



# Smart Cities: Embrace the Change

Virtual Earth Day Tech Summit

Calvin Nobles, PhD

April 24, 2020 / 10:00 AM EST

# Agenda

Smart City  
Data Points

What is a  
Smart City?

U.S. Cities in  
the Smart  
Race

Partnerships  
in Demand

Scope of the  
Smart City

Smart Factors

Smart  
Solutions

Challenges

# Smart City Data Points

- A smart city is not a goal but a means to an end
- Smart cities is all about improving efficiencies for residents through active participation
- By 2050 over two-thirds of the world's population will live in cities
  - Soaring urban populations
  - Technology more ingrained in our day-to-day lives
  - Smart cities becoming a common reality
- Smart city applications could:
  - save 30-300 lives annually in a city of five million
  - reduce crime by 30-40%
  - lower the disease rate by 8-15%
  - shorten daily commutes by 15-30 minutes
  - save 25-80 liters of water a day per person
  - improve emergency response times by 20-35%



# Smart City Data Points

- Increasing environmental pressures and infrastructure needs
  - A growing demand from residents to enhance the quality of life at a sustainable cost
- The foundation of a smart city is DATA
  - Cities are generating extraordinary amounts of data
  - Real-time data can improve decision-making
  - Optimize data to actionable services



# What is smart city?

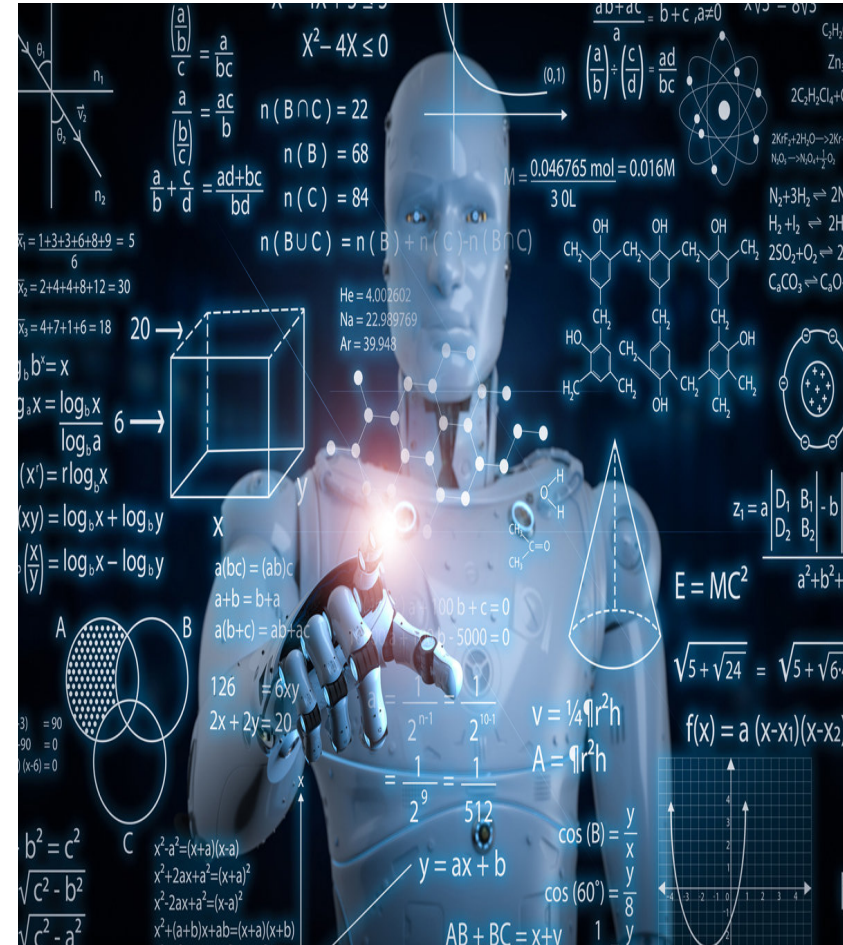
## No universal definition for “Smart City”

### Working Definition

A Smart City connects human capital, social capital and ICT infrastructure in order to address public issues, achieve a sustainable development and increase the quality of life of its citizens.

