



## **National Digital Economy Initiative**

### **Logo Rationale**

*The shape of the logo is derived from the power button. The logo represents the start of a futuristic Digital Malaysia when the button is pushed. 'Digital Malaysia' is written in a futuristic typeface and with a metallic treatment to emphasise the digital future of Malaysians. Blue signifies the ease-of-mind Digital Malaysia will contribute to the daily lives of Malaysian.*



### **Cover Rationale**

*Education starts at home. In line with Digital Malaysia's initiative to thrust the country towards a developed digital economy by year 2020, it is our definite aim to educate and encourage Malaysians, regardless of their age, gender and racial background to adopt pervasive usage of digital technology in every aspect of the economy and get connected globally to spur the growth of GNI, enhance productivity and also, to achieve improved living quality.*

A man in a blue shirt is holding a tablet and looking at the camera. In the background, three people are sitting around a table, looking at a laptop screen. The background is blurred.

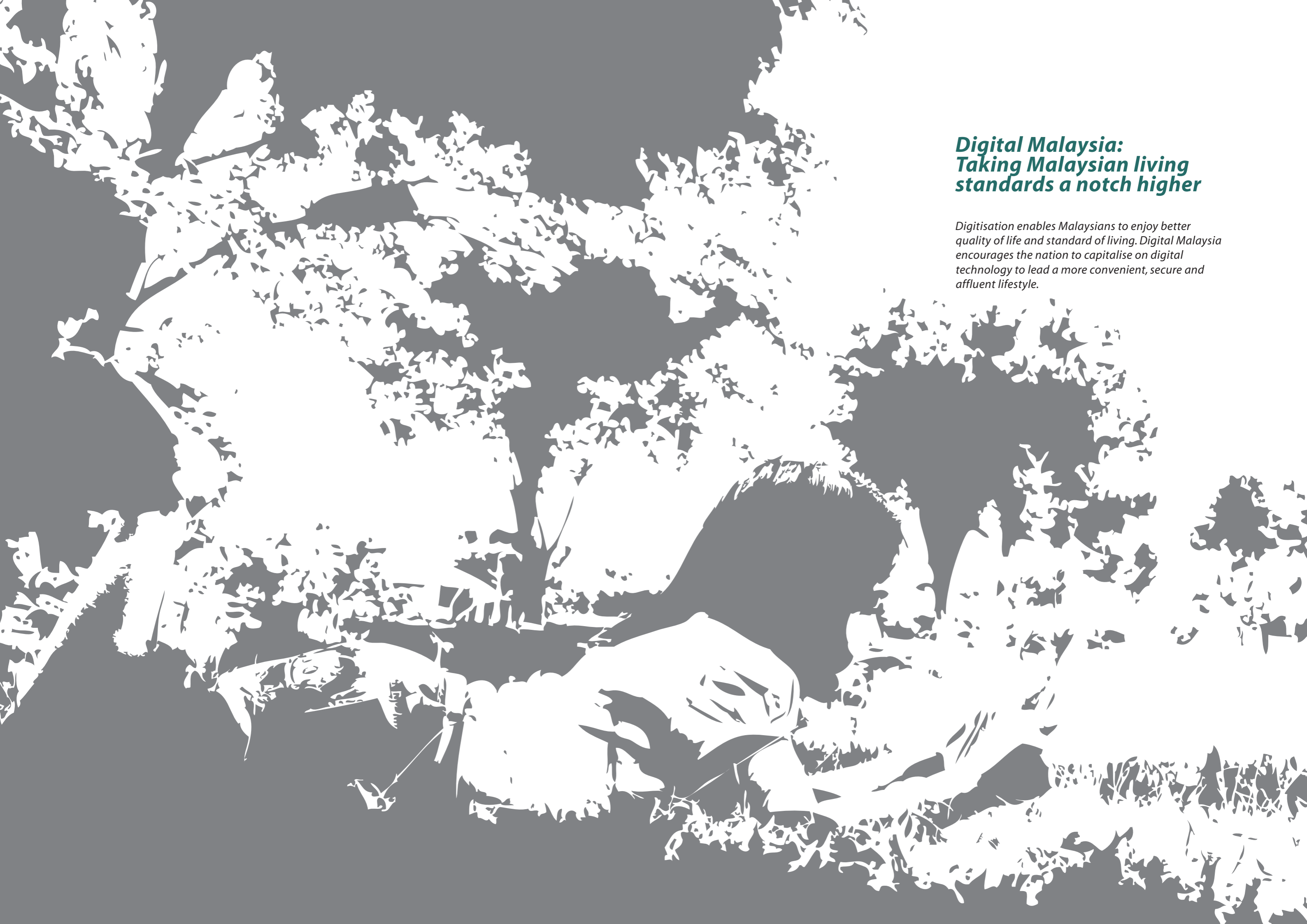
## **Digital Malaysia: Increasing digital economic contribution for the nation**

*As Malaysia moves towards achieving its goal to become a developed nation by the year 2020, Digital Malaysia is bullish in increasing the ICT industry's economic contribution to the country's GNI as much as 17% by 2020. As such, enabling Malaysia to fast-track towards its goal of becoming a high income-earning country.*

## **Digital Malaysia: Capitalising knowledge to increase productivity**

*It is imperative that Malaysians move from low to higher knowledge-based activities and initiatives in order to attain higher productivity and efficiency. Higher knowledge activities can also translate to better income for the nation, businesses and citizens in general; where digital technology can serve as its rightful vehicle.*





## **Digital Malaysia: Taking Malaysian living standards a notch higher**

*Digitisation enables Malaysians to enjoy better quality of life and standard of living. Digital Malaysia encourages the nation to capitalise on digital technology to lead a more convenient, secure and affluent lifestyle.*

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# Inspire through Thought Leadership

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| <b>FOREWORDS</b>   |    |
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*"A leader's role is to raise people's aspirations for what they can become and to release their energies so they will try to get there."  
– David Gergen*

## Message from the Prime Minister of Malaysia



**YAB Dato' Sri Mohd Najib  
Bin Tun Haji Abdul Razak**  
Prime Minister of Malaysia

The new world is a digital one. Over the last decade, digital technology has created more economic change and social progress than any other new innovation. We now stand on the cusp of a great new age, and if we do things right, we are poised to leap forward into an exciting period of rapid technological evolution and advancement for the nation.

It is undeniable that the next wave of economic growth will come from the knowledge-based economy, with digital technology as a key driver of progress. What we need is a solid push and a clear framework to build a robust digital economy, as part of Malaysia's Digital Transformation Programme.

This marks the birth of Digital Malaysia - an innovative digital economy framework that serves as an additional enabler for the country's transformation by 2020. The Multimedia Development Corporation (MDeC) has been given the mandate to visualise and drive Digital Malaysia, which will foster an ecosystem driven by ICT in targeted aspects of the economy, governance and social interaction, and establish a climate that intensifies innovation, investment and talent growth.

**“The positioning of Digital Malaysia in the National Transformation Policy is to create a cohesive and holistic approach to the digital nation as it involves, and ultimately benefits, multiple stakeholders from public and private sectors as well as the Rakyat.”**



The positioning of Digital Malaysia in the National Transformation Policy is to create a cohesive and holistic approach to the digital nation as it involves, and ultimately benefits, multiple stakeholders from public and private sectors as well as the Rakyat.

By effectively combining existing and new digital initiatives, Digital Malaysia will foster a cohesive digital ecosystem that will ensure Malaysia becomes a developed digital economy, with the aim of increasing ICT Gross National Income (GNI) contribution to 17% by 2020 from the baseline of 10.5% in 2010. It also aims to generate an additional 160,000 high value jobs and attract new investments worth RM31.1 billion for the country.

Digital Malaysia is timely and will play a critical role in helping the nation achieve its goal of becoming a high

income economy by 2020. Coupled with other national initiatives such as the Economic Transformation Programme (ETP) and Government Transformation Programme (GTP), Digital Malaysia will see the country achieve higher productivity, increased GNI and a better standard of living for our people.

I invite all of you to feel inspired by the possibilities that digital economy has to offer. With Digital Malaysia as part of the National Transformation Policy, I am confident game-changing transformation can be attained and impactful results met.

**YAB Dato' Sri Mohd Najib  
Bin Tun Haji Abdul Razak**  
Prime Minister of Malaysia

## Message from the Minister of Science, Technology and Innovation



**YB Datuk Seri Panglima  
Dr Maximus Johnity Ongkili**  
Minister of Science, Technology and Innovation

Malaysia has been immersed in the technology-driven and knowledge-based initiatives for the past 15 years. From initiatives like MSC Malaysia, the National Broadband Rollout and MyICMS 886, the Government is continuously driving change and innovation so that our citizens can enjoy high standard of living and our nation remains competitive on the global stage.

With the same strategic intent, Digital Malaysia was designed as an all-inclusive vehicle to complement, enable and enhance other national transformation plans, where ICT and digital technology are promoted as holistic platforms vertical sectors can leverage on.

For Digital Malaysia to undertake this challenging task and realise its full potential, an ecosystem has to be established; and it has to be one that is sustainable and will feed and nurture Malaysia's digital economy as a whole. The ecosystem will encourage seamless interactions

**“The Digital Malaysia ecosystem will encourage seamless interactions among stakeholders, and support any development and implementation of new projects and initiatives, based on the doctrine of Public-Private Partnership.”**



among stakeholders, and support any development and implementation of new projects and initiatives, based on the doctrine of Public-Private Partnership.

Cohesive and concerted efforts are keys in establishing this all-round ecosystem, where each stakeholder will play integral parts in achieving the success of Digital Malaysia, while duplications or overlap of responsibilities can be kept at bare minimum to ensure more efficient and effective programme development.

A Steering Committee has been specially set up to ensure proper development, implementation and progress of Digital Malaysia and the Ministry of Science, Technology and Innovation (MOSTI) has been tasked to head this committee, reporting directly to the Prime Minister. As part of the Government engine, MOSTI has always been receptive to pioneering and ground-breaking ideas on how to make our country great and hence, takes pleasure in being an integral part of this initiative.

Since its inception, Digital Malaysia has been making inroads in creating a more connected digital industry for the country by catalysing efforts such as the creation of a Digital Economy Satellite Account and advocating the use of new digital business models and tools. Understanding how crucial digital technology is for the growth of our nation, we believe it can truly be the enabling force in achieving our national aspirations.

**YB Datuk Seri Panglima Dr  
Maximus Johnity Ongkili**

Minister of Science, Technology and Innovation





## Message from the Chief Executive Officer, Multimedia Development Corporation



**YBhg Datuk  
Badlisham Ghazali**  
Chief Executive Officer  
Multimedia Development Corporation

Digital trends and technological innovations are changing our socio-political landscape even as we speak. The ICT industry is rapidly converging with Internet based commerce to give us the digital economy.

Recent economic trends suggest that new digital business models, social connectivity and innovative practices are just some of the areas we need to explore in order to capture new business opportunities; and we certainly do not want to fall prey to disruptive technologies.

MDeC has been in the forefront of ICT industry development since its inception with the MSC Malaysia initiative as its driving force. Digital Malaysia takes a more holistic approach, and seeks to drive ICT adoption across all economic sectors and spur active participation amongst key stakeholders within the government, business and society.

In order to achieve these aspirations, Digital Malaysia advocates the need to re-learn the evolving rules of the game and re-equip ourselves to keep pace. It is built on three game-changing strategic thrusts; where new and existing initiatives leveraging on digital technology and innovations will propel Malaysia towards a robust digital economy.

**“At the core of Digital Malaysia, the three strategic thrusts will encompass moving from being supply- to demand-focused; shifting behaviour from being consumption- to production-centric; and evolving from low knowledge-add to high knowledge-add.”**



The three strategic thrusts are:

- To move Malaysia from being **supply- to demand-focused**, or to reallocate resources to more demand heavy activities;
- To shift behaviour from being **mere consumers to digital producers**, or to change consumer mindset to enable Malaysian individuals and businesses to produce as much as they consume from digital technologies; and
- To evolve from **low knowledge-add to high knowledge-add**, or to enhance our competitiveness, especially amongst the SMEs, by focusing on knowledge-intensive activities, like digitisation, automation and use of innovative digital business tools and models.

The three strategic thrusts will also shape Digital Malaysia's initiatives where focus will be on high impact results and speed of delivery. There are four initiatives that will serve as Digital Malaysia's priority areas – one, to tap the demand for digital goods and services; two, to increase citizen income and unlock entrepreneurial potential; three, to nurture a new generation of IT-savvy youth who will be the bulk of the workforce in 2020; and four, to enhance SME productivity by encouraging entrepreneurship.

The development of the Digital Malaysia is crucial in view of the increasing pace of digitalisation and the wealth of opportunities digital technology will bring to the country. We hope that by taking a definitive action, Malaysia will be able to tap into these opportunities to drive value-added growth to the economy, increase the nation's global competitiveness and enhance the quality of life of its citizens.

**YBhg Datuk Badlisham Ghazali**  
Chief Executive Officer  
Multimedia Development Corporation

## Message from the Vice President, Corporate Strategy, Multimedia Development Corporation



**YBhg Dato' Dan E Khoo**  
Vice President, Corporate Strategy  
Multimedia Development Corporation

Mighty oaks from little acorns grow, large streams from little fountains flow, to paraphrase D. Everett's famous words penned in his 1797 essay The Columbian Orator.

In the journey to become the mighty oak, the little acorn transforms from a tiny seed through a sapling to a small oak tree. Before they are mighty, oaks must grow through various stages of sturdy, tall or even big. The journey from acorn to mighty oak is fraught with challenges, any of which could easily derail its progress.

In some ways, the story of Digital Malaysia can be seen in the same light. Key outcomes of wealth generation, higher productivity and a better standard of living are aspirations that will take years of concerted effort, both digital and analogue, to achieve. But it had to start somewhere. And this start was crafted in the MSC Malaysia headquarters in Cyberjaya that led to a lab in Kelana Jaya in July-August 2011 where some 500 people gathered for five weeks to ideate the essence of our digital journey.

**“The Digital Malaysia journey will take us from the seeds of ideas through saplings of community empowerment to oaks of wealth contribution, productivity and standard of living.”**



July 13 2011 saw the on-boarding of the inaugural Digital Malaysia Labs and what followed was a full-fledged five-week long co-creation session.

The Digital Malaysia framework and implementation plans were built on a bedrock of multi-stakeholder crowdsourcing and underpinned by the very business models and processes they advocate. Conceived as an evolving programme, with dynamic processes to facilitate, ideate, implement and govern, Digital Malaysia has since grown to include the identification of specific community targets as well as the initiatives to address some of these communities' opportunities, issues and concerns. The much-needed ICT Satellite Account (ICTSA), designed to derive insights from key industry data, was also a result of the Digital Malaysia programme.

These milestones mark the path of progress that this report documents as the Digital Malaysia journey unfolds.

It is a journey that will take us from the seeds of ideas through saplings of community empowerment to oaks of wealth contribution, productivity and standard of living. So join us, and as a wise man once said, let's make the journey the reward.

**YBhg Dato' Dan E Khoo**  
Vice President, Corporate Strategy  
Multimedia Development Corporation







## **Achieving the nation's aspirations together**


*Digital Malaysia aims to achieve higher income, better standard of living and increased productivity for the nation, through the use of digital technology. This national digital transformation must be carried out in a holistic manner via concerted efforts by all parties, cutting across ministries and industry sectors.*

# Executive Summary

## The World's Digital Economy

Our world today is evolving at an astounding pace, evidently brought about by the digital age which has permeated almost every aspect of our lives. Digital technology has transformed the way we communicate, access information, conduct businesses and deliver services.

Four key drivers or technology trends, namely mobility, social media, cloud computing and big data analytics, seem to push the global economy into new heights and avenues that were unimaginable before to the mere mortals.




### Four Key Drivers of the Digital World

With the pervasive growth of digital technology, the world is currently and will continue to witness a higher adoption of current and emerging technological trends. In the context of the digital universe, four key drivers are paving the way forward – mobility, social media, cloud computing as well as big data analytics.

These drivers are blurring the physical boundaries of the globe, and hence creating new market places, bringing people closer together, making assets and resources more affordable, and enabling more accessible and convenient information-sharing.

As its core, the internet is playing a pivotal role in this phenomenon, where both information and communications technology (ICT) and eCommerce pervades every sphere of activity. In 2009, the digital economy contributed 35% or RM51.9 trillion to global trade. By 2020, global ICT spending is expected to grow by 4.6% to RM16.5 trillion, while global eCommerce revenues will hit a staggering RM132.7 trillion (Source: IDC Worldwide Black Book 2012).

Malaysia is very much aware of this changing economic landscape and understands that, like others, it has to take strong, intelligent steps to reap the full reward of these opportunities. As such, the country is taking cohesive actions to adapt itself to this new and wonderful digitalised world.



### Technology pervasiveness has created a digital economy that is significant across multiple fronts

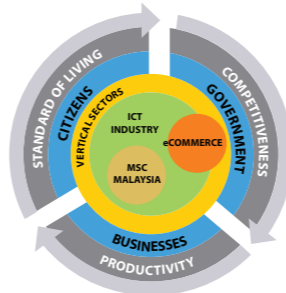
- Globally, digital economy contributed 35% to global trade (RM51.9 trillion) in 2009
- Global ICT spending is expected to grow 4.6% to RM16.5 trillion in 2020
- Global eCommerce revenues will hit RM132.7 trillion by 2020
- Between 2009 and 2012, revenue from online interactive games is estimated to go up by 67%, mostly from the sale of virtual goods

Source: IDC Worldwide Black Book 2012, MDeC Analysis 2012

## The Malaysian Digital Economy

Malaysia has come a long way from its days of a commodities producer in the 1960s and 70s. Since then, the country has jumped on the industrialisation bandwagon and gained the rewards of its manufacturing and services industry era, with high foreign direct investments (FDI) and rapid technology transfers.

According to data obtained from Multimedia Development Corporation (MDeC), Department of Statistics Malaysia (DOSM), Malaysian Communications and Multimedia Commission (MCMC) and other relevant agencies, Malaysia has made significant progress in developing a good ICT environment towards building its digital economy.



The Malaysian digital economy can be segmented into the following components:

- ICT industry:** This is defined as the industry that nurtures technologies and services that enable information to be accessed, stored, processed, transformed, manipulated and disseminated, including the transmission or communication of voice, image and/or data over a variety of transmission media.
- MSC Malaysia:** This component refers to the products and services, produced by MSC Malaysia-Status companies, which are based on information, communication and multimedia technologies
- eCommerce:** This is defined as the industry where buying and selling of products or services is conducted over electronic systems such as the internet and other computer networks.

Data shows a significant contribution by the country's ICT industry to the economy, giving rise to higher employee productivity at 1.5 times more, leading to a similar 1.5 times higher wages per employee than the national average. More interestingly, the value of ICT exports, while contributing to only 10.5 percent to the national Gross Domestic Product (GDP), is higher than its imports.

At the same time, while Malaysians ride high upon the eCommerce wave, the average entrepreneur tends to leverage on desktop access to the internet rather than tap into the robust mobility trends of today. This shows that while there are notable achievements by various public sector-led ICT-centric programmes and initiatives, there is still bigger room for improvements for Malaysia to excel in the digital realm.

