

2016

# SMART SELANGOR

## EXECUTIVE SUMMARY

The State of Selangor aspires to be a dynamic, economically vibrant, culturally rich, and caring Smart State



#SmartSelangor



**Y.A.B. DATO' SERI MOHAMED AZMIN ALI**  
SELANGOR CHIEF MINISTER  
CHAIRMAN, SMART SELANGOR CONSULTATIVE COUNCIL



*It gives me great pleasure to present this Smart Selangor Blueprint.*

*By 2025, Selangor is poised to become a smart state where its citizens live well and prosperously. We are bringing about transformational outcomes, as outlined in the blueprint to stage an unprecedented march towards a smart state status to make an already high achieving state, even better.*

*Smart Selangor, essentially is a strategic pivot that will interconnect Selangor's ecosystems that foster SMEs' growth and collaborations between government, foreign and local enterprises, and academic institutions. As Malaysia's most populous state, Selangor is home to 6.1 million residents and remains the nation's economic powerhouse, contributing 22.7% to the national GDP, at growth rate of 5.7% as recorded in 2015. The Smart Selangor blueprint underlines one common goal every Selangor citizen shares - to live in an economically vibrant and caring state that is also ASEAN's premier business, travel and living destination. The state of Selangor is typified by positive economic growth and dynamism as well as political stability where governance is firmly rooted around global best practices of accountability and transparency. It is no surprise therefore that we have become a destination of choice for corporations from Japan, the US, Korea, China and Taiwan, Germany, the UK, France, Singapore, Australia and Thailand amongst many others.*

*A sustainable Smart Selangor must begin with nurturing a smart society that promotes a culture of inclusiveness, resilience, and innovation. This government is committed to provide a safe, well-administered environment that caters to the aspirations of its people. This commitment is translated into this blueprint not only just as an action plan - it is a unifying impulse that we must all embrace. I believe that citizen centricity is at the heart of making a smart state a reality. Throughout developing this Smart Selangor Blueprint, the state Government was guided by the philosophy of promoting stronger social inclusion, actively involving and engaging citizens, and addressing urban and rural challenges using technology as a key enabler. Equitable access to opportunities will ensure every citizen holds a stake and participates in Selangor's rapid development. God willing, by 2025, a smart state status will be realised and Selangor's smart state solutions will form the pillars to sustain Selangor's prosperity.*

*The blueprint, I submit, is a cornerstone of evolving Smart Selangor with clear prescriptions followed by solid and tangible actions to promote sustainable value creation and higher quality of life. In line with growing global smart city trends and technologies, we are putting in place international best practices that will give Selangor citizens, the best long term solutions. Further, efficient delivery of high-quality public services via a digitised platform enabled by ubiquitous connectivity will be implemented in order to successfully position Selangor as pro-growth and innovation.*

*Last but not least, I am very pleased to spearhead this charge in bringing to fruition the evolution of a sustainable smart state that will further enhance Selangor's status as the economic powerhouse of Malaysia and the leading smart state in ASEAN.*

**Y.B DATO' MOHD AMIN BIN AHMAD AHYA**  
SELANGOR STATE SECRETARY  
CHAIRMAN, SMART SELANGOR STEERING COMMITTEE



*I am delighted to present this Smart Selangor Blueprint, which is the culmination of all the input, ideas and effort of all Selangor state government agencies, local authorities, district and land offices, and industry stakeholders, coordinated and spearheaded by Smart Selangor Delivery Unit (SSDU).*

*Now, we're leading the way in the transition to a Smart Selangor that at its core, is supported by a strong economy and sustainable liveability.*

*Furthermore, we aspire to be a leader in each of the twelve 'Smarts' that make up the Smart Selangor Domains. In large measures, the Smart Selangor Blueprint development plan seeks out to move the state to a higher level economic performance, resource efficiency, operational efficiency of government services to deliver a mandate to make Selangor the best place to live, work and play.*

*Selangor's economy is one of the fastest growing in Malaysia, and is the centre of a 6.1 million population that drives a fast-paced economy in the region. Selangor is already home to world class infrastructures and innovation hotspots, and is uniquely positioned to benefit from the growth in smart cities, Internet of Things (IoT) and digital transformation. These dynamics coupled with rapid urbanisation and other major infrastructure programs bring with them new challenges around smart state planning and government service delivery. The state government has to deliver more with less.*

*Therefore, we have put together in the Smart Selangor Blueprint, a snapshot of smart solutions that Selangor is capable of realizing by 2025. In coming up with the blueprint, innovative thinking and practical creativity were brought together by the civil servants, city administrators and the citizens to design and select smart technologies for use in cross-sectoral applications to address these key challenges to ensure improved delivery systems for the citizens.*

*Presently, there is a huge opportunity to further develop Selangor as a vibrant economic hub in the region using smart development models. I believe that the utilization of the correct technological solutions would foster better interactions amongst state agencies and the local authorities, improve efficiency in public service delivery, not only meeting expectations of the citizens but exceeding it with better forecasting techniques based on state-of-the-art analytics that will be made available under the Smart Selangor initiative. Indeed, exciting times are ahead of us and let us continue to work together to realize the state's aspirations.*

*Thank you to all contributors*

# EXECUTIVE SUMMARY

## 1.1 SMART SELANGOR : GROWTH THROUGH MASS COLLABORATION

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As the nation's economic powerhouse and the most progressive state in Malaysia, Selangor is uniquely positioned to lead the evolution towards a sustainable smart state in the country. In line with its aspiration to achieve Smart State status by 2025, the state of Selangor is embarking on a transformation programme that aims to promote and foster greater economic growth, sustainable value creation and high quality of life.

Smart Selangor is a dynamic development approach enabled by smart infrastructure, services, systems, and people contributing towards greater economic growth and resilience, better governance and efficient management of talent, water, energy, transportation, housing and other key resources and economic sectors

This Smart Selangor Blueprint envisages improving the quality of life and creating a conducive business environment that emphasises sociocultural development, community infrastructure, environmental responsibility and integrity, human capital development, and income generation.

The Blueprint is focused on identifying actionable and commercially viable opportunities, in line with the Government's national agenda on housing, education, infrastructure, and healthcare.

## WHAT IS SMART SELANGOR?

*The Smart Selangor initiative by the Selangor State Government seeks to leverage the Internet of Things (IoT) solutions in improving the quality of life of its citizens, in line with the urbanisation wave. The Initiative encompasses an initial 3-year plan to realise its vision of transforming Selangor into a world-class Smart State.*



## Smart Selangor Aspirations



### VISION

Selangor aspires to be a dynamic, economically vibrant, culturally rich, and caring Smart State in close engagement with the Rakyat, enabled by smart infrastructure, services, systems, and people to strengthen Selangor's position as the premier state in ASEAN by 2025.

### MISSION

Citizen centricity is at the heart of making a Smart State a reality. In developing the Smart Selangor Blueprint, the State Government is being guided by the philosophy of promoting stronger social inclusion, actively involving and engaging citizens, and addressing urban challenges and foster economic growth using technology as a key enabler. By leveraging technology and innovative business models, the Smart Selangor development plan aims to address top-priority challenges, stimulate investments, enhance efficiency, and create next-generation jobs to fuel sustainable growth and improve the quality of life for all Rakyat in the state.

