Explore a Great Region

Smart Cities Overview

Dr Warren Burns

Live a Greater Life

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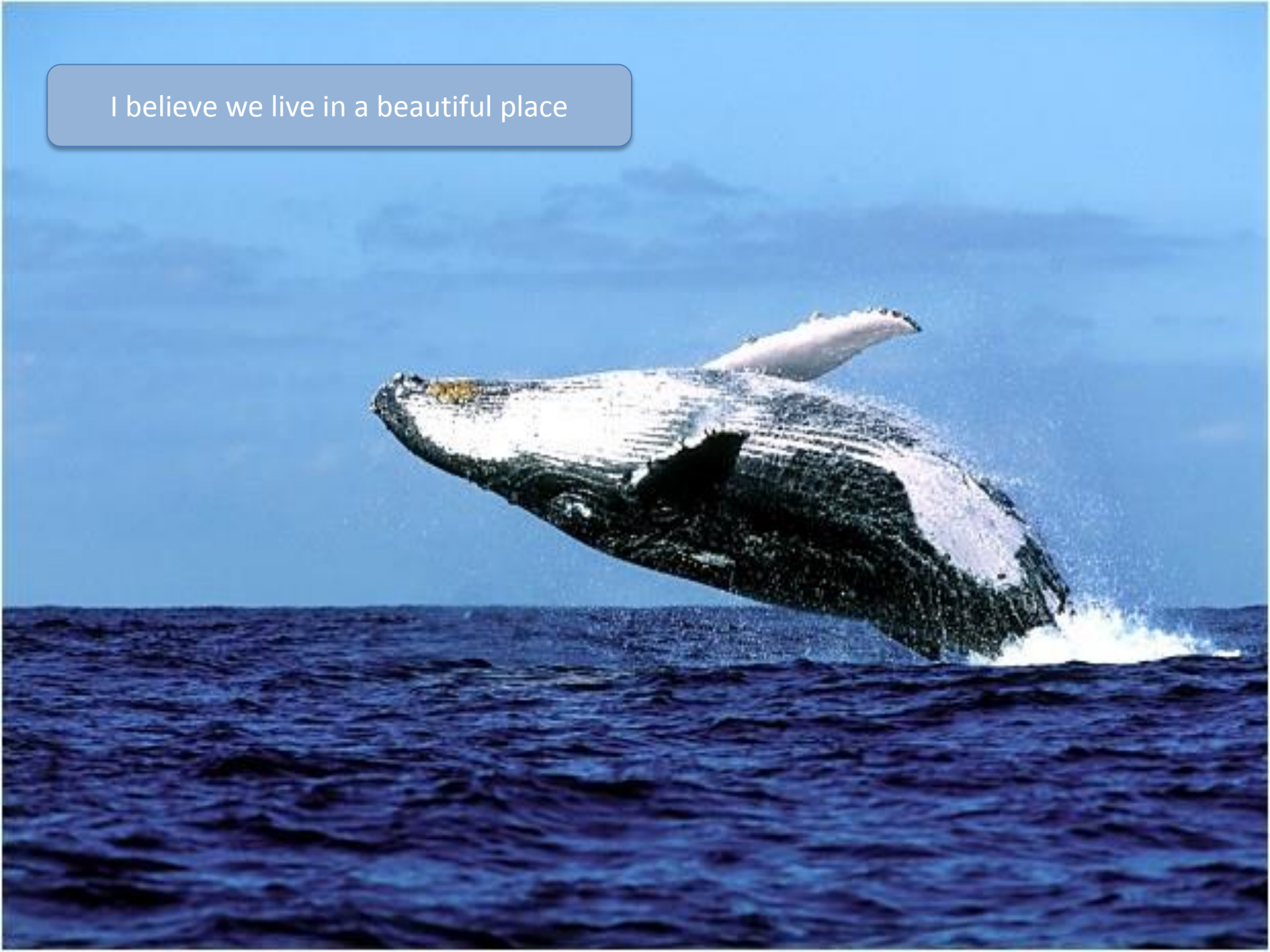

I believe we live in a beautiful place

A place of magnificent beauty

A BEAUTIFUL CITY

FULL OF POTENTIAL, FORESIGHT, OPPORTUNITIES TO BE ONE WITH NATURE, TO BE BOLD, TO EMBRACE HOPE, SUNSHINE, SUNSETS, GREAT EXPERIENCES, GREAT AIR, WELLNESS, TRUST AND GREAT PEOPLE WHO WANT TO MAKE A DIFFERENCE

REGIONAL CONCEPT

Innovation

Vision 2050

Happy City
Creative City
Healthy City
Green City
Eco City
Solution City

Our unique resources

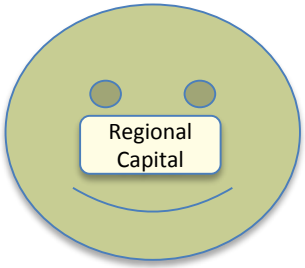
Future – 100 years

A mindset of creativity and engagement with others

A NETWORKING CITY

Quality of Life

Smart City Adventure



Beauty

Respect

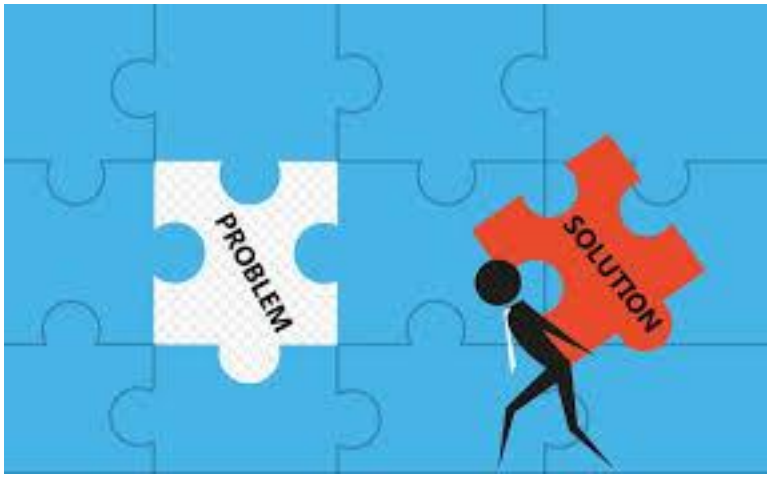
Care

Kindness, Gratitude, Purpose, Hope, Belief in a better Future

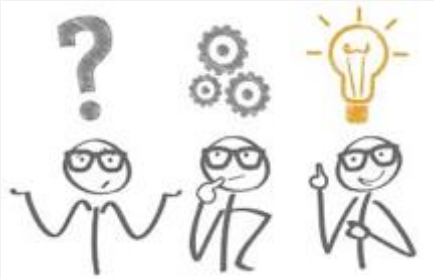
Beautiful City

Happy City
Creative City
Healthy City

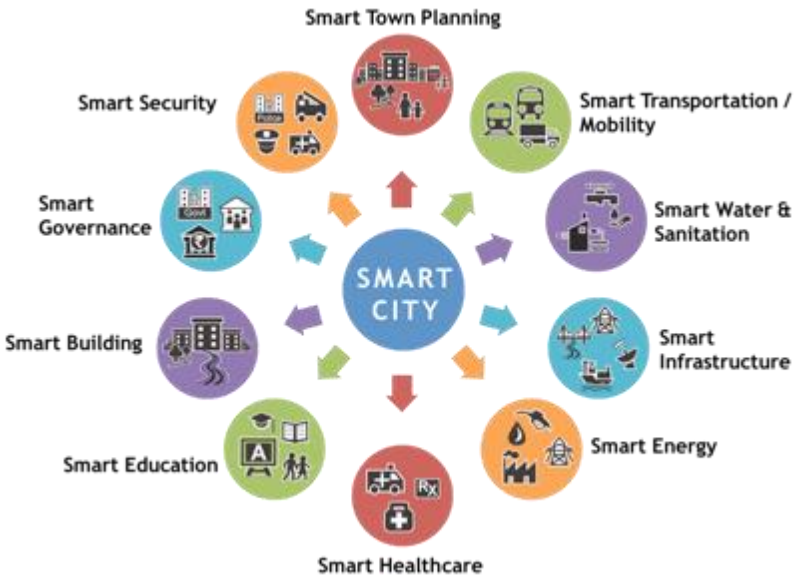
Trust, Lifestyle & Tourism

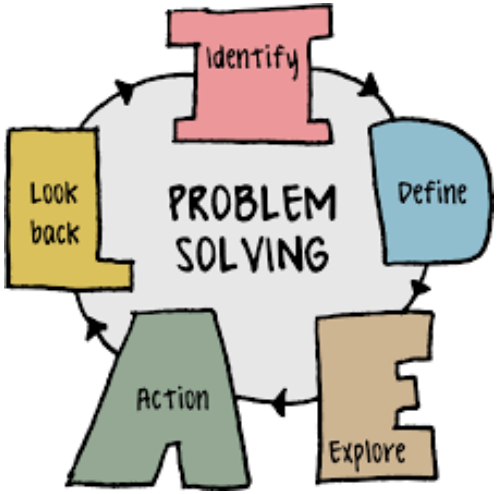


- ✓ Overview and Introduction
- ✓ A bit about me and Smartnicity
- ✓ Understanding our “Why” today
- ✓ The need for a framework
- ✓ Vision Garden Route
- ✓ Research and Innovation
- ✓ Action Plans
- ✓ What if (fun) – You!



What is a Smart City?





Strengths and Opportunities in LAND S.M.A.R.T. zoning

Resourcefulness

Ask yourself:
What is your angle?
What do you want? How can Garden Route benefit from a design that is unique?

A smart city is one that uses its resources and organisations (including town planning), data and technology, to competently and ethically improve the experiences and quality of life of its people

Smart Garden Route Definition: Using our resources and organisations, data and technology, to competently and progressively improve the experiences and quality of life of our people, visitors and guests

SMART CITIES
NEW YORK
POWERED BY PEOPLE

Smart City Wien combines the three essential and interlinked basic elements of resources (resource preservation), quality of life and innovation. In this way, it builds on typical strengths of Vienna and includes externally imposed binding goals.

The definition of Smart City Wien:

Smart City Wien defines the development of a city that assigns priority to, and interlinks, the issues of energy, mobility, buildings and infrastructure. In this, the following premises apply:

- radical resource preservation
- development and productive use of innovations/new technologies
- high and socially balanced quality of life

This is to safeguard the city's ability to withstand future challenges in a comprehensive fashion. The elementary trait of Smart City Wien lies in the holistic approach pursued, which comprises novel mechanisms of action and co-ordination in politics and administration as well as a wider leeway of action assigned to citizens.

https://www.youtube.com/watch?time_continue=9&v=ZmSZ9Jl4rCs

Start
Small

Where we want to GO!

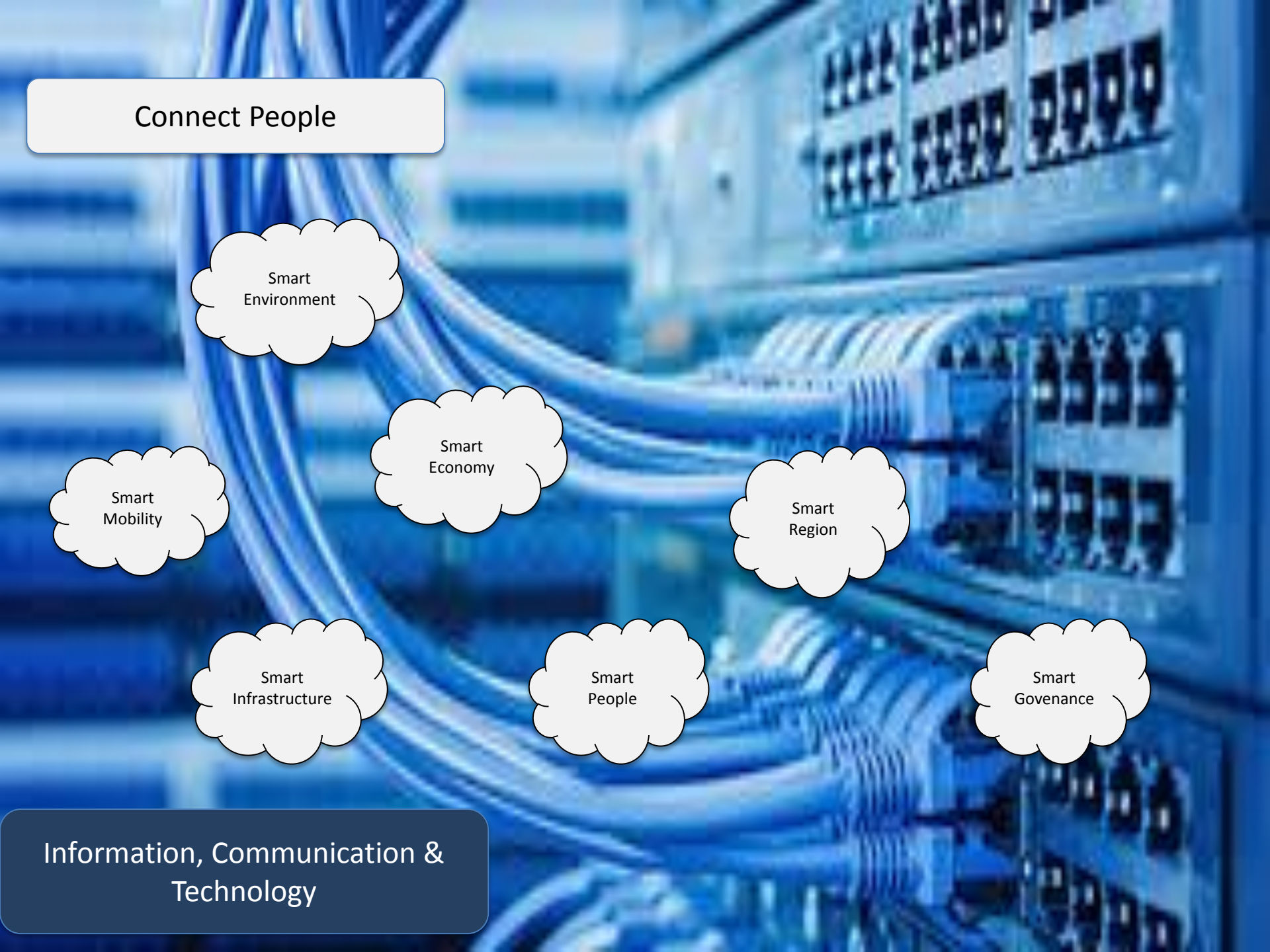
i. Future
ii. Smart Garden Route
iii. Smart City Best Practice

A Planned Sequence of Behaviour

A Planned Sequence of Behaviour

A Planned Sequence of Behaviour

The Present and Current
State of Action


Connect People
Smart Environment
Smart Economy
Smart Mobility
Smart Region
Smart Infrastructure
Smart People
Smart Govenance
Information, Communication & Technology

Connect through a purpose and brand

Vienna
London
Edmonton
St Albans
Wellington
Beijing

Live a Greater Life

Intellectual Property
Smartnicity Inc.

