

SMART GOVERNANCE, URBAN DATA, AND ORGANIZATIONAL NEEDS TOWARD JAKARTA SMART CITY

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EDUCATION

- S1 ITB, Bandung - Indonesia (1986)
- S2 Meisei University, - Jepang (1994)
- S3 The University of Tokyo, Tokyo - Jepang (1998)

WORK/PROFESSIONAL EXPERIENCE

- Chairman of the Smart Indonesia Initiatives Association (2016 – present)
- Senior Advisor for the Defense Industry Policy Committee, Ministry of Defense of the Republic of Indonesia (2020 – present)
- Board of Commissioners of PT Kereta Api Indonesia (2018 – 2021)
- Member of Smart City Board of Bandung (2014 – present)
- West Java APRIKOM Advisor (2013 – present)
- Vice President International Academy of CIO Center at Waseda University Japan (2010 – present)
- Special Staff Of The Minister Of Communication And Informatics (2007 – 2009)



JAKARTA



NUSANTARA



FROM CAPITAL TO NEW MODERN CITY



ABSTRACT

Jakarta's Future Development Concept is to become a city that can compete with other major cities, with the goal of making Jakarta the global business and economic centre. The city of Jakarta has a tagline, "A City for Everyone," with a planning focus on the built environment, economics, people, and governance. Various innovations are needed to support solving or challenging problems in Jakarta. One of the approaches Jakarta uses to solve problems is "smart city." The presentation will focus on how to provide urban infrastructure and smart governance for smart city implementations in Jakarta that focus on data integration and digital transformation. In addition, we will discuss on the smart city organization and collaboration to achieve the Jakarta Smart City goal.



Changes in Society Cause...

Digital City
 The part of the city becomes the living location of city data and information. Connect to the Physical City using a cyberphysical interface.



Physical City
 The part of the city that is the main location for social, economic interaction. Provide environmental resources and carrying capacity.

...changes in the structure of the city



THE CHALLENGES SMART SOCIETIES





The world of humans



These are humans



The world of animals



These are animals

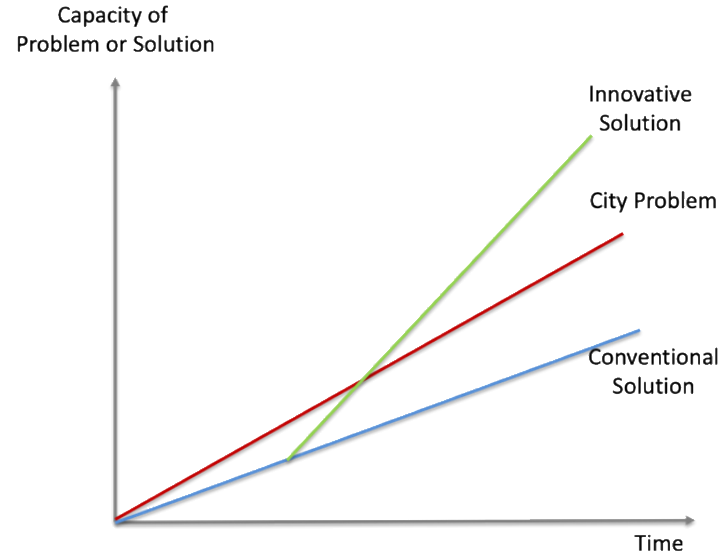


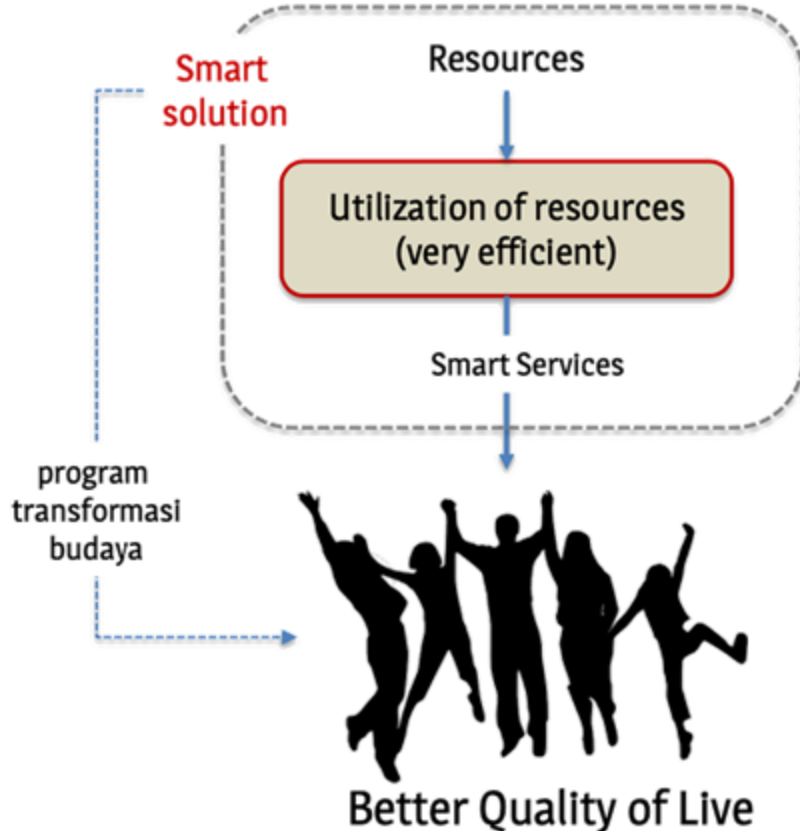
People have become educated, but have not become human.

CITIES CHALLENGES (MEASURABLES VIEW)

- Challenge of **integration**
- Challenge of **scalability of capacity**
- Challenge of **responsiveness and timely**
- Challenge of **reliability**
- Challenge of **efficiency**
- Challenge of **service continuity (sustainable)**

- **Complexity** of city problem is growing fast.
- In most cases, **capacity of conventional solution cannot fulfill** the capacity demand of city problem
- City **need innovative solution** that provide **higher and scalable capacity** of solution
- ICT (Information & Communication Technology) is potential enabler that enable innovative and effective solution and create high capacity of solution
- **But**, it should be noted that **ICT is not the only solution**, and Smart City is **not equal to ICT city or digital city**.

