Smart Governance Programme

Transforming Cities-Xspaces through Comprehensive Smart Governance

SDP Centre of Excellence
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In the rapidly evolving landscape of governance, integrating technology is crucial for driving efficiency, transparency, and citizen-centric services. The Smart Governance Programme, an ambitious initiative by the SDP Group of Companies, exemplifies the commitment to harnessing innovation for the greater good of the nation.

This Whitepaper is a comprehensive guide to understanding the Smart Governance Programme intricacies, objectives, and potential impact. It encapsulates the vision, methodologies, and transformative power of technology in redefining traditional governance paradigms, emphasizing its role in fostering sustainable development, inclusivity, and participatory governance.

At the core of the Programme there is the strategic use of information technology to bridge the gap between government and citizens. Leveraging cutting-edge technologies like artificial intelligence, data analytics, and blockchain, it aims to create a responsive and adaptive governance model that addresses the diverse needs of a dynamic society.

A robust digital infrastructure forms the backbone of the initiative, ensuring seamless communication and efficient service delivery. The Programme prioritizes data governance and security, safeguarding sensitive information and building trust in government services while empowering individuals through citizen-centric services and applications that provide easy access to information and opportunities for active participation.

Guided by a strategic policy framework and embracing public-private partnerships, the Programme optimizes resources and expertise for effective technology deployment and innovation.

Join us on this journey where innovation meets governance, and progress aligns with active citizen participation. Embrace the future of Smart Governance, where technology is harnessed for the greater good.
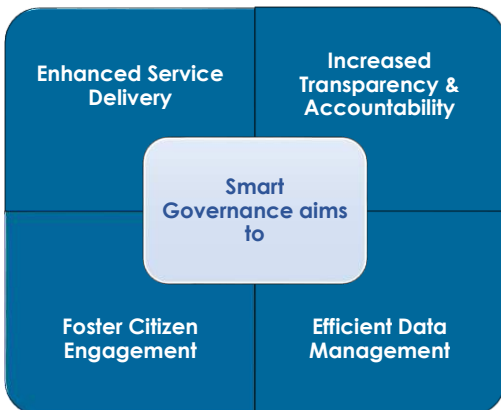
Table of Content

1. Introduction : Concept of Smart Governance

Why did the Concept of Smart Governance emerge?

In today's rapidly changing world, traditional governance systems are increasingly strained by a variety of challenges that affect their efficiency and resilience. As cities expand and populations grow, the need for sustainable urban development becomes more critical. Traditional governance models often struggle to keep pace with these demands, leading to gaps in service delivery, reduced transparency, and limited citizen engagement.

Manual Processes
Traditional governance often relies on manual and paper-based processes, leading to inefficiencies and delays in decision-making..

Inflexible Policies
Traditional governance models may struggle to adapt to rapidly changing circumstances, as they are often bound by inflexible policies and procedures.

Data Utilization Limitation
The inability to effectively utilize and analyze data in real-time hampers the ability to make informed and agile decisions.

Limited Citizen Engagement
Limited avenues for citizen engagement may result in a disengaged/less-engaged population, with citizens feeling detached from the decision-making process.

Fragmented Services
Different departments within traditional governance may operate independently, resulting in fragmented services and a lack of overall coordination.

Resource Inefficiency
Traditional governance may face challenges in optimizing resource allocation, leading to inefficiencies and wastage.

Slow Response Time
Due to the reliance on traditional communication channels, the response time to address issues or emergencies can be slow.

Resistance towards Change
There might be resistance to adopting new technologies or changing established processes within traditional governance structures..

Limited Transparency
The lack of digital platforms may hinder transparency, making it challenging for citizens to access information about government activities and services.

Lack of Innovation
Traditional governance models may lack a culture of innovation, hindering the exploration of new solutions to urban challenges.

To address these above challenges, the concept of **Smart Governance** has emerged as a transformative solution. Smart governance leverages cutting-edge technologies such as **artificial intelligence**, **data analytics**, and **blockchain** to create more efficient, transparent, and inclusive governance models.

Enhanced Service Delivery	Increased Transparency & Accountability
Smart Governance aims to	
Foster Citizen Engagement	Efficient Data Management

This White Paper will delve into the Smart Governance Programme, exploring its strategies for overcoming traditional governance obstacles and showcasing the benefits of this innovative approach. Through real-world examples and data points, we will illustrate how smart governance can lead to more sustainable and resilient urban development.

2. Context: Evolution and USP of Smart Governance (1/2)

How did the Smart Governance evolve through various aspects ?

The Smart Governance emerged from the convergence of several critical factors highlighting the necessity for more efficient, transparent, and responsive governance structures. This section elaborates on the primary driving forces behind its development, focusing on the current state of governance, technological advancements, and the growing demand for smart governance solutions.

1 — Historical Evolution
- Inefficiencies in traditional form of governance.
- Increasing Civic Services, Technological Revolution, & Citizen-Centric Governance shift.

2 — Technological Advancements
- Proliferation of IoT, AI, Blockchain, Big Data Analytics and several emerging technologies.
- Citizen-centric Innovations.
- Improved Decision making through Predictive Analytics.

3 — Current Governance Trends
- Digital Transformation Initiatives.
- e-Governance, m-Governance & Predictive Governance Platforms.
- Data-driven policies and Data Dashboards.

4 — Urbanization & Smart Citizen
- Growth of technology-driven smart cities-Xspaces.
- Need for efficient resource management.

5 — Increasing Need of Smart Governance Solutions
- Rising Citizen Expectations.
- Influence of Smart Cities-Xspaces.
- Global Challenges-Climate Change & Urbanization.

6 — Policy & Economic Factors
- Optimization of operations and cost reduction.
- Digital transformation initiatives.
- Need for innovative and coordinated responses.

7 — Social & Ethical Considerations
- Digital Inclusion of citizens regardless of socio-economic status.
- Robust measured for Privacy & Data Security.
- Ethical AI and Automation.

8 — Disaster Management & Resilience
- Smart Infrastructures for improved emergency response and recovery efforts.
- Utilization of IoT Sensors and Data Analytics for real-time information sharing.

9 — International Collaborations & Standards
- Global Standards for Smart Governance.
- Cross Border cooperation to share best practices, technologies & resources for smart governance.

Universal Selling Power (USP)

Smart Governance Programme in the Smart Cities-Xspaces industry offer unparalleled efficiency through data-driven decision-making, proactive service delivery, and real-time citizen engagement. Unlike traditional governance, these initiatives leverage advanced technologies to optimize resources, enhance transparency, and foster a responsive urban ecosystem. The upper edge lies in the ability to adapt swiftly to evolving urban challenges, ensuring cities are not just smart but also agile and citizen-centric. In essence, Smart Governance transforms the urban experience by elevating efficiency, innovation, and the quality of life.

01	**DATA-DRIVEN DECISION MAKING** ▪ Utilizes data for informed decisions. ▪ Enhances proactive service delivery.	**02**	**REAL-TIME DATA ANALYTICS** ▪ Provides immediate insights and forecasting. ▪ Supports timely and accurate decision-making.
03	**REAL-TIME CITIZEN ENGAGEMENT** ▪ Facilitates continuous interaction with citizens. ▪ Improves responsiveness to citizen needs.	**04**	**CITIZEN-CENTRIC APPLICATIONS** ▪ Focuses on user-friendly, accessible platforms. ▪ Enhances public participation and satisfaction.
05	**PROACTIVE DECISION-MAKING** ▪ Anticipates issues before they arise. ▪ Implements preventive measures and solutions.	**06**	**FOSTERING CONNECTIVITY** ▪ Enhances communication ▪ Integrates various urban systems and services.
07	**LEVERAGE OF ADVANCED TECHNOLOGY** ▪ Optimizes resources and operations. ▪ Enhances transparency and accountability.	**08**	**RESPONSIVE URBAN ECOSYSTEM** ▪ Adapts swiftly to urban challenges. ▪ Ensures cities are agile and citizen-centric.
09	**EFFICIENT SERVICE DELIVERY** ▪ Streamlines processes for faster service. ▪ Reduces bureaucratic delays& inefficiencies.	**10**	**TRANSFORMING URBAN EXPERIENCE** ▪ Elevates efficiency and innovation. ▪ Improves quality of life for residents.

Smart Governance Programme is poised to revolutionize key qualitative metrics such as taxation and grievance redressal. Our ambitious five-year plan outlines significant improvements, including:
▪ **Efficient Industry Support:** Introducing a dedicated Single Window System to streamline government support, reducing approval times from 2-3 months to just 10-15 days.
▪ **Rapid Grievance Resolution:** Cutting grievance redressal time from 15 days to just 1 day, ensuring quicker responses and greater citizen satisfaction.
▪ **Proactive Service Monitoring:** Enhanced systems for real-time service monitoring and complaint registration to improve transparency and accountability.
▪ **Capacity Building:** Comprehensive training programs for officers and citizens to enhance the management of ICT-based infrastructure and embrace new technologies effectively.

Investing in Smart Governance Programme for Citizen Satisfaction

Efficient service delivery	Attract investment & skilled work force	Reduced operational & administrative cost
Emerging technology adaptability	Cities at the forefront Of Innovation	Streamlined public services
Sustainable urban development	Real-time data driven decision making	Enhanced infrastructure resilience
Increased citizen engagement	Improved public safety	Enhanced transparency & accountability

3. Overview of Smart Governance Programme (1/2)

sdp

The Smart Governance Programme refers to the implementation of digital tools and technologies to enhance the efficiency, transparency, and responsiveness of governmental processes and services. This approach leverages information and communication technology (ICT) to streamline administrative procedures, improve public service delivery, and foster greater citizen engagement.

01 Forward Thinking Initiative

Redefines urban governance with technology.

02 Cutting-Edge Technologies

Leverages AI, data analytics, Blockchain and other emerging technologies.

03 Robust Digital Infrastructure

Ensures seamless communication and connectivity.

04 Real-time Data Analytics

Empowers proactive and efficient decision-making.

05 Citizen-Centric Approach

Focuses on innovative, user-friendly applications.

06 Strategic Policy Framework

Promotes openness, accountability, and adaptability

07 Collaborative Partnership

Optimizes resources through PPP collaboration.

08 Commitment to Cyber-security

Prioritizes data security and citizen trust.

09 Inclusivity & Accessibility

Ensures equal access and addresses diverse needs.

10 Environmental Sustainability

Advances greener, sustainable urban development.

11 Visionary Urban Future

Creates smart, resilient, and inclusive cities.

12 Enhance Service Delivery

Streamlines processes for faster, efficient services

The concept of smart governments refers to the use of innovative technologies and inventive solutions to transform conventional government operations and enhance public services. The primary goal of smart governments is to improve efficiency, transparency, and responsiveness, resulting in more effective governance. In recent years, this emerging market has gained significant momentum, with governments around the globe investing more in it to reap its numerous benefits.

Overview of Smart Government Global Market Size as per Type – The Smart Government market is projected to grow from **USD 27.2 billion in 2022 to USD 152.0 billion** by 2032, reflecting a robust **CAGR of 19.3%**, driven by the adoption of innovative technologies to enhance public services and governance efficiency.
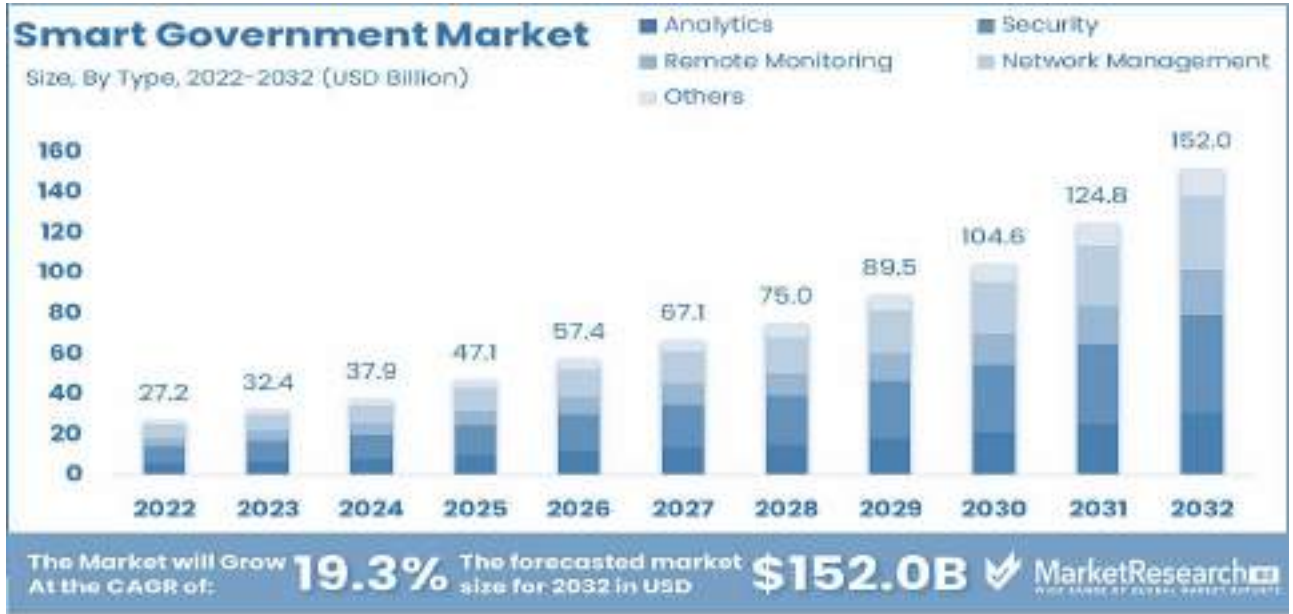
Source: Market Research

Regional Overview of Smart Government Market – The global smart government market, valued at USD **33.1 billion in 2021**, is anticipated to expand at a **CAGR of 18.7%,** driven by the adoption of modern technologies despite challenges like downtime and security breaches, making cloud solutions a vital and cost-effective choice for government data storage.
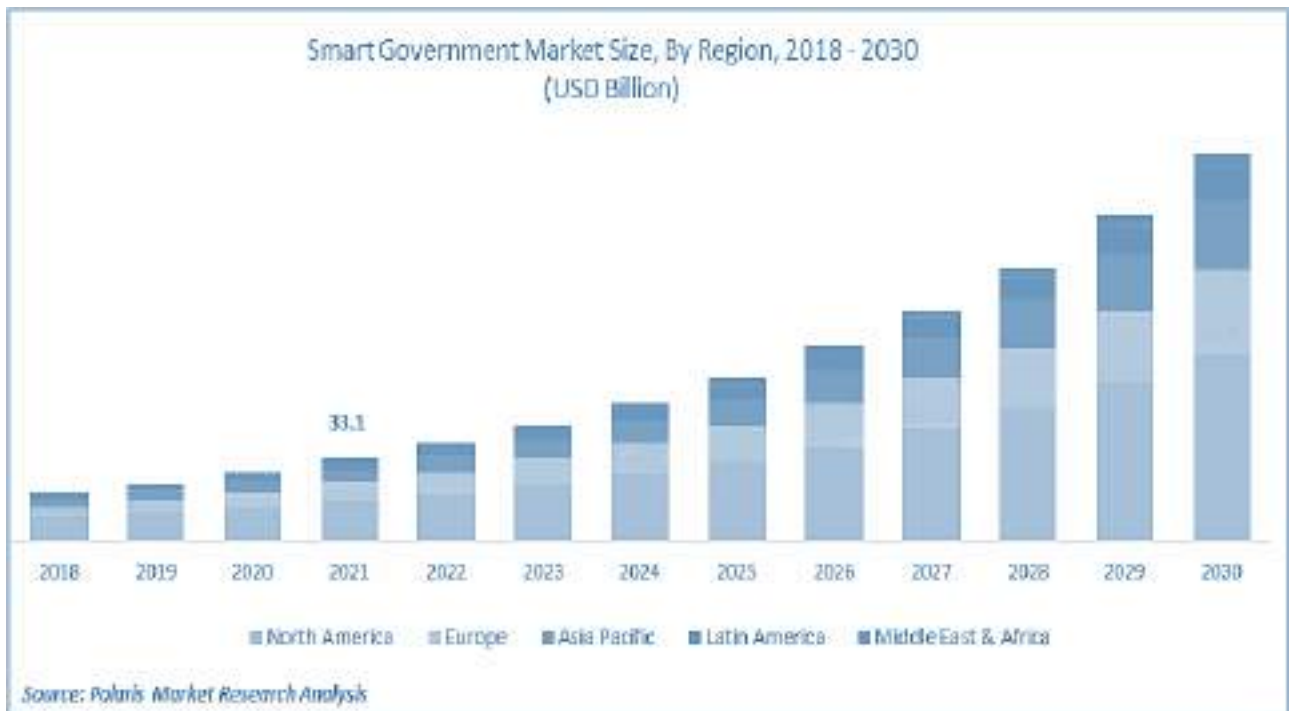
Source: Polaris Market Research

Variations of the Smart Governance across global geographies

Smart Governance varies significantly across different geographies due to diverse socio-economic conditions, technological advancements, political structures, and cultural contexts.

Common Challenges and Considerations
- **Digital Divide**: Ensuring equitable access to digital services across different socio-economic groups and geographies.
- **Data Privacy**: Balancing the use of data for governance with the need to protect individual privacy.
- **Infrastructure**: Developing the necessary ICT infrastructure in regions with limited resources.
- **Regulatory Frameworks**: Establishing appropriate legal and regulatory frameworks to support smart governance initiatives.

