KUALA LUMPUR
SMART CITY MASTER PLAN
2021 – 2025

EXECUTIVE BRIEF

DEWAN BANDARAYA KUALA LUMPUR
Menara DBKL 1, Jalan Raja Laut, 50350 Kuala Lumpur, Malaysia.
w w w . d b k l . g o v . m y

SMART KUALA LUMPUR BY SMART CITIZENS

"Kuala Lumpur is beginning to and will continue to integrate technological solutions into local operations, from transportation to communications and other areas. The mechanisms of these systems are not always observable to the communities. Still, as technologies' integration becomes more visible in our lives, we could begin to see significant and tangible changes in Kuala Lumpur."

Datuk Nor Hisham Ahmad Dahlan, Mayor of Kuala Lumpur 2018-2020

THE CHALLENGES OF URBAN DEVELOPMENT

The rapid urbanisation that has taken place in the last decades has resulted in various urban issues such as congestion and pollution. With the integration of technologies, we now have an opportunity to re-engage how cities are planned, designed, financed, developed, and governed.

THE CHALLENGES OF URBANISATION

Rapid urbanisation has had consequences for the distribution of population and enormous demands on land, water, housing, transport, and employment. Such geographical concentrations of people, growing rapidly, have presented challenges of both numbers and quality in ensuring an adequate housing supply, solving urban congestion, and protecting the environment at the local and national policy levels.

NATIONAL CONTEXT

The National Smart City Framework will be the point of reference for DBKL to take progressive steps to upgrade connectivity, infrastructure, and communication effectiveness with the people, businesses and communities, thus improving the quality of life of Kuala Lumpur's dwellers.

KUALA LUMPUR CONTEXT

Kuala Lumpur Smart City Master Plan 2021 – 2025 is a giant leap forward towards transforming KL into a renowned and an exemplary urban centre of the future. KLSCMP2025 shares the Smart City aspirations with Pelan Strategik DBKL 2021 – 2030 and Pelan Struktur Kuala Lumpur 2040 (PSKL 2040) to address the capital's rapid urbanisation challenges.

SIGNIFICANCE OF SMART CITY

1. To Address Urban Challenges Arising from Rapid Urbanisation

2. To Meet National and Global Agenda

3. To Adopt New Global Development Trends

4. To Promote Digital Economy

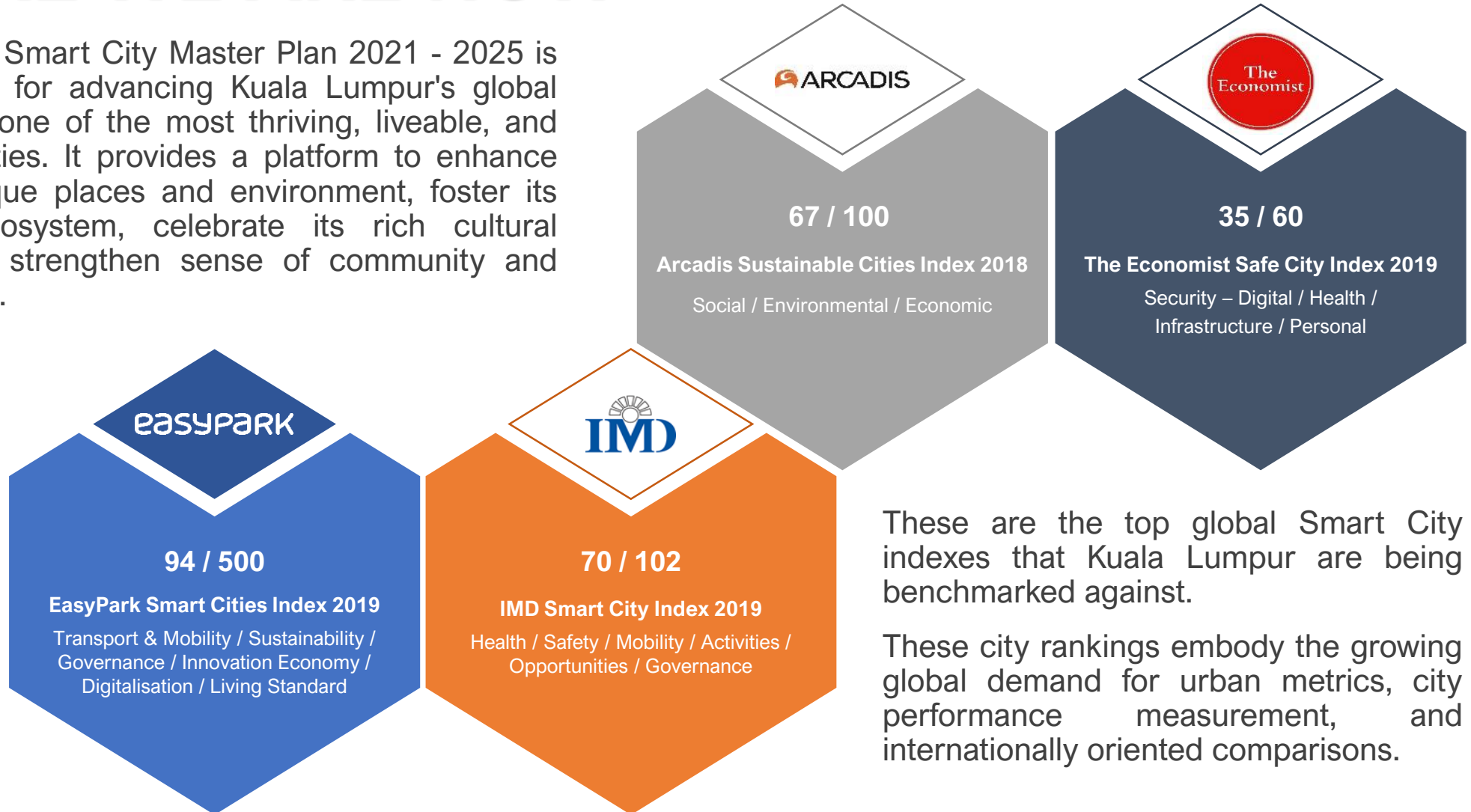5. To Position Kuala Lumpur to be on Par with other Cities Globally