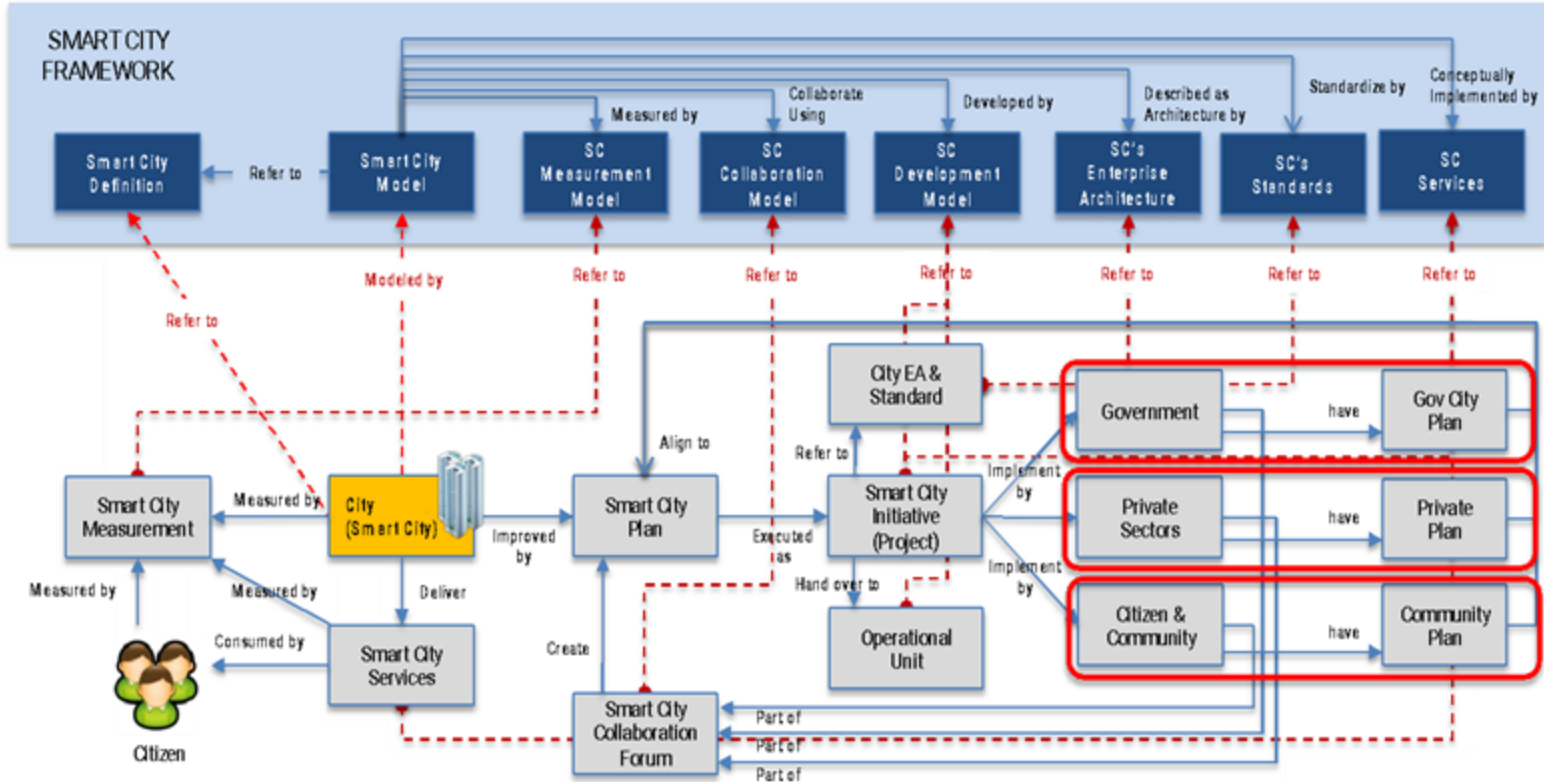




a city that can solve various city problems using **smart solutions** that **utilize resources (especially technology) very efficiently** to **provide smart services** that can **improve the quality of life**, supported by **cultural transformation** efforts towards a **smart society**

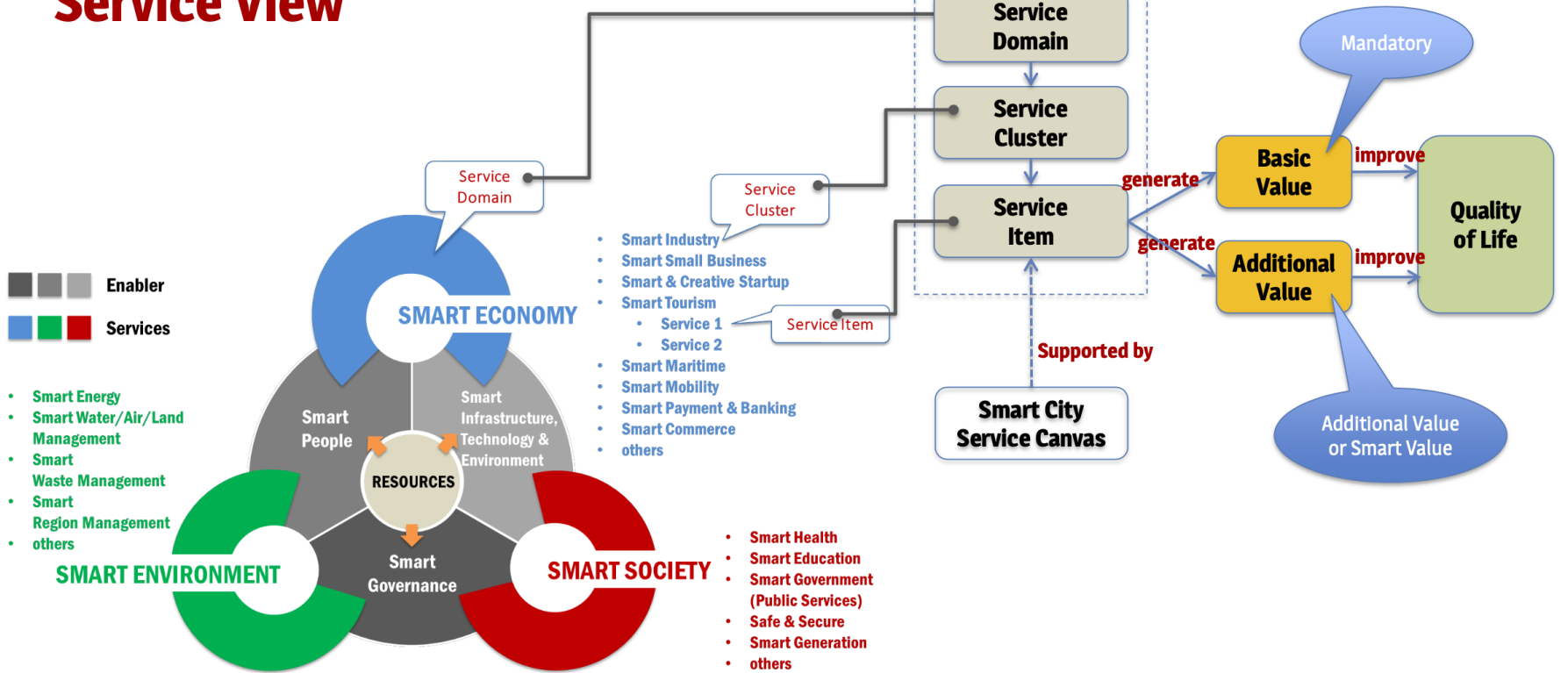


SMART CITIES FRAMEWORK



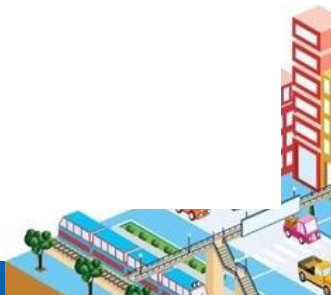
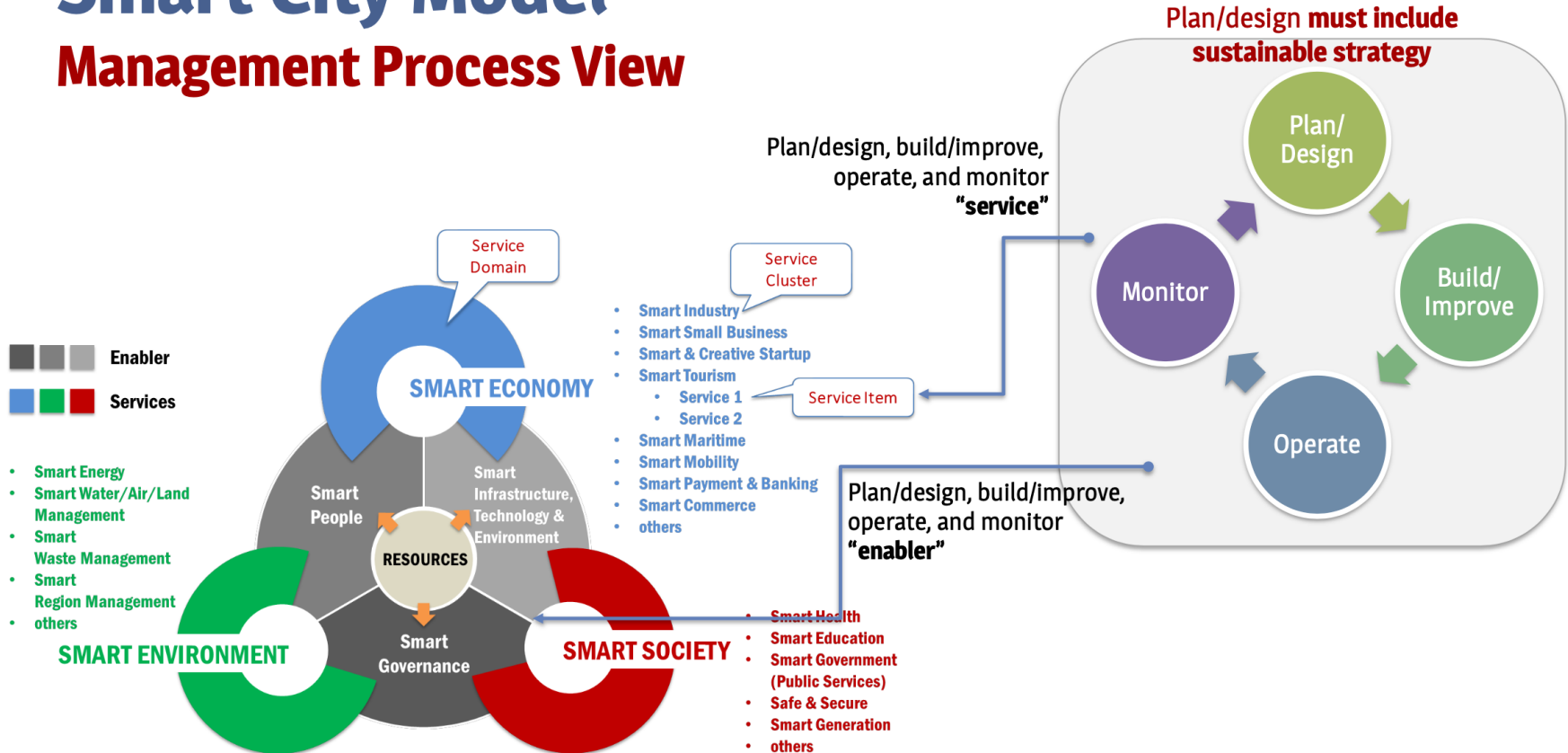
Smart City Model