### Snapshot of the Malaysian Digital Economy

#### ICT Sector 2010

**ICT Economics**  
RM 346.5b  
DOMESTIC OUTPUT: 80.7b  
GROSS VALUE ADDED

**ICT Share of GDP**  
% of GDP: 10.5

**ICT Exports**  
RM 166.6b

**ICT Employment**  
724,900

Source: Malaysia's Digital Economy Report 2012

#### eCommerce 2010

**Malaysia eCommerce Revenues**  
RM 37.8 billion

Estimated revenues earned by Individuals and Companies

**Malaysia eCommerce Spending by Access Modes**  
99.4% via Wired, 0.6% via Mobile

Source: Malaysia's Digital Economy Report 2012

#### MSC Malaysia 2010

**MSC Revenues**  
RM 27.3b  
TOTAL SALES: 9.3b  
EXPORTS: 34%

**MSC Investments 2010**  
RM 1.48b  
FDI and DDI  
Accumulated as of 2010

**MSC Companies**  
2,738  
Active: 2,088  
Accumulated as of 2010

**MSC Employment**  
111,536  
Accumulated as of 2010

Source: Malaysia's Digital Economy Report 2012

**Export/ Import of ICT**  
RM 167b EXPORTS, 125b IMPORTS

**Citizens' Standard of Living**  
(from an income perspective)  
Average Gross Wages >1.5X  
Average Gross Wages of ICT employee compared to national average

**Businesses**  
Productivity: Average GVA/ Employee: 1.5

**Government**  
Competitiveness: 10th/59 (IMD World Competitiveness Yearbook), 26th/139 (WEF Global Competitiveness Index), 36th/70 (EU Digital Economy Rankings)

Source: Malaysia's Digital Economy Report 2012



Malaysia's digital economy is currently characterised by strong domestic supply and adequate infrastructure, high netizen consumption and low competitive use of technology by SMEs.

**A strengthened domestic ICT industry provides supply and reduces import-dependency**



**High netizen consumption creates an IT-savvy community**



**Labour-driven approach creates jobs but limits productivity gains**



Through the analysis of Malaysia's performance in key indices, it is surmised that the following levers need to be pushed to attain national goals:

1. **Competitiveness**
  - Raise firm-level technology absorption
2. **Productivity**
  - Increase ICT capital investment
  - Move low-skilled workers up the value chain
3. **Standard of Living**
  - Increase wealth and enhance standard of education

In order to catch up with the world's leading economies, Malaysia needs to move into high gear and must no longer rely on 'business-as-usual' strategies and policies. The nation has to reinvent itself into an economy and society that generates innovative products and services that meet the demands of the world.

Malaysia has done this on more than one occasion – first by migrating from an agriculture-based economy and agrarian community to an industrial production economy and skills-based talent pool, then to a service-based economy and knowledge-based society.

Once again, Malaysia is at a crossroad, where innovation and productivity are the main goals. The nation has already kick-started transformative efforts through the Economic Transformation Programme (ETP) and the Government Transformation Programme (GTP) that concentrate on identified National Key Economic Areas (NKEA) and National Key Result Areas (NKRA) respectively. Together with other existing nationwide economic programmes, the ETP and GTP will act as the main engines of growth for the country.

However, with only seven more years to reach the goals of Vision 2020, efforts need to be stepped up. The Malaysian Digital Transformative Programme (DTP), or better known as Digital Malaysia, will play a dual role of being the new economic area to tap into as well as promoting digital technology as the rightful enabler of all the other transformation programmes in the country.

### Digital Malaysia

Riding on the growing momentum, the nation has expanded the tech-fuelled vision to capitalise on the global digital economy by initiating a holistic programme called Digital Malaysia.

Digital Malaysia will drive wealth creation, stimulate efficiency and enhance standard of living by harnessing and building upon Malaysia's varied ICT initiatives, resulting in a nation that connects and empowers government, businesses and citizens through a vibrant and demand-focused digital ecosystem.

By taking a definitive action, Malaysia will be able to tap into opportunities in the digital era to drive value-added growth to the economy, increase the nation's global competitiveness and enhance the standard of living of its citizens.



### Supports and Enables the National Transformation Policy

The Digital Malaysia programme complements the National Transformation Policy by providing the necessary support to create a cohesive approach to transform the country into a fully digital nation. Leveraging on past and present initiatives, Digital Malaysia is designed to complement, enable and enhance the nation's overall transformation agenda by focusing on programmes and initiatives that will develop innovation, productivity and competitiveness within the governmental, business and social environments.

**National Transformation Policy**


Well-Being

↑

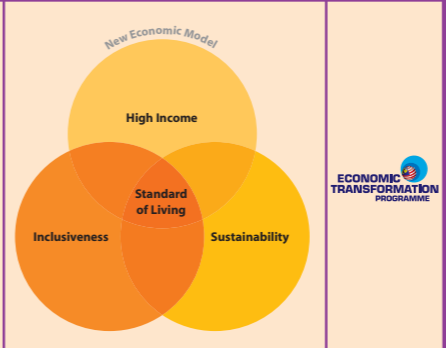
High-Income and Developed Economy by 2020


↑

Sustainable and Inclusive Economic Growth




GOVERNMENT TRANSFORMATION PROGRAMME







ECONOMIC TRANSFORMATION PROGRAMME




Community Transformation Programme




Political Transformation Programme



DIGITAL MALAYSIA  
National Digital Economy Initiative



Social Transformation Programme



|            |   |            |  |
|------------|---|------------|--|
| <b>GTP</b> | Transforms the way government does business | <b>PTP</b> | Enhances legislative reforms for the political environment |
| <b>NEM</b> | Addresses the six key enablers-SRIs         | <b>CTP</b> | Addresses the pain points of the rural communities         |
| <b>ETP</b> | Opens economic opportunities for all        | <b>STP</b> | Promotes social integration                                |
|            |   | <b>DM</b>  | Drives the nation's digital economy                        |

The addition of Digital Malaysia into the existing pillars of transformation will help elevate and accelerate each transformation programme, as well as elevate the 1Malaysia philosophy with regard to better and more effective social inclusion.

In addition, Digital Malaysia seeks to ensure that the ICT and digital economic contribution to GDP will spread across sectors outside the ICT industry, such as agriculture, mining, manufacturing, construction, banking and finance, tourism and medicine.

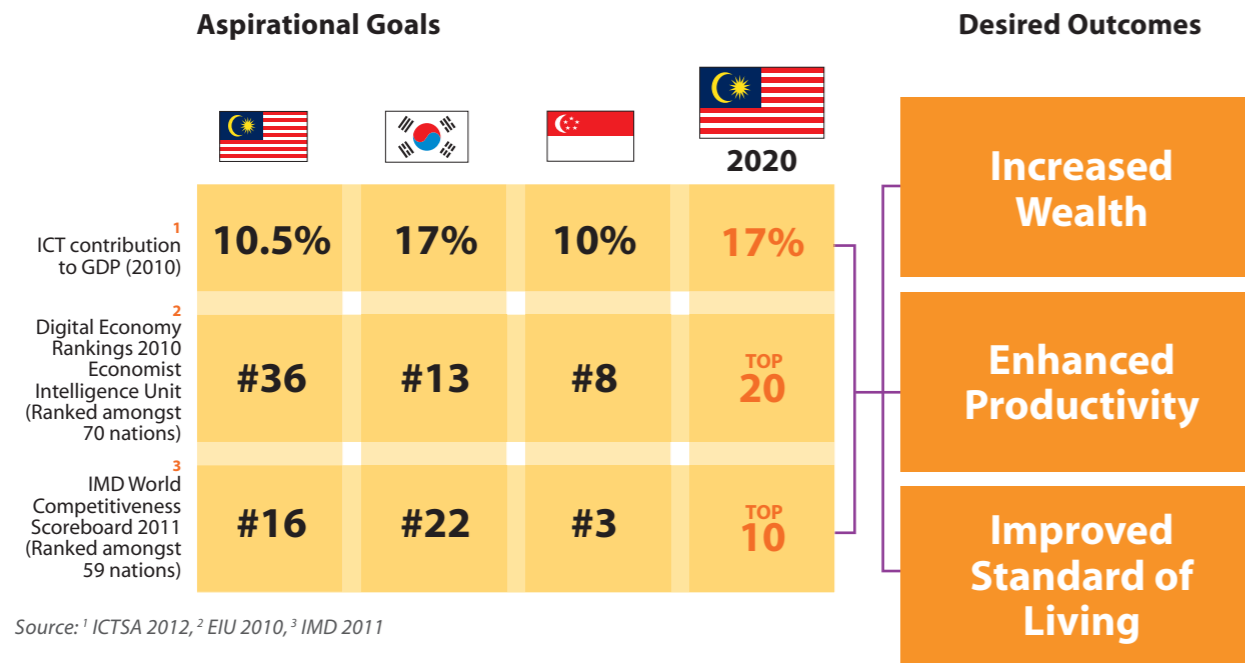
Through Vision 2020, Malaysia aspires to be a high-income nation with sustainable development, inclusive policies and a united population



Source : PEMANDU 2012

Malaysia, however, is not starting from scratch in its digital transformation. The country's various ICT initiatives have positioned the country in a favourable light. To date, Malaysia has already made significant inroads when benchmarked against other nations in terms of global competitiveness. Based on the IMD World Competitiveness Scoreboard, Malaysia came in 16th position out of 59 countries in 2011 and was in 36th place out of 70 countries in the Economist Intelligence Unit's (EIU) Digital Economy Ranking 2010.

To reap the vast opportunities in the digital economy, a distinct set of aspirational goals has been established specifically for Digital Malaysia. In setting a credible scenario, the goals were benchmarked to some of the countries that Malaysia would like to emulate, namely Korea and Singapore.



Source: <sup>1</sup> ICTSA 2012, <sup>2</sup> EIU 2010, <sup>3</sup> IMD 2011

Three main levers have been specifically chosen as target-setting goals for Digital Malaysia, and they are:

- 1) To increase current ICT contribution to GDP from 10.5% in 2010 to 17% in 2020
- 2) To move from 36th position in the EIU's Digital Economy Rankings to a Top 20 world ranking by 2020
- 3) To attain a Top 10 position by 2020 in the IMD Competitiveness Scoreboard compared to its 16th position in 2011

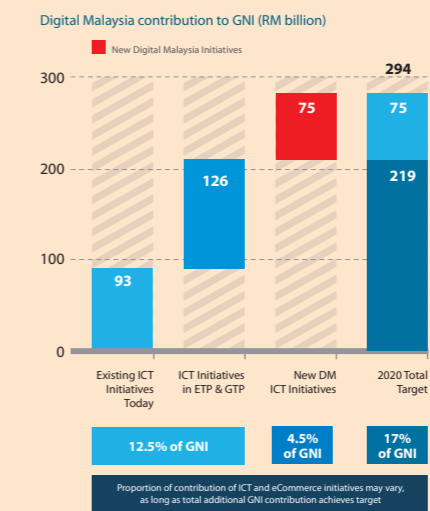
This would lead to the following desired outcomes:

|   |   |  |
|---|---|--|
| <b>Increased Wealth</b><br>Using RM31.1 billion investment (public/private) to create 160,000 jobs and businesses which will boost overall digital economy GNI to RM294 billion | <b>Enhanced Productivity</b><br>Additional 1% SME contribution to GDP | <b>Improved Standard of Living</b><br>Additional RM7,000 income per annum for 350,000 citizens from digital income |
|---|---|--|

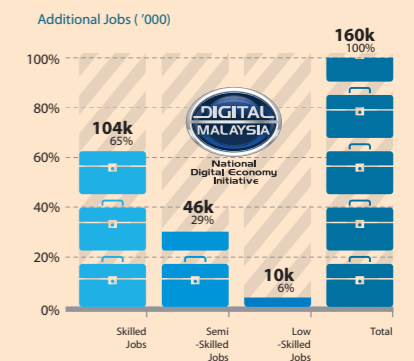
Note:

Calculation is based on the assumption of 0.192 contribution to revenue ratio of eCommerce. This is based on the comparison of ICT revenue versus GDP contribution; the graph only represents the digital steps in the value chain and not the analogue steps; contribution percentages are based on RM1.7 billion GNI target in 2020.

Projected GNI for Digital Malaysia In 2020

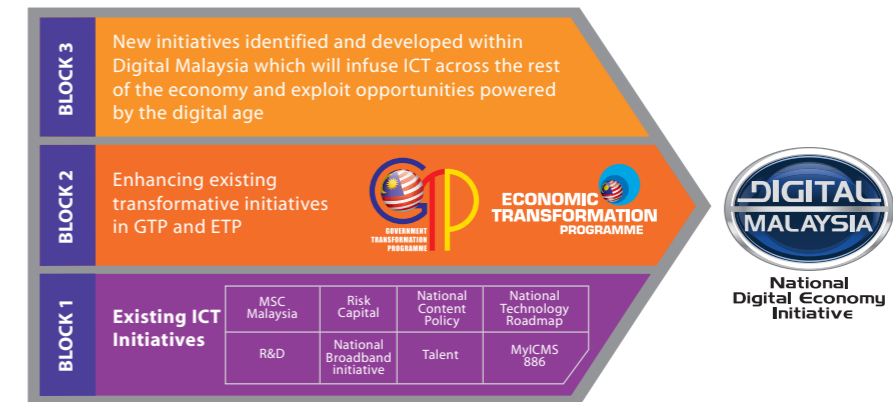


With Additional 160,000 Jobs



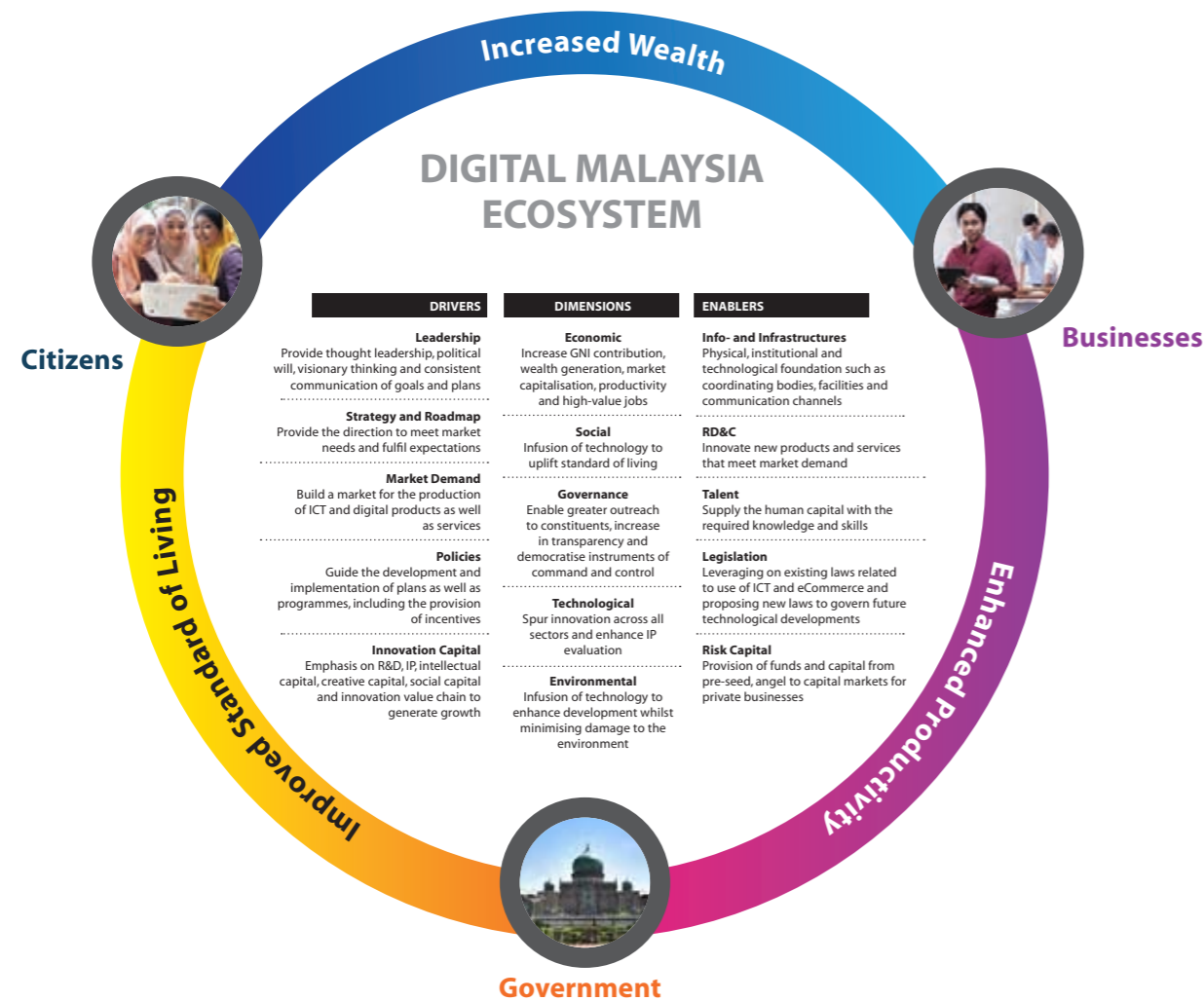
**The scope of Digital Malaysia**

The scope of Digital Malaysia encompasses all existing and new programmes that contribute towards the development Malaysia's digital economy. This can be broadly categorised into three blocks:



- **Block 1** – Existing and new ICT programmes, which are supply-based in nature, such as the MSC Malaysia, the National Broadband Initiative, the Malaysian Information, Communications and Multimedia Services (MyICMS) as well as programmes carried out under the 10th and future Malaysia Plans
- **Block 2** – ICT-related programmes under the ETP and GTP as well as newly defined Digital Malaysia initiatives that will enhance these existing initiatives
- **Block 3** – New initiatives identified and developed within Digital Malaysia which will infuse ICT across the rest of the economy and exploit opportunities powered by the digital age

### The Digital Malaysia Ecosystem



Digital Malaysia is anchored on the establishment of a vibrant digital ecosystem that caters to the needs and requirements of the three main stakeholders - the government, businesses and citizens.

The ultimate objective of this ecosystem is the creation of a holistic and sustainable economy that will propel other sectors towards achieving the three Digital Malaysia outcomes – **Increased Wealth, Enhanced Productivity and Improved Standard of Living.**

At the heart of the ecosystem are the Digital Malaysia elements which are divided into Drivers and Enablers that will support demand-driven initiatives framed out by five Dimensions. Dimensions represent impact areas where outcomes are desired; while Drivers and Enablers form the backbone and support of the ICT and digital industry. It is foreseen that Malaysia’s digital economy has direct impact on the overall economy of the nation and has a multiplying effect whereby the success of each Digital Malaysia element is dependent on the other.

Each element within the Drivers, Enablers and Dimensions of Digital Malaysia need to be in support of one another with an underlying doctrine of an effective Public-Private Partnership (PPP). In this context, the PPP doctrine emphasises the need for both sectors to work together in order to achieve the greater good, with the private sector playing a more active role in realising national agendas and the public sector giving ample support to create a conducive business environment.

### Three Strategic Thrusts of Digital Malaysia

Digital Malaysia operates on a game-changing focus, where strategic thrusts are specifically identified, with efforts put in to deliver best results for the programme.