North America
United States and Canada:
- **E-Government Services**: Extensive use of online portals for federal, state, and local services. Examples include the USA.gov and Service Canada websites.
- **Data-Driven Decision Making**: Strong emphasis on big data and analytics, with many cities adopting smart city initiatives to manage urban infrastructure.
- **Transparency and Accountability**: Comprehensive open data policies, such as the U.S. Open Data Initiative, aimed at increasing transparency and fostering innovation.
- **Citizen Engagement**: High levels of digital literacy enable robust online platforms for citizen feedback and participation.

Europe
- **Standardization**: Efforts to standardize e-government services across member states through initiatives like the European Interoperability Framework.
- **Digital Public Services**: Widespread use of digital IDs and online services, such as Estonia's e-Residency program.
- **Data Protection**: Strong focus on data privacy and security, governed by regulations like the General Data Protection Regulation (GDPR).
- **Participatory Governance**: Many European cities implement participatory budgeting and other digital tools to involve citizens in decision-making processes.

Asia
East Asia (e.g., South Korea, Japan, China):
- **Advanced Technology**: High investment in ICT infrastructure, leading to sophisticated smart city projects like South Korea's Songdo and Japan's Smart City initiatives.
- **AI and Automation**: Significant use of AI and automation in government services to enhance efficiency.
- **Data-Driven Public Safety**: In countries like China, extensive use of data and surveillance technologies for public safety and urban management.

South Asia (e.g., India):
- **Digital Inclusion**: Initiatives like Digital India aim to bridge the digital divide and bring e-governance to rural areas.
- **Mobile Governance**: High penetration of mobile phones has led to the development of mobile-based government services.
- **Aadhaar System**: India's unique identification system, Aadhaar, facilitates a wide range of public services and subsidies through digital authentication.

South America
Latin America
Brazil, Mexico, Colombia:
- **Open Data**: Initiatives to increase transparency and combat corruption through open data platforms, such as Brazil's Open Data Portal.
- **Citizen Engagement**: Use of digital platforms for participatory governance and to address social issues, such as the Colab platform in Brazil.
- **E-Government**: Efforts to digitize public services and improve efficiency, though often challenged by varying levels of infrastructure and digital literacy.

Africa
Sub-Saharan Africa:
- **Leapfrogging**: Leveraging mobile technology to bypass traditional infrastructure limitations. Mobile money services like M-Pesa in Kenya have paved the way for mobile governance initiatives.
- **Digital Identity**: Implementation of digital identity systems to improve access to public services, such as Ghana's National Identification System.
- **Public Service Delivery**: Focus on improving basic service delivery through digital platforms, often supported by international development organizations.

Middle-east
Gulf States (e.g., UAE, Saudi Arabia):
- **Visionary Projects**: Ambitious national visions like Saudi Arabia's Vision 2030 and UAE's Vision 2021 include significant smart governance components.
- **Smart Cities**: Development of new smart cities, such as NEOM in Saudi Arabia and Masdar City in Abu Dhabi, focusing on sustainability and advanced technology integration.
- **E-Government**: High levels of investment in e-government services to streamline public administration and enhance service delivery.

Australia & Oceania
Australia and New Zealand:
- **Integrated Services**: Emphasis on integrated digital services that provide seamless access to multiple government services through single portals.
- **Data-Driven Policy**: Strong focus on using data analytics to inform policy decisions and improve public services.
- **Citizen-Centric Approach**: High levels of citizen engagement and feedback mechanisms to ensure that public services meet the needs of the population.

These variations across geographies highlight the diverse approaches to smart governance, shaped by local priorities, cultural contexts, and the unique challenges faced by each region.

Inferences-Global, Regional, & Local (KSA) Challenges & Best Practices

Smart governance faces global, regional, and local challenges, including infrastructure gaps, digital divide, and regulatory issues. Best practices involve technology integration, skill development, and adaptive regulatory frameworks to enhance public trust and stability.

Challenges - To effectively navigate the intricate landscape of smart governance, it is essential to identify and address the multifaceted challenges observed globally, regionally, and local.

Integration of Technologies
Difficulty in integrating diverse technologies into existing systems.

Data Privacy & Security
Ensuring data protection while maintaining transparency

Digital Divide
Addressing disparities in access to technology and digital literacy.

Regulatory & Policy Framework
Developing comprehensive & adaptable regulations

Infrastructure Gaps
Variability in technological infrastructure across the region.

Political & Economic Stability
Impact of regional instability on governance projects

Talent & Skill Shortage
Limited availability of skilled professional in technology fields

Public Trust
Building citizens' trust in Digital Governance System

Cultural & Social Adaption
Balancing modernization with cultural values

Regulatory Environment
Navigating local regulatory requirements & ensuring compliances

Resource Allocation
Efficiently distributing resources to smart to support smart governance initiatives

Change Management
Managing the transition from traditional to digital governance

Best Practices - This comprehensive analysis aims to shed light on these challenges and best practices to provide a robust framework for the implementation and enhancement of smart governance initiatives.

Interoperability Standards
Establishing global standards for technology integration.

Robust Cybersecurity Measures
Implementing advanced security protocols

Inclusive Digital Policies
Promoting universal access & digital education

Adaptive Governance Model
Creating flexible policies that can evolve with technological advancements

Regional Collaborations
Fostering partnerships among MENA countries for shared solutions.

Investment In Education & Training
Enhancing local talent through specialized programs

Public-Private Partnership
Leveraging private sector enterprise & resources

Transparent Communication
Engaging citizens with clear & open information about initiatives

KSA Vision 2030 Alignment
Ensuring smart governance initiatives align with Vision Goals

Localized Solutions
Tailoring technology solutions to fit local needs & extents

Strong Leadership& Governance
Providing clear leadership &accountability for projects

Community Engagement
Involving citizens in the development & implementation of initiatives

5. Smart City-Xspaces Governance Target Industries & Practice Areas

The Smart City-Xspaces Governance initiative focuses on enhancing governance, citizen engagement, infrastructure, healthcare, safety, sustainability, and innovation across various sectors, including local government, transportation, technology, environment, and more, aiming for improved efficiency, inclusivity, and community development.

Target Industries- In the rapidly evolving landscape of urban development, "Smart City-Xspaces Governance" aims to revolutionize the way we manage and enhance city living by targeting key industries

National, Sub-National & Local Government	Citizen Engagement	Urban Local Bodies
Municipal Licensing & Permit	Municipal Asset Management	Municipal Revenue, Fees & Taxation
Local Self Governance	Mobility & Transportation	Emerging & Disruptive Technologies
Health Care & Citizen Wellness	Utilities & Infrastructure	Safety & Security
Disaster Management	Environment Monitoring & Waste Management	Event & Crowd Management
Telecommunication & Technology	Public Open Spaces & Place Making	Compliance Management & Risk Assurance
Sustainability & Resilience	Renewables, Circular Economy & Net Zero	Social Innovation, Society, & Community
Real Estate & Urban Infrastructure	People Diversity & Inclusion	Travel, Leisure, Tourism & Destination
Entertainment & Sports	International Trade, Investment, and Finance	E-commerce, Consumer, & Retail
Non-Profit Agencies	Unilateral, Bilateral, & Multilateral Support Services	Manufacturing, Factories, & Industries
Financial Management, Business Models,& Fintech	Metals & Mining	Media, & Journalism

Practice Areas- Smart City-Xspaces Governance plays a crucial role in guiding and optimizing the growth of key industries and practice areas, ensuring sustainable and innovative urban environments.

Governance	Policies	Standardization	Think Tank	Compliances
Quality & Risk Management	Net Zero Readiness	Circular Economy	Climate Change	Sustainability
Asset Management	Resilience	Tech-Driven ESG	Knowledge Management	Decarbonization

The Smart City-Xspaces Governance Practice areas encompasses governance, policy development, standardization, compliance, risk management, sustainability, and technology-driven ESG to promote resilience, climate action, and efficient asset management.

Overview-Major Services

Smart City-Xspaces Governance, Consulting, and Advisory Services

- **Smart Governance Advisory & Consulting : Expert guidance** - Tailored smart governance platforms for cities, blending data analytics, AI, and IoT for predictive decision-making. Advising National & Sub-national governments on governance issues, aligning activities with development priorities. Smart City Governance Offerings: Implementing tech-driven solutions for urban efficiency and citizen engagement.
- Expert Guidance on governance, policy, compliance, and strategic tech adoption. Governance Strategy Creating aligned governance strategies, alongside long-term visioning for sustainable initiatives.
- **Capacity Building services :** Assisting local governments in improving service delivery and capacity-building.
- **Activation & Implementation**-Smart governance implementation with project and change management, plus stakeholder engagement for success.
- **Training & Capacity Building**- Smart governance training for officials, staff, citizens, and capacity-building for digital literacy and governance skills.
- **Data Governance, Analytics & Reporting**-Establishing Robust data governance frameworks ensure quality, integrity, and privacy, with advanced analytics for decision-making.
- **Security & Compliance Solutions**-Cybersecurity assessments protect government data, ensuring compliance with GDPR, ISO, and NIST standards.
- **Policy Management-** Policy development and review address emerging challenges through impact assessments and inclusive stakeholder consultations.
- **Citizen Engagement-** Creating digital platforms and citizen-centric services for transparent, trusted engagement.
- **Governance Workflow Automation-** Automating administrative workflows to streamline governance, integrating with existing systems for seamless data flow.
- **Open Data Governance Platforms-** Creating open data portals and APIs for transparent government data sharing, with standardization and visualization tools
- **Mobile & e-Governance Solutions**-Developing mobile apps and e-services for easy government access, with user-friendly interfaces for enhanced engagement.
- **Special Purpose Vehicle Management:** Oversight of project-specific entities for efficiency and accountability.
- **Project Management Consultancy:** Expert guidance for project planning, execution, and monitoring.
- **Regulatory & Legal Framework:** Developing regulations for compliance and effective governance.

Standardisation & Certification

- **Assessment & Compliance**: Ensuring organizations meet standards and regulations through tailored compliance solutions.
- **Standardization Frameworks**: Developing frameworks for uniform processes or products across industries.
- **Certification Management**: Streamlining certification processes with tools for application, assessment, and issuance.
- **Training & Awareness**: Educating stakeholders on standards and certification needs through training programs.

Urban & Municipal Governance Services

- Tailored solutions for efficient urban management
- Housing & Residential Infrastructure
- Encroachment and Visual Distortion
- City & town management including smart city technologies,
- e-Governance and m-Governance platforms,
- Construction Permit & Regulations
- Regulations, Fare & Policies related to Mobility & Transportation
- Performance Monitoring & Evaluation Services
- Financial management,
- Policy advocacy, and public-private partnerships.
- Regulations on Pricing strategy on Fines, penalties ,any other taxation or fees levied by the Municipal & Government
- Travel & Tourism-Religious, Recreational, &Eco-Tourism Related Regulations & permits, Holiday Homes
- Municipal Inspections & Permits
- Regulations & policies related to enhancing Quality of Life in the Kingdom
- Municipal Health & Wellness
- Public Open Spaces, Recreational Activities & Infrastructure
- Regulations relate to Mass Gathering Events
- Regulations & Licensing Slaughter House
- Other Balady App Related Services
- Food Quality, Food Processing & Inspection
- Restaurant Opening & Regulatory Permit
- Vendor Management.

Procurement Model & Governance

- **Procurement Model & Governance:** Designing transparent and efficient procurement strategies and overseeing the process.
- **RACI Matrix Implementation:** Clarifying roles and responsibilities with RACI frameworks for effective project management.
- **Bi-lateral & Multi-lateral Agencies Engagement:** Facilitating partnerships with international organizations for funding and expertise in development projects

Overview-Major Services

Social Innovation Policy & Governance Support

- **Social Innovation Policy & Governance Support:** Developing policies, strategies, and governance frameworks to foster social innovation.
- **Knowledge Management Services:** Creating systems and platforms for efficient knowledge sharing and decision-making.
- **ESG Governance Solutions:** Integrating ESG factors into decision-making, with policies and advisory on sustainability performance.
- **Public Distribution System**
- Regulation on Demographic and Migratory Population (Expats, Visitors, & Residents)
- Social Welfare & Donations

Building Permit, Licensing

- **Layout :** Implementing tech-driven solutions for urban efficiency and citizen engagement.

ICT & Tech Governance Services

- **Advisory Services:** Advisory on IT governance, cybersecurity, and digital
- **Emerging Technologies Governance :** Guiding on Responsible adoption of AI, Blockchain, and IoT.
- **Corporate Governance:** Support for corporate governance, ethics, & risk management

Sustainability & Resilience Services

- Circular Economy

Safety & Security

- Smart Policing

Agriculture & Animal Husbandry Services

- Smart Farms-Precision Agriculture Standardization, Governance & Compliances.

Sustainable Diversity & Inclusive Governance Solutions

- Support in developing e-waste management policies and promoting circular economy practices.
- Implementation strategy design & support in recycling initiatives and facilitating eco-friendly disposal of electronic waste.
- Strategy for Advancing diversity and inclusion through policy development and awareness programs.
- Support for Fostering social cohesion and community engagement to build inclusive societies.

Non-profit Organizations Governance

- **Non-profit Organizations Governance:** Guiding non-profits in governance, strategy, and compliance
- **International Trade & Development Governance:** Advising on trade policy

Event Management, Crowd Control and Business District Governance Services

- Planning and coordinating events while ensuring crowd safety and security.
- Support services in implementing crowd control measures and emergency response protocols.
- Facilitating licensing procedures for shops and businesses in designated districts.
- Support in Developing regulations and policies to promote business growth and district vitality.

Overview-Major Services

Urban Planning & Urban Development

- Expert inputs in urban planning, infrastructure, and community engagement
- Government assistance with master plans &zoning regulations
- Solutions for sustainable transport & urban design
- Strategies to reduce traffic congestion, &air pollution
- Implementation of urban mobility solutions & GIS

Technology & Security Governance Solutions

- Advising on space technology policies and defense strategies for national security.
- Implementing regulations and protocols for the responsible use of space technology.
- Developing safety and security protocols for cities, including emergency response plans and crime prevention strategies.
- Utilizing technology solutions for surveillance, communication, and incident management in urban areas.

Real Estate & Prop-tech Governance

- Advisory on real estate regulations, property management, and Prop-tech integration
- Assistance in developing sustainable urban spaces through effective land use planning.
- Guidance on Prop-tech solutions for transparent property transactions

Media & Journalism Governance Services

- Promoting media ethics, freedom of expression, and transparency through regulatory frameworks and industry standards.
- Advising on media policies, press freedom, and digital literacy initiatives for informed public discourse.

Urban Civic Services Governance

- Expert Input on Enhancing efficiency & transparency in the delivery of civic services
- Expert Advisory on Sustainable Urban Development

Telecom & Allied Governance Services

- Regulatory advice & Compliance support for Telecoms
- Assistance in formulating telecom policies, spectrum management, and licensing frameworks
- Expert Inputs on 5G, IoT, and satellite communications

Smart Industries & Economic Services

- Smart Industries & Manufacturing Governance: Guidance on Industry 4.0 adoption, smart manufacturing strategies, and digital transformation in manufacturing processes.
- & Digital Marketing Governance: Promoting sustainability through circular economy principles and advising on digital marketing strategies aligned with environmental objectives.
- Regulations related to Small & Medium Enterprises/SMEs, Special Economic Zone

Social Media Governance Services

- Developing policies and guidelines for responsible use of social media platforms.
- Monitoring and managing online content to ensure compliance with regulations and community standards.
- Providing tools and protocols for effective emergency communication and coordination.
- Offering training and simulation exercises to prepare organizations for various emergency scenarios.

Citizen Wellbeing & Awareness Services

- Implementing digital health solutions for efficient healthcare delivery and citizen engagement.
- Offering financial literacy programs and budgeting tools for citizens' financial empowerment.
- Advising on economic policies and strategies for citizen welfare and inclusive growth.

5.2. e-Governance (1/2)

e-Governance digitizes government functions to enhance efficiency, transparency, and citizen engagement. Utilizing technologies like cloud computing, AI, and big data, transforms traditional governance into a more responsive and effective system. This model provides a wide range of digital services to citizens, businesses, and government agencies, promoting inclusive and participatory governance.

Portfolio of Services

Digital Infrastructure Services
- Cloud-based IT Infrastructure
- Secure Data Centers
- Digital Identity Verification
- Blockchain for Secure Transactions

Administrative Services
- Digital Document Management
- E-procurement system
- Workflow Automation
- Digital Archiving

Health & Education Services
- Telemedicine Platforms
- Online Education Portals
- Digital Health Records
- E-Learning Solutions

Environmental Services
- Smart Waste Management
- Air & Water Quality Measurement & Monitoring
- Digital Environmental Impact Assessment

Citizen Services
- Online Birth and Death Registration
- Digital Tax Filing
- Social Welfare Programme Enrolment
- E-Voting

Public Safety & Security
- Smart Surveillance Systems
- Emergency Response Management
- Cybersecurity Frameworks
- Predictive Policing Tools

Financial Services
- Online Business Licensing
- Digital payment gateways
- E-Commerce Platforms
- Investment Facilitation Services.

Challenges
- Digital Divide
- Cybersecurity Threats
- Change Management
- Regulatory Compliance
- Infrastructure Limitations

Use Cases
- Emergency Kiosks
- Visual Messaging Displays
- Public Address System
- Environment Sensors
- City Fibre
- City Adaptive Traffic
- Smart Parking
- City Surveillance Infrastructure
- Digital Experience Center
- City Digital Literacy Centers

Best Practices of e-governance platforms

Global
- **Smart Nation Initiative, Singapore** integrating urban planning, transport management, & public safety
- **e-residency model, Estonia** enabling global citizens to start and manage an EU-based company online.
- **Digital Healthcare Services, Denmark**

Regional
- **Dubai Pulse, U.AE. :** It is a portal that provides access to data from Dubai's public sector entities, verified data registers, and cloud services.
- **Hukoomi Platform, Qatar** offers integrated government services ranging from visa applications to health card renewals.