### Smart City Goals

- Achieve a sustainable development
- Increase the quality of life of its citizens
- Improve the efficiency of the existing and new infrastructure
- Reduce cost and consumption
- Efficiency and Flexibility
- Create jobs (Barcelona 47,000 jobs)



# U.S. Cities in the Global Smart Race

## International Index (included 102 cities)

- (12) San Francisco
- (31) Washington, DC
- (32) Boston
- (33) Denver
- (34) Seattle
- (35) Los Angeles
- (38) New York City
- (53) Chicago
- (54) Philadelphia

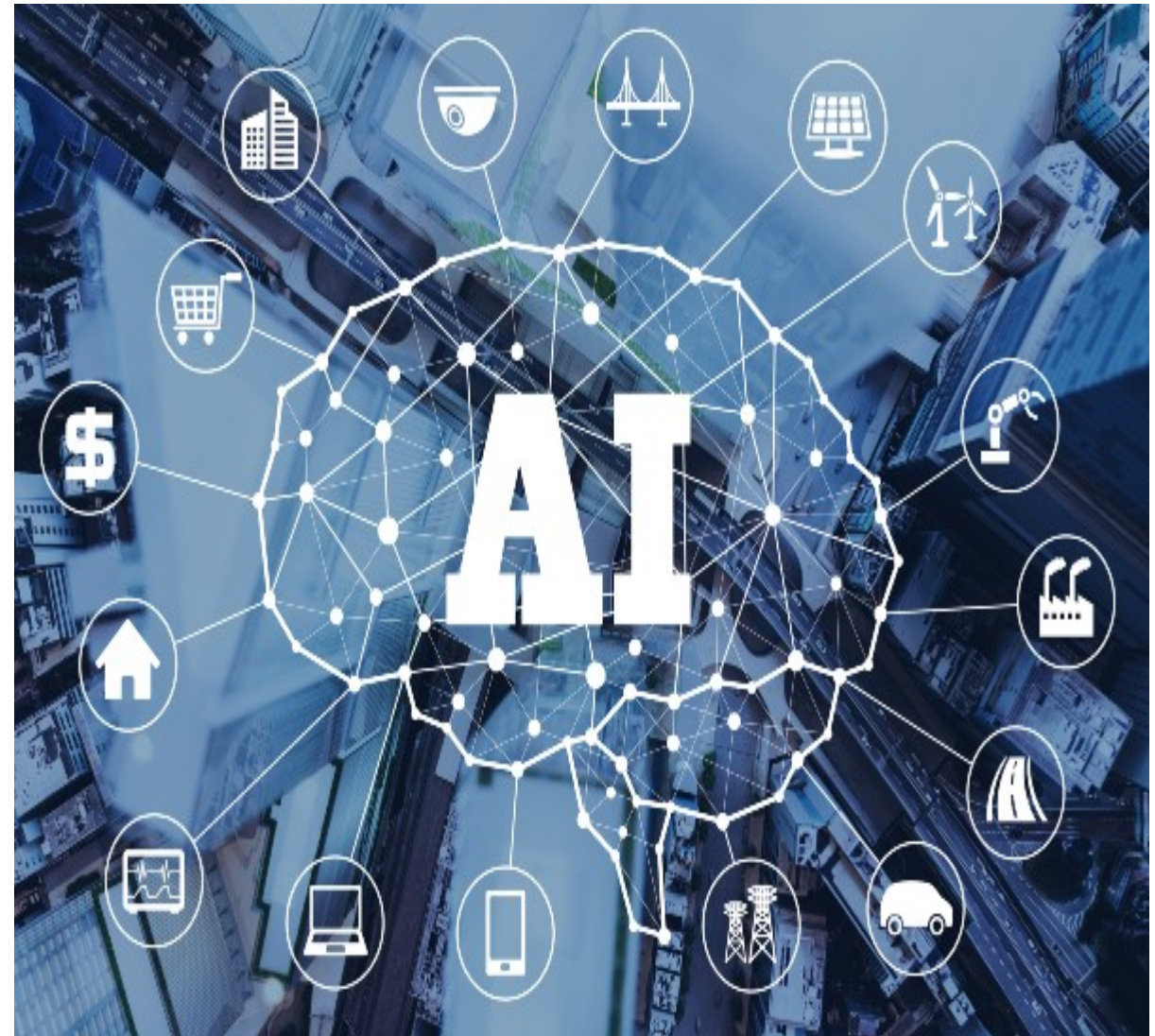


## U.S. Based Index

- (1) New York City
- (2) Boston
- (3) San Francisco
- (4) Chicago
- (5) Seattle
- (6) Charlotte
- (7) Washington, DC
- (8) Columbus (OH)
- (9) Los Angeles
- (10) Atlanta

# Smart Cities

- Internet of things and Smart homes, cars and devices
  - Artificial Intelligence
  - Machine Learning
  - Blockchain
- \*\* Real-time Intelligence and Analysis



# Partners

## Smart City Triangle

- Academia
- Industry
- Government (city authorities)

