Internet of Things
World Forum

# Uncover Barriers and Opportunities for Developing Smart Cities

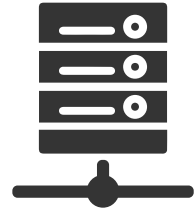October 14-16, 2014 • Chicago, Illinois

Hosted by CISCO

*In a recent survey of key municipal executives in North America on the **readiness of cities to undertake smart city initiatives:***

- *The officials surveyed indicated smart city initiatives are underway in their cities, but so far, most cities are in the planning stages.*

- *By far, the biggest inhibitor in smart city initiatives is funding, as cities are challenged to find the appropriate funds for both short- and long-term projects.*

- *The respondents also indicated there were internal organizational challenges, such as the lack of cross-departmental coordination and alignment. In addition, many cities do not have a champion to lead the effort.*
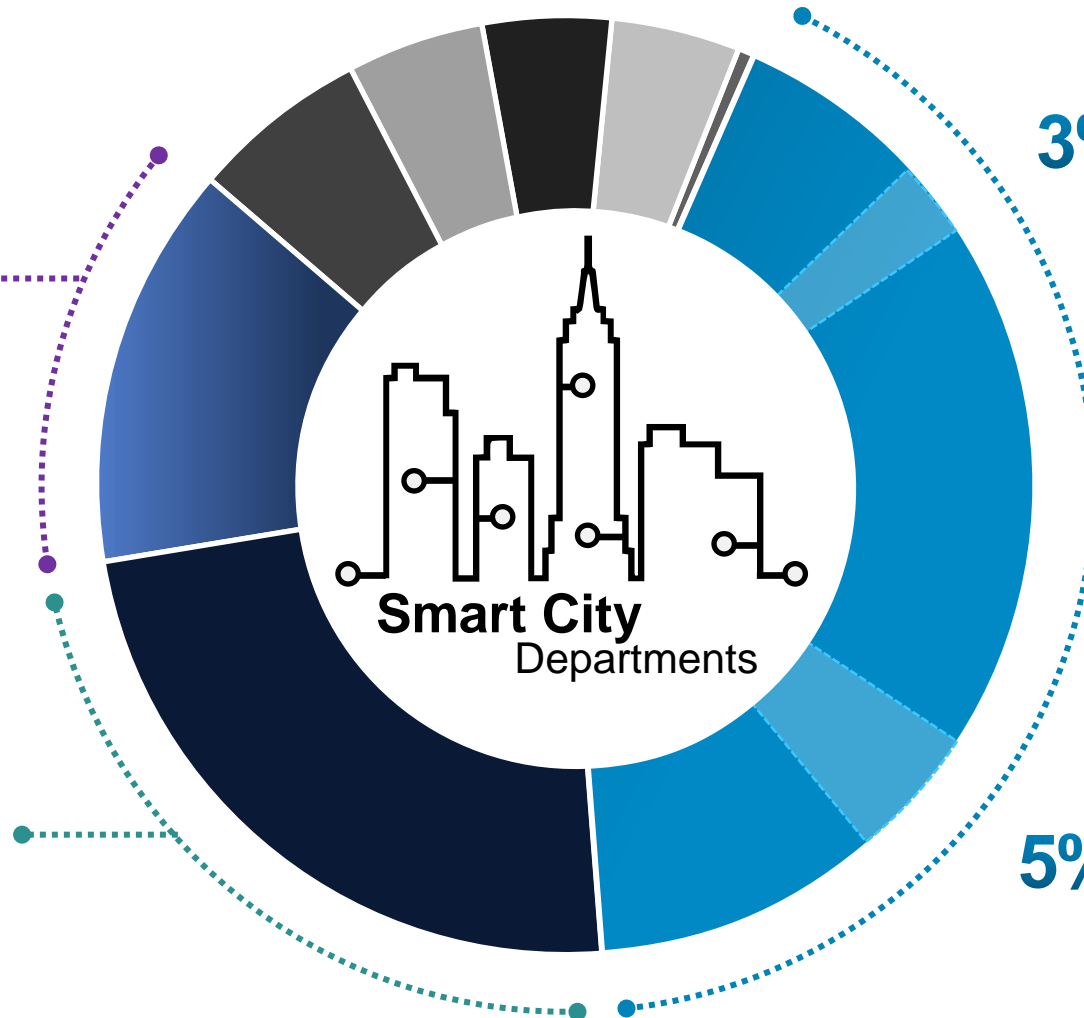
CISCO | Smart **Cities** Council
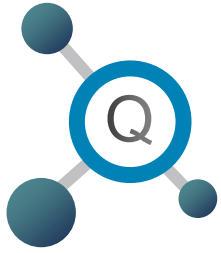
Which department do you represent in the smart city initiatives for your Organization?