The variety of views about what a Smart City is has resulted in broad definitions with no focus on specific technologies or sectors. Kuala Lumpur's approach to Smart City is people focused. Kuala Lumpur commits to using information and communication technology to enhance its liveability, workability and sustainability.

KUALA LUMPUR DEFINITION OF SMART CITY

In Kuala Lumpur, Smart City is defined as the concerted urban management approach that places people at the centre of its initiatives and will apply various technologies to enhance and improve its citizens' lives.

WHERE WE ARE NOW

Kuala Lumpur Smart City Master Plan 2021 - 2025 is a cornerstone for advancing Kuala Lumpur's global reputation as one of the most thriving, liveable, and sustainable cities. It provides a platform to enhance the city's unique places and environment, foster its innovation ecosystem, celebrate its rich cultural diversity, and strengthen sense of community and belongingness.

ARCADIS

67 / 100

Arcadis Sustainable Cities Index 2018

Social / Environmental / Economic

The Economist

35 / 60

The Economist Safe City Index 2019

Security – Digital / Health / Infrastructure / Personal

EASYPARK

94 / 500

EasyPark Smart Cities Index 2019

Transport & Mobility / Sustainability / Governance / Innovation Economy / Digitalisation / Living Standard

IMD

70 / 102

IMD Smart City Index 2019

Health / Safety / Mobility / Activities / Opportunities / Governance

These are the top global Smart City indexes that Kuala Lumpur are being benchmarked against.

These city rankings embody the growing global demand for urban metrics, city performance measurement, and internationally oriented comparisons.

LEARNING FROM TOP WORLD SMART CITIES

Kuala Lumpur strives to learn from the top smart cities of the world. In the course of developing this Master Plan, we have evaluated selected Smart Cities for comparison and benchmarking. The criteria for selecting these cities is based on their focus of implementing smart solutions that improve the wellbeing of its people and communities.

