Roland Berger

50 navigating complexity

Smart City, Smart Strategy?

Results from a global Study on Smart City Strategies

SMARTCITY EXPO WORLD CONGRESS

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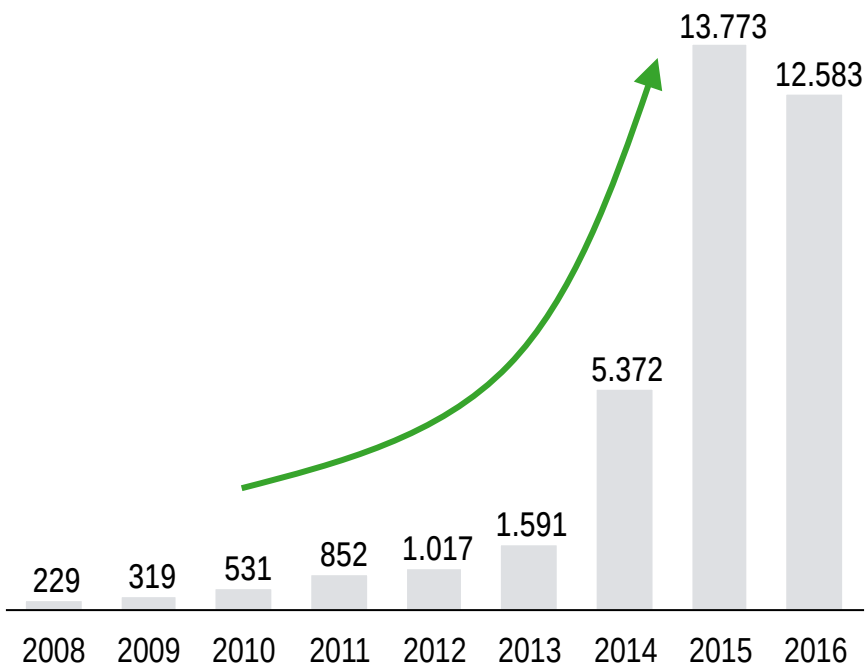
A. Smart Cities – Challenges and Strategies

The need for Smart(er) Cities is broadly accepted and gains increasing attention in the public arena

Relevance of the Smart City concept

Google Trend for "Smart City"

Hits for "Smart City" at the research platform Factiva



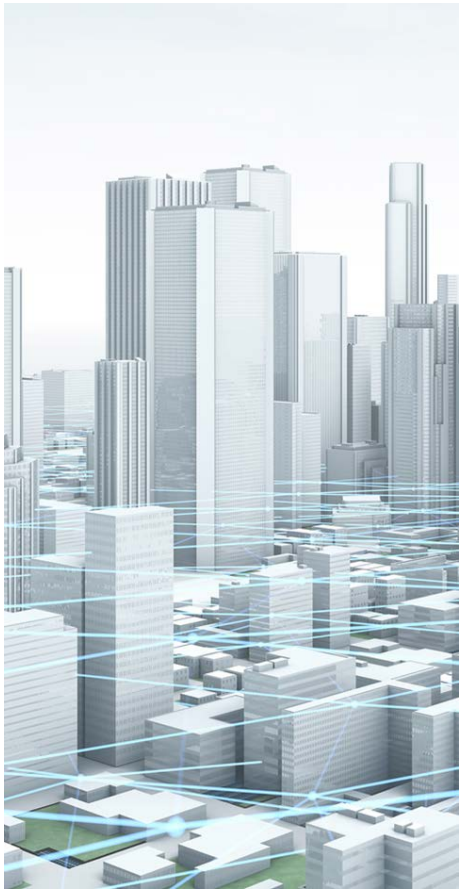
Sources: Roland Berger, google, Factiva

Comprehensive Smart City Strategies should address infrastructure, fields of citizens life and systematic planning

Elements of Smart City Strategies

Strategic Planning

- Smarty City projects are complex endeavors and need **systematic strategic planning**
- They have impact on **various urban stake-holders and require structured** coordination
- **Smart City solutions require significant investments** and need explicit budgeting
- Implementation needs to be **organized with clear responsibilities**



Action fields

- **Education, Government, Mobility, Health, Buildings and Energy** are among the most relevant Smart City action fields
- Within the action fields **citizens and corporations** experience at first hand the advantages of smart city solutions

IT-Infrastructure

- **Smart City infrastructure** must ensure connectivity, accessibility and legal certainty
- **Internet connectivity** is assured through a the rollout of high-quality broadband network
- **Legal frameworks** need to be adjusted to a digital worlds needs