Minds and Brains connecting in places of magnificent beauty

I am Warren Burns, CEO of
SMARTNICITY (A PLATFORM FOR SMART CITY ADVISORY AND INVESTMENT FACILITATION/ CO-INVESTMENT in SMART CITY SPACE)

My Purpose is aligned around

1. Future Smart Region Strategies (How, What, Where, Why Inc.)
2. Psychology and Neurofinance (Brain Studies and Simulation)
3. Investment and Venture Capital (Node Modeling)
4. X to Y to Z (Integrative Intelligence Networks)
5. Neural Networks and Smart City (3-D, propagation algorithms)
6. Impact Investment (Social Innovation)
7. Taking Smart Cities to the Global Stage (e.g., PPIP Co-Creation)

The Why
(Creating our Foundation)

- ✓ Overview and Introduction
- ✓ A bit about me and Smartnicity
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To Understand Smart Cities,

three drivers exist

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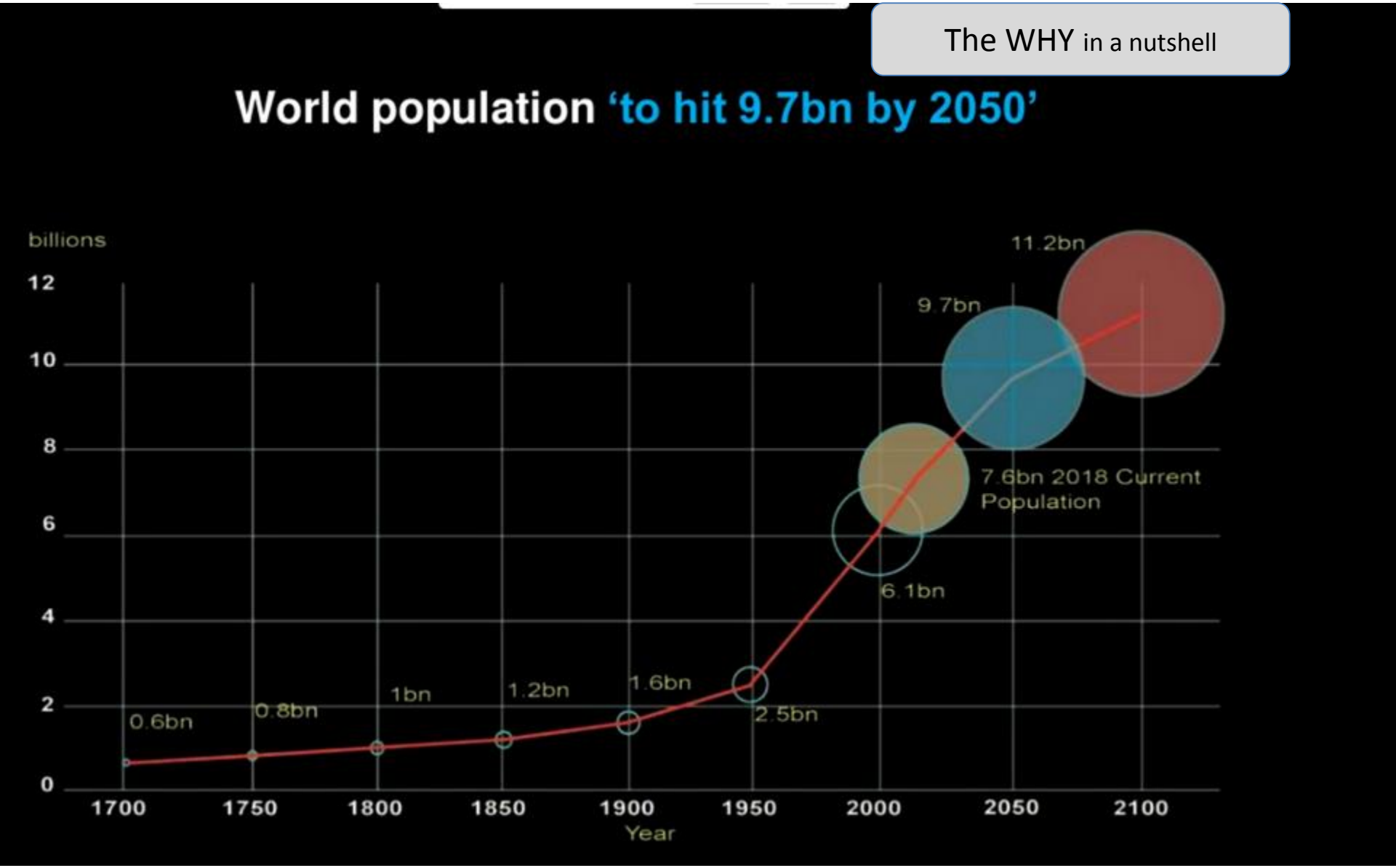
three drivers exist

Population Growth

The WHY in a nutshell



Driver Two

Climate Change

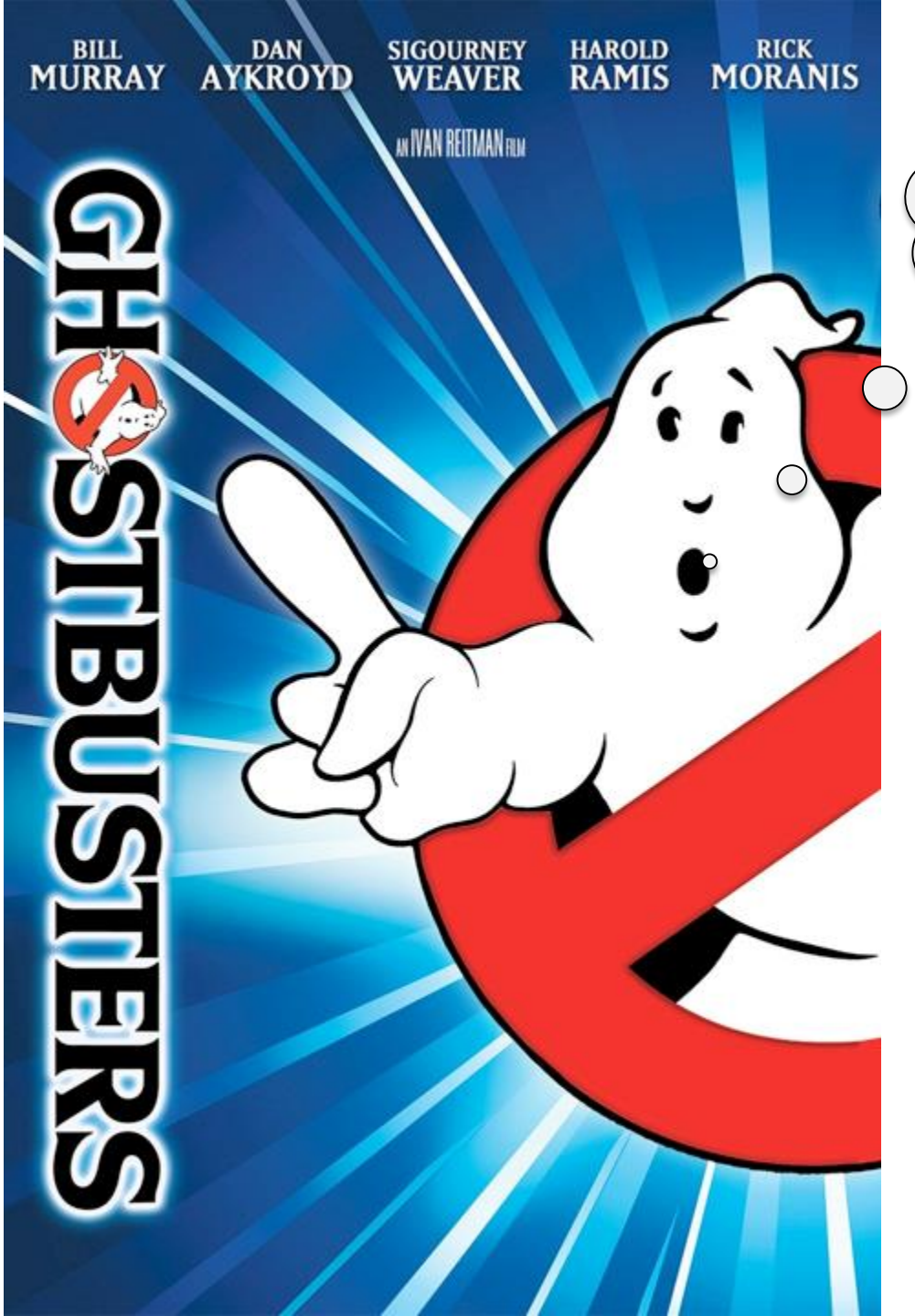
China Policies and Rest of the World Disregard for the Environment

Driver Three

Jobs, Anxiety, Anger, Costs and Survival

Good Morning
Let the
Stress
Begin...

Cities are part of the problem – ask the experts

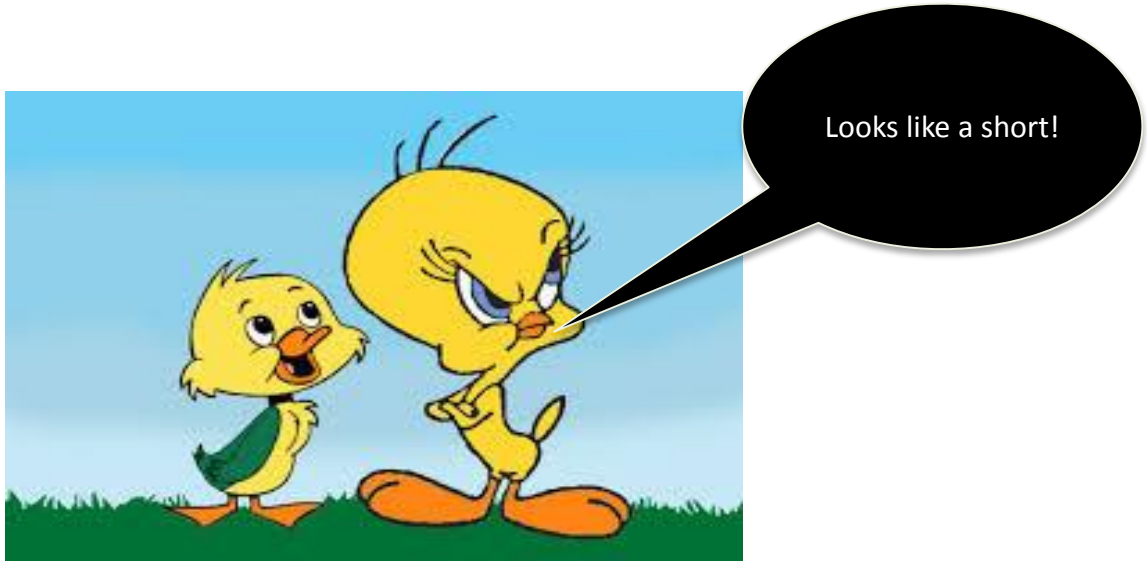


The Right Experts!

Think of solutions today

Network and pitch your ideas

No risk! Be part of something



The data is shocking!

50% live in cities

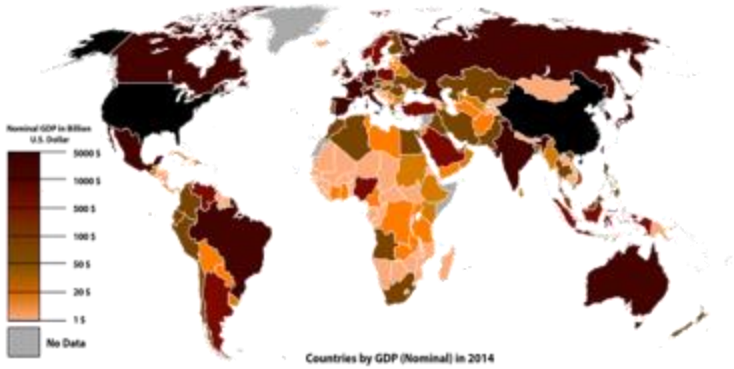
80% GDP

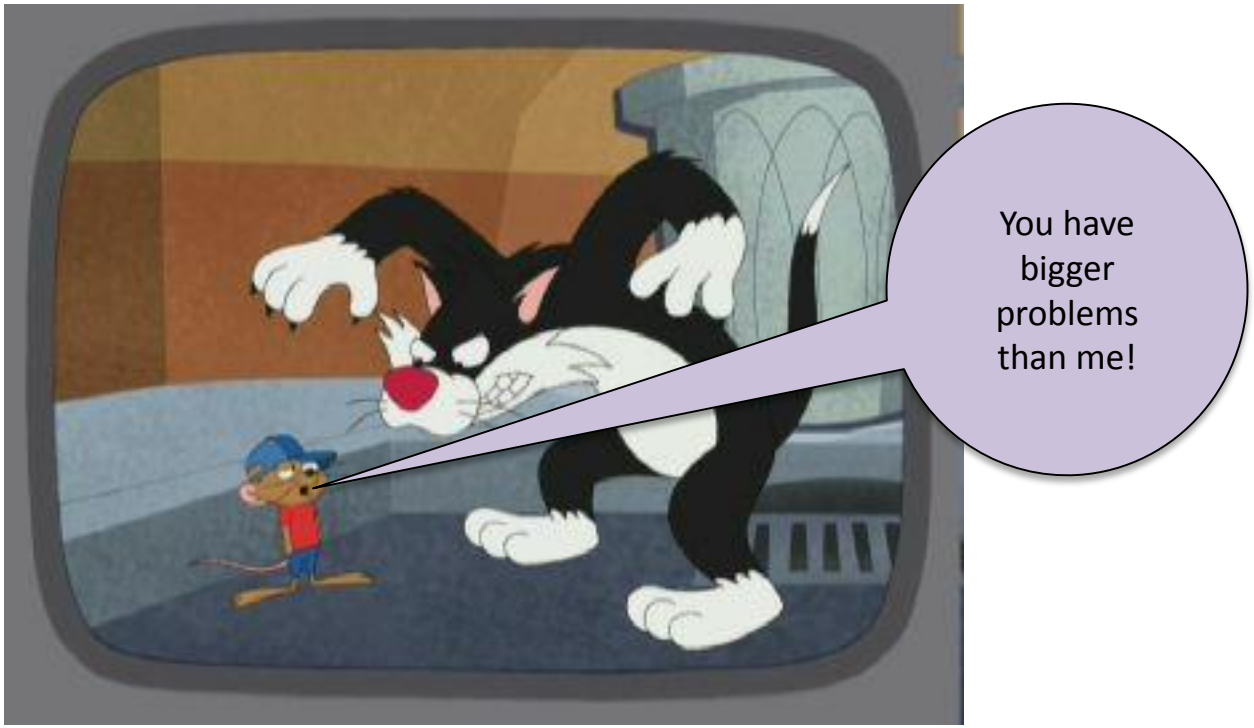
80% Carbon Footprint

70% energy

1% Land mass

80 - 90% Investment Flows





Super problems

Corruption

Incompetency

Aging infrastructure

Popularism – EFF/ Italy/ Brexit

Extreme Weather

Emerging markets perceptions

Low Budgets

Global Competition

No way to model the **FUTURE**

70% live in cities

60% increase metropolitan areas GDP?