3% | Planning and Development

37.7% Other

5% | Community Development

14.8% Information Technology

25.4% Mayor's Office or City Admin

Smart City Departments

3
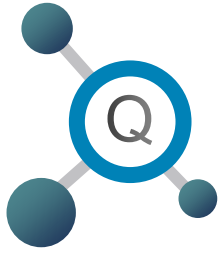
What are the top 3 needs and opportunities driving Smart City development in your city?

Improving City Infrastructure: Energy, Water and Transportation Systems

ONE

Enhancing the Cities' Global Attractiveness to Business and for Economic Development
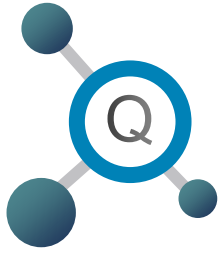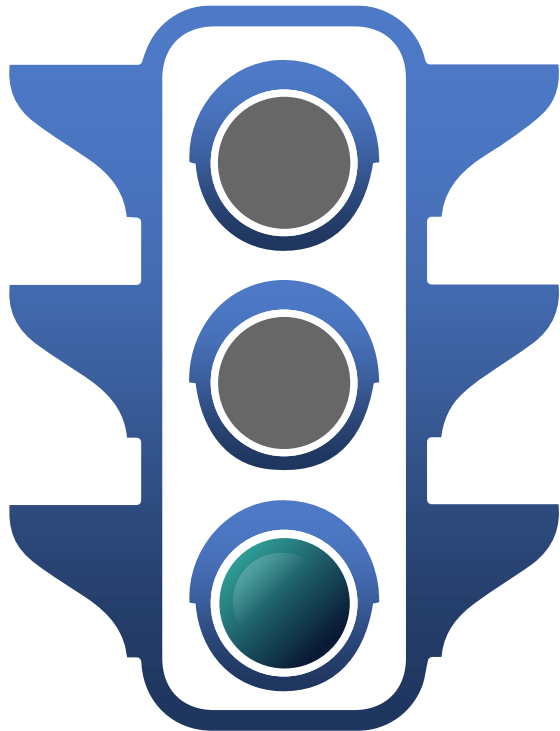
TWO

