

ARTICLE:

ENABLING SMART CITIES IN MALAYSIA

Smart Cities as a National Imperative

Malaysia's cities are experiencing rapid urbanisation, climate pressures and rising expectations for reliable public services. According to the Department of Statistics Malaysia, more than **77% of the population now lives in urban areas**, concentrating economic activity, infrastructure and daily life within cities. As urban centres expand, the demands placed on transport systems, utilities, public safety and municipal services grow more complex.

Recognising these pressures, smart cities have become an important pillar of Malaysia's digital and development agenda. The **MyDIGITAL Blueprint** identifies smart cities as a key enabler of national transformation, alongside connectivity, cloud and data infrastructure. Complementing this, the **Malaysia Smart City Framework (MSCF)** provides a national reference architecture to guide the adoption of interoperable, secure and citizen-centred digital solutions across local authorities.

Malaysia's digital economy is also expanding rapidly. Studies estimate that the country's digital transformation market could reach **USD25.4 billion by 2030**, nearly 2.5 times its 2025 base. This growth is driven by the increasing adoption of digital platforms and data-driven services across Government, urban centres and regulated industries.

Local authorities are therefore prioritising technologies that help cities function more efficiently and respond more quickly to everyday challenges. These include congestion, flooding, public safety concerns and service disruptions that affect citizens' daily lives. Integrated digital infrastructure is becoming essential not only for operational efficiency but also for strengthening governance, supporting climate resilience and ensuring that cities remain liveable for generations to come.

An Integrated Digital Ecosystem for Public Value

Effective smart cities depend not only on technology but also on the integration of digital infrastructure, governance and public participation. The **World Bank's Malaysia Digital Economy Monitor** highlights the importance of connectivity, trusted digital platforms and capable institutions in improving public-sector productivity and delivering citizen-centred services.

National initiatives such as **MyGovCloud** and **MyDigital ID** are laying important foundations for secure and interoperable digital services across Government. Together with national connectivity and data infrastructure, these platforms allow local authorities to deploy digital solutions with greater efficiency, security and scale.

TM contributes to this ecosystem through nationwide connectivity, secure cloud platforms and cyber-resilient operations that support the deployment of critical digital systems across cities and communities. Working with local authorities and public-sector developers, TM helps integrate platforms that support traffic management, public safety, utilities monitoring and municipal operations.

By strengthening the digital backbone of cities, these capabilities enable more coordinated decision-making, improve service reliability and support greater accountability in urban governance.

Pillar 1:

Smart Communities – Making Cities Safer and Easier to Live In

Smart technologies are increasingly embedded in the everyday functioning of cities. In **Ipoh and Melaka**, as well as residential developments led by agencies such as **PR1MA**, digital systems are being used to address practical challenges, including congestion, public safety and service responsiveness.

Integrated platforms provide local authorities with a real-time understanding of city conditions. Traffic flows can be managed through adaptive signal systems, while AI-enabled monitoring and enforcement help create safer public spaces. Municipal command centres are connected directly to field teams, enabling officers to coordinate responses and deploy resources more efficiently.

Digital workforce platforms further strengthen coordination between agencies and replace fragmented processes with a more unified

approach to city management. Authorities can track issues, assign tasks and monitor outcomes with greater clarity.

In residential townships, mobile applications and digital reporting platforms enable residents to report safety, facilities and environmental concerns directly to estate managers and municipal authorities. Field teams can then be deployed quickly through integrated tasking systems.

The result is a city that responds more effectively to the needs of its people. Neighbourhood facilities are maintained more consistently, safety concerns are addressed more quickly and public services become more visible and accessible. By embedding digital tools into daily operations, cities can move from reactive responses to more anticipatory governance, improving quality of life and strengthening public trust.



Pillar 2:
Smart Industry - Strengthening Urban Economies and Employment

Industrial parks and logistics hubs are closely linked to the health of surrounding cities. Efficient urban infrastructure supports workforce mobility, utilities reliability and the movement of goods, all of which are essential for economic growth.

As Malaysia seeks to attract higher-value investments under initiatives such as the **New Industrial Master Plan (NIMP) 2030** and regional development programmes, including the **Northern Corridor Economic Region (NCER)**, cities must be able to support more advanced and efficient industrial ecosystems.

Digital infrastructure is therefore being integrated into new industrial developments to improve operational efficiency, safety and environmental monitoring. In collaboration with partners such as NCT Group, large-scale industrial developments in **Bukit Kayu Hitam, Kedah**, near the Malaysia-Thailand growth corridor are incorporating digital connectivity and monitoring systems into their operations.

These systems enable operators and tenants to better manage logistics flows, safety systems and facility operations while maintaining compliance with regulatory and sustainability requirements. Utilities and infrastructure can be monitored more closely, while incidents and operational risks can be identified and addressed earlier.

For surrounding communities, this helps reduce spill-over impacts such as congestion and service disruptions while creating safer workplaces and more orderly industrial activity. By supporting better coordination between industrial estates and municipal services, digital platforms enable cities to accommodate economic growth while safeguarding liveability and environmental standards.

Pillar 3:
Smart Urban Forestry - Strengthening Climate Resilience and Liveability

Urban green assets also form an important part of city infrastructure. Trees moderate urban heat, absorb stormwater and improve air quality, contributing to healthier and more liveable environments. However, without proper monitoring and maintenance, they may also pose safety and liability risks.

To support more systematic management of these assets, TM has developed **Smart Urban Forestry**, a digital approach that helps local authorities and developers manage trees as accountable public infrastructure.

Using **AI and LiDAR technologies**, digital records of individual trees can be created at scale, capturing their location, structural condition and potential risk indicators. This allows councils to assess tree health more systematically, prioritise maintenance and identify potential hazards to pedestrians, vehicles and surrounding infrastructure.

By complementing traditional inspections with data-supported assessments, urban forestry management becomes more consistent and transparent. For residents, this translates into safer streets, healthier urban environments and more resilient neighbourhoods.

The approach also supports **Environmental Impact Assessments**, local authority compliance requirements and sustainability reporting, providing cities with stronger tools to demonstrate responsible environmental stewardship.

A Foundation for Trusted and Inclusive Urban Growth

When digital systems are integrated across agencies and services, cities gain the ability to plan, monitor and respond with greater confidence. Fragmented decision-making can give way to more coordinated governance, enabling local authorities to address issues more transparently and efficiently.

For communities, this means safer environments, more reliable public services and greater opportunities to participate in shaping the places where they live and work.

Smart cities are ultimately defined not by the sophistication of their technology but by the public value they create. By strengthening digital infrastructure, safeguarding public assets and supporting accountable governance, we are helping cities build trusted and resilient urban systems.

Through initiatives spanning smart communities, smart industry and environmental resilience, TM continues to support Malaysia's journey toward inclusive, sustainable and digitally empowered urban development.