

KUCHING TOWARDS SMART AND LOW CARBON CITY

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DEWAN BANDARAYA KUCHING UTARA





47

ECONOMIC SECTORS :

29 Strategic Actions

ENABLERS :

18 Strategic Actions

STRATEGIC ACTIONS OF SARAWAK DIGITAL ECONOMY TRANSFORMATION



**SARAWAK
DIGITAL ECONOMY
STRATEGY 2018 - 2022**

The Chief Minister of Sarawak, Datuk Patinggi (Dr) Abang Haji Abdul Rahman Zohari Bin Tun Datuk Haji Openg announced the Sarawak Digital Economy Strategy (2018-2022), a five-year plan that will help the State leapfrog into the digital economy and be at the forefront of the digital world.

A strategic framework has been drawn up, with Agriculture, Manufacturing - Industry 4.0, Tourism, Smart City, Digital Health, e-Commerce and Digital Government as anchor sectors of the Sarawak Digital Economy Strategy. These are supported by Digital Infrastructure, Digital Skills and Talent Management, Research & Development (R&D), Digital Innovation and Entrepreneurship (Technology Transfer and Commercialisation), Digital and Data (Big Data) as well as Cyber Security as enablers. The framework also encompasses Social Sectors and Digital Inclusivity.

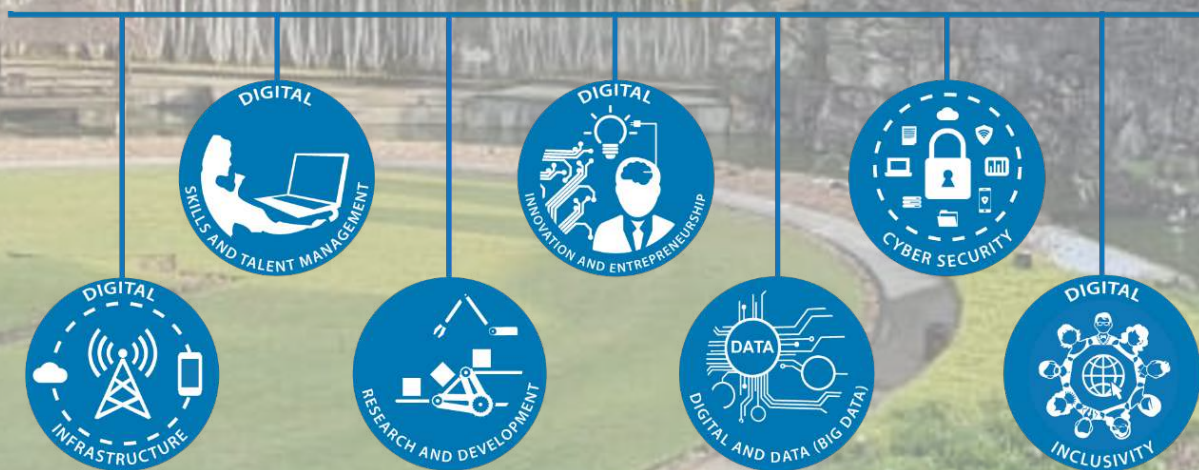
Link for Sarawak Digital Economy Strategy 2018-2022 eBook : [Click Here](#)



Scan Here for eBook



THE 8 FOCUS SECTORS & 7 ENABLERS SARAWAK DIGITAL ECONOMY



The implementation of the digital economy will open doors to the world and usher in investment, development and progress into Sarawak. Besides helping to accelerate the State's economic growth, the digital economy will reduce Sarawak's socio-economic divide and increase the employment of youth as well. Other benefits include enhanced customer experience, higher skills and talented workforce, more job opportunities, increased productivity, increased businesses, trade and exports, Sarawak becoming an attractive investment destination, higher income and economic growth and improved quality of life.





Strategic Action 5

Explore Various Opportunities for Alternative Energy



ACTION 5

Explore various opportunities for alternative energy

Programme Examples:

- R&D on Hydrogen Fuel Cell technology and application





Physical Infrastructure & Utilities

Strategic Action 10

Provide Clean, Reliable and Cost-Efficient Energy Using Smart Technologist



ACTION 10

Provide clean, reliable and cost-efficient energy using smart technologies

Programme Examples:

- Real-time monitoring apps, Sensor technologies, Smart gas meters, Portal for customer to manage, Integrated Smart Development Planning





Physical Infrastructure & Utilities

Strategic Action 12

Develop a Smart Solid Waste Management System



ACTION 12

Develop a smart solid waste management system.

Programme Examples:

- Upgrading and Improvement Works to Green Waste Disposal Centre, Integrated and intelligent waste planning and management. Smart Bin, Smart Garbage, IoT, Tracking of garbage collection, Community engagement





Physical Infrastructure & Utilities

Strategic Action 13

Enhance the Efficiency of Wastewater Management to Prevent Pollution and Water-Borne Diseases



ACTION 13

Enhance the efficiency of wastewater management to prevent pollution and water-borne diseases

Programme Examples:

- Modernisation of waste management facility, modern sewerage system including sensor-integrated sewerage treatment plant





Physical Infrastructure & Utilities

Strategic Action 14

Develop a Flood Management and Response System



ACTION 14

Develop a flood management and response system.

Programme Examples:

- Smart and sustainable stormwater management, Integrated smart development planning, storm water management, flood information management system.





Housing & Urban Development

Strategic Action 15

Ensure Efficient Development of Sustainable Housing and Enhance Convenience, Safety and Comfort for City Dwellers.



ACTION 15

Ensure efficient development of sustainable housing and enhance convenience, safety and comfort for city dwellers

Programme Examples:

- Implementing smart housing design platform, automated surveillance for crime monitoring and prevention using big data analytics, centralised infrastructure and utility mapping, free public WiFi hotspots and smart systems for development planning including strata housing management.





Housing & Urban Development

Strategic Action 16

Implement Green Building Index (GBI) in New Government and Private Non-Residential Buildings in Major Cities and Towns.



ACTION 16

Implement Green Building Index (GBI) in new government and private non-residential buildings in major cities and towns

Programme Examples:

- Developing IoT evaluation platform of Green Building Index (policy support, develop professionals in green building design and management)





Transport, Logistics & Supply Chain

Strategic Action 17

Establish a Comfortable and Safe Mobility for Commuters Using Smart Technologies

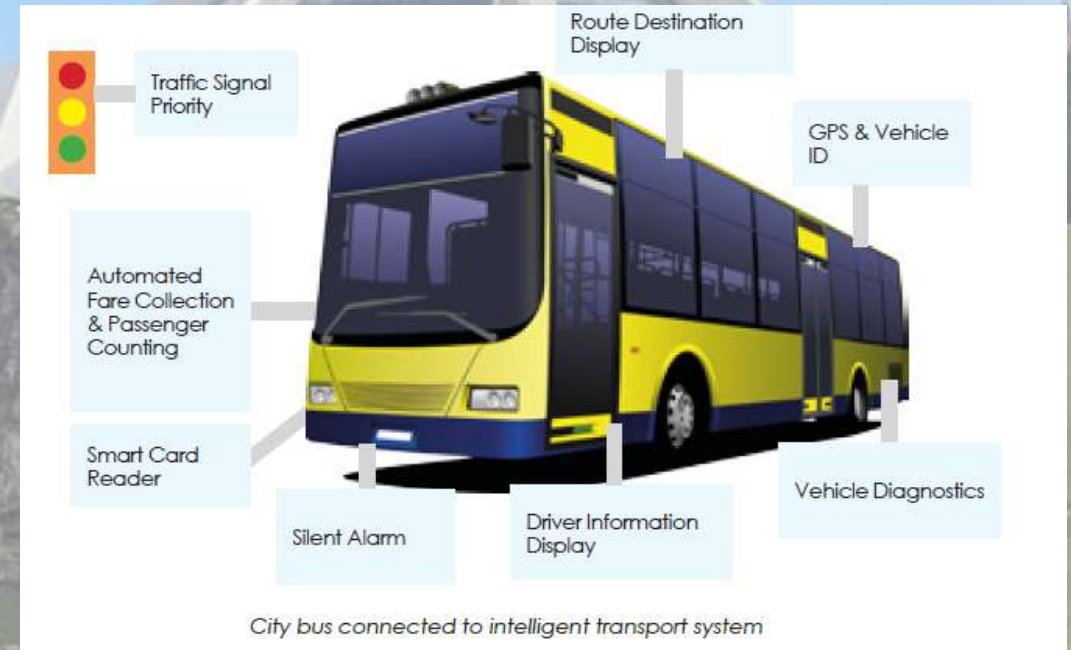


ACTION 17

Establish a comfortable and safe mobility for commuters using smart technologies

Programme Examples:

- Integrated transportation system for Kuching, Intelligent route selection, digital asset management, smart traffic light, smart parking, digital information signage, smart buses, Bus Information System (BIS), LRT, Electric vehicles





Strategic Action 30

Develop the Infrastructure in More Cost-Effective Way Using Hub and Spoke Development Concepts in All Towns in Sarawak by end of 2020



ACTION 30

Develop the infrastructure in more cost-effective way using Hub and Spoke development concept in all towns in Sarawak by end of 2020.

Programme Examples:

- Multi-tiered ring network design with alternative back-up paths, Reliable power supply for the core tiers.





Implementation of eDBKU 2021 – 2025

SMART CITY SECTOR



Dewan Bandaraya Kuching Utara





In line with Sarawak Digital Economy Strategy

Digitalizing DBKU Business Processes

Enrich Customer Services Delivery



1 SMART CITY



2 SERVICE DELIVERY



3 INNOVATIVE DIGITAL SOLUTIONS



SMART CITY



A *smart city* is a municipality that uses information and communication technologies (ICT) to increase operational efficiency, share information with the public and improve both the quality of government services and citizen welfare



DBKU SMART CITY COMPONENTS

1

SMART SURVEILLANCE

- Integrated Operation Centre
- CCTVs for Public Facilities (Parks, Libraries, Parking Spaces Markets, OH Bridges, Offices, Nurseries etc)

2

SMART LIGHTING

- Smart Street Lighting
- Smart Solar Parks Lighting

3

SMART ENVIRONMENT

- Smart 3R Stations
- Smart Waste Bins
- Smart Public Toilets
- Smart Wastewater Monitoring

4

SMART PARKS & GREEN

- Smart Watering for Parks & Greens
- Smart Tree Maintenance
- Smart Parks Apps

5

SMART URBAN MAINTAINANCE

- Smart Street Sweeping, Drain Cleaning & Grass Cutting Operations & Surveillance
- Smart Vandalism Detector
- Smart Drain Maintainance¹⁷

6

SMART MOBILITY

- Smart Parking
- Smart Traffic Light












7

SMART COMMUNITY

- Smart Community Hub
- Smart Community Network



PROPOSED IMPLEMENTATION SCHEDULE

SMART CITY COMPONENTS/ PROJECTS	2021	2022	2023	2024	2025
SMART SURVEILLANCE					
• Integrated Operation Centre					
• CCTVs for Public Facilities					
SMART LIGHTING					
• Smart Street Lighting					
• Smart Solar Parks Lighting					
SMART ENVIRONMENT					
• Smart 3R Stations					
• Smart Waste Bins					
• Smart Public Toilets					
• Smart Waste Water Monitoring					
SMART PARKS & GREEN					
• Smart Watering for Parks & Green					
• Smart Tree Maintainance					
• Smart Parks Apps					



PROPOSED IMPLEMENTATION SCHEDULE

SMART CITY COMPONENTS/ PROJECTS	2021	2022	2023	2024	2025
SMART URBAN MAINTAINANCE					
• Smart Street Sweeping, Drain Cleaning & Grass Cutting Operations & Surveillance					
• Smart Vandalism Detector					
• Smart Drain Maintainance					
SMART MOBILITY					
• Smart Parking					
• Smart Traffic Light					
SMART COMMUNITY					
• Smart Community Hub					
• Smart Community Network					