MASTER PLAN DEVELOPMENT APPROACH

This Master Plan is manifested on the works done by applying the three-phased Gap Analysis approach with a significant focus on co-creation to align with the definition of Kuala Lumpur Smart City, which is people centric.
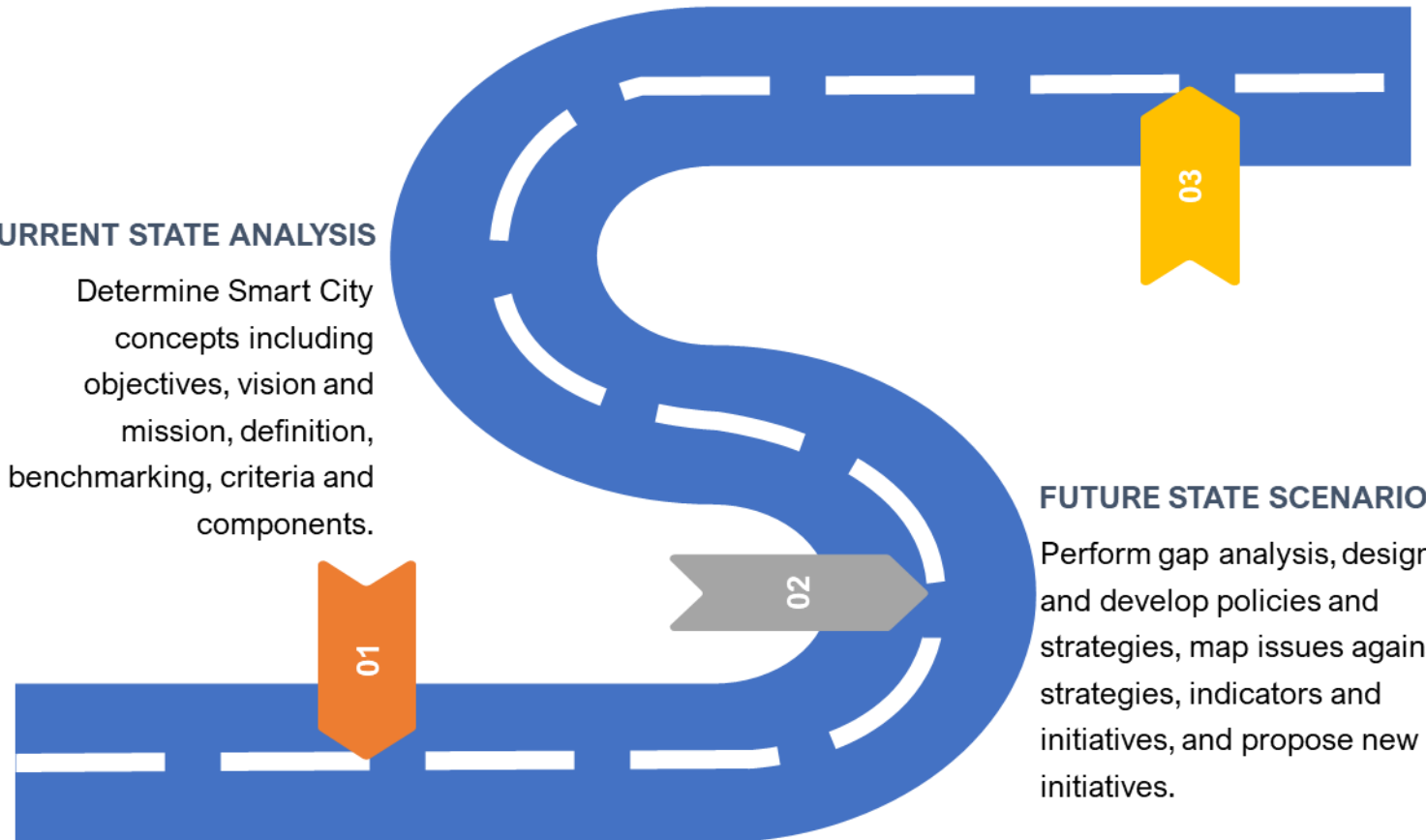
STRATEGIC RECOMMENDATIONS

Refine initiatives, provide implementation and monitoring mechanisms to ensure that the Master Plan is properly executed by the implementing agencies and stakeholders.

CURRENT STATE ANALYSIS

Determine Smart City concepts including objectives, vision and mission, definition, benchmarking, criteria and components.

FUTURE STATE SCENARIOS

Perform gap analysis, design and develop policies and strategies, map issues against strategies, indicators and initiatives, and propose new initiatives.

01

02

03

OBJECTIVES & OUTCOMES

OBJECTIVES

KUALA LUMPUR SMART CITY MASTER PLAN

01 Determine Smart City concepts including objectives, vision and mission, definition, benchmarking, criteria and components.

02 Perform gap analysis, design and develop policies and strategies, map issues against strategies, indicators and initiatives, and propose new initiatives.

03 Provide implementation and monitoring mechanisms to ensure that the Master Plan is properly executed by the implementing agencies and stakeholders.

There are three components of the Gap Analysis which will become the basis of the Master Plan development.

OUTCOMES

KUALA LUMPUR SMART CITY MASTER PLAN

DIRECTION — Fulfil the country's direction to make our city competitive in line with national and international agendas (e.g. SDGs, MSCF, et cetera).

COLLABORATION — Provide a collaborative space for stakeholders and strategic partners based on directions/roles in Smart City development.