Governments are resourced challenged

Citizens are critical partners





# Scope of the Smart City

Effects on the nearby settlements  
economically and socially connected

Expansion to the whole region

Regional and interregional networks



# Smart City Projects

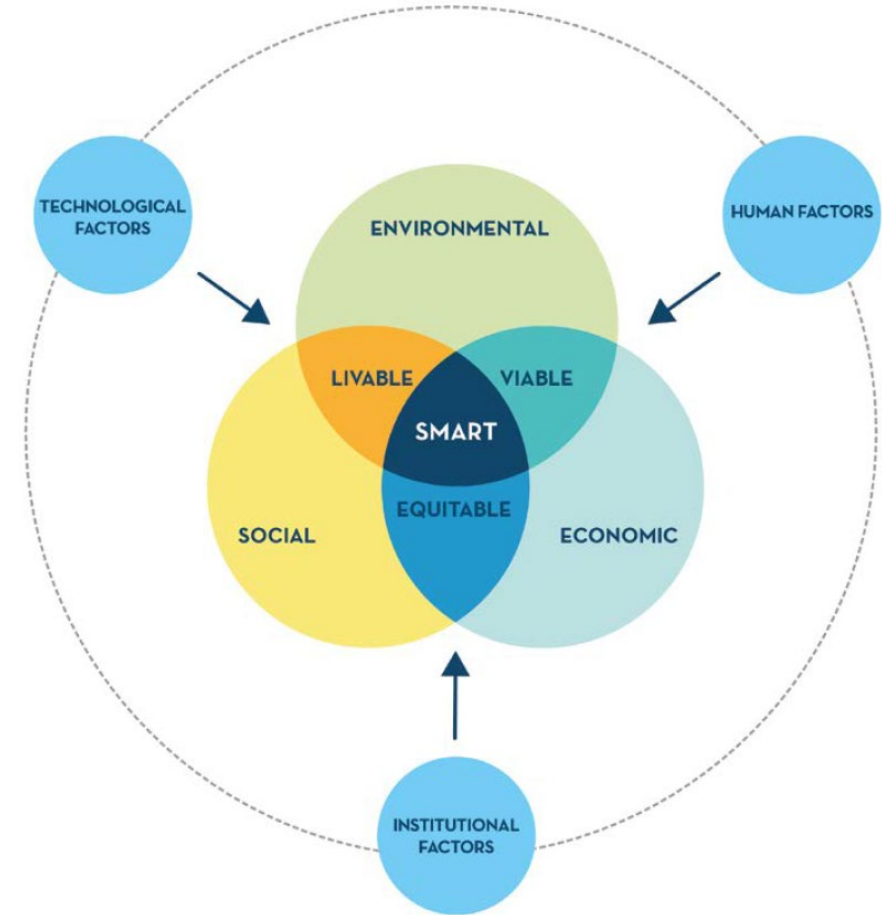
- Pilot projects
- Global Smart City strategy + testing projects embraced on it
- High risk projects with long payback periods
- Difficulties to have access to traditional financial resources