Extreme flooding

Extreme drought

Cost of Food – Hyperinflation? Unprecedented? Water? Energy?

What do WE do?

- ✓ Overview and Introduction
- ✓ A bit about me and Smartnicity
- ✓ Understanding our “Why” today

The need for a framework

Change the RULES of the GAME!

Regional cities strategy here today is perfect to plan

Smart Cities exist because of the way in which they solve problems in bringing together SOLUTIONS through moving parts and "deep learning"

1) Infrastructure
2) Technology
3. People
4) Processes
5) Greater connection to the power of data
6) Resource Conservation (e.g., Vienna)
7) Education (for life)
8) Healthcare Promotion
9) Greater savings
10) Freedom and Innovation (Blockchain)
11) Economy
12) Lifestyle
13) Recreation
14) Social Innovation

Design Thinking

Nodal Strategy

Systems Psychology

Smart City Design Wheel

A smart city is a city that wins in the global stakes of relevance

Warren Burns

It takes away silos and focuses on needs, wants and people

Warren Burns

82%

of citizens want their cities to focus on smart city initiatives to improve quality of life.

Source: Economist Intelligence Unit, 2016: http://startupmycity.economist.com/wp-content/uploads/2017/01/EIU-Startup-My-City-Briefing-Paper.pdf

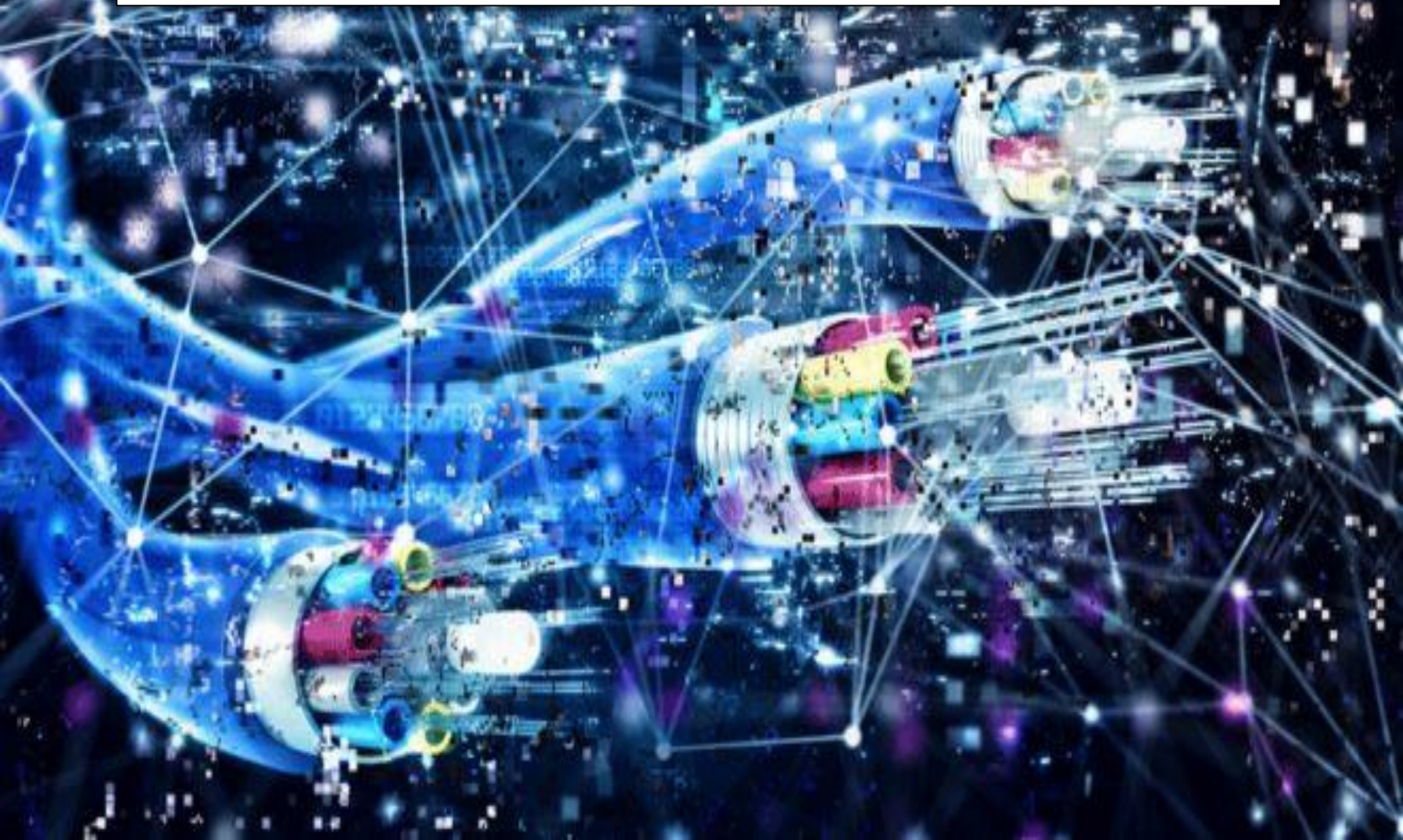
Have fun today, don’t be swamped

ONE STEP

Explore is my advice

VS

Start has already happened



We need an APP

Suggestions?

People coming together with ideas and a toolbox today

Smart Toolbox

- Better Thinking
- SMART INFRASTRUCTURE, TECHNOLOGY, IoT, DATA SCIENCE
- Mobility (Smart Mobility)
- Innovation (Smart Economy)
- Better Administration (Smart Governance)
- Better Experience (Smart Tourism)
- Greater happiness (Smart Living)
- Greater care and recreation (Smart Environment)
- Better budgeting (Smart Retail)
- Greater community (Smart Agriculture)
- Happy people (Power of SMARTER ACTIONS)
- Compound returns

Today

BUSINESS BOOK SERIES
No. 02
INNOVATION:
DO OR DIE
A perspective on innovation, execution, organisationational structure, technology, purpose and the need to understand exponential.
RON IMMINK
Brought to you by
Bookbuzz and Strategy Crowd

INNOVATION IS A STATE OF MIND

Solution
Inspiration
Intelligence
Creativity
Ideas
Vision
Innovation

INNOVATION

idea

Idea
market
Within
technology
business
innovation
creativity
value
Goal
industry

24 Examples of Benefits

ANNEXURE 1

S. No	Feature	Definition
1.	Citizen participation	A smart city constantly adapts its strategies incorporating views of its citizens to bring maximum benefit for all. (Guideline 3.1.6)
2.	Identity and culture	A Smart City has a unique identity, which distinguishes it from all other cities, based on some key aspect: its location or climate; its leading industry, its cultural heritage, its local culture or cuisine, or other factors. This identity allows an easy answer to the question "Why in this city and not somewhere else?" A Smart City celebrates and promotes its unique identity and culture. (Guideline 3.1.7)
3.	Economy and employment	A smart city has a robust and resilient economic base and growth strategy that creates large-scale employment and increases opportunities for the majority of its citizens. (Guideline 2.6 & 3.1.7 & 6.2)
4.	Health	A Smart City provides access to healthcare for all its citizens. (Guideline 2.5.10)
5.	Education	A Smart City offers schooling and educational opportunities for all children in the city (Guideline 2.5.10)
6.	Mixed use	A Smart City has different kinds of land uses in the same places; such as offices, housing, and shops, clustered together. (Guidelines 3.1.2 and 3.1.2)
7.	Compactness	A Smart City encourages development to be compact and dense, where buildings are ideally within a 10-minute walk of public transportation and are located close together to form concentrated neighborhoods and centers of activity around commerce and services. (Guidelines 2.3 and 5.2)
8.	Open spaces	A Smart City has sufficient and usable public open spaces, many of which are green, that promote exercise and outdoor recreation for all age groups. Public open spaces of a range of sizes are dispersed throughout the City so all citizens can have access. (Guidelines 3.1.4 & 6.2)
9.	Housing and inclusiveness	A Smart City has sufficient housing for all income groups and promotes integration among social groups. (Guidelines 3.1.2)
10.	Transportation & Mobility	A Smart City does not require an automobile to get around; distances are short, buildings are accessible from the sidewalk, and transit options are plentiful and attractive to people of all income levels. (Guidelines 3.1.5 & 6.2)
11.	Walkable	A Smart City's roads are designed equally for pedestrians, cyclists and vehicles; and road safety and sidewalks are paramount to street design. Traffic signals are sufficient and traffic rules are enforced. Shops, restaurants, building entrances and trees line the sidewalk to encourage walking and there is ample lighting so the pedestrian feels safe day and night. (Guidelines 3.1.3 & 6.2)
12.	IT connectivity	A Smart City has a robust internet network allowing high-speed connections to all offices and dwellings as desired. (Guideline 6.2)

13.	Intelligent government services	A Smart City enables easy interaction (including through online and telephone services) with its citizens, eliminating delays and frustrations in interactions with government. (Guidelines 2.4.7 & 3.1.6 & 5.1.4 & 6.2)
14.	Energy supply	A Smart City has reliable, 24/7 electricity supply with no delays in requested hookups. (Guideline 2.4)
15.	Energy source	A Smart City has at least 10% of its electricity generated by renewables. (Guideline 6.2)
16.	Water supply	A Smart City has a reliable, 24/7 supply of water that meets national and global health standards. (Guidelines 2.4 & 6.2)
17.	Waste water management	A Smart City has advanced water management programs, including wastewater recycling, smart meters, rainwater harvesting, and green infrastructure to manage storm water runoff. (Guideline 6.2)
18.	Water quality	A Smart City treats all of its sewage to prevent the polluting of water bodies and aquifers. (Guideline 2.4)
19.	Air quality	A Smart City has air quality that always meets international safety standards. (Guideline 2.4.8)
20.	Energy efficiency	A Smart City promotes state-of-the-art energy efficiency practices in buildings, street lights, and transit systems. (Guideline 6.2)
21.	Underground electric wiring	A Smart City has an underground electric wiring system to reduce blackouts due to storms and eliminate unsightliness. (Guideline 6.2)
22.	Sanitation	A Smart City has no open defecation, and a full supply of toilets based on the population. (Guidelines 2.4.3 & 6.2)
23.	Waste management	A Smart City has a waste management system that removes household and commercial garbage, and disposes of it in an environmentally and economically sound manner. (Guidelines 2.4.3 & 6.2)
24.	Safety	A Smart City has high levels of public safety, especially focused on women, children and the elderly; men and women of all ages feel safe on the streets at all hours. (Guideline 6.2)

FRAMEWORK

Smart Mobility | Smart Living | Smart Environment | Smart People | Smart Government | Smart Economy

A whole new feel of WOW

Prefrontal Cortex

700 000
Brains
connecting

New Thinking – Orbitofrontal Cortex

Be Inspired
Think of examples today!

SMART TEAM

+/- 60 of us today

Condense what is out there

① What it is
② What it is not
③ How you can sense the benefits and framework, links to what you value (e.g., Serving Customers? Creating an atmosphere of Trust and Compassion, Creativity, Making a difference, [illegible] (step three etc.)

Your Values

④ With productivity and performance and better Garden Route (in mind) we can all leap frog to ACTIONS (not talk etc.) – it is like boarding a plane!
⑤ How Garden Route can move to Better, Stronger, More Global, More Relevant and we populate ideas, inputs, what to do, collective intelligence (Matrix IP)

With the power of reason and the heart of open we can bring together our very own understanding in solving the challenges ahead for us in the next 5, 10, 20 years and on. We can keep coming back to the drivers and constraints and what to do!

Resonance / Synchronicity

With the power of reason and the heart of open we can bring together our very own understanding in solving the challenges ahead for us in the next 5, 10, 20 years and on. We can keep coming back to the drivers and

constraints and what to do!

① The Why
② What is the MODEL
③ What works and doesn't and collaboration
④ Remove barriers
⑤ Focus on the GOALS
⑥ Get to the foundations and transformation (…….its about the people, technology, data transformation, experience and enhanced quality of life)
⑦ Smart Cities only work where we remove barriers, challenges get solved, opportunities get registered, assets are appreciated and the ECOnomy hums!

“Sequencing Logic”

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1. The Why
2. The How
3. The Who
4. The Where
5. The When
6. The Framework
7. The Solution

With the power of reason and the heart of open we can bring together our very own understanding in solving the challenges ahead for us in the next 5, 10, 20 years and on. We can keep coming back to the drivers and

constraints and what to do!

Solve for X

1. The Why
2. The How
3. The Who
4. The Where
5. The When
6. The Framework
7. The Solution

With the power of reason and the heart of open we can bring together our very own understanding in solving the challenges ahead for us in the next 5, 10, 20 years and on. We can keep coming back to the drivers and

constraints and what to do!