POSITION — Position our city's standing on par with global smart cities.

SOLUTION — Enable stakeholders to address the urbanisation issues through the Smart City initiatives to improve the wellbeing and quality of life.

The Smart City Master Plan is structured around four outcomes. While each outcome focuses on a specific domain, the success of the city's smart transformation is dependent on a holistic approach, whereby the four outcomes seamlessly integrate and support each other.

VISION

KUALA LUMPUR, A CITY FOR ALL

A Smart City that places people at the center of its initiatives, harnessing technology and data to enhance and improve its citizens' lives.
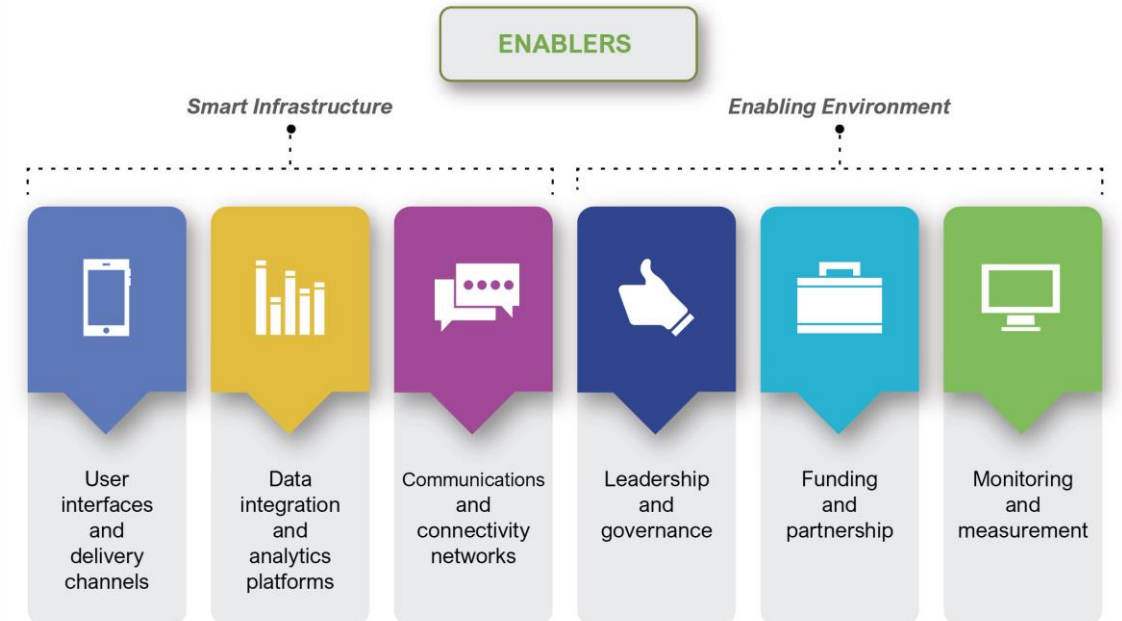
MISSION

To Endeavour becoming a Smart City that is Safe and Secure, Clean and Green, Efficient and Sustainable.

TAGLINE

Smart Kuala Lumpur by Smart Citizens

KUALA LUMPUR SMART CITY FRAMEWORK

Smart Economy
A city encouraging connected, empowered communities — **1**

Smart Living
A city enriching vibrant, livable places — **2**

Smart Environment
A city supporting low carbon, clean environment — **3**

Smart People
A city developing talented, intellectual communities — **4**

Smart Government
A city encouraging integrated, open data culture — **5**

Smart Mobility
A city providing people centric, efficient mobility — **6**

Smart Digital Infrastructure
A city advancing comprehensive, reliable network — **7**

Smart Infrastructure

VISION: 'CIty for All'

Seven Components

Enabling Environment

The Smart City Strategic Framework is structured around seven outcomes. While each result focuses on a specific component, the success of the city's smart transformation is dependent on a holistic approach, whereby the seven outcomes seamlessly integrate and support each other.

ENABLERS

Smart Infrastructure | Enabling Environment

User interfaces and delivery channels

Data integration and analytics platforms

Communications and connectivity networks

Leadership and governance

Funding and partnership

Monitoring and measurement

GUIDING PRINCIPLES

A set of five principles has been collaboratively developed to underpin Kuala Lumpur Smart City implementation. These principles will help us to navigate the rapidly evolving urban landscape, address complex challenges and ensure the design, development and deployment of our smart future is grounded in our true intent.