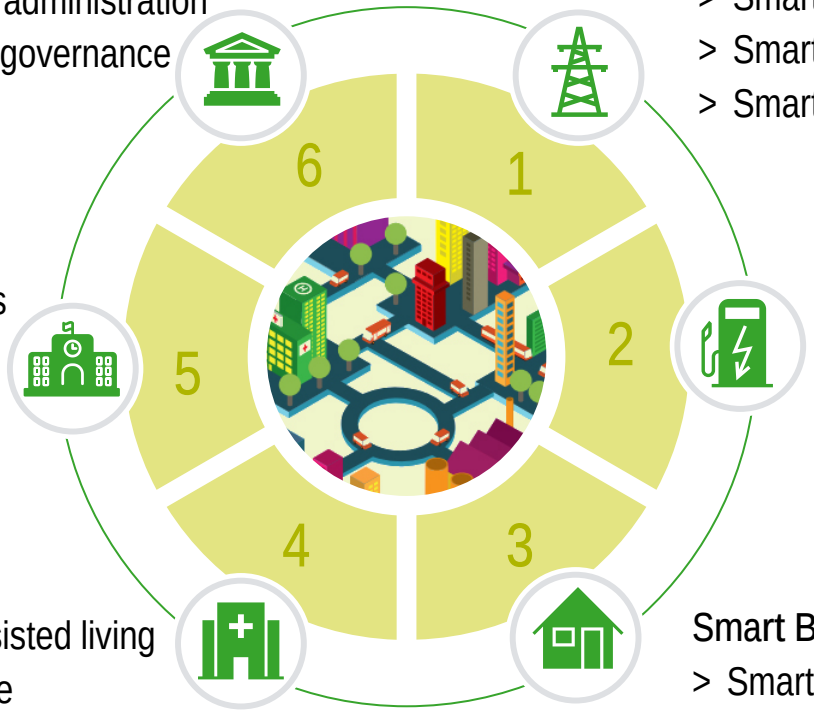
Source: Roland Berger

Smart City Strategy Action Fields address key aspects of urban life and have impact on growth, well being and the common good

Action Fields of Smart City Strategies

Smart Government
> Digital public administration
> Participatory governance
> E-Services

Smart Energy and Environment
> Smart energy management
> Smart water management
> Smart waste management



Smart Education
> Urban education platforms
> Institutionalization of digital learning
> Digital skills

Smart Mobility
> Intelligent traffic management systems
> Multi-modality of transport
> Smart urban logistics

Smart Health
> Ambient assisted living
> Telemedicine
> Integrated health information systems

Smart Buildings
> Smart Facility Management
> Smart Home
> Smart Construction

Source: Roland Berger

B. Results from the Roland Berger Smart City Strategy Index

For the Smart City Strategy Index, we analyzed 87 Smart City Strategies from all continents and from different city sizes