Service View



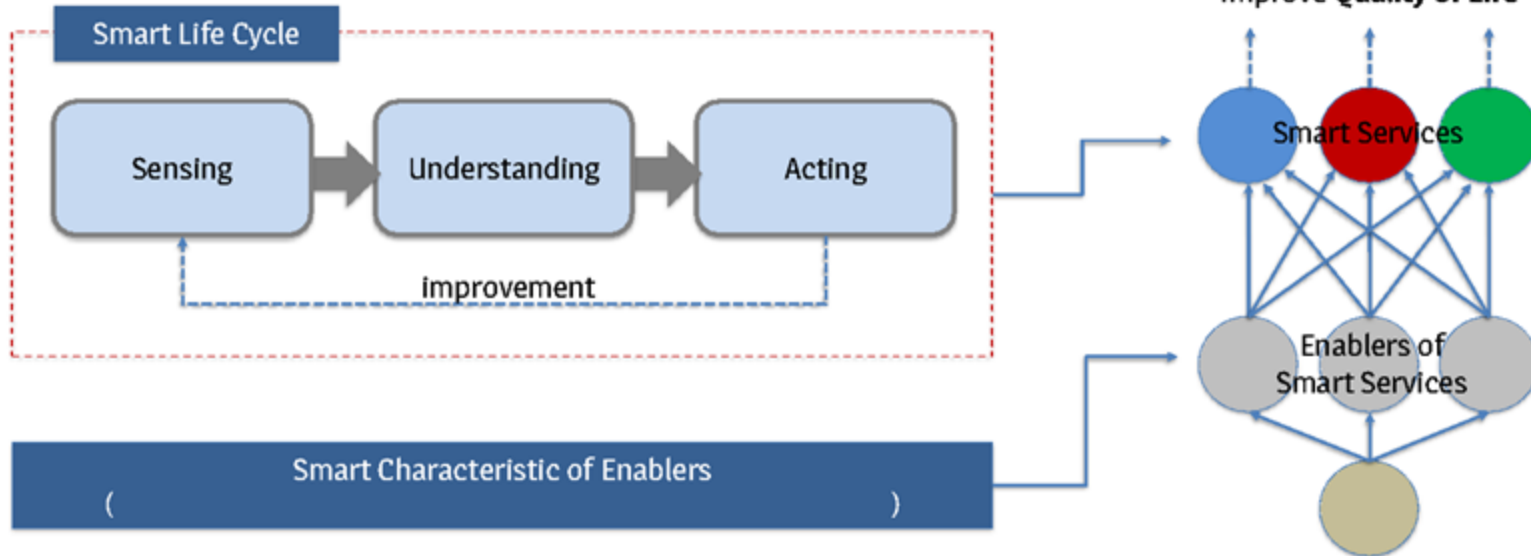
Smart City Model

Management Process View



SMART CITIES ARCHITECTURE

Architecture View



DKI JAKARTA DEVELOPMENT CONCEPT AND PRIORITIES

Jakarta's Future Development Concept

Become a city that can compete with other big cities in the world, with realize Jakarta as the center of global business and economy

JAKARTA: A CITY FOR EVERYONE

Planning Focus

Built Environment

Economic

Human

Governance

Source: DKI Jakarta Province Regional Development Plan (RPD) 2023-2026



STRATEGIC ISSUES DKI JAKARTA FOR 2023-2026

01

Disaster
Resilience

02

Dynamic
government and
public service
transformation

03

Inclusive
Economic
Resilience

04

A digital and
community based
sustainable city

05

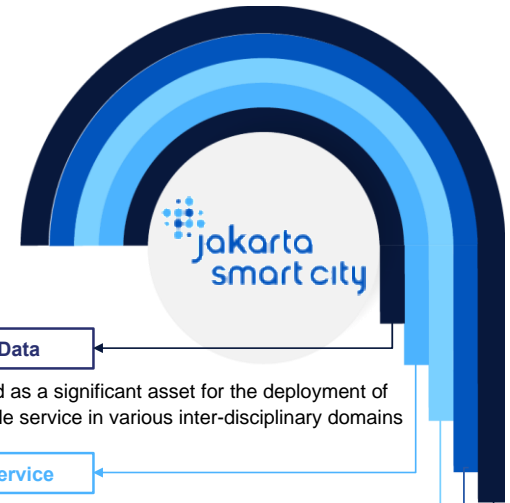
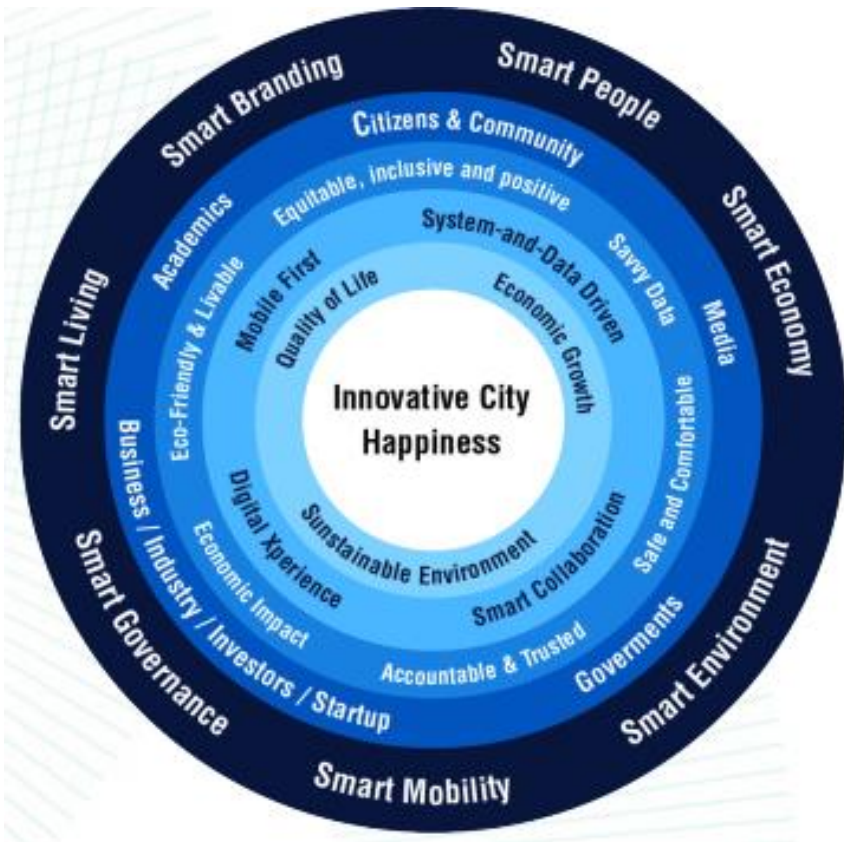
Humans are
healthy,
competitive
and equal

06

Equitable
development



JAKARTA SMART CITY 4.0 FRAMEWORK



Smart City as a Data

City data is recognized as a significant asset for the deployment of SC data impact multiple service in various inter-disciplinary domains

Smart City as a Service

Providing secure, reliable, and fast integration based on API (Application Program Interface) public services to citizens

Smart City as a Platform

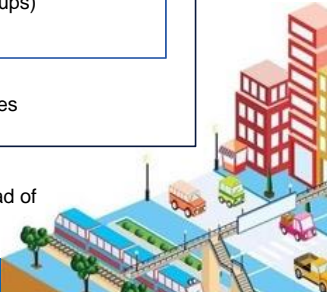
Jakarta has created digital platform that are ready to be used for city Co-creators (e.g. communities, industries and start-ups)