COSTING



GRAND TOTAL: RM20,000,000



SMART CITY PROJECTS TEAMS

TPCOS

KB MNE

SMART SURVEILLANCE

BLG
MNE, ICT, PRD, SCY



SMART LIGHTING

MNE
IMT, LNP, ENG



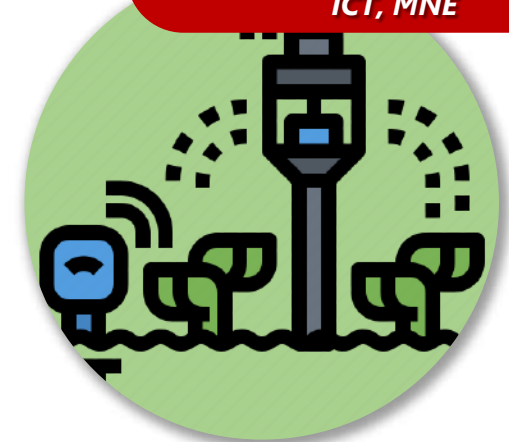
SMART ENVIRONMENT

ENV
CDS, BLG, MNE



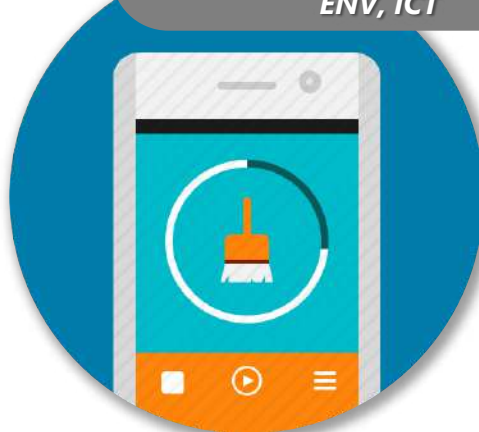
SMART PARKS & GREENS

LNP
ICT, MNE



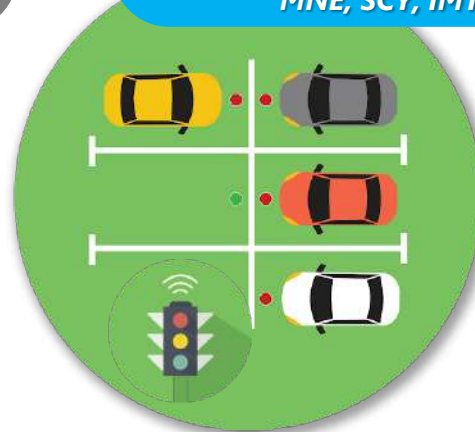
SMART URBAN MAINTAINANCE

IMT
ENV, ICT



SMART MOBILITY

BDD
MNE, SCY, IMT



SMART COMMUNITY

CDS
BLG, ICT, IRD, PRD





Business Strategy
Revenue
Profit
Growth
Market
Share
Efficiency
Innovation
Sustainability
Customer
Satisfaction

134:23:454:12

SERVICE DELIVERY



SERVICE DELIVERY COMPONENTS

APPLICATIONS

- e-License
- e-Development Plan
(Building Plan, Engineering Plan, Wayleave)
- e-Occupation Permit
- e-Rebate
- e-Recruitment
- e-Bills (Assessment, Miscellaneous Bills)
- Etc.

BOOKING

- Open Space
- Auditorium
- Halls
- Meeting Room
- Logistics (*mobile toilet, barricade, bulk bin, potted plant, mobile stage*)
- Other services (*cleaning, desludging*)
- Etc.

ENQUIRIES

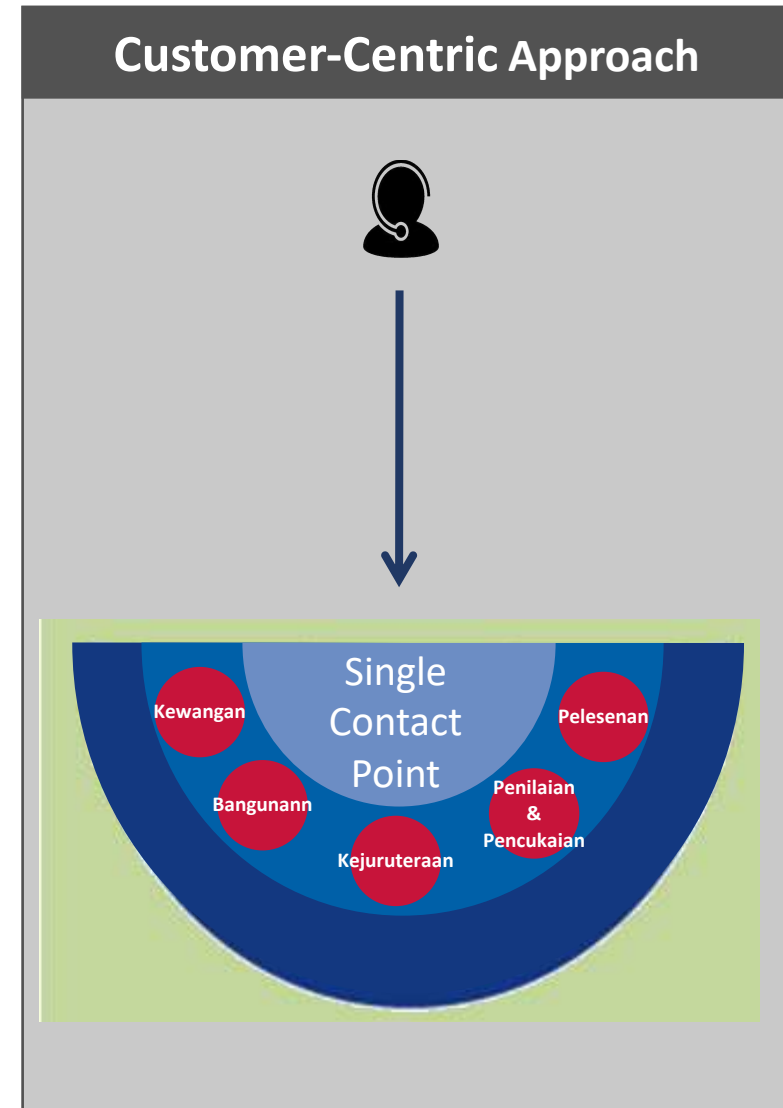
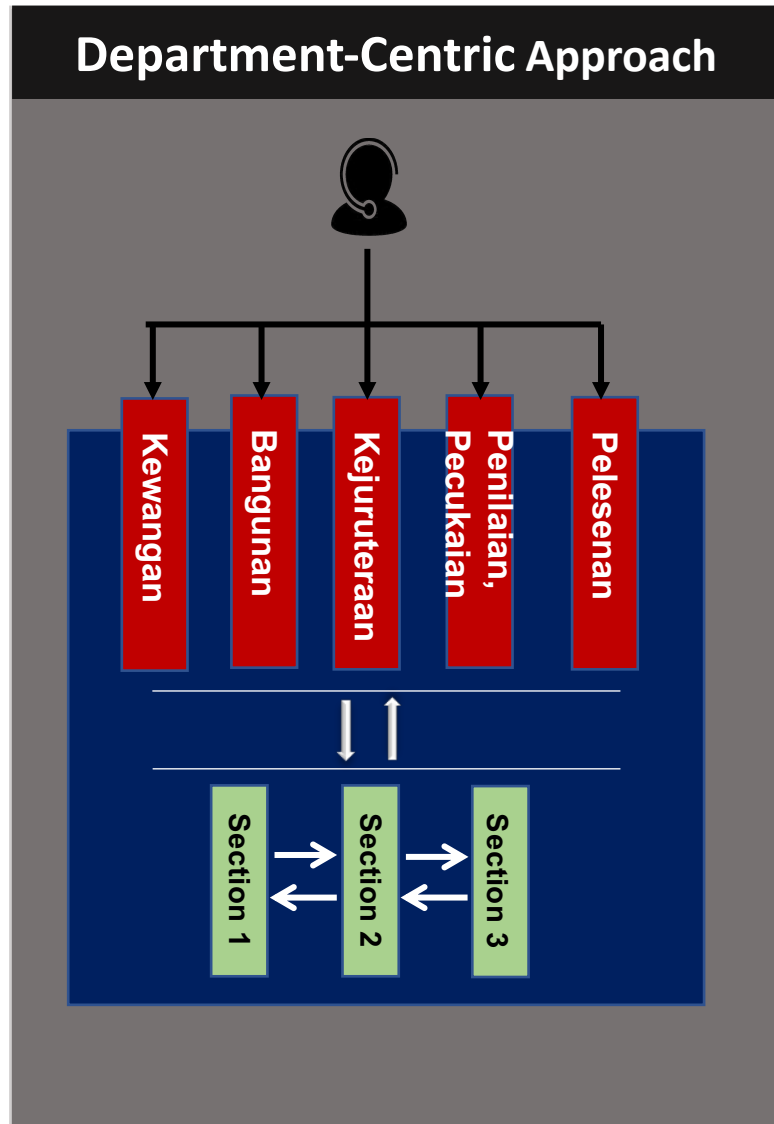
- Assessment bills
- Parking Compounds
- License requirement
- Application status
- Etc.

INFORMATION SHARING

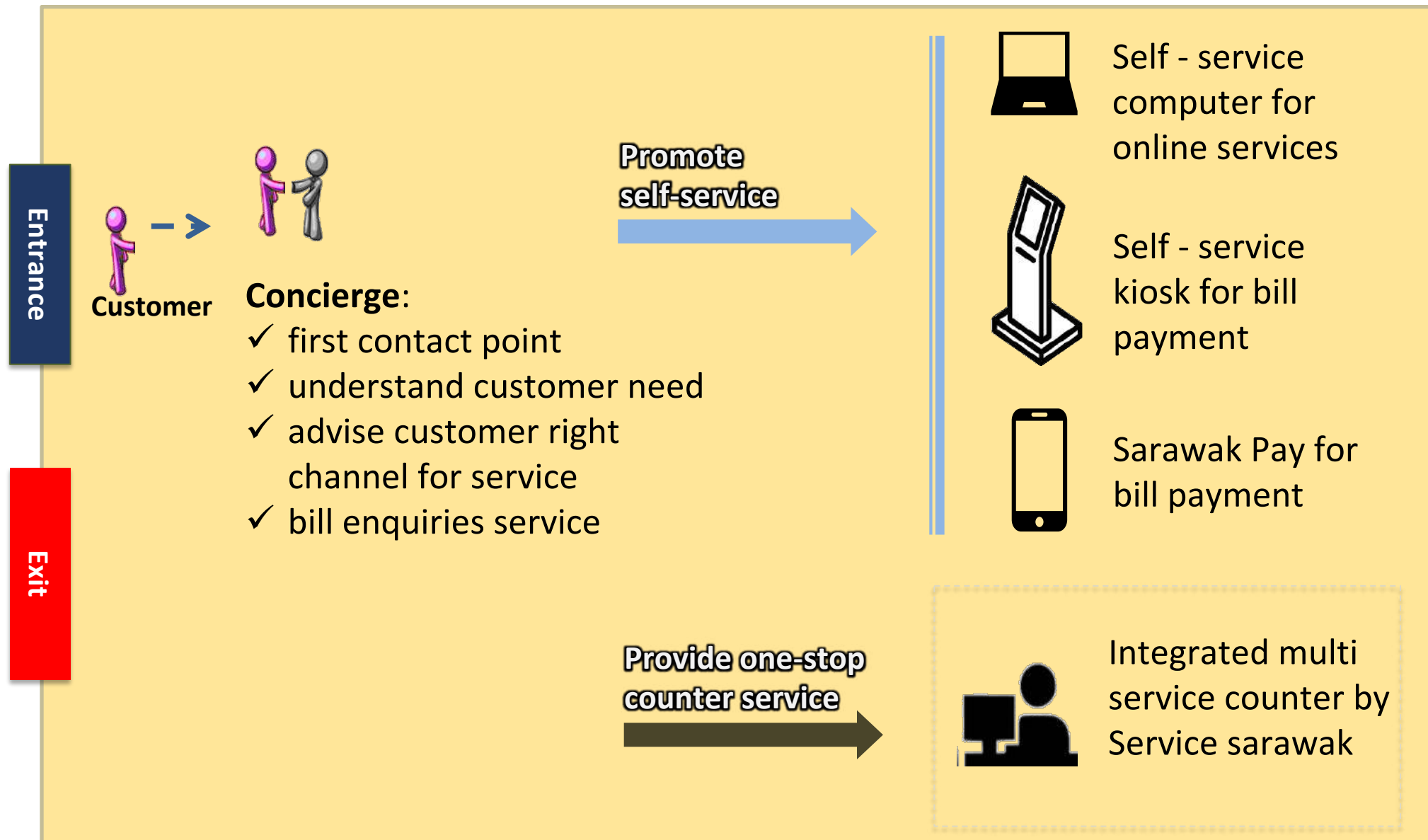
- Financial
- License
- Assessment Rates
- Projects
- Compounds
- Community Programs (City events)
- City Profile
- Etc.