Solve for X

Urban Planning Team

1. The Why
2. The How
3. The Who
4. The Where
5. The When
6. The Framework
7. The Solution

With the power of reason and the heart of open we can bring together our very own understanding in solving the challenges ahead for us in the next 5, 10, 20 years and on. We can keep coming back to the drivers and

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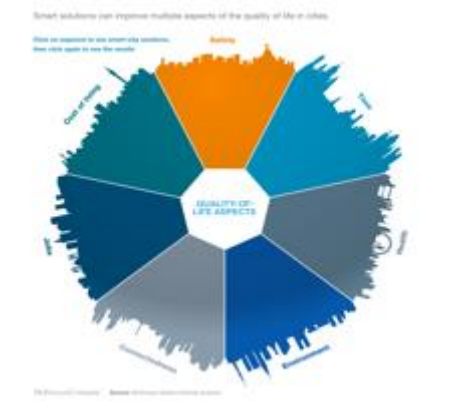
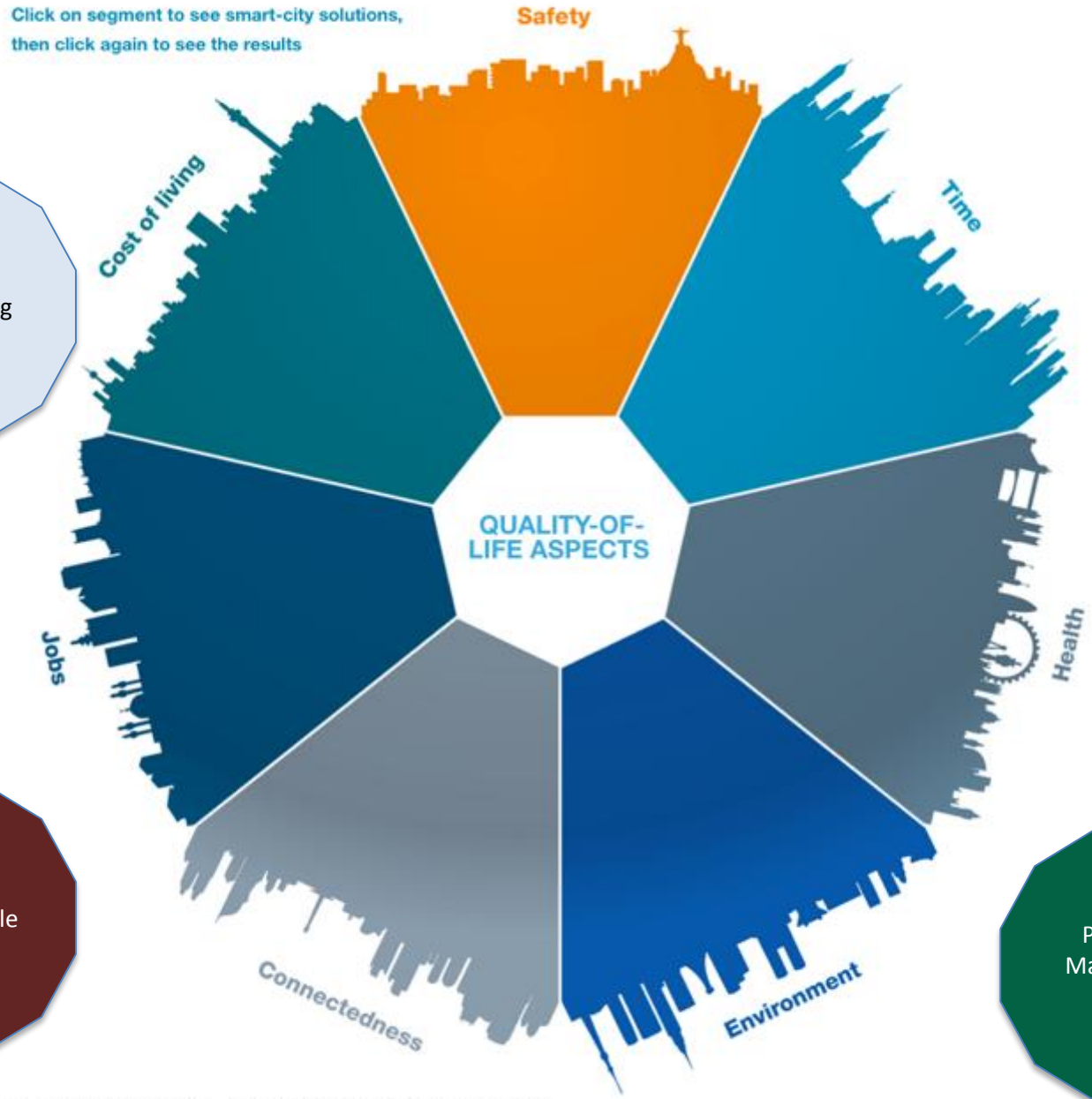


Smart solutions can improve multiple aspects of the quality of life in cities.