Smart City as a Hub

Integration of various data platforms from differet services

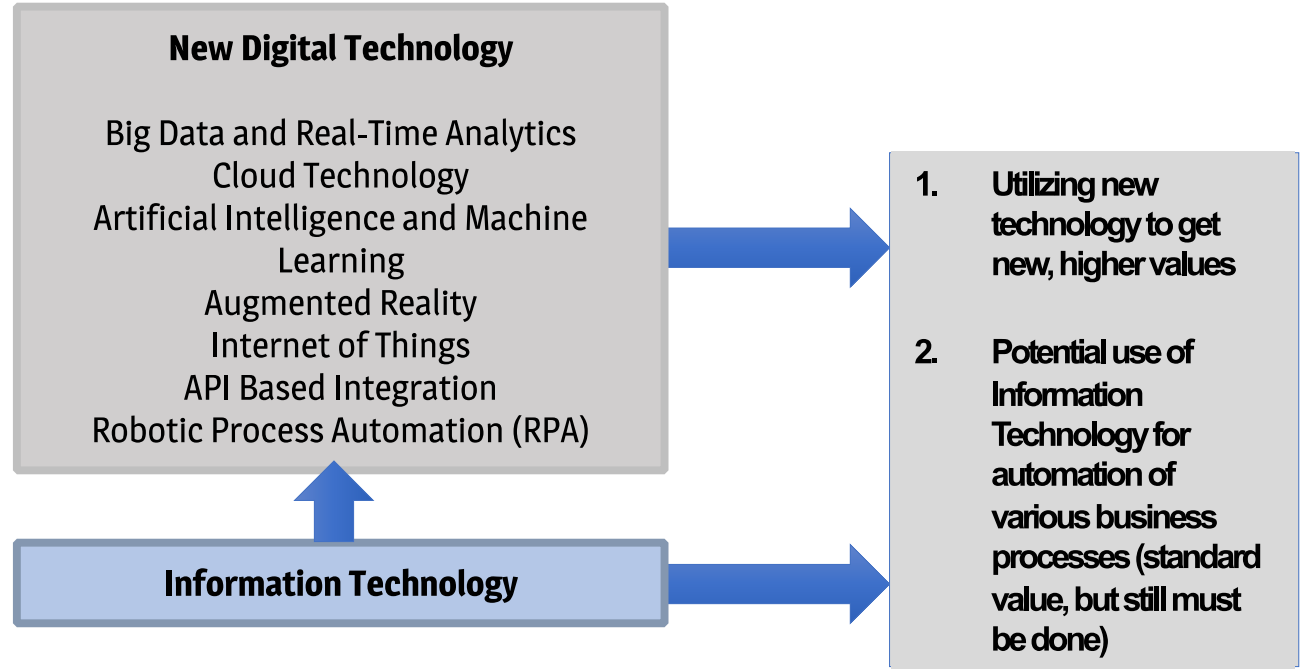
Smart City as an Ecosystem

Building new business models for SC ecosystems instead of depending on financial restrictions (e.h. APBN/APBD)

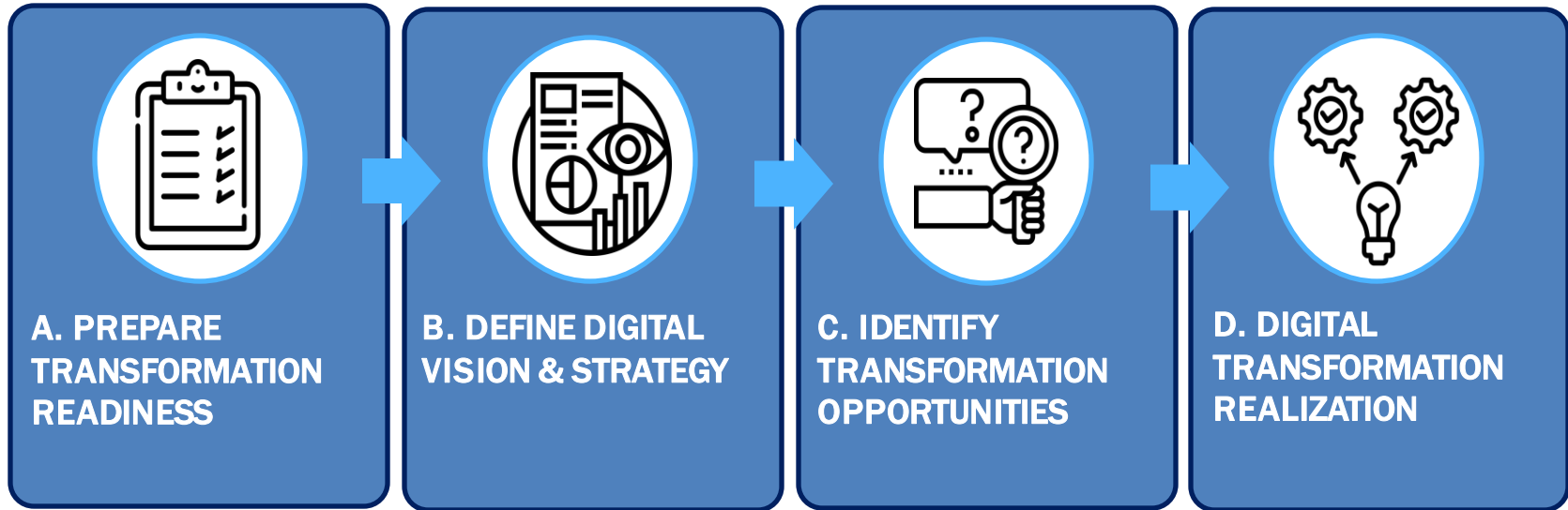


DIGITAL TRANSFORMATION

The process of transitioning services from the old to the new by taking advantage of opportunities to use digital technology as much as possible appropriately to result in significant performance and efficiency improvements is known as digital transformation.



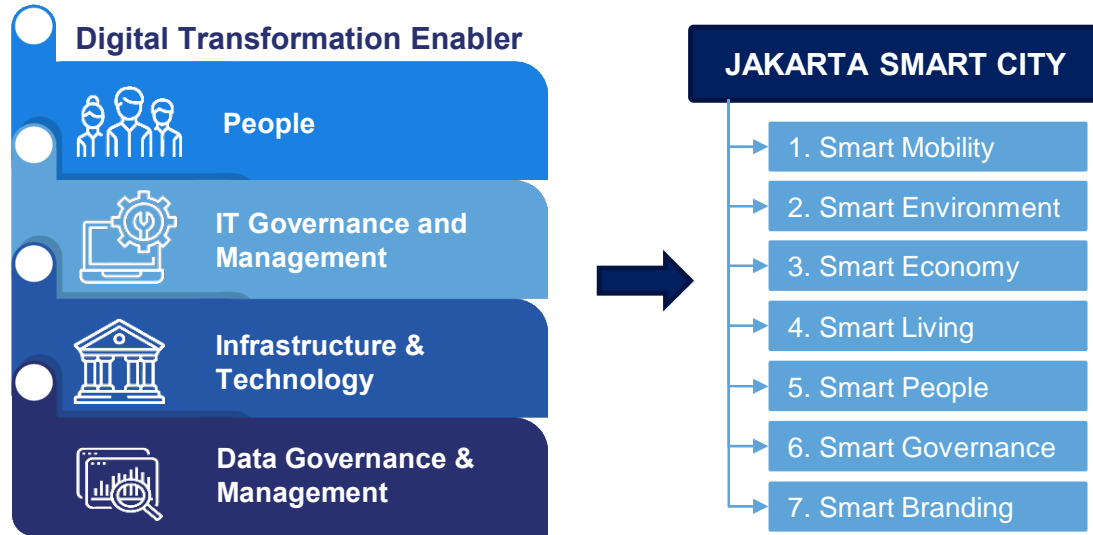
GARUDA DIGITAL TRANSFORMATION FRAMEWORK



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DIGITAL TRANSFORMATION TO SUPPORT JAKARTA SMART CITY



People

- Digital Leadership
- Digital Literacy
- Resource and Support Commitment

IT Governance & Management

- Vision & Strategy
- Organization Structure
- IT Capabilities
- Digitalization Stage (Digitation, Digitalization, Transform)
- Inclusivity

Infrastructure & Technology

- Connectivity
- Infrastructure
- Integration Platform
- New technology

Data Governance & Management

- Data Governance and Management Policies, Procedures, and Standards
- Data Organization