One Stop Counter Service Delivery Model



One Stop Counter Service Delivery Model



Conceptual Solution for Service Delivery

1. Online Public Service: Inline with State Direction

- a) Integrated Service Management (ISM)
 - i. SEG Portal: Service Catalogue, My Workspace, SCS Dashboard
- b) Service Sarawak
 - i. Service Request Management System (SRMS) and Unified Collection System (UCS)

2. One Stop Counter Service

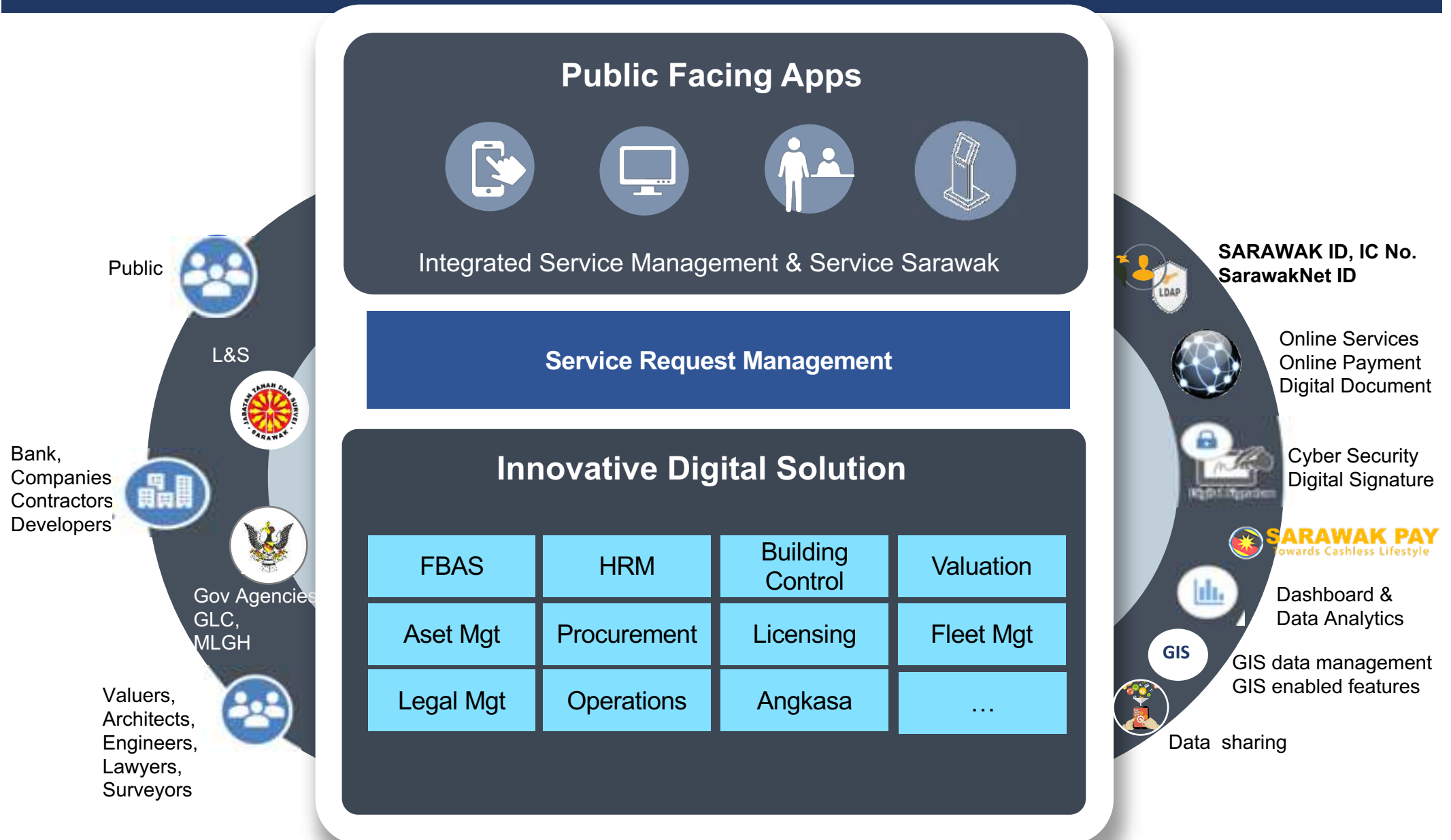
- a) Integrated multi service counter
- b) Adopt Service Request Management System (SRMS)

3. End to End integration between ISM and internal processes

4. Technology - Web apps, Mobile apps, Kiosk, Digital Certificate, SarawakPay, Dashboard



Conceptual Solution for Service Delivery and eDBKU



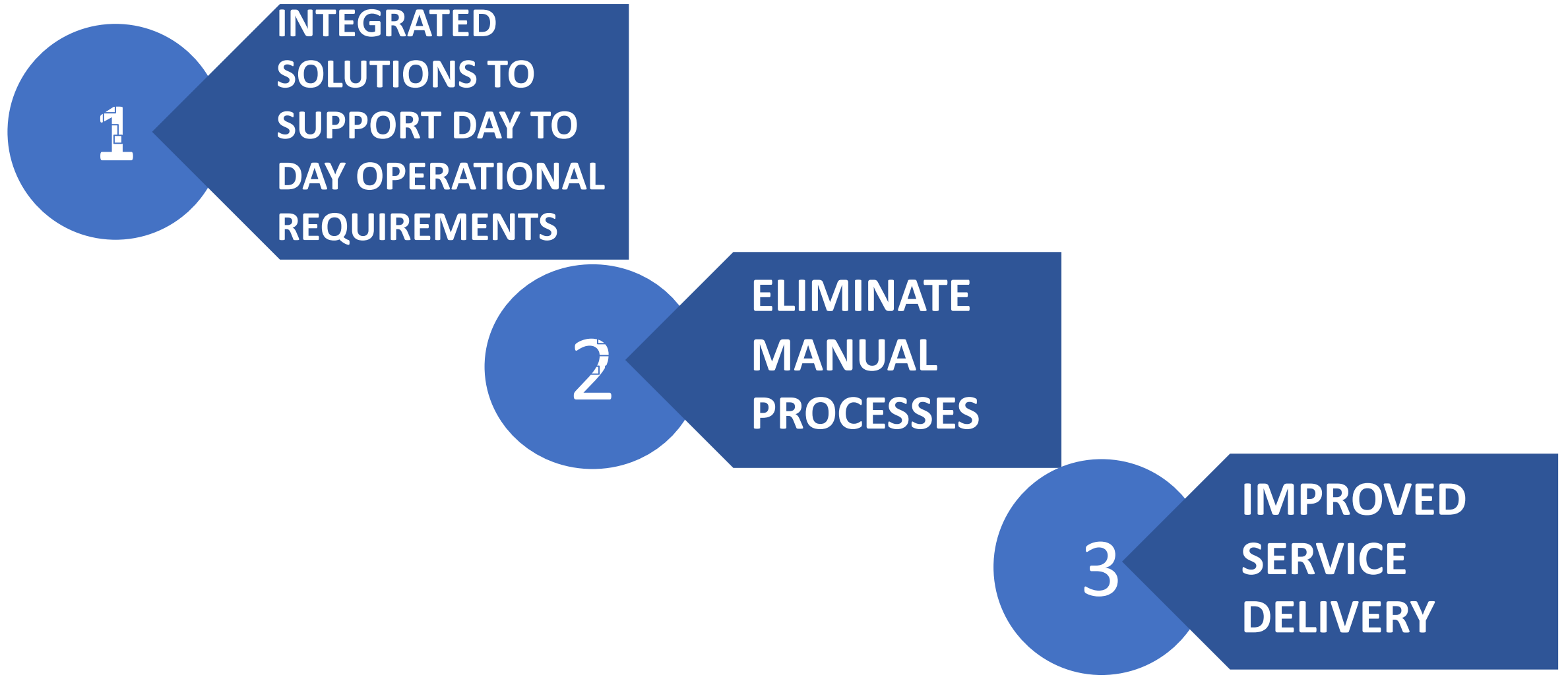
INNOVATIVE DIGITAL SOLUTIONS



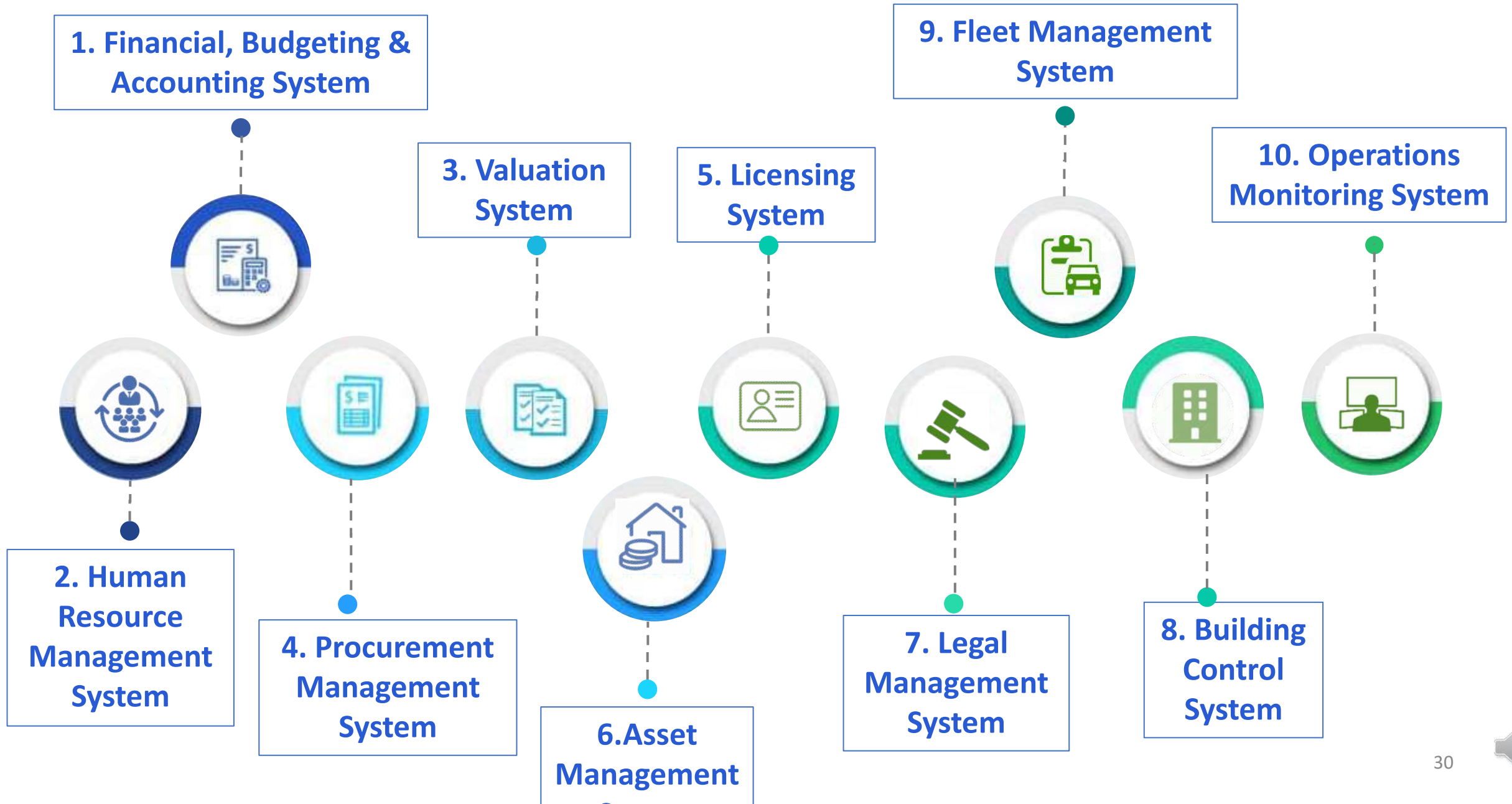
Digitalizing DBKU's internal processes through creation of digital systems and modules