McKinsey&Company Source: McKinsey Global Institute analysis

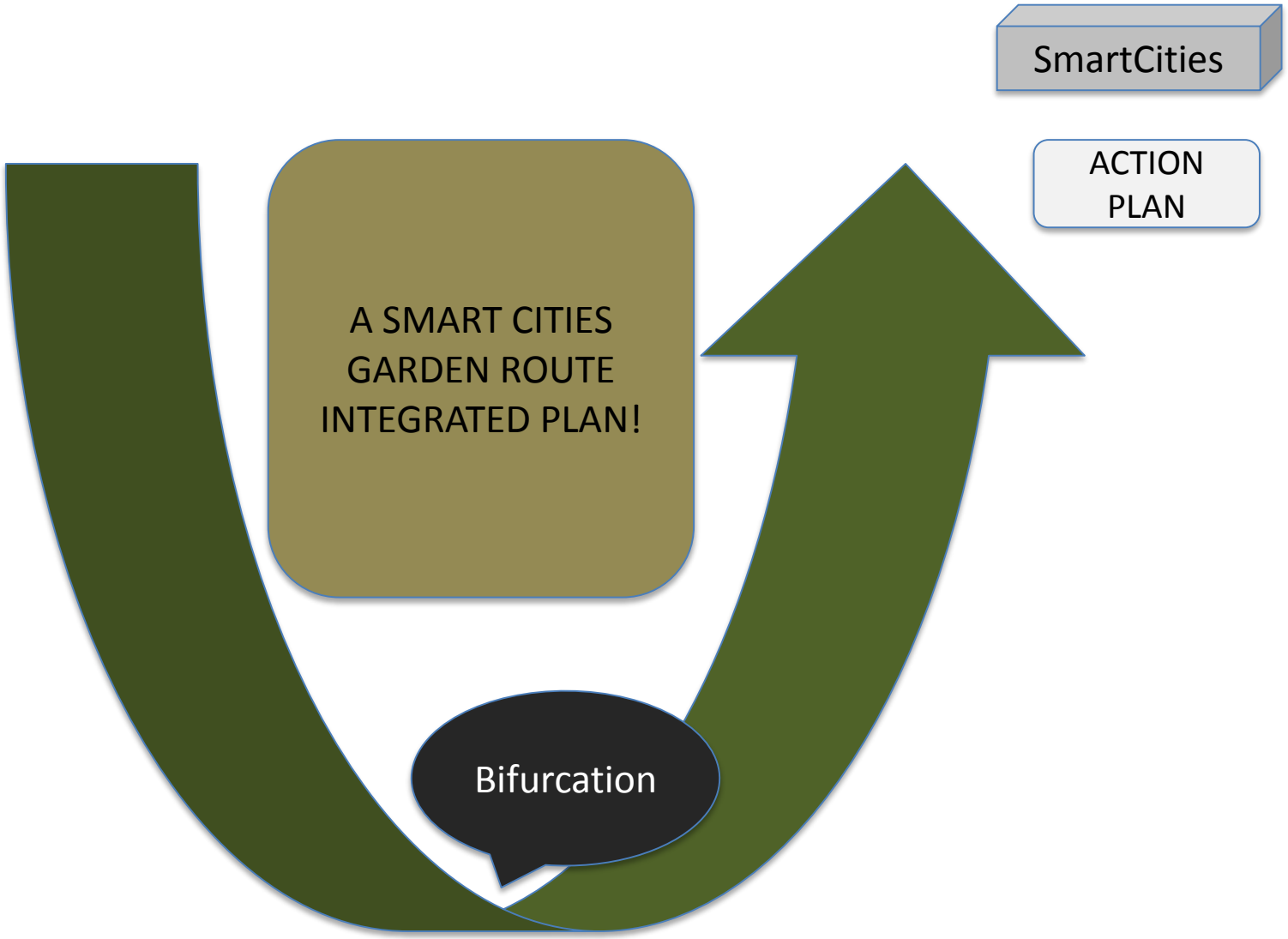
Smart City Roadmap

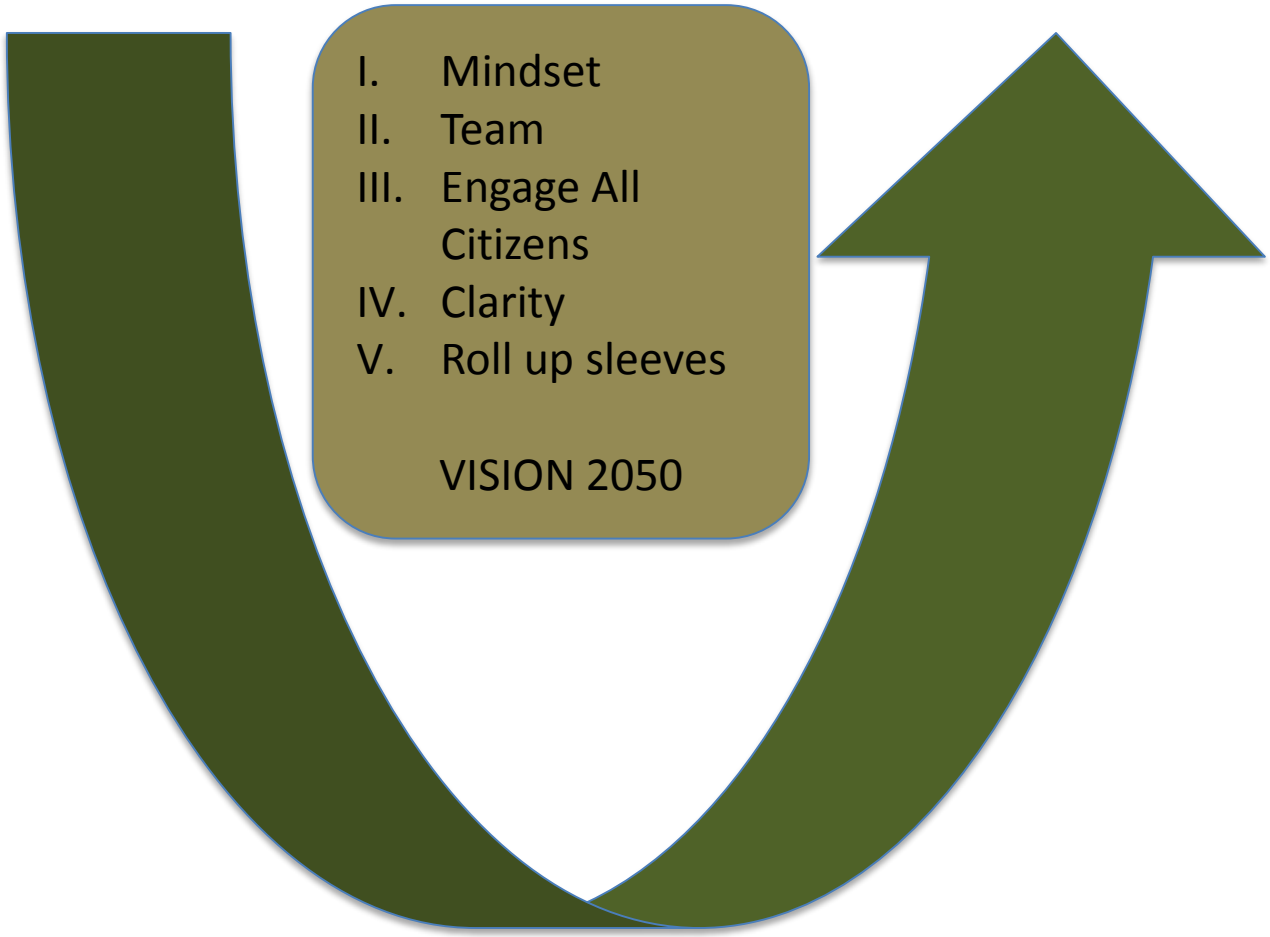
Smart Living

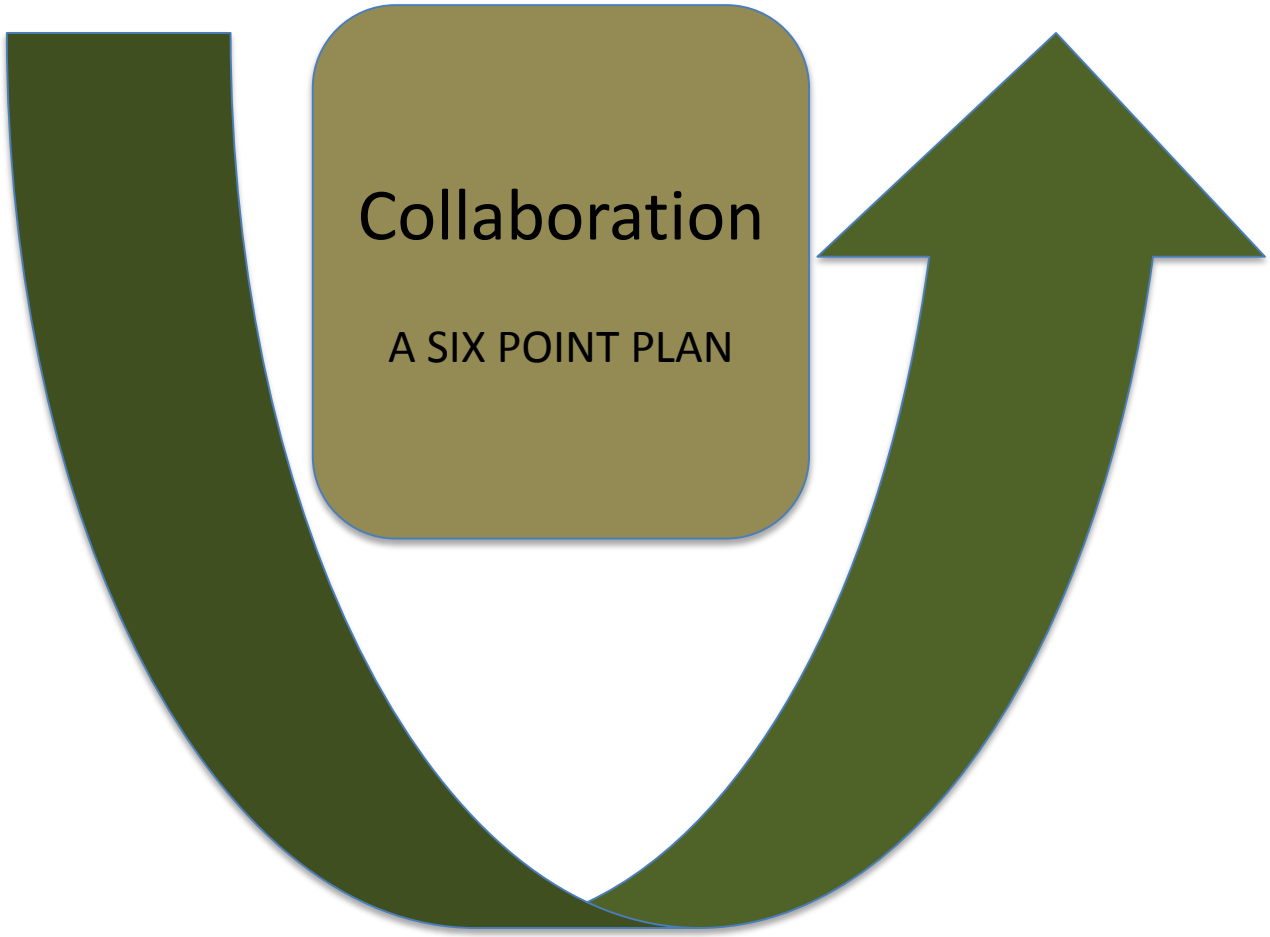
Smart-ni-city Consciousness

Smart People

Places of Magnificent Beauty


SmartCities
ACTION PLAN
A SMART CITIES GARDEN ROUTE INTEGRATED PLAN!
Bifurcation


I. Mindset
II. Team
III. Engage All Citizens
IV. Clarity
V. Roll up sleeves
VISION 2050


Collaboration
A SIX POINT PLAN

Smart Cities are a big deal

RANKING	CITY	PERFORMANCE	GINI
123	Saint Petersburg-Russia	0	42.37
124	Ho Chi Minh City-Vietnam	0	42.08
125	Skopje-Macedonia	0	42.04
126	Rio de Janeiro-Brazil	0	41.89
127	Baku-Azerbaijan	0	40.92
128	Kuwait City-Kuwait	0	39.85
129	Medellin-Colombia	0	39.53
130	Rosario-Argentina	0	39.40
131	Lima-Peru	0	39.08
132	Sarajevo-Bosnia and Herzegovina	0	38.60
133	Cordoba-Argentina	0	37.59
134	Tunis-Tunisia	0	37.29
135	Curitiba-Brazil	0	37.09
136	Jakarta-Indonesia	0	36.56
137	Cali-Colombia	0	36.08
138	Brasilia-Brazil	0	36.06
139	Amman-Jordan	0	35.69
140	Quito-Ecuador	0	35.57
141	Guatemala City-Guatemala	0	35.23
142	Novosibirsk-Russia	0	34.48
143	Cape Town-South Africa	0	34.30
144	Manama-Bahrain	0	33.30

RANKING	CITY	PERFORMANCE	GINI
145	Santa Cruz-Bolivia	0	32.97
146	Manila-Philippines	0	32.73
147	Salvador-Brazil	0	31.65
148	Casablanca-Morocco	0	31.26
149	Tianjin-China	0	30.61
150	Guayaquil-Ecuador	0	30.35
151	Belo Horizonte-Brazil	0	30.21
152	La Paz-Bolivia	0	30.08
153	Riyadh-Saudi Arabia	0	29.13
154	Santo Domingo-Dominican Republic	0	29.10
155	Rabat-Morocco	0	28.12
156	Johannesburg-South Africa	0	27.42
157	Cairo-Egypt	0	27.24
158	Mumbai-India	0	26.67
159	New Delhi-India	0	26.60
160	Douala-Cameroon	0	26.52
161	Nairobi-Kenya	0	25.97
162	Caracas-Venezuela	0	25.38
163	Kolkata-India	0	21.14
164	Lagos-Nigeria	0	20.41
165	Karachi-Pakistan	0	17.23

Dublin - Smart City

- Lead by the four Dublin Local Authorities
- Smart Dublin (2016) program
- As Smart City is real time, connected, and data driven
- Vision: A leading **open, connected,** and **engaged** smart city region to live in, work in, and visit
- Initiative is driven by urban challenges of Smart Mobility, Environment, Smart Government, Smart People, Smart Economy, Smart Living

OpenNorth

New York City - Smart City

- **Leadership:**
  - Mayor's Office of Technology and Innovation (MOTI), Department of Information Technology & Telecommunications (DoITT), Mayor's Office of Data Analytics (MODA) (operates as a Center of Excellence)
- ***Guided by:***
  - *Roadmap for the Digital City* (2011); *Building a Smart and Equitable City* (2015); *NYC Digital Playbook* (2016)
- ***Building a Smart and Equitable City:***
  - integrated with One New York urban plan and equity is an "explicit guiding principle"
- ***Digital Playbook:***
  - Principles of equity, inclusivity, accessibility to government information and services; improving public services, user friendliness, and civic engagement and outreach; transparent, secure, and trustworthy data practices; and sharing and collaborating data and platforms to improve City service to residents
  - 12 strategies in the *NYC Digital Playbook* to uphold these principles

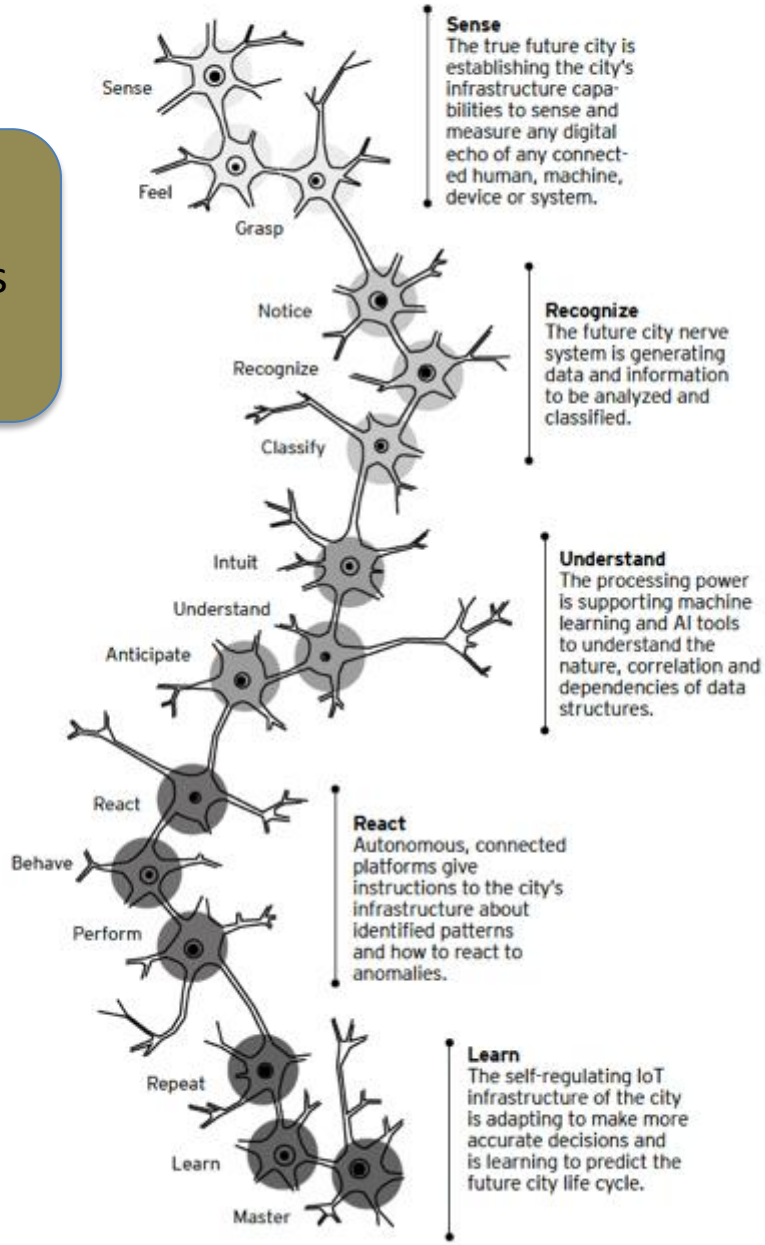
Context

OpenNorth

37:48

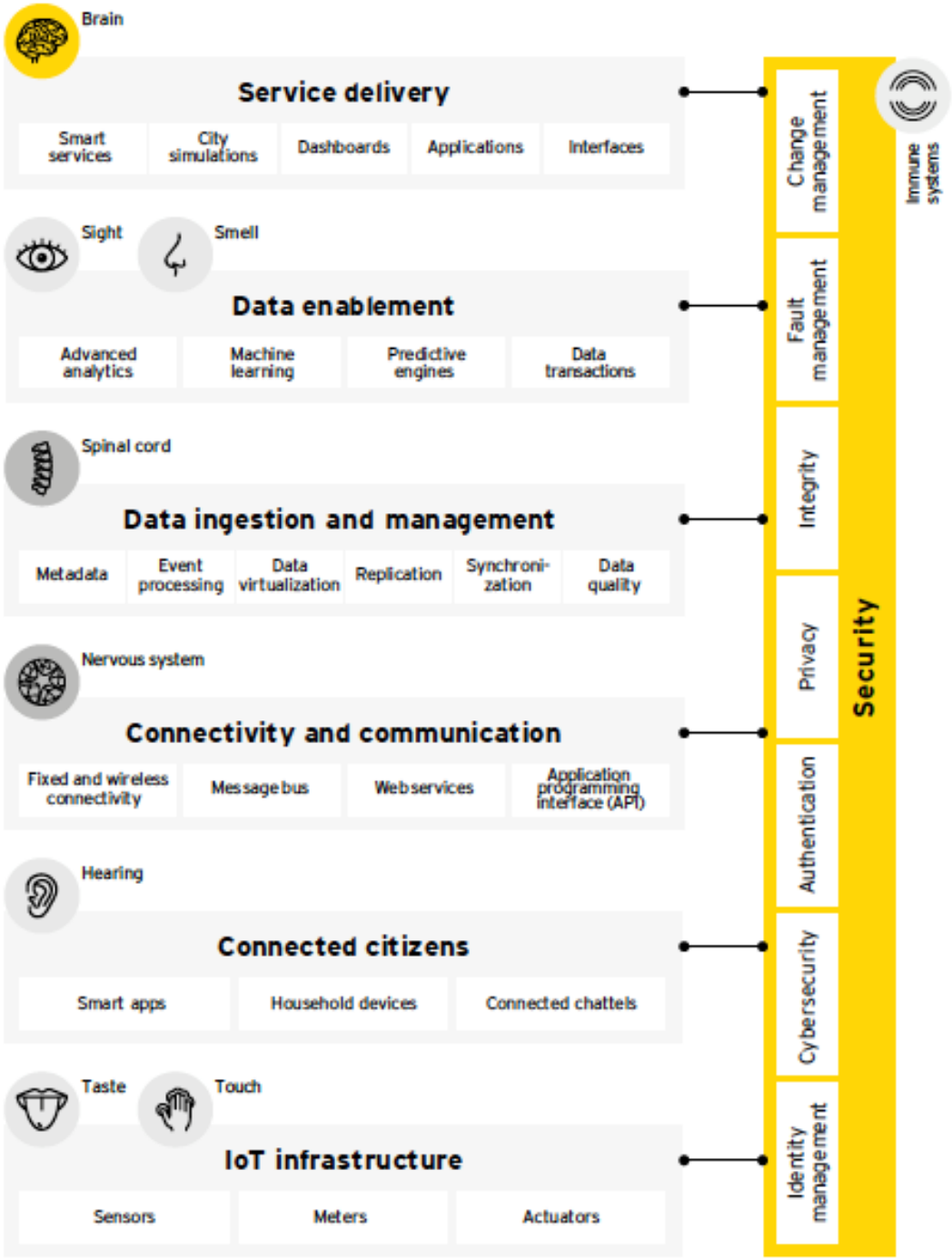
It takes a new form of innovation that speaks beyond theory

The learning path of a smart city's IoT ecosystem



Vision 2050

Courtesy of EY
Global Smart Cities Unit



A WHOLE NEW WELLNESS AND ECOLOGY CAN BE BOOTSTRAPPED

SMART INC.

A new form of modality - Smartnicity

SIX POINT PLAN IMPLEMENTATION

CREATE A FRAMEWORK Policy to Model to Decision Making to VISION

FORMULATE A STRATEGY – WHY, WHAT, WHEN, WHO, WHERE, HOW

START WITH COMMUNITY –You Here today, our Team, our Effort - Smartify 140 informal settlements

BRING IN THE ENTREPRENEURS – LAND USE, RESOURCES EXIST, CAPITAL FOR FUNDING, SMART TOURISM, PRECISION AGRICULTURE – ONE VOICE – OPEN DATA – OPEN SYSTEMS THINKING - Make Garden Route World Class

REACH OUT - Smart Cities around the World and our very OWN PLAN – e.g., liveability, resiliency, workability, mindicity, biomimicry, ICT, IoT

MARKET GARDEN ROUTE SMART MASTERPLAN (Blueprint/ Vision 2050)

Processes

① EMBRACE A WHOLE NEW “LINGO” CALLED SMARTNESS (Open Mind Thinking, McKinsey etc)

② START WITH PEOPLE – START WITH COMMUNITY TO EMBRACE TRUST, ECONOMY, SUSTAINABILITY, QUALITY OF LIFE AND CAPITAL ALIGNMENT WITH SMART GOVERNANCE AND DATA TRANSFORMATION

③ WE ARE READY – 4th industrial Revolution, Conferences, Business Platform etc.

④ OUR COST OF LIVING IS UNIQUE – therefore our SMART WHEEL/ PROBLEM SOLVING/ CARE FOR OTHERS IS AN OUTREACH AND A PROMISE

⑤ FORESIGHT – working with UNIVERSITIES, CONSULATES, FUNDERS, ROCKEFELLER FOUNDATION ETC. to apply policies, strategies, frameworks out there around PEOPLE, COMMUNITY, INDUSTRY, ACADMIA TOGETHER

Out there, sits literally at least a thousand definitions

Let's make it Personal to our Journey today

A SMARTCITY IS A CITY THAT IS ADAPTIVE, CLEAN, SMART, MODERN, RELEVANT, GREEN, SUSTAINABLE TRANSFORMATIVE and OPEN.

AS A CONCEPT, A SMART CITY is INTELIIGENT. IT IS NOT SIMPLY INFRASTRUCTURE NOR TECHNOLOGY OBSESSSED BUT USES TECHNOLOGY AS AN ENABLER. IT uses data together with services, aligns security and protection of property rights, it promotes connection, social innovation and QUALITY OF LIFE (THE INTERNET OF MEANINGFUL THINGS).

IT INTEGRATES DATA, TOOLS FOR MAPPING, INFORMATION MANAGEMENT AND THE PROMOTION OF INNOVATION AND KNOWLEDGE WORKER

IT PROMOTES GLOBALIZATION

IT PROMOTES TRUST

IT PROMOTES DIGITAL

IT BELIEVES IN WHAT IS TERMED A DIGITAL ECHO

A SMART CITY EMODIES SMART PEOPLE

IT LINKS THIS TO A BRAIN METAPHOR WHICH IS ABLE TO ORGANISE FUNCTIONS AND ACTIONS

THIS INTEGRATIVE INTELLIGENCE IS ENCODED IN A SYSTEMS MINDSET.