THE LINK BETWEEN SDGs AND THE 3 DIMENSIONS OF SUSTAINABLE DEVELOPMENT

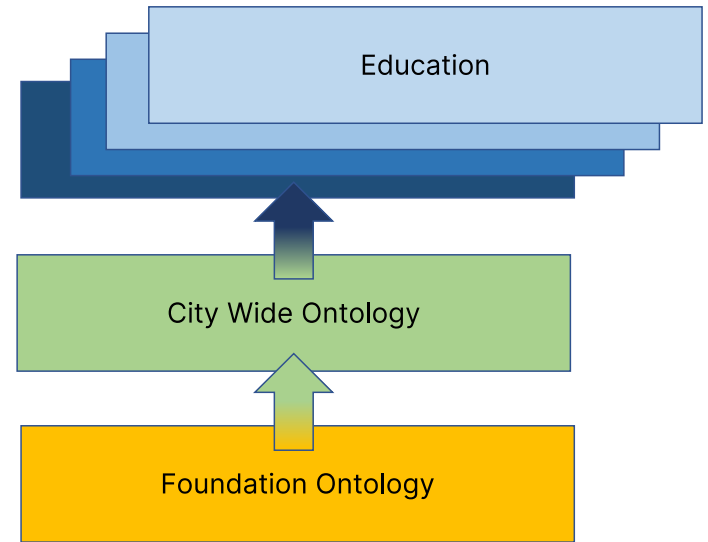
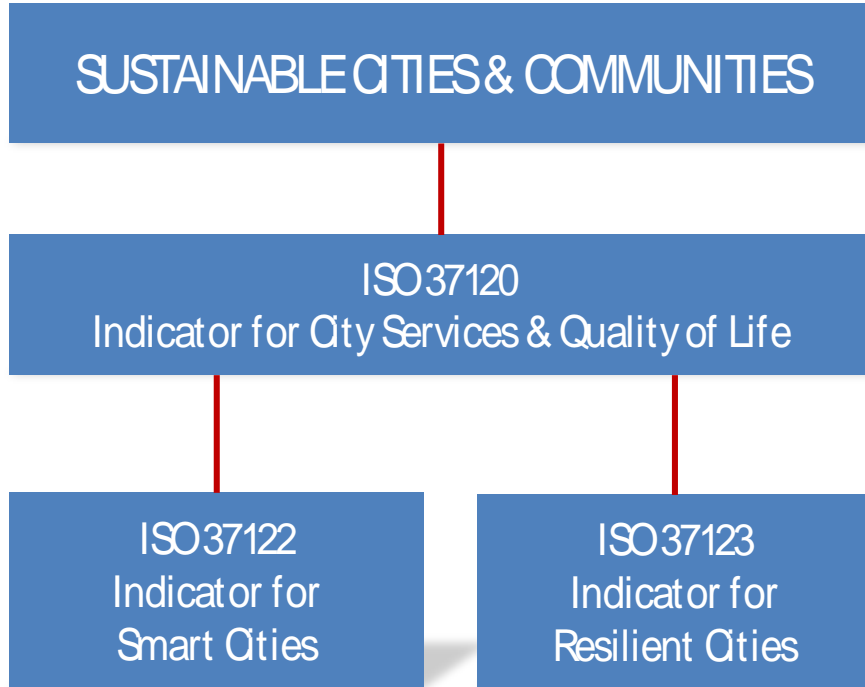


Source: IRENA (2017), Rethinking Energy in 2017: Accelerating the Global Energy Transformation, International Renewable Energy Agency, Abu Dhabi.



ISO FOR SDG'S AND SMART CITIES

ISO 37101, Sustainable development in communities—Management system for sustainable development —Requirements with guidance for use



ISO/IEC 5087 Series of City Data Standards

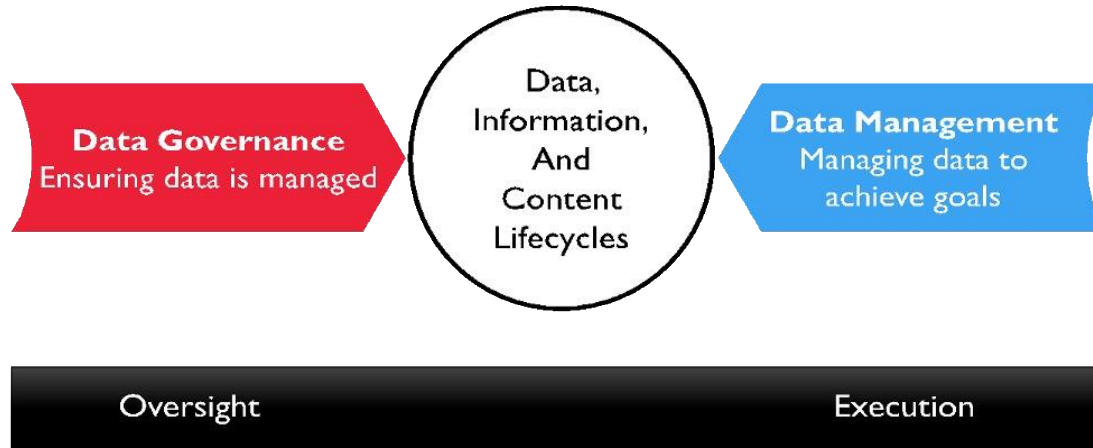
- **Service Level (5087-n)** spans concepts commonly associated with a particular service but still shared with other services, such as Vehicles and Transportation network. *Can be read by multiple services but updated only by one service.*
- **City Level (5087-2)** spans concepts that are general to cities and span all services such as Households, Services, Residents. *Can be read and updated by multiple services.*
- **Foundation Level (5087-1)** spans very general concepts such as Time, Location, and Activity, upon which other levels are based.



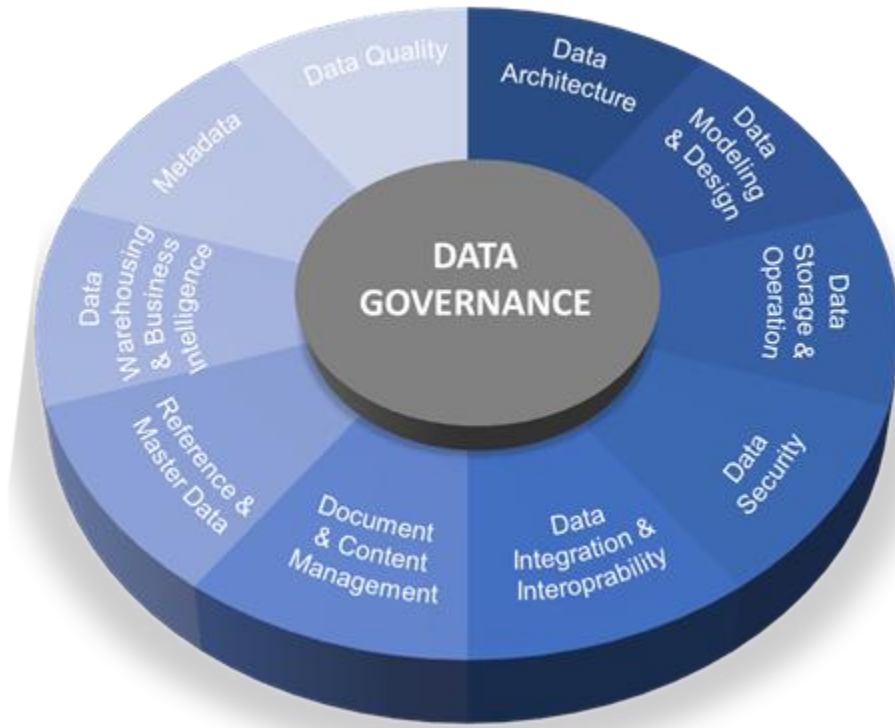
URGENCY OF DATA GOVERNANCE

Data is an asset, 'data as currency', 'data as life blood', and 'the new oil'

Organizational actors are aware of the problems regarding data that continue to emerge

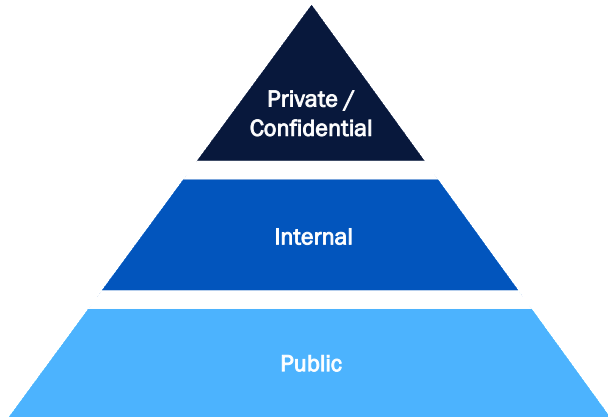
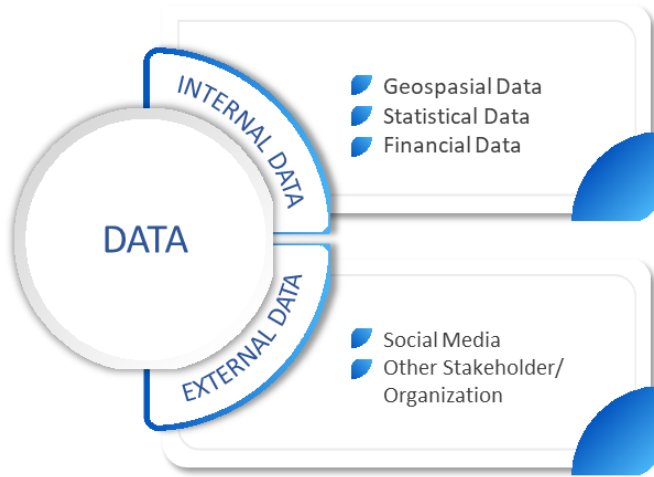


DATA GOVERNANCE MODEL (DAMA DMBOK2)



- To break down data silos in the Jakarta Smart City.
- Aims to harmonize data through a collaborative process involving stakeholders from multiple business units.

