

*Security in the City:
Technological Solutions*

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Objectives from today's presentation

- Provide a perspective on holistic approach and the building components to developing a smart and secure city.
- Share PwC's insights from a recent survey focusing on cyber security as expressed by organizations around the world.
- Shed the light on key success factors for enhancing security in a city, with a special focus on the case of Rio de Janeiro.



Cities around the world are reshaping their urban and rural communities



Green-field

- Skolkovo, Russia
- Dontang, China
- Eco-Tianjin, China
- KAEC, Saudi Arabia
- Lavasa, India
- Masdar City, United Arab Emirates
- Nanjing Ecocity, Nanjing, China
- SmartCity, Malta
- Songdo IBD, South Korea



Re-generation

- Porto Maravilha, Brazil
- Docks Green, Victoria, Canada
- Hafencity, Hamburg, Germany
- Île Séguin-Boulogne Billancourt, Paris, France
- King's Cross, London, United Kingdom
- Portu Nuova, Milan, Italy
- Fujisawa, Japan
- Christchurch, New Zealand



Retrofitting

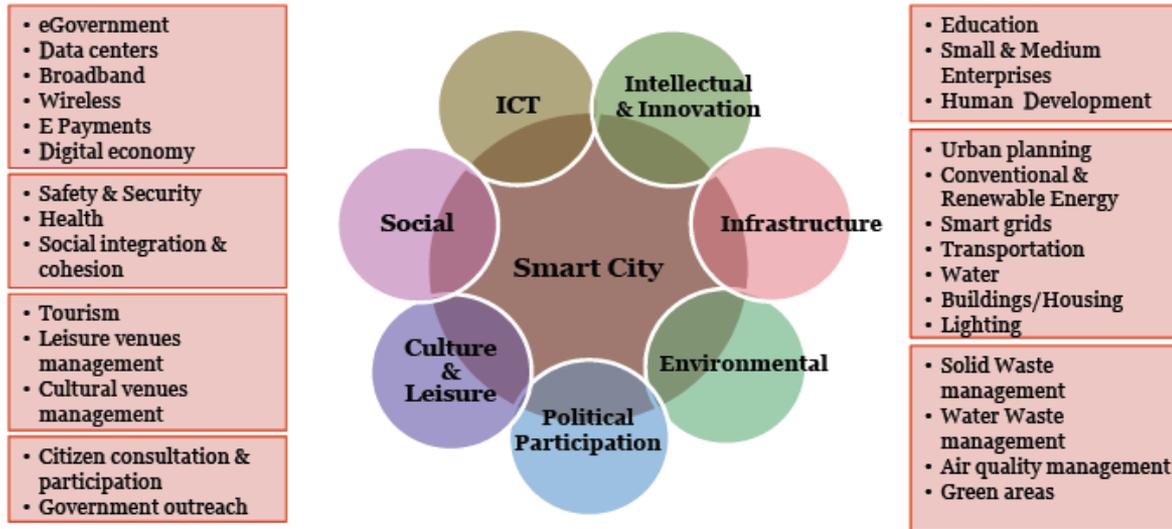
- Amsterdam, Netherlands
- Copenhagen, Denmark
- Curitiba, Brazil
- London, United Kingdom
- Mexico City, Mexico
- Newcastle, Australia
- New York, United States
- Stockholm, Sweden
- Vancouver, Canada

Services enabled by Technology and Urban Form

Source: Verdantix and PwC Analysis

A Smart City is a holistic and resilient ecosystem of people and businesses ...

Smart Cities can be identified (and ranked) by the presence of seven different types of “assets”. Effective ICT is one facilitator of a “smart city” but to be truly smart, a city needs strength in all of the asset types.



