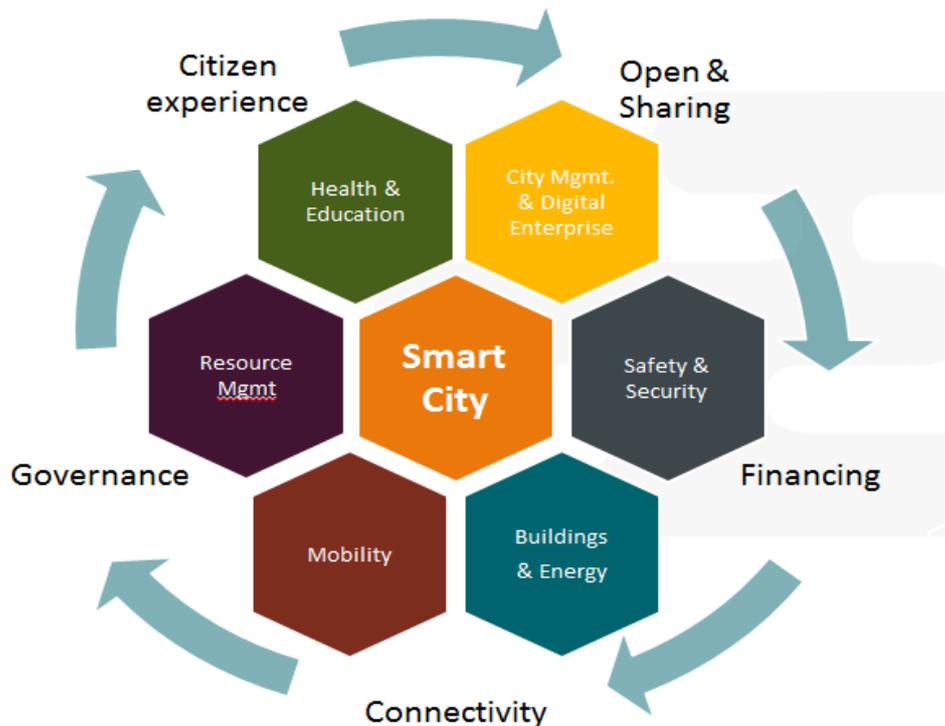
- Smart/sustainable buildings
- Decentralized energy/renewable energy/storage
- Smart grid/ optimization

- Air pollution
- Virtual/connected healthcare
- Intelligent treatments
- Education/skills transfer

- Water & water waste management
- Waste management & recycling
- Circular economy

- Connected & autonomous vehicles
- Shared mobility/MaaS
- E-mobility
- Public transportation network

The smart city sectors



Smart city sectors

Six sectors have been proposed. These are deliberately broad to allow for the capture a number of relevant themes and city topics but are important sectors in driving digital transformation. These are based on the key themes identified in China's smart city framework indicators. We identify a number of crosscutting themes which will also be explored in the report, which affect all the smart city sectors. These include open and sharing data, financing new infrastructure, digital communications infrastructure, smart governance and the experience for city residents.

- 1. City Management & Digital Enterprise:** At the heart of smart cities is the internet of things – the opportunity to connect systems and infrastructure to each other. IoT will drive better insights and decision making, create new approaches, services and drive efficiencies in cities. Additive manufacturing could change how we make things in cities. Artificial intelligence will also drive changes across all sectors of cities.
- 2. Safety & Security:** Key themes include solutions for keeping people and assets safe and secure in cities. The costs of global data breaches are already estimated to be \$2 trillion, with more connected devices the security of systems and also the privacy of data are important themes.
- 3. Buildings and Energy:** Energy systems are changing. We explore energy efficiency, renewable energy and distributed energy as topics. We look at the role of the smart grid, metering, storage and demand management. Buildings will form an important part of the energy system of the future, but we also look at other trends from the automation and digitalisation of buildings enabling our buildings to interact with each other and other infrastructure.
- 4. Mobility:** Mobility topics include developments in mass transit and the need for cities to provide an effective public transportation system as its backbone. But other important topics include autonomous and connected vehicles and the potential shift toward **mobility as a service and shared mobility**.
- 5. Resource Management:** This sector focuses primarily on waste and recycling, water and wastewater management, including leak detection, network planning and optimization.
- 6. Health & Education:** This sector focuses on public health in cities, in particular air pollution. It also explores advances in healthcare such as intelligent treatments and virtual / connected care. In addition we explore advances in education and skills training..