# SMART SELANGOR: 12 SMART DOMAINS

Under the Smart Selangor framework, 12 Smart Domains have been identified based on close engagement with stakeholders and citizens. The domains serve to guide Selangor on its journey towards becoming a Smart State.



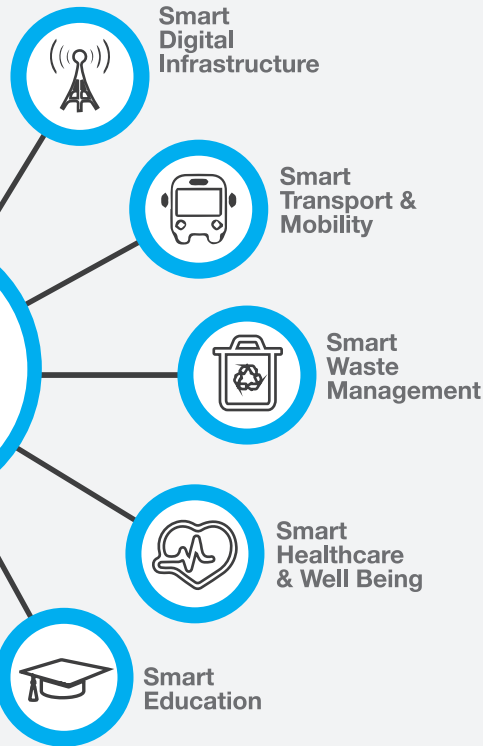
**Smart Governance** builds the foundation towards smart, open, and participatory government among and between all stakeholders, including the government and its agencies, citizens, and businesses enabled by intelligent, integrated technology and analytics. The State Government will be enabled to better forecast and act with a higher degree of accuracy. The State Government's role remains as a facilitator of innovation, sustainability, competitiveness, and liveability, by sharing information in a transparent and accountable platform and process. Selangor government remains pro-business and pro-growth.

**Smart Digital Infrastructure** Infrastructure is the digital backbone of the Smart State spearheading the Internet of Things (IoT) development in Selangor not limited to the following components:

- Next Generation Networks
- IoT Platform
- Mobile and Wireless Access
- Data Centre and Disaster Recovery Centre
- Intra-Government Connectivity

**Smart Transport & Mobility** is a forward-looking pragmatic transportation solution for the state supported by innovative technology solutions that foster seamless multi-modal transportation access and efficient connectivity. This involves 3 interacting processes, namely, developing smart infrastructure, integrating big data, and providing smart services that improve user experience.

**Smart Waste Management** adopts an integrated end-to-end value chain approach in minimising waste through community



awareness, diverting waste from landfills, accelerating the recycling rate and recovering value from waste with the goal towards a “zero waste” society.

**Smart Healthcare & Wellbeing** reflects Selangor’s efforts to establish the most developed healthcare infrastructure in Malaysia, devoting 6% to 8% of its GDP to transforming the sector. Digital transformation of healthcare would encompass Population Health Management (PHM), integrating case/disease management aspects, care coordination, and advanced tools to perform the tasks.

**Smart Education** aims to prepare human capital to capture new economy opportunities through the creation of an enhanced teaching and learning environment through capital & resource efficiency in education delivery, optimised learning experience, and effective learning outcomes.

**Smart Water Management** involves efficient delivery and consumption of water as its top-most priority. Smart water initiatives should lead to greater customer satisfaction, reduced gap between revenue and expenditure, minimise non-revenue water (NRW) and sustainable water supply. Leveraging water technologies and customer-centric approaches are necessary enablers.

**Smart Energy & Utility** defines a suite of systems that enables a Sustainable Energy Infrastructure to not only reduce costs, but also reinforce energy networks. Smart solutions include demand side response (DSR), storage, and smart transmission and distribution networks, with interconnectivity playing an important role.

**Smart Food & Agro** encompasses technological solutions aimed at maximising yield and minimising agricultural input. Digital transformation is anticipated to boost efficiency and enhance the food and agriculture ecosystem to meet growing food consumption and steering the Citizens towards a healthier eating lifestyle.

**Smart Safety & Security** enhances public security and welfare by deploying a range of integrated safety and security systems through close collaboration with public covering accidents, crime, and terror incidents across various stakeholders in the society, resulting in a more liveable environment.

**Smart Buildings** refer to facilities that achieve the explicit goals of economic development, sustainable construction and operation, and quality of life for occupants over its life cycle. Information technology, building sciences and low carbon framework are critical enablers.

**Smart Disaster Management** aims to enhance the integrated crisis management system for dealing with all humanitarian aspects of emergencies, in particular, preparedness, response, and managing disasters that include an early warning system to improve response rates and prepare citizens for natural calamities, on top of better coordination among relevant agencies.

# KEY OUTCOMES & BENEFITS FROM THE 12 SMART DOMAINS

Realising the ambitions of the 12 Smart Selangor Domains start with constituents working together in a smarter way to deliver sustainable growth with modern infrastructure, global connectivity, exemplary governance, and higher quality of life for all stakeholders and the Rakyat. Targeted outcomes include:



ENERGY-EFFICIENT, QUALITY, COST-EFFICIENT BUILDINGS



UBIQUITOUS CONNECTIVITY FOR ALL  
(GOVERNMENT-BUSINESS-CITIZEN)





RESPONSIVE AND PROACTIVE GOVERNMENT

#SmartSelangor

SETIAUSAHA KERAJAAN

CONTINUOUS AND SAFE WATER SUPPLY

CLEANLINESS AND MAINTENANCE

HIGHER HOME OWNERSHIP

MANAGEABLE TRAFFIC CONGESTION DURING PEAK HOURS

IMPROVEMENTS IN PUBLIC SAFETY





# TOWARDS A SMART SOCIETY

Evolving beyond a Smart City to a Smart Society and a Smart State is all about putting the Citizens at the heart of planning. The Smart Selangor development plan is guided by the philosophy of promoting stronger social inclusion, actively involving and engaging citizens, and addressing urban challenges and inclusion of rural needs using technology as a key enabler. Smart Selangor calls for the building of smarter communities, villages, towns and cities to deliver sustainable growth and higher quality of life for all.

While liveability and happiness are cited as critical imperatives for any Smart State, Smart Selangor aspires to achieve robust economic vibrancy whilst focusing on higher quality of life and realising the aspirations of its people. Various international and national publications like the Economic Intelligence Unit (EIU) Global Liveability Ranking and OECD Better Life Index<sup>1</sup>, provide guidance on how cities perform in terms of quality of life, pinpointing areas of weakness and opportunities for stakeholders to devise future growth strategies. In the EIU's 2015 Global Liveability Ranking, which measures 140 cities worldwide, Kuala Lumpur came in 73rd spot<sup>2</sup>.

Guidance from the Malaysian Wellbeing Index (MWI) 2013, introduced by the Economic Planning Unit, assesses improvement of people's wellbeing as a result of national economic development. In order of the highest correlation to GDP, the top 10 indicators are Transportation, Income and Distribution, Leisure, Education, Health, Governance, Working Life, Communications, Housing, and Public Safety. Malaysia achieved an overall improvement of 25.4 points in MWI between 2000 and 2012, and targets 1.7% per annum increase between 2016 and 2020, reflecting consistent increases in quality of life.