...who are interconnected and contributing towards a common vision

As we further rely on ICT in delivering services to citizens and businesses, cities are more vulnerable to cyber threats

Information security has always been a high-stakes game. One that demands a smart strategy, the right technology moves, and an unblinking eye on adversaries

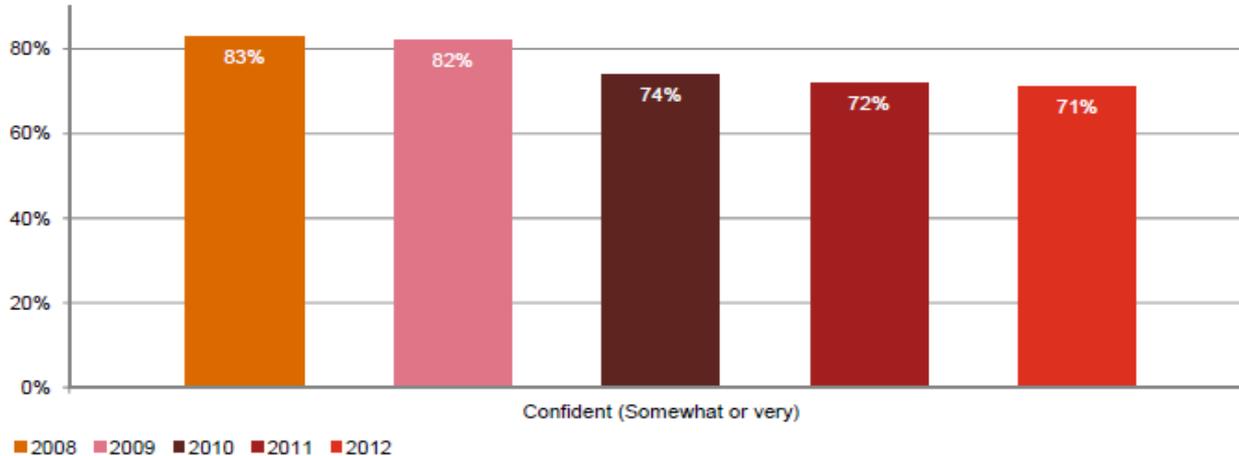
- The Global state of Information Security® Survey, a worldwide study by PwC, CIOMagazine, and CSO Magazine, was conducted in 2012 with approximately 8000 respondents.
- Of the completed responses this year 40% of respondents were from North America, 26% from Europe, 18% from Asia, 14% from South America, and 2% from the Middle East and South Africa

	Number of responses in 2012
Technology	1,469
Financial Services	1,338
Retail & Consumer Products	1,169
Industrial Products	775
Public Sector	730
Telecommunications	511
Healthcare Providers	467
Entertainment & Media	378
Aerospace & Defense	242
Automotive	218
Power & Utilities	201
Energy (Oil & Gas)	136
Pharmaceutical	112

A majority of respondents say their information security activities are effective—but this confidence is eroding

More than 70% of respondents are very (32%) or somewhat (39%) confident that their organization's information security activities are effective. Yet they may not realize that assurance has dropped since 2008.

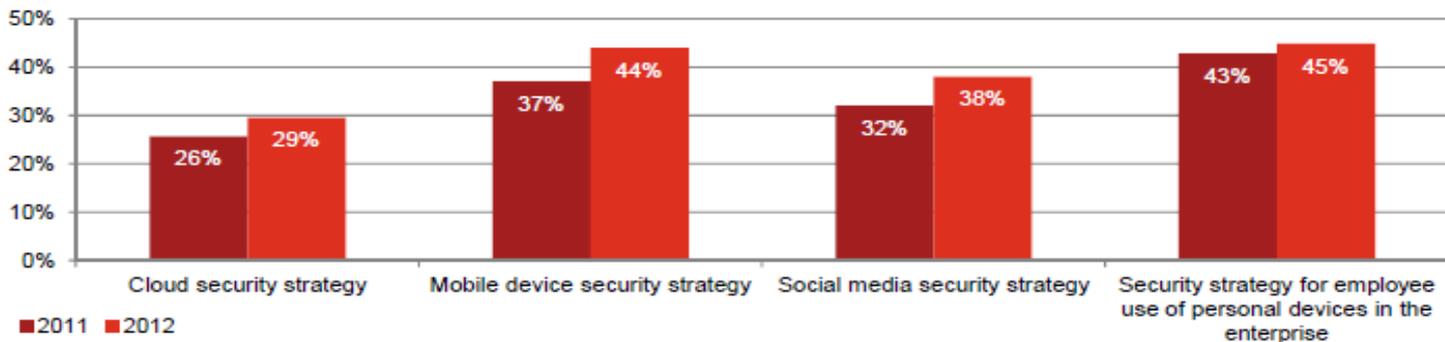
How confident are you that your organization's information security activities are effective?"