Regional distribution

Number of cities from each continent in the sample

Europe	39
Americas	17
Asia-Pacific	26
MEA	5

City sizes

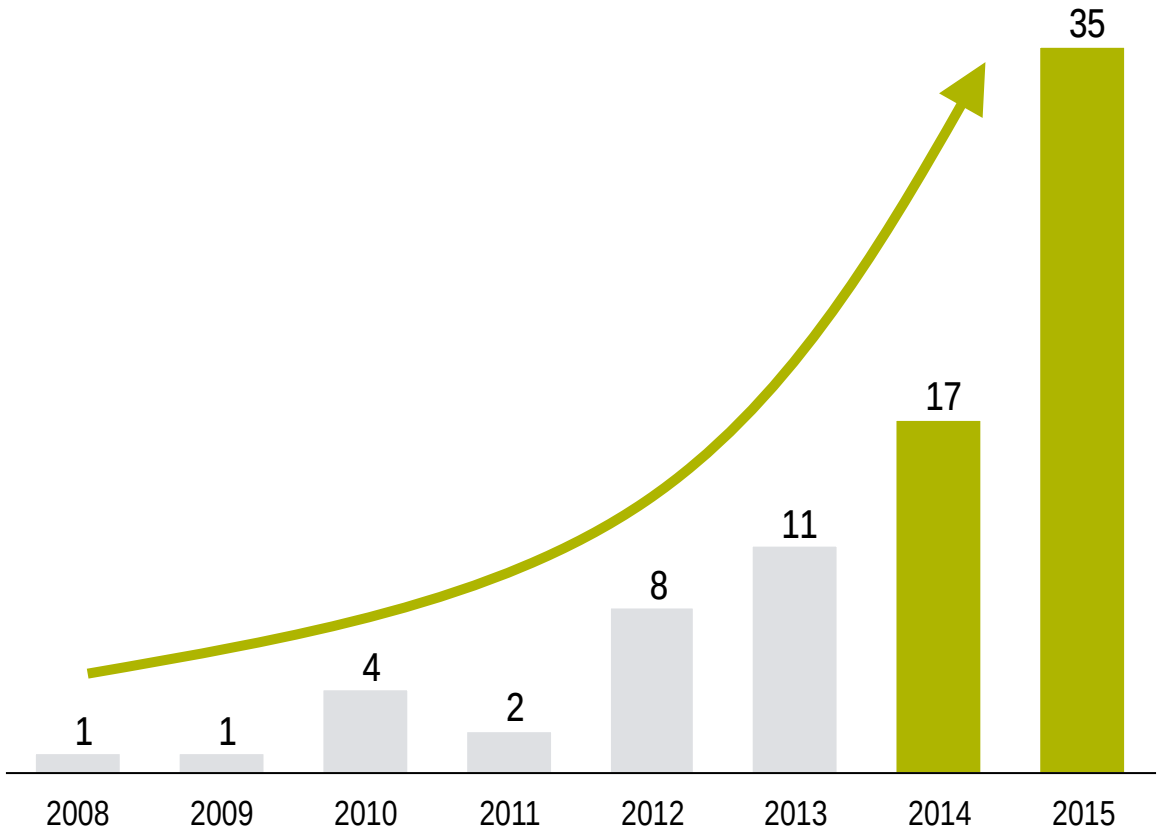
Number of small-, medium- and big cities in the sample

Small cities (up to 500,000)	18
Mid-sized cities (up to 2 m)	39
Big cities (more than 2 m)	30

Source: Roland Berger

More and more cities take a strategic approach to become "smart" – strong dynamics since 2014

Published Smart City Strategies per year [#]