# Development Models



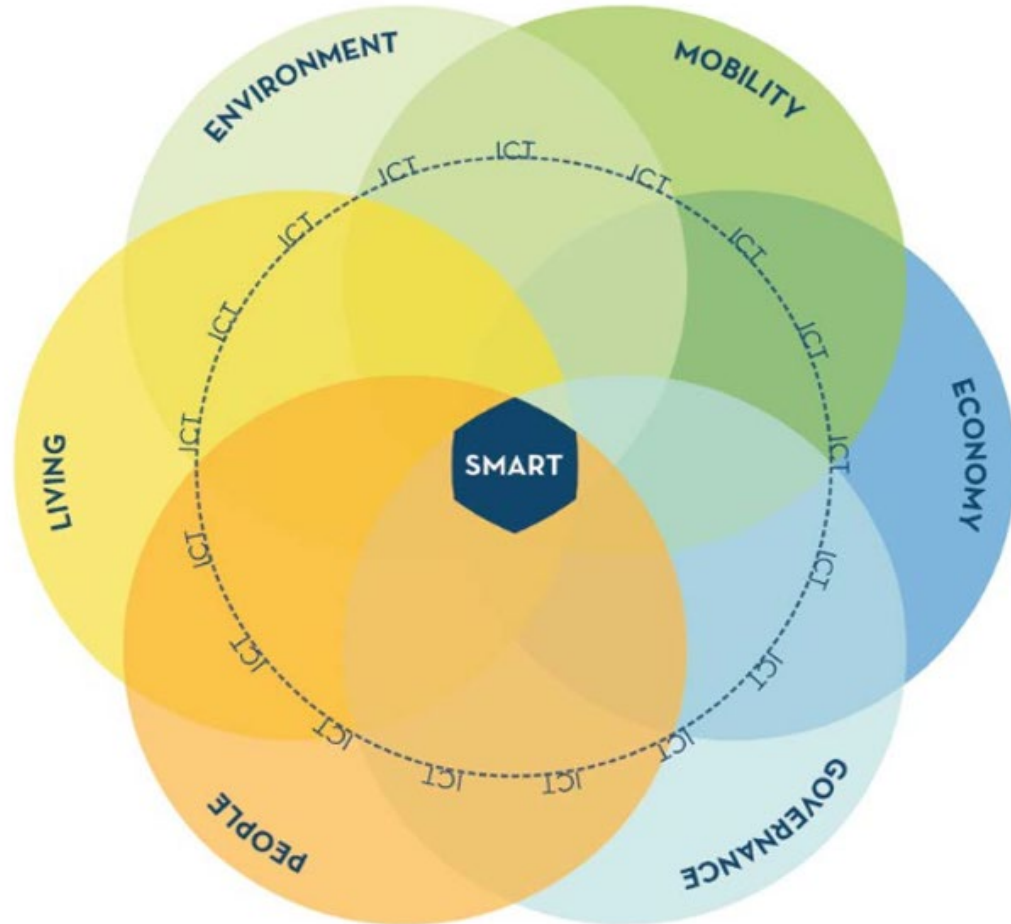
Sustainable Development Model



Smart Development Model

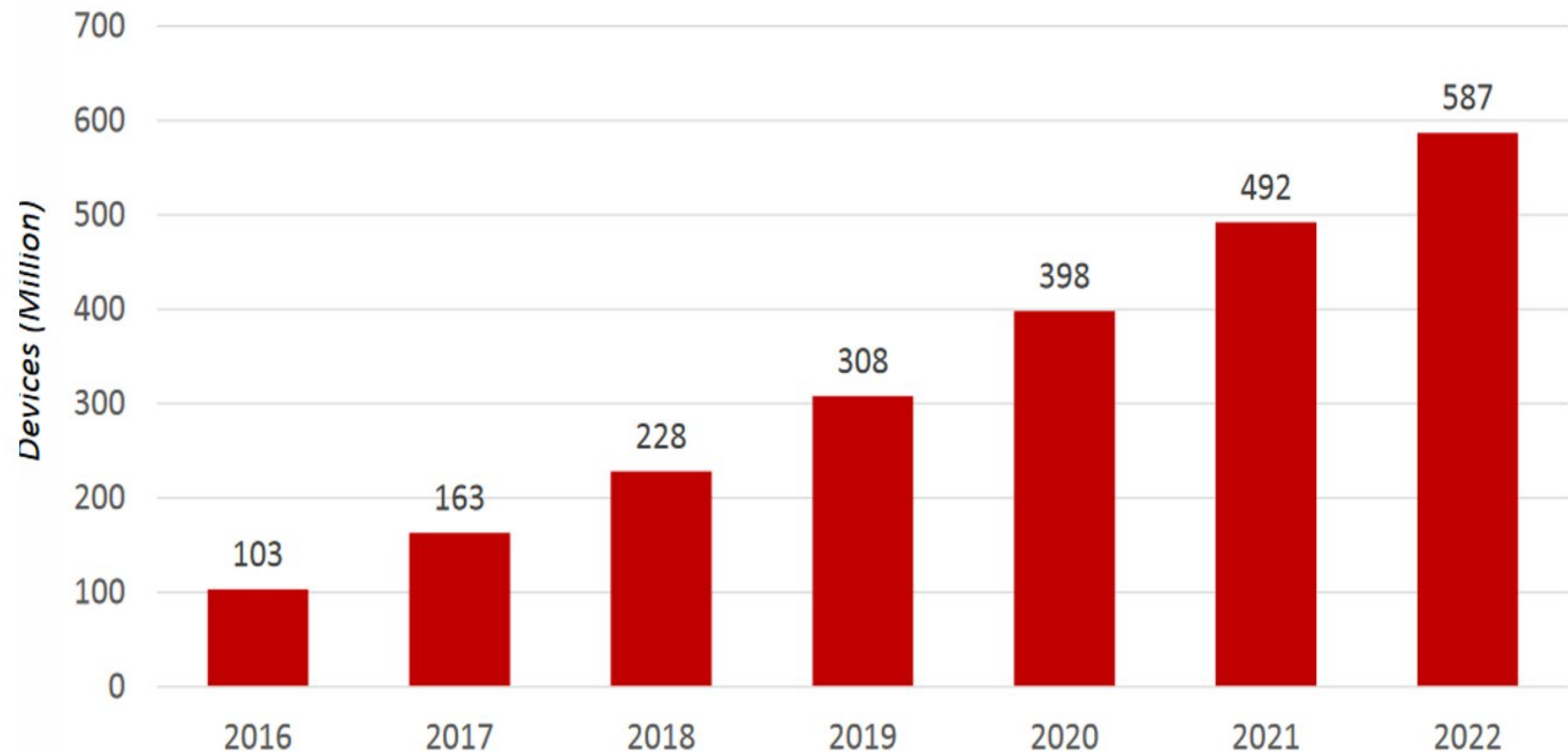
# Smart Factors

- **Smart Governance**
  - Transparency, Social services
- **Smart Economy**
  - Innovation, Entrepreneurship
- **Smart Mobility**
  - Transportation, Mass Transit
- **Smart Environment**
  - Green, Monitoring, Energy Efficient
- **Smart People**
  - Digital Education, Creativity
- **Smart Living**
  - Tourism & Culture, Health, Safety, Technology