Technology adoption is moving faster than security implementation

Across industries, organizations are struggling to keep pace with the adoption of cloud computing, social networking, mobility, and use of personal devices. Yet these new technologies often are not included in overall security plans even though they are widely used. In a recent survey, for instance, we found that 88% of consumers use a personal mobile device for both personal and work purposes.²

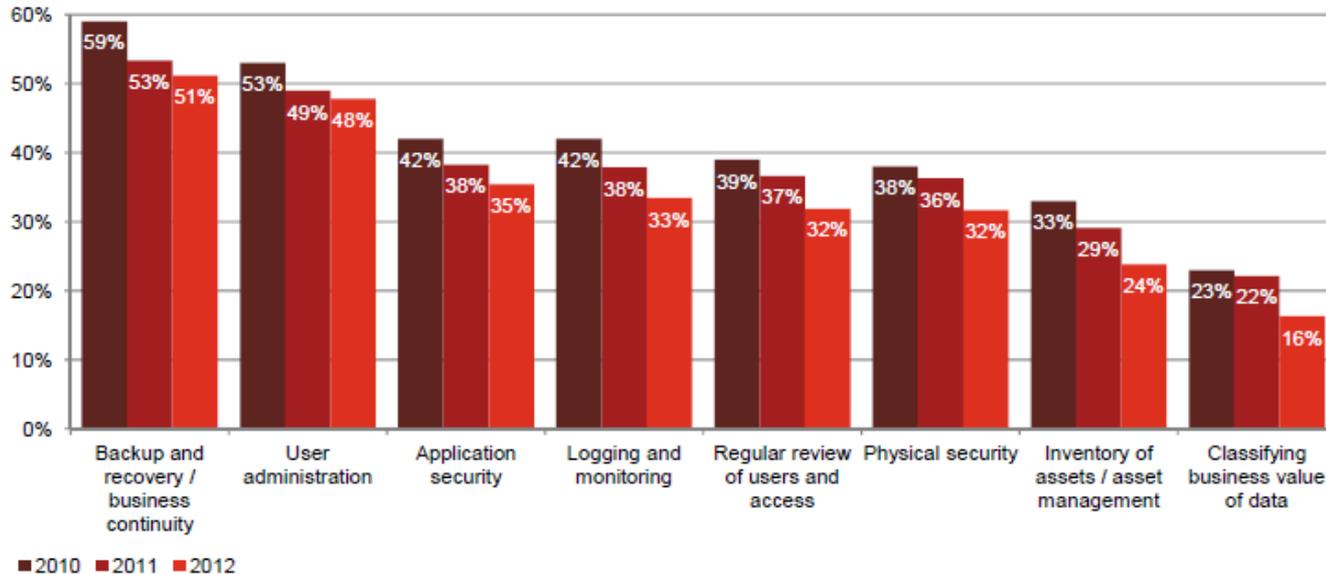
What process information security safeguards does your organization currently have in place?” (Not all factors shown. Totals do not add up to 100%.)



² PwC, [Consumer privacy: What are consumers willing to share?](#) July 2012

Security policies have grown less robust and inclusive - Many organizations are omitting fundamental elements of security

“Which of the following elements, if any, are included in your organization’s security policy?” (Not all factors shown.)



What you can we do to improve performance and enhance cyber security?

Information security today is a rapidly evolving game of advanced skill and strategy. As a result, the security models of the past decade are no longer sufficient.

