



THE MISSING PIECE: VOICE OF SMART CITY CITIZENS

SAUDI ARABIA: FROM DESERT TO KNOWLEDGE ECONOMY

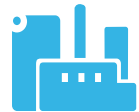


SAUDI ARABIA'S SMART CITY IN FOCUS

- The study
- The city
- The citizens
- The stakeholders
- The implications
- Our support

A unique project:

- New smart city developed to reduce reliance on petrochemical industry
- Lures back Saudis studying abroad
- A work in progress: new Greenfield cities under development





THE STUDY

Identifying smart cities and meeting their citizens

THE MCI MISSION



Market and Consumer Insight (MCI) investigates links between consumer behavior, market and technological trends to help Alcatel-Lucent and its clients, communication service providers, make more informed and impactful business decisions.

MCI experts dig deeper and reach farther to provide information that helps communication service providers formulate new thinking, including:

- Global and regional, urban and rural, insights
- Research on consumer, market and technological trends



GLOBAL RESEARCH FINDINGS

INVESTIGATING SMART CITIES

Three-part research:

- Analysis of **18 cities** to identify city categories
- Deep dive on **7 cities**
- Broad study of **52 cities** to assess smart motivations

FOUR MODELS WERE DISCOVERED

Dream Box:

- Turnkey city
- Public-private partnership

IT Box:

- Focus on IT excellence
- Privately funded

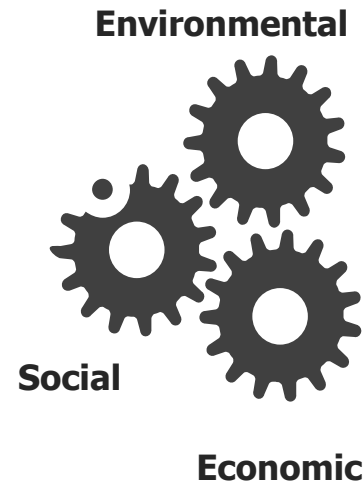
Fragmented Box:

- Independent projects
- Public-private funding

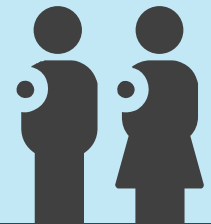
Black Box:

- Government-controlled
- Closed private ecosystem

THREE MOTIVATIONS FOR DEVELOPMENT IDENTIFIED



WHAT WAS MISSING?



The voice of the citizen

More info about the four models:

http://www2.alcatel-lucent.com/knowledge-center/public_files/Smart_Cities_market_opportunity_ExecSummary.pdf

UNDERSTANDING THE CITIZENS

Other studies have neglected the voice of the citizen

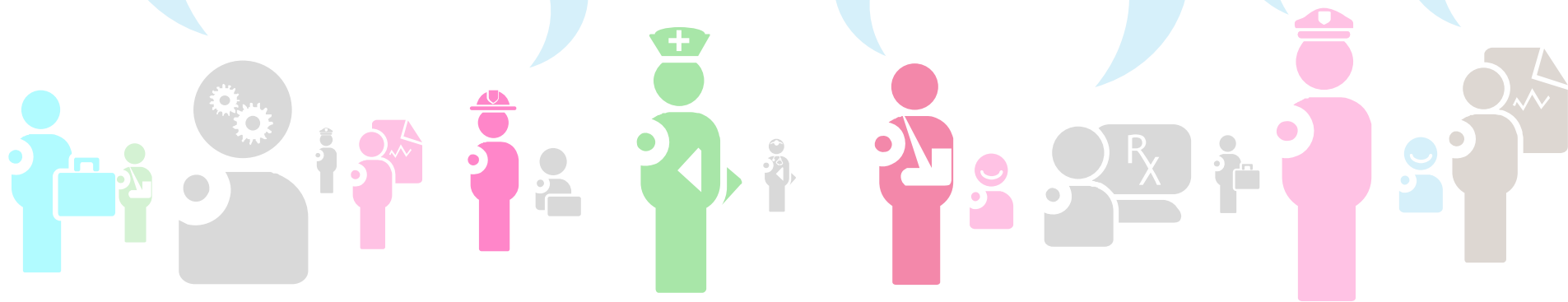
We can understand resulting implications for key stakeholders including city leaders, NGOs, regulators, enterprises, utilities, and service providers if we interpret:

- Their **views**

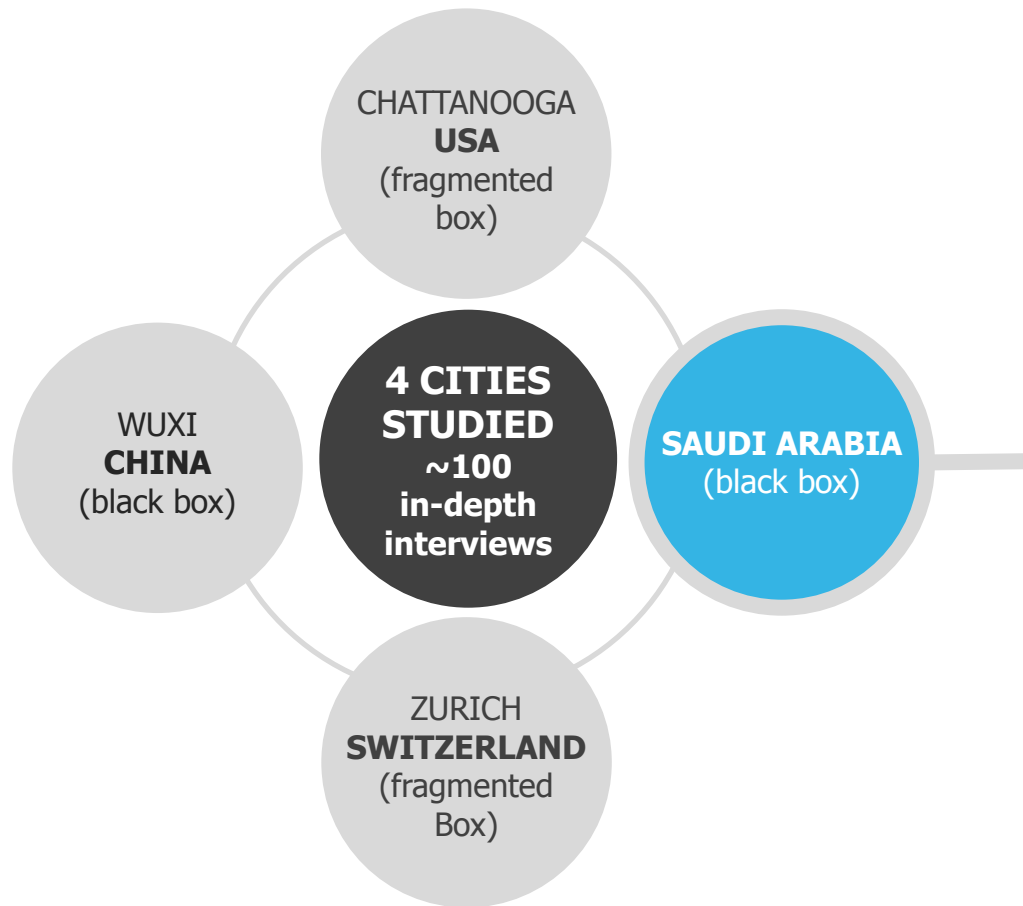
- Their **needs**

- Their **level of involvement**

- Their **engagement models**



MEETING THE SAUDI CITIZENS AND STAKEHOLDERS



34 IN-DEPTH INTERVIEWS

Business, armed forces, retail, office,
education, utilities, finance, domestic

- 5 female
- 29 male
- 20 citizens
- 14 stakeholders



THE CITY

Why put Saudi Arabia's smart city in the spotlight?

A GREENFIELD DEVELOPMENT

Broadening opportunities to reduce reliance on petrochemicals

THE CITY

- A major shift from traditional Saudi cities
- Focus on knowledge-based economy
- Estimated to create 500,000 jobs

THE CHALLENGES

- Limited natural resources, e.g. water
- Building infrastructure from scratch
- Addressing the need to expand investment base to include a wide range of small and large backers
- Delivering on the promise: creating broad, ample employment opportunities

THE SMARTNESS

- Networked, high-speed computing and internet
- Smart buildings
- Smart transportation
- E-government, city wide portal
- E-bulletin boards



THE CITIZENS

Understanding the missing voice

ECONOMIC, SOCIAL AND ECO-SUSTAINABILITY IN EQUAL MEASURE

Citizens understand the smart city definition, and recognize the resulting economic, social, and eco-sustainability benefits.