In leveraging the country's strengths, the Smart Selangor blueprint aims to accelerate development of a more inclusive citizen-led ecosystem through the co-creation of new opportunities with its people, focusing on spearheading new economic growth and innovation. Selangor is home to a large and growing education ecosystem in the country. The state has the highest number of local and foreign private universities/colleges in the country, creating a conducive knowledge ecosystem that boosts employability, entrepreneurship, and innovation.

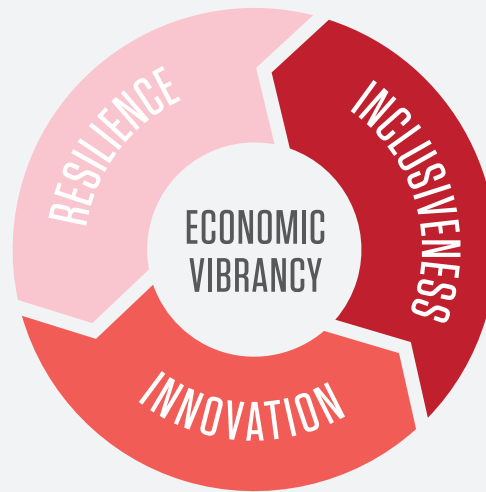
<sup>1</sup> <http://www.oecdbetterlifeindex.org/responses/#MYS>

<sup>2</sup> Best cities ranking and report, A special report from the Economist Intelligence Unit



## RESILIENCE

- Learn from past lessons and failures
- Unity in the face of diversity
- Preparation based on understanding of unique risks and vulnerabilities
- Strong institutional structure
- Builds on the foundation of inclusiveness



## INNOVATION

- Ability to continuously discard, renew, and change
- Spearheading new growth opportunities in frontier technologies
- Strong degree of competitiveness by fostering diverse enterprise growth through State driven innovation hub
- Balance between technological and non-technological innovation
- Spur new industrial revolution 4.0

## INCLUSIVENESS

- Smart Selangor that belongs to everyone
- Everyone has a chance to be heard
- Equitable access to opportunities
- Respect for diverse beliefs and values
- Strong sense of individual responsibility

With the establishment of innovation hotspots like Cyberjaya and I-City, Shah Alam, Selangor is well positioned to become a regional innovation hub for smart city technologies, interconnecting all ecosystems through fostering the growth of tech start-ups and collaborations among the government, foreign and local enterprises, and academic institutions. At the same time, preservation of the current environment is paramount and the key is to evolve at a more rapid pace to establish a new industrial landscape for Selangor SMEs and manufacturing.

That stated, making a Smart State a reality requires more than just deploying advanced technological and analytical solutions. Instead, it is about spearheading the development of data and fact-based policies in the State to better manage the implications of urbanisation and high economic growth. For this to take place, strong government leadership, more efficient use of existing infrastructure, collaborative efforts that bring together public and private sectors, and citizen participation are necessary as well.

Therefore, a sustainable Smart Selangor begins with a Smart Society that promotes a culture of inclusiveness, resilience, and innovation, enhancing the quality of life and stimulating economic vibrancy while providing a safe, well-administered environment that caters to the aspirations of its people.

# CITIZEN-CENTRIC APPROACH AND ENGAGEMENT MODEL

In understanding the challenges and issues facing the people, the State Government of Selangor undertook a 5-month engagement process, through the close interaction with over 10,000 citizens and stakeholders, in co-defining the pathway towards developing the Smart Selangor Blueprint. The process involved validating the pain-points and shared expectations of stakeholders and the Rakyat of Selangor.

Several engagement approaches were used to gain an in-depth understanding of issues, foster collaboration among key stakeholders, and attract citizen participation. In June 2016, a Smart Selangor Introduction and Planning Session, attended by participants including 34% from PBTs, narrowed down areas deemed to be of the highest concern to the citizens of Selangor.

## The top 5 issues raised:



Transport  
& mobility



Infrastructure



Governance



Safety  
& security



Solid waste  
management



The Merdeka Center for Opinion Research also conducted the Smart Selangor Survey 2016 involving more than 1,000 voters aged 20 and above across various ethnicities. The 4 distinct areas chosen by survey participants out of 12 – Transport & Mobility, Digital Infrastructure, Solid Waste Management, and Governance – became the focus of deep-dive sessions at the subsequent Smart Selangor Labs. Findings from the survey were incorporated into the Smart Selangor Lab sessions held between June and September 2016.

The Lab sessions were structured to foster dialogue among delegates to discuss high-level initiatives and solutions that could potentially evolve into viable projects in the Smart Selangor framework. Participants in the Lab sessions were mainly from Local Authorities (Pihak Berkuasa Tempatan, PBT), the State Secretary Office (Pejabat Setiausaha Kerajaan, SUK), state and federal agencies, state government-linked companies (GLCs) and district land offices.

Overall, the Smart Selangor Labs received positive feedback from delegates describing the sessions as being informative, spurring lively discussions among participants, and providing a strong foundation towards developing the Smart Selangor blueprint.

The in-depth discussions provided validation on key issues and solutions, allowing attendees to engage and deliberate with stakeholders directly and contributing towards inclusive decision-making on citizen impact and speed of resolution. In reviewing the core insights, the Lab also carried out high-level discussions to identify plausible solutions and examine smart initiatives currently available in the various PBTs.



# KEY ACTIVITIES

15 Apr  
Academia Feedback

01 Jun  
State Government Stakeholder awareness forum & feedback / inputs

05 Jun  
Public Survey involving 12 PBTs by Merdeka Centre

27 Jun – 01 Jul  
Phase 1 Lab – Session 1 with State Government Stakeholders

26 – 28 Jul  
Phase 1 Lab – Session 2 with State Government Stakeholders (include management)

01 – 03 Aug  
DUN Road show at SUK

05 – 07 Aug  
Book Fair by PPAS with Smart Selangor booth.

17 – 30 Aug  
Phase 1 Lab – Session 3 with Stakeholders and Invited Industries

18 Aug  
Expression of Interest Session with industry players

19-20 Aug  
Retreat with State EXCO Members & State Assemblymen

# 2016

JUN

JUL

AUG

Smart Selangor Clarification and Domain Briefing.

Identify priority domains through feedback and survey from government agencies and members of the public

Identify pain points, and challenges.

Seek stakeholder buy-in.

Align problems with solutions.

Mega Trends: Identify Global best practices.