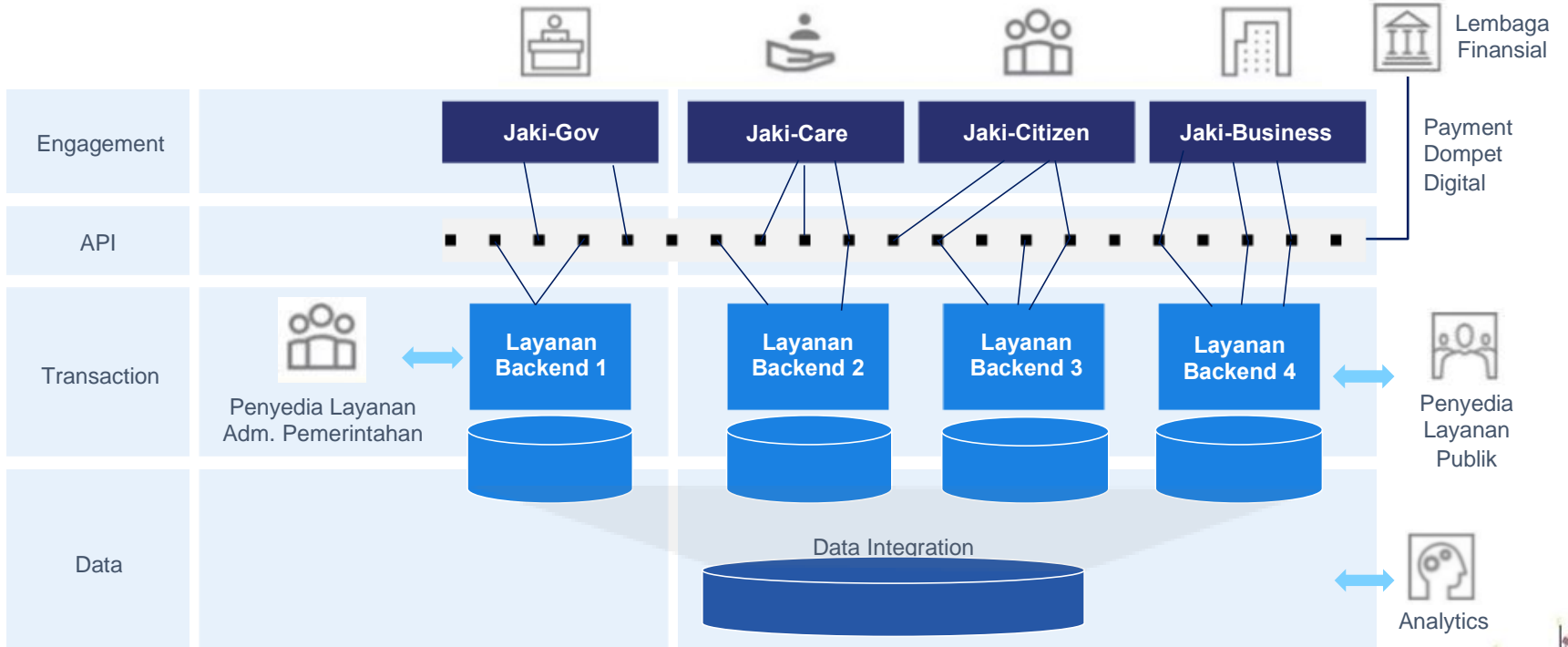




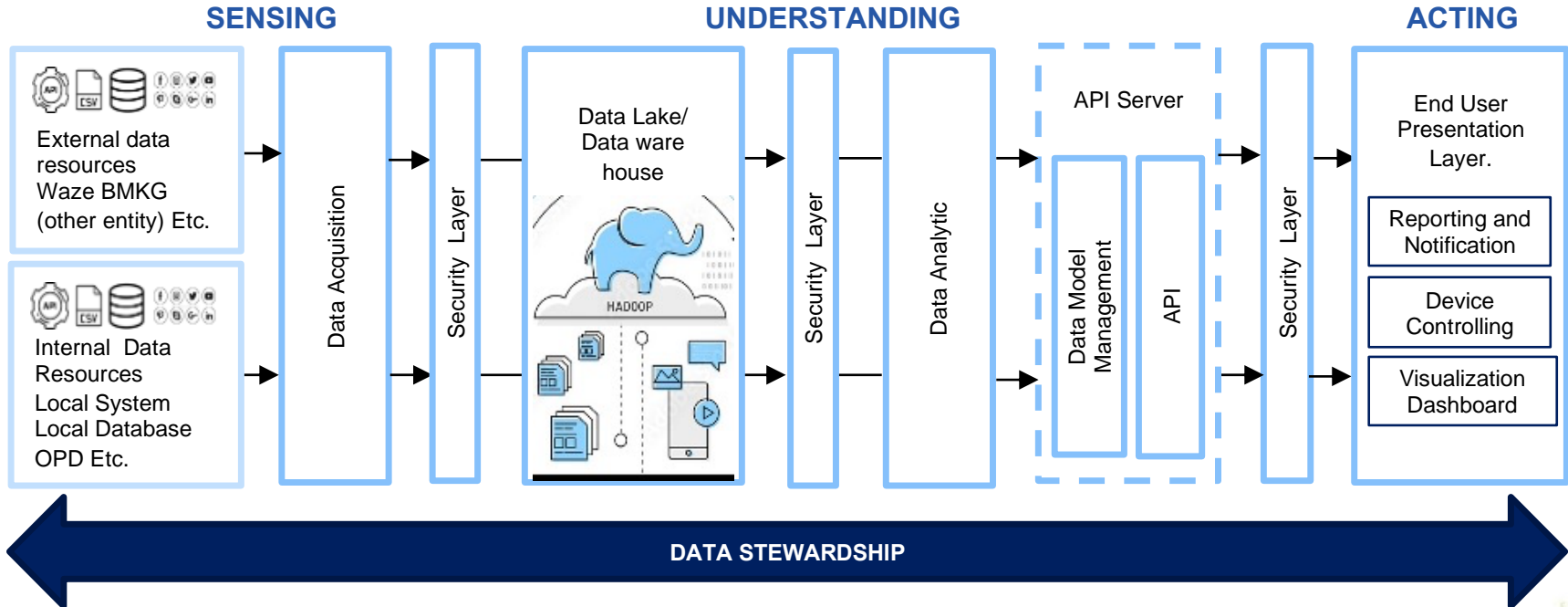
- **Public:** Data in this category typically has been approved for public access and or intended for public disclosure
- **Internal:** Data in this category is typically non-sensitive information that is not released to the public. Intended for use within the DKI Jakarta Provincial Government and authorised third parties
- **Private / Confidential:** Data in this category is typically sensitive information intended for use by a specific group, organisational unit, named individuals, roles, positions within the DKI Jakarta Provincial Government, and authorised third parties



DATA INTEGRATION FRAMEWORK FOR FUTURE JAKARTA CITY



INTEGRATED FRAMEWORK FOR PERIODICAL DATA COLLECTION JAKARTA CITY





Government Platform

One stop Services

Citizen-designed Services

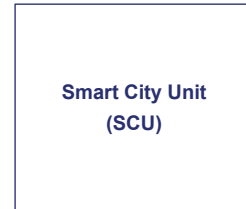
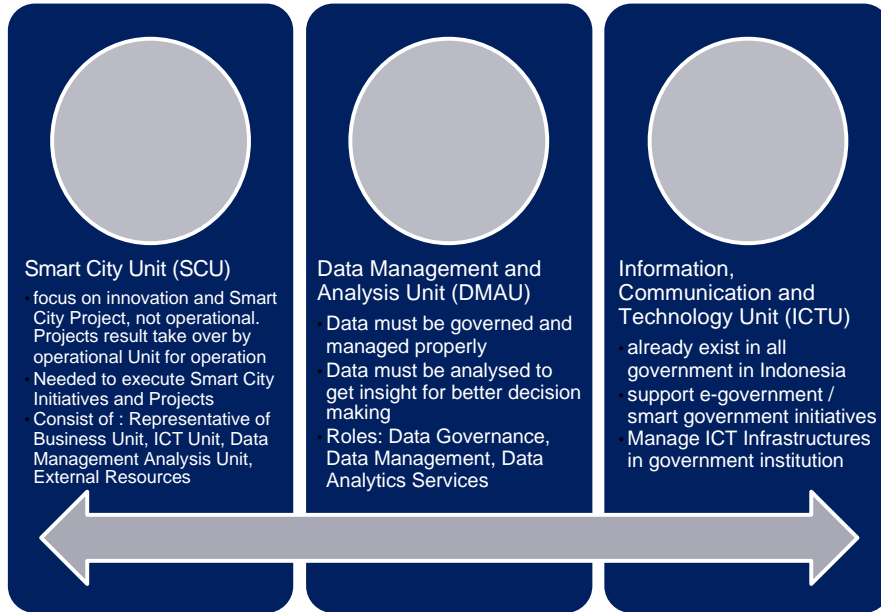
Digital ID

One platform for your daily needs in Jakarta

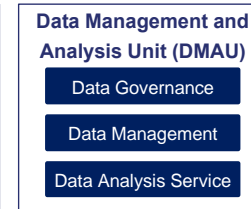
From reporting the city's problems to checking today's groceries prices, find all you need in Jakarta super-app.