- **Economic** – creating a knowledge-based economy for well-educated Saudis who have studied abroad and returned home – building a new, broader economy in Internet, high tech and green tech
- **Social** – opening up new opportunities for all Saudis, men and women. Creating a better way of life
- **Eco** – creating a greener way of life with smart buildings and new energy sources



I know about smart cities from online advertisements and they are really amazing.
I think we should build the best one ever."




Male, administrative employee

VOICE OF THE CITIZEN

IMPROVED QUALITY OF LIFE

Citizens understand the significant cultural and social impact that smart cities bring.



I believe as a father that schools should send us an SMS if the kid is absent."

Male, administrative employee


EDUCATION



They should provide new, innovative, entertaining activities for families."

Female, housewife


ENTERTAINMENT



The smart city is better in terms of living standards. We have all our needs without going out. "

Female, bank worker

CONVENIENCE



The smart city should have the features of the smart city such as having huge buildings, more workers, more technology and a highly civilized lifestyle."

Male, businessman

PROSPERITY



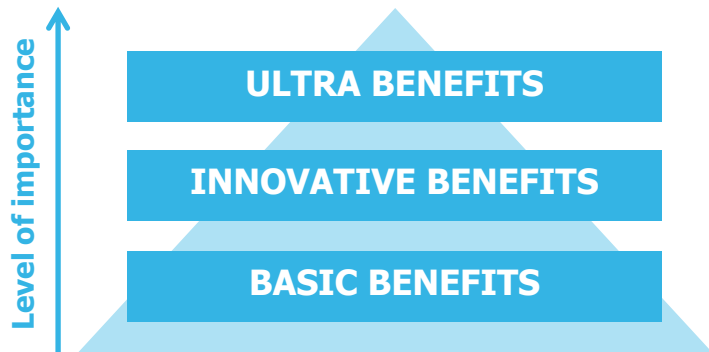
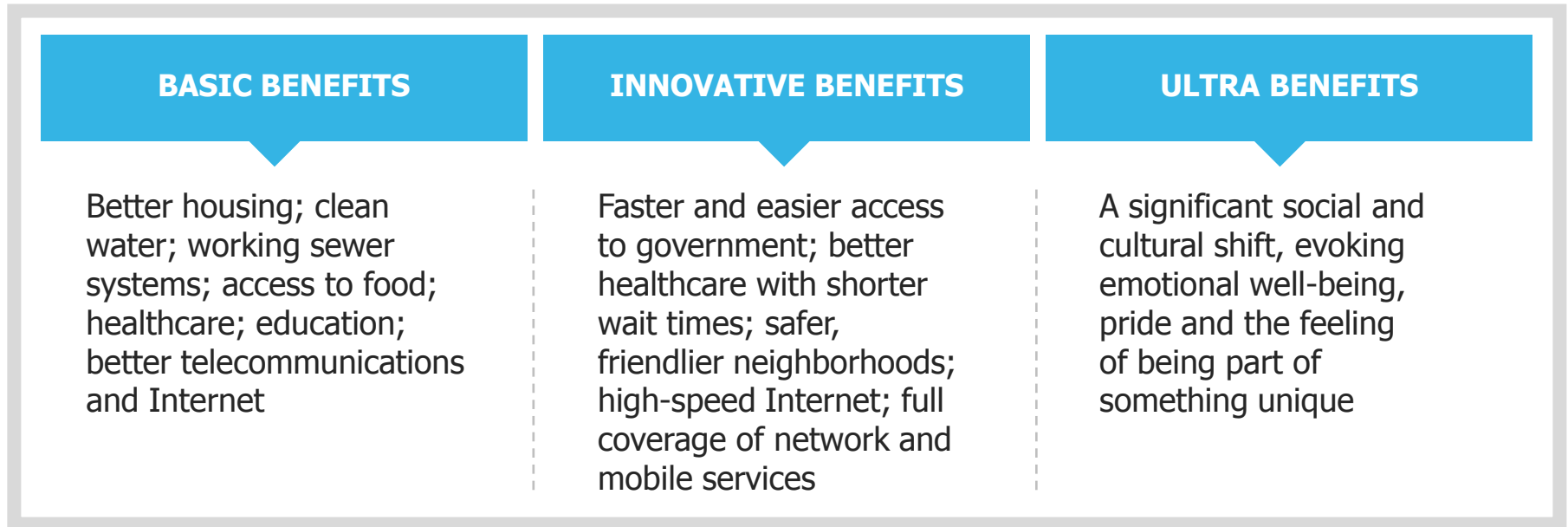
It is developed, and it has a more open life mode, and everything in this smart city is nice."