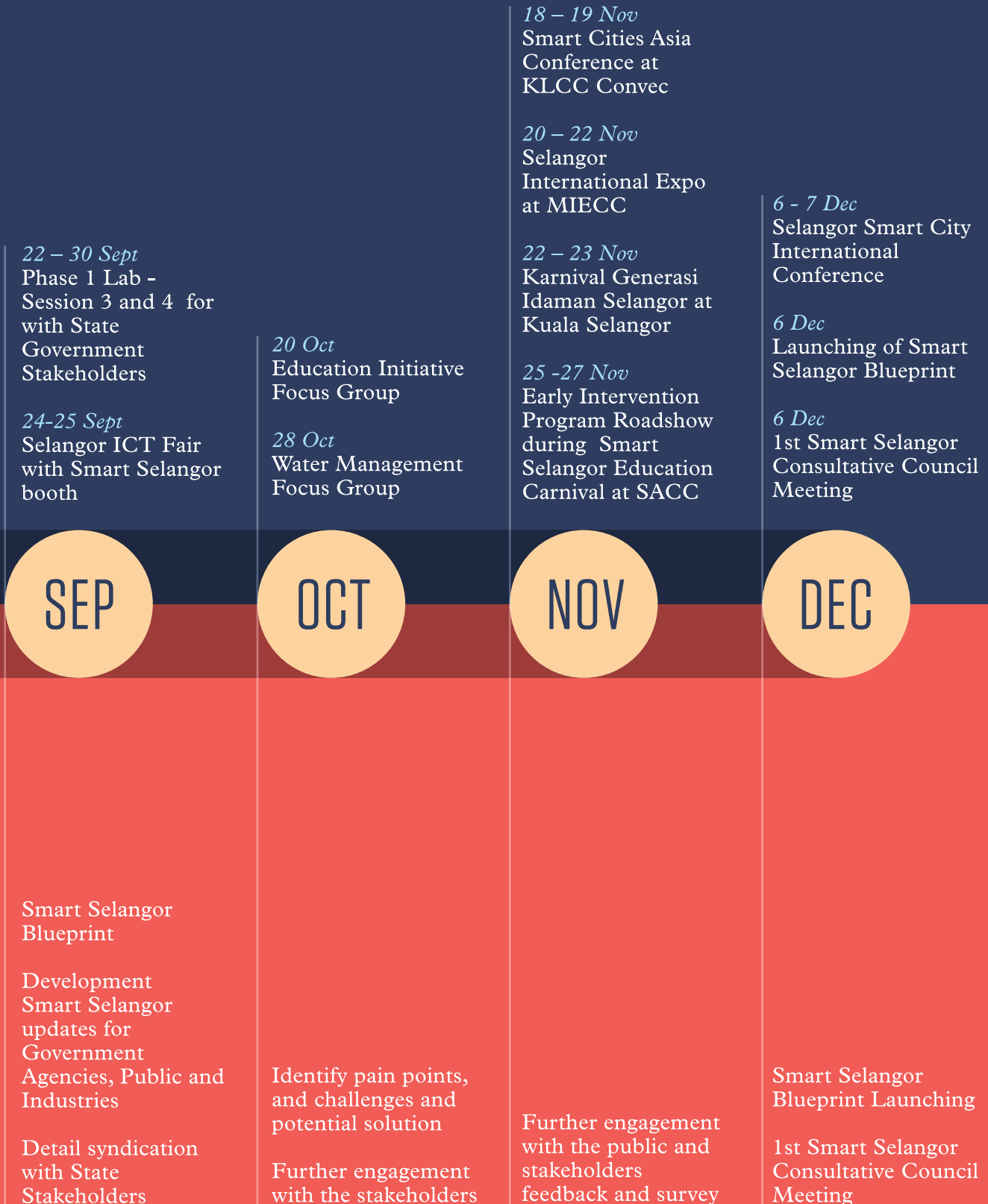
Smart Selangor updates & survey for public

Disseminate Smart Selangor info to State Gov Mgmt



















Identify best solution providers.

Detailing of initiatives with Budget and Implementation plan with quick-wins.

# KEY OUTCOMES



# PILOT INITIATIVES

<b>USERS</b>	 Citizens	 Industries & Corporations	 Government, GLCs & State Agencies				
<b>SMART APPS / USE CASES</b>	 Analytics Dashboard	 Transport Info	 PCP Platform	 Waste Services Apps	 Waze CCP	 EIP & Creative Centre	 River Cleaning
<i>Non-exhaustive list</i>							
<b>SMART APPLICATION DEVELOPMENT PLATFORM</b>	 Big Data & Analytics Platform	 Mobile App Platform	 API Manager & Enterprise Service Bus				
<b>INFRASTRUCTURE &amp; PLATFORMS</b>	 Sensors	 IoT Mesh	 Data Centre	 Integrated Network	 Integrated Operations Centre (Command & Control Centre)		
	<b>Internet of Things (IoT) Platform</b>		<b>Integrated Data Centre &amp; Network Operations Centre</b>				

Acronym:

API: Application Programming Interface  
CCP: Connected Citizens Program

EIP: Early Intervention Program  
PCP: Public-Citizen-Partnership Program

Ten pilot initiatives targeting various domains have been identified as “quick wins” to be implemented in the first phase of Smart Selangor. The identified projects are listed as follows:

<b>01</b>	<b>State Monitoring Dashboard</b>
<b>Domain</b>	Smart Governance
<b>Project Objective</b>	The State Monitoring Dashboard (“SMD”) will enable users to leverage large data sets from multiple sources to gain actionable insights than otherwise possible due to limitations of traditional databases.
<b>Solution Description</b>	Next-generation architecture for SMD encompasses capabilities that allow customers to start where they are, building on what they have, and scale at their own pace with stability and security. The SMD platform achieves high database performance across multiple workloads while lowering administration, storage, development, and server costs. SMD performs deep analytics on data in motion, captures real-time insights, and enables descriptive and predictive analytics to support real-time decisions, with the ability to integrate, understand, manage, and govern data appropriately across its life cycle.



<b>Key Benefits</b>	<ol style="list-style-type: none"> <li>1. State agencies and data users will be able to examine, interpret, and act on large data sets to leverage useful information and support fact-based policy making and monitoring.</li> <li>2. Readily available information will translate into time and cost savings in analysing data, creating efficiencies, and improving response and delivery</li> </ol>
<b>Stakeholders</b>	SSDU, SUK, government agencies, Local Authorities and Industry Participants

02

## Smart App Development Platform (SADP)

<b>Domain</b>	Smart Governance
<b>Project Objective</b>	The objective of SADP is to create a tool for agile and rapid application development that can help reduce time-to-market, cost, and complexity of development, enabling an optimised customer and developer experience across multiple environments. SADP will also facilitate continuous delivery of new and enhanced mobile applications, and also support current application development methodologies and extend them to new, emerging or widely adopted technologies.
<b>Solution Description</b>	The Smart App Development Platform (SADP) is an open, comprehensive, and advanced mobile application platform that enables applications of various size and levels of complexity to be built with scalability and is deployable on premises and on the cloud. SADP integrates with popular development languages and connects to essential back-end services to build, run, and manage apps at faster speed and with various security mechanisms. SADP consists of secure on-device storage for data and in-transit security. The platform also supports reusability for standard modules not limited to login credentials and access rights, user experience design, external integration via APIs or third-party web services recognised as Industry Standard.
<b>Key Benefits</b>	SADP can be utilised by Selangor citizens, businesses, start-ups, and government officials in reducing overall time and cost in application and service delivery while fostering a viable ecosystem for more innovative solutions.
<b>Stakeholders</b>	SSDU, SUK, Business Users and Industry Participants

03

## Public Citizen Partnership (PCP) Platform

**Domain**

Smart Governance

**Project Objective**

The Public-Citizen-Partnership (PCP) is a collaborative initiative where citizens and government take equal share of responsibility to build a smart community together. Citizens can take on proactive roles in contributing to any government's plan that will impact their community.