THERE IS A VALUE CHAIN ALIGNING VALUES AND PURPOSE OF THE CITIZENS

THIS VALUE CHAIN IS A NEW FORM OF FOOTPRINT (not just Carbon) TO LINK REAL TIME INFORMATION, DECISION MAKING, POLICY, PROCESSES TO BETTER OUTCOMES.

THE BENEFITS IS A NEW MODALITY AND INCLUDES BETTER MANAGEMENT, SMART GOVERNANCE AND SMART DECISION MAKING.

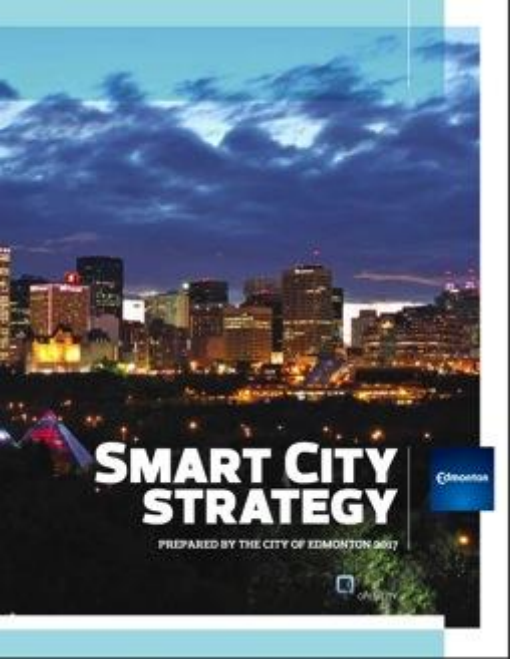
THIS MINDSET IS ABOUT TRUST. THE NEW OIL BUILDS AN ECOSYSTEM OF SOCIAL, ECONOMIC AND UPLIFTMENT USING COMMUNICATIONS TECHNOLOGY (including Internet of THINGS) to SOLVE PROBLEMS, ADDRESS CITY CHALLENGES, DIRECT INVESTMENT AND BUILD ENTREPRENEURIAL PARTNERSHIP and PROMOTION.

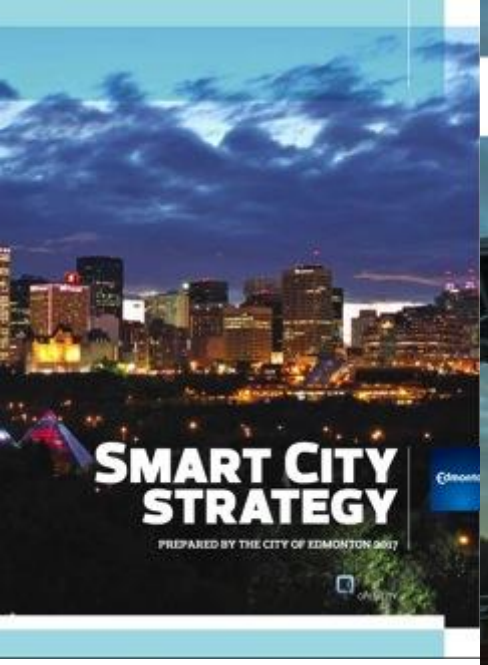
A TRULY SMART CITY DOES NOT IMPOSE BOUNDARIES OR LIMITATIONS but is CITIZEN CENTRIC, RESPONSIVE, INNOVATIVE, WORLD CLASS TRADE and INVESTMENT FOCUSED and DEPLOYS TRUST AND LEADERSHIP TO MAKE CITIZENS LIVES QUALITATIVE, INSPIRED and MEANINGFUL.

SMART GARDEN ROUTE IS A……

Urban management is complex. So, moving the innovation spiral to accommodate better policies, greater savings, greater use of data and the derivatives (open data etc.), knowledge leverage, partnerships, creation of an appropriate model, use of a framework, we literally take off the veil

Articulate what we want


SMART CITY
STRATEGY
Edmonton
PREPARED BY THE CITY OF EDMONTON 2017



SMART CITY STRATEGY

MESSAGE FROM THE MAYOR

As the government closest to Canadians, municipalities touch almost every aspect of our citizens' daily lives.

As our city grows, we are tasked with providing an increasing array of services in a more open and responsive way.

In response, the City of Edmonton is shifting its view to recognize our role as part of a larger ecosystem. We are at the crossroads of a complex system of social, economic, political and technological networks. Embracing the perspectives from individuals, industry and academic sectors of the community is how we can best achieve our goals, deliver programs and services and provide an exceptional quality of life for citizens.

Embracing a Smart City is a cornerstone for our role as leaders in open municipal advancement. The next frontier for governments is how to use data and analytics to make better evidence-based decisions. All of this information has tremendous potential to influence how we plan, build and live in our city.

Edmonton is a Smart City, known for using technology to turn garbage into biofuels, fight crime, move people around and design a carbon-neutral community. As a Smart City, we will find new strategies and solutions for the challenges and opportunities that face cities all over the world. It will enable us to build a city that is more resilient, livable, workable and altogether more uplifting.

DON IVESON
MAYOR

MESSAGE FROM THE MAYOR

A SMART AND DIGITAL CITY BUILT BY CITIZENS, FOR CITIZENS

In March 2014, Montréal created the Bureau de la ville intelligente et numérique, to become a world leader among smart and digital cities. The Bureau's mission is to devise a Montréal strategy around four axes: Collecting, Communicating, Coordinating and Collaborating.

A new milestone was achieved last fall with a consultation process that brought together Montrealers who discussed and shared ideas on their needs and expectations.

Montréal, Smart and Digital City is an ambitious project that builds on our collective intelligence to forge a distinctive Montréal-based model. The institutional and private sectors have joined with city workers and Montréal citizens in an ongoing dialogue, playing active roles in formulating this strategy. *Montréal, Smart and Intelligent City,* will be built by citizens, for citizens.

Mayor of Montréal,

Denis Coderre

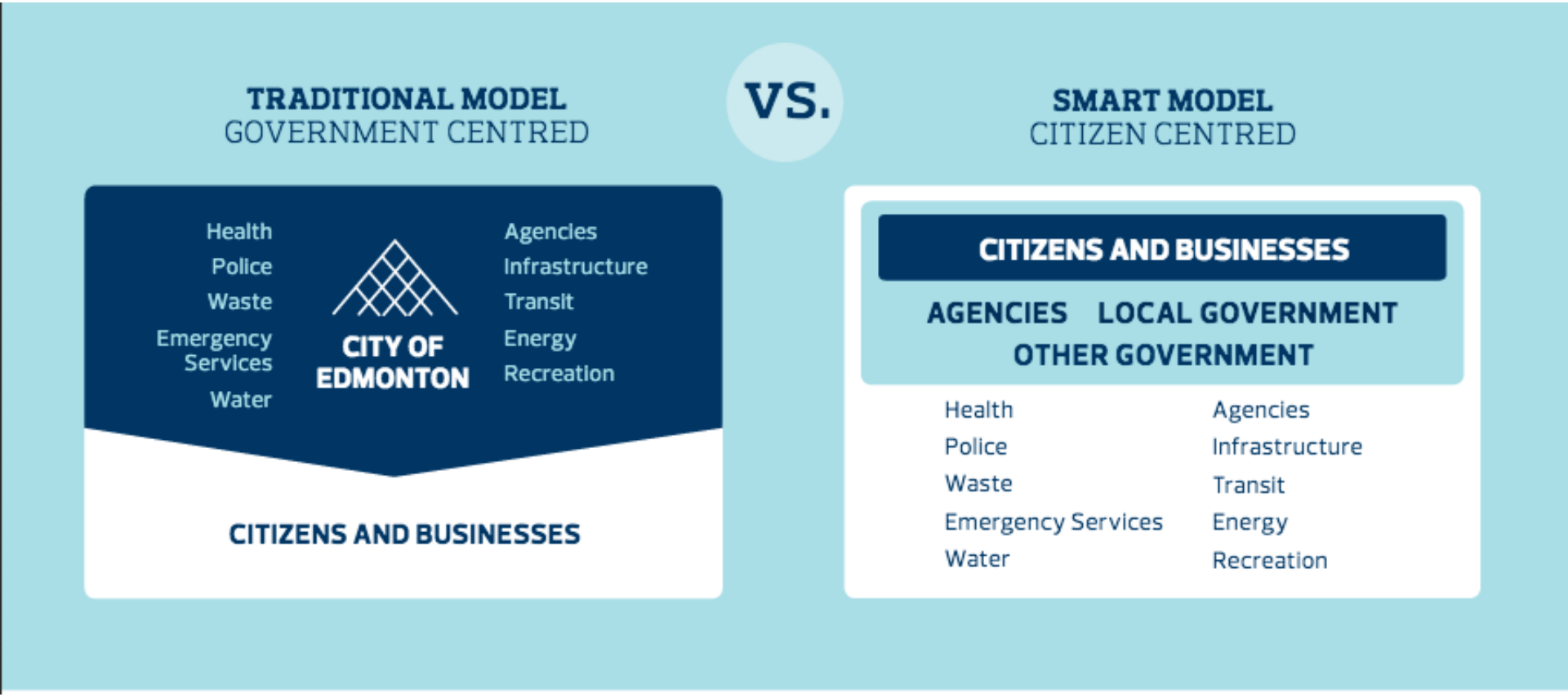
SMART CITY STRATEGY

MESSAGE FROM THE MAYOR

One Voice

Universal Principles
Smart City Vision
Programmatic Intelligence
Community
One Region

Our Commitment



Turn assumptions on their head

For Edmonton, a Smart City is not just about technology. Instead, it is about creating and nurturing a resilient, livable and workable city through the use of technology, data and social innovation into nine streams, as shown below.

OUR MEMBER CITIES

ROUND ONE CITIES

Bangkok
Berkeley
Boulder
Bristol
Byblos
Christchurch
Da Nang
Dakar
Durban
El Paso
Glasgow
Los Angeles
Mandalay
Medellin
Melbourne
Mexico City
New Orleans
New York
Norfolk
Oakland
Porto Alegre
Quito
Ramallah
Rio de Janeiro
Rotterdam
San Francisco
Semarang
Surat
Vejle

ROUND TWO CITIES

Accra
Amman
Athens
Bangalore
Barcelona
Belgrade
Boston
Cali
Chennai
Chicago
Dallas
Deyang
Enugu
Huangshi
Juarez
Kigali
Lisbon
London
Milan
Montreal
Paris
Pittsburgh
Rome
San Juan
Santa Fe
Santiago de los Caballeros
Santiago, Metro
Singapore
St. Louis
Sydney
Thessaloniki
Toyama
Tulsa
Wellington

ROUND THREE CITIES

Addis Ababa
Atlanta
Belfast
Buenos Aires
Calgary
Can Tho
Cape Town
Colima
Greater Manchester
Greater Miami and the Beaches
Guadalajara
Haiyan
Honolulu
Jaipur
Jakarta
Kyoto
Lagos
Louisville
Luxor
Melaka
Minneapolis
Montevideo
Nairobi
Nashville
Panama City
Paynesville
Pune
Salvador
Seattle
Seoul
Tbilisi
Tel Aviv
The Hague
Toronto
Vancouver
Washington, D.C.
Yiwu

Smart City strategy

WORKABILITY FOCUS: MOBILITY

Through the creation of world class roadway and broadband infrastructure systems, the City will foster faster, greener and more efficient modes of connection both physically and virtually.

Edmonton's system of moving people is inclusive and intelligent. An effective data-driven transportation system – whether it be by foot, cycle, transit or private vehicle – ensures mobility for all, regardless of income or ability.

MOBILITY ACTIONS

Promote collaboration between citizens and administration through digital equality and accessibility

Encourage the identification of innovative ideas from citizens and staff to improve the delivery of programs and services

Harness new technologies as they become available to capitalize on digital advancements

Set a framework for building a sustainable, modern city that will meet the needs of Edmonton's diverse and growing urban and regional population

Smart City strategy

WORKABILITY FOCUS: EDUCATION

Recognizing that educational institutions are a foundational element to allow citizens to learn, adapt and innovate, the City will identify areas of opportunity to develop the educational ecosystem.

The City promotes access to knowledge through partnerships with local school boards and academic institutions as well as digital equality – ensuring that all citizens can access broadband networks and information. Edmonton is a living lab where citizens learn by experimenting, supported by City Administration and programs which encourage innovation and foster creativity.

EDUCATION ACTIONS

Partner with universities and colleges to share ideas and knowledge on City data and systems to encourage innovation and foster creativity

Promote Edmonton as a post-secondary city to encourage future investment and sector growth

Facilitate digital inclusion and literacy among all citizens

Collaborate with educational institutions to demonstrate the possibilities and prepare students for advancements in technologies and data analysis

Smart City strategy

LIVABILITY FOCUS: INFRASTRUCTURE

Without high capacity and resilient physical and virtual infrastructure, the City will not be able to fully harness the benefits of technology such as smart sensors.

A smart infrastructure is crucial in connecting people, communities and businesses. Infrastructure also allows a sustainable municipality to adapt to population changes and increases in resource consumption.