GUIDING PRINCIPLES

PEOPLE FIRST
We ensure that our people are at the heart of everything we do, putting technology and data to work to support and empower our communities in their everyday life.

INNOVATIVE
We encourage disruption and promote the development of bold ideas and solutions to address cities challenges and unlock new opportunities.

INCLUSIVE
No one is left behind. We celebrate our rich diversity and ensure everyone can participate and belong.

PURPOSE DRIVEN
Our approach is firmly grounded in the challenges facing Kuala Lumpur. We will go beyond optimization to provide purpose driven services which will ultimately enhance the quality of life for citizens.

AGILE
We strive to move quickly and easily. We want to enable our people and citizens to learn by experience. We must thrive to be adaptive and flexible to address new challenges created by rapidly changing urban landscape and community needs.

GUIDELINES AND REFERENCES

The Kuala Lumpur Smart City Master Plan 2021 – 2025 has also referred to these publications to enhance its comprehensiveness and inclusivity in its planning of Smart City.
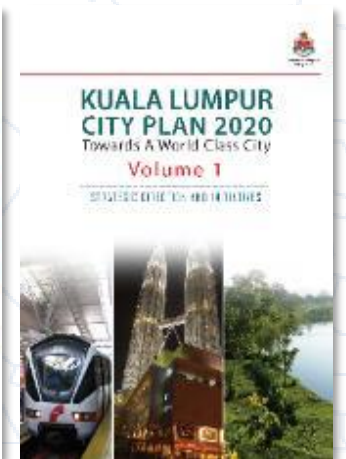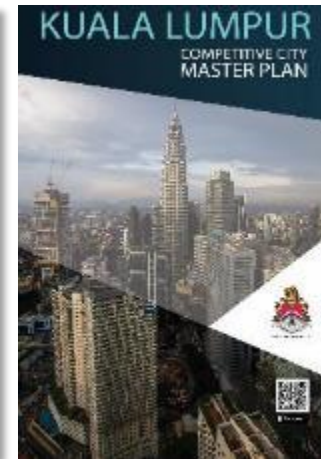
KEY URBAN CHALLENGES

Smart City initiatives are widely used to address urban challenges resulting from rapid urbanisation. Here are the urban challenges for Kuala Lumpur.

Economy
- Readiness to transition into high value-added industries
- Development of innovative businesses and enterprises
- Implementation of e-wallet in businesses
- Productivity in economy
- Creation of high value-added jobs
- Space for hawkers
- Illegal businesses

Living
- Price of Smart Homes
- Affordable homes
- Prevention of crime
- Monitoring systems
- Illegal immigrants
- Quality of life and public facilities
- Demand for healthcare services

Environment
- Management of solid waste
- Air pollution
- Water pollution
- Carbon footprint
- Illegal structures by factories and businesses
- Traffic congestion
- Landslide
- Flood
- Availability of green areas
- Disaster warning systems
- Consumption of non-renewable energy
- Management of non-revenue water
- Awareness of recycling

People
- Skilled manpower and talent pool
- Adaptability to emerging technologies
- e-Commerce knowledge
- Harmonious integration and community empowerment
- Gender friendly environment and inclusivity of vulnerable groups
- Moral intelligence and social integrity

Government
- Information and data sharing in and between government agencies
- Public information sharing from government
- Coordination between departments and agencies
- Participation from public and other external stakeholders
- Quality of e-government services
- Data integrity

Mobility
- Traffic congestion
- Volume of traffic into city
- Rail ridership and private vehicle ownership
- Accessibility/interconnection between public transport
- First and last mile connectivity and accessibility
- Public transport coverage
- Service quality and facility provision in public transportation
- Enforcement for traffic violation

Digital Infrastructure
- Indoor and outdoor network coverage
- Fibre optic readiness
- Internet speed and connectivity
- Functionality of ITIS
- Integration between various systems
- Cybersecurity

STRATEGIES & INITIATIVES

The analyses performed on the current state (including on current initiatives that have been confirmed, developed or deployed by DBKL) against future state scenarios during the development of the Kuala Lumpur Smart City Master Plan 2021 – 2025 produced insights for DBKL to embark on new strategies and initiatives to minimize or close the gaps to achieve its Smart City vision.