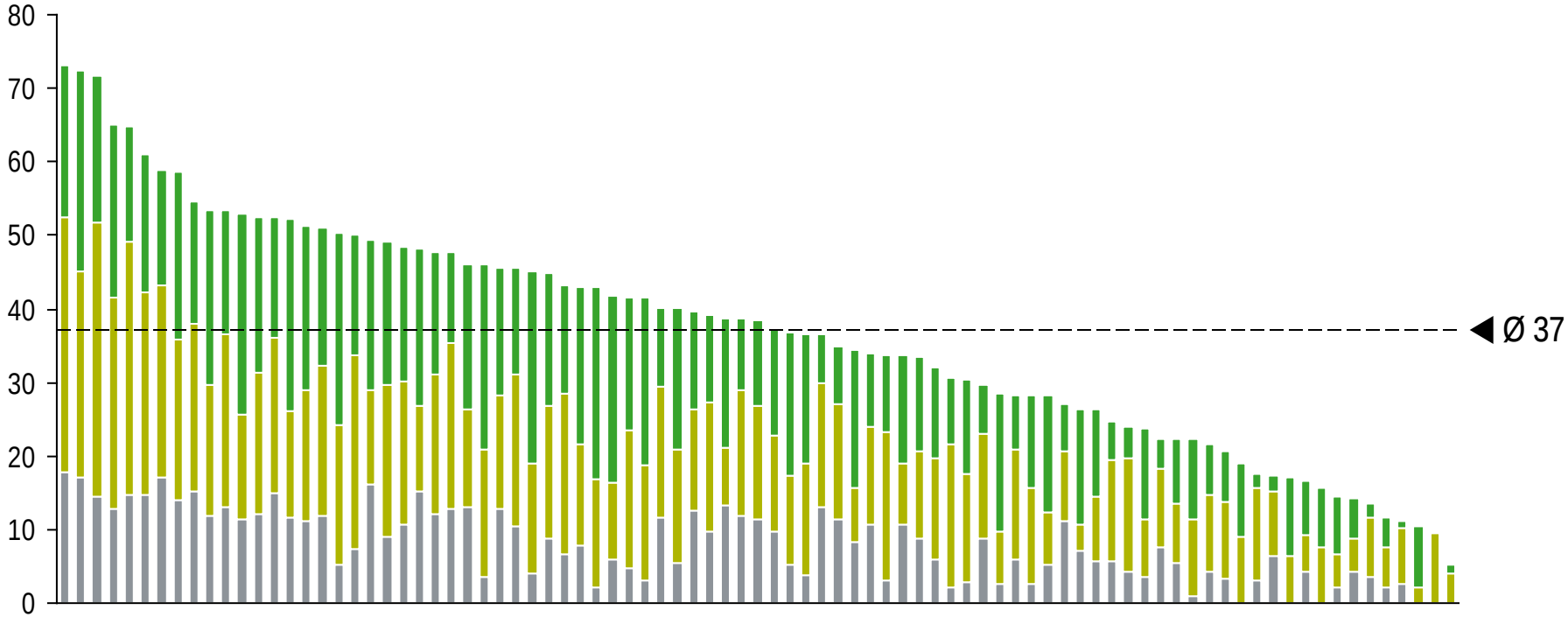
1) Only first half of 2016

Source: Roland Berger

- The examined strategies show a strong **increase** in the number of developed strategies each year since 2012
- More than half of all strategies have been developed **since 2014**
- Very few cities have assumed a **pioneering role in the late 2000s**

Most Smart City strategies show room for improvement – only 19 cities reach scores > 50

Overview Results SCSI [index]



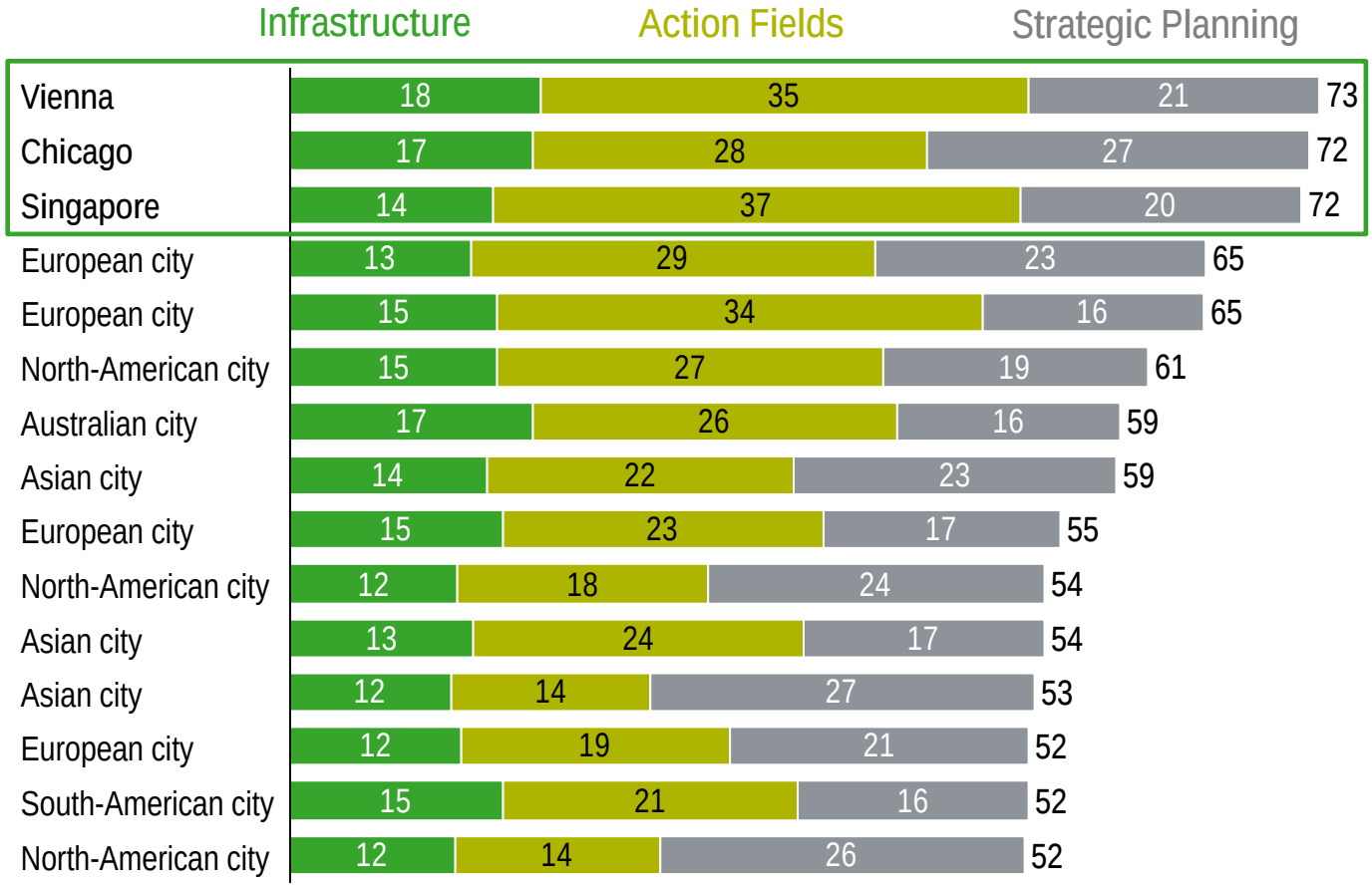
> There is **room for improvement** in most strategies – the average score is 37 out of 100
> The **quality** of the analyzed strategies **differs profoundly** in all three dimensions
> There is a **sizable quality gap** between the top performers and remaining cities