INFRASTRUCTURE ACTIONS

Work with utility partners to provide smart energy and water metering

Upgrade our road networks with smart technologies to ensure adequate management of existing assets

Upgrade our ICT infrastructure to ensure high speed connectivity

Build sustainable and connected future communities

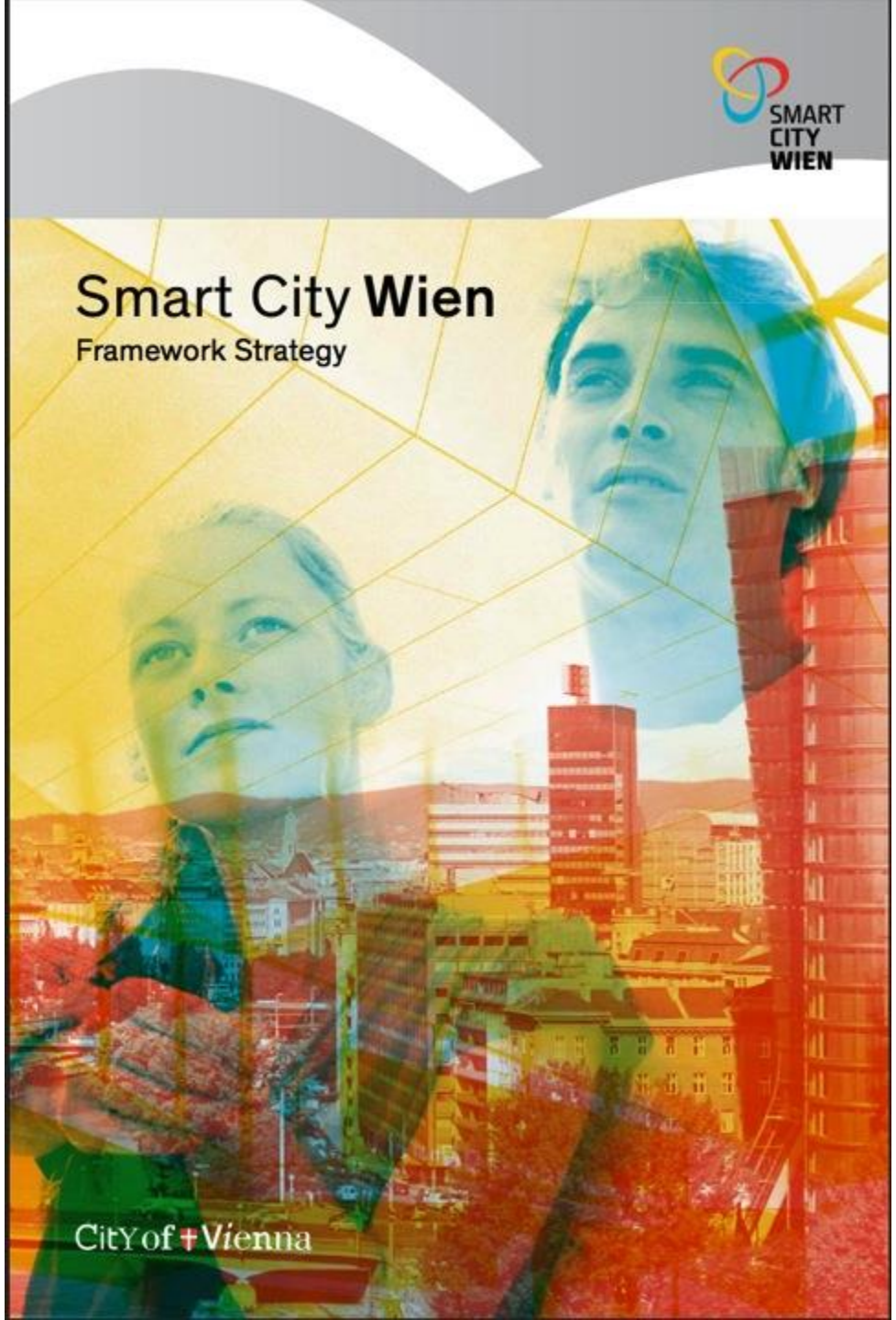
Smart building to manage infrastructure demand density (resource consumption within a building – power, water, transport, telecoms, waste)

Vienna tops Melbourne as world's most liveable city in "Economist" study

14. August 2018 / 0 Comments / in News

Melbourne led the ranking of the renowned British business magazine "The Economist" for seven consecutive years. Now the Australian metropolis has been dislodged by Vienna. The Japanese city of Osaka is ranked third. Each year, the study evaluates 140 major cities according to criteria such as social security, infrastructure, education, access to health systems, stability and culture.

The race for first place was a close one: in the categories of health system, education, culture and infrastructure both Vienna and Melbourne received the full score. The deciding factor for Vienna was ultimately its high social security, political stability and low crime rates. Following the Mercer ranking, which Vienna topped for the past 9 years, Vienna has now been able to assert its status as the most liveable city in the world in the Economist study.



Bring in the best ideas

Foreword
The Smart City Wien Initiative

Vienna is a fantastic place to live and work in. The city is growing, and so are its opportunities. This growth is based on several strong factors, beginning with the city's company structure and educational sector and including an intact environment and ample green spaces. On the international scene, Vienna moreover scores with its public transport network, extensive social housing activities and social services that are available and affordable for everyone. All these things are to be further developed, both in quality and to meet the needs of a growing city.

However, we do not want to attain these objectives by further raising the consumption of the resources needed in the future as well. This concerns first of all fossil fuels, which our current lifestyles and economies still manifestly rely on. They are not infinitely available, entail dependencies and contribute significantly to climate change as well as to its immense consequential costs, which we all will have to bear.

Our future will be designed in the cities. Traditionally, cities have been places of major changes and social innovations; they are home to the majority of the world's population and offer great opportunities for a novel way to deal with resources. A smart city is a city that faces the challenges in the wake of decreasing resource consumption combined with rising demands. However, a smart city will also strive for a high degree of social inclusion. In our opinion, a smart city needs to opt for resource preservation while ensuring high quality of life combined with innovation in all fields.

In Europe as well as worldwide, Vienna is considered a forerunner smart city. For many years, we have done many things right – in transport, housing, urban development, environmental protection, supply and waste management services. Across the world, Vienna is respected for its success in the field of social participation and its high standard of services for the public.

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A "smart city" also means social inclusion: Vienna takes account of the needs of all residents!

Any city that utilises the smart city concept as a metaphor for processes of change defines it in its very own way. While some cities focus above all on the implementation of technological possibilities, others aim mainly at the reduction of emission levels. Conversely, Vienna continues its chosen and successful road by following several objectives concomitantly and favours social inclusion even more than in the past. Vienna can only be smart if …

… the needs of many different population groups can be met: Smart City Wien means recognising this diversity. The city and its institutions will continue to make sure that processes of change will be socially balanced, that disadvantages will be compensated as far as possible, and that the high level of social security will be maintained.

… high quality of life is possible also for persons with lower incomes: Smart City Wien means a superlative standard of public services, affordable housing and public transport, spacious and publicly accessible green and leisure spaces, a highly developed healthcare system and many other things. The further development of Vienna equals development for all and is to be perceived as such by all citizens.

… codetermination and participation shape the development of the city: Smart City Wien means creating space for locally fine-tuned solutions and self-initiatives as well as the possibility for citizens of having a say in the development of their city.

… innovations and progress have a social component: finally, Smart City Wien means fostering what is new. While this often involves technological novelties, social innovations too, are increasingly coming to the fore. Contrary to purely technological developments, these are more strongly inspired by the needs of citizens, rest on a broader basis and take particular account of the interaction of different individuals and organisations.

Our ability to master the future can only be safeguarded if the necessary processes of change enjoy wide support. All cities today are facing major challenges. For Vienna, the crucial point lies in the fact that these changes will entail further improvement of the living conditions of all parts of the urban population. The leitmotif of this is Vienna as a social city that supports all persons in their effort to live a good life.

As a smart city, Vienna must also be resilient and hence robust, flexible, adaptive and able to react quickly and in keeping with the challenges when faced with internal and external influences. In this, resilience is strongly dependent on the availability of room to manoeuvre, on the possibilities for self-organisation or for re-organisation of economic and social systems, on social coherence, on the competencies of residents and on a flexible and innovative administration.

The three major sets of goals – resource preservation, quality of life and innovation – are closely interlinked. Vienna wants to maintain its excellent position in the international competition of cities, although it is not enough to hold a top position regarding only one of these sets. Vienna maintains a close dialogue with leading cities in Europe and worldwide on promising approaches. The Viennese approach will be very special!

It is thus the key goal for 2050 of Smart City Wien to offer optimum **quality of life**, combined with highest possible **resource preservation**, for all citizens. This can be achieved through comprehensive **innovations**.

The present framework strategy describes the key goals and principal approaches chosen to attain them. It represents guidelines for the numerous important specialised strategies of the city that define concrete multiyear plans for such areas as urban planning, climate protection, the future of energy supply or Vienna as an innovation hub. In this, the framework strategy poses a twofold challenge: first of all, how can the goals be gradually rendered more and more ambitious despite the demanding practical and financial frame conditions? And, secondly: how can policy and change processes be designed in an even more cross-cutting, multi-sectoral manner?

A cross-cutting concept also underpins the following Smart City Wien 2050 (page 19) vision embraced by the city.

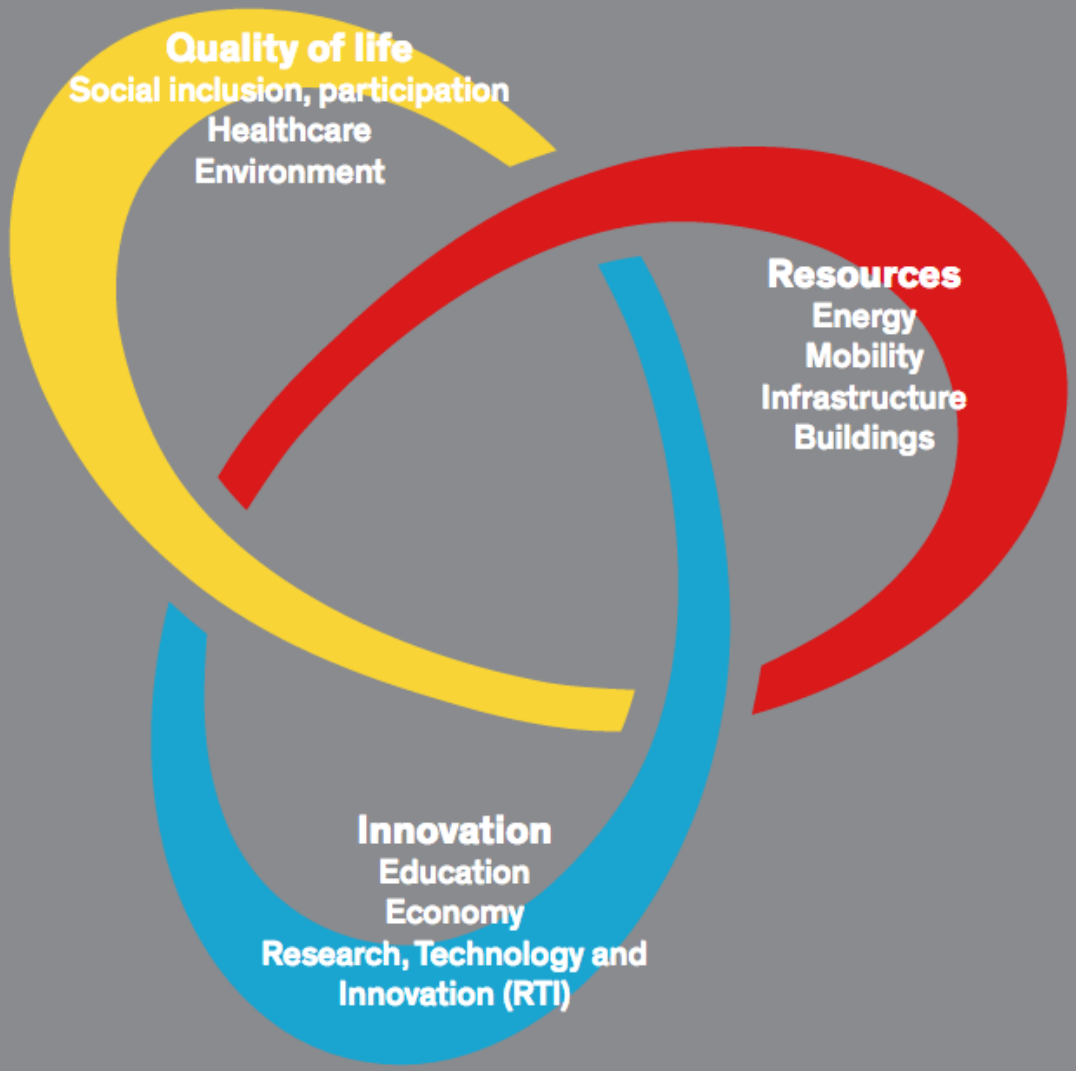
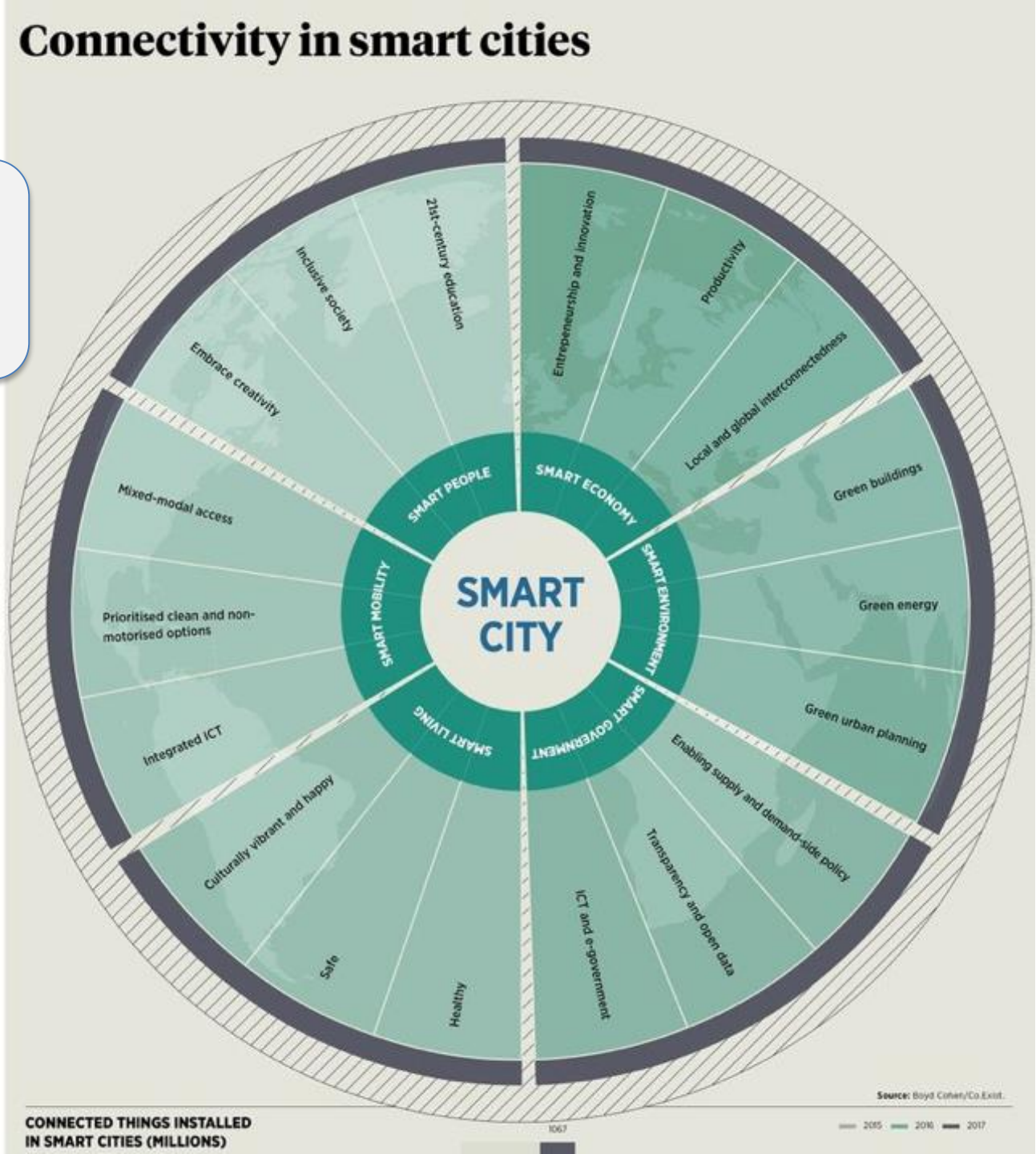
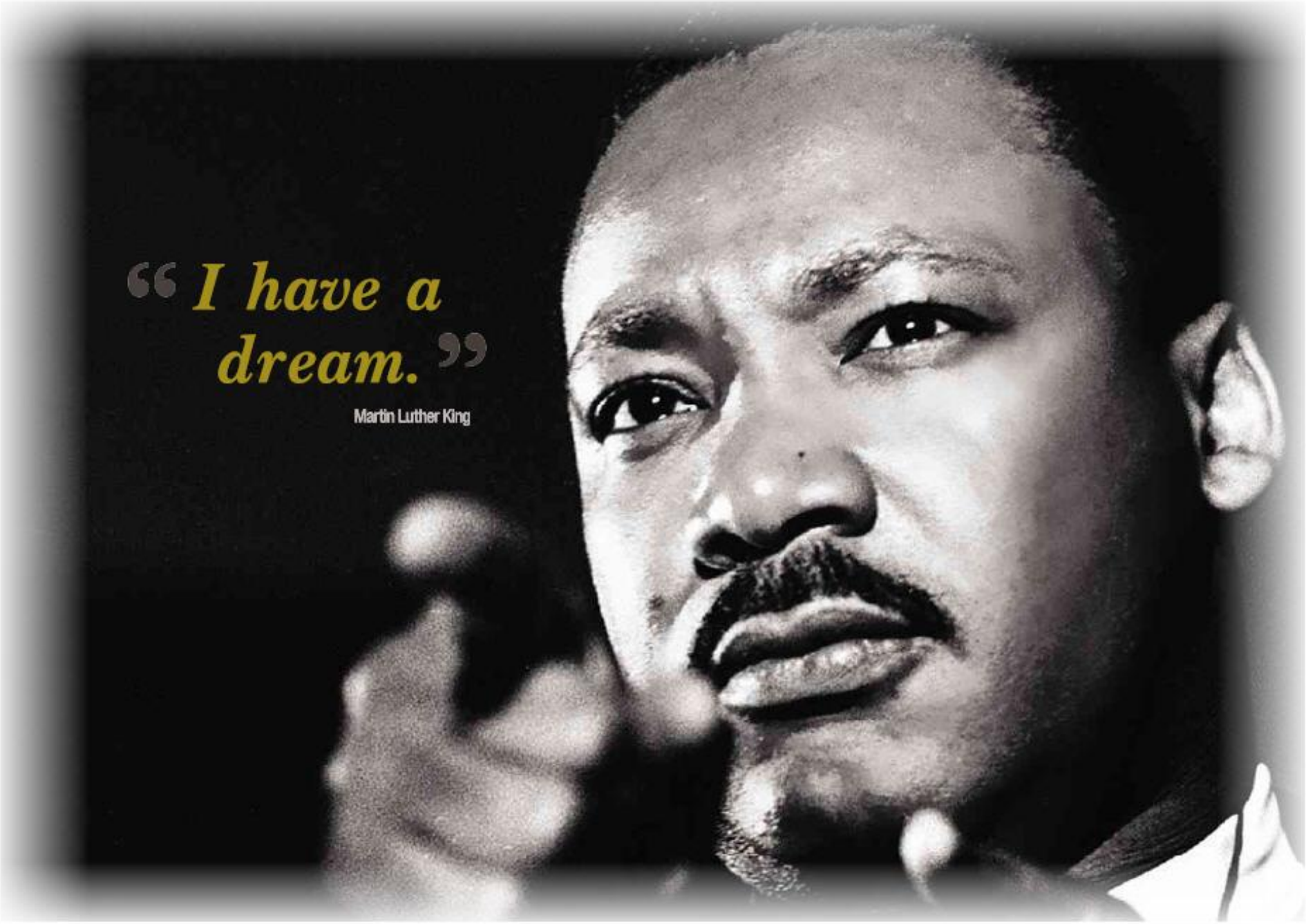