The integration of ICT as an enabler

Smart Cities (excluding Smart Buildings) Total Connected Devices (Millions)



# Smart Solutions

## Governance and Citizens Services



- Video Crime Monitoring
- Administrative Services (DMV)
- Record Services
- Citizen Engagement

## Waste Management



- Recycling and Reduction
- Waste to Compost
- Wastewater Treatment
- Intelligent Monitoring

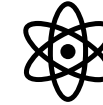
## Water Management



- Smart Meters & Management
- Leakage Identification, Preventive Maintenance
- Water Quality Monitoring
- Intelligent Monitoring



## Energy Management



- Smart Meters & Management
- Renewable Sources of Energy
- Energy Efficient & Green Buildings

## Urban Mobility



- Smart Parking
- Intelligent Traffic Management
- Integrated Multi-Modal Transport

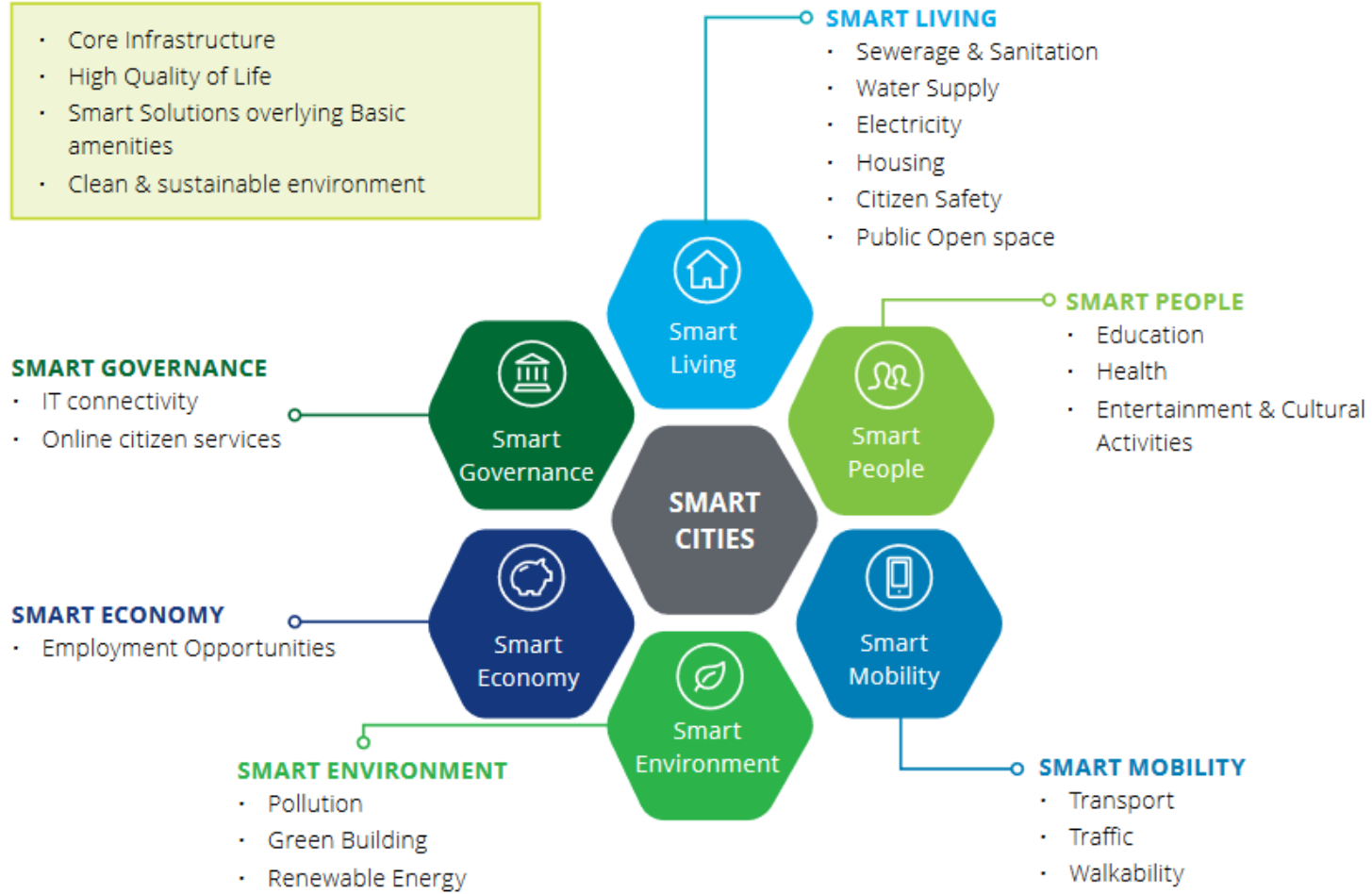
## Others



- Tele-medicine & Tele-Education
- Incubation / Trade Facilitation Centers
- Skill Develop Centers

## Key Components of a Smart City

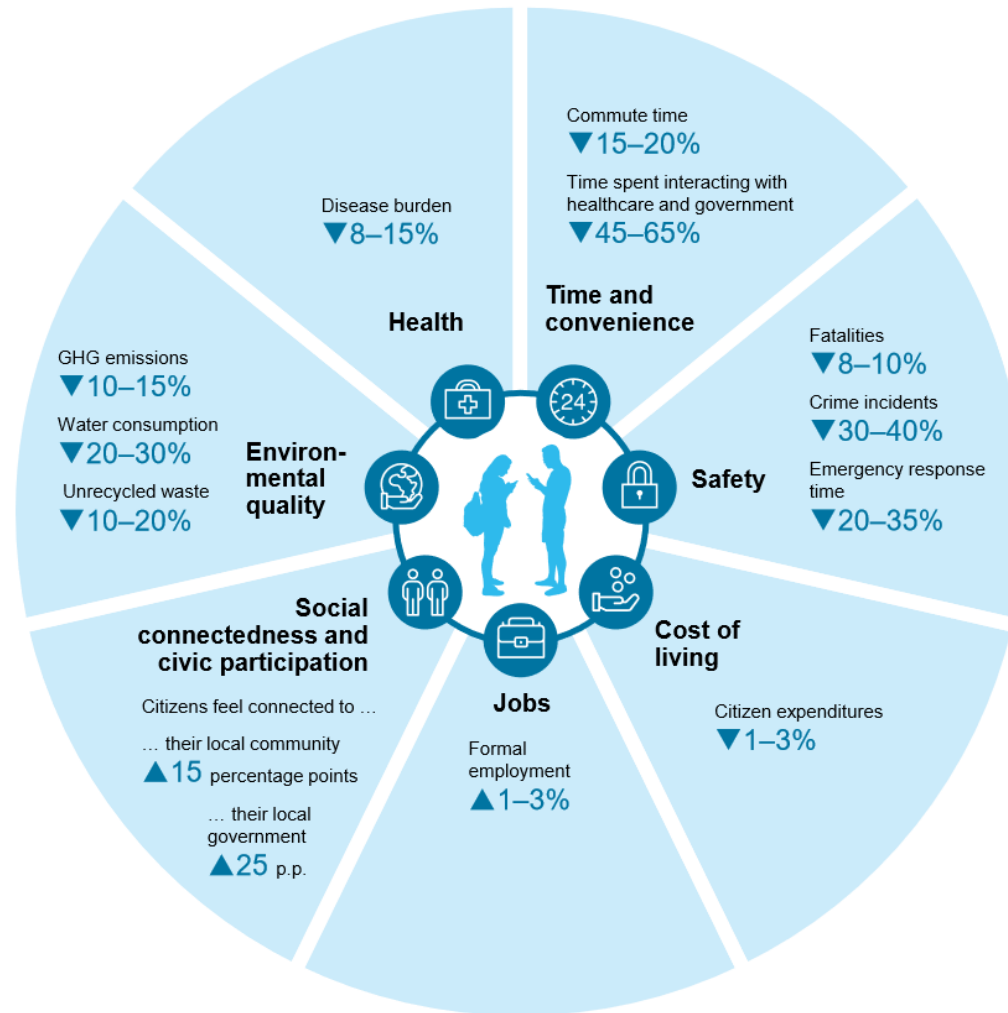
What all contribute towards making a city smart?



