Smart Cybersecurity and **Smart City**

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Smart City - The ITU-T



"A smart sustainable city (SSC) is an innovative city that uses information and communication technologies (ICTs) and other means to improve quality of life, efficiency of urban operation and services, and competitiveness, while ensuring that it meets the needs of present and future generations with respect to economic, social and environmental aspects"

https://www.itu.int/en/ITU-T/focusgroups/ssc/Documents/Approved-Deliverables/TR-Definitions.docx

Smart City - Byod Cohen



A "smart city" is one that exploits technology and innovation to make efficient use of resources and reduce the size of the ecological footprint. This idea is here to stay. The term has a technological origin, but it is also a question of being innovative. What services can be offered to citizens to increase their quality of life? Technology is just one aspect. A high-tech city is not necessarily a smart city. Many urban planners have realised that cities are about people not technology. I don't know whether the term "smart city" will endure. Perhaps it will become "future city" or "innovative city", but the idea is the same.

SMART CITY = LIVEABLE CITY



Intelligent city

- Applications of ICT in the communication between city management and local residence
- ensure to give and get information
- e-administration

Smart city

• ICT as city management tool STRATEGY, SUSTAINABILITY, COST-EFFECTIVENESS, RELIABILITY, TRANSPARENCY, COOPERATION

Smart City Version

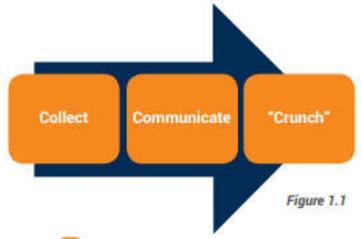


Smart Cities 1.0 :Technology Driven

- Smart Cities 2.0 :
 Technology Enabled, City-LED
- Smart Cities 3.0 :Citizen Co-Creation

3 Core Function of Smart City





Collect

information about current conditions across all responsibility areas (power, water, traffic, weather, buildings, etc.).

Communicate

information, sometimes to other devices, sometimes to a control center and sometimes to servers running powerful software.

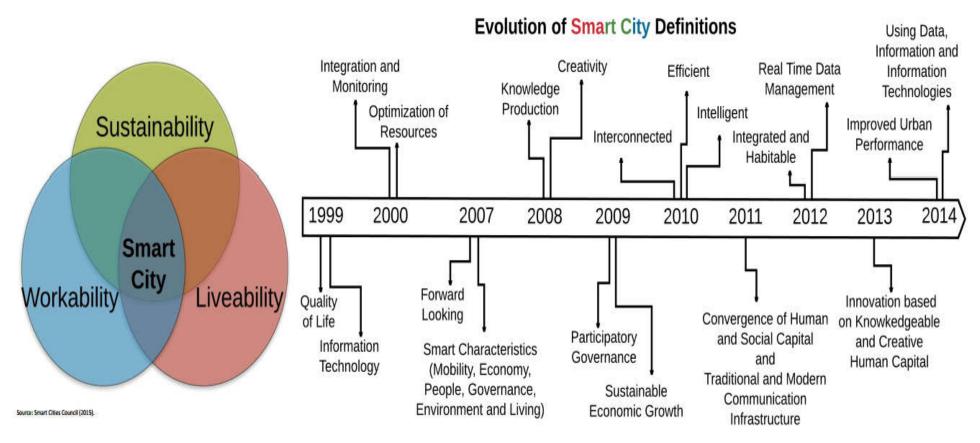
Crunch

data, analyzing it to present information, to perfect (optimize) operations and to predict what might happen next.

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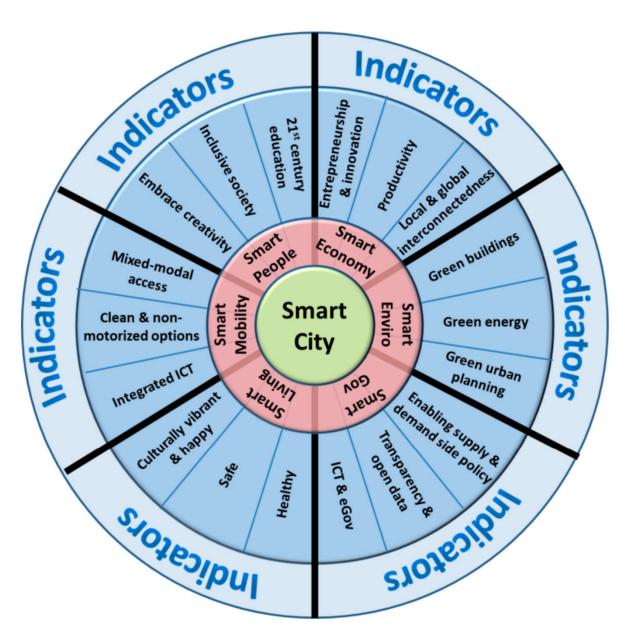
Evolution of Smart City Definition





Smart City Wheel (Cohen, 2012)





Smart City Wheel - Explain (1)



Smart Government

Adanya akuntabilitas dan keterbukaan kebijakan pemerintah.