ORGANIZATION RELATED TO SMART CITY



Jakarta Smart City (JSC) Unit



DKI Jakarta Provincial Communication,
Informatics and Statistics Office (Diskominfotik)

The Jakarta Smart City Unit performs the following duties:

- Smart City Unit Function
- data management function
- Data Analysis Service Function

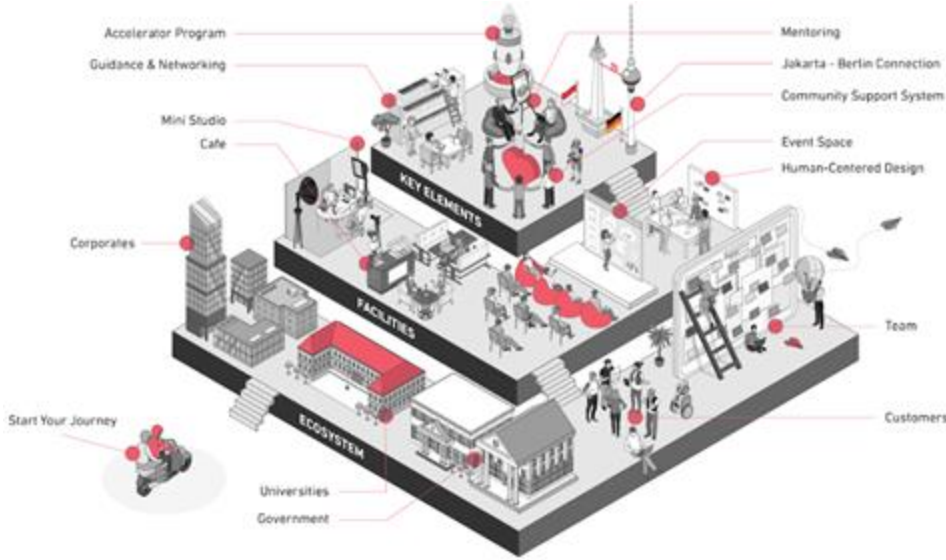
Meanwhile, the DKI Jakarta Provincial Communication, Informatics, and Statistics Office (Diskominfotik) will perform the following functions:

- ICT Unit Function
- Data Governance Function

Organizational changes for the Jakarta Smart City Unit are carried out to increase the **value** given to the business, **improve performance** and obtain an **agile management** organization for developing the smart city itself and the **DKI Jakarta Province needs**.



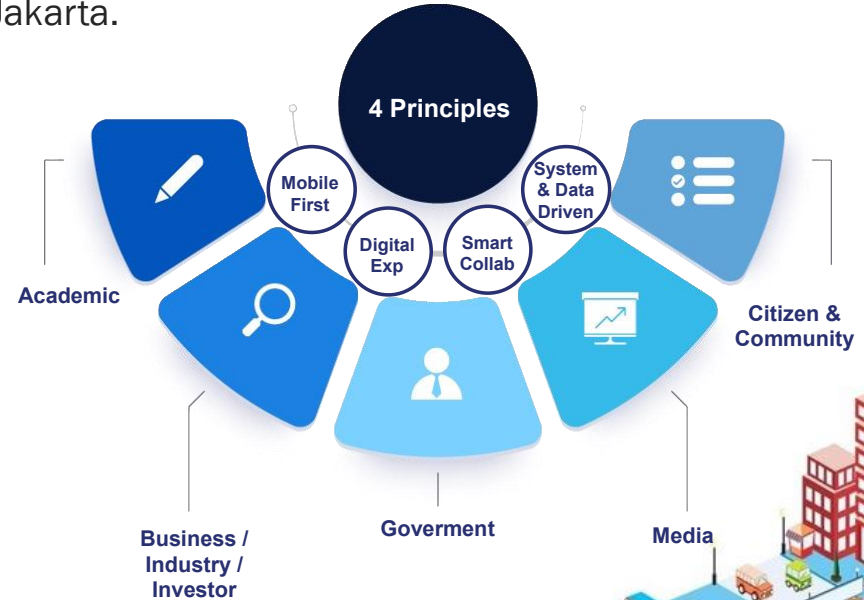
COLLABORATION



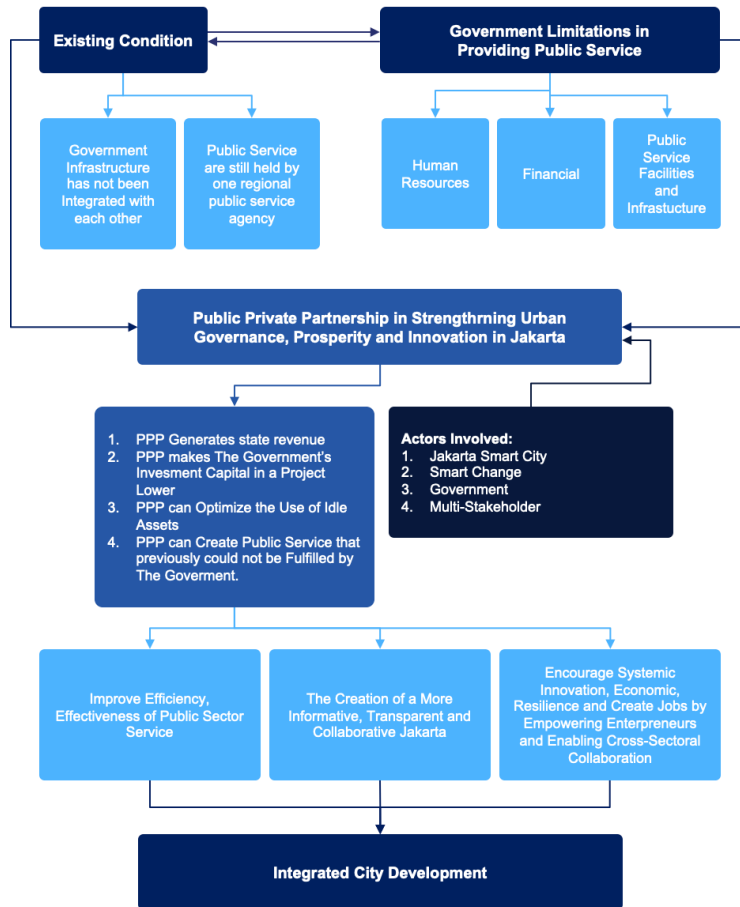
The future city hub is a collaboration space for developing innovative urban solutions for Jakarta. It is hoped that co-creators and collaborators can jointly develop a sustainable smart city ecosystem for Jakarta residents.

The integration required is not only related to data and information; it also integrates various stakeholders.

The concept of city 4.0 aims to improve active participation and engagement of city co-creators, such as city stakeholders and residents, in building a better Jakarta.