Local KSA
- **Yesser e-Government Programme, KSA** - A unified digital platform for various public services.
- **Absher Platform, KSA** provides citizens and residents with a wide range of government services, including passport renewals, vehicle registration.

5.2. e-Governance (2/2)

e-Governance is the use of information and communication technology (ICT) to provide government services, exchange information, conduct transactions, and integrate previously existing services and information portals for government, citizens, business.

e-Governance Reference Diagram
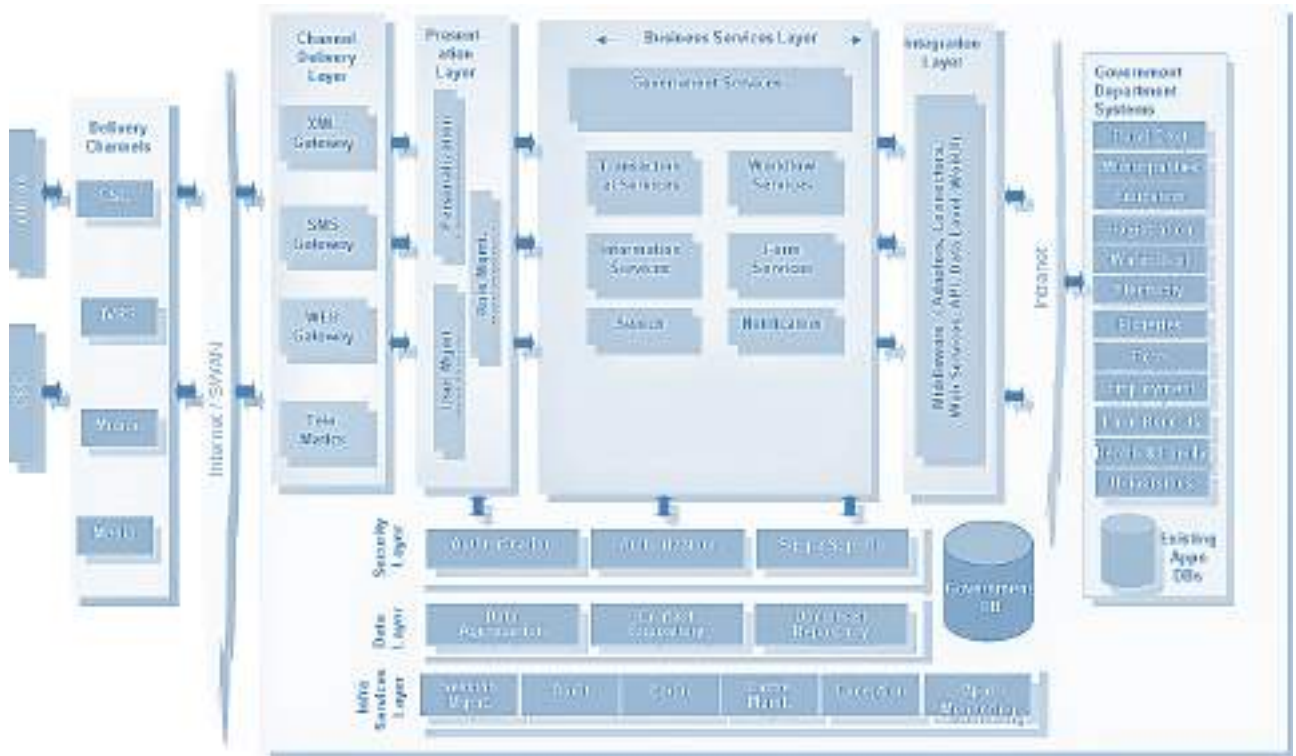
Smart Services Design Reference Diagram

- To provide ubiquitous affordable access to information and public services for enhancing efficiency, transparency, accountability and reliability and leverage use of ICT as a driver for social inclusion
- Enabling Service Delivery through e-Governance
- Social Media Framework & Guidelines for Government Organizations
- Framework of Citizen Engagement
- To develop, adopt, evolve and notify standards for seamless interoperability of data and applications
- Capacity Building Programme
- Policy framework for placing data in public domain
- Public Private Partnerships in e-Governance projects
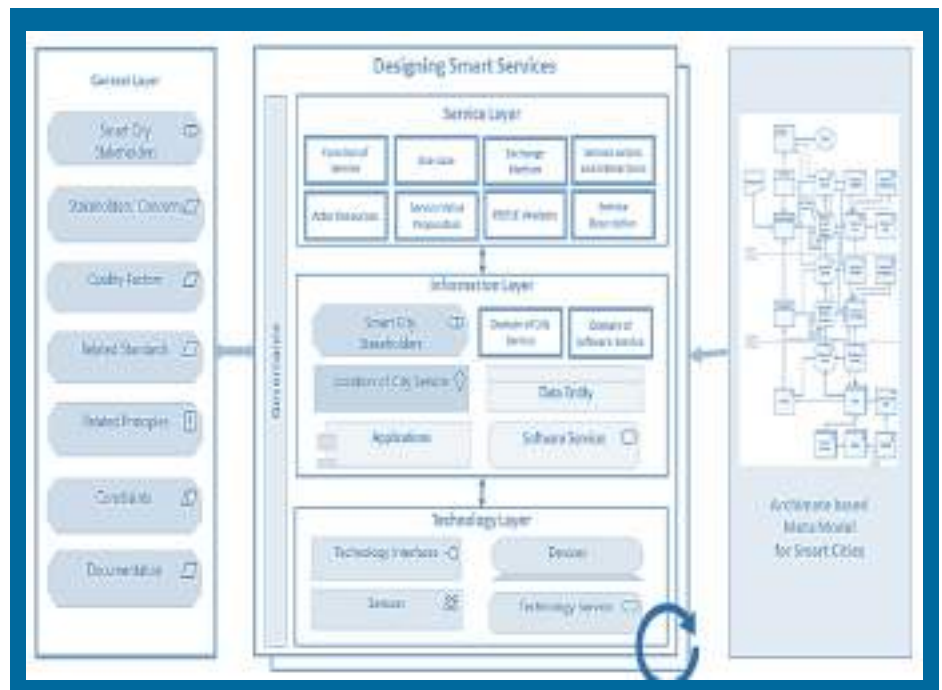
5.3. m-Governance

m-Governance represents a mobile-centric approach to digitizing government functions, enhancing efficiency, transparency, and citizen engagement. By leveraging mobile technologies such as smartphones, mobile applications, and SMS services, mGaaS aims to make government services more accessible and convenient for citizens. This service model enables governments to deliver a wide array of digital services directly to citizens' mobile devices, fostering a more inclusive and participatory governance framework.

Portfolio of Services

Administrative Services
- Mobile Document Management
- Mobile E-procurement system
- Mobile-based Workflow Automation
- Mobile Digital Archiving

Health & Education Services
- Mobile Telemedicine Platforms
- Mobile Education Portals
- Mobile Health Records
- Mobile E-Learning Solutions

Environmental Services
- Mobile Waste Management Notifications
- Mobile Air & Water Quality Measurement & Monitoring
- Mobile Environmental Impact Assessment
- Mobile Renewable Energy Management Systems

Citizen Services
- Mobile Birth and Death Registration
- Mobile Tax Filing
- Mobile Social Welfare Programme Enrolment
- Mobile Voting System

Public Safety & Security
- Mobile Surveillance Systems
- Mobile Emergency Response Management
- Cybersecurity Alerts via Mobile
- Mobile Predictive Policing Tools.

Financial Services
- Mobile Business Licensing
- Mobile payment gateways
- Mobile E-Commerce Platforms
- Investment Facilitation Services via Mobile

Use Cases
- Mobile Citizen Services
- Public Safety & Emergency Response Application
- Real-Time Traffic Mobile based Module

Challenges
- Digital Divide
- Cybersecurity Threats
- Change Management
- Regulatory Compliance
- Infrastructure Limitations

Best Practices of m-governance platforms

Global
- **m-Aadhaar app India** Initiative, allows citizens to access their digital identity and various services directly from their smartphones.
- **Mobile-ID, Estonia-**enabling secure mobile access to e-services.
- **SingPass Mobile App, Singapore** offers secure access to a wide range of government services.

Regional
- **Absher App, KSA** Provides citizens and residents with a wide range of government services, including passport renewals, vehicle registration
- **SEHA Mobile App, UAE**

Local KSA
- **Tawakkalna App**: Developed during the COVID-19 pandemic, the Tawakkalna app serves as a digital pass for residents to enter public places, manage COVID-19 vaccination records, and receive health updates.
- **Saudi Post App-** The Saudi Post app offers a range of postal and logistical services.

A Predictive Governance Platform as a Service (PGPaaS) is a cloud-based service that leverages advanced analytics, machine learning, and big data technologies to help governments predict and proactively address various public sector challenges. This service model allows governments to use predictive insights to make informed decisions, optimize resource allocation, and improve service delivery.

1. ADVANCED ANALYTICS
Unlocking the power of data

- Utilizes AI and machine learning for predictive insights.
- Analyzes historical and real-time data for accurate forecasting.

2. PROACTIVE DECISION MAKING
Anticipating & Addressing Challenges

- Enables governments to anticipate and address issues before they arise.
- Supports strategic planning and resource allocation.

3. ENHANCED EFFICIENCY
Streamlining Governance Processes

- Streamlines operations and reduces administrative burdens.
- Automates routine tasks, freeing up human resources for critical functions.

4. DATA DRIVEN POLICIES
Evidence based Governance

- Informs policy-making with evidence-based insights.
- Facilitates data-driven approaches to governance.

5. REAL TIME MONITORING
Continuous Oversight & Rapid Response

- Provides continuous oversight of urban systems and services.
- Detects anomalies and triggers immediate responses.

6. CITIZEN-CENTRIC SERVICES
Tailored to meet Citizen Needs

- Enhances service delivery tailored to citizen needs.
- Improves public satisfaction through timely and relevant services.

7. SCALABILITY & FLEXIBILITY
Adaptable to Diverse Governance Needs

- Adapts to varying scales of governance, from local to national.
- Offers customizable solutions to meet specific governance requirements.

8. COLLABORATIVE ECOSYSTEM
Fostering Interdepartmental Cooperation

- Integrates with other smart city platforms and services.
- Encourages collaboration between different government departments and stakeholders.

9. COST-EFFECTIVE SOLUTIONS
Optimizing Resource Utilization

- Reduces costs through optimized resource utilization.
- Minimizes expenditures on redundant processes and infrastructure.

10. SECURITY & COMPLIANCE
Safeguarding Data and Ensuring Regulatory Adherence

- Ensures data privacy and security with robust measures.
- Complies with regulatory standards and policies.

The Predictive Governance Platform as a Service (PGPaaS) offers a comprehensive and transformative approach to governance, enabling governments to anticipate challenges, optimize resources, and deliver citizen-centric services with unparalleled efficiency and effectiveness. Such Platform as a Service (PGPaaS) is a cloud-based service that leverages advanced analytics, machine learning, and big data technologies to help governments predict and proactively address various public sector challenges. This service model allows governments to use predictive insights to make informed decisions, optimize resource allocation, and improve service delivery.

Use cases

- **Public Health**: Predicting outbreaks of diseases and managing healthcare resources accordingly.
- **Urban Planning**: Forecasting population growth and infrastructure needs to guide urban development.
- **Emergency Response:** Anticipating natural disasters or other emergencies and optimizing the deployment of response teams.
- **Economic Development:** Analyzing economic trends to support policy decisions and stimulate growth.
- **Education:** Predicting student performance and identifying interventions to improve educational outcomes.

Global Best Practices

Some Examples of cities or governments that have implemented the Predictive Governance Platform as a Service include:

1

Durham, North Karolina

The police department in Durham uses AI to observe patterns in criminal activities and identify high-crime areas, allowing for quicker interventions and contributing to a significant drop in violent crime.

2

Los Angeles Police Department/ LAPD

The LAPD utilizes predictive models to predict crime events with high accuracy, enabling strategic deployment of police officers to prevent crime effectively.

3

United Kingdom

The Behavioural Insights Team in the UK used predictive analytics to reduce traffic accidents in East, developing an algorithm based on a decade of data to predict high-risk drivers.

4

Hillingdon London Borough Council

The Hillingdon Council's AXIS Project uses data to identify and support children at risk of criminal exploitation.

5

City Of Otawa, Canada

During the 2019 floods, Ottawa used predictive analytics to optimize their emergency response by mapping potential flood damage based on different water levels.

Predictive Governance Platform as a Service (PGPaaS) represents a powerful tool for modernizing public administration and enhancing the capabilities of governments to serve their citizens effectively. By harnessing the power of predictive analytics and cloud computing, governments can become more proactive, data-driven, and responsive to the needs of their communities.

5.5. Citizen Engagement Platform

A Citizen Engagement Platform is a digital tool designed to facilitate interaction between governments and citizens, enhancing participation, transparency, and communication in governance processes. These platforms leverage technology to enable citizens to provide feedback, participate in decision-making, and access government services easily.

Portfolio of Services

➤ **Communication Channel Services**
- Web Portals for accessing information, providing feedback, and participating in forums.
- Mobile Application
- Social Media Integration

➤ **Feedback Collection Services**
- Survey & Polls
- Comment Sections
- Discussion Forums

➤ **Information Dissemination Services**
- News & Updates
- Public Record Access
- Event Notification

➤ **Participation Tools**
- e-Petitions
- Participatory Budgeting Support Services
- Crowdsourcing Ideation & Implementation Services

➤ **Data Analytics & Reporting Services**
- User Analytics
- Sentiment Analysis
- Reporting Tools

➤ **Service Access**
- e-Government Services
- Service Requests

Challenges

Digital Divide	Data Privacy	Engagement	Digital Infrastructure

Best Practices of Citizen Engagement Platforms (Global, Regional-MENA, & Local-KSA)

Global
- **e-Estonia Platform** - It engages citizens in a digital nation framework, providing e-services and encouraging active participation in governance.
- **MyGov, India** - A national platform for citizen engagement, enabling feedback, idea submission, and participation in public policy discussions.
- **Decidim Helsinki, Finland-** An Open-source platform that facilitates citizen engagement in municipal decision-making & participatory budgeting.

Regional-MENA
- **DubaiNow app-** offers approx. 80 government & private sector services.
- **Hukoomi Platform, Qatar-** offers integrated government services ranging from visa applications to health card renewals.

Local-KSA
- **Absher app, KSA-** It enhances citizen engagement by offering a wide range of government services and feedback mechanisms through a mobile app.
- **Balady Platform, KSA-**It enables citizens to engage with municipal services, report issues, and provide feedback.

Use Cases

MyGov.in is a pioneering platform in India's digital governance landscape, enabling direct and meaningful engagement between the government and its citizens. By leveraging the power of technology, it fosters transparency, accountability, and participatory governance, ensuring that the voices of citizens are integral to the decision-making process. Through MyGov.in, the government can harness the collective intelligence of its people to address challenges, innovate solutions, and build a more inclusive and responsive governance system.

International
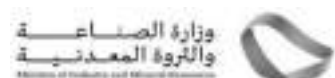
National

National

Other National Entities & Government Companies

Other National Entities & Government Companies
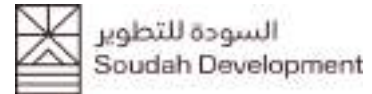
Regional Entities

الهيئة الملكية لمحافظة العلا
Royal Commission for AlUla

الهيئة الملكية لمدينة الرياض
ROYAL COMMISSION FOR RIYADH CITY

المملكة العربية السعودية
وزارة الداخلية
إمارة منطقة الرياض

الهيئة الملكية للجبيل وينبع
Royal Commission for Jubail & Yanbu

Emirate of Tabouk Province
Ministry of Interior

Emirate of Najran Province
Ministry of Interior

Emirate of Al-Basha Province
Ministry of Interior

Emirate of Aseer Province
Ministry of Interior

غرفة الأحساء
ALAHSA CHAMBER

Emirate of Jazan Province
Ministry of Interior

Emirate of Madinah Province
Ministry of Interior

Emirate of Eastern Province
Ministry of Interior

Emirate of Al-Qasim Province
Ministry of Interior

Emirate of Riyadh Province
Ministry of Interior

Emirate of Al-Qasim Province
Ministry of Interior

Emirate of Makkah Province
Ministry of Interior

أصالة
AMAALA

Northern Border
Regional Commission

Local Government Entities, KSA

أمانة منطقة القصيم
Al-Qassim Municipality

أمانة منطقة القصيم

حساء
أمانة الأحساء
ALAHSA MUNICIPALITY

أمانة المنطقة الشرقية
Eastern Province Municipality

أمانة الباحة
ALBAHA MUNICIPALITY

أمانة نجران
NAJRAN MUNICIPALITY

أمانة منطقة عسير

أمانة منطقة جازان
JAZAN MUNICIPALITY

أمانة منطقة حائل
HAIL REGION MUNICIPALITY

أمانة منطقة
المدينة المنورة
Madinah Regional Municipality

أمانة منطقة تبوك
Municipality Of Tabuk

Jeddah
Municipality

أمانة العاصمة المقدسة
HOLY MAKKAH MUNICIPALITY
تأسست عام ١٣٤٥هـ

أمانة الرياض

أمانة الطائف
TAIF MUNICIPALITY

أمانة الجوف

5.7. Smart Governance Programme in a Nutshell (1/3)

The Smart Governance Programme aims to revolutionize traditional governance structures by integrating advanced technologies to enhance efficiency, transparency, and citizen engagement. By leveraging tools such as IoT, AI, blockchain, and big data, this initiative seeks to create more responsive and effective public administration systems. The programme focuses on delivering seamless digital services, fostering participatory governance, and ensuring sustainable urban development.