Memiliki 3 sub domain:

- Infrastruktur ICT & eGov yang memadai
- Online services (supply & demmand) yang baik
- Open government (melalui open data)

Smart Economy

Adanya dukungan teknologi utk meningkatkan ekonomi lokal agar dapat bersaing dengan ekonomi global.

Memiliki 3 sub domain:

- Produktifitas yang meningkat
- Opportunity (peluang usaha) bagi enterpreunership
- Hubungan bisnis lokal & global yang baik

Smart City Wheel - Explain (2)



Smart Environment

Adanya "green urban planning" yang berbasiskan TIK. Memiliki 3 sub domain :

- Smart Building (bangunan pintar berbasiskan teknologi TIK)
- Green Urban Planning (tata ruang berwawasan lingkungan)
- Resources Management (tata kelola "green energy").

Smart Mobility

Adanya efisiensi dan layanan transportasi publik berkualitas. Memiliki 3 sub domain :

- Clean Transportation (transportasi rendah kadar polusi)
- Mixed Model Access (integrasi berbagai model tansportasi)
- Integrated ICT (integrasi sistem lalu lintas, traffic control, dsb)

Smart City Wheel - Explain (3)



Smart Citizen

Pengembangan SDM yang menghasilkan inovasi TIK berkualitas Memiliki 3 sub domain :

- Education (perbaharui pengetahuan TIK terkini)
- Inclusive Society (komunitas masyarakat saling berbagi ilmu)
- Embrance Creativity (pengembangan kreativitas warga)

Smart Living

Peningkatan kualitas hidup warga melalui pemanfaatan TIK Memiliki 3 sub domain :

- Healthy (jaminan terhadap kesehatan warga)
- Safety (jaminan terhadap keselamatan jiwa warga)
- Happiness (kebahagiaan warga menjalani aktivitas sehari2x)

Smart City Maturity Model



Optimized

Managed

Repeatable

Opportunistic

Ad hoc

Ad hoc, departmentbased planning and discrete projects Opportunistic project deployments; proactive collaboration within and between departments; key stakeholders aligned around beginning strategy; barriers to adoption identified

Recurring projects, events, and processes identified for integration; formal committees document strategy, processes, and technology with stakeholder buy-in Formal systems for work/data flows; technology in place; standards emerge; performance management based on outcomes shift culture, budgets, IT investment, and governance structure Sustainable citywide platform in place; agile, continuously improving strategy, IT, and governance that allow for autonomy within integrated system of systems; superior outcomes that deliver differentiation

Smart City Maturity - Explain



	Ad hoc	Opportunistic	Repeatable	Managed	Optimized
Key characteristic	Siloed	Intentional	Integrated	Operationalized	Sustainable
Goal	Tactical services delivery	Stakeholder buy-in	Improved outcomes	Prediction and prevention	Competitive differentiation
Outcome	Proof-of-concept and business case development via ROI from pilot projects	Cross-organization deployments and development of foundational strategy and governance	Repeatable success in project process and outcomes across multiple organizations	Enterprisewide strategy, process, data, and so forth bring improved service delivery via adaptive sense- and-respond systems	Agility, innovation, and continuous improvement in service delivery bring competitive advantage

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Case Study - Indian



TRADITIONAL



INDIAN CITY



SMART

Unplanned and Disorganized	PLANNING	Coordinated, Holistic and Sustainable	
Poorly Interconnected	INFRASTRUCTURE	Highly Systematic	
Minimal / Limited	CITIZEN PARTICIPATION	Two-way Communication between Government and People	
Isolated, Unsystematic and Fragmented	SOLUTION PROVIDED	Centrally Planned, Deployed across City Departments and Projects	
Ineffective Management and Increased Costs	RESOURCE UTILIZATION AND COSTS	Optimal Resource Utilization with Cost-Effective technologies	
High level	TRAFFIC CONGESTION AND POLLUTION	Improved Traffic Management and Low Pollution	
Negligible Sharing and Poor Coordination	DATA SHARING AND COORDINATION BETWEEN GOVERNMENT DEPARTMENTS	Improved Sharing and better Coordination	