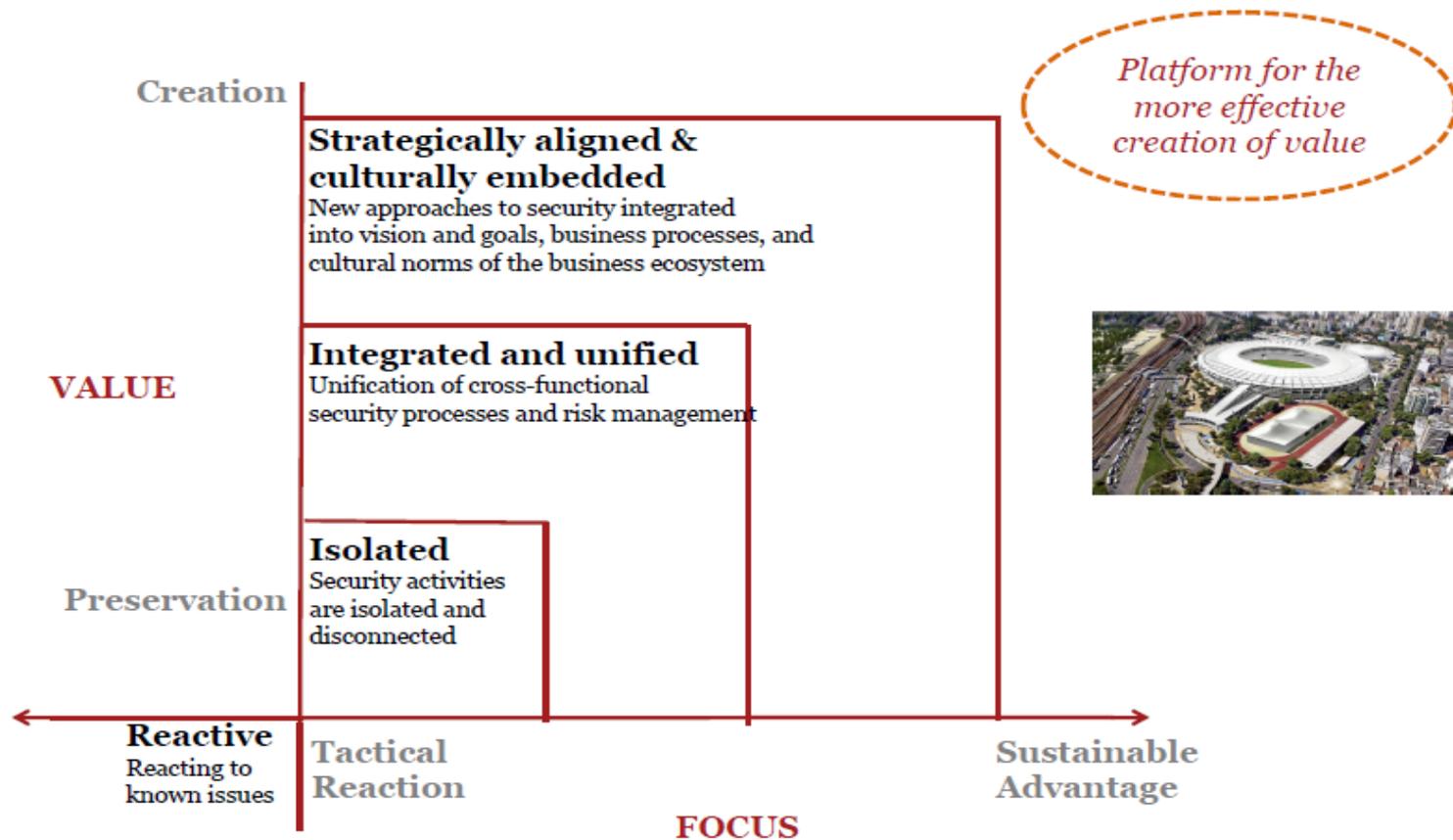
Effective security requires a new way of thinking. The very survival of the business demands that security leaders understand, prepare for, and quickly respond to security threats.