- **G-20 Communique Drafting**
- **Bilateral Framework Designing**
- **Outcome Document Designing**
- **Localised SDG Codebook**
- **Socio-economic Impact**

Urban Policy Assessment& Consulting
Urban Policy Insight as a Service (UPIaaS)
Smart Financing & Smart Revenue Augmentation
Inclusive Design
Municipal Asset Management Module

Smart Investment Strategy
Pre-investment project feasibility study
Smart PPP Module Designing
Market Research & Business Module Designing
MOUs Drafting
Smart Retail & E-Commerce Policy Toolkit

Digital Governance Consulting

Smart Governance Consulting

Urban Policy Consulting

Smart PDS Framework Designing

Smart Cities & Smart Villages

City Governance Indicators

Smart Economy & Smart Investment

Urban Governance Consulting

Smart Governance Programme

Smart Civic Engagement Strategy

Capacity Building & Training Services

Smart Social Strategies

Smart Public System Consulting

Urban Policy Assessment& Consulting
Urban Policy Insight as a Service (UPIaaS)
Smart Financing & Smart Revenue Augmentation
Inclusive Design
Municipal Asset Management Module

Smart Social Innovation Consulting

Smart Civic Service Delivery Consulting

Smart Health, Housing &Education Policy Design
Smart Waste Management Strategy

Data Governance Guidelines
Data Architecture, Risk Assessment & Compliance Support
Digital Governance Framework

PPP Module Design for Social Innovation

PPP Module Design for Social Innovation
Social Sustainable Strategy

Key Dimensions- The Smart Governance Programme integrates advanced technologies to revolutionize governance structures, enhance efficiency, transparency, and citizen engagement, and ensure sustainable urban development. Below are the key dimensions that form the foundation of this transformative initiative:

Participatory Governance (Citizen Engagement)

- Encourage active citizen participation in decision-making processes.
- Implement e-governance platforms for real-time feedback and consultation.
- Enhance transparency through open data initiatives and public dashboards.

Public Governance

- Establish a robust framework of rules and institutions for public authority.
- Facilitate the formulation and implementation of government policies.
- Support various governance types: Democracy, Monarchy, Oligarchy, Authoritarianism, and Totalitarianism.

International Governance

- Collaborate with global organizations like the UN, WTO, IMF, and World Bank.
- Address international relations and global issues through coordinated efforts.
- Promote international cooperation and peace.

Nonprofit Governance

- Direct and control nonprofit organizations to fulfill their missions effectively.
- Ensure financial oversight, ethical standards, and compliance.
- Strengthen board governance and resource management.

Environmental Governance

- Promote sustainable development and environmental protection.
- Implement international agreements, national laws, and conservation efforts.
- Encourage public participation in environmental decision-making.

IT Governance

- **Utilize** frameworks like COBIT, ITIL, and ISO/IEC 38500 for effective IT management.
- Ensure IT aligns with organizational goals and delivers value
- Maintain data security, integrity, and availability.

Smart Governance –Pensions & Retirement

- Enhances pension systems and retirement planning through digital solutions, ensuring timely monthly pay and offering discounted rate public services for senior citizens.
- **Example-Estonia e-Residency Programme**

This structured approach ensures the Smart Governance Programme covers all critical aspects of governance, from local to global scales, incorporating modern technological solutions and promoting inclusive, sustainable development.

Key Dimensions- The Smart Governance Programme integrates advanced technologies to revolutionize governance structures, enhance efficiency, transparency, and citizen engagement, and ensure sustainable urban development. Below are the key dimensions that form the foundation of this transformative initiative:

Educational Governance

- Guide the management and operation of educational institutions.
- Set and enforce educational policies and standards.
- Engage stakeholders through school boards and accreditation bodies.

Healthcare Governance

- Ensure quality, accountability, and ethical standards in healthcare services.
- Regulate through healthcare policies, legislation, and clinical governance.
- Protect patient rights and manage healthcare finances effectively.

Data Governance

- Manage data availability, usability, integrity, and security.
- Develop data policies, standards, and stewardship.
- Focus on data quality, compliance, risk management, and security.

Children-Friendly Smart City

- Develops urban environments that prioritize safety, accessibility, and amenities for children, promoting a nurturing and inclusive atmosphere.
- Example- Rotterdam, Netherland-Children-friendly public spaces & mobility

15-Minute Smart City

- Designs urban areas where essential services are accessible within a 15-minute walk or bike ride, fostering convenience, reducing traffic congestion, and enhancing quality of life.
- **Example- Paris, France**

Corporate Social Responsibility (CSR) Governance

- Implement ethical business practices and environmental sustainability
- Promote social equity and stakeholder engagement.
- Ensure transparency and reporting on CSR initiatives.

Plastic Smart City

- Implements strategies for managing plastic waste, promoting recycling, reducing plastic usage, and creating sustainable urban environments through innovative waste management solutions.
- **Example- San Francisco, USA**

This structured approach ensures the Smart Governance Programme covers all critical aspects of governance, from local to global scales, incorporating modern technological solutions and promoting inclusive, sustainable development.

6. Smart Governance Framework within a Smart City

Smart City Governance Framework

The Global Smart Governance Framework within a Smart City, as referenced by UN Habitat, outlines strategic principles and guidelines for integrating technology and data-driven approaches to enhance urban management and citizen services. This framework promotes sustainable development, inclusivity, and efficient resource utilization, aiming to create resilient and responsive urban environments. By leveraging innovative solutions, it seeks to address complex urban challenges and improve the overall quality of life for city dwellers.
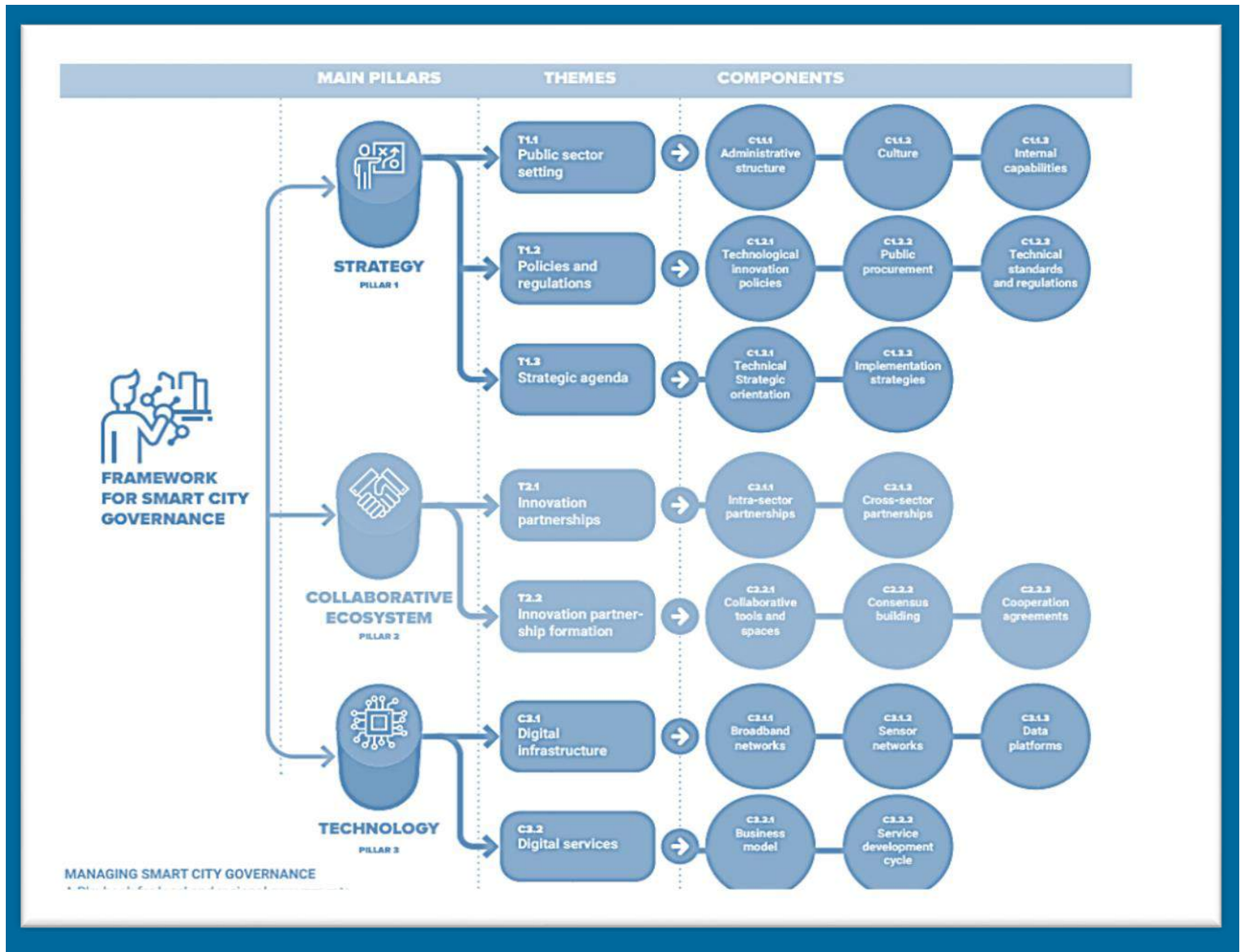
6.1. Smart Governance Enablers, Standards, & Guidelines (1/4)

In the realm of smart city-xspaces development, effective governance relies on leveraging digital tools and data-driven strategies such as IoT, AI, and blockchain to enhance transparency, responsiveness, and citizen engagement. International standards and guidelines, championed by organizations like ISO and IEEE, play a crucial role in ensuring the coherence and interoperability of these systems. Adherence to these frameworks guarantees consistency, scalability, and reliability across urban landscapes, fostering innovation, collaboration, and trust among stakeholders and citizens alike.

Key Enablers for Smart Governance in Smart Cities-Xspaces

#01 e-GOVERNANCE SYSTEM
- Integrated Digital Platforms for unified with various governmental functions & services and providing a single point of access for citizens
- Citizen Engagement Tools- Mobile App, Social Media Platforms, Online Forums, dashboard

#02 DATA MANAGEMENT
- Data Collection & Processing-Use of advanced tech such as IoT Sensors for user generated content collection
- Data Sharing Framework- Establishing Protocols & Standards for data interoperability

#03 CITIZEN-CENTRIC APPROACH
- Needs Assessment- Regular Citizen Survey & Engagement Drives
- Participation Mechanism-Implementing Participatory Platforms for Citizen involvement in decision-making process

#04 IOT & SENSOR TECHNOLOGIES
- Deployment of Sensors- to monitor various aspects of urban life such as-traffic flow, air quality, waste management, and energy consumption etc.
- Real-time Data Collection

#05 AI & ANALYTICS
- Process Automation- Use of AI to automate routine work
- Actionable Insight- Use of advanced analytics to interpret complex data patterns & insight generation for informed strategic planning and decision making

Standards & Guidelines

Sl. No.	Standards & Guidelines	Description
1.	BSI PAS 181 - Smart City Framework:	**Guide to Strategies:** Provides a comprehensive framework for developing & implementing smart city strategies, focusing on sustainable & integrated urban development.
2.	Smart Sustainable cities – ITU:	International Telecommunication Union (ITU) and its members within ITU-T Study Group 20, which is dedicated to IoT, smart cities and communities, have been developing international standards that establish technical criteria, processes, and practices to enable the coordinated development of IoT technologies for smart sustainable cities.
3.	ISO 37101:	ISO also develops specific standards for specific city needs, which cover a wide range of issues that are important to cities. ISO 17742, Energy efficiency and savings calculation for countries, regions and cities; ISO 39001, Road traffic safety (RTS) management systems; ISO 39002, Good practices for implementing commuting safety management; ISO 24510, Activities relating to drinking water and wastewater services; Standards like ISO/IEC 27001 and ISO/IEC 27002 for information security management systems help organizations address security and privacy issues, while ISO/IEC 38500 on corporate governance of information technology provides a framework for the effective, efficient and acceptable use of IT within organizations.
4	IEEE P1951.1:	**ICT Infrastructure and Data Interoperability:** Defines standards for ICT infrastructure, ensuring that data collected from various sources can be seamlessly integrated and used.
5	Bureau of Indian Standards (BIS):	**Comprehensive ICT Standards:** Works on creating detailed standards for ICT systems in smart cities, covering areas such as cybersecurity, data privacy, and system reliability.

Smart governance in smart cities is a multi-faceted approach that integrates digital technologies, prioritizes citizen engagement, manages data effectively, and adheres to established standards and frameworks. These efforts collectively enhance urban efficiency, sustainability, and livability, ensuring that smart cities can meet the evolving needs of their residents and stakeholders.

Standards & Guidelines- Global

Sl. No.	Standards & Guidelines	Description
1.	Programme Level Governance by Open & Agile Smart Cities (OASC) Network	**Open Standards and Interoperability:** Promotes the use of open standards and interoperable solutions to foster collaboration and innovation across smart cities worldwide.
2.	WEGO Standards from South Korea	**Smart City Governance:** Establishes best practices and standards for smart city governance, focusing on efficiency, transparency, and citizen engagement.
3.	ASEAN Smart City Network and African Smart City Congress	Regional Collaboration: Facilitates knowledge sharing and collaborative projects among member cities to promote smart urban development in the ASEAN and African regions.
4.	World Bank's ICT-enabled Green Growth Program	Sustainable Development: Supports the integration of ICT in urban planning and management to promote environmentally sustainable growth in cities.
5	PMI's Project Management Standards	Project Management: Provides robust project management methodologies and standards applicable to smart city projects, ensuring effective planning, execution, and monitoring.
6.	MENA Regional Smart City Group	Mediterranean Region Initiatives: Focuses on smart city initiatives specific to the Mediterranean region, addressing unique regional challenges and opportunities.

G20 Initiative Smart City Engagement Offerings

➢ **Pre-Summit Offerings**
- Assigning Steering & Executive Committee
- Alignment with G20 Host Country Secretariat, Participating Countries, international organizations
- Analyzing the major challenges of urbanization
- Roadmap Generation
- Alignment with the previous G20 Summits, Ministerial Communiques &Documents.
- Alignment with UN SDGs
- Identifying the key streams & pillars for agenda &dialogues
- Assigning high-level KPIs for the performance management
- Preparing the communication plan and key contacts coordination.
- Identifying the international as well as local institutions, organizations, research centers etc.

➢ **During-Summit Offerings**
- Identifying the internal as well as external stakeholders as per the challenges
- Engaging & following up with the related stakeholders
- Extending help in the operations and event management
- Drafting the final version of the Ministerial Declaration & Ministerial Communiques.
- Drafting the final version of G20 Call on issues, Roadmap documents related to Urbanization.
- Supporting in the preparation of Technical Documents, White papers, Policy Document, Action Plan
- Drafting Impact Generation Analysis Report of the target areas & its projections
- Coordination Services-Working Group, Expert Groups, Task Force, Leaders

➢ **Post-Summit Offerings**
- Drafting Final Version Ministerial Declaration & Communique
- Drafting the final version of G20 Call on issues, Roadmap documents related to Urbanization
- Preparing the progress report on G20 Development Committee
- Drafting G20 High-level Principles on Sustainable Habitat through Regional Planning.
- Drafting Report on International Financial Architecture, G20 Policy guide
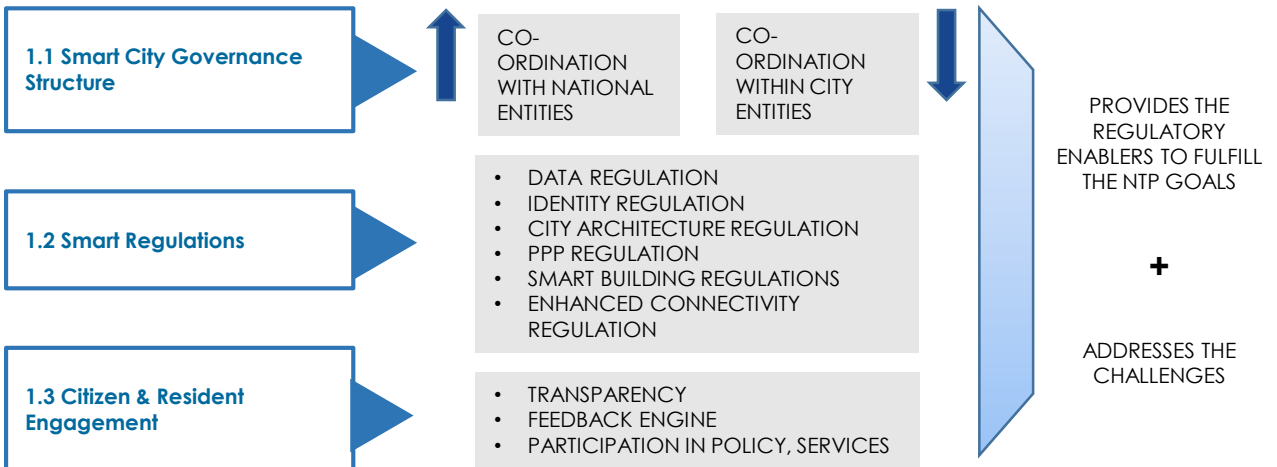
G20 Global Smart City Alliance

Source: https://intelligence.weforum.org/topics/a1G68000000FxwlEAS

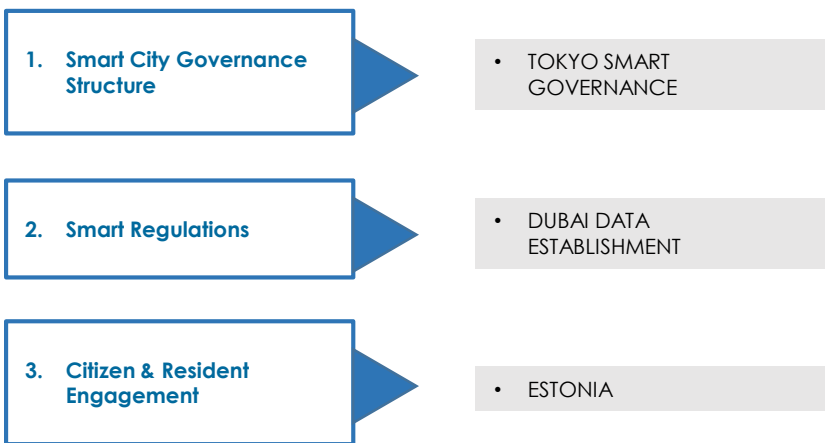# 6.1. Smart Governance Enablers, Standards, & Guidelines (3/4)

In the realm of smart city development, effective governance relies on leveraging digital tools and data-driven strategies such as IoT, AI, and Blockchain to enhance transparency, responsiveness, and citizen engagement. International standards and guidelines, championed by organizations like ISO and IEEE, play a crucial role in ensuring the coherence and interoperability of these systems. Adherence to these frameworks guarantees consistency, scalability, and reliability across urban landscapes, fostering innovation, collaboration, and trust among stakeholders and citizens alike.