**Solution Description**

PCP will be conducted over an online platform whereby users will be able to participate by contributing ideas and providing feedback. The project will require a state government agency to organise, coordinate, and oversee two parties (government and public) working together. The platform will feature a user-friendly, yet professional interface, log in capability, working portal, internal and external dashboard, files deposit and analytics capability.

**Key Benefits**

1. Citizens will be able to proactively participate and be involved in community building and development impacting their community
2. Enhanced dialogue and strengthened relationship between the state government and the citizens
3. PCP will be an effective tool to garner citizens engagement in Smart Selangor Project

**Stakeholders**

MBI, SSDU, SUK, Local Authorities and Citizens

04

## Smart Waste Services App

**Domain**

Smart Waste Management

**Project Objective**

Provide Rakyat a platform to access information on waste management, report issues, monitor their complaints, track the speed of resolution, find smart solutions, and interact with local government. Allow local authority officers easy access to citizen feedback and engagement, as well as to monitor the performance of third-party service.

**Solution Description**

The Smart Waste Services App is an extension and expansion of the current iClean Selangor Programme, where citizens can lodge complaints or report uncollected waste locations to be rectified by the relevant parties. Expansion will include information and application portal for recycling, waste marketplace and education content.

<b>Key Benefits</b>	<ol style="list-style-type: none"> <li>1. The app can be utilised by users in the waste industry, citizens, and government bodies</li> <li>2. Ready availability of waste information speeds up transactions, as users do not have to search aimlessly on how to dispose waste</li> <li>3. Reduction in illegal dumping and associated costs to remedy them</li> </ol>
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<b>Stakeholders</b>	SSDU, Business Users and Vendor
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05

## Internet of Things (IoT) Platform for Smart Selangor Initiatives

<b>Domain</b>	Smart Digital Infrastructure
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<b>Project Objective</b>	To establish a secure, robust and wide area network to connect to and handle the growth of myriad of IoT sensors, data and data sources and computing resources. This network will enable intelligent transport solutions, optimising traffic flows, improving safety and security and allow asset owners to more efficiently manage resources including environmental monitoring and asset management.
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<b>Solution Description</b>	The IoT Platform along with real-time communications network connects sensors and devices in a unified and large-scale manner. The Network Operations Centre (NOC) will centrally collect data and remotely manage assets across the state. The IoT platform will utilise an open-standard approach to ensure it adapts to evolving technologies and fosters local innovation and ecosystem collaboration. The platform will employ proven technologies to minimise operational and security risks to Selangor.
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<b>Key Benefits</b>	<ol style="list-style-type: none"> <li>1. Advanced infrastructure will enhance efficiency of municipal services and thus benefitting the citizens</li> <li>2. Data and citizen engagement mechanisms will support greater social change and accountability</li> <li>3. Smart Selangor will become smarter and “aware” of its environment via sensor-driven decision analytics</li> <li>4. The platform will facilitate and foster innovation and complement services from the IoT industry, such as IoT application developers</li> </ol>
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<b>Stakeholders</b>	SSDU, SUK, Local Authorities, Business Users and IoT solution providers
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06

## Smart Transportation Information System

### *Domain*

Smart Transport & Mobility

### *Project Objective*

The Smart Transportation Information System is a specialised app that enables users to access data on public transportation to plan their journeys more effectively, avoiding traffic congestion and poor road conditions.

### *Solution Description*

The system will leverage IoT technology on the Smart Selangor Bus via a common SADP, connecting to GPS and sensors on the bus. Other features will include a congestion heat map for citizens to plan their routes and movement.

### *Key Benefits*

1. Reduced commuting time for citizens via seamless connectivity of the app
2. Users will be able to reap monetary savings as a result of the reduced commuting time, avoiding further wastage of resources

### *Stakeholders*

SSDU, Business Users and Vendor

07

## Waze Connected Citizens Programme (CCP)

### *Domain*

Smart Transport & Mobility

### *Project Objective*

CCP is collaboration with the Waze app to manage road maintenance, specifically to tackle the problem of recurrent potholes in Selangor. Citizens will be able to report the exact location of potholes directly to the app and thereafter will be remedied by the Local Authorities.

### *Solution Description*

Waze will work closely with 7 participating municipalities on this pilot initiative. A middleware will be developed allowing road condition and maintenance to be monitored. The platform will provide the selected municipalities access to its database in order for them to extract and capture data on road conditions in Selangor. Data captured from Waze to be incorporated into the app will cover traffic flow, road closures, accidents, and vehicle travel speeds and time taken to clear high-traffic areas to assist users in making informed travel decisions. At the pilot stage, only 7 municipalities will be involved as they record the highest number of users within the test region compared to the rest of Selangor. Following the successful implementation of WCCP, the initiative will be rolled out to the remaining 5 municipalities in Selangor.

<b>Key Benefits</b>	<ol style="list-style-type: none"> <li>1. Real-time data will enable citizens to gain greater awareness of road conditions and be able to plan their journey effectively, thus increasing commuting efficiency, saving time, money and resources</li> <li>2. Reduce the risk of traffic accidents and vehicle damage</li> </ol>
<b>Stakeholders</b>	SSDU, Waze, Local Authorities and industry participants

08

## Selangor Distinguished Creative Centre

<b>Domain</b>	Smart Education
<b>Project Objective</b>	The establishment of a Coding Academy via an easy-to-use platform and user interface, with an ecosystem that will educate and encourage people from all age groups to code, creating mobile applications. Users can leverage the interactive learning experience to visualise what they have coded immediately.
<b>Solution Description</b>	The Coding Academy will be anchored on a user friendly interface, allowing its users to code. It will introduce a new approach that allows citizens the opportunity to learn and create mobile applications aimed at improving living standards and resolving current and future challenges in the society. This emphasises on the creative approach to problem solving, promoting higher order thinking skills. Using a community engagement approach, mobile application development teams comprising individuals with different skill sets and expertise will be encouraged to converge to collaboratively create and realise new ideas.
<b>Key Benefits</b>	<ol style="list-style-type: none"> <li>1. Citizens will be able to explore their creativity via the Coding Academy</li> <li>2. Enhanced learning skills will improve students' learning experience to complement conventional education</li> </ol>
<b>Stakeholders</b>	SSDU, PPAS and Vendor

09

## Early Intervention Programme (EIP) Centre

### *Domain*

Smart Education

### *Project Objective*

EIP aims to use technology for pre-screening and patient monitoring and make early intervention and detection affordable and accessible to the public. The programme focuses on creating awareness for early intervention for children with special needs such as delayed physical, cognitive, emotional, social, or speech development. Intervention can be done as early as the toddler stage.

### *Solution Description*

Parents will be able to get their child diagnosed, and obtain referrals to specialists if required, such as:

- Audiologist to assess listening capability
- Work Therapy Specialist to assess motor sensory skills
- Physiotherapy Specialist to assess muscle strength and endurance
- Speech Therapy Specialist to assess language and speech

Smart applications are available for users where pre-screening and patient monitoring features are enabled. Users can benefit from the app's ability to test and detect for autism via its built-in intelligence.