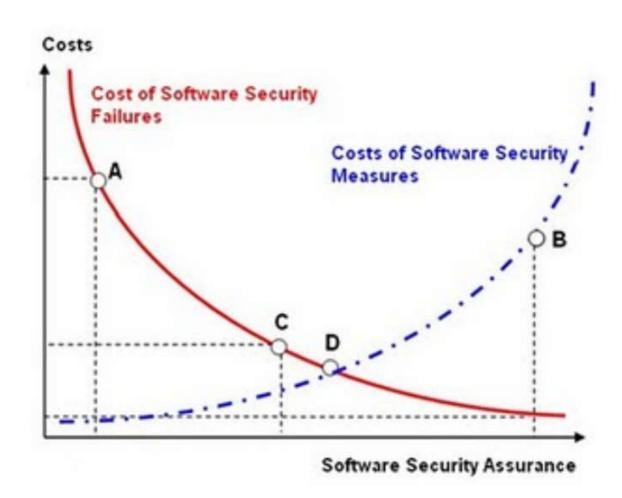
Indian Smart City Framework

PHYSICAL	SOCIAL	ECONOMIC	INSTITUTIONAL
Multi-modal Public Transportation	Inclusive Development: Affordable Housing, Night Shelters, etc.	Skill Development Centers Incubation Centers	Minimum Government, Maximum Governance
24*7 Power Supply	Quality Education in all Neighborhoods	Trade Facilitation and Logistics Centers	E-Governance- 24*7 Online Public Service Delivery
Zero Emission: Solid and Liquid Waste	Health Care in all Neighborhoods: Tele-Medicine	Small and Medium Manufacturing Enterprise Clusters	Citizen Engagement
Assured and Metered Water Supply	Entertainment and Recreational Facilities	Finance Centers and Services	Safety, Security and Enforcement
High-Speed Broadband Connectivity	Cultural, Sports and Fitness Centers	Working Women Hostels and Crèches	Disaster Management and Resiliency

Source: UK Trade and Investment (2015).

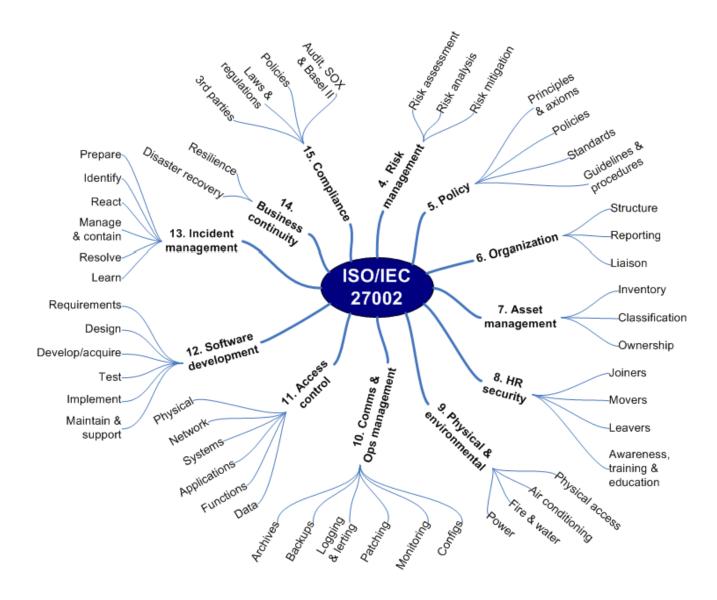
Cost Software Security Measure





Aspek Smart Cybersecurity





Smart Cybersecurity - Explain



Smart Cybersecurity

Adanya "security awareness" (kepedulian thd keamanan informasi) pada semua orang (baik pejabat atau staf) di suatu lingkungan organisasi (pemerintah/swasta). Memiliki 7 sub domain :

- (a). Software Development (secure coding, desain s/d deploy)
- (b). Network Management (device patching, secure config)
- (c).O/S Management (kernel patching, secure config)
- (d). Operational Management (Backup, Restore, DRC)
- (e).Risk & Incident Management (Asses, Analys, Mitigation)
- (f).Policy & Access Control (Physical, System, App, Data)
- (g).Organization & Regulation (SOP, Reporting, Law)

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- ---- City innovation 10th rankings, 2016-2017 (192 indicators).
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- ---- 6.Los Angeles, 7.Singapore, 8.Toronto, 9.Paris 10.Vienna
- ---- 11.Seoul, 12.Amsterdam, 13.Barcelona, 14.Sydney, 15.Munich
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Terima Kasih



"Smart City needs a lot of Smart and Innovative People"