Fig. 1 "The Smart City Wien principle"

The Smart City Wheel




“I have a dream.”
Martin Luther King

Smart Garden Route

London's deep assets #1: Knowledge Economy

Quality of life

Three impulse generators formulate Vienna's specific approach to becoming a smart city. Vienna strives for optimum quality of life combined with the attainment of the necessary resource-related objectives. In this way, Vienna builds on existing strengths in the areas of **social inclusion, healthcare** and **environment.**

Resources

To be able to attain the ambitious goals of Smart City Wien as a resource-conserving forerunner city, politics and administration are committed to setting important steps in the core areas of **energy, mobility, buildings** and **infrastructure.** This comprises issues pertaining to energy systems, energy generation, pre-existing and new city quarters, future means of transport and the use of pioneering information and communication technology. The core areas form the main focus of the strategy, since they are primarily decisive for the question of resource preservation but also have a strong impact on quality of life and innovation.

Innovation

Three other impulse generators are decisive for the field of innovation, which supports and paves the road towards the Smart City Wien targets and is characterised by the intelligent and systematic use of cutting-edge technologies and social innovation. **Education** prepares the ground, and **research, technology** and **innovation** (RTI) produce novel, smart technological and social solutions. Finally, a strong **economy** implements these solutions and provides employment.

Smart City Wien combines the three essential and interlinked basic elements of resources (resource preservation), quality of life and innovation. In this way, it builds on typical strengths of Vienna and includes externally imposed binding goals.

The definition of Smart City Wien:

Smart City Wien defines the development of a city that assigns priority to, and interlinks, the issues of energy, mobility, buildings and infrastructure. In this, the following premises apply:

- **radical resource preservation**
- **development and productive use of innovations/new technologies**
- **high and socially balanced quality of life**

This is to safeguard the city's ability to withstand future challenges in a comprehensive fashion. The elementary trait of Smart City Wien lies in the holistic approach pursued, which comprises novel mechanisms of action and co-ordination in politics and administration as well as a wider leeway of action assigned to citizens.

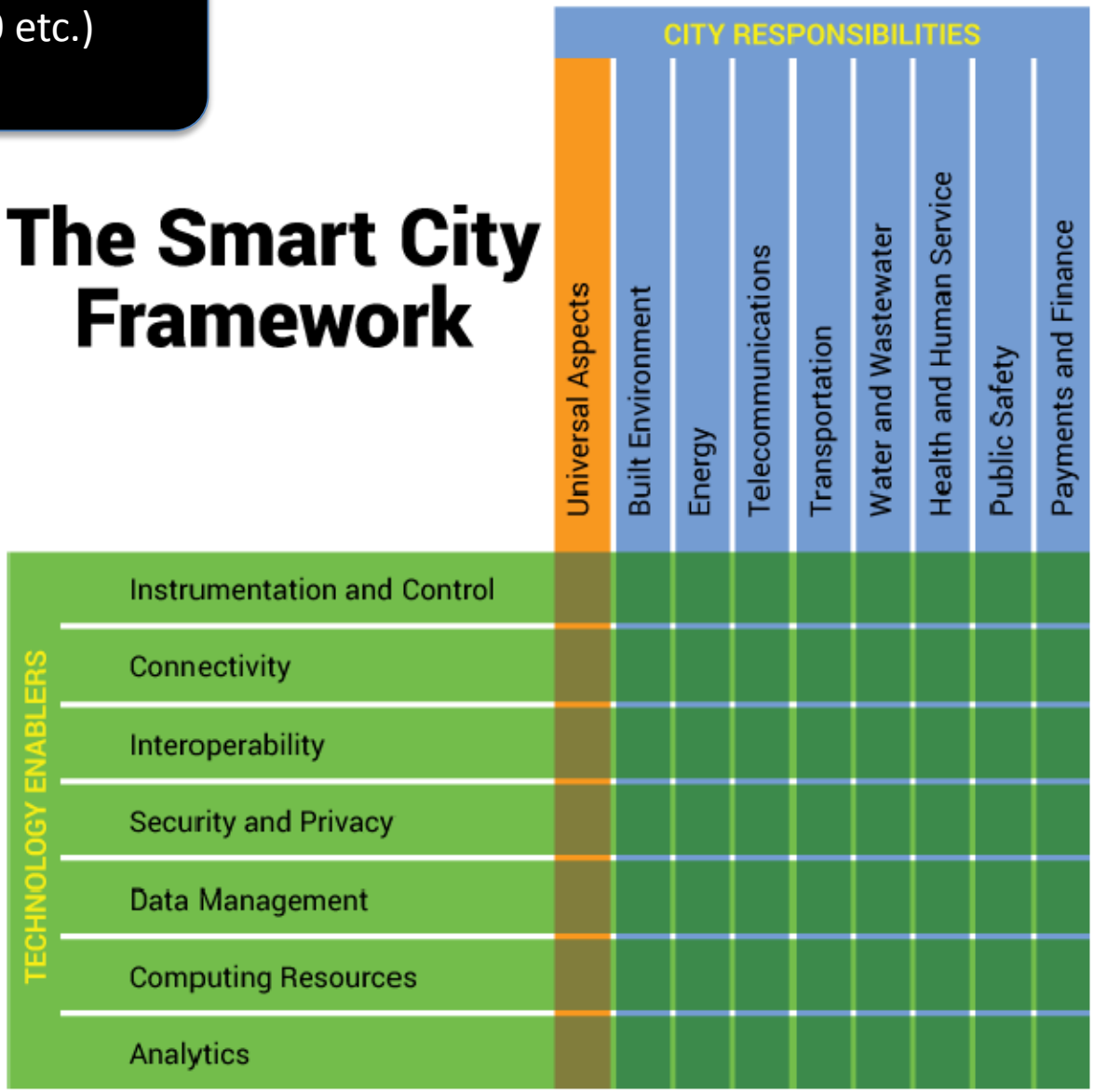
AT A GLANCE: TRADITIONAL CITIES VS SMART CITIES

	The Problem	The Smart City Solution
Planning	• Ad hoc and decentralized • Cost savings aren't realized • Limited potential for scalability of investment	• Coordinated and holistic • Resources are shared • Cost savings are fully realized • Investments are scalable • Improved city planning and forecasting
Infrastructure	• Runs inefficiently • Costs more money and resources to run	• Optimized with cutting-edge technology • Saves money and resources • Improved service-level agreements
System operators	• Guess at infrastructure conditions • React to problems • Can't deploy resources efficiently to address problems	• Enjoy real-time reporting on infrastructure conditions • Predict and prevent problems • Deploy resources more efficiently • Automate maintenance • Save money
ICT investments	• Piecemeal and siloed • Deliver suboptimal benefit • Don't realize economies of scale	• Centrally planned • Deployed across city departments and projects • Deliver optimal benefit • Provide maximum value and savings
Citizen engagement	• Limited, scattered online connection to citizens • Citizens can't make optimal use of city services (or easily find them)	• Complete and singular online presence • Citizens can easily find and use services • Citizens can participate in smart city initiatives • Two-way communications between government and people • Specialized services focused on the individual citizen • Citizens can both contribute to and access real-time intelligent city data
Sharing data	• Departments and functions are siloed • Departments rarely share data and collaborate on initiatives	• Departments and functions are integrated and/or shared • Data is shared between departments and better correlated with other data services • Results are improved • Costs are cut

Figure 1.14

Later (step 10 etc.)

The Smart City Framework



London's deep assets #2: Global Hub

London's deep assets #3: Infrastructure

City	Economy	Human Capital	Social Cohesion	Environment	Governance	Urban Planning	International Outreach	Technology	Mobility and Transportation	Cities in Motion
New York-United States	1	4	109	99	38	1	3	5	4	1
London-United Kingdom	4	1	68	40	5	7	2	6	2	2
Paris-France	7	8	87	49	43	3	1	12	1	3
Tokyo-Japan	2	5	48	11	40	32	17	27	22	4
Reykjavik-Iceland	27	83	47	1	27	66	121	7	7	5
Singapore-Singapore	13	39	90	10	8	39	5	2	63	6
Seoul-South Korea	15	11	38	25	22	40	20	10	3	7
Toronto-Canada	28	24	28	55	4	2	25	16	68	8
Hong Kong-China	19	12	147	21	16	10	16	1	87	9
Amsterdam-Netherlands	36	46	26	36	23	13	6	3	13	10
Berlin-Germany	66	7	3	54	14	49	4	33	6	11
Melbourne-Australia	34	18	8	26	2	19	10	48	38	12
Copenhagen-Denmark	12	54	23	3	13	90	32	20	43	13
Chicago-United States	10	10	96	127	46	5	9	28	42	14
Sydney-Australia	35	15	20	22	26	17	21	8	76	15
Stockholm-Sweden	5	55	64	8	19	45	36	25	44	16
Los Angeles-United States	3	2	79	144	7	23	11	38	112	17
Wellington-New Zealand	22	85	15	2	25	14	132	62	15	18
Vienna-Austria	72	31	36	18	18	41	8	23	14	19
Washington-United States	11	6	72	128	21	12	49	32	41	20
Boston-United States	14	3	61	118	12	30	55	39	77	21
Helsinki-Finland	32	57	1	12	6	61	50	55	67	22
Oslo-Norway	17	62	21	13	51	48	64	24	78	23
Zurich-Switzerland	24	40	4	24	9	97	62	31	75	24
Madrid-Spain	64	34	53	50	34	37	19	21	9	25
Barcelona-Spain	78	37	86	66	15	16	14	15	12	26
San Francisco-United States	6	13	75	110	70	28	41	14	98	27
Auckland-New Zealand	18	87	27	14	52	27	70	65	69	28
Bern-Switzerland	47	72	2	73	1	108	131	107	31	29
Dublin-Ireland	16	80	22	35	45	75	44	17	100	30
Hamburg-Germany	57	27	33	67	31	44	48	53	11	31
Geneva-Switzerland	31	70	25	68	3	93	80	13	54	32
Göteborg-Sweden	21	64	62	19	32	76	104	73	20	33