Strategic Planning Action Fields Infrastructure

Source: Roland Berger

Top ranking strategies come from Vienna, Chicago and Singapore – outstanding results in all three categories

Excerpt of results: SCSI for 15 cities [index]

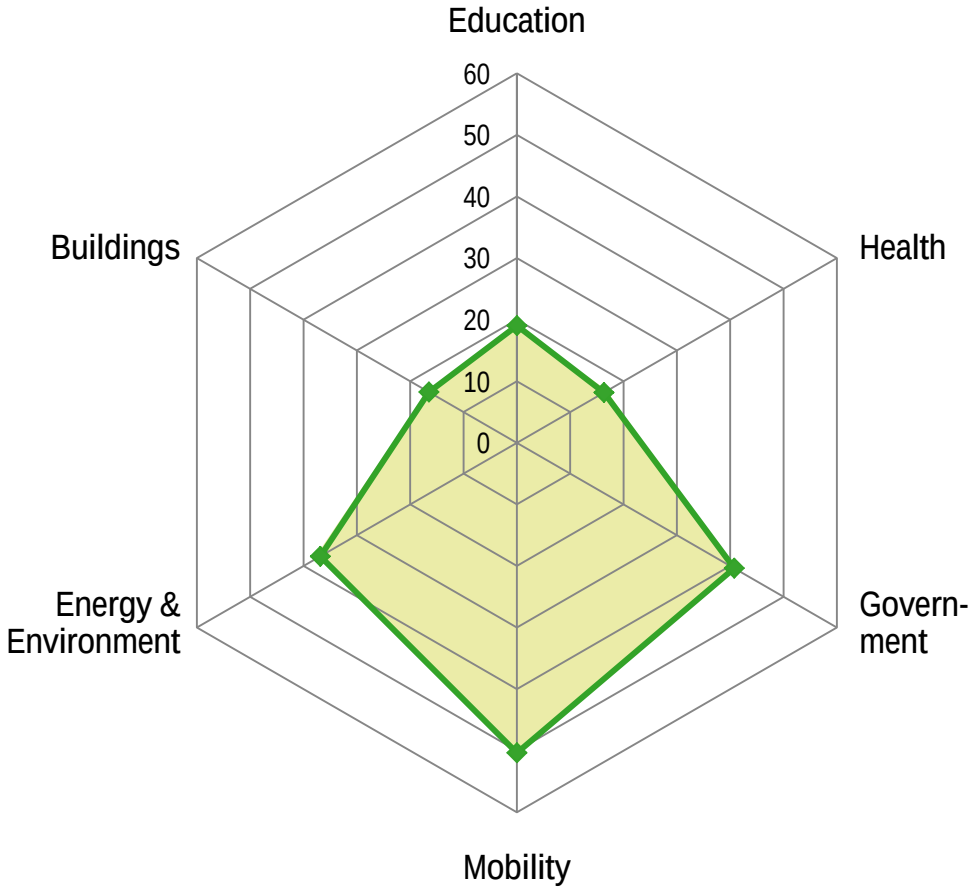


- High-scoring cities show strong and **balanced results in the three** categories
- Top-15-cities are located on **four continents**

Source: Roland Berger

Most smart city strategies are "narrow" in scope – Emphasis on mobility, energy and administration topics

Excerpt of results: SCSI average results in action fields [index]