OBJECTIVES



PROPOSED INNOVATIVE DIGITAL SOLUTIONS



PROPOSED IMPLEMENTATION TIMELINE

FINANCE, BUDGETING & ACCOUNTING SYSTEM	2021	2022	2023	2024	2025
Project Initiation Meeting					
Appointment of technical committee					
Business process documentation					
System design					
System development & preview					
System Testing					
User acceptance test					
User training					
System Go Live					



BUDGETING

Budgeting

eVote

FINANCIAL

Voucher
Processing

Bulk Payment

Fund
Investments

Payroll
Management

Cash Flow
Management

Receipting

eRemittance

eLodgement

Auto-Bank
Reconciliation

Staff Loan
Application

Payment
Instruction

Claims
Management

Electronic
Fund Transfer

ACCOUNTING

General
Ledger

Vote
Ledger

Accounts
Payable

Accounts
Receivable

Trust Account
Management

ePayment Advice

Inter-
Departmental
Charging

Billing

Personal
Advances

Deposit

MANAGEMENT

Performance
Analysis

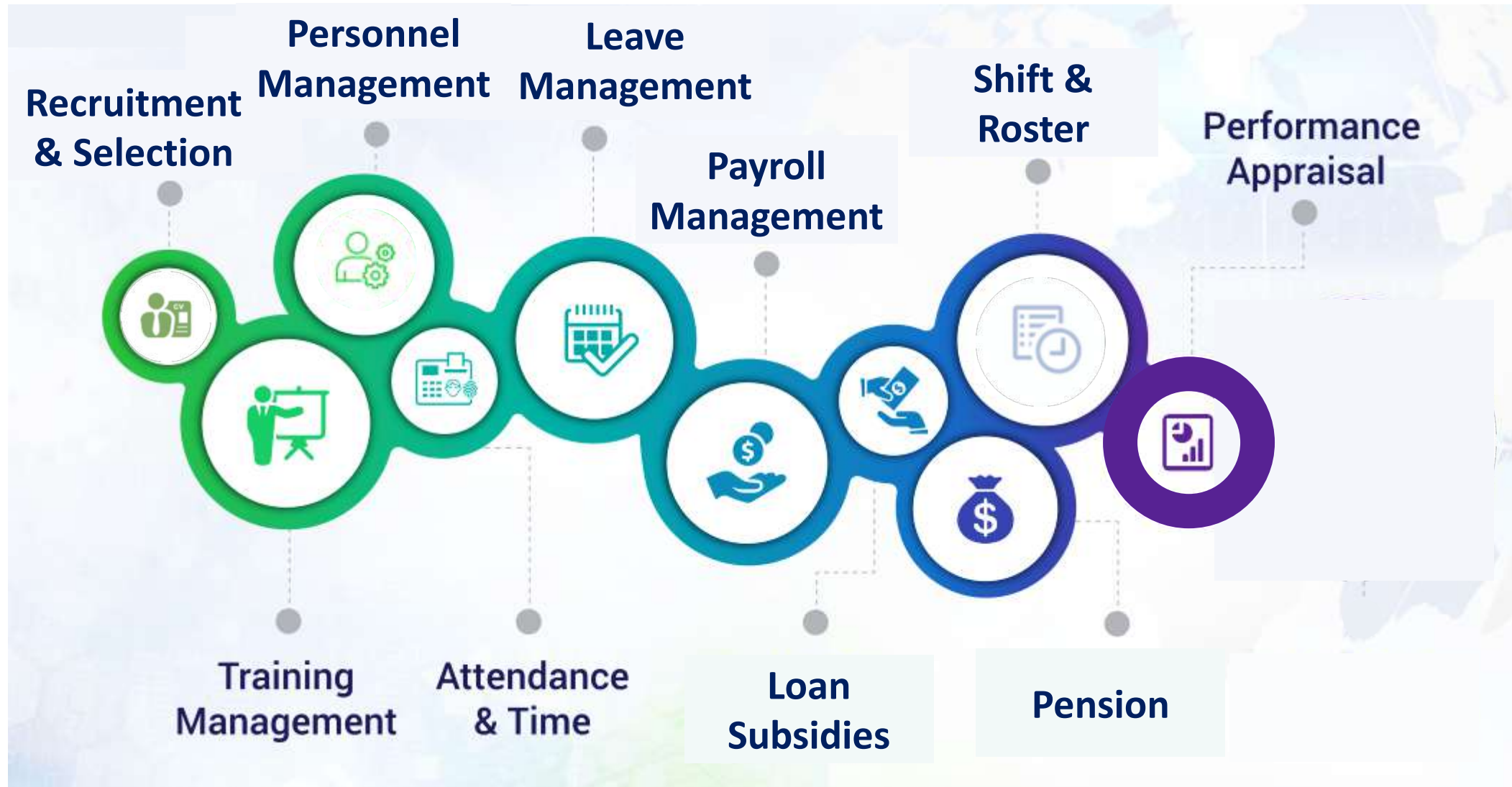
Financial
Analysis

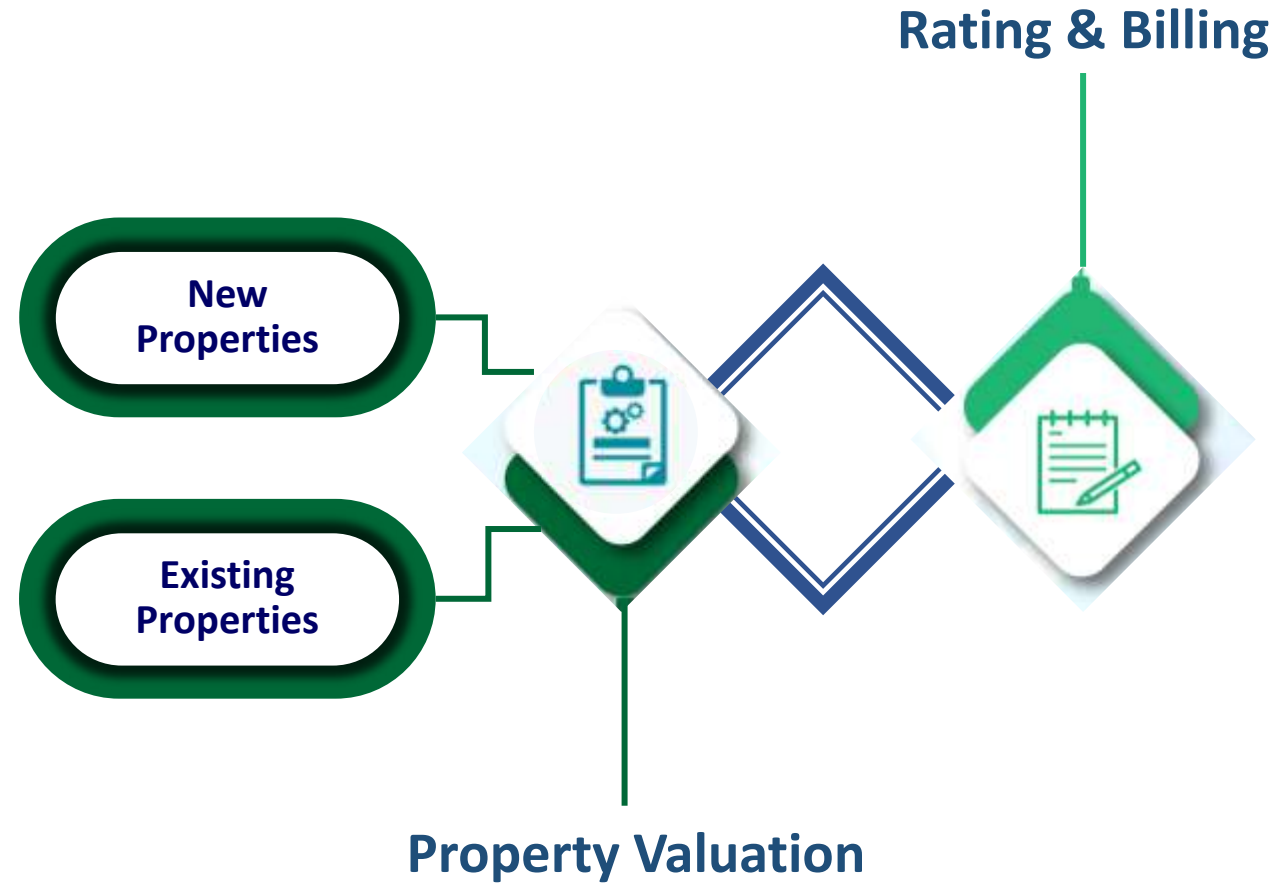
Auditing

Inspectorate

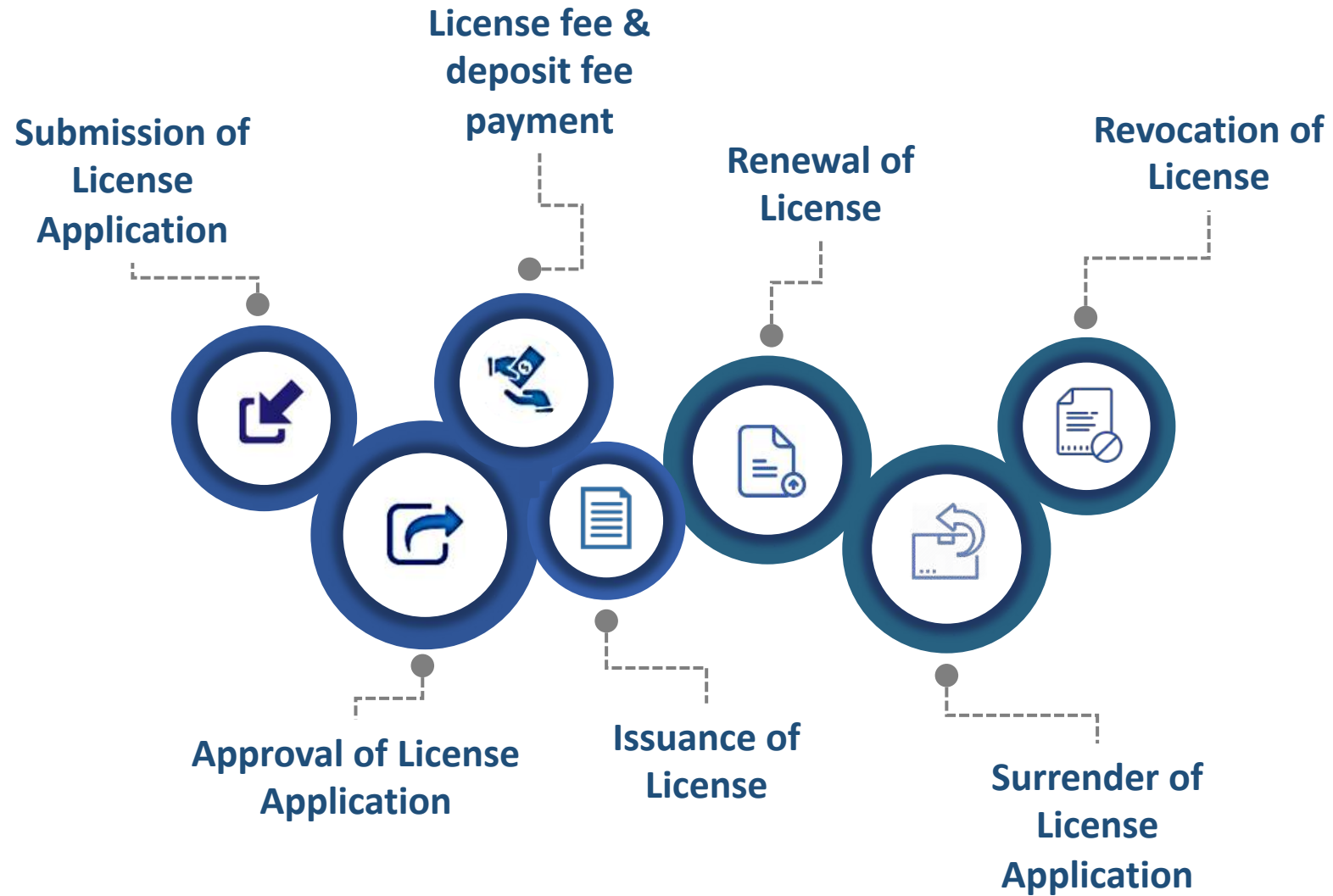
Management
Control



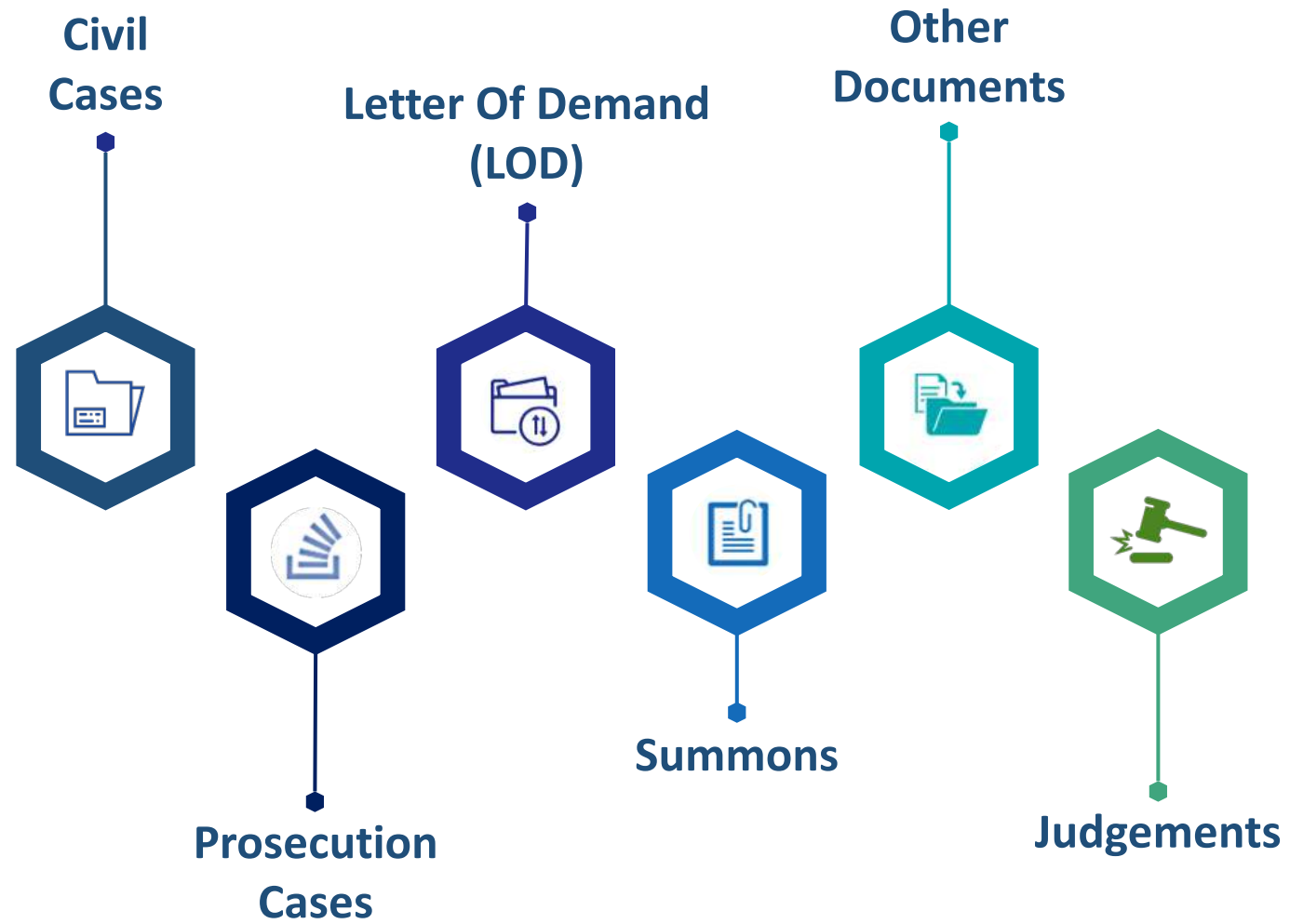


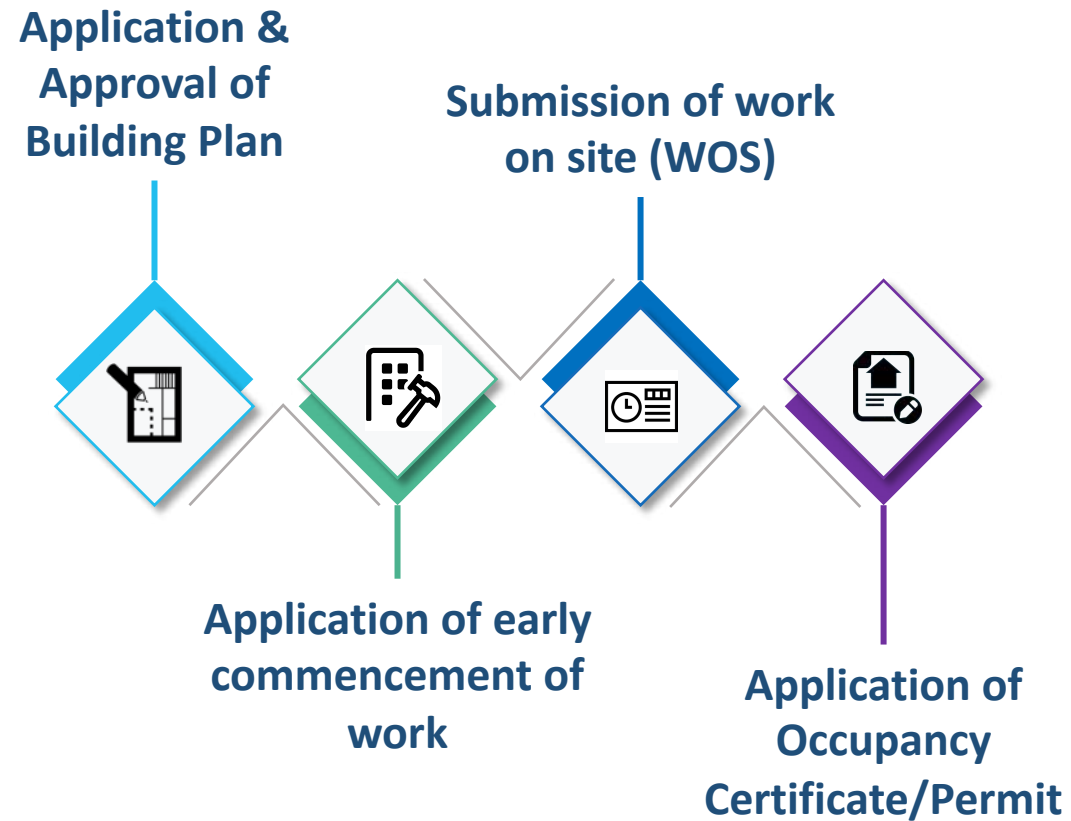


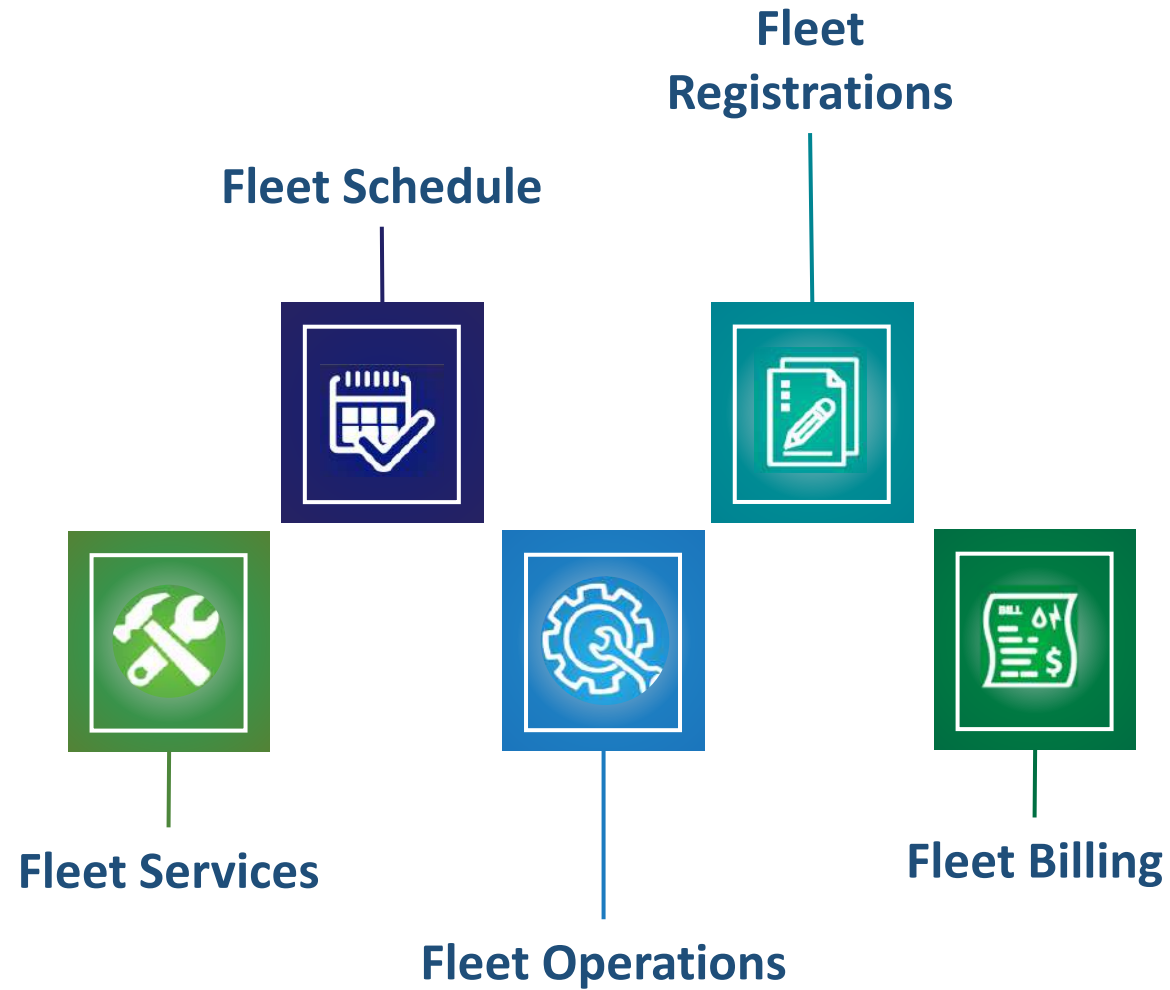


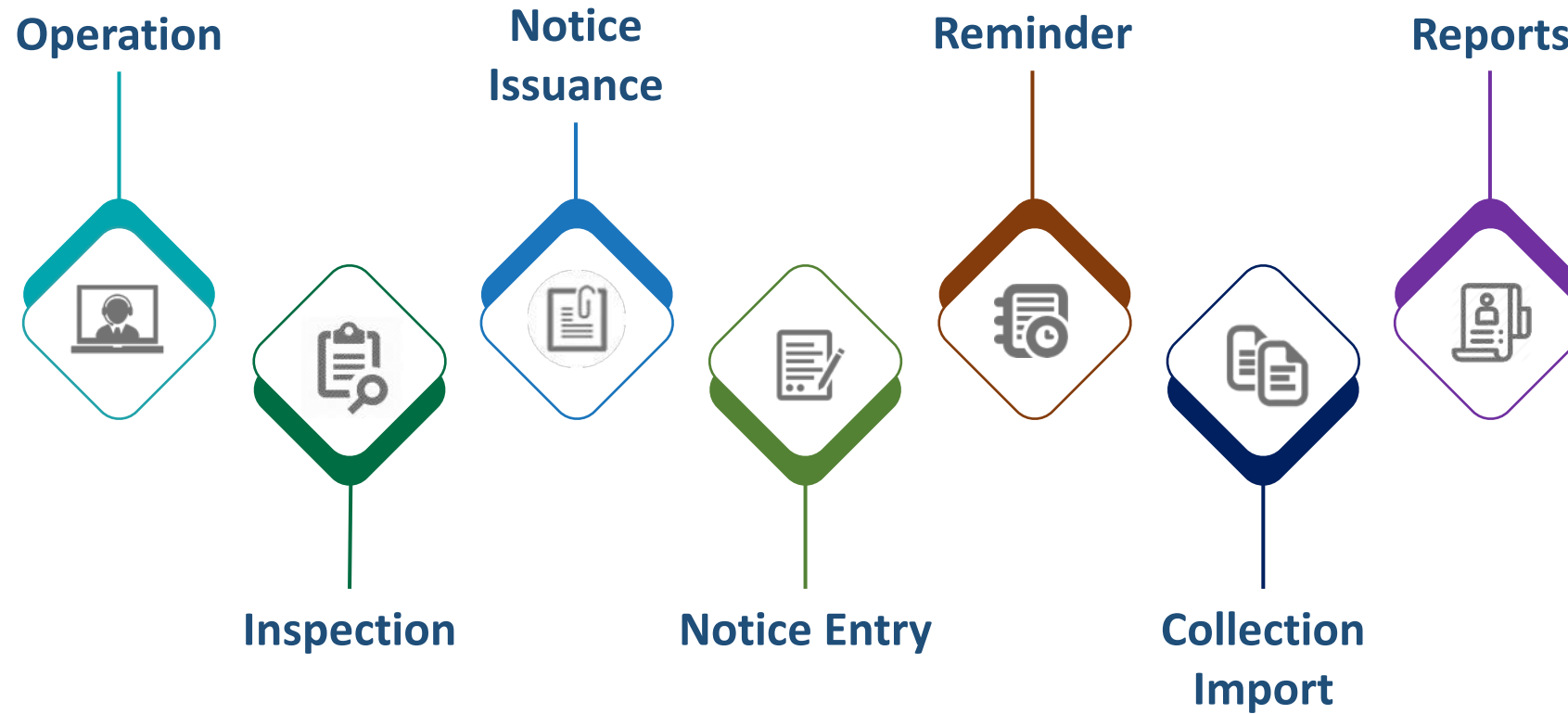








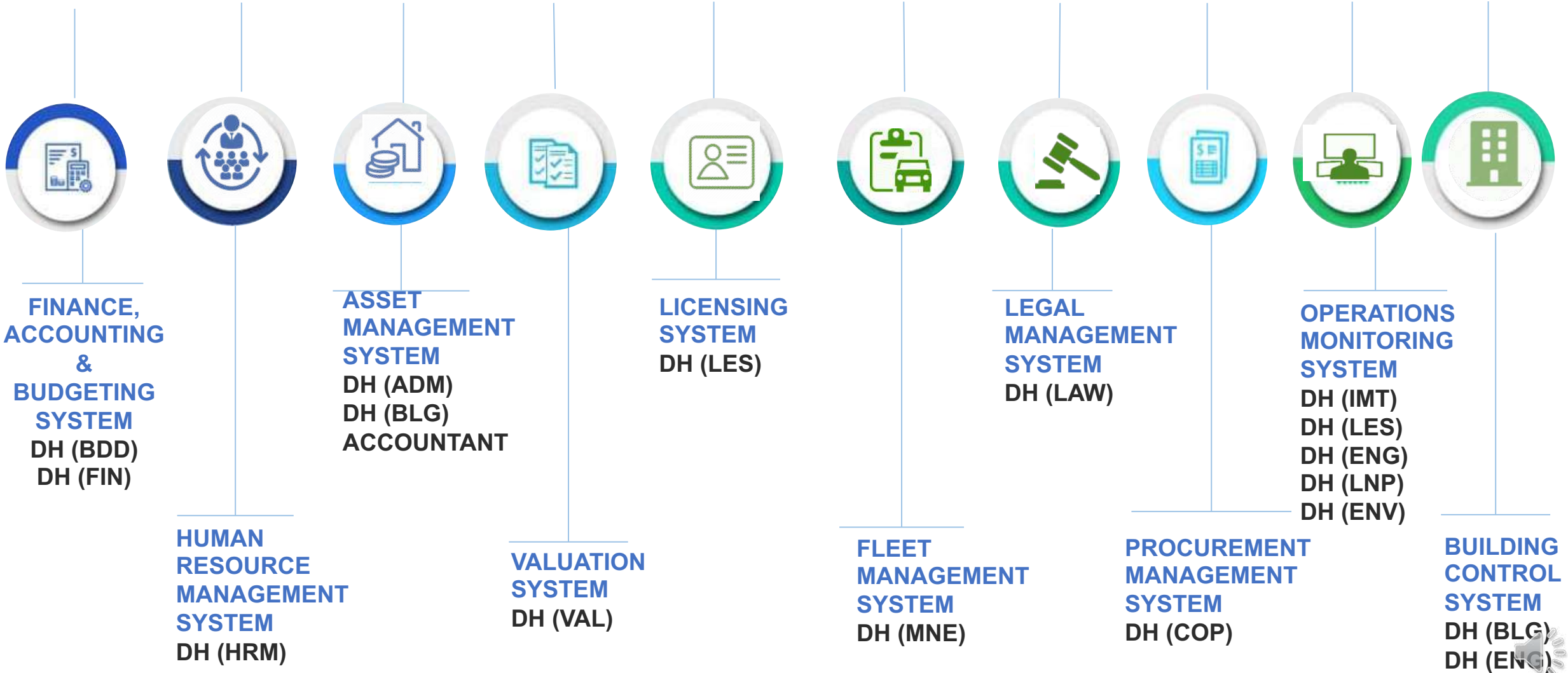