### *Key Benefits*

Parents of children with disabilities will be able to benefit from early detection, to proactively participate in caring for their child

### *Stakeholders*

MBI, SSDU, State EXCO, Clinical Expert Team, TASKA Selangor



10

## River Cleaning, Rehabilitation & Development

### **Domain**

Smart Water Management

### **Project Objective**

The objective of the program is to ensure that the rivers are free from floating debris and any form of waste. The waste collected from the river and riverbanks will be sorted and disposed properly. The project will clean, rehabilitate the rivers in Selangor and develop the surrounding riverbanks in Selangor.

### **Solution Description**

River cleaning and rehabilitation will be done by appointed vendors. Vendors will be responsible to install waste traps, collect and dispose them properly. The program will be launched in 3 phases, aspiring to increase efficiency levels in debris collection, operation and monitoring system through the application of IoT. Phase 1 and 2 will focus on cleaning, rehabilitation of Klang River, freeing the river from floating debris whereas Phase 3 will focus on comprehensive development along the riverbank of Klang River and other rivers in Selangor.

### **Key Benefits**

1. The project will substantially improve conditions of rivers and riverbanks in Selangor, and boosting tourism in the process
2. Citizens will be able to enjoy reap positive externalities such as environmental benefits and improved quality of life

### **Stakeholders**

SSDU, Local Authorities and Vendor

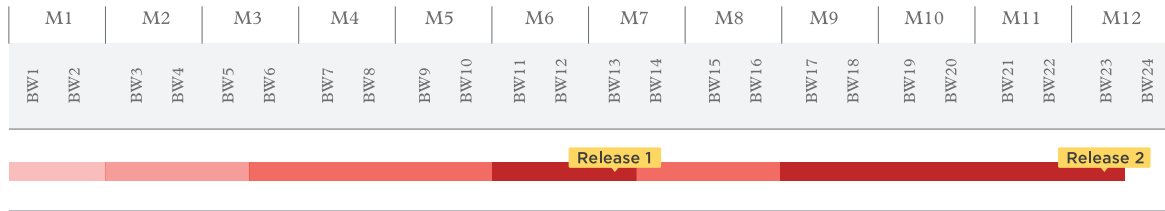
# IMPLEMENTATION PLAN

The ten pilot initiatives, having identified to be “quick wins” for Smart Selangor will be implemented within 12 – 18 months period, as outlined below:

<b>Work steps</b>	Work steps are the steps taken to implement the key projects identified for the specific domain.
<b>Key Stakeholders</b>	Key stakeholders are the people across various functions who will be involved in executing the work steps.
<b>Risk/Dependency</b>	Risk/ Dependencies are factors that can slow down the execution of the work steps or may not allow the work steps to be implemented. It is important to understand the risks/dependencies and prepare for mitigation.
<b>Timeline</b>	Timeline provides the planned time taken for each workstep to complete.
	Milestone
<b>BWk1, BWk2, .M1, M2, M3</b>	BW1, BW2, BW3-Implementation time in bi-weeks. Replace the weeks by starting date of each week once the start date is finalized. M1, M2, M3, Denotes months.

<b>PLANNING</b>	This phase of the project outlines project initiation and the planning aspects of the project for a successful implementation
<b>DESIGNING</b>	This phase of the project involves in designing the implementation and preparation for the implementation including requirement gathering, solution design, architecture design etc.
<b>IMPLEMENTING</b>	This phase includes end to end implementation of the project
<b>MONITORING AND TESTING</b>	This phase includes the monitoring of the implemented project/solution and testing the product/solution

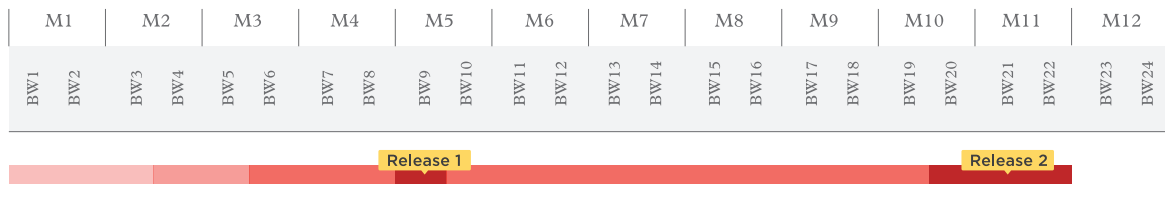
### State Monitoring Dashboard



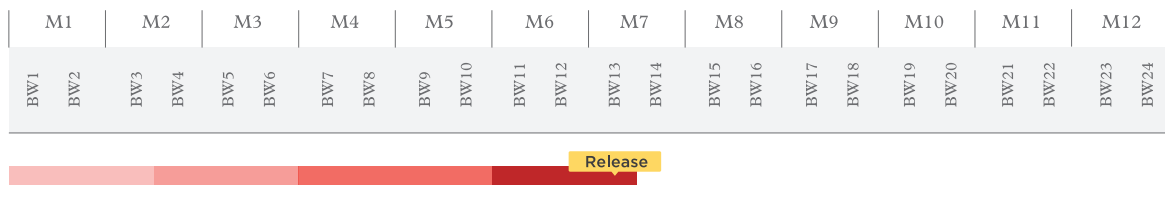
### Smart App Development Platform (SADP)



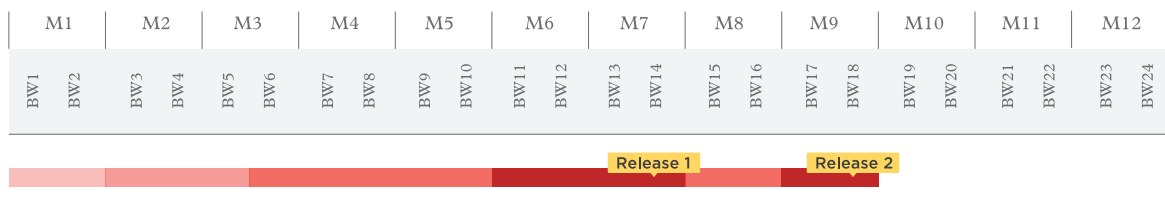
### Public Citizen Partnership (PCP) Platform



### Smart Waste Services App



### Internet of Things (IoT) Platform for Smart Selangor Initiatives



### Smart Transportation Information System



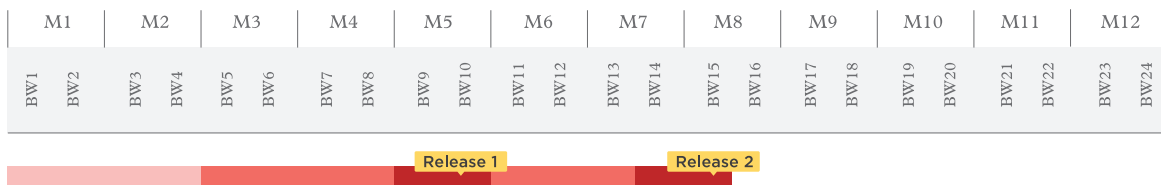
### Waze Connected Citizens Programme (CCP)