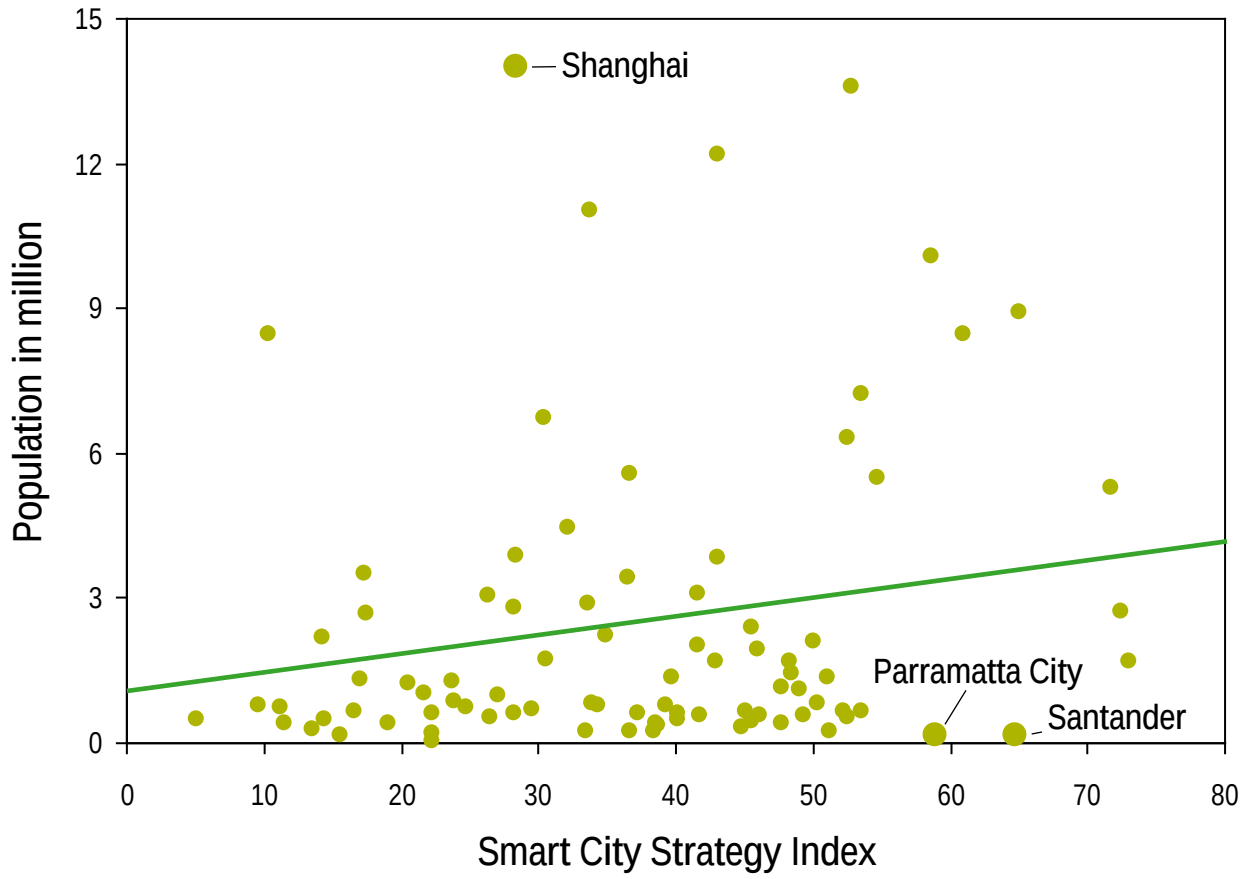


- > Scores among action fields vary strongly, ranging from less than 20 to over 50
- > Mobility, government and energy are addressed best in most strategies
- > Scores for mobility are typically above 50
- > Scores in education, health and buildings are very low below 20 points and drive down the overall scores for action fields

Source: Roland Berger

You do not have to be big to be beautiful – Also smaller cities have created exemplary strategies