These strategic thrusts are:

- **Strategic Thrust 1:** Move from supply to demand-focused activities
- **Strategic Thrust 2:** Shift from consumption to production-centric activities
- **Strategic Thrust 3:** Evolve from low to high knowledge-added activities



The first strategic thrust requires the reallocation of resources to more demand-focused initiatives. The Malaysian public sector spent almost 54% of its ICT investment on developing information-based infrastructure (Source: EPU). Initiatives such as MyICMS 886, the National Broadband initiative project and MSC Malaysia have successfully provided the necessary ICT infrastructure as well as the talent and enterprise pool to support the nation’s transformation plan.

To fully benefit from these initiatives, Digital Malaysia will concentrate on kick-starting demand-focused activities that will ensure maximum usage of the available information and infrastructure. These efforts seek to enhance the Return on Investment (ROI) before the infrastructure and the soft skills become obsolete. Additionally, Digital Malaysia will concentrate on developing new sources of growth that will create high-value jobs.

For the Malaysian digital economy to expand, it is vital for both the government and businesses to redistribute their resources to activities that are more demand-driven or customer-centric. Fundamentally, the government should give emphasis on activities that nurture emerging sectors while the business sector should be encouraged to explore opportunities and activities that fulfil consumers’ demands. Both the public and private sector too must optimise the Public-Private Partnership (PPP) model by enhancing and creating private sector-driven policies and legislations, while domestic direct investments (DDIs) must be heightened to reduce reliance on FDIs and public investments.



The second strategic thrust aims to change the way Malaysians behave and think, and to encourage them to produce as they consume. Malaysian netizens consume information and use the internet extensively for social networking, news and research but have not fully capitalised the internet for revenue generation. Digital Malaysia intends to create platforms and programmes to nurture and grow netizens from consumers to producer-consumers or ‘prosumers’. It also plans to create new income generation opportunities via new digital business models.

eCommerce is fast growing in the country but there is still lack of utilisation of the internet as a channel for revenue generation. In 2012, Malaysians’ eCommerce spending chalked up approximately RM22 billion (Source: IDC Worldwide Blackbook 2012), but majority of this spending was channelled to foreign online retailers.

To capitalise on this emerging trend, Digital Malaysia plans to develop a new generation of digital-savvy youths and transform them into digital producers. At the same time, an action plan will be activated to encourage more Malaysians, especially those from the Bottom 40 group who have been categorised as those living on average monthly household income of RM1,440, to become entrepreneurs by adopting digital business models and technology to unlock new sources of income. This will inevitably improve their standard of living.





The third strategic thrust seeks to enhance the country's level of competitiveness by focusing on high knowledge-added activities. In 2011 Malaysian SMEs' contribution to GDP remains low at 32.5% even though they make up the biggest component of the economy at 97.3%. Average SME productivity at RM50,498 per employee is also considered low, compared to the larger firms' productivity at RM140,691 per employee (Source: SME Corp Annual Report 2012).

For Malaysian SMEs to keep up with the changing business and market landscape as well as increase their competitiveness in the global market, they will need to move up the value chain and embrace technology. They will have to adopt innovative business models and technology to increase the productivity of their employees and create high value-added products and services as well as ensuring significant growth in their contribution to the nation's GDP.

Digital Malaysia will promote the use of innovative digital business models in driving the creation of high-value and personalised products and services to cater for niche but lucrative markets via high-value knowledge-intensive activities. At the same time, it will also outline plans to drive Malaysian SMEs to automate and utilise technology for productivity growth and reduce operational costs, as well as repurpose talent via training and re-skilling efforts to move employees from low knowledge-add to high knowledge-add.

### Digital Malaysia Communities and Initiatives

The Digital Malaysia Strategic Thrusts are further driven by initiatives that were specifically identified to help steer Digital Malaysia's aspirations on the ground. Ultimately, these initiatives will impact the three stakeholders mentioned earlier, namely the citizens, businesses and government.

The three stakeholders were further broken down to groups of communities, via a prioritisation process. This is to ensure that the benefits of the digital technology are properly and optimally delivered to the right groups of people. For 2012, four main communities were defined and they are the digital entrepreneurs, the bottom 40% of the income group or the B40 group, the digital-savvy youth and SMEs.

Then, to cater to these four communities, holistic solutions were created by leveraging on opportunity-based (OPPA) and outcome-driven approaches (DOBA) that will help achieve optimum results for the initiatives.

The four Digital Malaysia Initiatives will consequently lead to the inauguration of various projects that aim to create opportunities for the targeted communities to play a pivotal role in Digital Malaysia.

### Digital Malaysia Initiative 1: Tap demand for digital products and services

The Digital Malaysia Initiative 1 was created to tap into the opportunities from the ICT services sector which are high-growth and high-margin areas. Currently, a strong domestic demand has been created from the ETP, GTP and 10MP programmes. Efforts are also being made to infiltrate the international market to create more demand for the local ICT industry.


To cater for these demands, this initiative involves nurturing digital entrepreneurs and simultaneously creating wealth for the nation by capitalising on the demand for digital products and services. The stakeholders involved in this Initiative are the digital entrepreneurs that may comprise ordinary citizens, ICT start-up companies and SMEs.

|                | Digital Entrepreneurs   |   |   |
|----------------|---|---|---|
|                | Net Entrepreneurs Individuals   | Emerging Start-ups  | SMEs  |
| Characteristic | <ul style="list-style-type: none"> <li>Individuals starting online business</li> <li>Low ROI</li> <li>Starting up on part-time basis</li> </ul> | <ul style="list-style-type: none"> <li>First stage operations</li> <li>Not more than 2 years in establishment</li> <li>Attempt to capitalise on developing products and services</li> <li>Not sustainable without funding assistance/ investment</li> </ul> | <ul style="list-style-type: none"> <li>More than 2 years</li> <li>At the growth stage</li> <li>Sustainable and stable</li> <li>Also includes MSC Malaysia-status companies</li> </ul> |
| Groups         | <ul style="list-style-type: none"> <li>Homemakers</li> <li>Working individuals</li> <li>Students</li> </ul>                                     | <ul style="list-style-type: none"> <li>Start-ups</li> <li>Incubators</li> <li>Accelerators</li> <li>Students</li> </ul>   | <ul style="list-style-type: none"> <li>Micro enterprises</li> <li>Small businesses</li> <li>Medium enterprises</li> <li>Technopreneurs</li> </ul>                                     |

Digital Malaysia has identified five growth areas which are cloud computing, embedded systems, gamification, enterprise mobility and eCommerce to help improve the revenue and growth for the ICT industry.

Following that, Digital Malaysia will focus on increasing the number of digital entrepreneurs in the market by creating a holistic ecosystem. Some of the planned strategies for this effort are already being implemented.

**Malaysian individuals are already reaping the rewards from the digital age**



**Tan Yin See**  
Developed ARMS F&B application which generated 2,000 downloads with **RM14,750** in revenue as of May 2012.

Source:  
A Global Digital Transformation: How Businesses, Citizens and the Government Can Respond; A Digital Malaysia Position Paper on New Digital Business Models, 2013



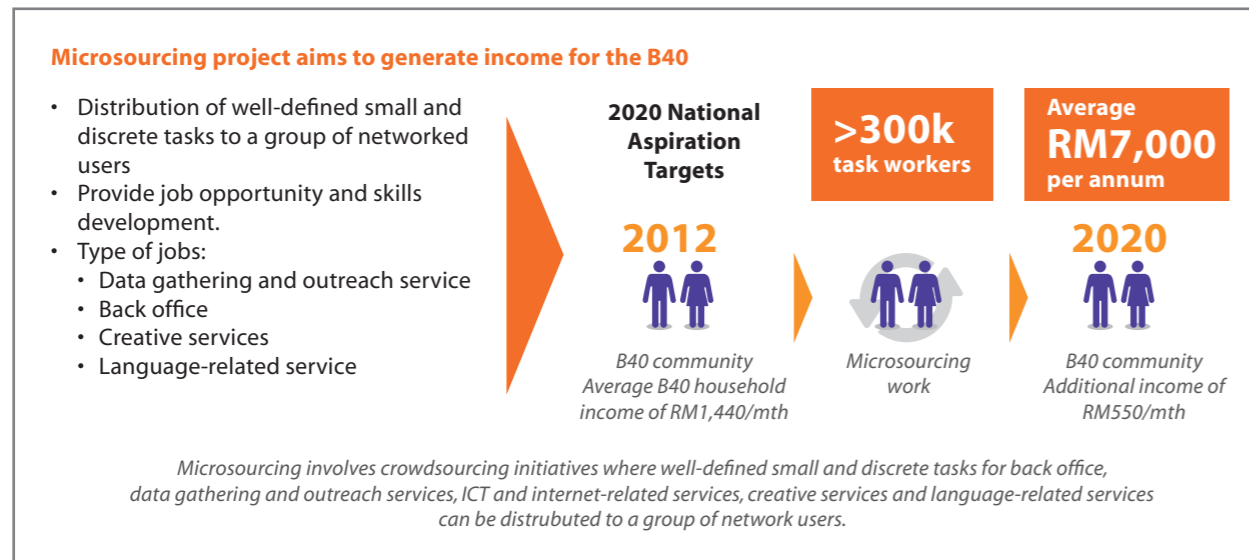
**Digital Malaysia Initiative 2:  
Increase citizen income and unlock entrepreneurship potential for B40 group**

The focus of Digital Malaysia's second initiative is to help the B40 community attain higher standard of living through new income avenues by introducing various innovative channels of distribution. At the same time, this initiative also seeks to increase the B40 group's income by instilling the entrepreneurial spirit in them.

Apart from the aim to increase the B40 group's income, implemented strategies should also strive to address the three key challenges they face:

- Limited economic mobility;
- Lack of comprehensive profiling of their capabilities and the need to develop demand-based programmes; and
- Accessibility to intervention programmes.

The B40s who make up the bottom 40% of the total households in Malaysia will benefit tremendously from digital-based platforms that will create avenues to help them generate extra income. Digital Malaysia believes that microsourcing projects are among the avenues that will be able to elevate the standard of living of the B40s. One such project is the eBiz1Malaysia project that focuses on giving opportunities to citizens to have online presence to market and sell their goods and services.



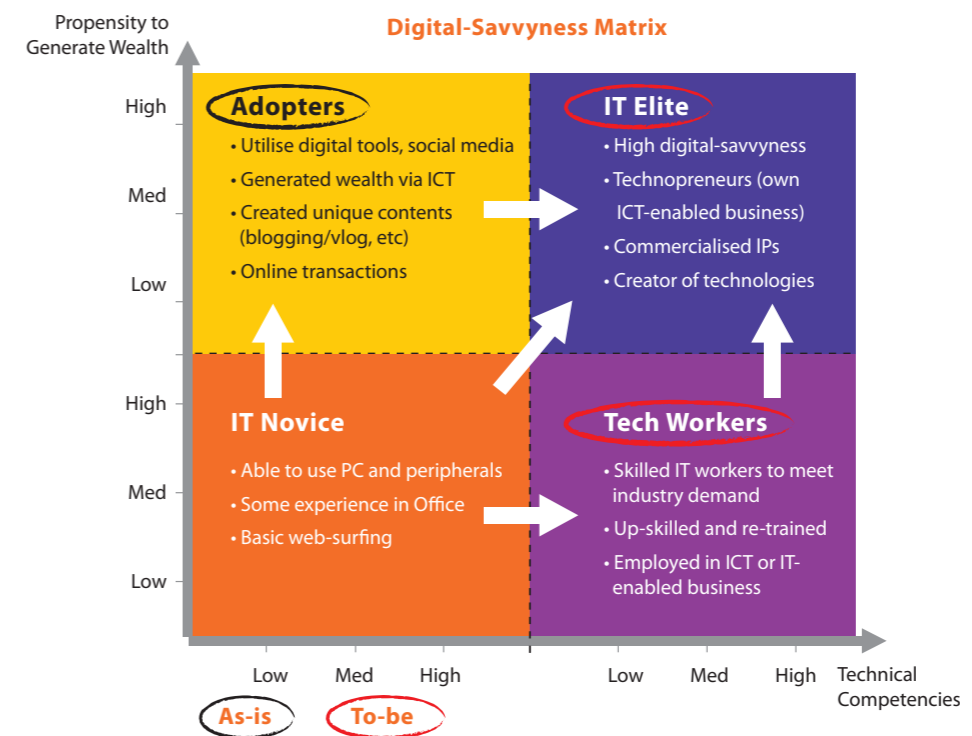
In addition, this initiative will expose the B40 group to ICT-enabled platforms and various digital business models to allow them to gain access into more affordable digital platforms and business tools which will help them with their business ventures.

**Digital Malaysia Initiative 3:  
Nurture a new generation of digital-savvy youth**

The world is currently experiencing a rise in youth unemployment. To ensure that Malaysia does not face such risk, the government has adopted several measures that aim to provide skills training, create a supporting environment as well as channels for employment and business ventures.

Digital Malaysia's third initiative has taken these aims into account by channeling its efforts to create the right foundation for Generation Y (Gen-Y) to be equipped with ICT skills. To achieve this goal, Digital Malaysia has planned or is currently implementing initiatives such as 1BestariNet and Permata Pintar which focus on improving connectivity and establishing a standard eCurriculum content.

Efforts also include empowering youths by enhancing their existing digital skills that can be utilised more productively. These efforts will enable youths to advance into the IT Elite and Tech Workers quadrants from the Adopters and IT Novice quadrants, thus increasing their employability.



Source: MDeC

The third initiative also contributes towards achieving the goals of the second Strategic Thrust, i.e. to move from consumption to production by creating a strong foundation for the youths to improve their competitiveness in the economy and to ensure that they are employed in mid- to high-skilled jobs.

To support these initiatives, Budget 2013 has made allocations to build 100 Internet Centres from 2013 to 2015. In addition, allocations have also been made to improve the quality of education and the development of teaching skills for core subjects through the High Order Thinking Skills. A New Entrepreneur Foundation (NEF) was also established to provide training and guidance programmes.

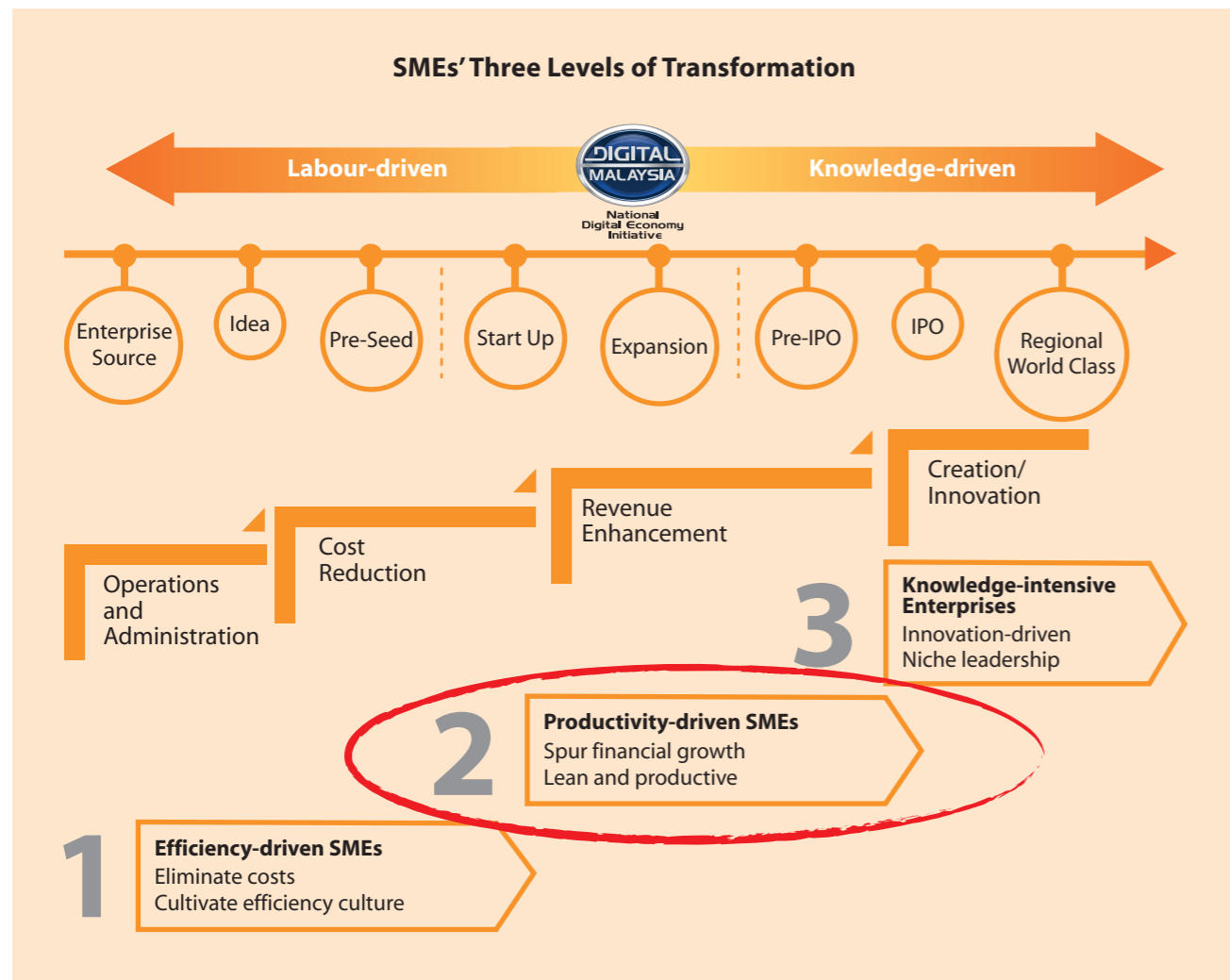
### Digital Malaysia Initiative 4: Enhance SME productivity

SMEs play a large role in driving the nation towards its target of becoming a developed nation by 2020. According to the target set by the Small and Medium Enterprise Corporation Malaysia (SME Corp), this sector is expected to contribute at least 41% to the country's GDP and employ 62% of the country's workforce by 2020 (Source: SME Corp Annual Report 2012).

Nonetheless, majority of the SMEs lack innovativeness and possess low productivity level, due to the poor technology uptake by this sector. Hence, Digital Malaysia's fourth initiative is targeting SMEs, especially those from the verticals within sectors with low-knowledge adoption level, to use digital business models, ICT and operational technologies to elevate their productivity level.

To develop knowledge-driven enterprises, SMEs will have to go through three levels of transformation.

- Level 1: Efficiency-driven**  
 At the first level, SMEs must overcome operations and administration challenges to help eliminate costs and cultivate an efficiency culture.
- Level 2: Productivity-driven**  
 Once Level 1 is achieved, SMEs will seek to enhance their revenue through cost reduction, which will help spur their financial growth and become a productive entity.
- Level 3: Knowledge-intensive**  
 At the final stage, the SMEs will transform into knowledge-intensive enterprises that are driven by innovation and creation and possess a niche leadership.