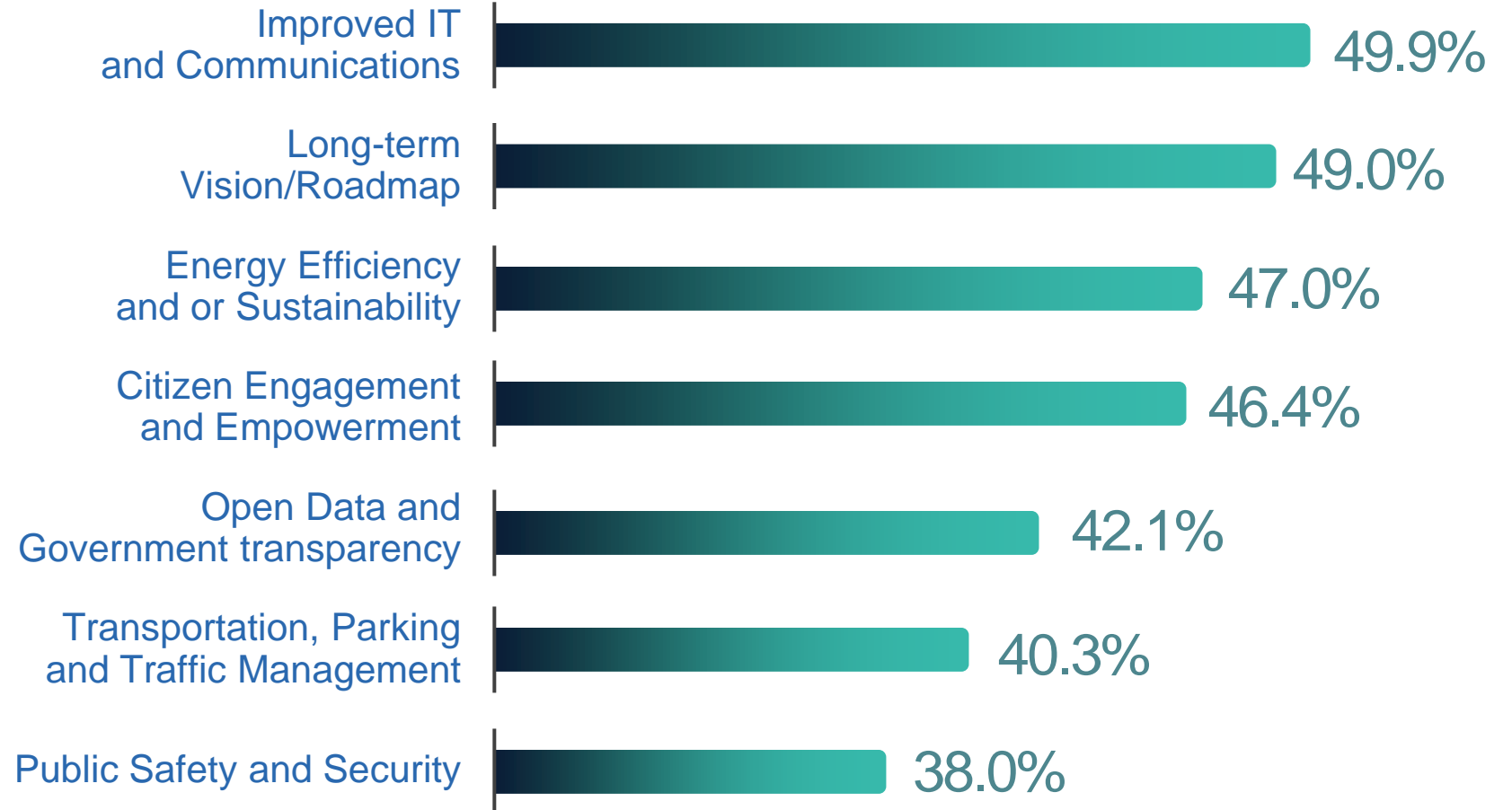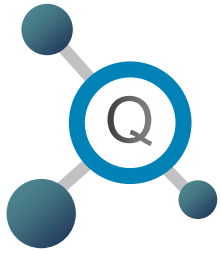Creating a More Attractive City and Improving the Quality of Life

THREE

Which area(s) of Smart City transformation have you begun?

Many efforts have been initiated,
Top Efforts Are:

Area	Percentage
Improved IT and Communications	49.9%
Long-term Vision/Roadmap	49.0%
Energy Efficiency and or Sustainability	47.0%
Citizen Engagement and Empowerment	46.4%
Open Data and Government transparency	42.1%
Transportation, Parking and Traffic Management	40.3%
Public Safety and Security	38.0%

What steps have you taken already?