Areas of governance that a Smart City will need

1.1 Smart City Governance Structure

CO-ORDINATION WITH NATIONAL ENTITIES

CO-ORDINATION WITHIN CITY ENTITIES

PROVIDES THE REGULATORY ENABLERS TO FULFILL THE NTP GOALS

+

ADDRESSES THE CHALLENGES

1.2 Smart Regulations

- DATA REGULATION
- IDENTITY REGULATION
- CITY ARCHITECTURE REGULATION
- PPP REGULATION
- SMART BUILDING REGULATIONS
- ENHANCED CONNECTIVITY REGULATION

1.3 Citizen & Resident Engagement

- TRANSPARENCY
- FEEDBACK ENGINE
- PARTICIPATION IN POLICY, SERVICES

Source: NXN analysis

We can glean inspiration from cutting edge initiatives in this space

1. Smart City Governance Structure

- TOKYO SMART GOVERNANCE

2. Smart Regulations

- DUBAI DATA ESTABLISHMENT

3. Citizen & Resident Engagement

- ESTONIA

Source: NXN analysis
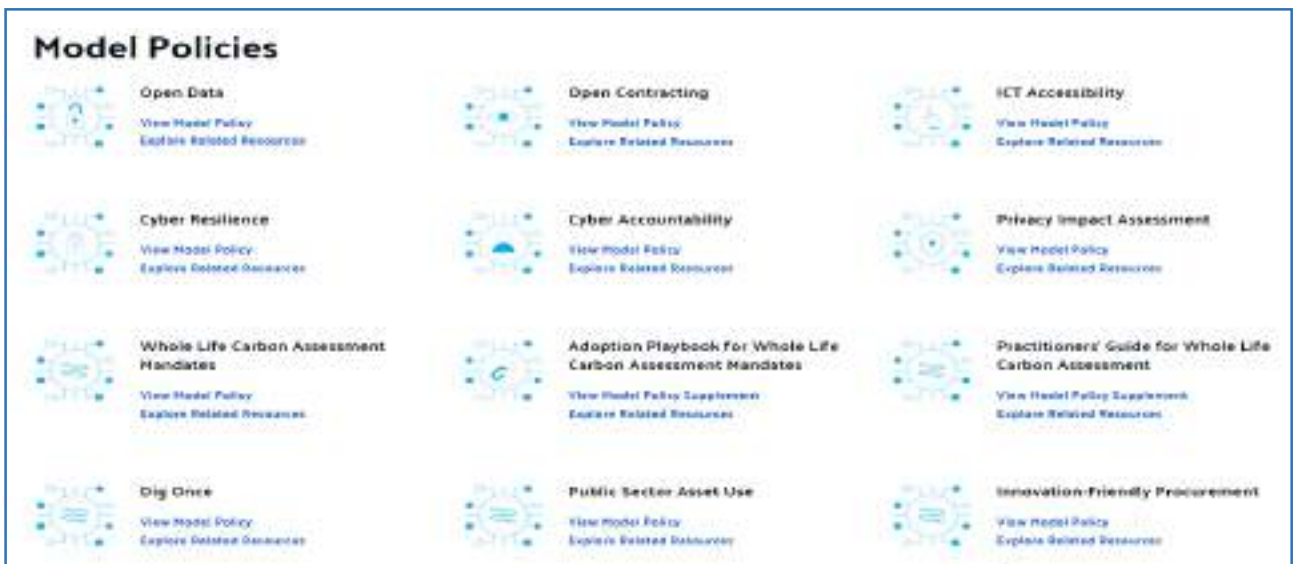
Standardization of Smart Cities & Solutions,

- Develop and adhere to enablers, standards, and guidelines that ensure consistency, interoperability, and compliance within the smart governance ecosystem.
- Establish a governance framework that oversees the development and implementation of these enablers, standards, and guidelines.
- Regularly review and update the enablers, standards, and guidelines to adapt to changing technological and regulatory requirements.

- The International Telecommunication Union (ITU) houses the ITU-T Study Group 2049, which is dedicated to the development of international standards. These standards serve to define technical criteria, processes, and practices essential for facilitating the coordinated development of IoT technologies specifically tailored for smart city development.

- The International Organization for Standardization (ISO) has produced the ISO 37122 document, which establishes definitions and methodologies for a set of indicators designed for the assessment of smart city initiatives.

- Data standards are being finalized and adopted by various organizations, which are focusing on different facets of smart city development. The Open Data Standards Directory serves as a repository for these standards, while the Open Data Institute has outlined a checklist to aid decision-makers who have the intention of utilizing open data standards.

- The Smart Cities and Communities Framework Series, developed by the US National Institute of Standards and Technology (NIST), provide municipal governments with technical guidelines for the design and implementation of smart city solutions, addressing both foundational and section-specific issues.

Source: UN Habitat https://unhabitat.org/sites/default/files/2023/11/managingsmartcitygvnce_playbook.pdf

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Global Policy Roadmap- G-20 Global Smart City Alliance

Principles

| Equity, Inclusivity and Social Impact | Security and Resilience | Privacy and Transparency | Openness and Interoperability | Operational and Financial Sustainability |

Source: https://www.globalsmartcitiesalliance.org/policy-roadmap

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Model Policies

Open Data	Open Contracting	ICT Accessibility
View Model Policy / Explore Related Resources	View Model Policy / Explore Related Resources	View Model Policy / Explore Related Resources
Cyber Resilience	Cyber Accountability	Privacy Impact Assessment
Whole Life Carbon Assessment Mandates	Adoption Playbook for Whole Life Carbon Assessment Mandates	Practitioners' Guide for Whole Life Carbon Assessment
Dig Once	Public Sector Asset Use	Innovation-Friendly Procurement

6.2. Use Cases for Smart Governance Programme

Smart Governance Use Cases

Smart Governance use cases transform cities with cutting-edge digital infrastructure, efficient e-services, and dynamic citizen engagement. From smart health and education to enhanced public safety and mobility, these innovations create sustainable, efficient, and inclusive urban spaces.

Smart Governance Use Cases											
Governance Categorisation	Industries to be targeted for Smart Governance										
	Digital Infrastructure	Digital Services &	Digital Engagement &	Digital Organization	Smart Governance&	Smart Environment	Smart Health & Wellbeing	Regulatory Compliance	Smart Education	Smart Utilities Management	Smart Mobility	Smart Public Safety
Social Governance / Financial Governance / Public System Governance / Urban & Rural Governance / National & Sub-National Governance / Global Governance / Non-Profit Governance / ESG Governance / Computer vision / Data & Technology Governance / Cultural Governance / Traditional Governance / E- Governance / M-Governance / Good Governance	• City Wi-Fi • Emergency Kiosks • Visual Messaging Displays • Public Address System • Environment Sensors • City Fibre • City Adaptive Traffic • Smart Parking • City Surveillance Infrastructure • Digital Experience Center • City Digital Literacy Centers	• Website& Portal • Mobile Applications • Services-Information Services, Transactional Services • E-Learning Solution • E-Health Services • Citizen Relationship Management • Cashless Payment Strategy& Payment Channels • City Dashboard • Open Data & API Integration • Direct Benefit Transfer (DBT) • City MI Card • Aadhaar Ecosystem	• Citizen Collaboration Platform • Social Media Management • Content Management • City Branding • City MI card • Call Centre	• Command Control Centre (CCC)/Smart City Operations Centre (SCOC) • Enterprise Architecture (EA) • Enterprise Dashboard • Enterprise Resource Planning (ERP) • Enterprise GIS • Enterprise Cloud • Enterprise Wi-Fi & Network Upgradation • Internal Knowledge Management	• E-Government Service Platforms • Policy and Decision Support Systems • Digital Identity Verification Systems • E-Citizen Engagement Tools • Online Public Consultations and Surveys • Smart Document Management • Performance Management Systems • Digital Voting & Election System	• Waste Management Solutions • Air Quality Monitoring Systems • Water Quality Sensors • Smart Lighting Systems • Green Energy Solutions (Solar Panels, Wind Turbines) • Urban Forestry and Landscaping Management • Smart Irrigation Systems • Climate Monitoring and Forecasting	• Telemedicine Platforms • Remote Health Monitoring Systems • Smart Hospitals & Clinics • Public Health Analytics & Surveillance • Fitness & Wellness Apps • Mental Health Support Services • Smart Ambulance and Emergency Response Systems • Health Information Exchange Systems	• Automated Compliance Tracking • Real-time Monitoring Systems • AI-driven Analytics • Digital Audit Trails • Environmental Compliance Sensors • Smart Permitting Systems • Regulatory Reporting Dashboards • Risk Management Solutions	• Smart Classrooms • Online Learning Platforms • Digital Libraries • Student Information Systems • Virtual Reality (VR) and Augmented Reality (AR) Learning Tools • AI-driven Personalized Learning • Educational Analytics • Remote Classroom Monitoring	• Smart Grids and Metering • Water Management Systems • Energy Consumption Analytics • Utility Billing Solutions • Predictive Maintenance for Utilities • Renewable Energy Integration • Smart Utility Infrastructure • Leak Detection Systems	• Intelligent Transport Systems (ITS) • Bike Sharing Programs • Electric Vehicle (EV) Charging Stations • Autonomous Vehicle Infrastructure • Public Transport Integration • Real-time Traffic Management • Smart Pedestrian Crossings • Mobility as a Service (MaaS) Platforms	• Predictive Policing Systems • Smart Fire Detection and Response • Emergency Response Coordination • Community Alert Systems • Disaster Management Solutions • Crime Analytics and Prevention • Incident Management Systems • Integrated Public Safety Networks
Other Enablers like standardization, compliances, Policies	Company-networked, location-aware and integrated activity layer that coordinates delivery of services										

*Smart Governance tentatively proposed use cases-the list of the use cases would be updated after current ground situation analysis, strategy work & client's approval

6.3. Special Purpose Vehicle (SPV) for Smart City-Xspaces Functioning (1/2)

Special Purpose Vehicle for Smart City-Xspaces Governance

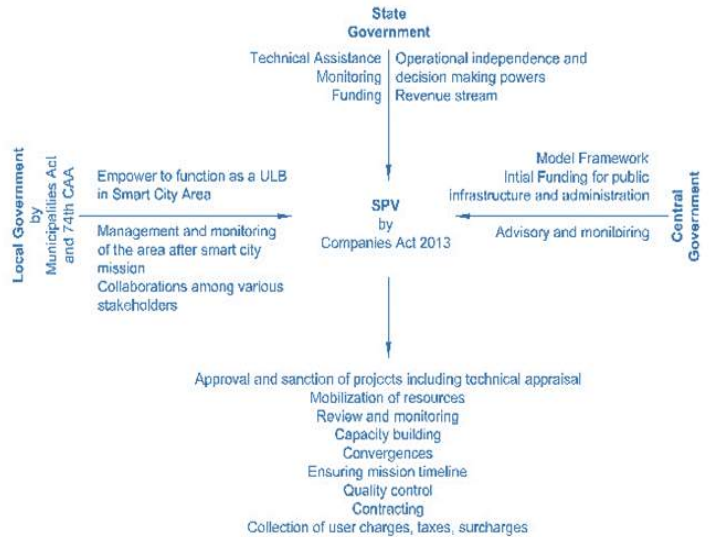### Diverse range of contractual and structural models implemented globally in the context of smart city partnerships

- In India, the local governments joining the nationwide Smart Cities Mission have set up Special Purpose Vehicles (SPVs)107. SPVs are organizations specifically established to oversee the implementation of smart city initiatives. They are cofounded by the Indian government, the State administrations, and the municipal authorities. All these partners also nominate their own representatives in the Board governing the SVPs.

- The city of Mannheim (Germany) has formed a joint venture with the local utility company to work on smart city initiatives that focus on both green transitions and digital transformations.

- In Colombia, the data analytics agency for Bogota, known as Agata, has been established through a durable cross-sector partnership orchestrated by the Mayor's Office. This collaboration includes key stakeholders such as the Bogota Telecommunications Enterprise, Bogota Energy Group, Cadastre Administrative Unit, Bogota Water and Sewage Enterprise, and the Urban Planning Department

Source: https://unhabitat.org/sites/default/files/2023/11/managingsmartcitygvnce_playbook.pdf>

SPVs are versatile and powerful tools used to manage and finance projects in smart cities and various other sectors globally. They provide a structured and efficient way to handle complex projects by isolating risks, enabling flexible financing, and facilitating public-private partnerships. Their application in smart cities is particularly notable for driving innovation and sustainable urban development.

Composition of SPV Board

Power & Responsibilities of SPV in Smart City Mission

6.4. Smart Governance Programme - Strategy, Strategy Activation, & Implementation Services
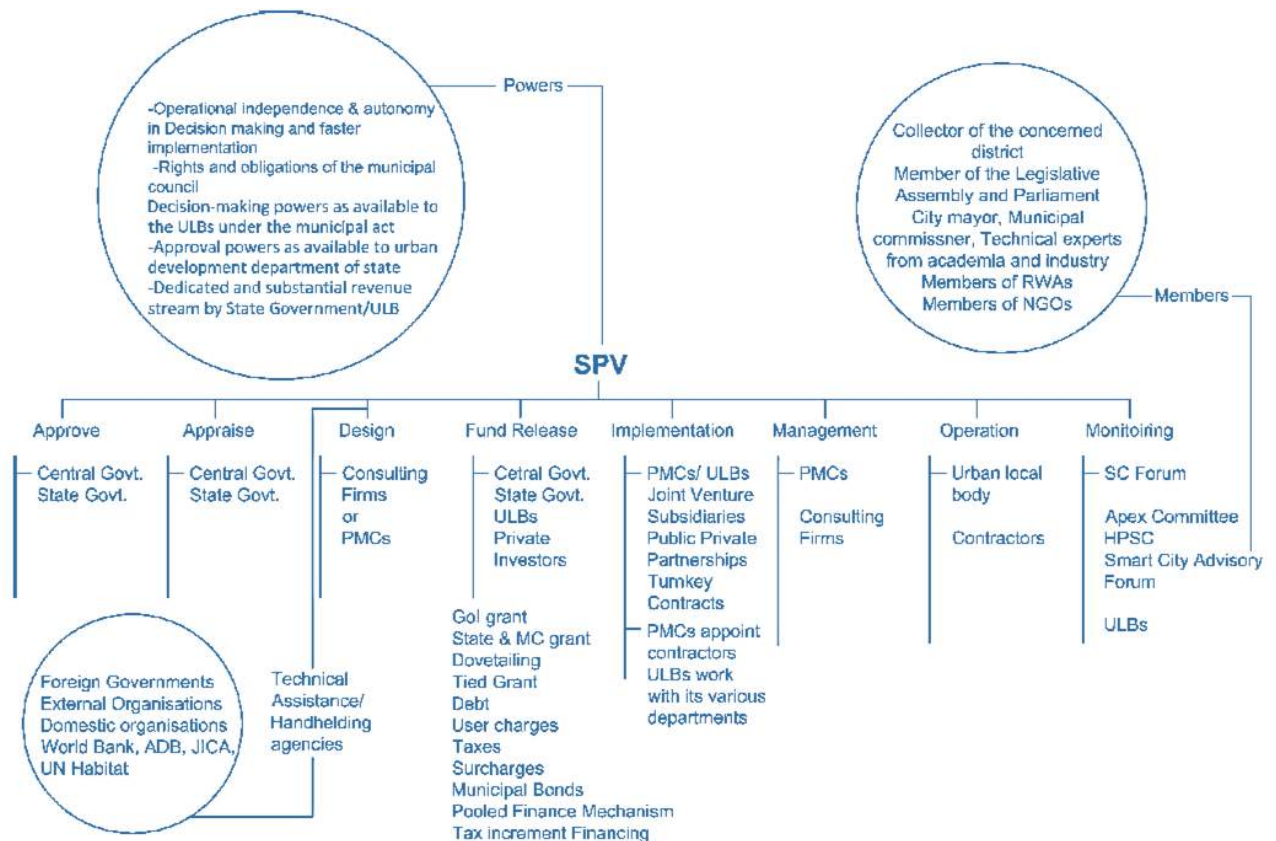
Phase-wise Services

Strategy Services

- **Benchmarking Best Practices**: Analyze and compare global smart city initiatives to identify successful strategies.
- **Challenges Identification**: Identify existing challenges and gaps within the city's infrastructure and services.
- **Vision & Goals Development**: Formulate a clear vision and strategic goals for the smart city initiative.
- **Initiatives Identification**: Identify potential smart city projects and initiatives.
- **Key Performance Indicators** (KPIs**): Develop KPIs to measure the success of smart city initiatives.**
- **Transformation Roadmap Creation**: Develop a comprehensive roadmap for the city's transformation.
- **Governance Framework Design:** Design a governance framework to oversee and manage smart city initiatives.
- **Standardization Policies**: Establish policies for standardizing processes and technologies.
- **Technical Codebook Development**: Create a technical codebook detailing standards and guidelines.
- **Benefit Realization Strategies**: Develop strategies for realizing and measuring the benefits of smart city initiatives.