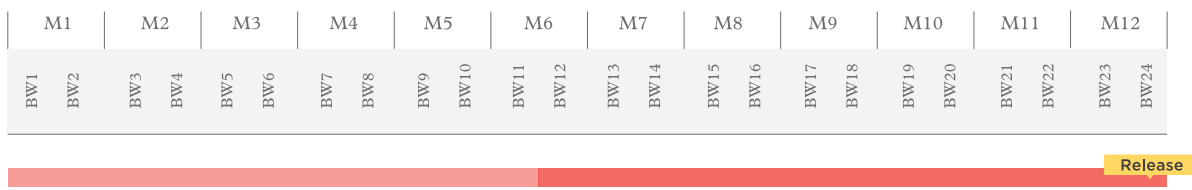
### Selangor Distinguished Creative Centre



### Early Intervention Programme (EIP) Centre



### River Cleaning, Rehabilitation & Development



# GOVERNANCE MECHANISM

The governance framework for Smart Selangor will set a clear roadmap and precedence for the multi-year implementation of initiatives. The Smart Selangor project will operate across 3 fundamental governance levels as follows:

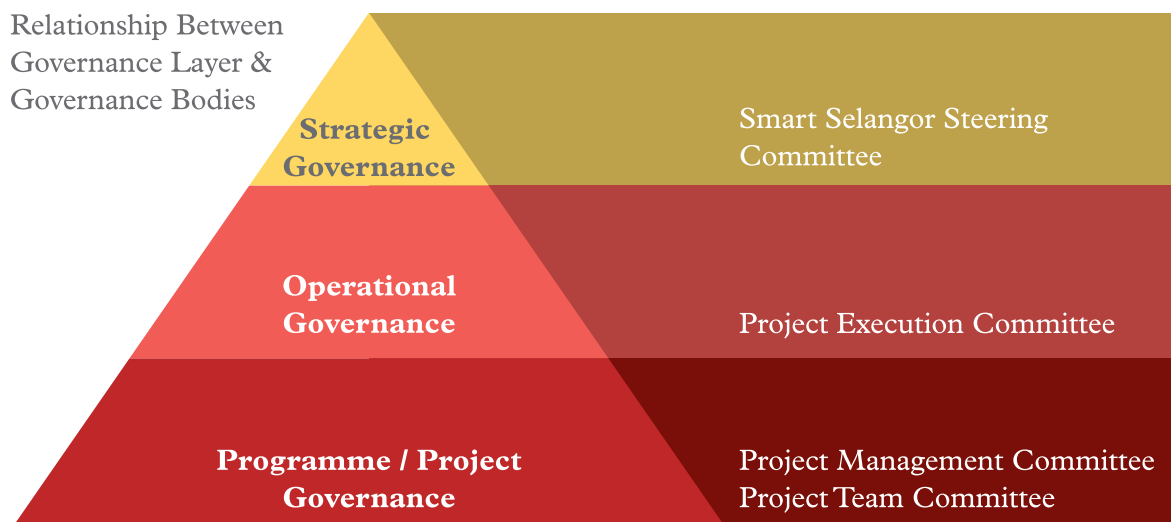
- **Strategic governance** will focus on setting the direction for implementation and ensuring alignment to Smart Selangor strategic objectives
- **Operational governance** will emphasise methods and controls that have to be adopted by the implementation teams to ensure consistent delivery and pilot roll-outs
- **Project/Program governance** will concentrate on the working methods and best practices used by the implementation vendor teams to deliver the project

The 4 governance bodies are:

1. **Smart Selangor Steering Committee**
2. **Project Execution Committee**
3. **Project Management Committee**
4. **Project Team Committee**

The governance bodies will ensure the existing project environment is managed successfully in delivering valued services to the businesses. This will involve reviewing the services delivered to the businesses, managing vendors, and assessing supplier performance against the key performance indicators. These bodies will also be responsible for ensuring that technology and non-technology solutions released into the live environment are quality assured and compliant to the plans and relevant regulations. The following governance bodies will oversee areas pertaining to understanding, planning, and managing business demand impacting project delivery capabilities.

Relationship Between  
Governance Layer &  
Governance Bodies



Smart Selangor Governance Framework

# CURRENT PBT INITIATIVES FOR SMART SELANGOR



**Majlis Perbandaran  
Petaling Jaya**

<i>Domain</i>	Smart Governance
<i>Initiative</i>	Portal PJKITA (Our PJ)
<i>Objectives</i>	A one-stop digital platform for the community in PJ that aligns with the Strategic Development Plan of Sustainable PJ 2030
<i>Description</i>	PJKITA is an interactive communication platform where citizens will be able to log on and obtain information on various events and happenings around PJ
<i>Benefits</i>	Availability of information in the one-stop centre promotes citizen engagement and cultivates a feeling of community togetherness



**Majlis Perbandaran  
Ampang Jaya**

<i>Domain</i>	Smart Governance
<i>Initiative</i>	MPAJ Intelligent Community (ICOMM)
<i>Objectives</i>	To provide a one-stop centre for citizens to make online payments for various bills without being physically present at counters
<i>Description</i>	ICOMM is a one-stop centre for citizens to refer and make online payments for Tax Assessment, Council Booth Rental, and Traffic Compounds
<i>Benefits</i>	Speedy and ease of transaction provide convenience to citizens, saving time, money, and resources





**Majlis Perbandaran  
Subang Jaya**

<i>Domain</i>	Smart Waste Management
<i>Initiative</i>	Community-Based Planning Award (Biomass)
<i>Objectives</i>	To reduce amount of waste sent to landfills and promote waste-to-wealth
<i>Description</i>	The project provides free compost bins to households where citizens can discard food and farm waste. Compost will then be sold back to the public
<i>Benefits</i>	<ul style="list-style-type: none"> <li>- Generate economic benefits from monetising waste</li> <li>- Create public awareness on waste separation</li> </ul>



**Majlis Daerah  
Sabak Bernam**

<i>Domain</i>	Smart Waste Management
<i>Initiative</i>	Anti-Polystyrene/ Styrofoam Policy
<i>Objectives</i>	Target to achieve polystyrene-free city by end 2017
<i>Description</i>	Polystyrene packaging will be replaced by recyclable paper packaging printed with soy ink, which is safe for food, biodegradable and environmentally friendly
<i>Benefits</i>	<ul style="list-style-type: none"> <li>- Reduce the waste going to landfills</li> <li>- Create awareness on recycling programme and foster waste reduction</li> </ul>



**Majlis Perbandaran  
Petaling Jaya**

<i>Domain</i>	Smart Transport & Mobility
<i>Initiative</i>	Complimentary Parking Programme for Hybrid & Electric Cars
<i>Objectives</i>	To promote usage of electric & hybrid cars, and reduce carbon dioxide emissions
<i>Description</i>	All hybrid and electric car owners will be able to park for free up to a maximum of 12 months on street parking, provided that proof of purchase is evident and originates within the city
<i>Benefits</i>	Reduction in emissions will reduce air pollution, and promote a healthy environment for citizens



Majlis Perbandaran Sepang

<i>Domain</i>	Smart Transport & Mobility
<i>Initiative</i>	Flexi Parking MP Sepang
<i>Objectives</i>	To provide a hassle-free, one-stop centre for citizens' parking needs
<i>Description</i>	Flexi Parking is a quick 3-step payment process where citizens can select their vehicle, duration and location of parking via a GPS location guide. The app will have a built-in reminder to alert users on expiry time, prompting them to either renew their parking fees or remove their vehicle
<i>Benefits</i>	<ul style="list-style-type: none"> <li>- Citizens can save time, money and fuel, as they no longer need to buy coupons or search for parking meters</li> <li>- Positive environmental impact where paper coupons are no longer needed, reducing waste generated</li> </ul>