Male, businessman

SOCIAL QUALITY OF LIFE

BUILDING ON THE BASICS

Citizens have high expectations, and want services offering benefits on three levels:



I imagine that we can create what we wish for, and to do that we will need the best technology in the world – and this is what we want.”

Male, businessman

VOICE OF THE CITIZEN

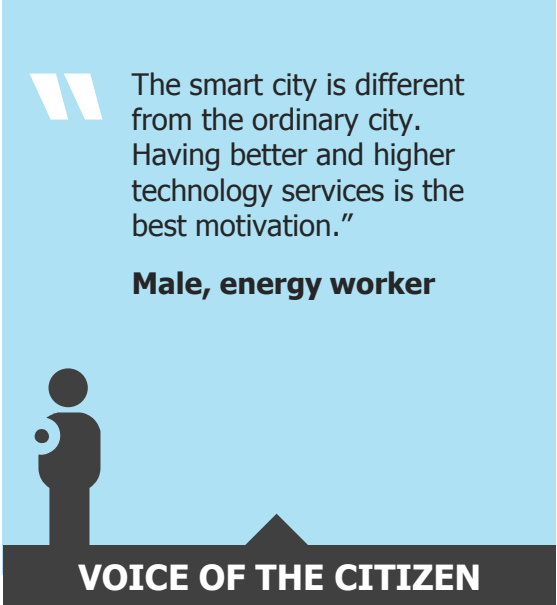
FOR NEW SERVICES: RELIABILITY AND AFFORDABILITY ARE KEY

Citizens like to have the choice that an open, competitive services market offers.

People want more interaction and better quality:


- Better customer service
- More reliable service: high speed, always-on access
- Flexible payment and finance options

New services must be relevant and applicable to everyday life – from health and education to transport and e-government.



W The smart city is different from the ordinary city. Having better and higher technology services is the best motivation."

Male, energy worker



VOICE OF THE CITIZEN

CONCERNS OVER LIFESTYLE AND TECHNOLOGY

Citizens need to see that the smart city can live up to its promise
– without eroding traditional values.

Key concerns revolve around:

- Finding a good job, based on the smart city delivering the broad economy it promises
- Limiting impact on the family-oriented lifestyle
- Handling increased contact with outsiders
- Coping with a busier, more chaotic pace of life
- Attaining the feeling of uniqueness
– the 'ultra benefit'

Ultimately, people want reassurance that their decision to live in the smart city was the right one.



The only thing I can see is that life can be very hectic and fast when having all advanced technologies with you. We need to make sure that it does not go in that direction."

Male, entrepreneur



Making an individual feel special and unique is not an easy thing to do. They should pay attention to this aspect to maintain high satisfaction."

Male, businessman



VOICE OF THE CITIZEN

CITIZENS ARE READY TO INCREASE THEIR INVOLVEMENT

Citizens show high interest in boosting engagement with service providers and stakeholders, at both strategic and tactical levels.

TACTICAL: INDIVIDUAL PROJECTS

- Citizens are already providing tactical feedback on services
- There is a willingness to work with providers to develop new services

STRATEGIC: TOP-LEVEL DIRECTION

- Citizens feel left out today – more engagement channels are required
- Knowledge workers are interested and want to be involved
- People believe that government should take the lead, involving citizens and providers



To create this community you will need to have support from the citizens... everyone has a role."