Planning

Studying The Concept — **61.2%**

Reviewing Departmental Needs and Priorities — **51.2%**

Creating **Plans to Communicate** City's Vision — **37.6%**

Operation

Issue RFPs to Procure **Technology, Services** — **20.5%**

Set up Initial **Pilots** — **18.7%**

Implement Full Deployments of **Initial Projects** — **13.9%**
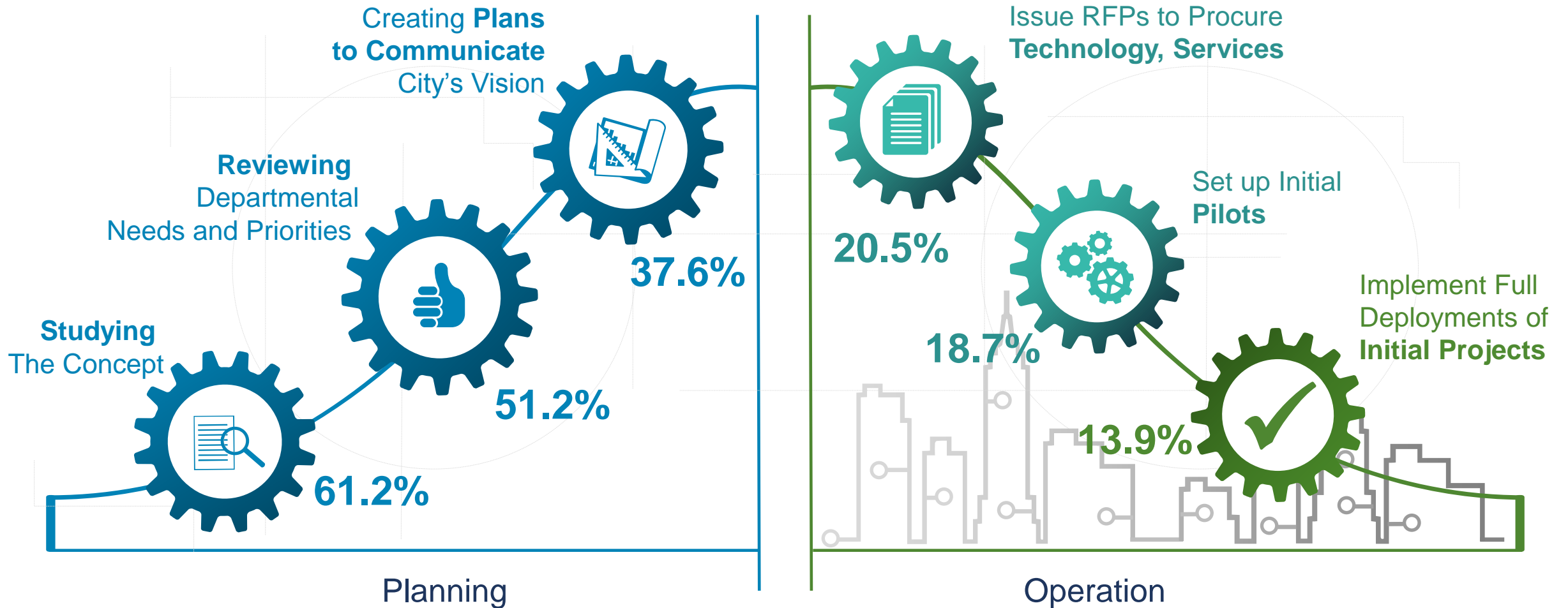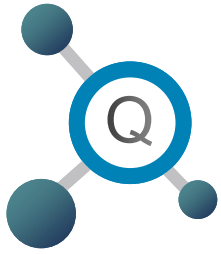
What are the three top external barriers that hinder progress of the Smart City Initiative?

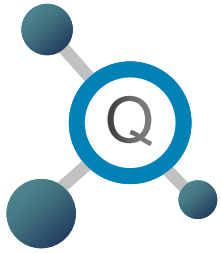**26.2%** Inability to Align Funding for a Project up Front

22.1% Community Not Engaged or at the Same Readiness

17.1% Lack of Clarity of the Benefits

What are the top three internal barriers that hinder progress of the Smart City Initiative?

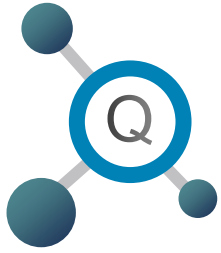Lack of a Committed Champion/Visionary Leader

$ Lack of Funding — **35.4%**

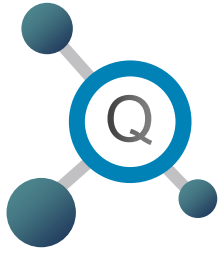**17.9%** — Departmental Silos and Lack of Coordination

Lack of Alignment on Priorities — **35.4%**

What 1 item would help accelerate your Smart City implementation?

Policies to **Encourage Innovation** and **Cross-Departmental Collaboration**

Case Studies and Best Practices from Other Cities

Clearer Sense of **Technology Solutions Across Departments**

FASTER

FAST

FASTEST

Access to **Innovative Funding Alternatives**

Do you have cross-departmental teams to address Smart City initiatives? Which departments participate?