Strategy Activation

- **Programme Ground Setting:** Lay the groundwork for the smart city programme, including stakeholder engagement and initial planning.
- **Use Case Designing and Planning:** Develop and plan specific use cases for various smart city applications.
- **Detailed Requirement Specifications:** Document detailed functional and technical requirements.
- **Integration Planning:** Plan for the integration of new technologies and existing systems.
- **Integrated Command Control Center (ICCC) Platform Design and Development:** Design and develop the ICCC platform.
- **Solution Architecture and Design:** Create solution architecture, smart initiative reference architecture, and network architecture.
- **Test Case Development and Detailed Design:** Formulate test cases and detailed system designs.
- **Prioritization Framework:** Establish a framework for prioritizing smart city projects.
- **Functional Phasing:** Plan for the phased implementation of functions and services.
- **Project Timelines and Deliverables:** Set project timelines and key deliverables.
- **Project Roll-out and Implementation Plan:** Develop a detailed plan for rolling out and implementing projects.
- **Change Management Plan:** Develop strategies for managing organizational change.
- **Project Inception Report:** Prepare a comprehensive report detailing the approach, methodology, and initial stakeholder assessment.
- **Capacity Building Plan:** Develop plans for building the necessary skills and capabilities among stakeholders.
- **Risk Assessment and Mitigation Plan:** Identify and mitigate potential risks.

Implementation Services

- **Programme & Project Management Consulting:** Provide consulting services for program and project management.
- **Master System Integration (MSI):** Integrate multiple systems and technologies within the smart city framework.
- **Service Designs:** Design services to meet the needs of the smart city.
- **Assessment of IT and Non-IT Infrastructure Requirements:** Evaluate infrastructure needs, including software, hardware, and storage.
- **Use Cases Designing and Development:** Develop detailed use cases for various smart city applications.
- **CCC Integration:** Integrate with the Central Command Center.
- **Center of Excellence (COE):** Establish a COE for smart city initiatives.
- **Platform Strategy Development:** Develop and implement a platform strategy.
- **Municipality Program Design, Planning & Development:** Comprehensive planning and development of municipal programs.
- **Technology Advisory Services:** Provide technology solutioning and transformation advice.
- **Infrastructure Integration:** Integrate hardware, network, and software operations.
- **Service Provider Core Network Services:** Manage core network services.
- **Information Security and Asset Management:** Ensure information security and proper asset management.
- **Business Case Development:** Develop strong business cases for smart city initiatives.
- **Infrastructure Economics:** Conduct economic analysis and planning for infrastructure investments.
- **Policy Management and Monitoring:** Develop and monitor policies.
- **Training and Documentation:** Provide necessary training and documentation.
- **API Management, Portal, BI Tools:** Manage APIs, portals, and business intelligence tools.
- **Operations & Maintenance Support:** Provide ongoing support for operations and maintenance.
- **Resource Planning:** Plan for resource allocation and utilization.
- **Application Development & Integration:** Develop and integrate applications, including web and mobile applications.
- **Solution Operation:** Ensure smooth operation of solutions, including SLAs or OLAs.
- **End-to-End System Testing:** Conduct comprehensive testing of systems.
- **Sustainability & Resilience Advisory:** Provide advice on sustainability and resilience of smart city initiatives.

- **Business Models Development:** Develop sustainable business models for smart city initiatives.
- **Vendors Identification and Engagement:** Identify and engage vendors for various project components.
- **Project Budgeting and Pricing:** Prepare detailed budgets and pricing for projects.
- **Revenue Management and Financing Strategies:** Develop strategies for managing revenue and financing the projects.

7. Smart City-Xspaces Governance, Policies, Standardization, Think Tank & Compliances Services Offerings

Smart City-Xspaces Governance, Policies, Standardization, Think Tank & Compliances Services offer a holistic approach to smart city management, ensuring strategic alignment, regulatory compliance, and continuous innovation. By integrating cutting-edge technologies with robust governance frameworks, these services aim to create sustainable, efficient, and citizen-centric urban environments.

➢ Governance Services

o **Strategic Governance Frameworks:**
- Develop comprehensive governance models aligning with Smart City objectives.
- Define clear roles, responsibilities, and decision-making processes.
- Ensure transparency, accountability, and efficiency in city management.

o **Integrated Digital Platforms:**
- Implement platforms for seamless communication and data sharing among stakeholders.
- Enable real-time monitoring and management of urban services.

➢ Policy Development

o **Innovative Policy Formulation:**
- Craft forward-thinking policies supporting smart city initiatives.
- Focus on sustainability, inclusivity, and technological advancement.

o **Regulatory Compliance:**
- Ensure alignment with local, national, and international regulations.
- Provide guidance on legal and regulatory frameworks for smart city projects.

➢ Standardization Services

o **Developing Standards:**
- Establish standards for technology integration, data management, and service delivery.
- Promote interoperability and consistency across smart city solutions.

o **Quality Assurance:**
- Implement quality control measures to maintain high standards in service delivery.
- Conduct regular audits and assessments to ensure compliance with established standards.

➢ Think Tank Services

o **Thought Leadership:**
- Facilitate a think tank comprising experts in urban planning, technology, and governance.
- Drive innovation through research, insights, and strategic recommendations.

➢ Workshops and Seminars:

- Organize events to share knowledge, best practices, and emerging trends.
- Foster collaboration and ideation among stakeholders.

➢ Customized Solutions

o **Tailored Approaches:**
- Offer customized solutions addressing specific needs and challenges of individual cities.
- Focus on scalable and adaptable frameworks that evolve with city requirements.

o **Continuous Improvement:**
- Provide ongoing support and updates to policies, standards, and governance structures.
- Encourage a culture of continuous learning and improvement.

➢ Compliance Services

o **Regulatory Adherence:**
- Guide smart city projects through complex regulatory landscapes.
- Ensure compliance with environmental, data protection, and safety regulations.

o **Risk Management:**
- Identify and mitigate risks associated with smart city initiatives.
- Develop comprehensive risk management frameworks.

7.1. Smart City-Xspaces Governance, Policies, Standardization, Think Tank & Compliances Services

Urban & Municipal Governance Services

Urban & Municipal Governance Services aim to modernize city management by leveraging technology and best practices to enhance efficiency and effectiveness. These services focus on improving infrastructure, public services, and overall quality of life in urban areas.

Portfolio of services offered

- **Digital Infrastructure Development**: Establishing robust digital systems for efficient urban management.
- **Data-Driven Decision Making**: Utilizing analytics to inform policy and operational decisions.
- **Citizen Engagement Platforms**: Implementing tools for active public participation and feedback.
- **Smart Resource Management**: Optimizing the use of urban resources like water, energy, and waste.
- **Regulatory Compliance Assistance**: Ensuring adherence to local, national, and international regulations.
- **Sustainability Initiatives**: Promoting environmentally friendly practices and policies.
- **Emergency Response Systems**: Developing systems for rapid and effective disaster response.

Governance & Functional Requisite

- **Transparent Processes**: Establishing clear and open governance processes to build public trust.
- **Interdepartmental Coordination**: Ensuring seamless collaboration among various municipal departments.
- **Standardized Procedures**: Implementing uniform standards and protocols for consistency.
- **Capacity Building**: Training municipal staff in modern governance tools and practices.
- **Continuous Monitoring**: Regularly assessing the performance of urban services and making necessary adjustments.

Impacts & Benefits

- **Enhanced Efficiency**: Streamlined processes lead to faster and more efficient service delivery.
- **Improved Public Services**: Higher quality and more reliable urban services for citizens.
- **Increased Transparency**: Greater accountability and reduced corruption in municipal operations.
- **Better Resource Allocation**: Optimal use of resources resulting in cost savings and sustainability.
- **Higher Citizen Satisfaction**: Improved quality of life through better urban management.

Best Practices

- **Global** : Barcelona, Spain - Implemented smart traffic management systems, resulting in reduced congestion and improved air quality.
- **Regional (MENA):** Dubai, UAE - Launched smart city initiatives, including smart policing and e-governance, enhancing public safety and administrative efficiency.
- **Local (KSA):** Riyadh, Saudi Arabia - Developed an integrated municipal services platform, improving citizen access to services and streamlining administrative processes.

Smart City- Xspaces Governance Services

Smart City- Xspaces Governance Services leverage advanced technologies and data-driven approaches to enhance the efficiency, transparency, and responsiveness of urban management. These services aim to create livable, sustainable, and citizen-centric cities by optimizing infrastructure, public services, and resource utilization.

Portfolio of services offered

- **Smart City Blueprint Development:** Create strategic blueprints for smart city development
- **Governance Framework for Smart Cities:** Establish effective governance model for smart cities
- **Smart City Office Structuring :** Design Organizational Structure for Smart City Offices
- **Governance & Management Structuring for SPVs :** Develop Governance Structure for SPVs
- **Integrated Command and Control Centers**: Establishing centralized hubs for real-time monitoring and management of city operations.
- **Intelligent Transportation Systems**: Implementing smart traffic management solutions to reduce congestion and improve mobility.
- **Smart Utility Networks**: Deploying advanced metering infrastructure and automated control systems for efficient resource distribution.
- **Digital Citizen Engagement Platforms**: Providing interactive tools for citizens to access services, report issues, and participate in decision-making.
- **Predictive Analytics and Modeling**: Utilizing big data and AI to forecast urban trends, optimize resource allocation, and mitigate risks.
- **Cybersecurity and Data Privacy**: Ensuring robust measures to protect critical infrastructure and safeguard citizen data.
- **Capacity Building and Change Management**: Training municipal staff and citizens to effectively leverage smart city technologies and services.
- **Performance Monitoring and Evaluation Systems :** Implement systems to monitor and evaluate city performance.
- **Smart Infrastructure Management Solutions :** Manage & Optimize Smart City Infrastructure.

Governance & Functional Requisite

- **Collaborative Governance Models**: Fostering partnerships among government, private sector, academia, and citizens for co-creation and co-implementation of smart city initiatives.
- **Agile and Iterative Approaches**: Adopting flexible and adaptive methodologies to quickly respond to evolving urban challenges and citizen needs.
- **Open Data and Standards**: Promoting the use of open data platforms and interoperable standards to enable seamless integration of smart city solutions.
- **Regulatory Frameworks**: Establishing clear guidelines and policies to ensure responsible development and deployment of smart city technologies.
- **Monitoring and Evaluation**: Implementing robust performance measurement systems to track the progress and impact of smart city initiatives.

Impacts & Benefits

- **Enhanced Efficiency**: Streamlined processes lead to faster and more efficient service delivery.
- **Improved Public Services**: Higher quality and more reliable urban services for citizens.
- **Increased Transparency**: Greater accountability and reduced corruption in municipal operations.
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7.3. Smart City-Xspaces Governance, Policies, Standardization, Think Tank & Compliances Services

Procurement Model & Governance Services

Effective procurement models and governance services are crucial for the successful implementation of smart city and urban management initiatives. These services focus on streamlining the procurement process, fostering innovation, and ensuring transparent and accountable decision-making to deliver optimal outcomes for cities and their citizens.

Portfolio of services offered

- **Innovative Procurement Frameworks**: Developing flexible and agile procurement models that enable the adoption of emerging technologies and solutions.
- **Public-Private Partnership (PPP) Frameworks :** Develop frameworks for PPP Projects
- **Outcome-based Procurement Models :** Implement procurement models focused on outcomes
- **Vendor Management & Contract Negotiation Support :** Support in managing vendors & negotiating contracts
- **Collaborative Sourcing Strategies**: Facilitating partnerships between municipal authorities, private sector, and the innovation ecosystem to co-create and co-implement smart city solutions.
- **Performance-Based Contracting**: Structuring procurement contracts based on measurable outcomes and impact, incentivizing service providers to deliver high-quality and efficient solutions.
- **Capacity Building for Procurement Teams:** Training municipal staff on best practices in innovative procurement, contract management, and vendor engagement.
- **Monitoring and Evaluation**: Establishing robust monitoring and evaluation frameworks to assess the performance and impact of procured solutions.
- **Regulatory Compliance and Policy Alignmen**t: Ensuring procurement processes adhere to relevant laws, regulations, and policy guidelines at the local, national, and international levels.
- **Stakeholder Engagement and Change** Management: Facilitating active participation of citizens, businesses, and other stakeholders in the procurement decision-making process.

Governance & Functional Requisite

- **Centralized Procurement Governance**: Implementing a centralized procurement authority or unit to oversee and coordinate procurement activities across various municipal departments.
- **Transparent and Accountable Processes**: Establishing clear, open, and well-documented procurement procedures to enhance transparency and build public trust.
- **Data-Driven Decision Making**: Leveraging data analytics and market intelligence to inform procurement strategies and make evidence-based decisions.
- **Risk Management and Mitigation**: Developing comprehensive risk assessment and mitigation frameworks to address potential challenges in procurement.
- **Continuous Improvement and Feedback Loops**: Regularly reviewing and updating procurement policies and practices based on lessons learned and stakeholder feedback.

Best Practices

- **Global: Amsterdam, Netherlands** - Implemented a comprehensive innovation procurement program, the "Amsterdam Innovation Arena," which has facilitated the co-creation and deployment of various smart city solutions.
- **Regional -MENA : Dubai, UAE** - Developed a centralized procurement governance framework, the "Dubai Procurement Law," to streamline the acquisition of innovative technologies and services for the city's smart initiatives.
- **Local - KSA : Riyadh**- Established the "Riyadh Procurement and Contracting Authority" to oversee and coordinate procurement activities across the city's various municipal departments and agencies.

Impacts & Benefits

- **Increased Efficiency and Cost Savings**: Streamlined procurement processes leading to faster service delivery and optimized resource utilization.
- **Fostering Innovation and Entrepreneurship**: Creating opportunities for the local innovation ecosystem to participate in smart city development.
- **Improved Transparency and Accountability**: Enhanced public trust through open and fair procurement practices.
- **Sustainable and Socially Responsible Procurement**: Integrating environmental, social, and ethical considerations into procurement decisions.
- **Scalable and Replicable Solutions:** Procurement models that enable the adoption and scaling of successful smart city initiatives across different cities.

7.4. Smart City-Xspaces Governance, Policies, Standardization, Think Tank & Compliances Services

Governance, Policies, Standardization, Think Tank & Compliances Services

Government and Governance Advisory Services aims at Comprehensive advisory services to modernize and optimize government operations and policies.

Portfolio of services offered

- **Smart Governance Services**
- **Digital Transformation Roadmaps-** Outline pathways for comprehensive digital transformation.
- **Data Analytics and Insights for Governance-** Use data analytics to inform governance decisions.
- **Citizen Engagement Platforms-** Develop platforms for enhanced citizen interaction & feedback
- **Smart Policy Standardization Services**
- **Development of Standardized Policy Framework -** Create uniform policy frameworks aligned with smart city goals.
- **Policy Alignment with Smart City Objectives-** Ensure policies support smart city initiatives.
- **Regulatory Impact Assessment-** Assess the impact of regulations on smart city projects.
- **E-Governance Services**
- **Digital Service Delivery Platform-** Implement platforms for digital public service delivery.
- **Online Citizen Service** Portal-Develop portals for online access to government services.
- **Interoperable Government Systems Integration-** Integrate various government systems for seamless operation.
- **M-Governance Policy Compliance**
- **Mobile Governance Strategy Development-** Develop strategies for mobile governance.
- **Mobile Application Design and Implementation-** Design & implement mobile apps for government services
- **Regulatory Compliance for Mobile Governance Initiative-** Ensure compliance with regulations for mobile governance.
- **Regulatory & Legal Framework Design Services**
- **Regulatory Impact Assessment -**Evaluate the impact of regulations.
- **Legal Compliance Audits-** Conduct audits to ensure legal compliance
- **Policy & legislative drafting** support-Provide support in drafting policies and legislation.
- **RACI Matrix Related Services**
- **Roles & Responsibilities Mapping-** Map roles and responsibilities using RACI matrix.
- **Governance Structure Design-** Design Governance Structures
- **Accountability Framework Development-** Develop frameworks for accountability
- **Policy as a Service Platform Scope of Services**
- **Platform Design & Development-** Design and develop policy service platforms
- **Content Management and Policy Repository-** Manage content and maintain policy repositories
- **User Training & Support-** Provide training and support for platform users
- **Bi-lateral, Multi-lateral Agencies Policy Consulting**
- **Advisory Services for International Organizations-** Provide policy consulting to international agencies
- **Policy Harmonization &Alignment**: Harmonize policies with international standards.
- **Capacity Building and Technical Assistance-** Offer capacity building & technical support
- **National & Sub-National (including Local) Governments Advisory Services**
- **Policy Advisory for National and Local Governments-** Advise on policy development for national and local governments
- **Governance Reforms and Institutional Strengthening-** Support governance reforms and strengthen institutions.
- **Policy Implementation Support-** Assist in the implementation of policies.
- **Social Innovation Policy-** Design & Implementation of Social Innovation Policies, Social Impact Assessment, Stakeholder Engagement Services for Social Innovation Initiatives
- **Knowledge Management Services-** Creating Knowledge Sharing Platforms, Capacity Building in Knowledge Management, Best Practices Documentation & Dissemination
- **Environmental Social Governance Services-** ESG Policy Development, Environmental Impact Assessment, Social Responsibility Programmes Designing
- **Technology Governance Services-** Developing IT Governance Framework, Cybersecurity Policy Development, Emerging Technology Assessment & Regulations
- **Capacity Building Services-** Training programs for Government Officials, Skill Development Workshops, Institutional Capacity Building Initiatives

Governance & Functional Requisite

- **Transparent Processes:** Establish clear and open governance processes to build public trust.
- **Interdepartmental Coordination:** Ensure seamless collaboration among various municipal departments.
- **Standardized Procedures:** Implement uniform standards and protocols for consistency.
- **Capacity Building:** Train municipal staff in modern governance tools and practices.
- **Continuous Monitoring:** Regularly assess the performance of urban services and make necessary adjustments.