Female, bank worker



I believe that it should be a collaboration between the businessmen and the citizens, because all levels of investments are needed. For example, schools and universities are big investments."

Male, businessman

VOICE OF THE CITIZEN



THE STAKEHOLDERS

How are roles evolving to enable smart development?

SOCIAL AND ECONOMIC MOTIVATIONS DOMINATE

Stakeholders have high understanding and awareness as it is closely linked to their professional activities.

Who is involved?

- **Large real estate developers:** enabling services and infrastructure, obtaining investment, acting as a core communication channel
- **Private enterprise:** the dynamo, driving new businesses
- **Government and regulators:** promoting participation, making key decisions, efficient regulating & monitoring



Citizens care a lot about this place and they would like to develop this area. This is great, and you don't find it in many places. This is their country and they think that it has very big future, and that's why they care a lot about it and they would like to develop it."

Male, developer



BUILDING THE DREAM

Stakeholders need to create an ecosystem that includes the citizen to fulfill the smart city promise.

GRASS ROOTS BUSINESS

Attracting young entrepreneurs who can generate the desired broad economy



GLOBAL PARTNERSHIPS

Forging meaningful, productive relationships with leading universities and enterprises



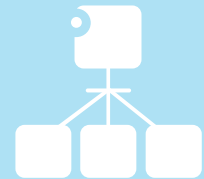
MIXED INVESTMENT

Balancing short-term and long-term projects that attract both investors and inhabitants



ENGAGING CITIZENS

Adding more channels to enable involvement and to deliver the emotional benefits that citizens expect





THE IMPLICATIONS

Technology can deliver tangible benefits

WHAT CAN WE LEARN FROM SAUDI ARABIA?

- Technology is just the start
- Smart city developers and ecosystem players must deliver rational, emotional benefits that match citizens' lifestyle expectations
- Citizens should have multiple channels which facilitate involvement and enable them to voice their ideas
- There is a need to balance short-term and long-term planning to overcome investment challenges and generate demand for greenfield cities



ENGAGE CITIZENS IN TACTICAL AND STRATEGIC PROJECTS

TACTICAL

- Enable rapid response mechanisms via online portals and living labs
- More informal projects visible in the community – applications days, technology training, square culture
- Promotion of engagement opportunities