Source: Deloitte Analysis

**Smart city applications can improve some key quality-of-life indicators by 10 to 30 percent.**

Potential improvement through current generation of smart city applications, from time of implementation



SOURCE: McKinsey Global Institute analysis



# Cybersecurity Risk and Smart Cities



INCONSISTENT  
NETWORK  
CONNECTIVITY



LACK OF IT  
PROFESSIONALS



DATA PRIVACY



DATA SECURITY

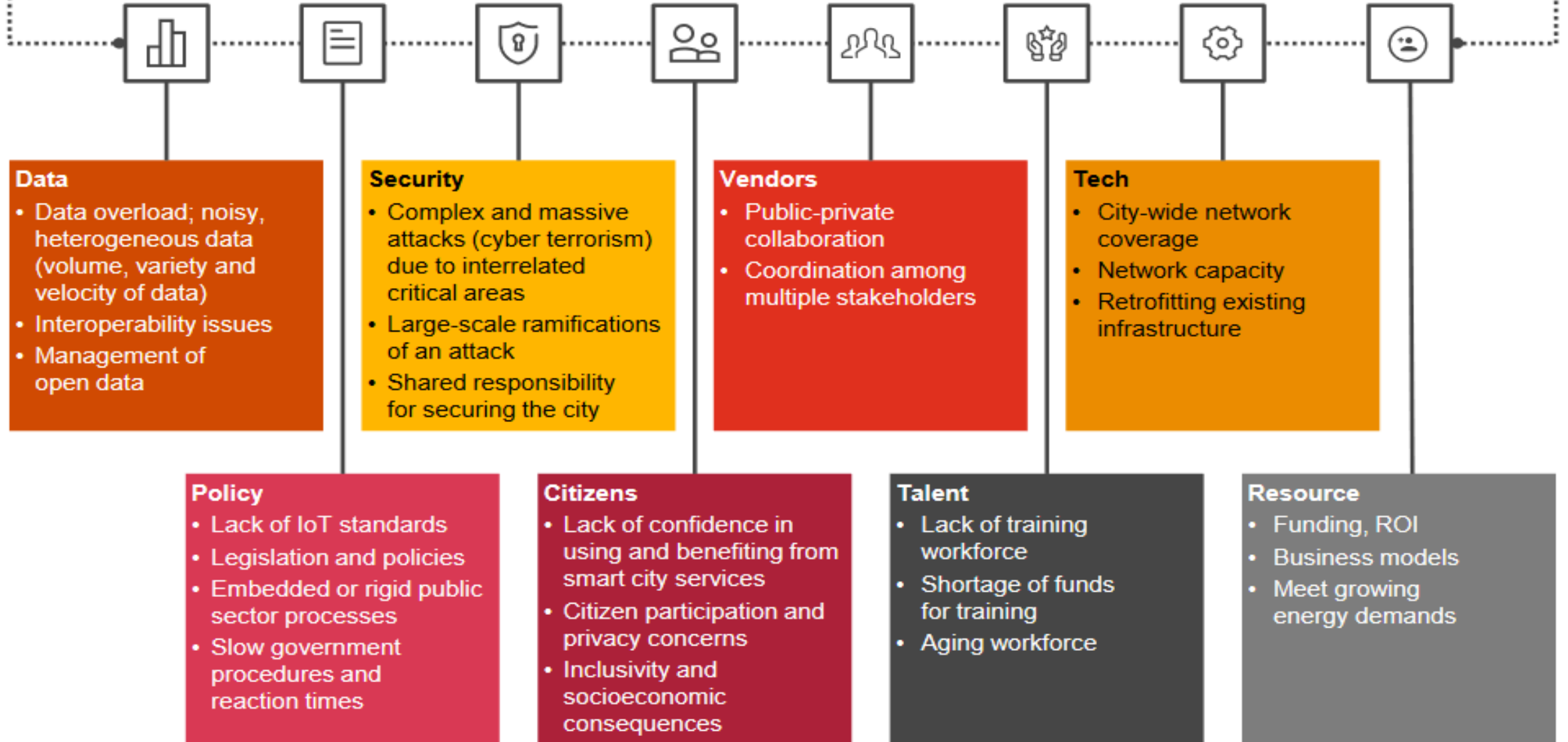


CYBERCRIME



INCREASING COST  
DUE TO CYBERCRIME

# Challenges



# AI In The Smart City – Not As Futuristic As You Might Think

Digital Surveillance and Predictive Policing are already using AI together with big data to make Cities safer

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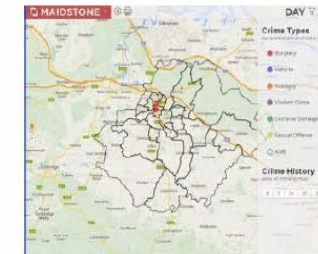
## Digital Surveillance