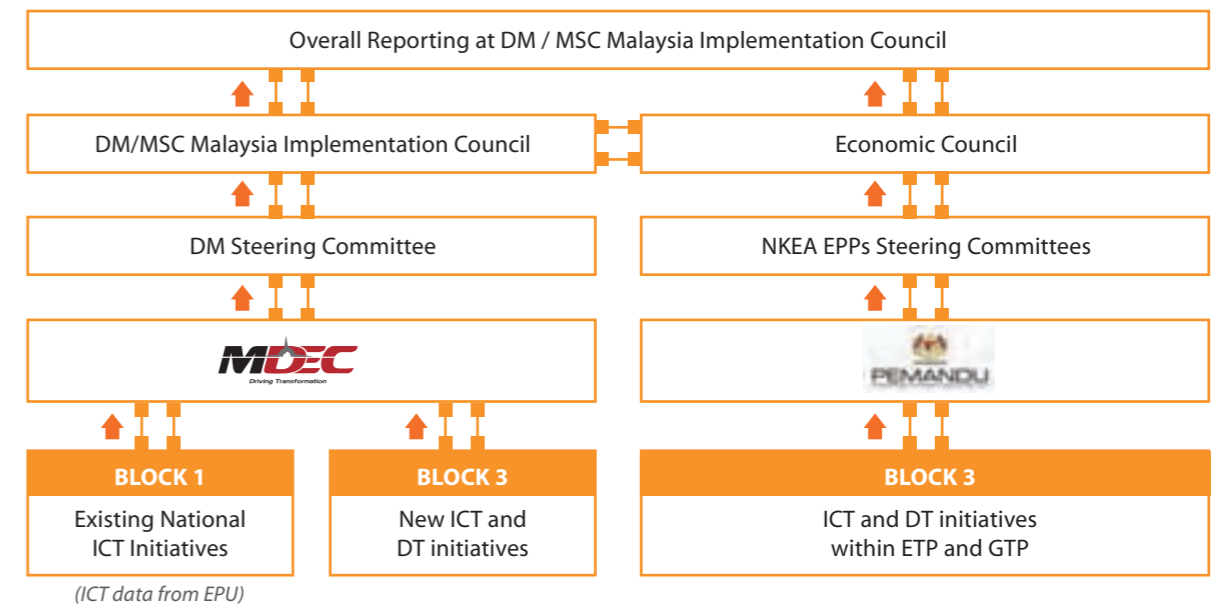


There are several projects that are being planned or currently underway to create an impetus for the SMEs to transform. In addition, Budget 2013 allocated RM97 million to the SME Development Scheme, which is being managed by SME Bank, to further drive innovation and encourage the adoption of ICT amongst SMEs.

### Governance and Stakeholder Relations

Digital Malaysia is governed by a steering committee that reports to the Digital Malaysia/MSM Malaysia Implementation Council on an annual basis. Chaired by the Prime Minister, the Council sets the agenda for Digital Malaysia and provides the highest level focus on the implementation of projects developed for the Digital Malaysia

#### Digital Malaysia Governance Structure



The Digital Malaysia Steering Committee is chaired by the Minister of Science, Technology and Innovation. Its roles and responsibilities are, amongst others, to provide leadership, guidance and direction in the implementation of Digital Malaysia; to approve new initiatives that may arise from time to time; to endorse major milestones and deliverables; and to obtain resources necessary for implementation.

The steering committee is also tasked to oversee the Digital Economy Satellite Account (DESA).

#### Digital Economy Satellite Account (DESA)

The Digital Economy Satellite Account (DESA) aims to track, monitor and give a holistic picture of the various projects under Digital Malaysia. It involves the identification of ICT products and activities within the national accounting framework and measures the amount of contribution of the ICT industry to the economy.

Developed based on the national accounts framework to indicate the value of transactions in ICT products and services, DESA involves the identification of ICT products, activities and classifications within the national accounting framework and their direct contribution to the economy.

Currently, the ICT industry's contribution to the economy overlaps with a few other sectors. This means that its total contribution to the economy is not reflected in the existing national accounting system. To address this gap, DESA has been established to capture data and statistics on ICT and eCommerce activities across all sectors in the country.

In establishing DESA, a comprehensive and coherent set of economic data on ICT and eCommerce can be produced and compared with other sectors of the economy. This would enable the Government to obtain a better understanding of the ICT sector's contribution to the overall economy and be able to facilitate policy formulation and proactive intervention programmes to enhance Malaysia's competitiveness in the digital economy.

### The First Digital Malaysia Lab



**500 people from 154 organisations working over 5 weeks**  
(18 July - 19 August 2011)

**OUTPUTS FROM 1st DM LAB** ▶ **25 projects**

... that are poised to deliver the following in 2020

|                                     |  |                         |
|-------------------------------------|--|-------------------------|
| <b>RM57.2b</b><br>GNI contribution* | <b>RM31.1b</b><br>in total investments** | <b>~160,000</b><br>jobs |
|-------------------------------------|--|-------------------------|



### Digital Malaysia Progress

The scope of Digital Malaysia encompasses all existing and new initiatives by both the private and public sectors alike, which drive towards the development of the digital economy in Malaysia. Taking a holistic approach, Digital Malaysia seeks to complement and augment the components already in place as well as initiate new ventures and collaborations conceived from the first Digital Malaysia Labs for Malaysia's national transformation towards a fully-developed nation by 2020.

Together, the three blocks will generate the demand and supply of digital technologies with Block 1 providing the supply while Blocks 2 and 3 will create the demand.

The first Digital Malaysia Lab identified 25 projects across the five Dimensions – Economic, Social, Governance, Technological and Environmental – covering a wide breadth of industry and social verticals.

\* this represents the GNI contribution of the initial burst of 25 potential projects. Additional projects will be ideated to achieve the Digital Malaysia aspirational goal of RM75 billion in 2020

\*\* RM29.6 billion (95.2 %) in private sector investments; RM1.5 billion (4.8%) in public sector investments

### Digital Malaysia Block 1: Existing nationwide ICT Programmes and Initiatives

Block 1 encompasses mainly supply-side programmes carried out by various ministries and agencies, including those under the 10MP, which are premised on high income, inclusiveness and sustainability. These programmes have catalysed large investments, spurred research and development (R&D) to produce ICT products and solutions, as well as promoted the widespread adoption of technology amongst government, businesses and society.

Block 1 initiatives and projects can be broadly classified into the following categories - system development, computerisation, infostructure, research and development, ICT industry development, ICT and digital technology studies, talent development and funding and incentives. Percentage of spending in these areas can be summarised as follows:

| Nature of Project                  | No. of Projects | % of spending |
|------------------------------------|-----------------|---------------|
| System development                 | 101             | 39.9%         |
| Computerisation                    | 93              | 36.7%         |
| Infostructure                      | 31              | 12.2%         |
| Research and Development           | 10              | 4.0%          |
| ICT Industry Development           | 7               | 2.8%          |
| ICT and Digital Technology Studies | 6               | 2.4%          |
| Talent Development                 | 4               | 1.6%          |
| Funding and Incentives             | 1               | 0.4%          |
| <b>Grand Total</b>                 | <b>253</b>      | <b>100%</b>   |

Source: EPU, MDeC Analysis

Some of the notable on-going ICT programmes under Block 1 are:

- MSC Malaysia
- The National High Speed Broadband (HSBB) Initiative
- The Malaysian Information, Communications and Multimedia Services (MyICMS 886)
- The National Content Policy
- The National Technology Roadmap
- The National R&D Roadmap

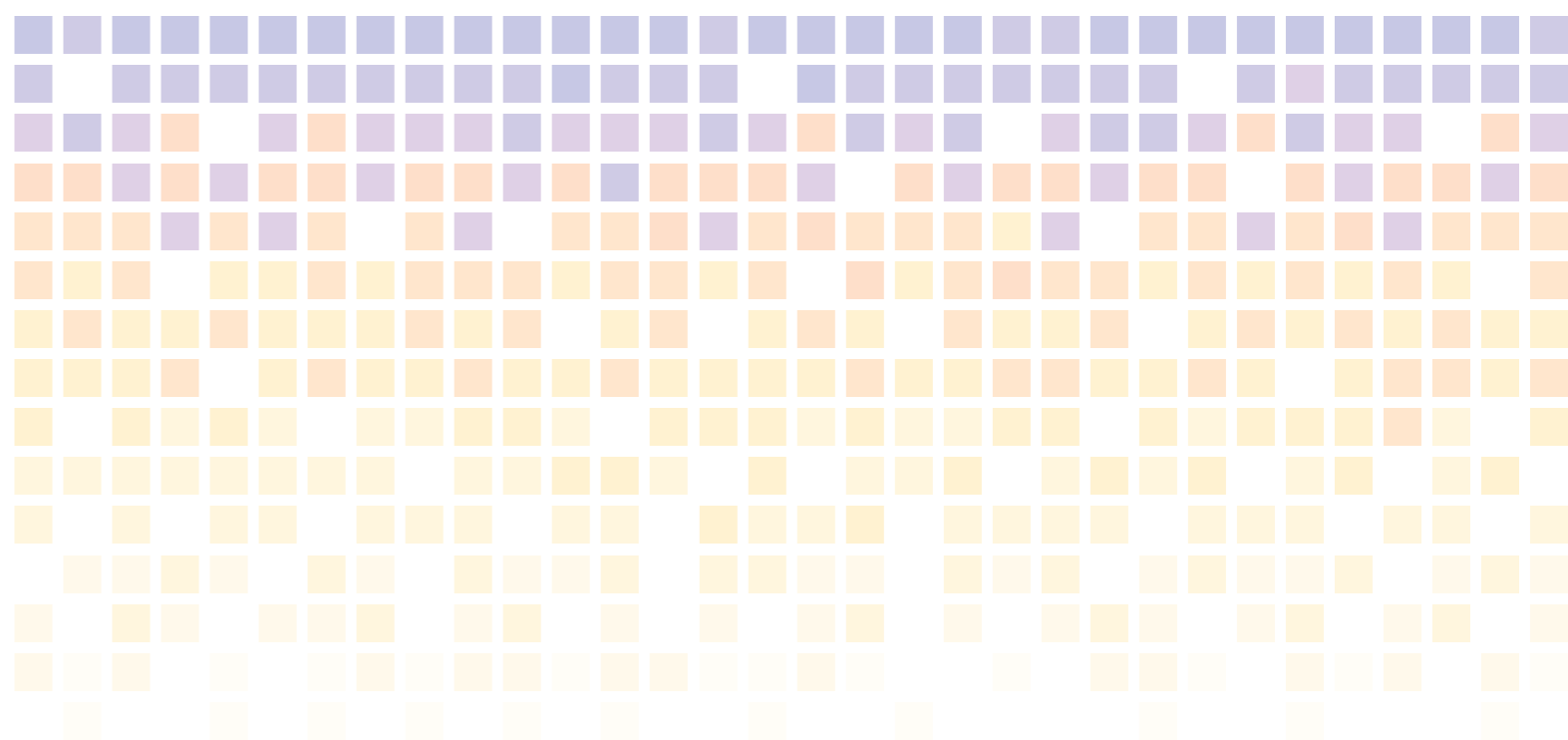
### Digital Malaysia Block 2: ICT Programmes under ETP and GTP

Block 2 comprises the ICT and digital elements within key transformation programmes introduced by the government in 2010, namely the ETP and GTP.

The ETP aims to transform Malaysia's economy by improving the country's status from middle to high-income, where significant changes will be made to ensure that the country will be on par with other developed nations; while the GTP was formulated to transform the government to be more effective in its delivery of services and accountable for outcomes that matter most to the *rakyat*, and to move Malaysia forward to become an advanced, united and just society, with a high standard of living for all.

ICT plays an integral role in these programmes where there exist ICT-intensive or ICT-enabled elements within the programmes' respective projects. In this area, Digital Malaysia will act as the rightful enabler for the existing or new ETP and GTP projects, or through new Digital Malaysia-centric projects that, add value to the existing projects to ensure they achieve optimum results.

From the 152 EPPs, 26 have been identified to be ICT-intensive, while under GTP, 61 EPPs have been identified as ICT-enabled. Out of these 61 EPPs, 33 (54%) require mainstream technologies while 28 (46%) involves the usage of new digital technologies.



### Digital Malaysia Block 3: New Digital Malaysia Projects

Block 3 of the Digital Malaysia projects consists mainly of new ventures and collaborations conceived from the first Digital Malaysia Lab which was conducted from 18 July to 19 August 2011. At the Lab, a total of 25 digital technology-based projects were identified where eight were passed through the secretariat’s due diligence process for development and implementation in 2012.

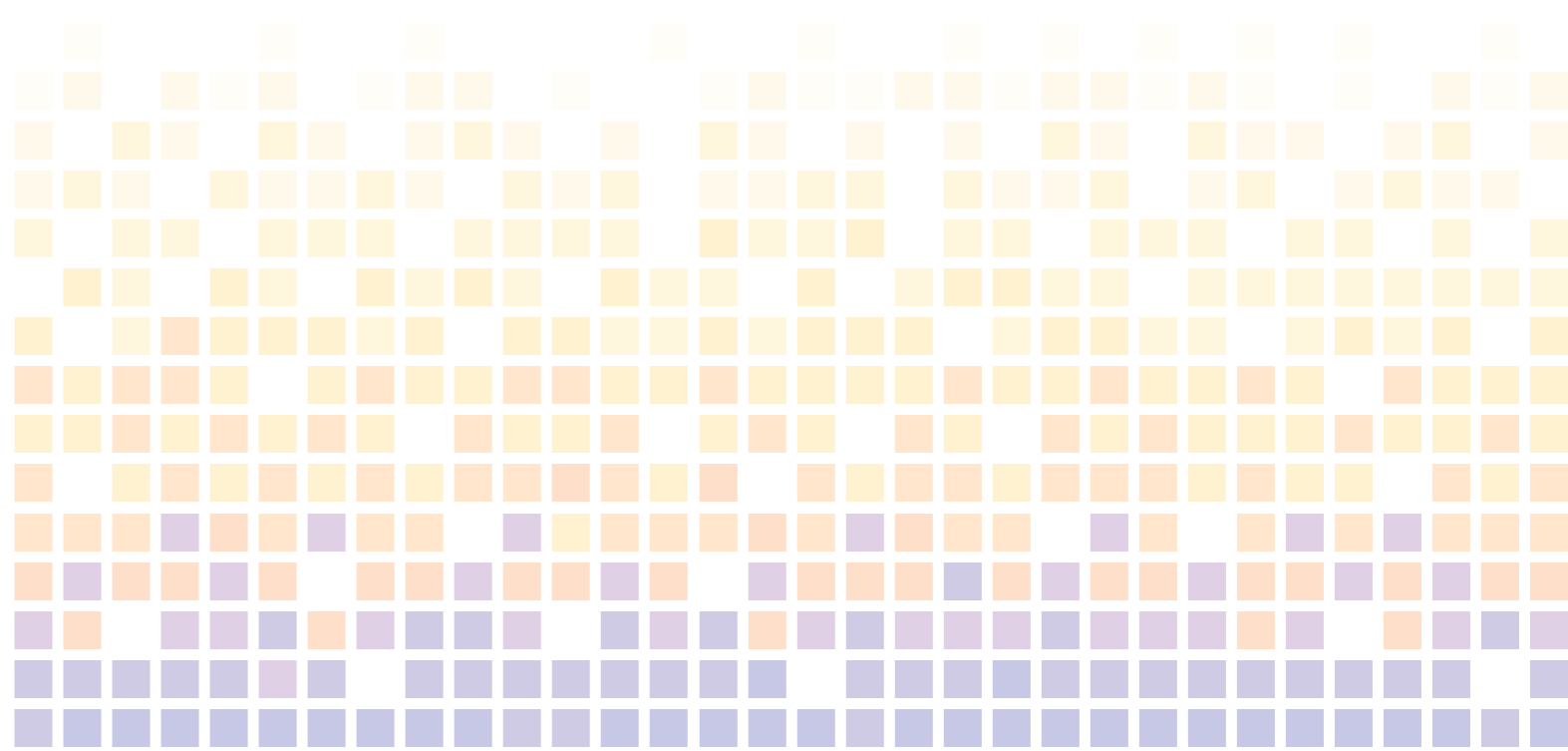
A total investment of RM31.1 billion will be required to create an additional 160,000 jobs and businesses with a projected GNI of RM75 billion.

In promoting a cohesive public and private partnership model, each project will have a public sector institution which will be responsible for ensuring the projects are implemented according to an established timeline and milestones. Additionally, each project will have a private sector champion in line with the concept of a transformation programme that is private sector-led.

The table below provides a snapshot of the initial Digital Malaysia projects implemented in 2012.

| Project   | What will the project do  | 2020 Targets  |
|---|---|---|
| Asian eFulfilment Hub                                     | Develop Malaysia into an Asian eFulfilment hub servicing cross-border eCommerce shipment into Asia.   | GNI: RM294 million<br>Jobs: 1,622<br>Investment: RM620 million                |
| Enabling ePayment Services for SMEs and Micro Enterprises | Enabling SMEs and Micro Enterprises to accept ePayment.   | GNI: RM5 billion<br>Jobs: 2,000<br>Investment: RM600 million                  |
| Shared Cloud Enterprise Services                          | Accelerate adoption of shared enterprise services among local companies.                              | GNI: RM300.5 million<br>Jobs: 1,572<br>Investment: RM45.5 million             |
| Develop on-demand, customised online education            | An educational portal that provides flexible learning and recruitment services.                       | GNI: RM265 million<br>Jobs: 1,025<br>Investment: RM39.8 million               |
| Microsourcing to Generate Income for the B40              | Distribution of small and discrete tasks to latent workforce via digital means.                       | GNI: RM2.2 billion<br>Jobs: 340,000 task workers<br>Investment: RM413 million |
| Facilitating Social Uplift                                | Enabling impactful and needs-based deployment of societal programmes to the community.                | GNI: RM70 million<br>Jobs: 1,400<br>Investment: RM72 million                  |
| Grow the Embedded Systems Industry                        | Grow the embedded systems industry as a new source of growth.   | GNI: RM7.3 billion<br>Jobs: 22,500<br>Investment: RM10.2 billion              |
| Establish a trusted Mobile Digital Wallet Platform        | Establish a local Mobile Digital Wallet to enhance business sales cycle and authentication processes. | GNI: RM783 million<br>Jobs: 122<br>Investment: RM112 million                  |

**“The development of the Digital Malaysia is crucial in view of the increasing pace of digitalisation and the wealth of opportunities digital technology will bring to the country. By taking a definitive action, Malaysia will be able to tap into these opportunities to drive value-added growth to the economy, increase the nation’s global competitiveness and enhance the standard of living of its citizens.”**







## Border-free interaction

*The world is evolving at a rapid pace, with digital technology redefining the way we do business and interact with each other on a global scale. Today, governments, businesses and society have to consistently adapt to move seamlessly between the analogue and digital worlds in order to excel in their respective fields of endeavour.*

### PART C

#### CHANGING LANDSCAPE

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| Four Key Drivers of the Digital World                                  | 45 |
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# Changing Landscape

## The World's Digital Economy

The world is currently evolving at a staggering pace. This evolution is brought about by the digital age which has permeated almost every aspect of our lives - from working to socialising, learning to playing, and entertaining to governing. It has transformed the way we communicate, access information, conduct businesses and deliver services.

According to Google, internet users are expected to rise from 1.9 billion in 2010 to 5 billion globally in 2020. As of January 2012, the internet had already reached over 30% of the world's population, or equivalent to 2 billion users in the world (Source: socialbakers.com).

Digital technology has significantly grown in its pervasiveness within the last decade and continues to do so. Rapid advancement has fuelled the shift from analogue to digital, thus making news, information, goods and services, across all boundaries to be more accessible and affordable. This has led to the creation of new opportunities for governments, businesses and individuals.

