





ITU-SUDACAD Regional Forum on Internet of Things for Development of Smart and Sustainable Cities

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Key Success Factors and Dependencies for IoT Ecosystem of SSC

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Assess & Control Risks

Run under Project Framework

Content

lot for SSC Overview and Characteristics

Maturity and Governance of a SSC and IoT Context

Align IoT and SSC strategy with feasible Rol

Invest Properly in Analysis and Planning

Involve and Inspire Stakeholders





















Smartness Maturity Dimensions of SSC



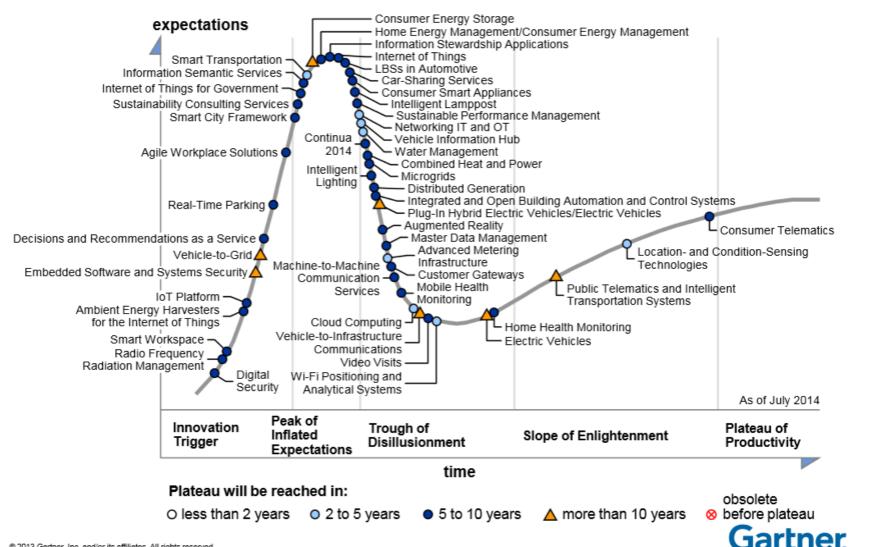
Leadership & Governance	 Level of Leadership Commitment Effective City Mgt learning form best practices Strategic and transformational mind-set for smart initiatives
Stakeholder Engagement and Citizen Focus	 Stakeholder engagement and citizen/customer focus Support business, community & academic smart city activities Social inclusion
Effective Use of Data	 Openness and sharing of data based on agreed regularity policies Data interoperability (use of common standards)+ Availability of City data analytics Data privacy and data security based on standard policies and processes
Integrated ICT Infrastructure	 Reliable ICT resource mapping and management Progress in developing a city-wide ICT architecture IOT Integration and Cloud computing
Levels of Smartness	 Smart core infrastructure smart management of water, gas, ICT, waste and energy Smart Facilities and buildings Smart core services (education, health, legal, safty,)Environment





Hype Cycle for SSC Technologies











- Work within SSC ICT strategy for transformation
- Identify set of strategic partners (e.g. Partnership bet. public and private sectors)
- Start with quick wins (business cases with fast implementation and short payback periods)
- The business value can be:
 - Cost reduction, higher efficiency
 - high revenue
 - Improved customer experience(citizen/tourists)







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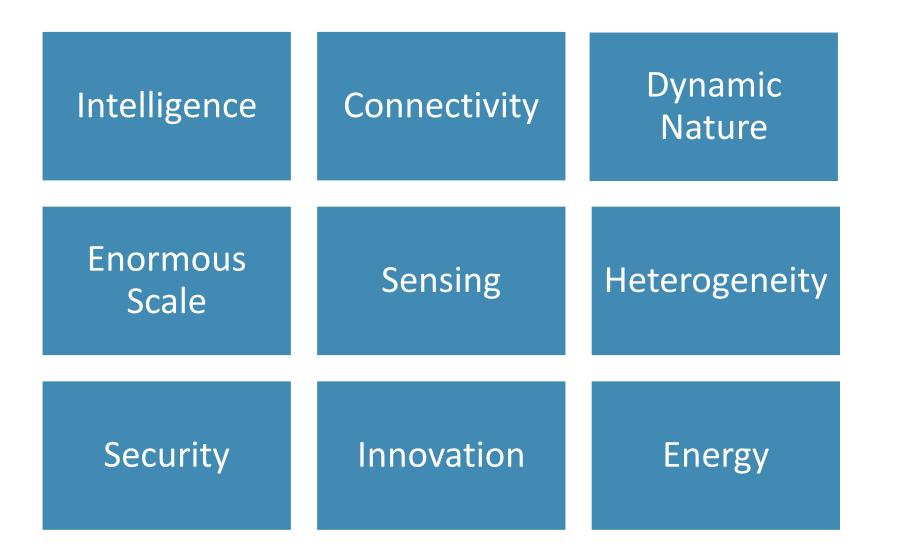