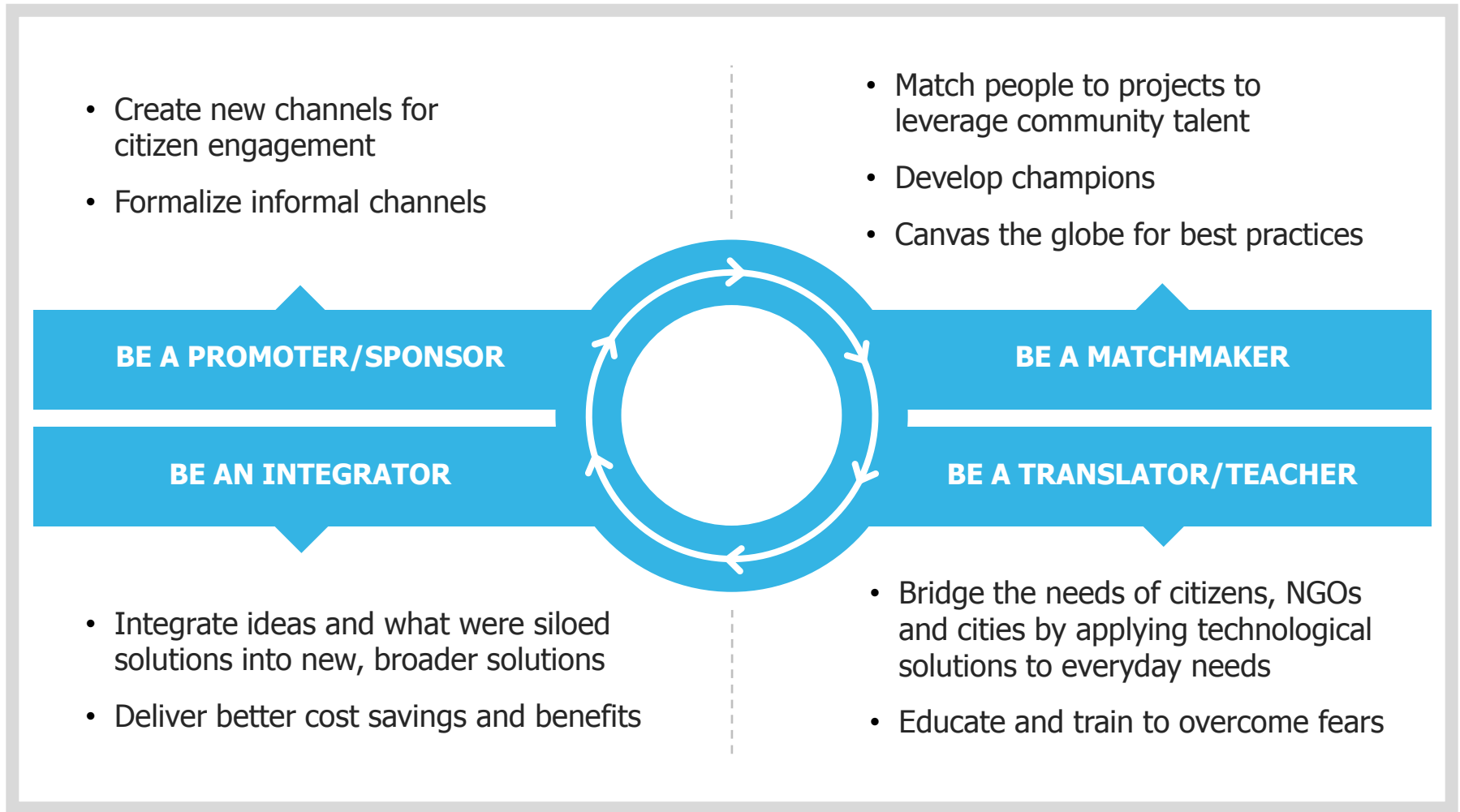
STRATEGIC

- Forward-thinking citizens involved early on
- More participation in referendums
- Increase progress reports
- Implementation of close-to-personal-life services

- Ensure that stakeholders play a role in increasing awareness of participation opportunities
- Continue formally organized projects as well as soliciting involvement in informal projects
- Provide access to data to encourage development initiatives
- Focus on tactical involvement first
- Celebrate and promote successes