Organizations seeking to strengthen their security practicemust:

- Implement a comprehensive risk-assessment strategy and align security investments with identified risks.
- Understand the organization's information, who wants it, and what tactics adversaries might use to get it.
- Understand that information security requirements – and, indeed, overall strategies for doing business – have reached a turning point.
- Embrace a new way of thinking in which information security is both a means to protect data as well as an opportunity to create value to the organization

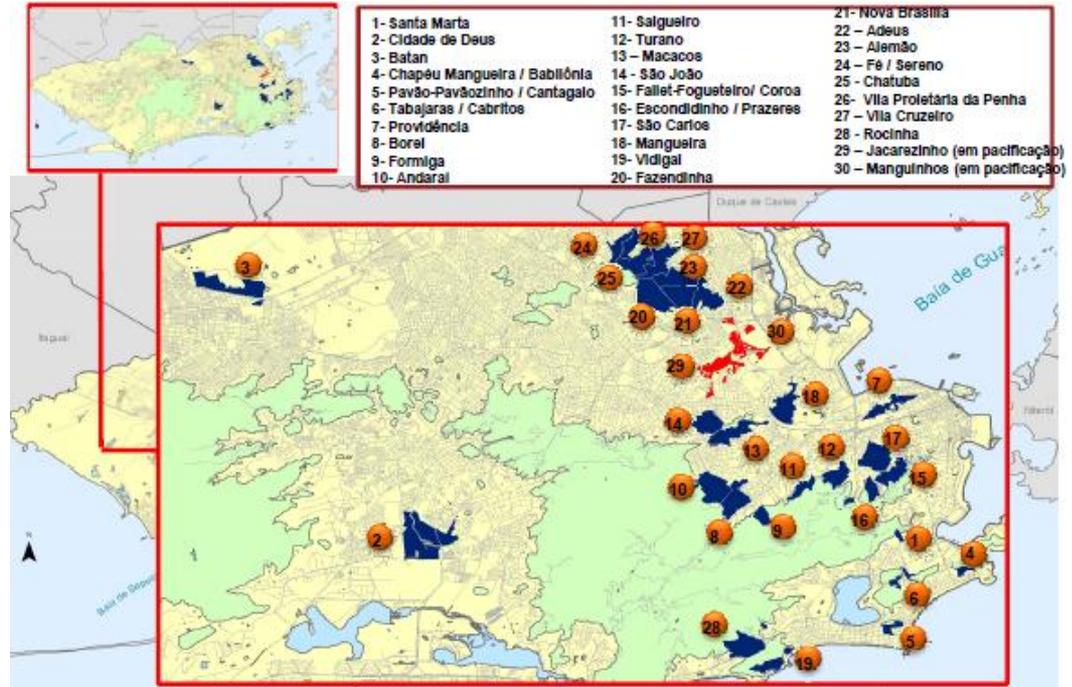


The stages of enabling value creation through security



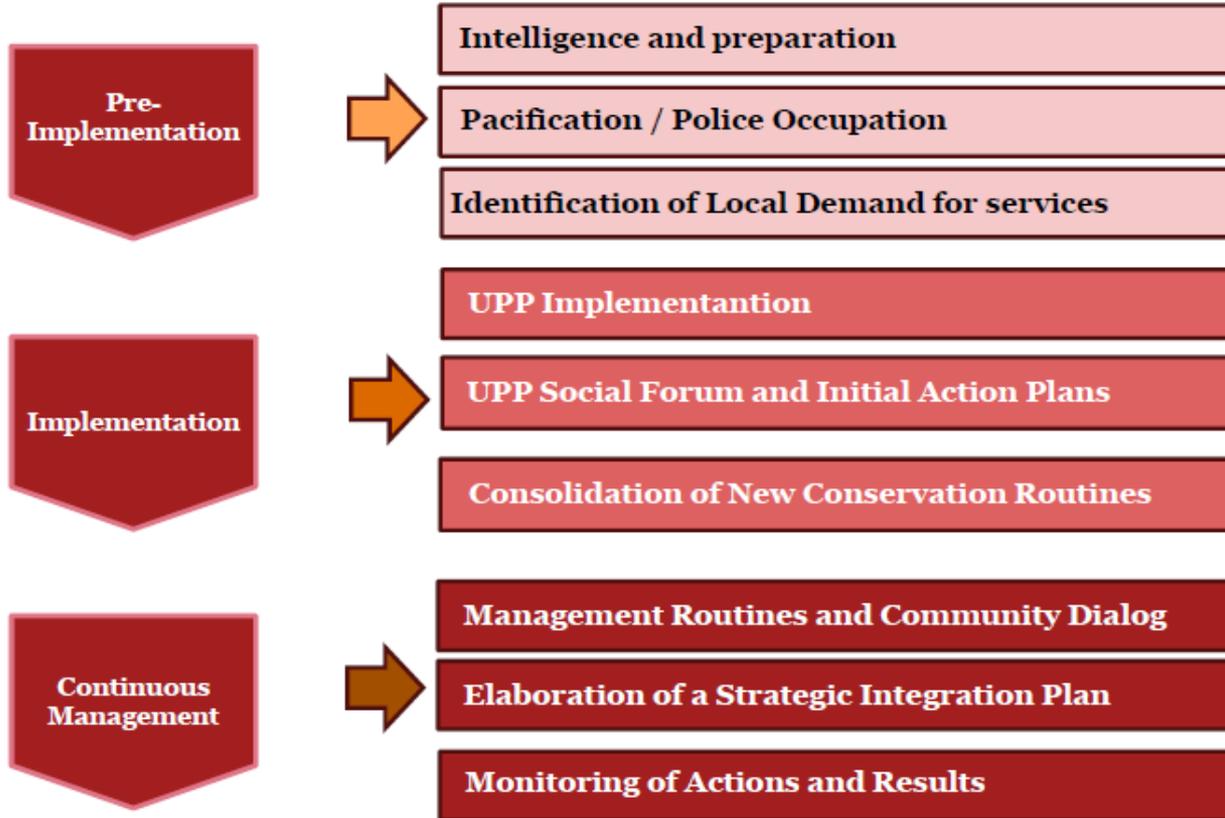
Technology can be an important enabler for transforming a city through enhanced security – Rio de Janeiro is being transformed ...