Millions of key decisions are made based on virtual interactions and formed on shared information. Entirely new lines of businesses are created, radically changing existing ones and obliterating many. Speed has become a key factor for most business activities, from product development to customer response. As digital economy becomes part and parcel of today's businesses, we shall witness the emergence of a global village that blurs the demarcation of the world's economy.

The impact of the internet has given rise to the global digital economy, where both ICT and eCommerce pervades every sphere of activity. In 2009, the digital economy contributed 35% or RM51.9 trillion to global trade. By 2020, global ICT spending is expected to grow by 4.6% to RM16.5 trillion, while global eCommerce revenues will hit a staggering RM132.7 trillion (Source: IDC Worldwide Black Book 2012).

### Technology pervasiveness has created a digital economy that is significant across multiple fronts

- Globally, digital economy contributed 35% to global trade (RM51.9 trillion) in 2009
- Global ICT spending is expected to grow 4.6% to RM16.5 trillion in 2020
- Global eCommerce revenues will hit RM132.7 trillion by 2020
- Between 2009 and 2012, revenue from online interactive games is estimated to go up by 67%, mostly from the sale of virtual goods

According to research firm, International Data Corporation (IDC), when global business-to-business and consumer transactions are combined, the size of total worldwide eCommerce will amount to approximately RM40.5 trillion in 2013. French technology research firm, IDate, estimates the global market for digital products and services to be at RM13.4 trillion in 2013, thus making the total size of the digital economy to be around RM62.2 trillion, or approximately 13.8% of all sales flowing through the world economy.

Source: IDC Worldwide Black Book, MDeC Analysis 2012



### Internet and the World Economy

When country comparisons were made, it was found that:

- Internet in the US accounted for RM2.1 trillion or 4.7% of the country's GDP in 2010, exceeding the federal government's expectations;
- In the UK, the internet's contribution to its GDP in 2010 exceeds that of construction and education;
- Industry research estimated that internet contribution to Germany's GDP contributed 24% to the country's economic growth over the period 2004-2009, which is higher than many other developed countries;
- Japan has been rated highly in eGovernment and eCommerce adoption whereby in 2010, it is recognised as one of the top internet economies with 4.7% contribution to the GDP, which is above the developed market average of 4.3%; and
- Asia is expected to chart the highest growth where it will make up more than half of the world's internet users by 2015.

Source: eMarketer

## Four Key Drivers of the Digital World

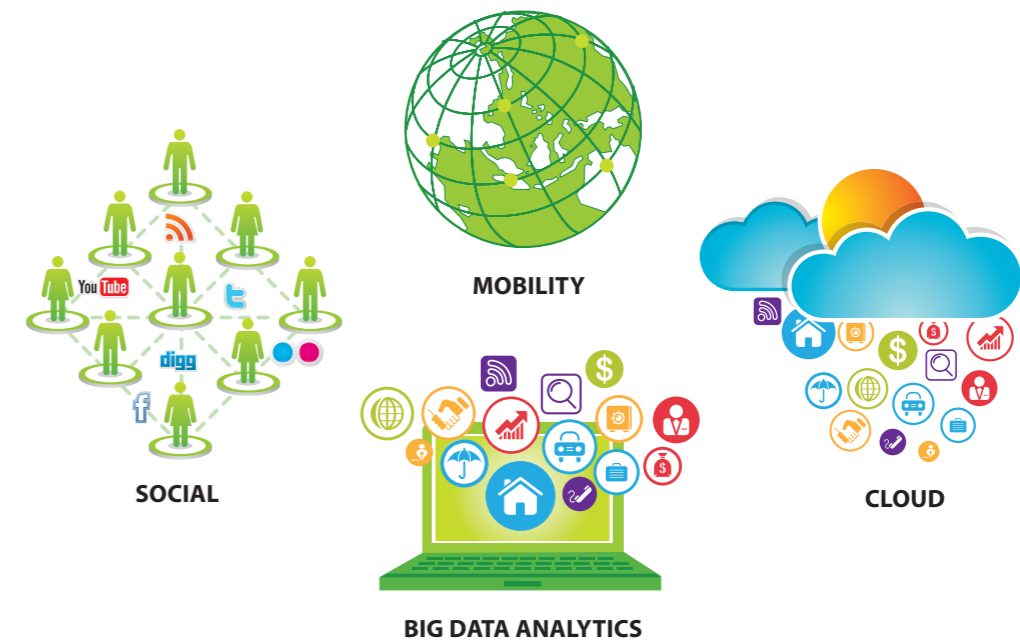
The world will witness a higher adoption of current and emerging technological trends with the pervasive growth of digital technology. In the context of the digital universe, four key drivers are paving the way forward – mobility, social media, cloud computing as well as big data analytics.

From the four key drivers, mobility and social media have emerged as the main influencers on today's digital landscape.

In terms of mobility, 17.7 billion application store downloads were recorded, garnering over RM46 billion revenue in 2011. By 2015, it is estimated that 2.6 billion mobile phones will be shipped globally with revenue from mobile applications reaching RM113 billion.

Mobility also encourages the need for essential home or office devices to be connected with communication tools, giving rise to the creation of the internet of things. By 2015, it is estimated that total connected devices will reach one trillion. With global internet penetration rate of 30%, there will be a total of approximately 2.1 billion internet users out of a world population of 6.9 billion.

### Four Key Drivers of the Digital World



- **Social or Social Media** refers to the means of interactions among people in which they create, share and exchange information and ideas in virtual communities and networks. It is also used to describe a variety of internet-based platforms, applications and technologies that enable people to socially interact with one another online.
- **Mobility** is principally about human-technology interactions, made possible by portable and wireless devices connected to the internet. Such devices like mobile computers, tablets and smartphones are the essential tools of mobility, where together with the internet platform, provide an avenue for effective work and social networking.
- **Cloud or Cloud Computing** is the use of computing resources (hardware and software) which are available in a remote location and accessible over a network (typically the internet). It relies on the sharing of resources to achieve coherence and economies of scale similar to a utility (like the electricity grid) over a network.
- **Big Data Analytics** is the process of examining large amount of data of a variety of types, also known as big data, to uncover hidden patterns, unknown correlations and other useful information. Such information can provide competitive advantages over rival organisations and result in business benefits, such as more effective marketing and increased revenue.

On the social media front, social networking activities have also seen phenomenal growth following significant advancements in internet penetration and mobile device ownership. As at July 2012, Facebook recorded 955 million active users monthly and 552 million active users daily (Source: *Business Insider*, July 2012). The social networking site which has seen exponential growth since its launch in 2004, generated revenue of RM3.6 billion in the second quarter of 2012 (Source: *socialbakers.com*).

Twitter, the social networking and microblogging service, has more than 140 million active users as at March 2012, with more than 1 billion tweets sent every three days (Source: *PCMag*, March 2012). LinkedIn, the world's largest online professional network, announced in February 2012 that it has 150 million members, a 20 million increase compared to November 2011 (Source: *Mashable*, February 2012). An estimated 7 billion of content comprising links, news, posts and other information are shared each week through social media sites and it would take 1,000 years to watch every video that is currently on YouTube.

Such phenomenal increase in the usage of virtual services consequently led to the third driver of the digital world. Big data analytics is built on the foundation of information and its analysis, whereby both public and private sector organisations will be capitalising on this to help them in their decision-making and information processing. Hardware spending to improve these capabilities is expected to increase to RM6.1 billion by 2016, with associated technologies including NoSQL databases, Hadoop and MapReduce.

As a final driver of the digital world, cloud computing or the use of computing resources that are delivered as a service over the internet, is also gaining acceptance and user confidence. This is suggested by the total global registered financial transactions of about RM131.1 million in 2010, and it is envisaged that by 2013, 60% of server workloads will be virtualised. It is also estimated that in 2020, global expenditure on cloud is expected to reach RM251 billion, from RM46.7 billion in 2011.

The vast opportunity from the four key drivers of the virtual universe is undeniable. To reap the full reward of these opportunities, Malaysia is taking cohesive actions to adapt itself to an increasingly digitalised world.

**No one is spared, even renowned brands have fallen prey to destructive technologies:**



**No more 'Kodak moments'**

When Kodak failed to make the transition from film to digital cameras, it marked the end for the photography giant in 2012. Japanese camera makers such as Canon, Sony and Nikon moved in and ruled over 70% of the global digital camera market worth some RM67 billion in 2008. With that, the company had to recognise its last 'Kodak moment' and gracefully bowed out.



**Tethering on the Border-line**

When Borders, the 40-year old second biggest book chain in the world filed for bankruptcy in 2011, one of the major reasons quoted by industry analysts was that the company failed to get involved in eBooks and eCommerce. Although Borders partnered with Amazon.com to run its online sales, launched its eCommerce site in 2008 and created its own Kobo eBook reader in 2010, it lost lead time and lagged behind, succumbing to its competition.

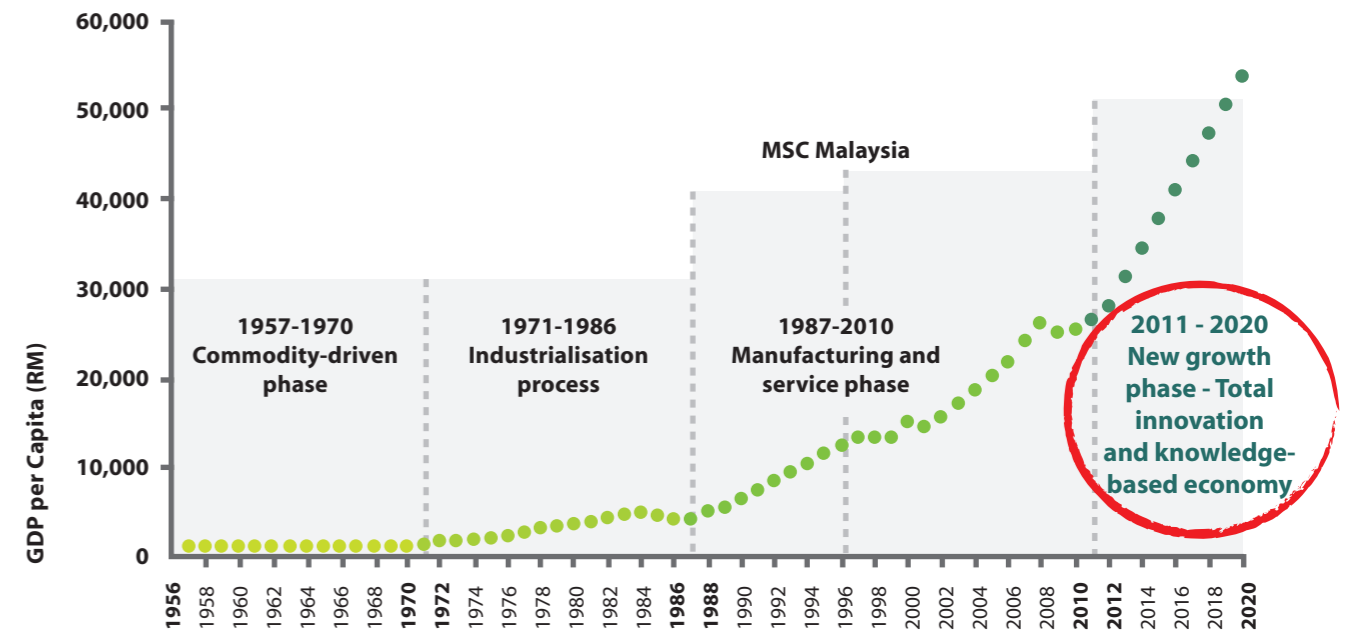
Source: MDeC's study on the New Digital Business Models, 2012

**The Malaysian Digital Economy**

Malaysia has come a long way from its days of a commodities producer in the 1960s and 1970s. Since then, the country has jumped on the industrialisation bandwagon and reaped the rewards of its manufacturing and services industry era, with high foreign direct investments (FDI) and rapid technology transfers.

The country is currently at an inflection point where it must develop its own innovative proficiency and sharpen its entrepreneurial spirit, leveraging on its increasing number of knowledge workers and existing technical talents; with the ultimate aim of optimising the new wave of economic milieue.

The digital era holds an impending future. In order to optimise upon it, Malaysia must take cohesive steps to move the country from its manufacturing and service-based economy to the wonderful world of digital economy.

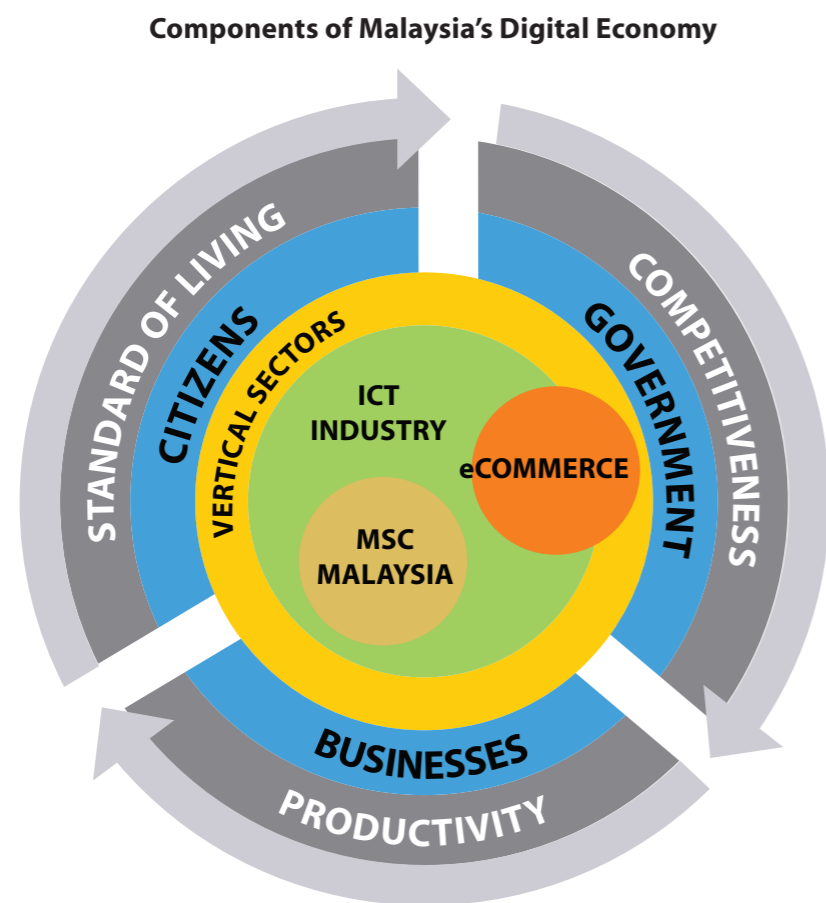


Source: EPU

Based on data acquired from MDeC, Department of Statistics Malaysia (DOSM), Malaysian Communications and Multimedia Commission (MCMC) and other relevant agencies, Malaysia has made significant progress in developing a good ICT environment towards building its digital economy. This was made possible by various ICT-centric programmes and initiatives led by both the public and private sector.

Nonetheless, Malaysia's digital economy is driven by demands for better productivity and efficiency. It needs to move into an innovation-driven economy in order to catch up with the leading economies. Hence, key elements within Malaysia's digital economy need to be analysed in order for the nation to know exactly which areas it need to improve on.





Source: The ICT Satellite Account Report 2012

Briefly, the nation's digital economy is divided into three core digital economic components, where each component plays its own unique yet fundamental role in moving the economic needle upwards. Essentially, they are:

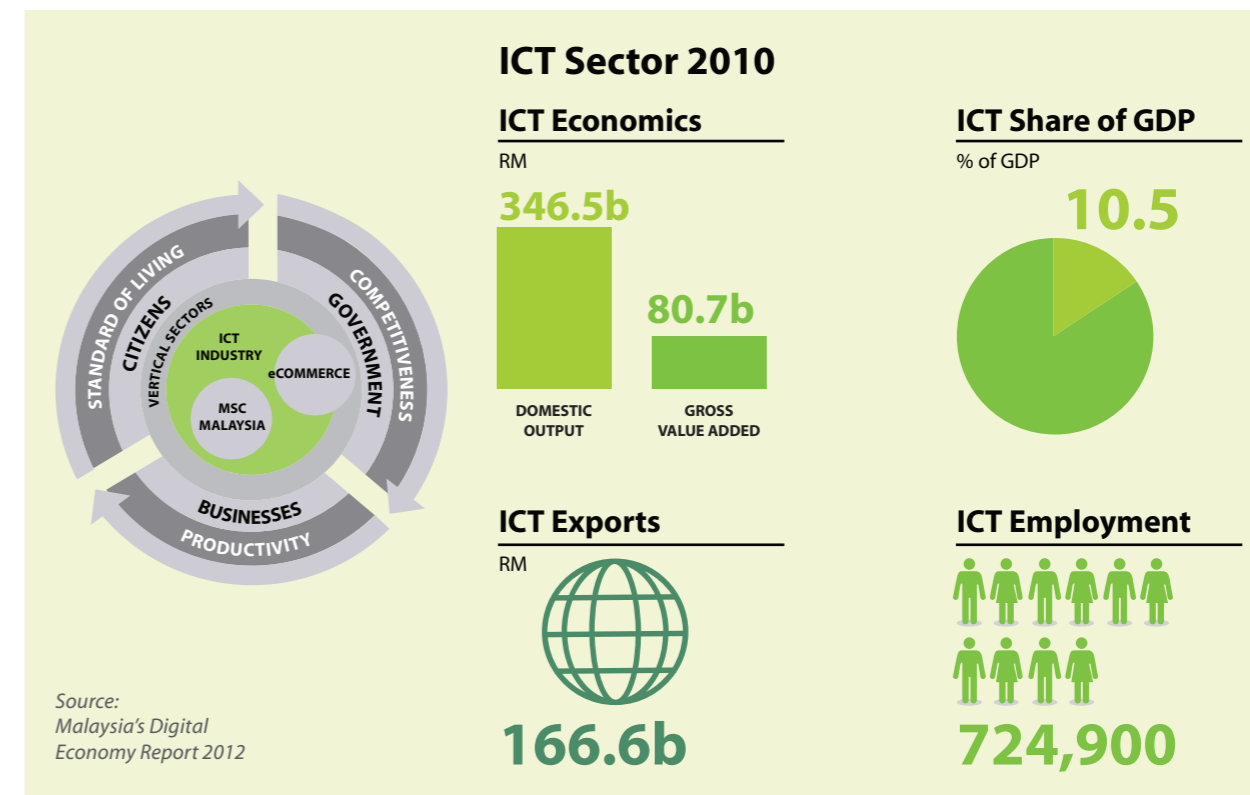
- **ICT industry:** This is defined as the industry that nurtures technologies and services that enable information to be accessed, stored, processed, transformed, manipulated and disseminated, including the transmission or communication of voice, image and/or data over a variety of transmission media.
- **MSC Malaysia:** This component refers to the products and services, produced by MSC Malaysia-Status companies, which are based on information, communication and multimedia technologies.
- **eCommerce:** This is defined as the industry where buying and selling of products or services is conducted over electronic systems such as the internet and other computer networks.

At the same time, outside the main elements of the digital economy, a periphery segment termed as the Vertical Sectors exist, within which the ICT or digital technology is used as an enabler, or ICT goods and services, as well as media and content are produced as a by-product. This sector is not considered as a core contributor to the digital economy, but the amount of ICT as an enabler that the sector utilises still contributes a significant value.