Public Works

Energy

Finance

Legal

Public Safety

NO **2/3**

*2/3 don't have a cross-departmental team for Smart City developments

1/3

YES

Have a cross-departmental team for Smart City developments

Planning Departments

Transportation

Parks and Recreation

Emergency Management

Information Technology

Health and Human Services

Housing and Community Development

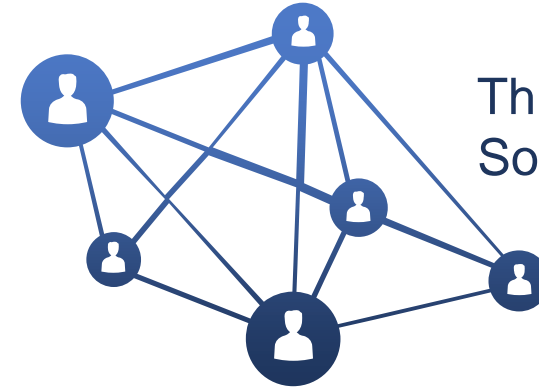**Economic Development**

Administration and Regulatory Affairs

What top 3 methods do you use most effectively to engage citizens?

Through Public Hearings and Town Hall Meetings

1

2

Through Social Media

3

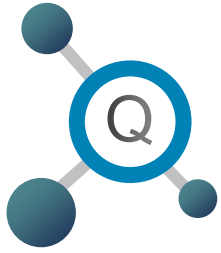Through Planning Meetings with Stakeholders
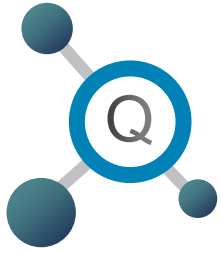
What policies and standards need to be in place to protect citizen and corporate data?

Ranking
Top Security Concerns

Percent of Security, Data Sharing
Policies in Place

Data Privacy **1**

Cybersecurity **2**

Data Architecture
and Data Management **3**

Data Collection **4**

40% | City Wide Polices

33% | No Policy

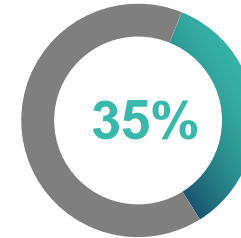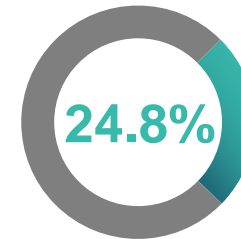**27%** | Department-based Polices

What is your biggest funding challenge?

"

The need to fund ongoing,

day-to-day operations consumes 99.9% of our available funding. *Without new funding sources and new, dedicated staff, we can't seriously consider long-term sustainability initiatives.*

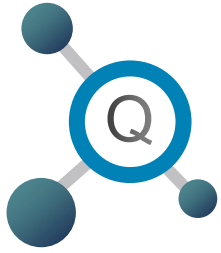**35%** Ease of Securing Funding to **Cover the Total Costs** of the Project

24.8% **Correctly Estimating the Cost and ROI** for the Projects
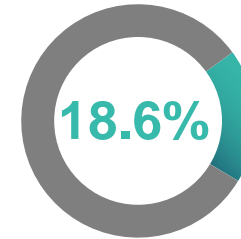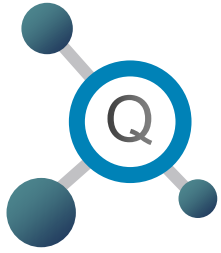
18.6% Securing Funding Options That **Match the Duration Needs of the Project** (Short/Long Term)

What types of funding are you using/planning for your smart project?