- To date, 30 favelas have received UPP units.
- The state government hopes to serve 165 communities through the placement of 45 UPPs by 2014. T
- This would require an estimated 12,500 officers and benefit nearly 860,000 residents.
- Currently, there are approximately 3,800 UPP police officers and soldiers on duty.
- To 2016, the state government is investing R\$ 15 million in the training of police offers alone and hopes to install 60,000 trained officers across the state



Source: IPP and PwC analysis

... through a comprehensive planning and execution process ...



Source: IPP and PwC analysis

... enhancing security resulted in a series of social development and urbanization projects that cover more than 400, 000 inhabitants

Morar Carioca – Urbanization Project

First implemented in 2010, this programme aims to improve the urban infrastructure and equipment that favela residents have access to. Improvements to access to water supply, sewerage systems, drainage, street lighting, collection of litter and street paving are targeted. To date, the programme has delivered improved services to 69,500 families but the programme aims to more than double this number by 2016.

Morar Carioca –Minha CasaMinha vida (*My House,My Life*)

First introduced in 2009, this programme seeks to provide access to affordable housing to some of the poorest residents of Rio de Janeiro, thereby moving people out of favela areas into stable housing areas. To date, 35,000 new housing units have been contracted, designed for families with monthly incomes of up to R\$5,000. The programme aims to contract 100,000 units by 2016.

BairroMaravhila.

The programme aims to reduce inequalities in the urban environment between Northern andWestern areas of Rio de Janeiro and other areas of the city. These areas currently have very low levels of urban development, as a result of years of underinvestment and neglect. This programme aims to redress the situation with a series of interventions including investments in street lighting, street paving, reforestation and restoration of public places and squares.



Source: IPP and PwC analysis

Ways to leverage security for value creation

- Embed security into strategic decision-making across the ecosystem, to protect citizens, stakeholder value and maximize the growth potential of strategic investments.
- Seek to secure information that matters most and use counter-intelligence to think like and defend against adversaries – creating decision advantage.
- Accurately recognize adversarial risk in the cost-benefit equation.
- View cyber or physical attack as a constant force seeking to compromise opportunity and advantage, with significant strategic and operational implications.
- Expend and allocate the appropriate level of resources to move security from a compliance driven spend to a strategic initiative that reaches across your ecosystem.
- Consciously navigate cyber realities in the pursuit of creative solutions!

“Policing is not a cost. It’s an investment... If you make it safe, businesses will come and invest, jobs will be created.” - William Bratton,

Former Chief of the New York, Boston and Los Angeles Police Departments; Consultant, British government

Thank you
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