Impacts & Benefits

- **Enhanced Efficiency** : Streamlined processes lead to faster and more efficient service delivery.
- **Improved Public Services:** Higher quality and more reliable urban services for citizens.
- **Increased Transparency**: Greater accountability and reduced corruption in municipal operations.
- **Better Resource Allocation:** Optimal use of resources resulting in cost savings and sustainability
- **Higher Citizen Satisfaction**: Improved quality of life through better urban management.

Best Practices

- **Global: Barcelona, Spain** - Implemented smart traffic management systems, resulting in reduced congestion and improved air quality.
- **Region- MENA, - Dubai, UAE-** Launched smart city initiatives, including smart policing and e-governance, enhancing public safety and administrative efficiency.
- **Local - KSA, Riyadh-** Developed an integrated municipal services platform, improving citizen access to services and streamlining administrative processes.

7.5 Smart City-Xspaces Governance, Policies, Standardization, Think Tank & Compliances Services

Social Innovation Policy & Governance Support Services

Comprehensive support services to foster and implement social innovation policies and governance structures.

Portfolio of services offered

- **Policy Development & Implementation**
- **Design & Implementation of Social Innovation Policies-** Develop and execute policies aimed at fostering social innovation
- **Social Impact Assessment -** Evaluate the impact of policies and projects on society.
- **Stakeholder Engagement for Social Innovation** Initiatives-Engage with stakeholders to promote and support social innovation efforts.
- **Governance Frameworks**
- **Development of Governance Models for Social Innovation-** Create effective governance structures to support social innovation.
- **Performance Monitoring and Evaluation Systems-** Implement systems to monitor and assess the effectiveness of social innovation initiatives.
- **Regulatory Compliance Services**
- **Regulatory Impact Assessment -** Assess the regulatory impact on social innovation initiatives.
- **Policy & Legislative Drafting Support-** Provide support in drafting policies and legislation for social innovation
- **Technology Integration Services**
- **Digital Platform for Social Innovation-** Develop and implement digital platforms to support social innovation projects.
- **Data Analytics for Social Impact-** Use data analytics to measure and enhance the impact of social innovation

Governance & Functional Requisite

- **Inclusive Processes** : Establish inclusive governance processes to involve diverse stakeholders.
- **Collaboration & partnership:** Foster collaboration between government, private sector, and civil society.
- **Standardized Procedures:** Implement standardized procedures for consistent policy application.
- **Continuous Learning :** Promote a culture of continuous learning and adaptation.
- **Transparency & Accountability** : Ensure transparent and accountable governance practices.

Impacts & Benefits

- **Enhanced Social Outcome**: Improve social outcomes through innovative solutions.
- **Increased Community Engagement :** Higher levels of community involvement and participation.
- **Gender Inclusivity:** Ensure policies and initiatives are inclusive and equitable.
- **Improved Quality of Life (QoL) :** Enhance the overall quality of life for citizens through social innovation
- **Sustainable Development :** Promote sustainable development through innovative social policies.

Best Practices

- **Global : Stockholm, Sweden**- Implemented social innovation policies to reduce homelessness and improve social welfare, resulting in significant positive social outcomes
- **Region - MENA : Dubai, UAE-** Launched initiatives to support social entrepreneurship, leading to increased innovation and social impact in various sectors.
- **Local : Riyadh, KSA-** Developed social innovation programs to support youth and women, enhancing their participation in economic and social activities.

Non-profit Organization Governance Services

Specialized governance services designed to enhance the effectiveness, efficiency, and impact of social sector non-profit organizations.

Portfolio of services offered

- **Urban Development Strategies**: Tailored strategies for community development focusing on affordable housing, community centers, and sustainable neighborhoods.
- **Smart Governance Services for Non-profits-Digital Transformation** Roadmaps-Roadmaps to enhance operational efficiency, donor management, and program delivery for non-profit organizations.
- **Smart City Governance Services**
- **Governance Framework-** Frameworks for social enterprises implementing smart city projects, emphasizing social impact and community engagement.
- **Smart Policy Standardization**
- **Standardized Policy Framework-**Develop consistent policy frameworks for non-profit networks to ensure compliance and uniformity across initiatives.
- **E-Governance Services**
- **Digital Service Delivery Platform-**Platforms for NGOs to streamline access to social services, manage volunteers, and support beneficiaries.
- **M-Governance Policy Compliance-**
- **Mobile Governance** Strategy-Strategies for foundations and trusts to engage donors, raise funds, and communicate impact via mobile channels.
- **Regulatory & Legal Framework Design**
- **Compliance Audit & Legal Support-** Support for social enterprises in navigating regulatory requirements related to charitable activities, tax-exempt status, and grants.
- **Procurement Models-** Models for social impact collaborative to pool resources and expertise to address complex social challenges.
- **Smart City Office Structuring-** Design structures for social innovation hubs and incubators to foster collaboration, innovation, and capacity-building.
- **SPV Structuring Services-** Create SPVs for social investment funds and impact investing platforms to mobilize capital for social enterprises and community projects.
- **RACI Matrix-** Mapping for coalition partnerships and cross-sector collaborative to achieve collective social impact goals.
- **Platform Design & Development:** Develop platforms for knowledge sharing networks and learning communities to foster collaboration among social sector organizations.
- **Advisory Services-** Provide consulting for NGOs and social enterprises seeking funding and support from international agencies and foundations.
- **Policy Advisory-** Offer advisory services for advocacy coalitions and social movements engaging with governments on key social issues.
- **Knowledge Sharing Platforms-** Platforms for non-profit networks and community organizations to facilitate collaboration and collective impact measurement.
- **ESG Support Services-** Develop policies for socially responsible investors and impact funds integrating ESG factors.
- **Technology Governance-** Frameworks for ensuring ethical use of technology, data privacy, and cybersecurity in social programs.
- **Capacity Building & Training-** Programs for community leaders, volunteers, and social entrepreneurs to build skills in organizing, advocacy, and entrepreneurship.

Governance & Functional Requisite

- **Transparent Processes** : Establish transparent processes to build trust and accountability.
- **Interdepartmental Coordination-** Ensure seamless collaboration across various non-profit departments.
- **Standardised Procedures -**Implement uniform standards and protocols for consistency.
- **Capacity Building-** Train non-profit staff in modern governance tools and practices.
- **Continuous Monitoring-** Regularly assess the performance of non-profit initiatives and make necessary adjustments.

Impacts & Benefits

- **Enhanced Efficiency** : Streamlined processes for more efficient service delivery
- **Improved Public Services-** Higher quality and more reliable services for beneficiaries.
- **Increased Transparency-** Greater accountability and reduced corruption in non-profit operations.
- **Better Resource Allocation-** Optimal use of resources resulting in cost savings and sustainability.
- **Higher Donor and Beneficiary Satisfaction-** Improved engagement and satisfaction among donors and beneficiaries.

Best Practices

- **Global : UNICEF**- Implemented digital platforms for donor engagement and program management, significantly improving operational efficiency and impact.
- **Region MENA : Dubai Cares-** Launched e-governance initiatives for better donor management and program delivery, enhancing educational outcomes.
- **Local : Saudi Arabian Red Crescent Authority-** Developed mobile governance strategies to improve volunteer management and emergency response, increasing efficiency and community engagement

8. Smart Governance in Smart Cities-Xspaces (1/2)

Emerging Tech Regulation, Misinformation Control & allied Governance Services

Blockchain, Internet of Things, Industrial Internet of Things, AI, Generative AI, Ethical AI, Cloud Computing, People Analytics ,and other emerging tech, Crypto currency, Governance related services or portfolio of services for Data related matters, protocol, data privacy of citizens, demonetization, data usage, public Wi-Fi-private Wi-Fi data collection, data snooping etc. Also governance being or to be used for controlling Fake news and misinformation among citizens, viral videos, cyber cell of the police, women empowerment, Online safety and security etc.

- Introduction: "Creating intelligent, connected urban and rural ecosystems.
- Technical Features: IoT integration, data analytics, infrastructure automation.
- Governance & Functional Requirements: Collaborative planning, citizen participation.
- Impacts & Benefits: Improved infrastructure, resource optimization, enhanced quality of life.
- Perspective: Sustainable and inclusive urban development.
- Global Case Studies: Singapore, Barcelona, Songdo.

Smart Governance Indicators

- Introduction: "Measuring the effectiveness of city governance."
- Technical Features: Data-driven metrics, performance indicators.
- Governance & Functional Requirements: Real-time monitoring, decision support systems.
- Impacts & Benefits: Informed decision-making, accountability, responsive governance.
- Perspective: Enhancing civic trust and government legitimacy.
- Global Case Studies: Melbourne, London, New York City.

Smart Digital Governance

- Harnessing the power of digital technology for efficient governance."
- Technical Features: Data Governance Guidelines, Data Architecture.
- Governance & Functional Requirements: Risk Assessment & Compliance Support, Digital Governance Framework.
- Impacts & Benefits: Enhanced data security, streamlined processes, regulatory compliance.
- Perspective: Transitioning to a data-driven government.
- Global Case Studies: Estonia, South Korea, Canada.

Smart Urban Policies

- Crafting policies for sustainable urban development."
- Technical Features: Urban Policy Assessment, Consulting, Policy Insight as a Service.
- Governance & Functional Requirements: Smart Financing, Smart Revenue Augmentation, Inclusive Design, Municipal Asset Management Module.
- Impacts & Benefits: Sustainable development, social inclusion, financial stability.
- Perspective: Balancing economic growth with social and environmental considerations.
- Global Case Studies: Stockholm, Amsterdam, Vienna.

Smart Urban Governance

- Strengthening civic engagement and building capacities."
- Technical Features: Smart Civic Engagement Strategy, Capacity Building & Training Services.
- Governance & Functional Requirements: Inclusive decision-making, citizen empowerment.
- Impacts & Benefits: Active citizen participation, responsive governance.
- Perspective: Fostering a sense of community and shared responsibility.
- Global Case Studies: Porto Alegre, Madrid, Cape Town.

Smart Public System Governance

- Designing efficient public distribution systems."
- Technical Features: Smart Public Distribution System Framework Designing.
- Governance & Functional Requirements: Transparent distribution, real-time monitoring.
- Impacts & Benefits: Reduced wastage, improved accessibility, enhanced service delivery.
- Perspective: Ensuring equitable access to public resources.
- Global Case Studies: Bangalore, Seoul, San Francisco.

Smart Civic Services Governance-will be merged

- Revolutionizing public services for smarter cities."
- Technical Features: Smart Health, Smart Housing, Smart Education Policy Design, Smart Waste Management Strategy.
- Governance & Functional Requirements: Integrated service delivery, citizen-centric policies.
- Impacts & Benefits: Improved public health, housing solutions, educational outcomes.
- Perspective: Enhancing the quality of life for citizens.
- Global Case Studies: Tokyo, Copenhagen, Dubai.

Smart Governance in Social Innovation

- Facilitating public-private partnerships for social innovation."
- Technical Features: PPP Module Design for Social Innovation, Social Sustainable Strategy.
- Governance & Functional Requirements: Inclusive and sustainable solutions.
- Impacts & Benefits: Social entrepreneurship, community development.
- Perspective: Collaborative solutions for societal challenges.
- Global Case Studies: San Francisco, Seoul, Amsterdam.

Smart Governance in Social Strategies

- Strategic partnerships for social innovation."
- Technical Features: PPP Module Design for Social Innovation.
- Governance & Functional Requirements: Inclusive and sustainable strategies.
- Impacts & Benefits: Social inclusion, community development.
- Perspective: Balancing economic growth with social and environmental considerations.
- Global Case Studies: Singapore, Barcelona, New York City.

Smart Economy

- Driving economic growth through smart investments."
- Technical Features: Smart Investment Strategy, Pre-investment project feasibility study, Smart PPP Module Designing.
- Governance & Functional Requirements: Market Research & Business Module Designing, MoUs Drafting, Smart Retail & E-Commerce Policy Toolkit.
- Impacts & Benefits: Economic development, job creation, sustainable growth.
- Perspective: Attracting investment and fostering innovation.
- Global Case Studies: London, Seoul, Dubai.

Smart Investment

- Smart investment in smart governance involves deploying technologies like digital platforms, data analytics, and automation to enhance government efficiency, transparency, and citizen engagement. These strategic investments optimize resource allocation, improve service delivery, and foster economic growth, ensuring resilient and inclusive communities in the digital era.

8.1. Smart Governance Consulting Services

Smart Governance Consulting in Smart Cities-Xspaces

- Smart Cities Proposal Designing& DPR preparation Assistance
- Designing City Master Plan, Smart Strategy, Vision Document for Delivering Smart Cities & Villages
- Preparing Smart Governance Architecture for Cities
- Drafting Governance framework for design thinking & urban living lab (ULL) approach
- Conducting Smart Cities Roadshows, Workshops and stakeholders meetings.

Technology strategy planning & feasibility studies

- Technology Assessment & Gap Analysis for desired smart city goals
- Conducting in-depth feasibility studies on economic, social, & technical aspect of smart governance & technology implementation
- Drafting technology transformation, integration strategy, Aligning IT to the business
- Technology Selection & Vendor Assessment
- Developing IT, e-Business, and e-Government strategy and roadmap
- Large-scale IT, e-Business, and e-Government implementation programs
- Establishing and managing solutions align with Smart city ranking(IEST, IDC) and global standards i.e. ISO, ITU

Digital & Data Governance Architecture , Risk & Compliance

- Designing Digital & Data Governance Framework and responsibility matrix.
- Preparing Insights on Technical Policy & Standardization.
- Designing SOPs, Advisory, White Paper, Implementation Strategy & Policy paper on Data Governance ecosystem (privacy, security, Open Data Initiatives etc.)
- Offering technical specifications document/brief related to Platform Services- MaaS, SaaS, DaaS, XaaS etc..
- Developing Risk Management Module – identification and mitigation of risks
- Reviewing applicable standards for digital technological solutions (Predictive Analytics, Big Data Analytics, Visualization Tool)

Digital Transformation Strategy

- Smart Cities Proposal Designing& DPR preparation Assistance
- Designing City Master Plan, Smart Strategy, Vision Document for Delivering Smart Cities & Villages
- Preparing Smart Governance Architecture for Cities
- Drafting Governance framework for design thinking & urban living lab (ULL) approach
- Conducting Smart Cities Roadshows, Workshops and stakeholders meetings.

City Performance Indicators (CPI) for Smart Governance

- Preparing the smart governance structure.
- Drafting Policies, white papers
- Boosting ease in delivery of public services
- Integration of operational data across systems and city government agencies

Strategy & Solution Offerings on emerging tech (IOT, AR, VR, AI, ML,BCT etc.)