VISION
CITY FOR ALL

OUTCOMES

A city encouraging connected, empowered communities	A city enriching vibrant, livable places	A city supporting low carbon, clean environment	A city developing talented, intellectual communities	A city encouraging integrated, open data culture	A city providing people centric, efficient mobility	A city advancing comprehensive, reliable network

COMPONENTS

Smart Economy	Smart Living	Smart Environment	Smart People	Smart Government	Smart Mobility	Smart Digital Infrastructure

STRATEGIES

Develop readiness to transition to high value-added industries	Promote development of smart homes and affordable homes	Reduce discharge of pollutants into the biosphere	Increase adaptability and adoptability of smart technologies	Improve sharing of information and data	Enhance traffic management systems	Amplify coverage and quality of fibre broadband and mobile networks
Increase development pace of innovative businesses and enterprises	Enhance public safety and security initiatives	Improve management of city developments and resources	Promote people empowerment and equal opportunities	Enhance government system integration	Improve public transport coverage and connectivity	Reduce cybersecurity threats
Increase productivity in the economy	Further education agendas and improve healthcare services	Enhance quality of waste management	Promote community civic values and harmonious integration	Enhance integrity of government systems	Improve monitoring and enforcement of traffic violations	Enhance governance of ICT infrastructure and services
Improve monitoring and enforcement on illegal businesses		Increase public environmental awareness				

INITIATIVES

4 Initiatives	3 Initiatives	9 Initiatives	3 Initiatives	7 Initiatives	1 Initiative	1 Initiative

STRATEGIES & INITIATIVES

Kuala Lumpur has confirmed, developed or deployed over 350 initiatives prior to or during the development of this Master Plan. The initiatives below are proposed to further enhance Kuala Lumpur's vision to become a City for All. KLSCMP2025 has listed 28 proposed initiatives.

Smart Economy

1. Kolabora-C
2. Tourism Destination: Experience Through Technology
3. Kuala Lumpur Tourism Product Online Store
4. e-Channel

Smart Living

1. Smart Home Ready for People
2. Safe City
3. Enhanced Bodycam for Enforcement Officers

Smart Environment

1. Smart Waste Management
2. Smart Pollution Control
3. Smart Disaster Prediction & Resilience
4. Climate Action Plan
5. Smart Renewable Energy
6. Smart Energy Street
7. Smart Green Building
8. Enhanced Tree Inventory Management
9. Smart Landscape Management

Smart People

1. KL Digital Community
2. DBKL e-Library
3. Duta e-Commerce

Smart Government

1. My Opinion (Co-Creation Platform)
2. KLCARES App/iSPAAA Enhancement
3. Improve KL City-Wide Collaboration
4. KLUO – Urban Observatory
5. Collaboration with Telcos
6. Cashless Society
7. Smart KL Division

Smart Mobility

1. Smart Traffic Management

Smart Digital Infrastructure

1. KL City Data Analytics Programme

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STRATEGIES & INITIATIVES

TERM	DEVELOPMENT	INITIATION	DEPLOYMENT	INITIATIVES
Phase 1 **Short-Term Initiatives**	3 - 6 Month	Q1 2021	Q3 2021	1. Kolabora-C 2. Digital Community 3. E-Library 4. My Opinion 5. KLCARES / iSPAAA
Phase 2 **Medium-Term Initiatives**	6 - 12 Month	Q4 2021	Q1 2023	1. Tourism Destination 2. Tourism Product Online Store 3. e-Channel 4. Smart Home Ready for people 5. Smart Waste Management 6. Smart Pollution Control 7. Smart Disaster Prediction & Resilience 8. Climate Action Plan 9. Smart Renewable Energy 10. Smart Energy Street 11. Smart Green Building 12. Duta e-Commerce 13. City-Wide Collaboration 14. KLUO 15. Smart City Division 16. Smart Traffic Management 17. City Data Analytics
Phase 3 **Long – Term Initiatives**	12 - 18 Month	Q2 2023	Q4 2024	1. Safe City 2. Enhanced Bodycam 3. Collaboration With Telcos 4. Cashless Society 5. Enhanced Tree Inventory Management 6. Smart Landscape Management