PUBLIC-PRIVATE PARTNERSHIPS FOR SMART CITY DEVELOPMENT

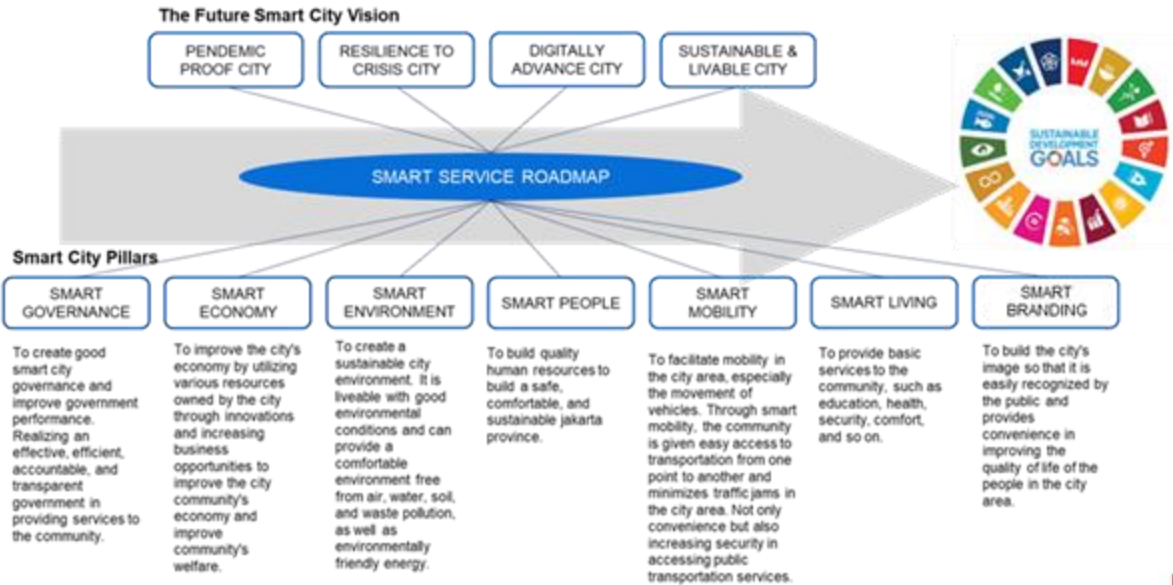
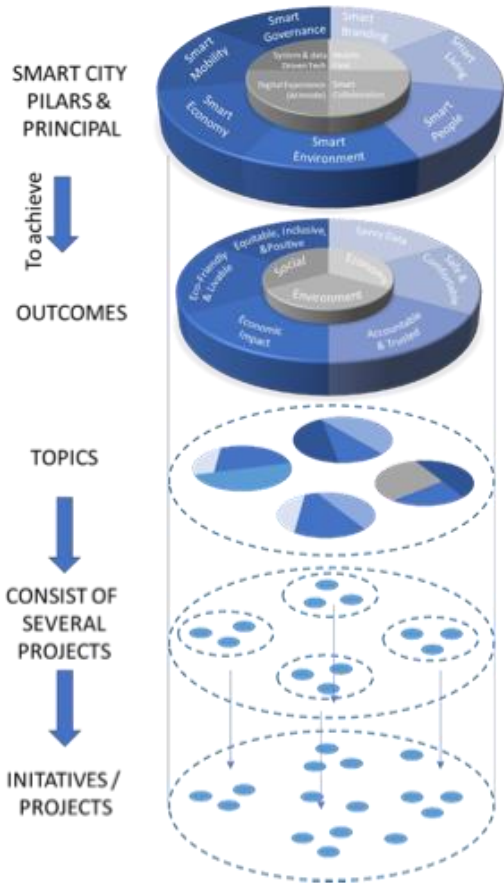


SOE/Pure Private Participant Scheme	KPBU Scheme	International Funding / Financing Support Scheme
<ul style="list-style-type: none"> • Source of Funds: Support from APBDM BUMD and/or Private Sector • Procurement Method: SOE and/or Private Procurement • Forms of Assignments to SOEs as Contractors and Operators or in Cooperation with the Private Sector 	<ul style="list-style-type: none"> • Source of Funds: State Budget and/or Private Business Entities • Procurement Method: PPP Procurement 	<ul style="list-style-type: none"> • Source of Funds: International Funding • Procurement Method: Procurement of Goods and Services in Accordance with Circumstances and Implementation Needs

These three models are ideal ones for partnerships to be able to develop smart cities in DKI Jakarta, where financing does not depend on the government's APBD so that they can be flexible if there are changes according to the required city conditions.



SMART CITY IMPLEMENTATION FOR DKI JAKARTA



Use Case Study “Healthcare”

❑ Conditions of Health Care

1. Health facilities that are not up to standard and inadequate
2. Lack of human resources so that there are many limitations in providing services
3. The service system has been carried out online and offline
4. Telemedicine has been implemented but has not been effective
5. Patients can reach 100 patients / day
6. Too many patients cannot be accommodated because the place is not up to standard, so an online queuing system is needed
7. Services are scheduled and limited to 30 people/day

❑ Initiative

TELEMEDICINE

“Utilize Information Technology to expand achievements without having to add new facilities”

❑ Problem

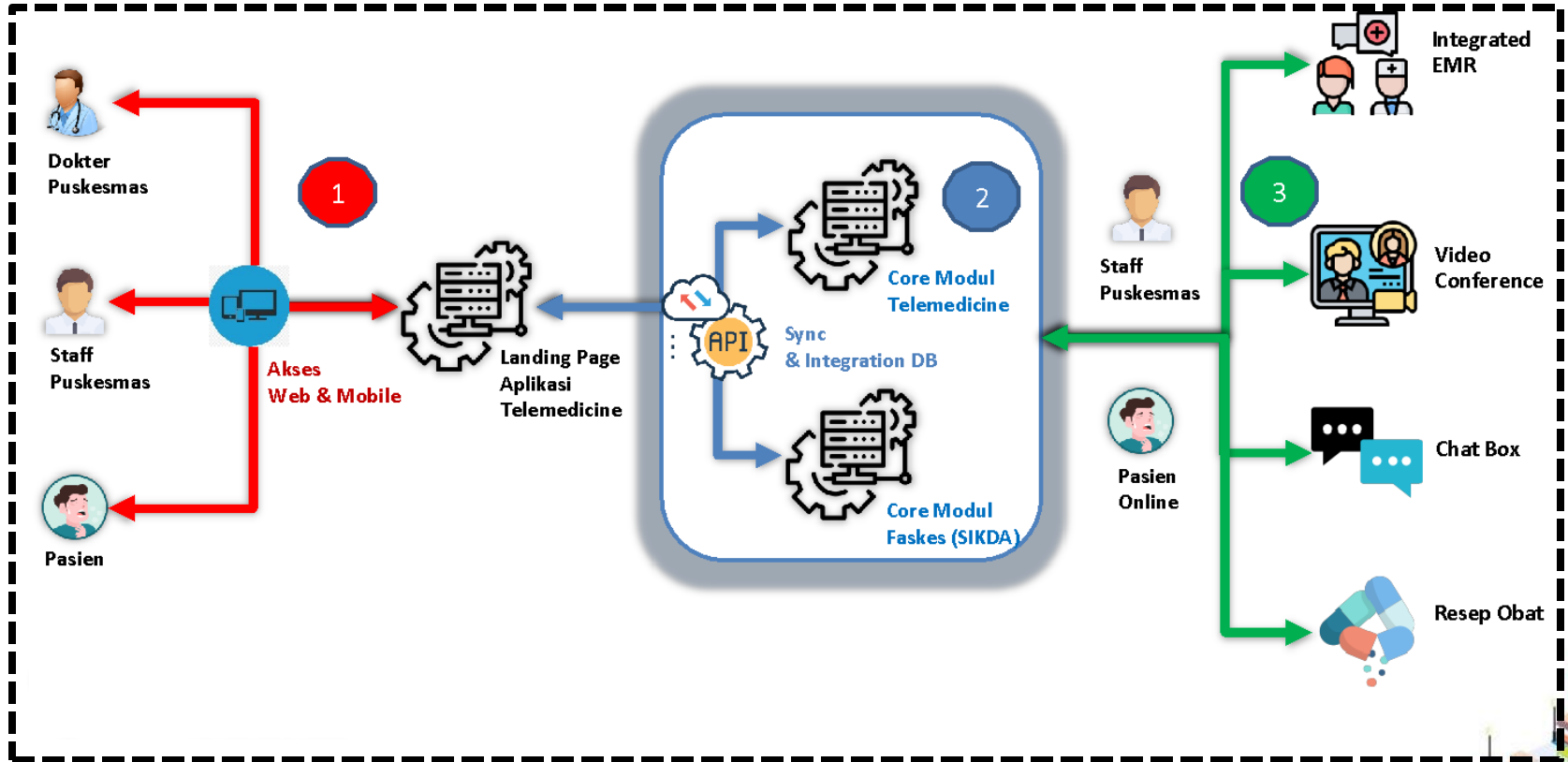
1. To build more puskesmas/health facilities and their supporters, including health workers, will require a lot of energy (time, money).
2. Patient data is a sensitive matter that must be protected so there is a need for governance of the use and exchange of data (paying attention to various aspects in the DAMA DMBOK V2 as a framework). The data must be integrated with data at the DKI health office and government hospitals
3. Patient registration depends on the Admin Hotline so that the possibility of unrecorded data is very large
4. There is no system that automatically accommodates patient registration data and automatically generates scheduling data
5. Prospective patients cannot know the situation in the health facility in real-time (queues, number of patients, etc.)
6. The Hotline system is still very dependent on admin availability

❑ Indicators

1. Health services carried out and directed to increase access and service quality. In terms of primary health services directed at promotive and preventive service efforts, through a continuum of care approach and health risk-based interventions both in clinical governance, management governance and program governance.



SOLUTION IMPLEMENTATION ARCHITECTURE





THANK YOU