Relation of SCSI-Score to City Population



> Also smaller cities have developed **well-balanced and structured strategies**

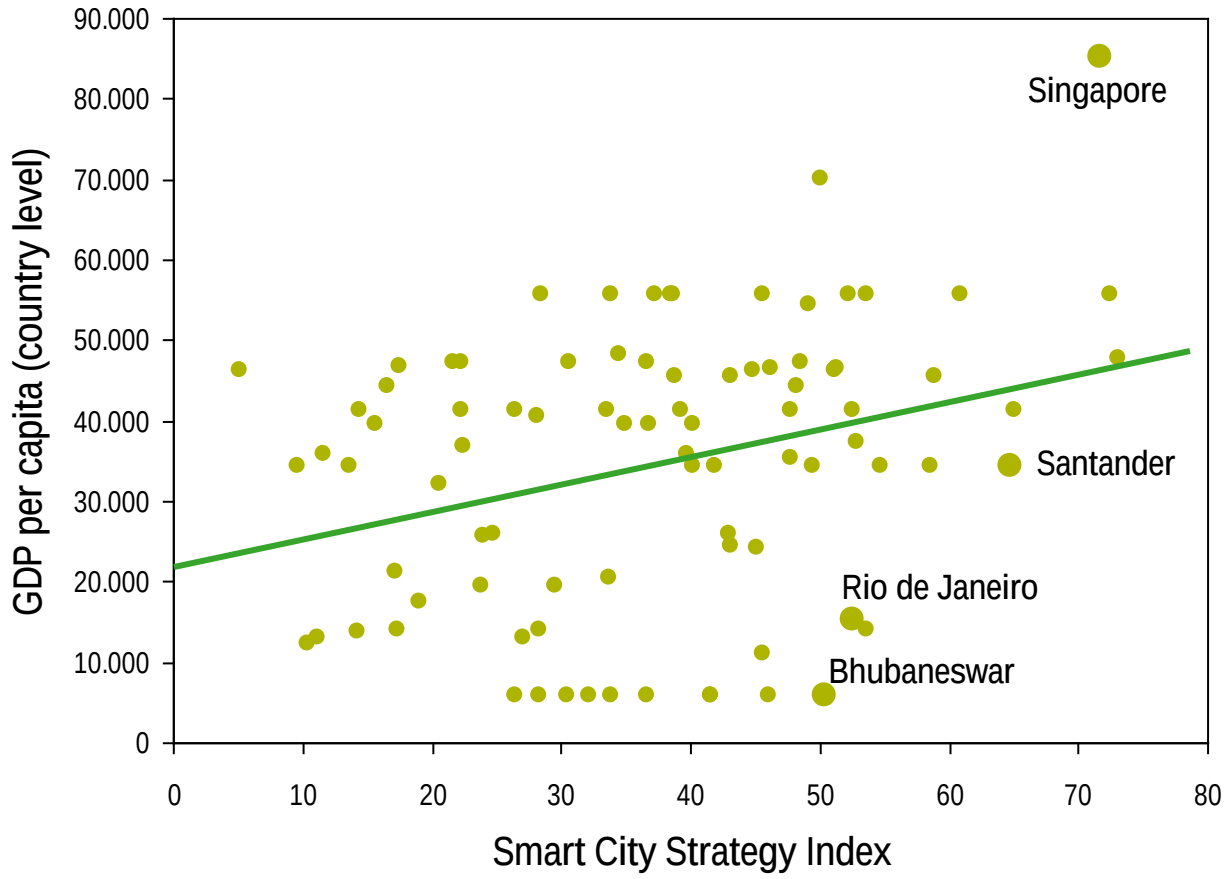
> Shanghai, by far the biggest city in the analysis, is ranked in the last third

> Santander and Parramatta City have less than 200,000 inhabitants but published top 10 strategies

Source: Roland Berger

In general, wealthier cities come up with better strategies – But also cities with lower GDP can create very good strategies

Relation of SCSI-Score to GDP per Capita



> The **economic performance of a city** is positively correlated with the Smart City Strategy Index

> Santander (Spain), Rio de Janeiro (Brazil) and Bhubaneswar (India) show that **cities with a mid-field economic background can publish very good strategies** as well

Source: Roland Berger

C. Best Practice in Smart City Strategies

The SCSI allows to identify best practice in every dimension of the index

Top Smart City Strategies by dimension

Infrastructure 1

1 Vienna

2 Malaga

3 Rio de Janeiro

Internet Connectivity
Barcelona, Stockholm, New York

Infrastructure & Legal Framework
Vienna, Malaga, Berlin, Rio de Janeiro

Action Fields 2

1 Singapore

2 Vienna

3 Santander

Smart Education
Chicago, Vienna, New York, Liverpool

Smart Mobility
e.g., Lyon, Seattle, San Francisco, Orlando

Smart Health
Aarhus, Santander, London

Smart Energy & Environment
e.g., Copenhagen, Ahmedabad, Santander

Smart Government
Chicago, Cape Town, Stockholm

Smart Buildings
Malaga, Bristol, Hamburg

Strategic Planning 3

1 Tokyo

2 Chicago

3 Riga

Budget
Munich, Riga

Implementation
Seoul, Moscow

Target Group & Stakeholders
Aarhus, Dublin, Seattle

Coordination
Los Angeles, Dubai

Source: Roland Berger

D. Conclusions and Recommendations

City officials should address 10 key points when developing Smart City Strategies