Holistically, the core and periphery segments of the digital economy will contribute to the growth of the nation affecting its main stakeholders, i.e. the government, citizens and businesses. Ultimately, ICT and digital technology will be used to gain competitive advantages, improve productivity and raise standard of living.

The following paragraphs will further illustrate the state of the nation's digital economy up to 2010. These 2010 figures will eventually be the basis of setting the aspirational goals of Digital Malaysia.

Malaysia's Digital Economy: ICT Sector



Source: Malaysia's Digital Economy Report 2012

In essence, the ICT industry consists of the creation, production and sales of computer hardware and software, telecommunication assets, as well as computer and telecommunication services.

The 2010 ICT contribution to GDP based on the core ICT sector declined from 12.7% in 2005 to 10.5% in 2010, due to a drop in global demand for ICT goods. The ICT Gross Value Added (GVA) recorded an annual growth of 3.9% from 2005, but this is eclipsed by the overall GDP growth of 7.9%, resulting in a decline in ICT contribution to GDP.

However, there seemed to be a strong growth in the ICT services, content and media areas of between 7-10% annually, showing a transition away from ICT manufacturing to higher value services, content and media sectors. Productivity of the average ICT worker also improved from RM76,330 per person per year to RM97,594, indicating a 5% productivity improvement per year since 2005. Both highlights indicate that ICT, and now digital technology, have shown positive effects on the economy as a whole.

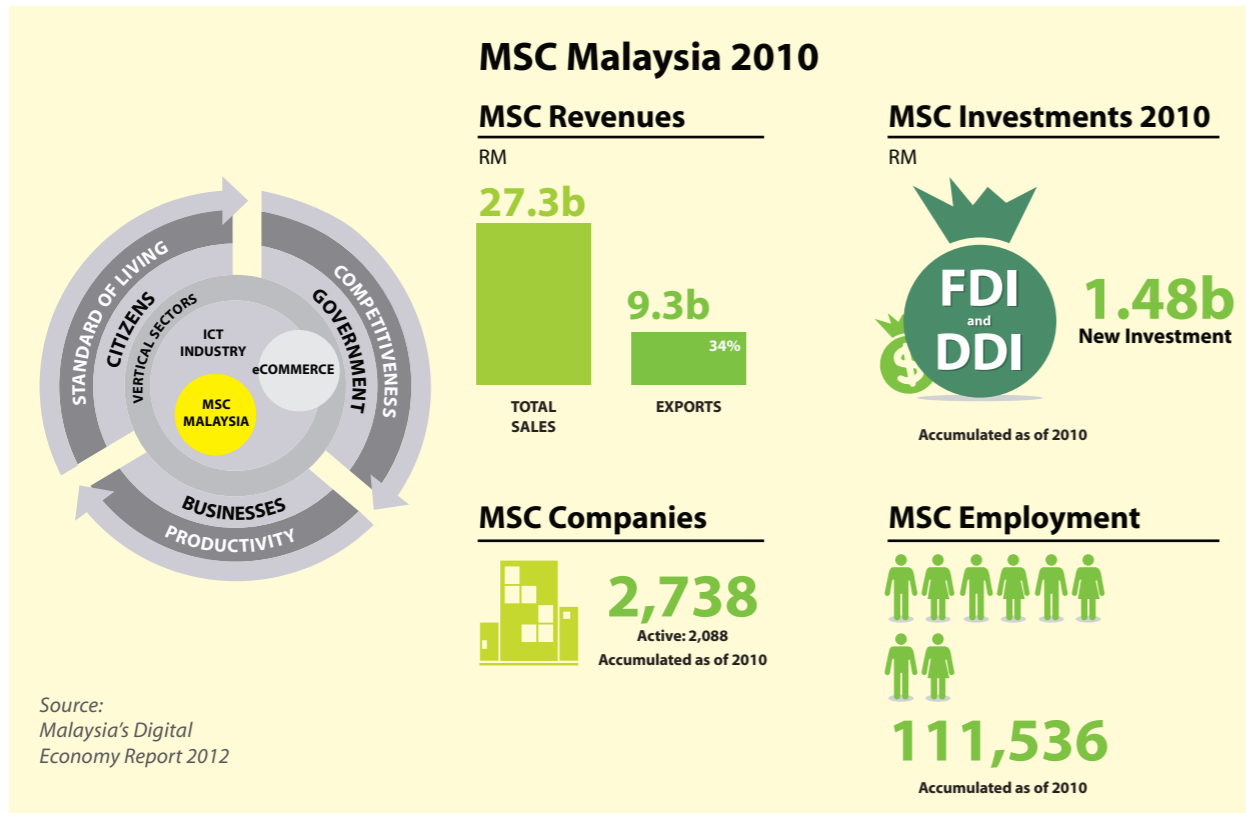
According to the ICT Satellite Account (ICTSA), ICT is defined as technologies and services that enable information to be accessed, stored, processed, transformed, manipulated and disseminated, including the transmission or communication of voice, image and/or data over a variety of transmission media.

**ICT sectors** are divided into:

- **ICT Software and Hardware industries** – the production of goods and services that primarily be intended to fulfil or enable the function of information processing and communication by electronic means including transmission and display; and
- **ICT Services industries** – the provision of services that are intended to enable the function of information processing and communications by electronic means.

**ICT products (goods and services)** are those that are either intended to fulfil the function of information processing and communication by electronic means, including transmission and display, or those which use electronic processing to detect, measure and/or record physical and non-physical phenomena, or to control a physical and non-physical process. These include hardware, software, telecommunication networks, support services, research and development, creative multimedia and shared services and outsourcing activities.

Malaysia's Digital Economy: MSC Malaysia



The MSC Malaysia initiative is another fundamental element within Malaysia's digital economy. Spearheaded by MDeC, this initiative was implemented in 1996 with a key goal to further accelerate Malaysia's transformation towards attaining a fully developed nation status by 2020.

The number of MSC Malaysia-Status organisations continues to grow, in line with the nation's aspiration to be a knowledge-based economy, at a 10% rate every year (Source: MSC Malaysia Annual Report). Breaking the figure down, 2010 recorded a total of 315 creative multimedia (CM) companies, 2,086 information technology (InfoTech) companies, 222 companies that concentrate on delivering shared services and outsourcing (SSO), and 115 of ICT and digital technology-focused institutions of higher learning (IHL).

Sales generated by these companies is also improving, charting an impressive RM27.3 billion, out of which RM9.3 billion is derived from exports. Rounding the achievement are the investment put into this area at RM23.1 billion and the production of 111,536 knowledge workers.

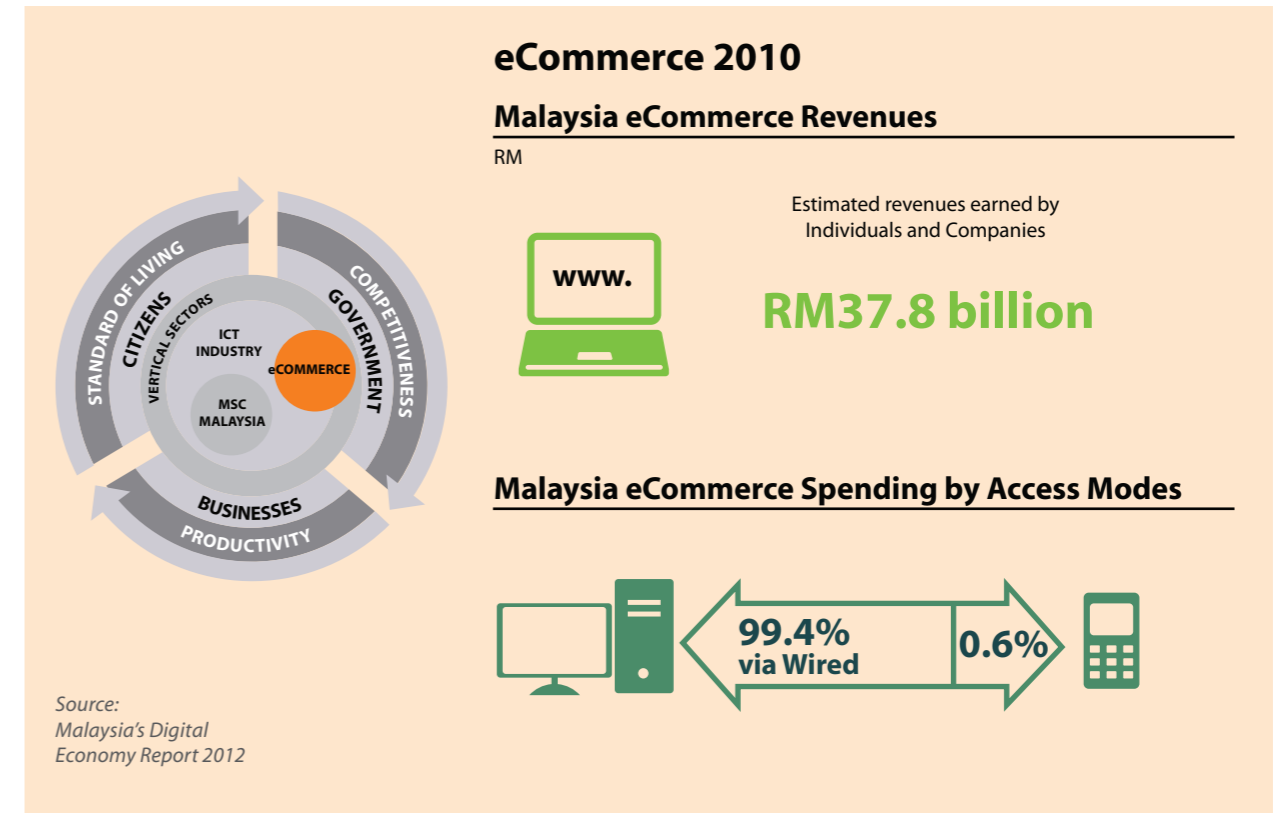
MSC Malaysia (formerly known as the Multimedia Super Corridor) was inaugurated in 1996 with a key goal to accelerate Malaysia's transformation towards attaining a fully developed status by year 2020 through ICT. The national ICT initiative is designed to attract world-class technology companies while grooming the local ICT industry. Fully supported by the Malaysian government, MSC Malaysia has led the nation's transformation towards a knowledge-based economy over the past decade and a half.

**Definition of MSC Malaysia-Status**  
MSC Malaysia Status is a recognition by the

government, through MDeC, for ICT and ICT-facilitated businesses that develop or use multimedia technologies to produce or enhance their products and services. It is also a mark of world-class service and achievement as well as the passport and gateway to a host of privileges granted by the government to the business entities.

MSC Malaysia-Status is awarded to three types of business entities, each with a set of different application criteria and guidelines. The qualifying business entities are private limited companies (i.e Sendirian Berhad), institutions of higher learning and incubators.

Malaysia's Digital Economy: eCommerce



The Malaysian eCommerce sector is a somewhat unaccounted territory, yet preliminary reports showed its monumental contribution to the economy. One of the main reasons why these figures are hard to come by is the fact that the contribution comes from all facets of economic activities i.e. cutting across economic verticals, from ICT and digital-centric ones to those outside the former's influence.

eCommerce is often recognised as a core element of eBusiness, making its measurement an important exercise to obtain an overall accounting of the value of ICT and its contribution to the economy of Malaysia.

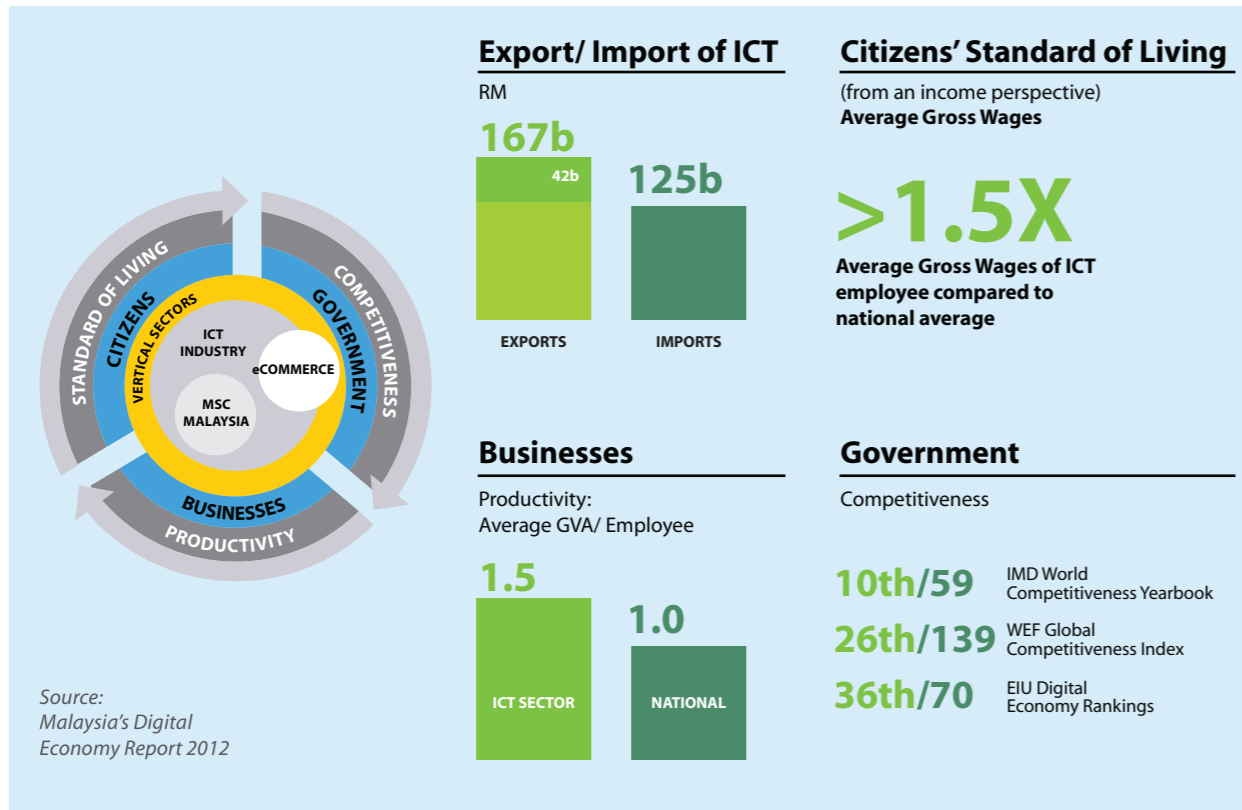
Based on reports by research company IDC, Malaysia's eCommerce revenue is estimated at RM37.8 billion in 2010, where the amount is expected to rise to a staggering RM77 billion by 2012. Interestingly enough, a majority of the 2010 spending was done through desktop access at 99.4% as opposed to transactions via mobile at 0.6%. Most of the spending was recorded for travel and leisure-related purchases such as airline tickets, hotels, holidays, clothing, books, CD and DVDs. This suggests the need for the nation to step up in capitalising on the mobility technology trend of the world.

**eCommerce spending** is defined as the process by which an order is placed or accepted via the internet (i.e. when a buyer clicks an order button on the internet), thus, representing a commitment for a transfer of funds in exchange for goods or services. This can be further categorised as:

- Business-to-Consumer (B2C) eCommerce:** B2C eCommerce is the value of products/services purchased by individuals by clicking an order button on the internet and intended for consumption by themselves, family, or friends. B2C eCommerce is a subset of eCommerce.

- Business-to-Business (B2B) eCommerce:** B2B eCommerce is the combined value of individual B2B purchases and B2B volume purchases. B2B eCommerce is also a subset of eCommerce.
  - Individual B2B eCommerce purchases takes into account individual end-use purchases for business purposes. Individual B2B purchases are a subset of B2B eCommerce.
  - B2B eCommerce volume purchases are electronic data interchange (EDI) transactions through a web-based user interface and wholesale purchases. Volume purchases are a subset of B2B eCommerce.

### Multiplier Effect of ICT



With the data derived from reports by DOSM, EPU, MDeC and IDC on the general well-being of the digital economy in 2010, an analysis was made with a very interesting outcome.

With the basic ICT data alone, it was found that Malaysia has already reached a net exporter status for ICT products and services, with an export value of RM167 billion as opposed to an import value of RM125 billion.

Based on the average GVA income per employee, it is also suggested that the ICT industry begets higher productivity than national average at a ratio of 1.5 times. Our standard of living is also higher amongst those employed within the ICT and digital industry with an average gross wage that is 1.5 times higher than the national average.

Collectively, this leads to the nation's commendable global competitiveness rankings: 10th placing out of 59 at the IMD World Competitiveness, 26th placing out of 139 at the WEF Global Competitiveness Index and 36th placing out of 70 at the EIU Economy rankings.

### Capitalising Opportunities and Mitigating Threats of the Virtual World

Moving forward, it is apparent that the digital era holds tremendous opportunities for businesses, society and the global economy as new markets, business models and means of organisation emerge.

The adoption of digital technologies has grown and continues to grow rapidly. The high rate of adoption has been driven by the functionality and convenience that is derived from the internet, which includes a host of benefits from search to shopping, and from media consumption to communications.

Today, many existing and new businesses have a presence on the internet, be it through websites or through social media networks. The internet has become the market place; websites are transformed into retail outlets while personal computers, tablets and smartphones have become the office. The digital world has given rise to the nomadic entrepreneur.



With traditional and geographical boundaries dissolving, online entrepreneurs are able to communicate and sell their products or services to any customer, near and far. What this trend suggests is that while the physical part of ICT still serves as the foundation of the digital economy, the virtual space is fast providing its complementary market place, and more importantly as the currently irreplaceable communicator amongst all users.

While internet presents powerful opportunities for individuals, businesses and governments to create a meaningful connection with their audience, proactive steps are also being taken to address the various threats such as identity theft, 'phishing' and other cyber crimes.

Even though cloud and mobile computing are cost-effective means for users to access information at anytime and from anywhere, they also open the door to losing control of that data. As more and more businesses go digital, the rise of unstructured data via social media means that information security is becoming a common goal for everyone to strive towards.

The ease with which users have access to the internet has given rise to damaging and negative content, regardless whether they are justified or otherwise. Response to comments has to be done swiftly to avoid any negative impact to the organisation's reputation and operations.