Other/ Grants

Private

Public

Government Based Finance Options

Did you prepare a business plan for upcoming or current Smart City Investment?
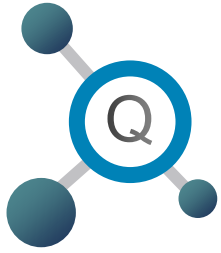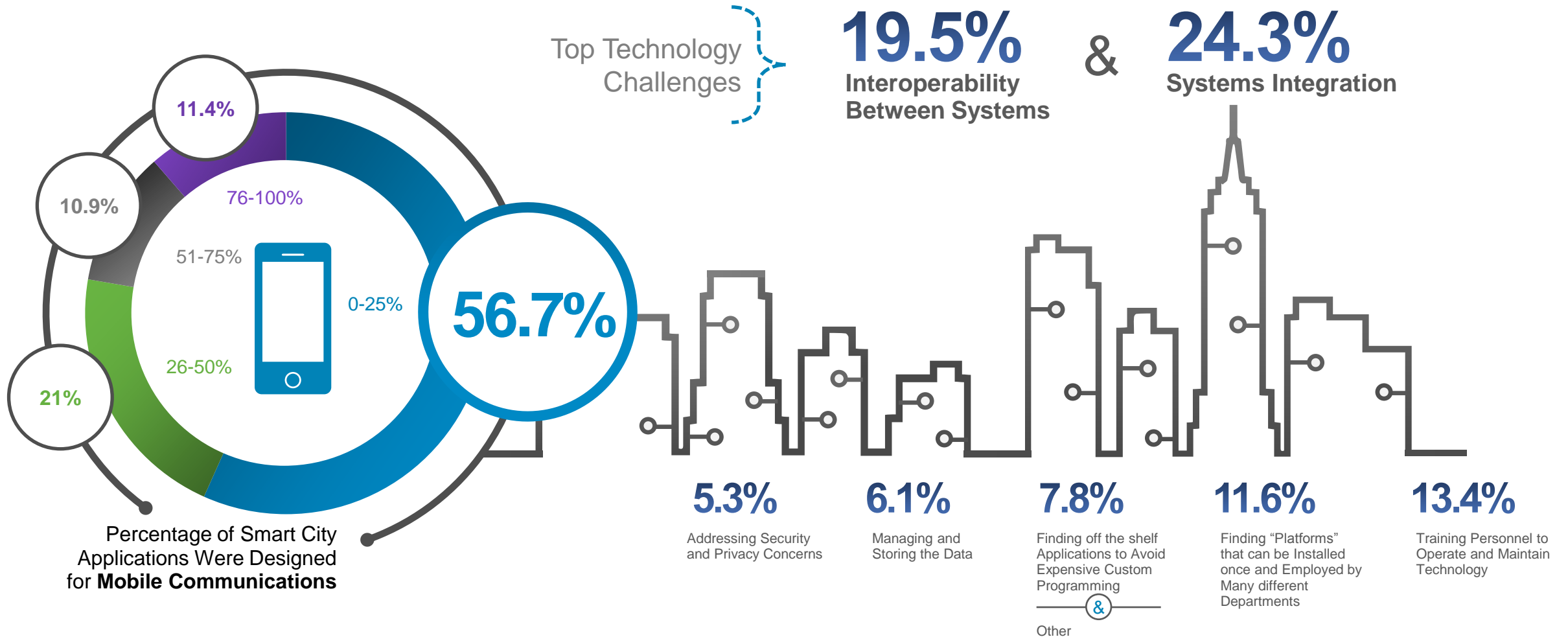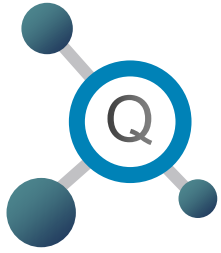
Q

NO

68%
Respondents
Answered "No."

76.3% were not able to forecast results with ROI and metrics.

What are your Biggest challenge regarding deployment of new Technology?

Top Technology Challenges

19.5%
Interoperability Between Systems

&

24.3%
Systems Integration

11.4% 76-100%

10.9% 51-75%

0-25%

56.7%

26-50%

21%

Percentage of Smart City Applications Were Designed for **Mobile Communications**

5.3%
Addressing Security and Privacy Concerns

6.1%
Managing and Storing the Data

7.8%
Finding off the shelf Applications to Avoid Expensive Custom Programming

&

Other

11.6%
Finding "Platforms" that can be Installed once and Employed by Many different Departments

13.4%
Training Personnel to Operate and Maintain Technology

Technology Purchase Priorities

City Wide

Communications Network — 1
Intelligent Infrastructure — 2
Storage/Compute — 3
Data and Analytics — 4
CyberSecurity — 5
Applications (Public) and Physical Security — 6
Sensors — 7

1 — Communications Network
2 — Cyber Security and Private Applications
3 — Data and Analytics
4 — Physical Security
5 — Applications (Public)
6 — Sensors
7 — Devices