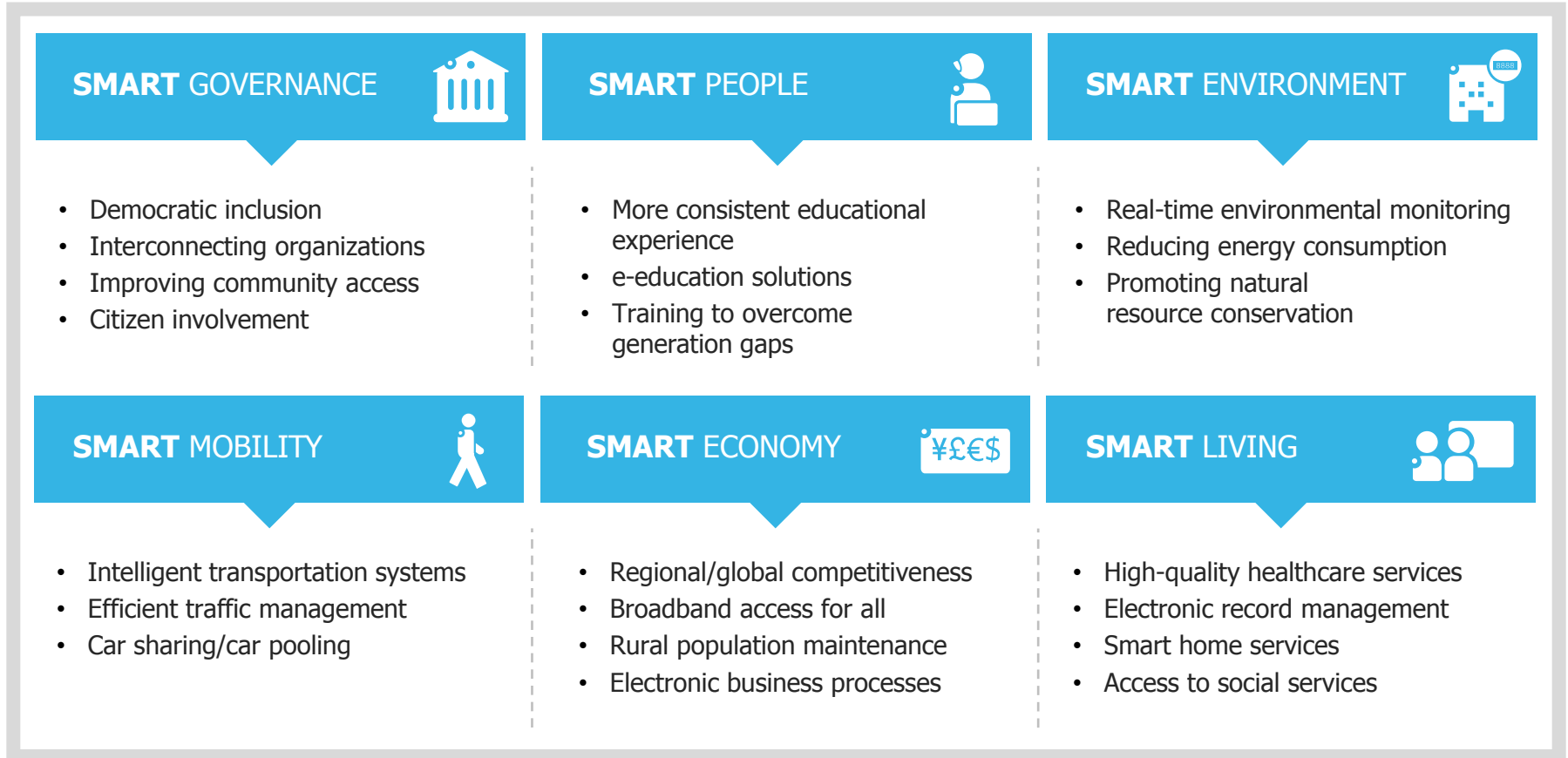


NEW MODELS, NEW ROLES



THE OPPORTUNITIES ARE HUGE

When the model evolves, there are vast possibilities for **innovation and new business**





OUR SUPPORT

Alcatel-Lucent can help you realize the smart city vision

EMPOWERING A SMARTER AND MORE SUSTAINABLE COMMUNITY

Customer premises

Community operation
control center



High Leverage Network™

Converged
access network

Converged backbone

ALCATEL-LUCENT SUPPORTS SMART CITIES

KNOWLEDGE

- Research Insights
- Modeling/consult/design
- End-to-end project management
- R&D focused on solutions for social, economic and eco-sustainability challenges

TECHNOLOGY, SERVICES AND APPLICATIONS

- High Leverage Network: GPON, FTTx, optics, IP, wireless (LTE, lightRadio)
- CloudBand
- Applications and customer experience management
- Urban Traffic Management
- Public safety: always on first responder
- Smart Grid and grid modernization
- Train-to-ground communication

EXPERIENCE

- Partnership, ecosystems development – Greentouch™ and ngConnect
- National/regional/metro deployment
- Strategic Industries and public sector
- Global Service Provider Operations
- Standards bodies and regulators
- End-to-end holistic project integration

MORE ABOUT SMART CITY CITIZENS

alcatel-lucent.com/mci

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YOUR NEEDS | OUR PORTFOLIO | NEW THINKING | SUPPORT | ABOUT US

Market and Consumer Insight

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Soaring into the cloud - Understanding the market opportunity for cloud services

Creating a better customer experience for small and medium enterprises

Market Knowledge Sharpens your Business Edge

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Urbanization and ICT

The role of the ICT in the formation of the Neo-urbanization phenomenon; A live research in India

Understanding the Neo urbanization phenomenon; the redefinition of remote areas as a result of ICT in Emerging countries. **NEW!**

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