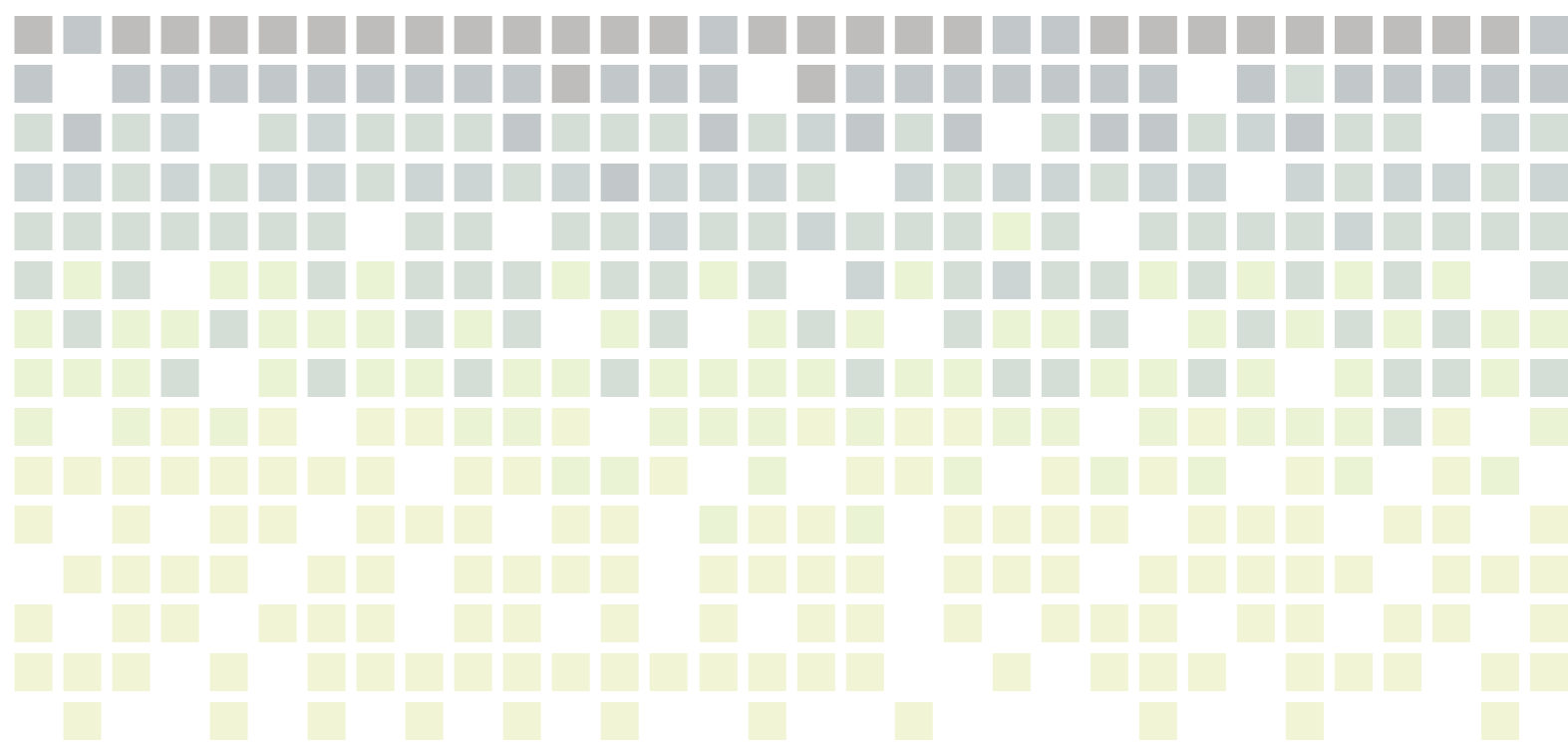
The European Commission estimates that at any given time, approximately 150,000 viruses and other types of malicious code are circulating across the internet, infecting more than a million people every day. Anti-virus software developer McAfee counts 75 million unique pieces of malicious malware code on its databases, and estimates that botnets generate spam account for a third of all emails sent every day.

Malaysia's Bukit Aman Cyber Crime and Multimedia Criminal Investigation Department reported that the frequency of cyber crime cases have increased steadily in the country. In 2011, about 6,586 reports were lodged, incurring losses of RM34 million compared to 6,238 cases involving RM18 million in 2010. Scams and fraudulent online purchases are the highest-ranked cyber crimes in the first three months of 2012, with 403 cyber crimes reported, incurring losses of RM16 million.

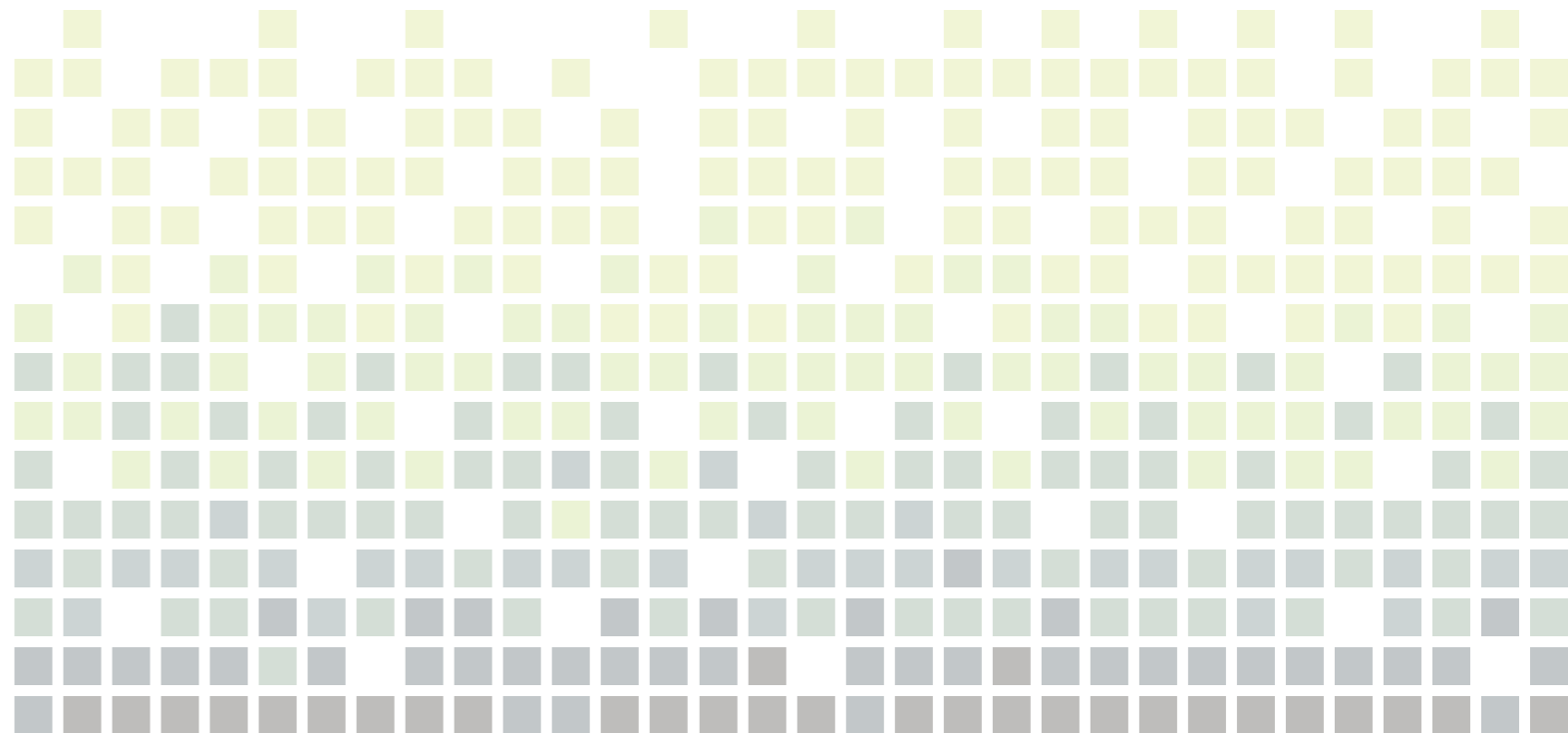


The need to address digital threats has become even more prevalent now. We must not only harvest the opportunities, but also address the threats that could hinder our efforts in moving forward. Proactive planning is imperative for us to mitigate threats as well as to capitalise on the wealth of opportunities that lay ahead.

On that note, it is imperative that Malaysia develops its own digital strategy to take advantage of the opportunities as well as search for ways to curb threats in the digital era. Ultimately, the nation needs to pave a new growth path to cement the country's transformation into a knowledge-based economy. This is an opportunity that Malaysia cannot miss in order to gain a competitive advantage and propel it into the future.



**“Digital technology has significantly grown in its pervasiveness within the last decade, thus making news, information, goods and services to be more accessible and affordable.”**





## *A holistic ecosystem*

### **PART D**

#### **UNDERSTANDING DIGITAL MALAYSIA**

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*Digital Malaysia addresses the needs of ordinary Malaysians; creating an ecosystem that promotes the pervasive use of digital technology in every aspect. It builds upon Malaysia's varied ICT initiatives, resulting in a nation that connects and empowers government, businesses and citizens through a vibrant and demand-focused digital ecosystem.*

**PART D**

# Understanding Digital Malaysia

## What Is Digital Malaysia



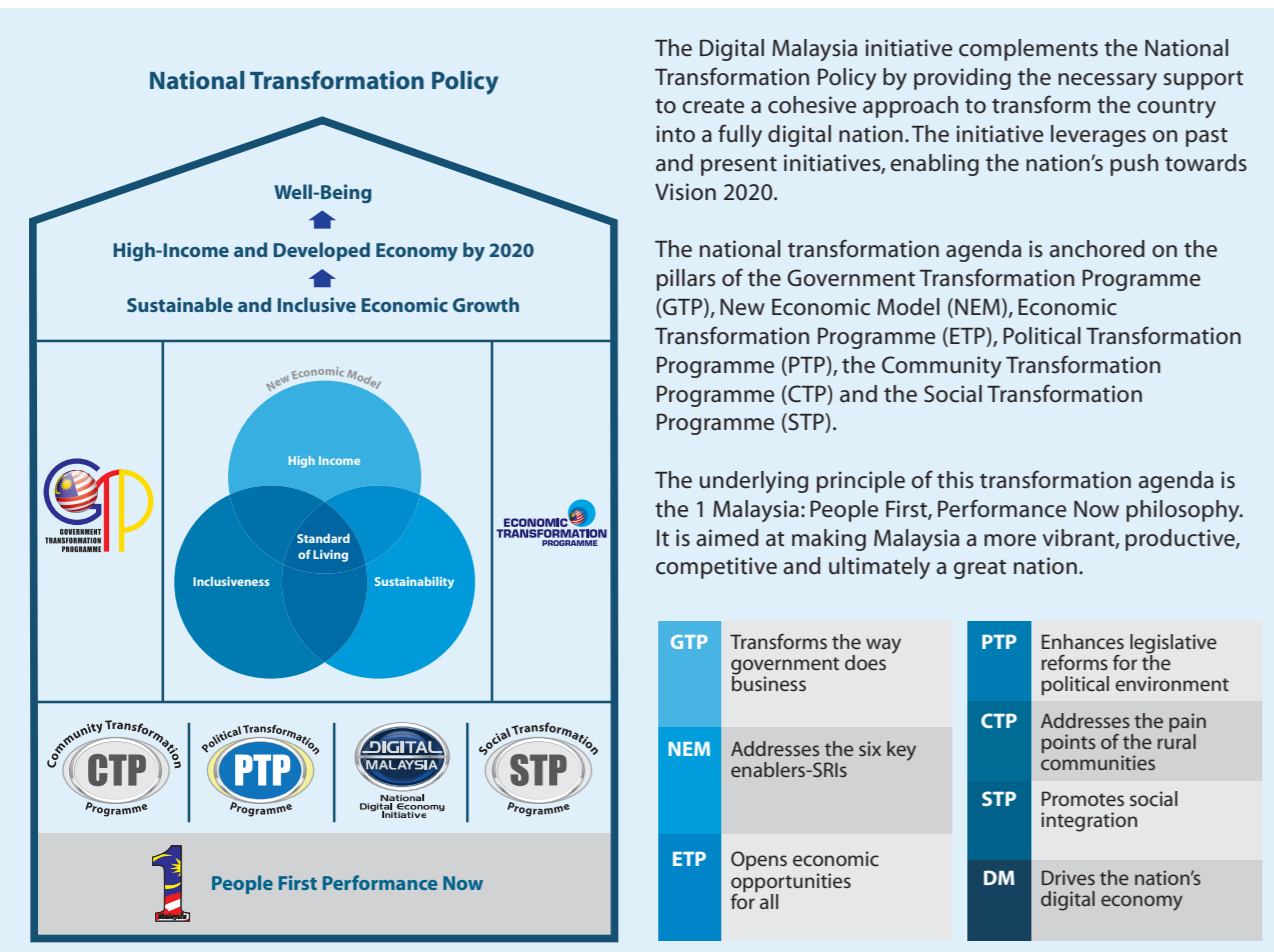
Digital Malaysia is the nation's vision to forge ahead in embracing the global digital revolution. It is an initiative that will propel the nation into high-income status with digital technology as its critical enabler.

Digital Malaysia will drive wealth creation, stimulate efficiency and enhance standard of living by harnessing and building upon Malaysia's varied ICT initiatives, resulting in a nation that connects and empowers government, businesses and citizens through a vibrant and demand-focused digital ecosystem.

This ecosystem is created to promote the pervasive use of digital technology in every aspect of the economy to connect communities globally and interact in real time, resulting in increased Gross National Income (GNI), enhanced productivity and improved standard of living.

Putting the plan into immediate motion is imperative in view of the increasing pace of digitalisation and the wealth of opportunities digital technology will bring to the country. By taking a definitive action, Malaysia will be able to tap into these opportunities to drive value-added growth to the economy, increase the nation's global competitiveness and enhance the standard of living of its citizens.

Digital Malaysia forms the foundation of the National Transformation Policy (NTP) where its addition to the existing six NTP pillars will help elevate and accelerate each programme.



The Digital Malaysia initiative complements the National Transformation Policy by providing the necessary support to create a cohesive approach to transform the country into a fully digital nation. The initiative leverages on past and present initiatives, enabling the nation's push towards Vision 2020.

The national transformation agenda is anchored on the pillars of the Government Transformation Programme (GTP), New Economic Model (NEM), Economic Transformation Programme (ETP), Political Transformation Programme (PTP), the Community Transformation Programme (CTP) and the Social Transformation Programme (STP).

The underlying principle of this transformation agenda is the 1 Malaysia: People First, Performance Now philosophy. It is aimed at making Malaysia a more vibrant, productive, competitive and ultimately a great nation.

|            |   |            |  |
|------------|---|------------|--|
| <b>GTP</b> | Transforms the way government does business | <b>PTP</b> | Enhances legislative reforms for the political environment |
| <b>NEM</b> | Addresses the six key enablers-SRIs         | <b>CTP</b> | Addresses the pain points of the rural communities         |
| <b>ETP</b> | Opens economic opportunities for all        | <b>STP</b> | Promotes social integration                                |
|            |   | <b>DM</b>  | Drives the nation's digital economy                        |

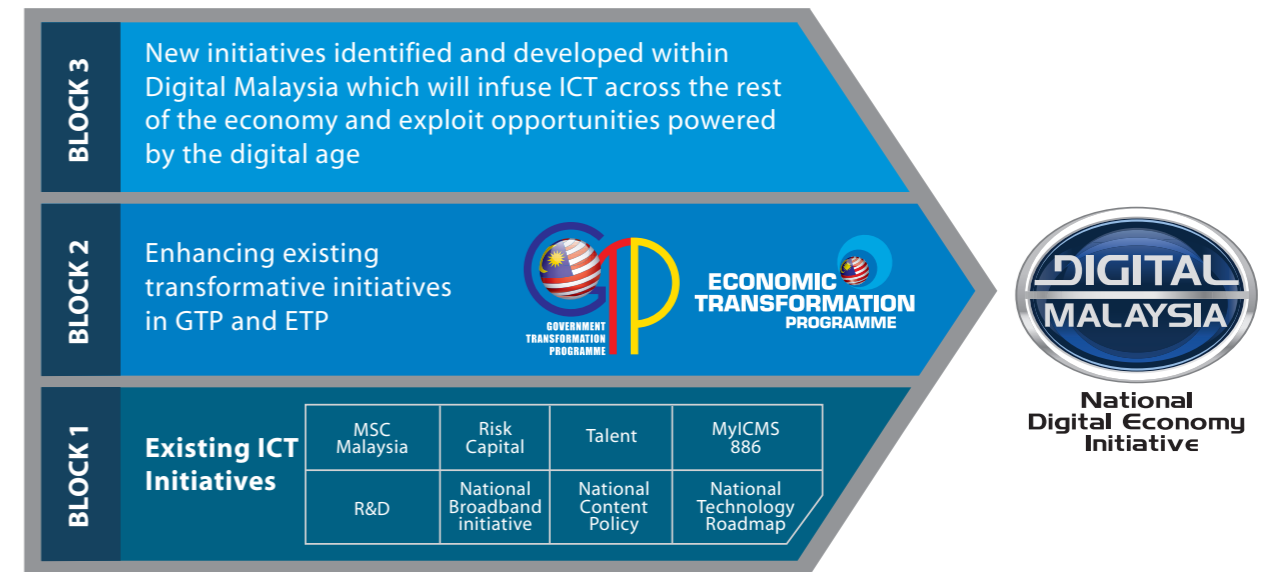
Digital Malaysia is designed to complement, enable and enhance this overall transformation agenda, focusing on programmes and initiatives that will develop innovation, productivity and competitiveness within the governmental, business and social environments.

Indeed, Malaysia has built a solid foundation in developing its ICT capabilities which has helped catalyse large investments and the widespread adoption of technology amongst three main stakeholders, namely, the government, businesses and citizens. By and large, the country's progress in ICT has benefitted many, but mainly in the mainstream technology sectors.

Digital Malaysia seeks to ensure that the ICT and digital economic contribution to GDP will spread across those sectors outside the enclave of the ICT environment, such as agriculture, mining, manufacturing, construction and services, which includes banking and finance, tourism and medicine.

## Scope of Digital Malaysia

The scope of Digital Malaysia encompasses all existing and new programmes that drive towards the development of the digital economy in Malaysia, whereby Malaysia's digital economy has been defined as those that are construed from the ICT and digital sectors. Projects and initiatives with Digital Malaysia can be broadly categorised into three blocks:



### Block 1 Existing initiatives provide a solid foundation

Since the early 1990s, Malaysia has developed and put in place a range of initiatives and components in a bid to leapfrog the country into the Information Age. These initial plans and programmes have built a platform for the emergence of the domestic ICT industry. They have also catalysed large investments, spurred R&D to produce ICT solutions and promoted the widespread adoption of technology among government, businesses and society.

- MSC Malaysia
- The National High Speed Broadband (HSBB) Initiative
- The Malaysian Information, Communications and Multimedia Services (MyICMS 886)
- The National Content Policy
- The National Technology Roadmap

The current ICT-based projects, which are carried out by all ministries, agencies and ICT-specific industry can mainly be termed as supply-side initiatives. These initiatives include:

As a result of these initiatives, Malaysia has achieved considerable progress towards a knowledge-based economy. Beginning with MSC Malaysia, these ICT initiatives form the various components of the nation's digital infrastructure and infostructure.



**Block 2  
Transformative initiatives to accelerate development**

In 2010, the government introduced the National Transformation Policy programmes to bring about a key national transformation to leap the country forward into the ranks of the high-income economies. These transformation programmes are designed to further cultivate innovation, productivity and competitiveness within the governmental, business and social environments.

Block 2 of Digital Malaysia includes 26 ICT-intensive and 61 ICT-enabled initiatives under the ETP and the GTP as well as newly defined Digital Malaysia initiatives that will enhance the existing initiatives. Some of these initiatives include the Virtual Mall project in the Wholesale and Retail National Key Economic Area (NKEA), and the Data Centre Hub project in the in Business Services NKEA.

**What does Digital Malaysia Aspire to Achieve**

Digital Malaysia is envisioned to assist the nation fast-track to the goals of Vision 2020, which is to become a high-income nation that does not discount the equally important need of achieving sustainable development, inclusive policies and a united population.

Vision 2020 sets a definitive target of achieving GNI per capita of RM48,000 in 2020. Thus far, we have moved up from RM21,440 in 2009 to RM30,400 in 2011.