## Digital Facial Recognition



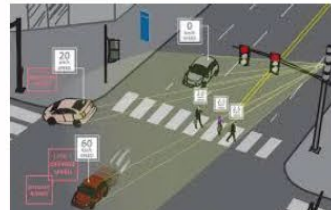
## Predictive Policing



## Traffic Management



**mioVISION**



## Autonomous Cars



# More Challenges

Urban  
violence and  
insecurity

Urban poverty

Climate  
change effects

Congestion +  
pollution

Lack of public  
transport

High  
infrastructure  
deficits

Shortage in  
access to ICT –  
Smart devices

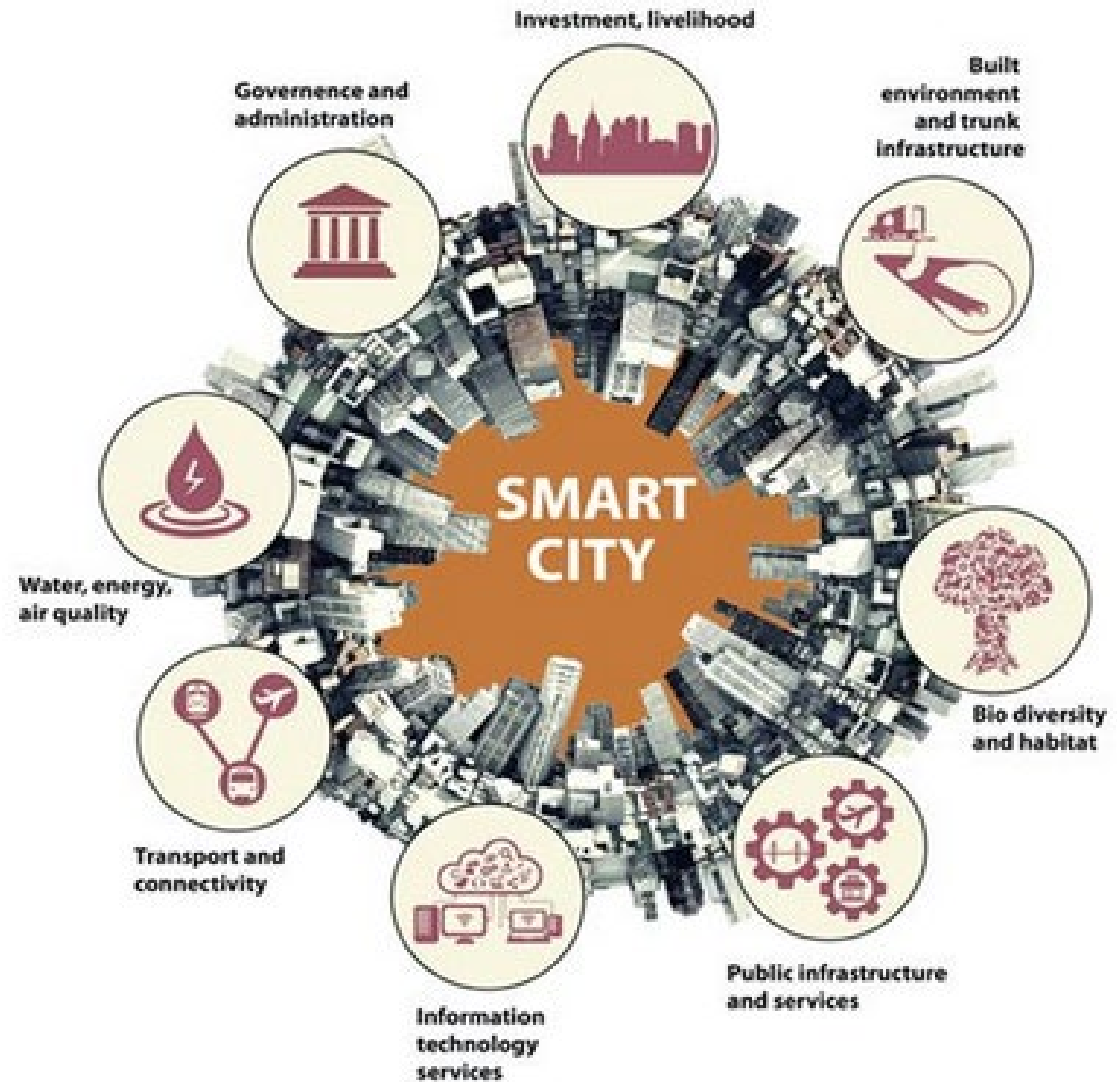
Scarcity of  
resources

# Job Creation

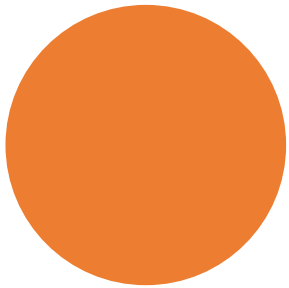
\$35T in the next 20 years in  
infrastructure spending for cities

Millennials are demanding a walkable urban  
environment to live and work

Businesses want to be  
where millennials want to be



# Summary



Making urban areas  
efficient for residents



Opportunities to create  
jobs



Active participation



Optimizing technologies  
to produce real-time  
information and analysis