IMPLEMENTATION ROADMAP

Revision 1 KL Smart City Plan

Performance Review Medium Term Projects

Long Term : 12 – 18 months

Q3 2025

M4 — Q3 2024

M5 — Q4 2024

Q2 2023

Long Term Projects Deployment

M3 — Q1 2023

Medium Term Projects Deployment

Performance Review: Quick Wins

Quick Wins Deployment

M2 — Q2 2022

M1 — Q3 2021

Q4 2021

Medium Term: 6 – 12 months

Q1 2021

Sep 2020

Quick Wins 3 – 6 months
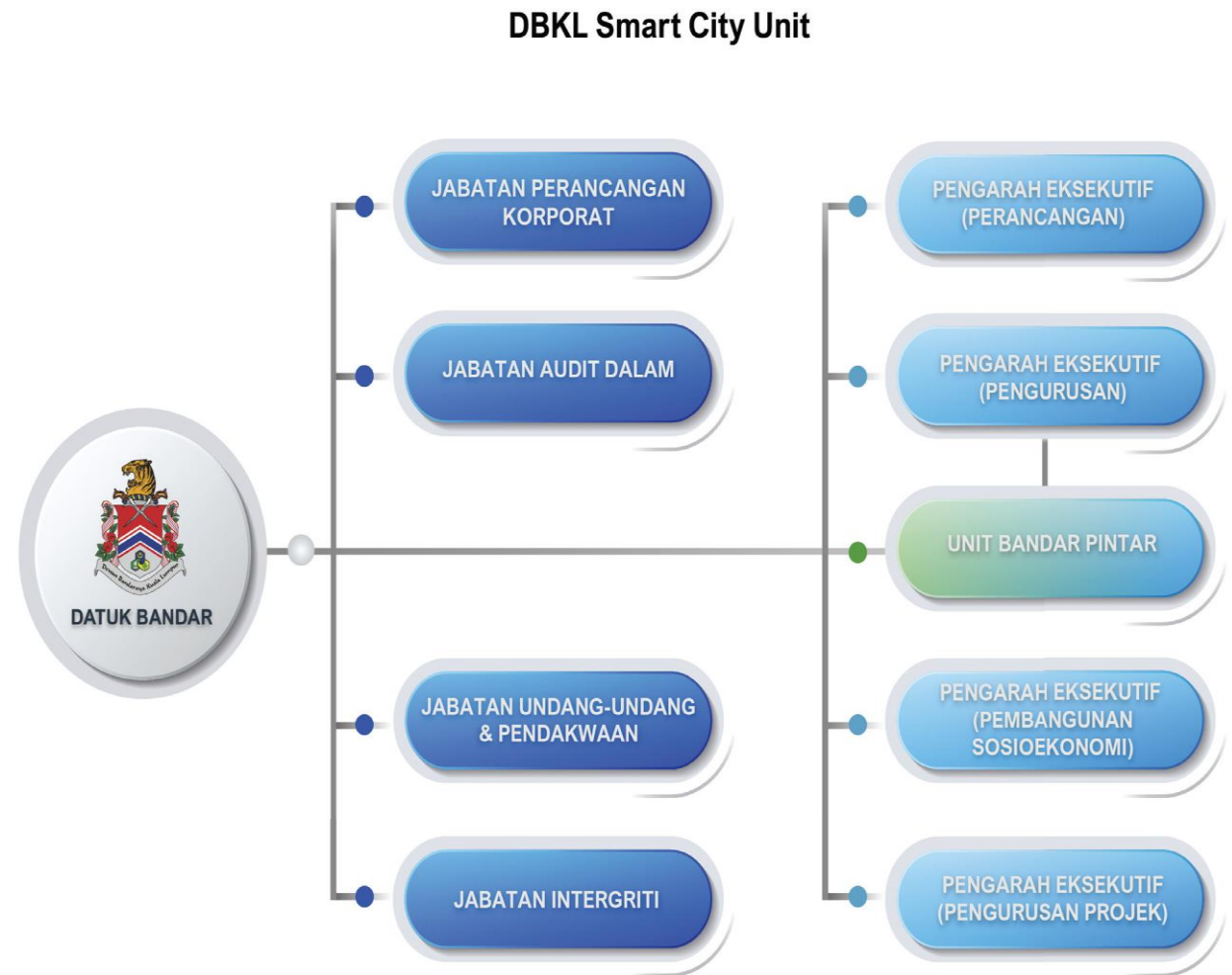
Launch of KLSCMP
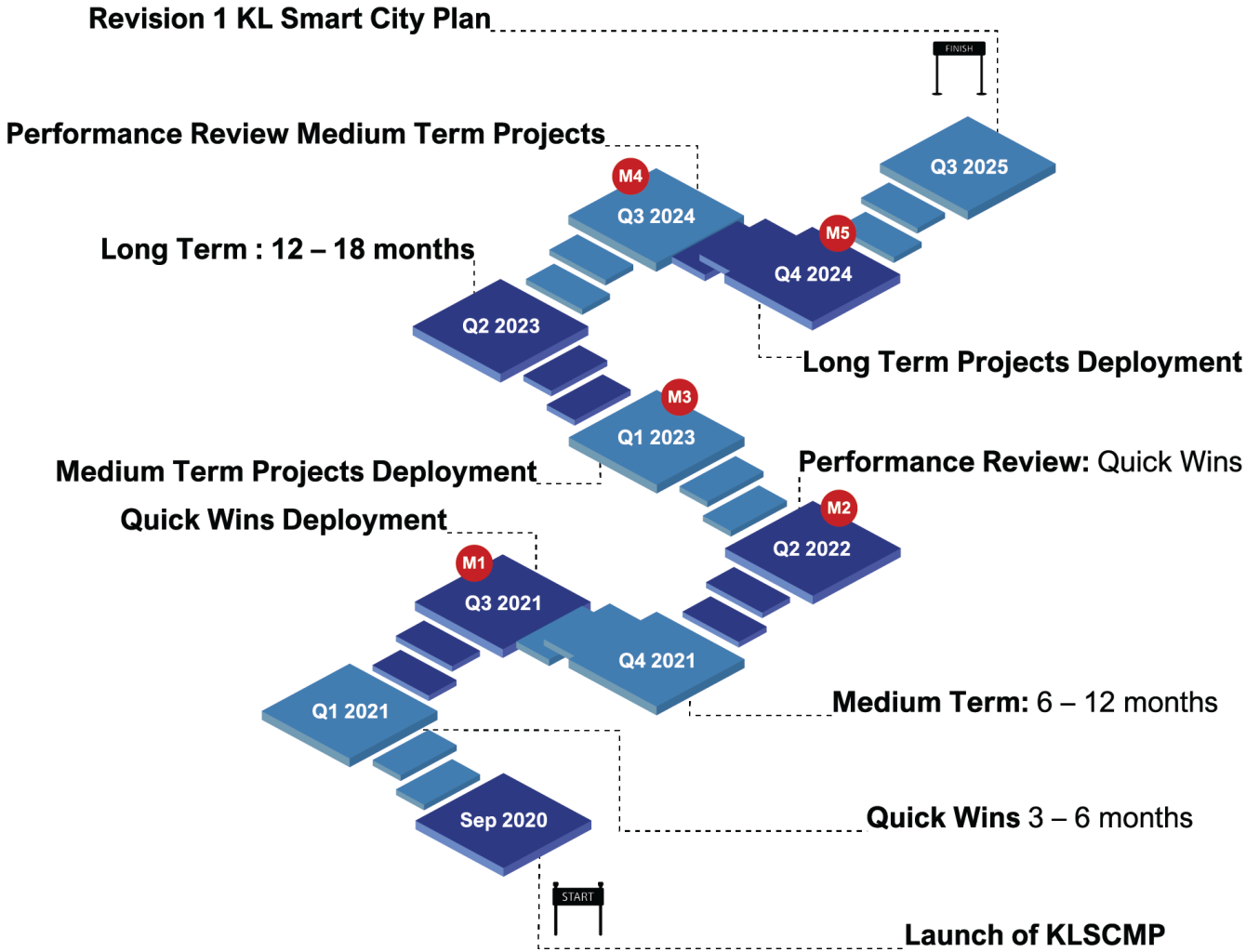
COMMUNICATION ACTION PLAN