PROPOSED IMPLEMENTATION STRUCTURE

DEPUTY DIRECTOR (FINANCIAL SERVICES)

SECRETARIAT
DH (ICT)





NO.	SYSTEMS	COST (RM)
1.	FINANCE, BUDGETING & ACCOUNTING	9 MIL
2.	HUMAN RESOURCE MANAGEMENT	2 MIL
3.	VALUATION	3 MIL
4.	PROCUREMENT	2 MIL
5.	LICENSING	3 MIL
6.	ASSET MANAGEMENT	3 MIL
7.	LEGAL MANAGEMENT	2 MIL
8.	BUILDING CONTROL	2 MIL
9.	FLEET MANAGEMENT	3 MIL
10.	OPERATIONS MONITORING	3 MIL
11.	DATA SHARING	7 MIL

GRAND TOTAL: RM40,000,000



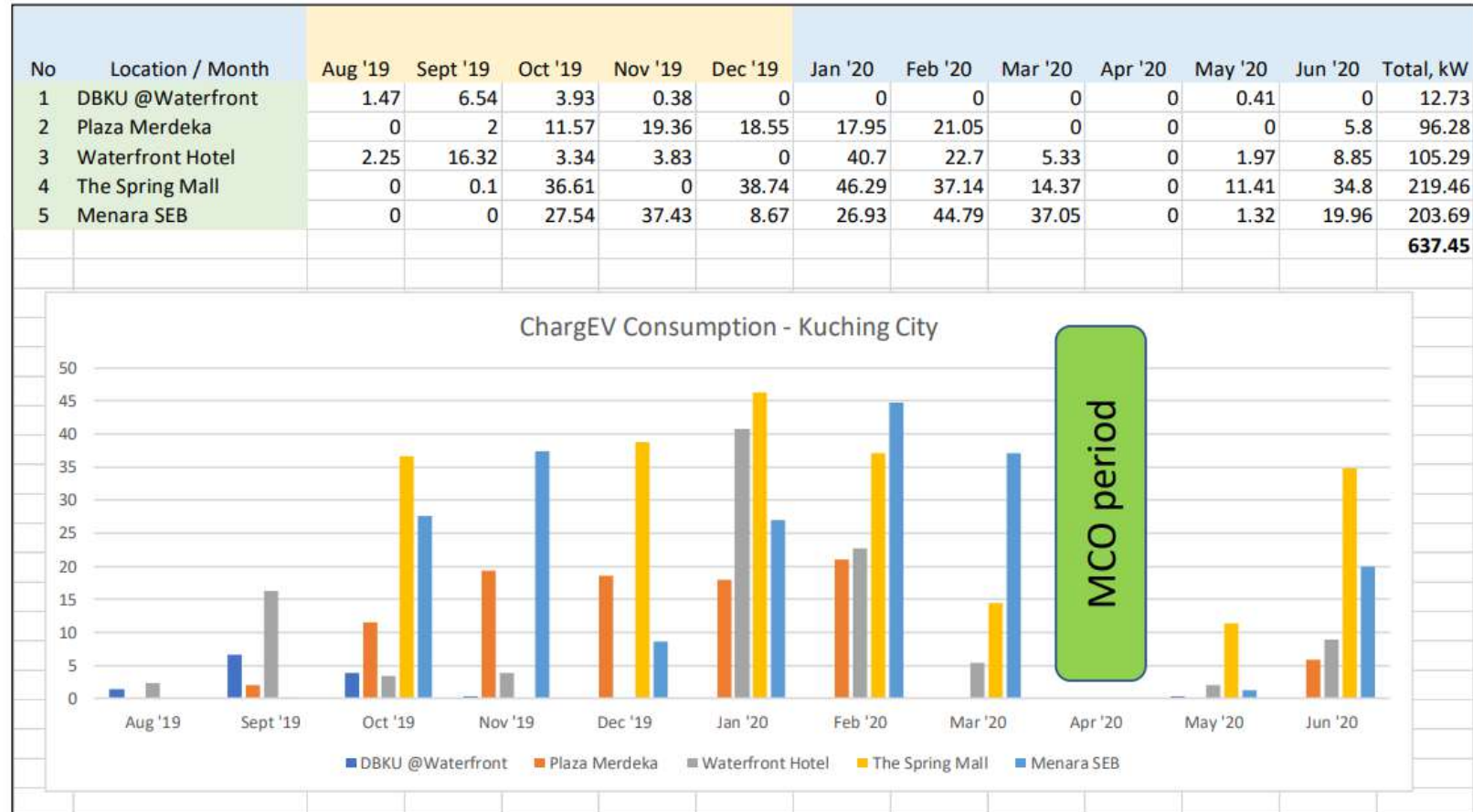
ACHIEVEMENTS



Digitalizing DBKU's internal processes through creation of digital systems and modules



EV PUBLIC CHARGING STATIONS IN KUCHING CITY AND ELECTRIC SCOOTERS



1st in Kuching City.