Characteristics of IoT for SSC Projects









Technical Project Elements



	External interfaces APIs, SDKs and gateways that act as interfaces for 3rd party systems (e.g., ERP, CRM)		
data sets	Analytics Algorithms for advanced calculations and machine learning	Additional tools Further development tools (e.g., app prototyping, access management, reporting)	
Database Repository that stores the important data sets	Data visualization Graphical depiction of (real-time) sensor data		
	Processing & action management Rule engine that allows for (real-time) actions based on incoming sensor & device data		
	Device management Backend tool for the management of device status, remote software deployment and updates		
	Connectivity & Normalization Agents and libraries that ensure constant object connectivity and harmonized data formats		

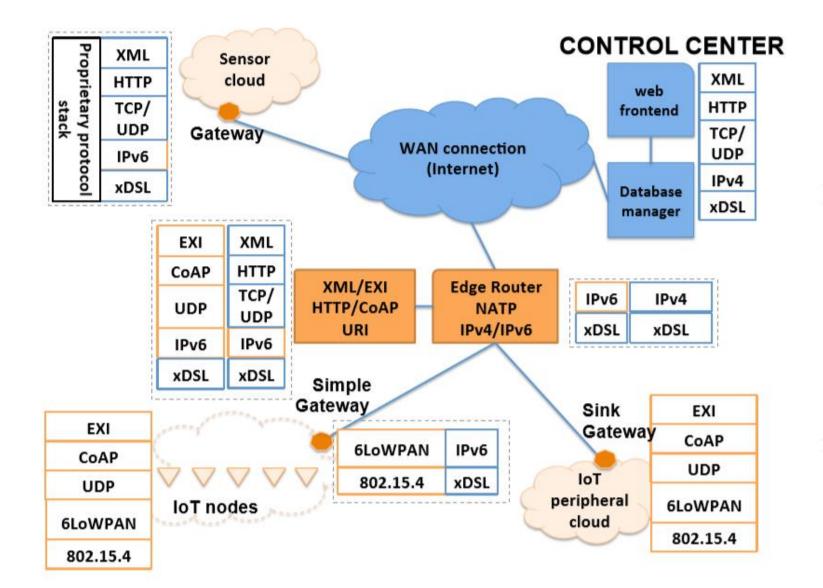


EXHIBIT 4: The eight major building blocks of an IoT platform (Source: IoT Analytics)