IT Centric
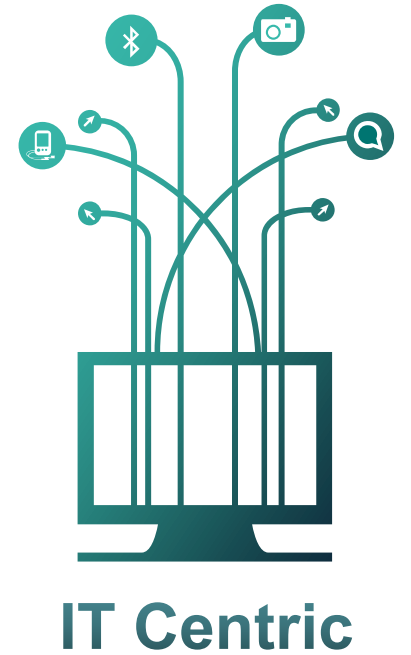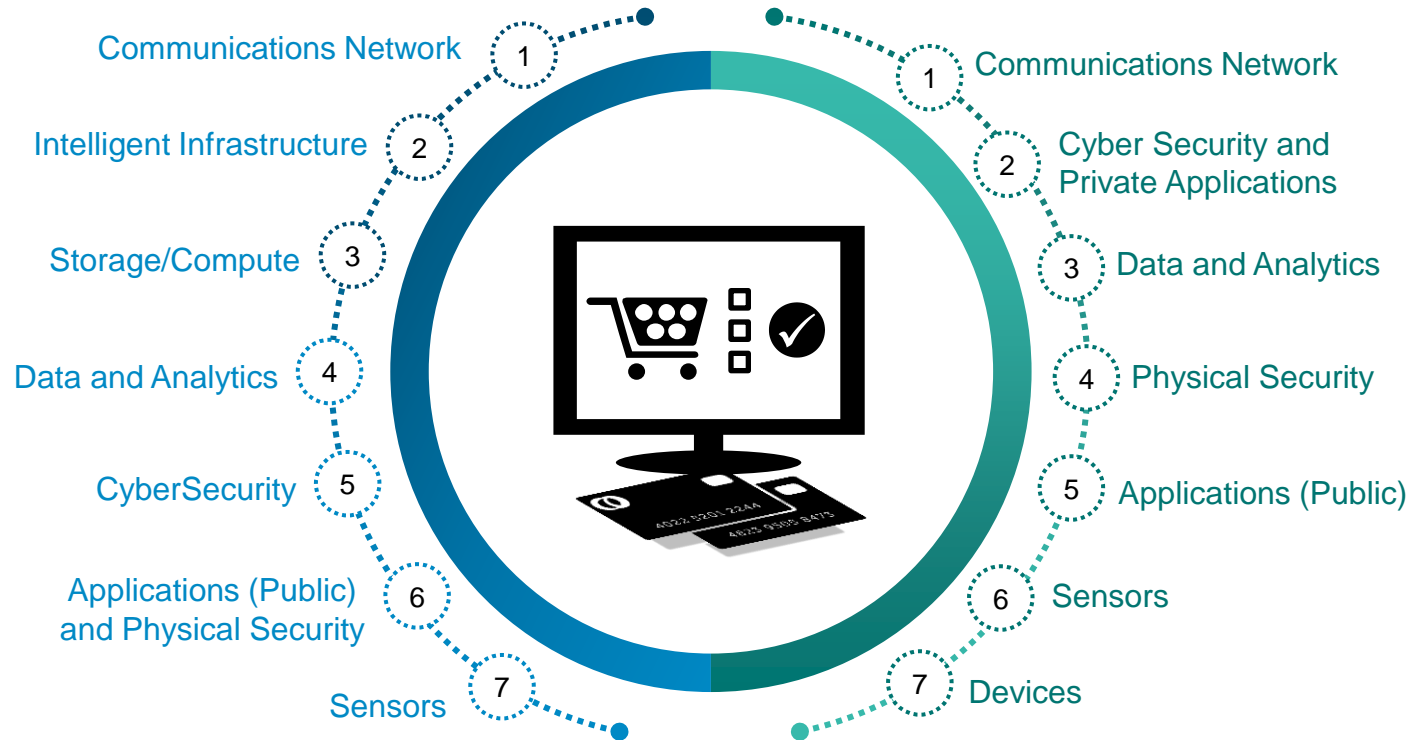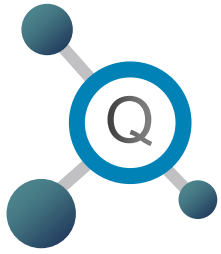
Accelerating the Smart City Journey ('10 How-to Tips')

1 Find a Visionary Leader

2 Move beyond Planning

3 Begin Pilots that Prove Value

4 Understand the Costs and Benefits

5 Explore Available Funding Options

6 Improve Internal Support

7 Explore Technology Options

8 Start Mobilizing Technology

9 Learn from Peers

10 Find the Right Partners