Promoting Electric Mobility in Kuching City.

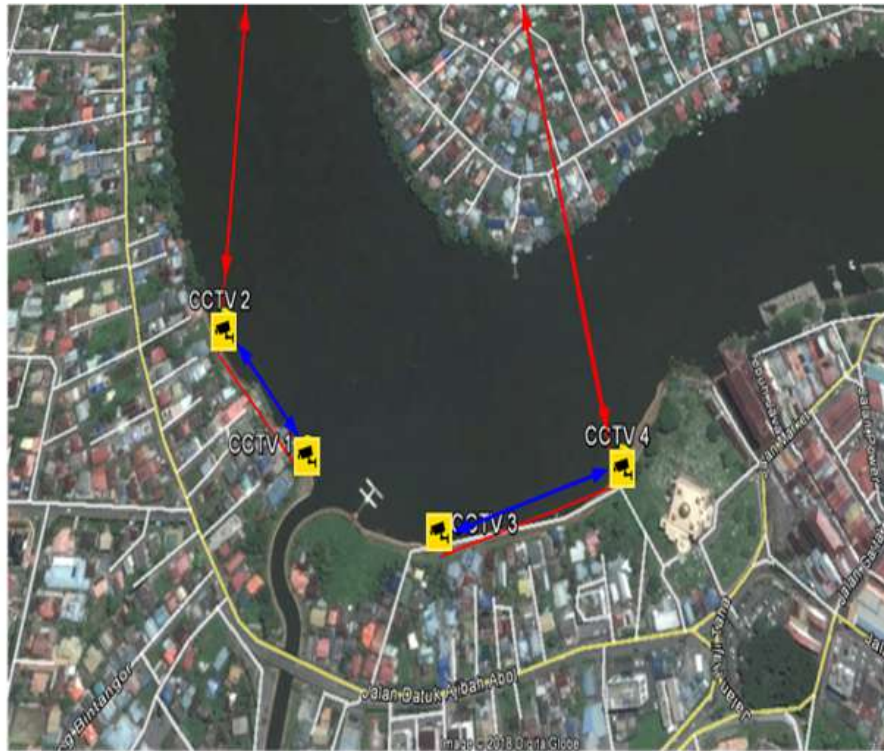
Collaboration: SEB & Malaysia Green Technology & Climate Change Center (MGTC) & Key Stakeholders/Location Partners

ZERO Emission: Total carbon dioxide reduction equivalent, @ 637 kW = 657 Kg of CO₂



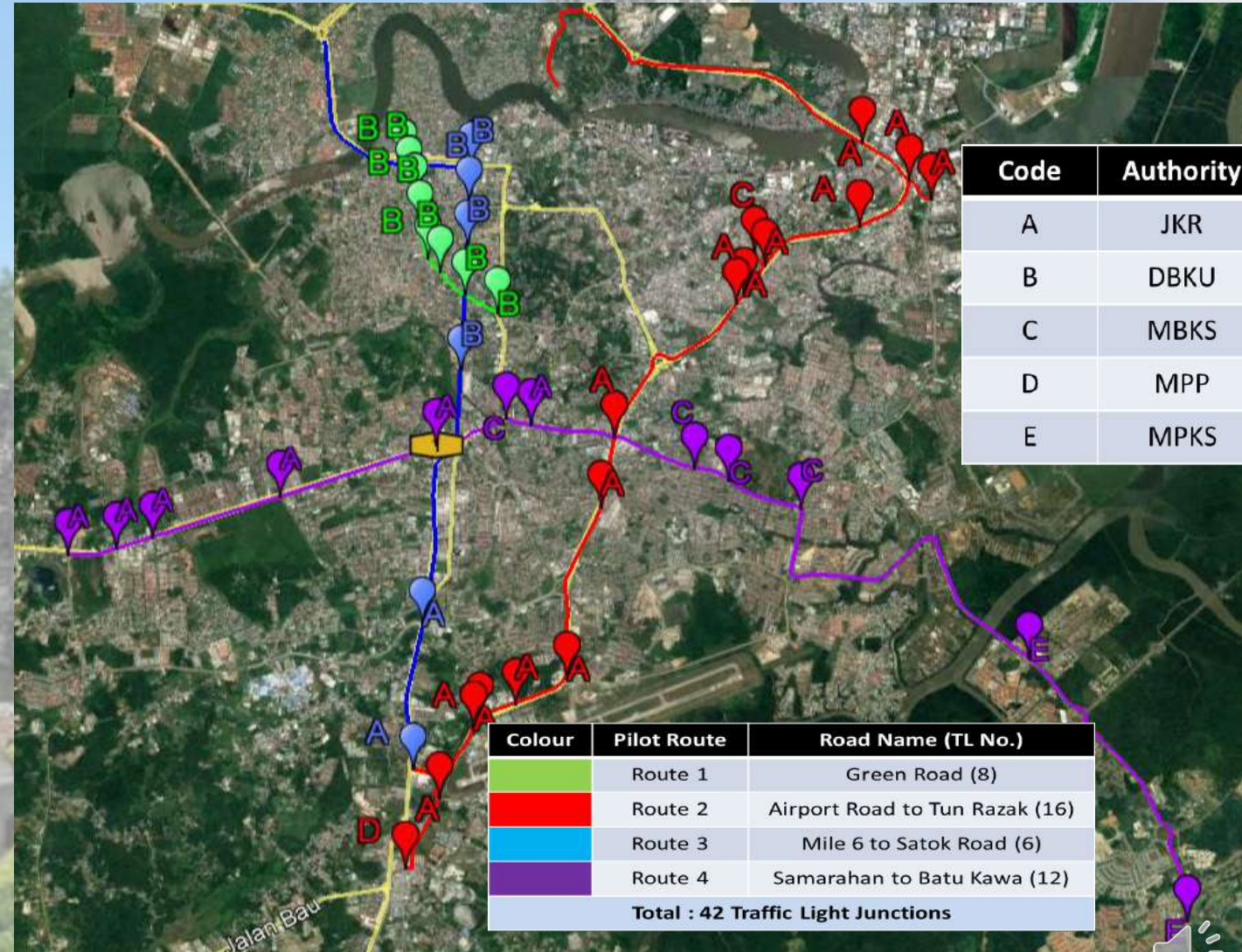
CCTV

- CCTV 1 : KAMPUNG NO 1. BESIDE THE NEW BRIDGE (GPS COORDINATES: N 1°33'32.616" E 110°20'1
- CCTV 2 : KAMPUNG NO 3 (GPS COORDINATES: N 1°33'36.144" E 110°20'8.2968")
- CCTV 3 : KAMPUNG MASJID (GPS COORDINATES: N 1°33'30.4452" E 110°20'17.1492")
- CCTV 4 : KAMPING MASJID, FACING THE KUCHING CITY MOSQUE (GPS COORDINATES: N 1°33'32.320



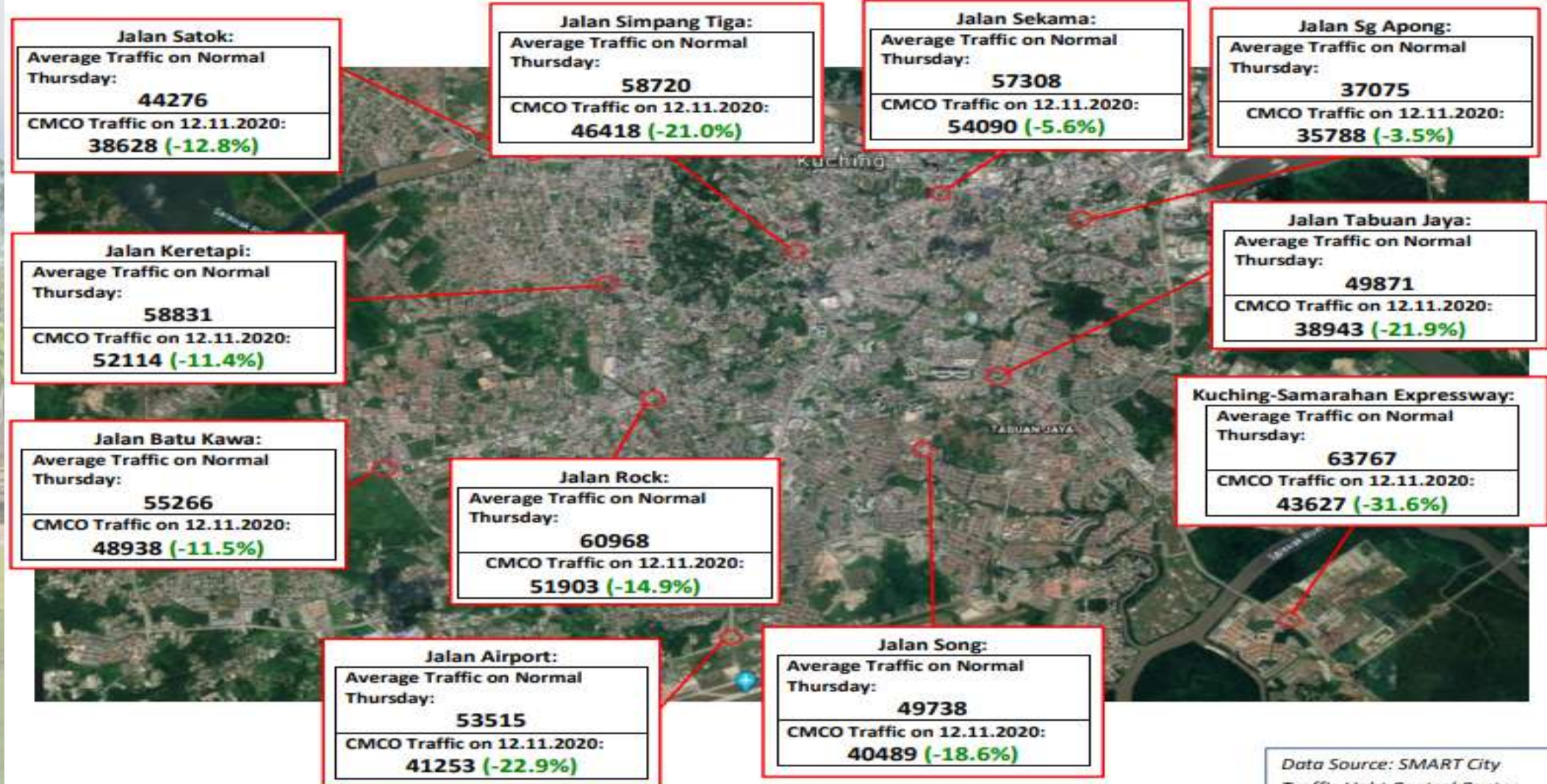
SMART TRAFFIC LIGHTS (SCATS)

N o.	Authority	Title	Reference no.
1.	JKR Kuching (Federal)	Term Contract (2017) Maintenance Of Traffic Light Systems At Various Junctions (Federal) In Kuching Division	DEKG-RBC/WO/59/2017
2.	JKR Kuching (State)	Term Contract Maintenance of Traffic Light Systems along JKR Maintained State Roads in Kuching Division	DIVKG/RBC/37/2017
3.	MBKS	Supply and Delivery of Parts and Other Associated Maintenance Works for The Traffic Light System within MBKS Areas for Year 2018	MBKS/ADM/1468(83)
4.	DBKU	Supply, installation and maintenance of traffic light system in DBKU area (Maintenance Works and Servicing of TL Controller Panel)	DBKU/CQS/WT/S/1/17
5.	MPP	Maintenance of Traffic Light in MPP Areas for The Year 2018	MPP/ENG/FIN-13/7: No.27
6.	JKR Samarahan (Federal)	Term Contract Maintenance Of Traffic Light System At Various Junction (Federal) In Samarahan	PWDKS/QN/RCE/13/2018
7.	JKR Samarahan (State)	Term Contract Maintenance Of Traffic Light System At Various Junction (State) In Samarahan Division	PWDKS/QN/RCE/18/2018