Technical Design Elements



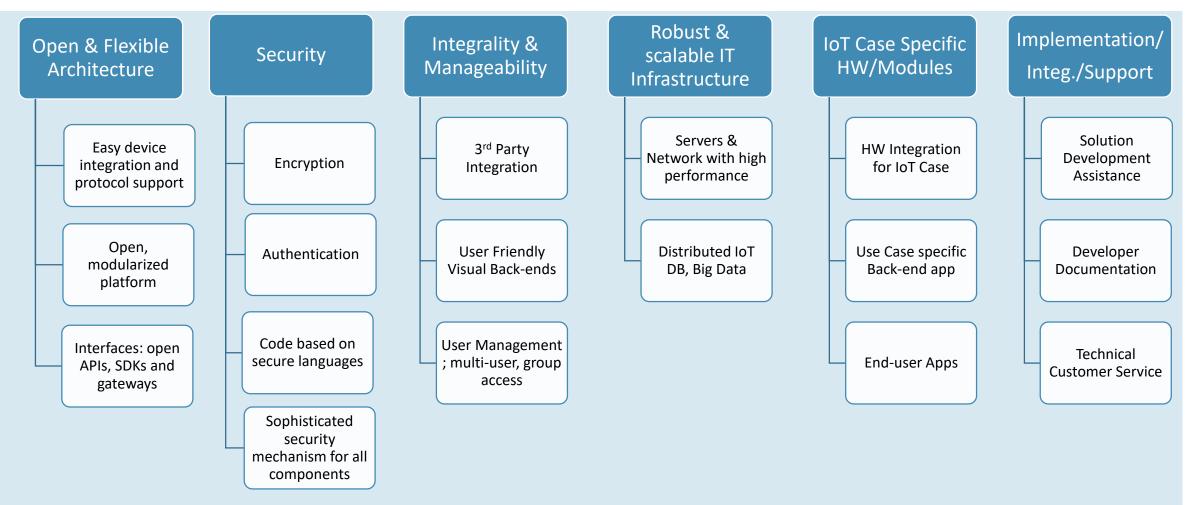






Choosing the Right Design Checklist for IoT Platform Components









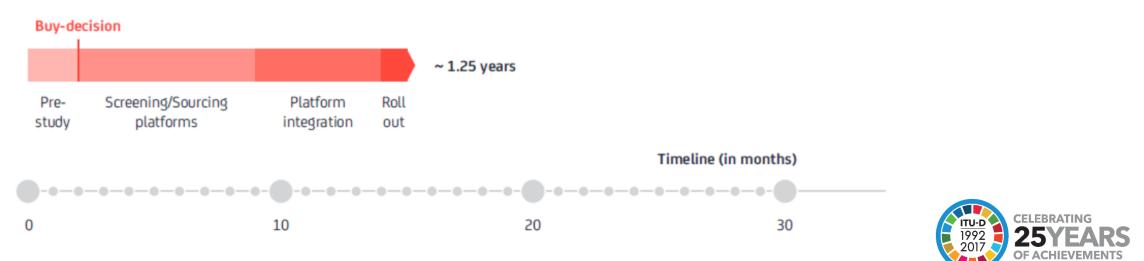


Building your own IoT platform

Make-decision



Sourcing your IoT platform







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- Structure of the ICT City governance
- List of influencing groups
- List of SSC stakeholders (city council, citizens, industry, SMEs, NGOs,..)
- Identify Project sponsors and steering board
- Issue solid project organization plan according to the stakeholders
- Create project communication plan considering all stakeholders
- Establish effective communication with stakeholders to setup solid project mandate





Assess and Control Risks



Financial Risks

- Project budget and sponsorship
- Continuity of project finance
- Financial governance and controlling

Technical Risks

- Innovative project
- Standardization issue
- Heterogenic architecture
- Emerging technologies and new products
- Maintenance of sensors
- New partners
- Security

Governance Risks

- High number of stakeholders
- Ownership & Responsibility allocation
- Low maturity in ICT
- Continual org.restructuring





Project Management Focus



Project closure

Create Strategy, Business Case, Inspire Stakeholders

- Competent Leadership
- Involvement of all SSC stakeholders
- Plan reporting and communication
- Consider Solid Business Case Study

Invest time and efforts in target oriented design and Select experienced partner for implementation

Plan & Design

for Success

 Focus on security, technical and economical aspects • Monitor and Control Quality Parameters

Execute

Effectively

- Consider a Proof of Concept
- Minimize Risks
- Focus on sustainable support & Maintenance (ITSM standard)







- Being pioneer and understand level of city smartness
- Deal with innovations
- Managing IoT for SSC as an innovative Project/Program
- Apply Project Management best practices & standards(PMI, Prince2)
- Insure proper governance of the project, involve stakeholders and issue clear RACI matrix
- Setup dedicated and specific risk analysis
- Buy, don't make
- Focus on security
- Assure reliable service management, operation and continual improvement life cycle for the launched systems







[1] IoTin Smart Cities Technology overview and future trends,

Rolland Vida, PhD Budapest University of Technology and Economics Smart City Group, Dept. of Telecommunications and Media Informatics IEEE Sensors Council, IEEE Communications Society

[2] TM-Forum, Smart City Maturity and Benchmark Model

[3] Internet of Things for Smart Cities Andrea Zanella, Senior Member, IEEE, Nicola Bui, Angelo Castellani, Lorenzo Vangelista, Senior Member, IEEE, Michele Zorzi, Fellow, IEEE

[4] IOT PLATFORMS

The central backbone for the Internet of Things Companies, <u>www.iot-analytics.com</u>

[5] The Internet of Things Opportunity and Challenge for Smart Cities, AI Velosa Research Director, <u>www.gartner.com</u>

[6] <u>www.PMI.ORG</u>

[7] <u>www.Cisco.com</u>









Thank You