- Use Case Development on Emerging Tech
- IoT Governance Strategy Development,, Security & Privacy Guidelines for IoT Devices, Cyber Security
- Assisting clients in incorporating AI into various governance framework & urban civic services, Advisory & SoP on Ethical AI Implementation
- Assisting in Designing Generative AI Policy for Smart Cities
- Robotic Process Automation (RPA) Strategy designing for city governments & clients, RPA Training Toolkit for City Officials
- Advisory on use of Blockchain for smart contracts for governance, Implementation SOP for Identity Management Solution
- Creating toolkit or template for use of Augmented & Virtual Reality in smart governance, training of government functionaries, smart tourism & smart education

Smart Governance Solutions &Real Time Data Dashboard

- Web-Platform Designing & Development for Smart Governance
- Innovation Management & Smart Governance Benchmarks design
- Compendium design for Smart Solutions and best smart governance practices
- Smart Procurement and Sourcing Benchmarking
- Finance Effectiveness Benchmarking
- Information Technology(IT) Benchmarking
- Smart Recruitment Portal for city government

8.2. Urban Policies & Urban Governance Consulting Services

Urban Policy Advisory & Urban Policy Insight as a Service (UPIaaS)

• Conducting comprehensive assessment of existing urban policies, rules & regulations
• Designing Implementation Strategies, SoPs for urban policy implementation & regulatory framework
• Sector-wise Policy Insight (Urban Transport & Mobility, Urban Finance etc.)
• Estimating ESG Impact of Urban Policy, programs, and initiatives
• Summarizing and analyzing public comments and facilitating public involvement in urban policy formulation
• Developing implementation plans, communications strategies, and training and outreach programs
• Preparing retrospective analyses of existing Urban Legislation, Policy, & Rules

Capacity Building & Training Services

• Offering Training Module, Template, Material for urban policy makers, urban planners, city officials

Smart Financing & Revenue Augmentation Services

• Advisory, Policy Toolkit on Revenue Augmentation for City Governments/Urban Local Governments
• Smart Asset Management Module
• Smart Taxation Strategy, Module development
• Valuation of Ecosystem Services, Cost Benefit Analysis services
• Smart Property Taxation Module development
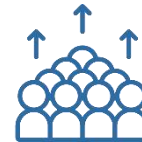
Urban Planning & Development Services

• Assisting in designing urban development policies dictating land use, zoning, & growth patterns
• Policy Design toolkit for affordable & sustainable housing, mixed-use developments, utilizing public spaces, Advisory on Public Space Design & Development
• Designing City Master Plan, City Development Plan for shorter & longer terms in conformity with infrastructural, transportation, housing, & ESG requirements
• Policy Toolkit, SoPs for Green Urban Infrastructure, Green Building Design, Energy Efficient Building Design,
• Policy Toolkit for promoting public transport, NMT transport in the city

Citizen Engagement Services

• Policy support, advisory, dashboard, portal, application template for engaging citizen in urban policy & governance
• Establishing Advisory, Policy Template for public consultation & citizen engagement, participatory budgeting, citizen involvement in decision making

Quality Certification & Performance Measurement

• Developing policy performance & governance matrix for monitoring & evaluation of urban policies, initiatives
• Advisory for data-driven decision making

Investment & PPP Policy Support

• Drafting Public Private Partnership Policy Module for facilitating partnership for urban development projects
• Compliance Advisory for PPP in conformity with urban legislations & regulations
• Guidelines for Smart PPP Management

8.3. Public Systems Consulting Services

Smart Society

- Participatory Planning Policies
- Social Media Sentiment Analysis
- Smart Destinations Events (Tech &Infotainment)
- Smart Citizen Engagement Platforms
- Smart Electronic Voting for Decision Making
- Senior-Citizen Help

Smart Public Distribution System (PDS)

- Designing Dynamic Dashboard for Smart Public Distribution System Management
- Smart Ware Houses, Smart Cold Storage
- Smart Inventory of Grains, Foods, Dry Ration
- Smart Supply Chain Monitoring Tool

Smart Education

- Digital Learning
- School Admission System
- AI Learning & Evaluating Engines Such As ALEKS
- VR/Holographic Classes
- Learning Through Mixed Realty Smart glasses
- RPA Coaches
- AI Decision Makers Hub (jobs, Skills, Interviews and Needs)

Smart Waste Management

- Smart Bins
- Waste to Energy Model
- Door to Door Segregation
- Vehicle Tracking System (VTS) for collection vehicles
- Littering Reporting
- AVL (Automatic Vehicle Locationing)
- GIS enabled city demarcations

Smart Retail

- Smart Retail Management
- Smart Retail Policy
- Smart Retail strategy Report
- Smart Retail ICT/IOT solution delivery
- E-Commerce Policy

Smart Manufacturing

- Smart Retail Management.
- Smart Manufacturing Policy
- Smart Manufacturing solution delivery for Smart Industries 4.0
- Smart Automation management
- Business Engagement Models
- PPP-Policies
- Incubation Centers
- Digital Payments
- SME Access Government
- Business innovation Hub (digital)

Smart Asset Management

- Smart Retail Management.
- Smart Asset Management Toolkit
- Asset Management Dashboard
- Smart Warehouse Management
- Smart Asset GRS (Grievance Redressals System)

Smart Healthcare

- Smart Retail Management.
- Smart Tele-Health & Smart Hospital
- Pandemic Proof Hospitals of the Future
- AI-enabled Wellness Centre Policy
- Smart Wearables
- Digital Health Profile Using Blockchain (EMR & EHR)

8.4. Social Innovation Consulting Services

Community Engagement & Co-creation

- Smart Strategy design for different user group say citizens, city stakeholders, & urban communities for various smart city initiatives

Social Impact Assessment

- Smart & thorough assessment of impact of smart city projects & initiatives on different demographics & communities

Inclusive Design & Accessibility

- Policy Advisory on creation of infrastructure, services, & technology that are accessible to all (Elderly, Children& Toddlers, Migrants, Women, Differently Abled etc.)

Digital Inclusion

- Smart Advisory on Initiatives to bridge the digital divide & ensuring access to digital services, technology, & digital resources

Social Entrepreneurship Support

- Assisting in design & program modules to foster social entrepreneurship & social innovation in the city
- Advisory to support startup & initiatives addressing social challenges in the city

PPP Module for Social Innovation

- Assisting in designing facilitation module for collaboration between public & private players in the city to implement projects within the smart city framework
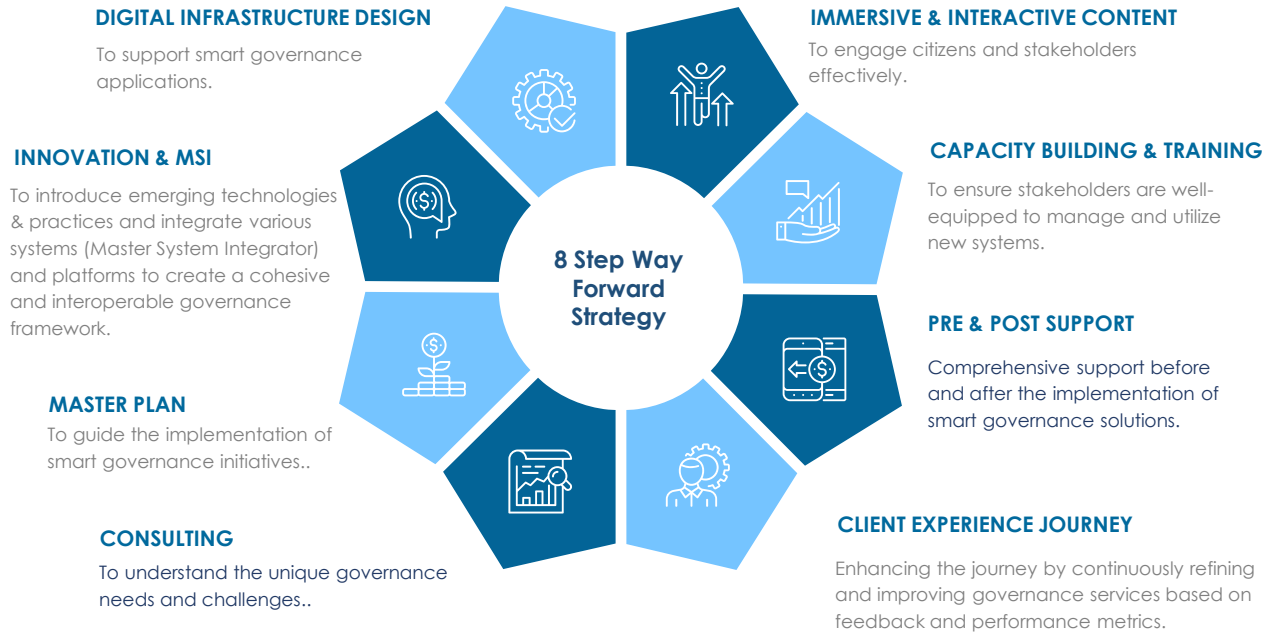
Social Sustainability Strategies

- Assisting in Developing & Implementation Strategies & SOPs for ensuring long-term sustainability measures for smart city initiatives

Smart Governance Programme

DIGITAL INFRASTRUCTURE DESIGN
To support smart governance applications.

INNOVATION & MSI
To introduce emerging technologies & practices and integrate various systems (Master System Integrator) and platforms to create a cohesive and interoperable governance framework.

MASTER PLAN
To guide the implementation of smart governance initiatives..

CONSULTING
To understand the unique governance needs and challenges..

8 Step Way Forward Strategy

IMMERSIVE & INTERACTIVE CONTENT
To engage citizens and stakeholders effectively.

CAPACITY BUILDING & TRAINING
To ensure stakeholders are well-equipped to manage and utilize new systems.

PRE & POST SUPPORT
Comprehensive support before and after the implementation of smart governance solutions.

CLIENT EXPERIENCE JOURNEY
Enhancing the journey by continuously refining and improving governance services based on feedback and performance metrics.

Planning   Delivery

Initiation   Execution   Solution

The Scope of Work in the Smart Governance Programme in specific domains can be broadly classified under two major components- Strategic Government Advisory and Project Management Consultancy. The detailed scope under each component may be as follows:

Smart Governance Programme

A. Strategic Advisory for Smart Governance Programme specific domain-wise preparation

The general scopes shall provide strategic inputs to the prospective clients during its formative weeks. Key tasks envisioned are as follows:

Smart Governance Programme Ground Setting Feasibility Studies:

- Conduct techno-commercial feasibility studies.
- Review the proposed domain under Smart Governance Program structure, and the role definition for the members of the senior management team.
- Review the proposed domain under Smart Governance program policies including Human Resource policy and draft code of conduct for employees, vendors, and service providers.
- Prepare the strategy and framework for citizen engagement and mass communication, and ensure compliance with smart governance blueprint guidelines in this regard.

Programme Design, Planning & Development
The scope of work shall include:

Strategy and Implementation Planning:
- Prepare the Smart Governance programme strategy and develop the project implementation plan and schedule.
- Review the documents available with the prospective clients and assess the need for further studies and analysis.
- Group projects under each functional head and into modules for implementation and for each module of projects, prepare an implementation plan with timelines.
- Review the organizational guidelines for key functions including procurement, accounting, legal affairs, public relations, knowledge management, and monitoring and evaluation.

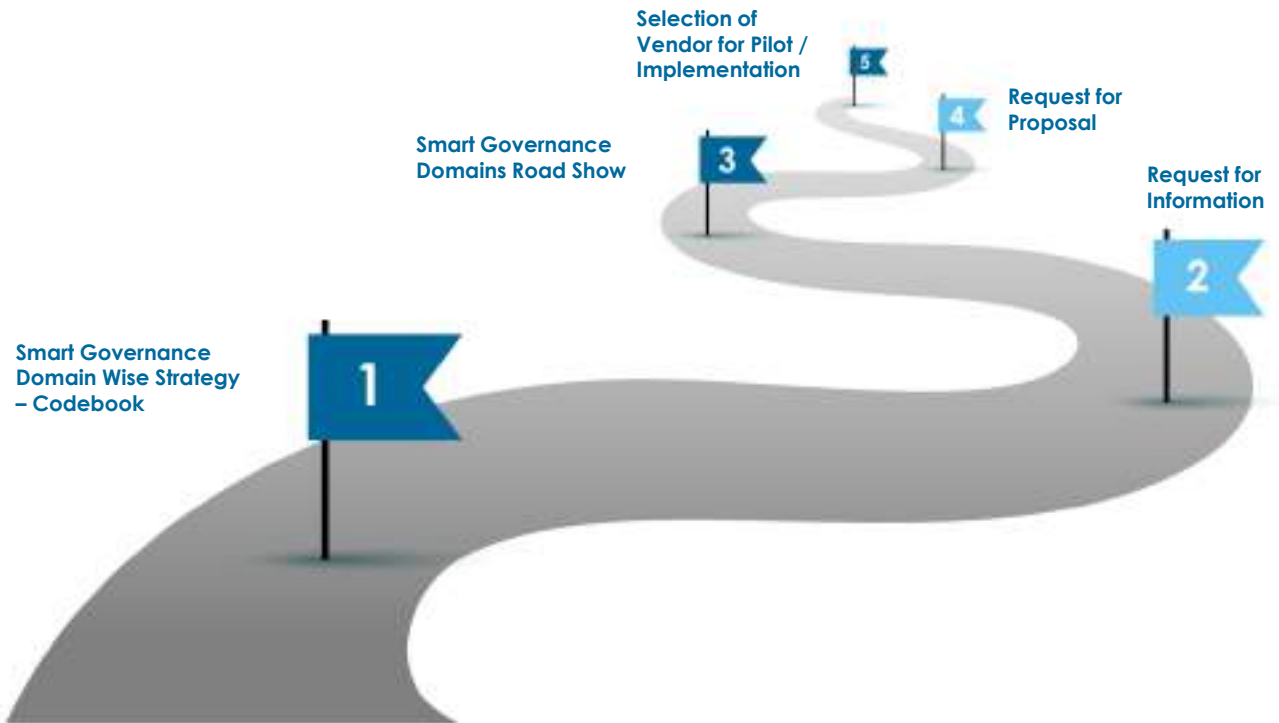**Project Management Consultancy Comprehensive Support**:
- Support the prospective clients in Smart Governance program in overall project management including designing the initiative.
- Prepare the proposed domain Smart Governance program strategy which will include a financing plan for the complete life cycle of the proposal. This financial plan will identify internal (taxes, rents, licenses and user charges) and external (grants, assigned revenues, loans and borrowings) sources of mobilizing funds for capital investments and operation and maintenance over the life cycle of the project.
- The financial plan will provide for sources for repayment of project cost over a period as per the prospective client O&M cost and also include resource improvement action plan for financial sustainability of the prospective client.

Smart Governance Programme

B. Implementation Journey Way Forward

The prospective domain-wise client should on-board the Smart Governance Programme for RFI to gauge market interest and collect intelligence on the type of specifications solutions providers may offer as end-to-end delivery, which can be further followed by RFP preparation, vendor selection, and program management for pilot implementation. The tentative timelines for procurement and implementation should be approximately 52 weeks (9-12 months).

Smart Governance Domain Wise Strategy – Codebook

Smart Governance Domains Road Show

Selection of Vendor for Pilot / Implementation

Request for Proposal

Request for Information

Procurements (3-4 months Average)

- Program management (throughout implementation)
- Selection of the Smart Governance Programme solution & services provider
- Defining the detailed solution requirement
- Supply of hardware/software/equipment from the date of signing the contract (T+20 weeks)
- Delivery challan
- Invoice copy
- Standard product inspection reports from a third party
- Warranty certificate issued by respective OEMs for each hardware/software (back to back, in the name of client also)
- License in case of software
- Licensing & Manufacturer Authorization Form (MAF)

Smart Governance Programme

Build (3-4 months Average)

- **Hardware & Software Installation**- Integrating Hardware with relevant software system while ensuring seamless communication and interoperability
- **Device Wise Configuration Report**- Comprehensive report detailing the configuration of each device.
- **Routing**- Documenting Routing Details for Network Configurations
- **Software Installation Guide**- Detailed Installation Steps
- **Checklist**
- **Operation & Maintenance Manual**
- **Client Approval Report**- Standardized Format
- **UAT/Testing Report**-
- **Help Desk & SLA Report**
- **Configuration Change Report**
- **Inventory Reports**
- **UAT & Commissioning**
- **Certification & Rectification-** Issue completion certificate
- **UAT Rectification**-Rectify issues found during UAT & update reports
- **Go Live-** Transitioning the System to live operation by T+42 weeks
- **Operational Verification-** Ensure all project locations are fully operational

Operate (3-4 months Average)

- **Operational Inspection**- Conduct a satisfactory working inspection at T+54 weeks.
- **Approval & Submission-** Submit and approve the inspection report for continued operation.
- **Annual O&M-** Provide comprehensive annual operation and maintenance post-go-live.
- **Location Status-** Ensure all project locations remain operational after satisfactory inspection.
- **Quarterly SLA Reports-** Submit quarterly SLA Compliance Reports
- **Preventive Maintenance**
- **Change Management**
- **Inventory Updates**
- **Additional Reports**
- **User Feedback**- Collect and report quarterly user feedback location-wise.
- **Bandwidth Utilization**-Monitor and report quarterly bandwidth utilization per location.
- **Uptime Reporting-** Report daily uptime on quarterly basis for each location
- **User Complaints-** Compile and report quarterly user complaints location-wise.

10. Conclusion

In summary, the Smart Governance Programme represents a transformative and forward-thinking approach to modernizing public administration. By leveraging advanced technologies and innovative strategies, this program aims to enhance efficiency, transparency, and citizen engagement in governance processes. The success of this program hinges on its ability to address diverse challenges across various sectors, fostering a responsive, inclusive, and data-driven governance framework.

Integration of Advanced Technologies
Embrace IoT, AI, Blockchain, and big data analytics to optimize governance operations and decision-making.

Citizen-Centric Approach
Prioritize the needs and feedback of citizens to create more participatory and transparent governance structures.

Sustainability and Resilience
Ensure that governance solutions are sustainable and resilient to adapt to evolving societal and environmental challenges.

Collaboration and Partnerships
Foster strong collaborations between public, private, and nonprofit sectors to drive innovation and resource sharing.

Continuous Improvement
Regularly evaluate and refine governance processes and technologies to maintain effectiveness and address emerging issues.

Regulatory Compliance
Implement robust frameworks to ensure adherence to legal standards and promote ethical governance practices.

Scalability and Flexibility
Design systems that can scale with growing populations and adapt to changing technological landscapes.

Security and Privacy
Prioritize the protection of citizen data and ensure secure communication channels to build trust in digital governance.

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Foreword

" *In the current stage of Smart City-Xspaces development and governance in the Kingdom of Saudi Arabia and globally, we are witnessing a profound transformation driven by advancements in technology, infrastructure, and policy integration. The Smart Governance Programme by SDP Group of Companies aims to address governance complexities, budgeting constraints, and diverse stakeholder perspectives by leveraging smart technologies. Our objective is to collaborate with partners across all sectors to create adaptive, sustainable, and efficient systems. By launching this programme, we aim to set new standards in efficiency, transparency, and citizen engagement, transforming governance into a dynamic, inclusive, and participatory process.* **"**

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