1

Reevaluate the role of the city and its administration

Source: Roland Berger

City officials should address 10 key points when developing Smart City Strategies

2

Actively Involve citizens, businesses and other stakeholders and analyze user requirements

Source: Roland Berger

City officials should address 10 key points when developing Smart City Strategies

3

Avoid isolated solutions – Look beyond eGovernment and actively apply best practices

Source: Roland Berger

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4

Encourage **self-sustaining business models** and other contributions from the private sector

Source: Roland Berger

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Create a comprehensive **data strategy** and establish data **platforms**

Source: Roland Berger

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Set up **innovation labs** to foster an inspiring ecosystem

Source: Roland Berger

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7

Ensure data and IT security

Source: Roland Berger

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Involve infrastructure operators in designing, financing and implementing initiatives

Source: Roland Berger

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Gain political backing and integrate **public feedback**

Source: Roland Berger

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10

Establish a coordinating body and a dedicated **planning system**

Source: Roland Berger

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1. Reevaluate the role of the city and its administration
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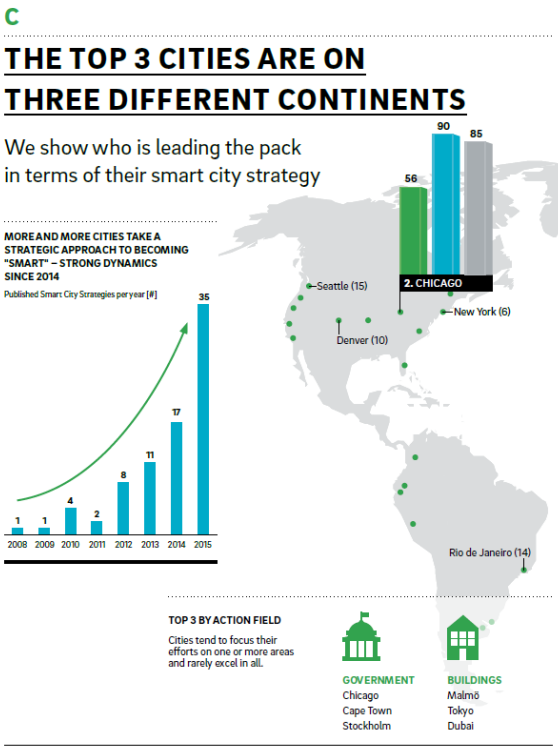
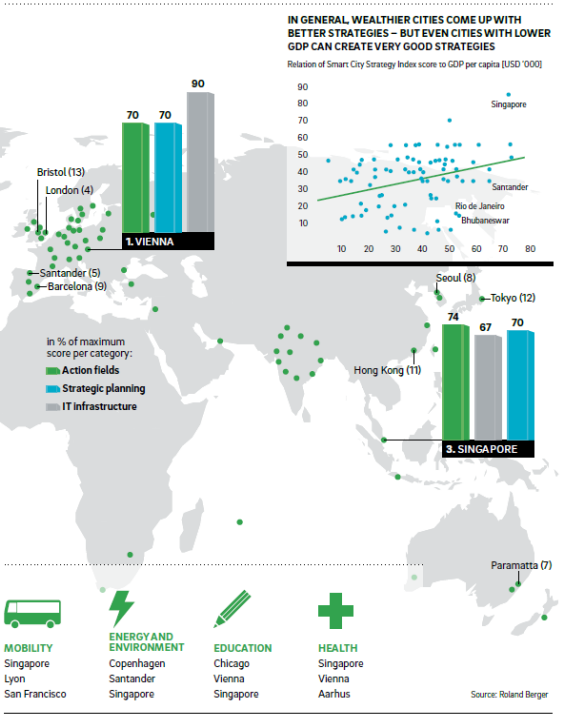
8. Involve infrastructure operators in designing, financing and implementing initiatives
9. Gain political backing and integrate public feedback
10. Establish a coordinating body and a dedicated planning system

Source: Roland Berger

The full study can be downloaded at the Roland Berger website





Source: Roland Berger

We also offer as self-assessment tool for cities to evaluate their approach according to the Smart City Strategy Index

Source: Roland Berger

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navigating
complexity