SMART TRAFFIC LIGHTS (SCATS)

Effect of Conditional Movement Control Order (CMCO) on Kuching Traffic Volume (vehicles per day)



SMART LED LIGHTS



Energy Bill savings
from high efficiency
LED lights



Green Initiative to
Reduce Carbon
Footprint



Drive towards IR4.0 for
Street Lighting System



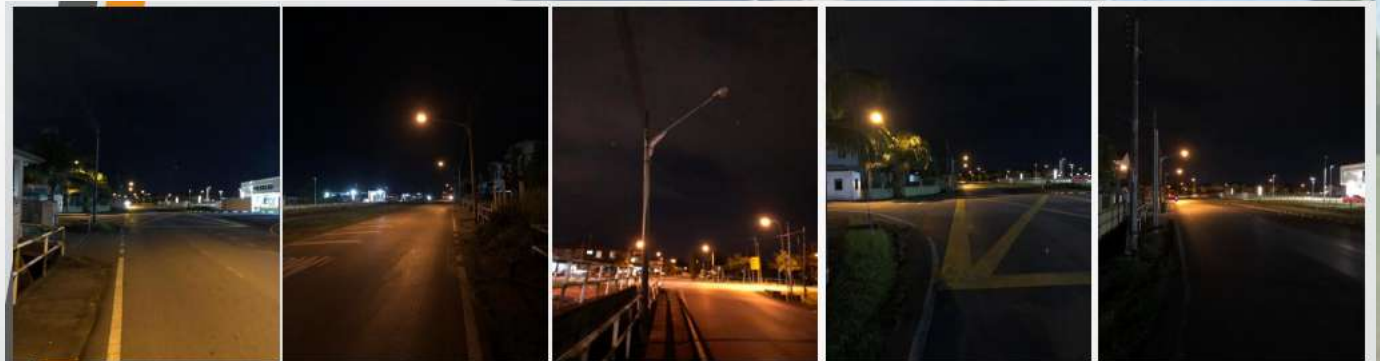
Readiness for Smart
City integration



Smart Lighting Control
& Monitoring System



Customizable
Reporting Format



BEFORE



AFTER



3R STATIONS

Bil	ADUN	KJM
1.	N5 <u>Demak Laut</u>	KJM <u>Bako Hulu</u>
2.	N6 <u>Tupong</u>	KJM <u>Rasmaja</u>
3.	N6 <u>Tupong</u>	KJM <u>Tupong</u>
4.	N7 <u>Samariana</u>	-
5.	N7 <u>Samariana</u>	-
6.	N5 <u>Demak Laut</u>	KJM <u>Kpg Senari</u>
7.	N7 <u>Samariana</u>	KJM <u>Sq. Midin</u>

Pengenalan

3R^{ku} yang merujuk kepada "Reduce, Reuse and Recycle" adalah salah satu inisiatif DBKU dalam pembangunan aplikasi pintar bertujuan untuk kitar semula. Ia dapat menjadikan aktiviti kitar semula, pemuliharaan, dan penggunaan semula lebih mudah dan bijak di sekitar bandaraya Kuching.

3R^{ku} juga boleh dijadikan sebagai platform bagi penduduk sekitar mendapatkan info berkaitan pusat kitar semula yang dibangunkan oleh pihak DBKU. Ia dapat menghubungkan penduduk dengan pusat kitar semula yang berhampiran dengan kawasan penduduk

Faedah :

3R

Reduce .
Reuse .
Recycle

Penerapan dan kesedaran "3R" bagi semua komuniti



Kawasan kediaman lebih mesra dan bersih



Proses kitar semula lebih bijak dan efisien / mesra pengguna



Mengiatkan aktiviti kitar semula pada masyarakat



Disediakan oleh : Serba Dinamik IT Solutions Sdn. Bhd.

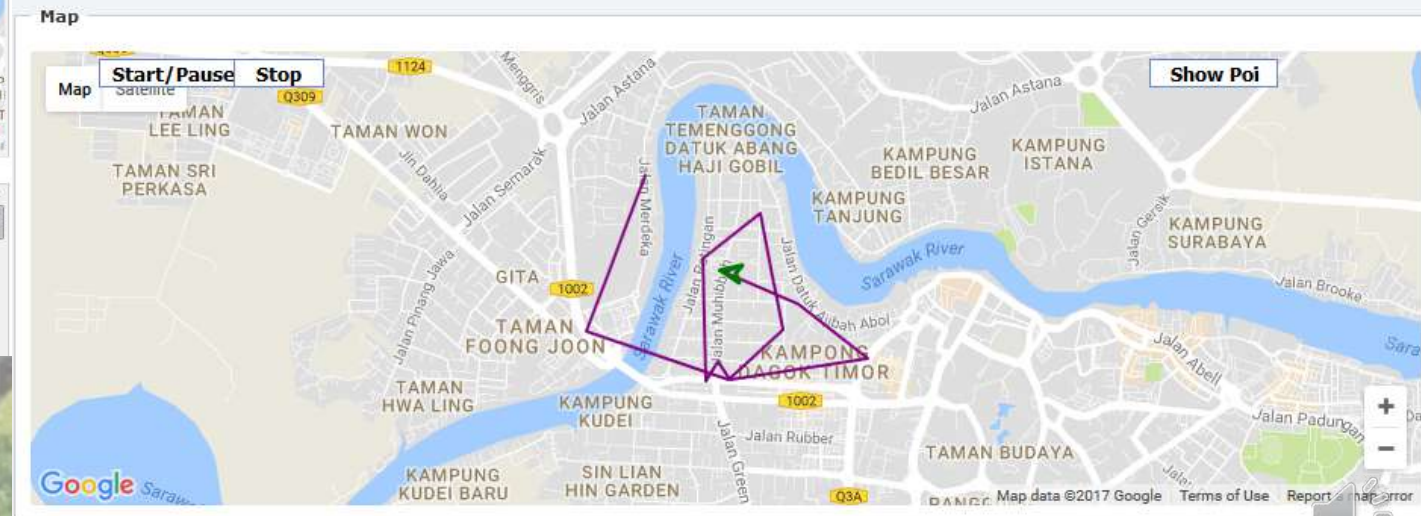
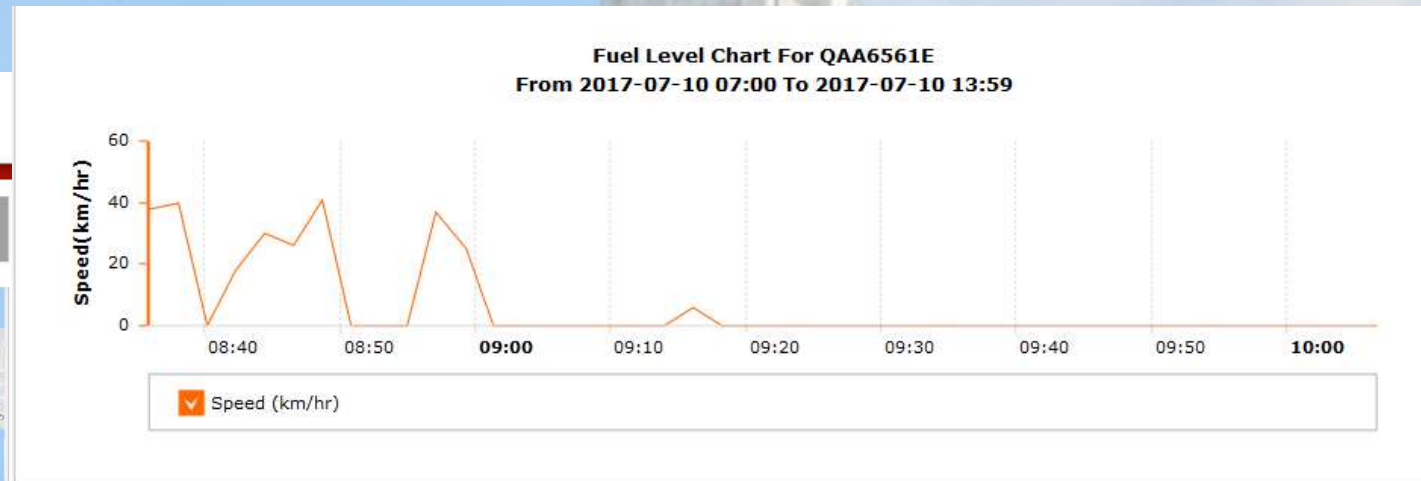
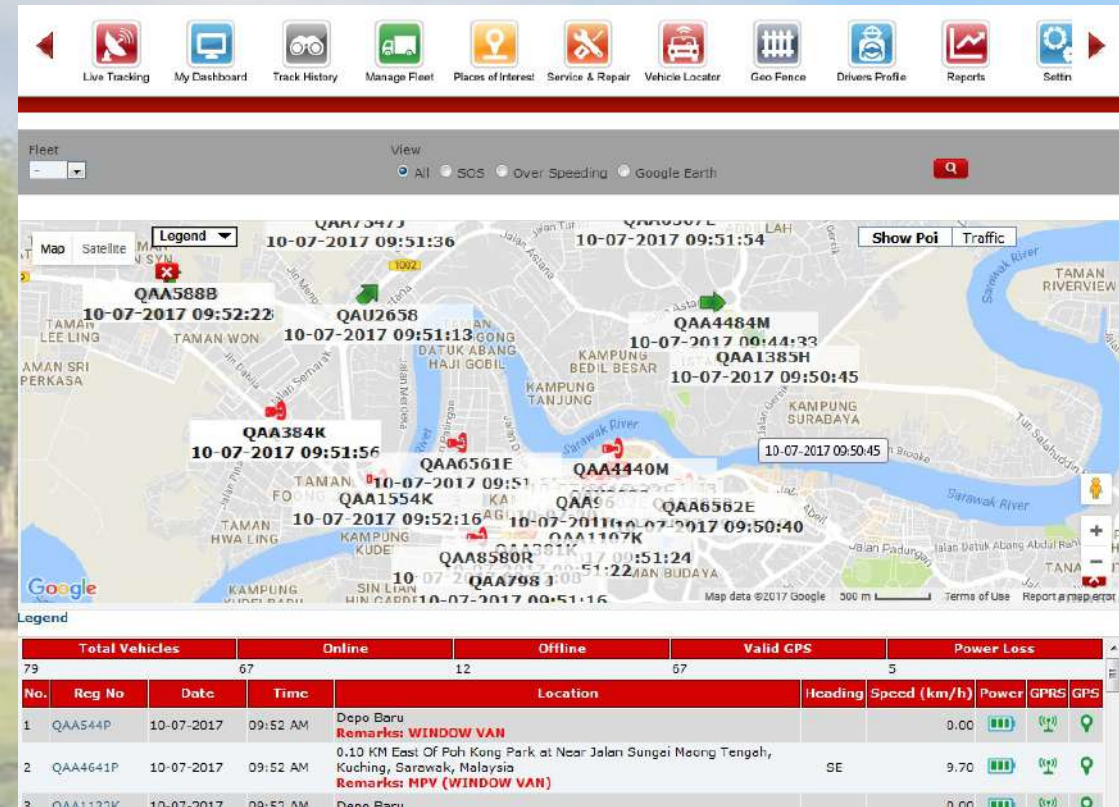





GBI AND ENERGY MANAGEMENT SYSTEM CERTIFICATIONS



FLEETS MANAGEMENT SYSTEM





THANK YOU