There is a need to have a coordinated approach for the Kuala Lumpur Smart City Master Plan's internal and external communication. To ensure that the Kuala Lumpur Smart City Master Plan is delivered successfully, a new DBKL Smart City Unit is proposed. DBKL Smart City Unit will be responsible for ensuring Kuala Lumpur Smart City Master Plan is delivered and implemented through active communication, monitoring, advisory, and reporting.

Activities:

1. Coordination of communication activities
2. Media/press releases
3. KL Smart City website
4. Project profile on social networks
5. A blog dedicated to the project
6. Smart City project dashboard

DBKL Smart City Unit

DATUK BANDAR

JABATAN PERANCANGAN KORPORAT

JABATAN AUDIT DALAM

JABATAN UNDANG-UNDANG & PENDAKWAAN

JABATAN INTERGRITI

PENGARAH EKSEKUTIF (PERANCANGAN)

PENGARAH EKSEKUTIF (PENGURUSAN)

UNIT BANDAR PINTAR

PENGARAH EKSEKUTIF (PEMBANGUNAN SOSIOEKONOMI)

PENGARAH EKSEKUTIF (PENGURUSAN PROJEK)

Bahagian Perancangan Mampan
Jabatan Perancangan Bandaraya
DEWAN BANDARAYA KUALA LUMPUR
Menara DBKL 1, Jalan Raja Laut, 50350 Kuala Lumpur, Malaysia.
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