Majlis Bandaraya Shah Alam

<i>Domain</i>	Smart Water Management
<i>Initiative</i>	Rainwater Harvesting System (SPAHL)
<i>Objectives</i>	To promote efficient water utilisation and water conservation
<i>Description</i>	Rainwater will be collected via tanks or rooftops and serve as a water source
<i>Benefits</i>	Ease tension on water scarcity, and build awareness on water conservation



Majlis Perbandaran Subang Jaya

<i>Domain</i>	Smart Transport & Mobility
<i>Initiative</i>	Green Neighbour-hood Community Garden
<i>Objectives</i>	To promote urban farming as a healthy, recreational activity via citizen participation and prevent illegal farming
<i>Description</i>	The project promotes urban farming, where citizens can plant vegetables and fruit on a designated plot of land and harvest the produce for personal use
<i>Benefits</i>	<ul style="list-style-type: none"> <li>- Foster community ownership and sense of wellness</li> <li>- Instill healthy, green living habits among youth</li> <li>- Provide much needed green spaces in densely populated areas</li> </ul>



## **THANK YOU MESSAGE FROM MBI CEO**

We are indeed living in exciting times, and I would like to say a big thank you to all Selangor state government agencies, local authorities, district and land offices, State Executive Councillors, Government-Linked Companies (GLCs) and industry stakeholders for their invaluable input, ideas and effort to help produce this Smart Selangor Blueprint.

Let's not forget that this is only the beginning. The journey ahead will be more exciting and challenging as we move along collaboratively to implement the initiatives in this Blueprint and to make Selangor the smartest and the most progressive state in the region. Smart Selangor is our growth story. We welcome all stakeholders to join us on this journey, to learn, innovate, grow and prosper together – growth through mass collaboration.

Once again, thank you and welcome onboard.

**YM Raja Shahreen Raja Othman**  
**CEO, MENTERI BESAR SELANGOR INCORPORATED (MBI)**  
**PROGRAM DIRECTOR, SMART SELANGOR DELIVERY UNIT (SSDU)**

## TOP 3 IN TOTAL CAPITAL INVESTMENT

Approved investment of

# RM 8.0 BILLION

in 2015 or 10.7% of total approved investment



Source: MIDA

## HIGHEST NUMBER OF HALAL CERTIFIED COMPANIES



# 1,067

Halal Certified companies as of November 2016

Source: Halal JAKIM Malaysia

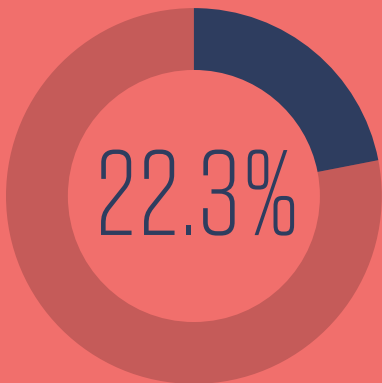
## PROFILE OF SELANGOR

### HIGHEST NUMBER OF EMPLOYMENT



# 3.1 MILLION

employed persons in 2015 or



of total employed persons in Malaysia

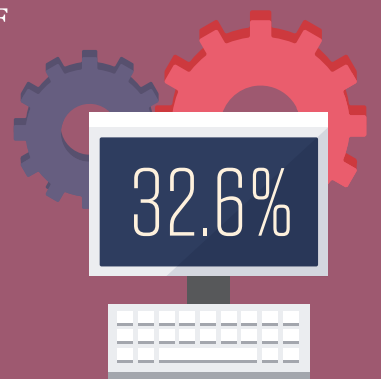
Source: DoS

### HIGHEST NUMBER OF PROJECTS APPROVED

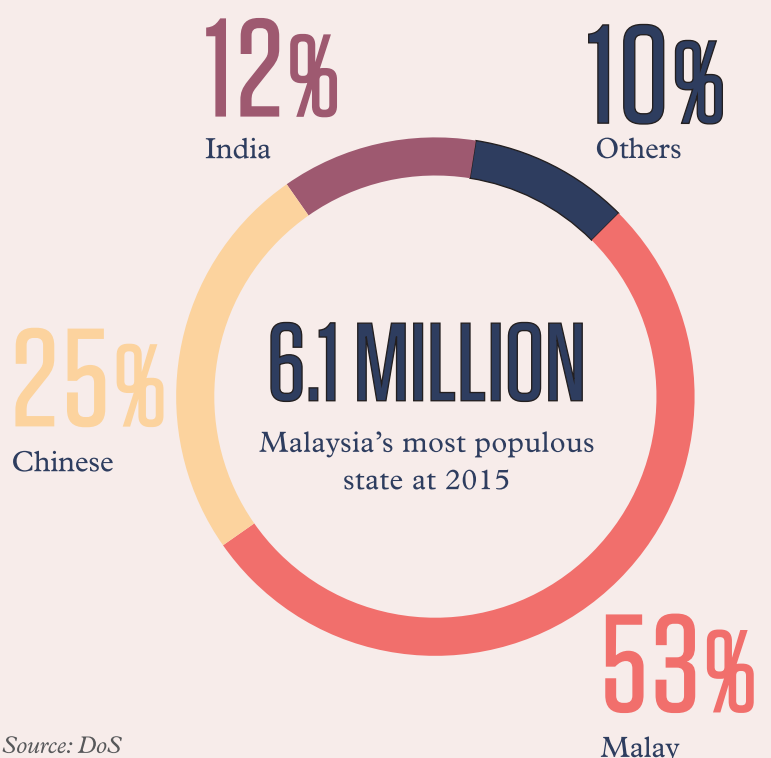
# 222

new projects approved in 2015 or

Source: MIDA



of total approved projects in Malaysia



Source: DoS



SELANGOR IS HOME TO CYBERJAYA -  
MALAYSIA'S FIRST CYBERCITY



SIZE: 8,104 km<sup>2</sup>  
3,129 sq mi

HIGHEST STATE GDP

RM 263.3  
BILLION

in 2015 or 22.7% of total Malaysia GDP

Source: DoS

HOME TO 3 INTERNATIONAL AIRPORTS  
KLIA, KLIA2 AND SUBANG

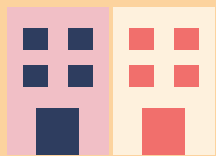
2015 GDP growth of

5.7%



Source: DoS

HIGHEST NUMBER  
OF SMES



125,904

SME establishments in 2011 or

19.5% of total SME  
establishments  
in Malaysia

Source: SME Corp

HOME TO  
MALAYSIA'S  
PRINCIPAL PORT:

Port Klang ranks

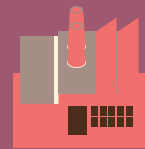
12<sup>TH</sup>  
IN THE  
WORLD

in terms of throughput volume



Source: worldshipping.org

2ND HIGHEST IN  
MANUFACTURING  
PROJECTS BY VALUE



RM 3.04  
BILLION

from Jan-Jun 2016

Source: MIDA

# Smart Selangor Delivery Unit (SSDU)

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