**Through Vision 2020, Malaysia aspires to be a high-income nation with sustainable development, inclusive policies and a united population**



Source: PEMANDU 2012

**Block 3  
New initiatives to sustain drive towards a digital nation**

To develop a comprehensive and inclusive digital nation, Digital Malaysia calls for the introduction of new initiatives over and above current plans and programmes. These new initiatives are required to exploit dynamic opportunities powered by the digital age and to infuse ICT across the rest of the economy and throughout government, businesses and society. At the same time, they would also:

- create new sources of growth for businesses;
- enable better governance through efficient and innovative methods; and
- empower society as a whole.

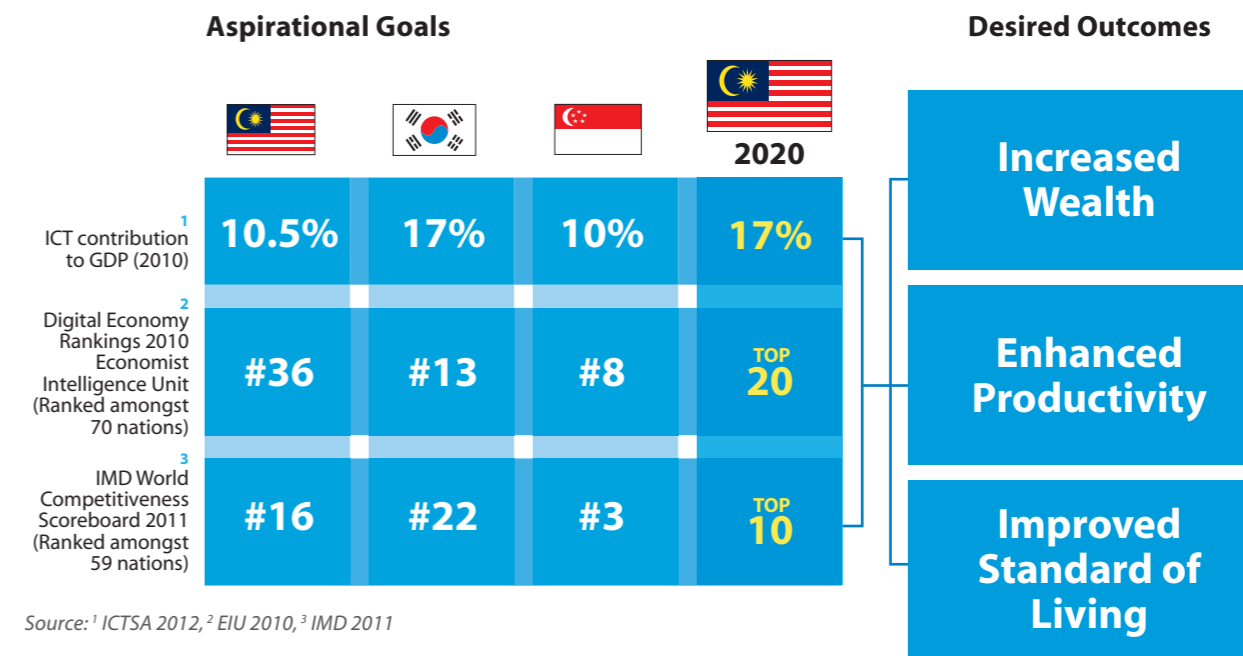
With seven more years to go, a drastic push is needed for us to reach our goal.

For the past 15 years, we have been moving towards a technology-driven and knowledge-based economy and Malaysia aims to become a developed nation with an economy that is competitive and dynamic.

While other sectors have their own strategies and targets that will contribute to the nation's wealth and value creation, Digital Malaysia hopes to be a crucial launch pad for these sectors to leapfrog to their goals in a more concerted and efficient manner, with ICT and digital technology as enablers.

The development of Digital Malaysia is vital in ensuring that the nation reaps the opportunities of the digital age and place itself in the ranks of the developed world. The infusion of technology thus far, has positioned Malaysia in a favourable light. To date, Malaysia has already made significant inroads when benchmarked with other nations in terms of global competitiveness and digital economic ranking.

To further push itself towards the future of digital technology savviness, the country has given itself a distinct set of aspirational goals specifically for Digital Malaysia. In setting a credible scenario, the goals were benchmarked to some of the countries that Malaysia would like to emulate, namely Korea and Singapore.



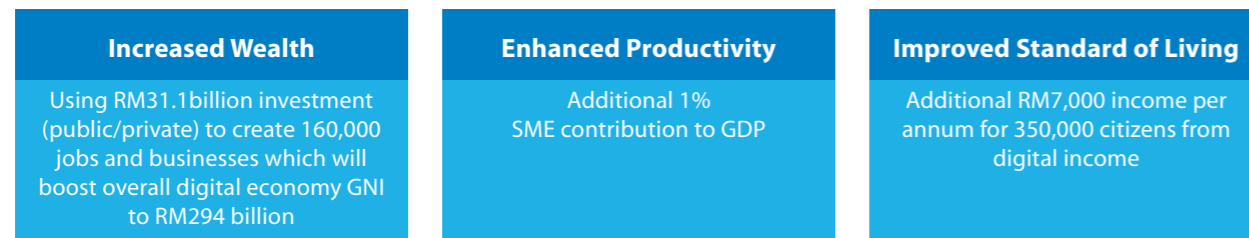
Three main levers have been specifically chosen as target-setting goals for Digital Malaysia.

Firstly, Digital Malaysia aspires to move up the ranking of the country's ICT contribution to GDP. With figures collated for Malaysia's ICT Satellite Account by DOSM as a basis, Digital Malaysia has projected a target of 17% ICT contribution to the GDP in 2020.

Secondly, to gauge Malaysia's rank in Digital Economy, the Digital Economy Rankings set by the Economist Intelligence Unit is used. Malaysia is benchmarked against 70 countries with regard to indicators such as connectivity, business environment, social and cultural environment, legal environment, government policy and vision as well as consumer and business adoption. As such, Digital Malaysia's aspiration is to move the needle from its position of 36 to a Top 20 world ranking by 2020.

Lastly, the IMD Competitiveness Scoreboard has been chosen to pin down Malaysia's global position with regard to its overall competitiveness. IMD measures a nation's overall competitiveness by looking at its economic performance, government efficiency, business efficiency and infrastructure. Since 2010, Malaysia has shown a fluctuating Overall Competitiveness, with ranks moving from 10 to 16, 14 and 15 in 2011, 2012 and 2013 respectively. However, improvements can be seen in the areas of economic performance, business efficiency and infrastructure. By 2020, Digital Malaysia hopes to attain a Top 10 position in comparison to its 2010 basis of 16.

At the same, apart from the hard targets Digital Malaysia has set for itself, it is also aiming for a group of desired outcomes by 2020 such as Increased Wealth, Enhanced Productivity and Improved Standard of Living. What this means is that besides attaining the targeted GDP contribution and desired world rankings, Digital Malaysia also strives to help the nation gain higher income, promote higher productivity amongst SMEs and suggest ways for improved standard of living amongst ordinary citizens with the aid of ICT and digital technology.



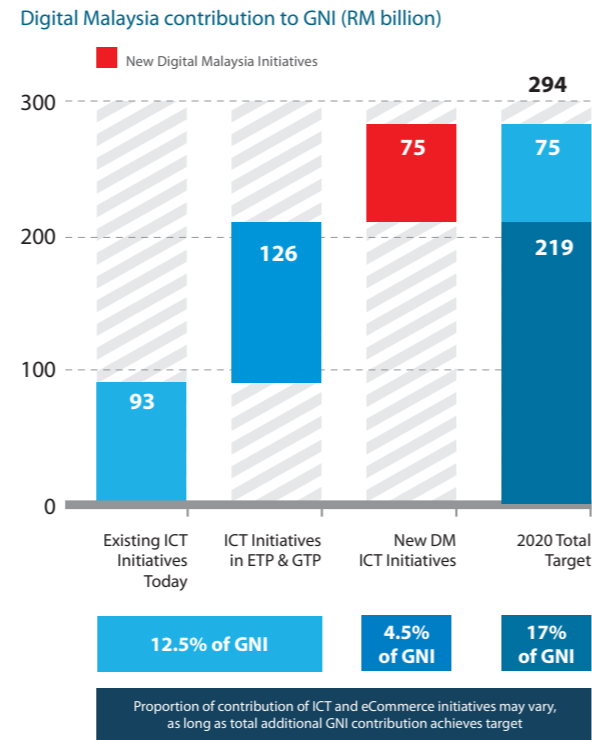
**Generate incremental contribution of RM75 billion to Malaysia's GNI over and above the prevailing plans**

At present, Malaysia's ICT initiatives contribute about RM93 billion to the country's GNI. Coupled with the planned initiatives under the ETP and GTP, this figure is projected to increase to RM219 billion with the latter programmes contributing RM126 billion by 2020. This will bring ICT contribution to the nation's GNI to 12.7% by 2020.

In order to reach the 17% total contribution target, Digital Malaysia intends to contribute another RM75 billion to the country's GNI by 2020 through the injection of investment totalling RM31.1 billion from the public and private sector and the creation of 160,000 high-value jobs. Hence, bringing the total digital economy GNI contribution to 17%, equivalent to RM294 billion by 2020.



**Projected GNI for Digital Malaysia In 2020**



Note: Calculation is based on the assumption of 0.192 contribution to revenue ratio of eCommerce. This is based on the comparison of ICT revenue versus GDP contribution; the graph only represents the digital steps in the value chain and not the analogue steps; contribution percentages are based on RM1.7 billion GNI target in 2020.

**Raise productivity of new jobs created to increase Malaysia's global competitiveness**

To further enhance Malaysia's competitiveness in the global market, Digital Malaysia initiatives need to create more jobs that will at least double the ICT contribution to approximately RM234,000 per job by 2020.

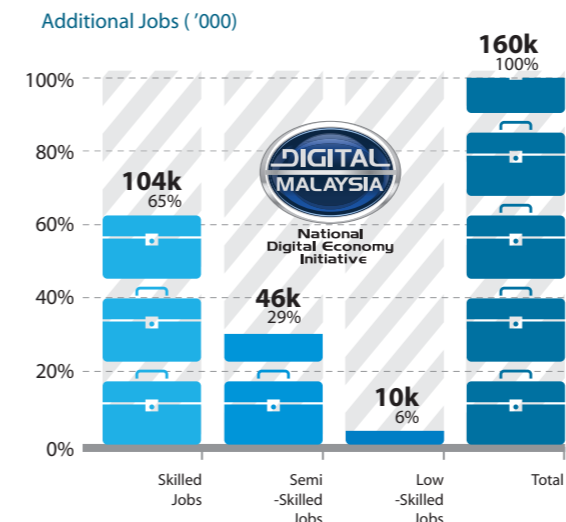
**Increase SME productivity**

Digital Malaysia is also putting emphasis on the push to automate and encourage 100,000 SMEs to adopt technology for national productivity. A year-on-year productivity growth of 11.5% with an additional 1% SME contribution to the economy are the targets set for this sector.

Malaysian SMEs currently have very low business ICT adoption rate of only 20%. They also tend to engage in low knowledge-intensive activities which lead to low outputs. The average SME productivity is estimated at RM50,498 per employee as opposed to RM140,691 per employee for larger firms. As such, contribution from this sector to the nation's GDP remains low at 32.5%, compared to Japan where SMEs contribute more than 55% to the country's GDP (Source: SME Corp Annual Report 2012).

Digital Malaysia will address this by promoting innovative business models that aim to spur higher adoption of ICT among SMEs. With the implementation of these projects, Digital Malaysia will empower SMEs to increase the productivity of their employees by automating their operations and utilising digital tools to enhance efficiency.

**With Additional 160,000 Jobs**



**Enhance Malaysian standard of living through digital economy**

The successful implementation of Digital Malaysia not only depends on increasing ICT contribution to GNI, jobs creation and SME productivity, but also improving the standard of living of Malaysians which will be based on the 11 Quality of Life (QoL) indicators as defined by the Malaysian Quality of Life Index. These QoL indicators include income and distribution; working life; transport and communication; health; education; housing; environment; family life; social participation; public safety; and culture and leisure.

Initiatives have been put in place within Digital Malaysia to create new sources of income for Malaysians that includes the advocacy of the adoption of New Digital Business Models (NDBM). These initiatives will help boost entrepreneurship among Malaysians as well as narrow the digital divide between the urbanites and the rural and marginalised groups of the nation. It is envisaged that through digital intervention, the population's standard of living will be increased regardless of its location or social standing.

It is projected that about 350,000 Malaysians are able to earn an additional RM7,000 per year through entrepreneurship and the usage of the NDBM.





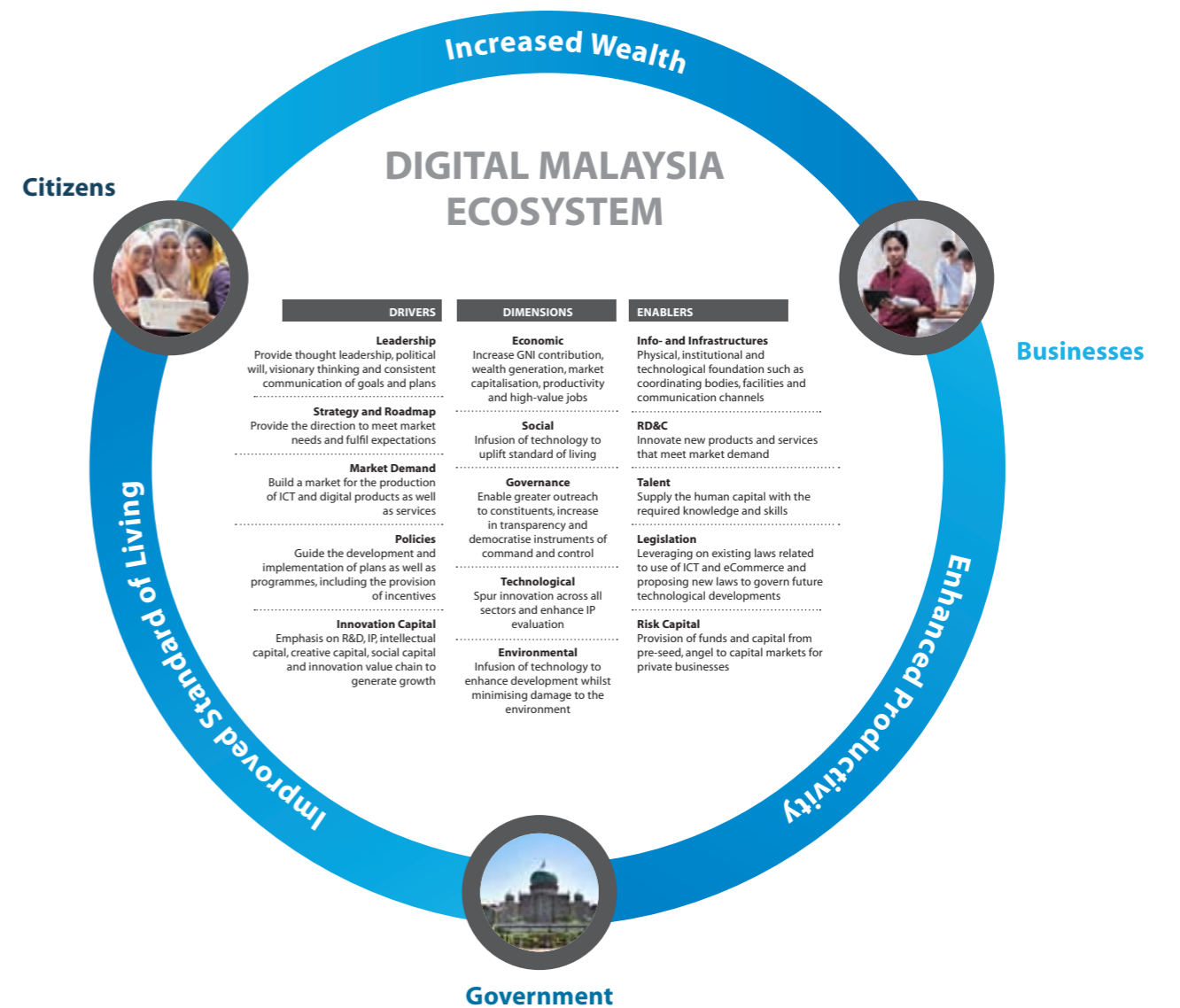
### The Digital Malaysia Ecosystem

The Digital Malaysia initiative is anchored on the establishment of a vibrant digital ecosystem that caters to the needs and requirements of the three main stakeholders - the government, businesses and citizens. Each stakeholder's pain point will be addressed based on their respective hierarchy of needs with the following respective aspirational goals set out as follows:

|   |  |
|---|--|
|   | <h4>Government</h4> <p><b>Raise national competitiveness by:</b></p> <ul style="list-style-type: none"> <li>• Building a conducive digital economy to enhance the country's national competitiveness</li> <li>• Improving transparency, accountability and responsiveness in public service</li> <li>• Working towards a greater digital participatory economy</li> </ul>  |
|  | <h4>Businesses</h4> <p><b>Build global players by:</b></p> <ul style="list-style-type: none"> <li>• Creating new sources of growth by enabling digital participation in the larger global market</li> <li>• Accelerating the adoption and smarter use of technology to improve productivity and sustainability</li> <li>• Building digital skills and confidence</li> <li>• Encouraging more development of sustainable online content models and digital goods</li> </ul> |
|  | <h4>Citizens</h4> <p><b>Improve standard of living by:</b></p> <ul style="list-style-type: none"> <li>• Using digital means to interact socially, and exploiting technology to enhance societal well-being</li> <li>• Adopting online business models for wealth creation</li> <li>• Enhancing digital participation in governmental processes</li> <li>• Fostering digital confidence and digital media literacy</li> </ul>   |

The ultimate objective of this ecosystem is the creation of a holistic and sustainable economy that will propel other sectors towards achieving the three Digital Malaysia outcomes – Increased Wealth, Enhanced Productivity and Improved Standard of Living.

At the heart of the ecosystem are the Digital Malaysia elements which are divided into Drivers and Enablers that will support demand-driven initiatives framed out by five Dimensions. Dimensions represent impact areas where outcomes are desired; while Drivers and Enablers denote the backbone of the ICT industry.



It is envisaged that Malaysia's digital economy has direct impact on the overall economy of the nation and has a multiplying effect whereby the success of each Digital Malaysia element is dependent on the other, working together towards national aspirations for a digitised nation that yields greater socio, political and economic benefits whilst empowering the nation by increasing wealth, enhancing productivity and uplifting standard of living.



**Dimensions within Digital Malaysia**

Dimensions represent areas where positive impact would bring beneficial change to the country. Programmes or projects developed for the Dimensions are demand-focused, where proposals are made based on needs and requirements rather than those created based on supply. Once demand is identified, existing supply and infrastructure can be better utilised while new ones can be created.

|   |                                |   |
|---|--------------------------------|---|
|    | <b>Economic Dimension</b>      | Increase contribution to GNI by generating wealth and increasing market capitalisation as well as raise productivity and creating high-value jobs with digital technology as their critical enabler.  |
|    | <b>Social Dimension</b>        | Improve the standard of living of Malaysians by encouraging them to adopt ICT and embrace real-time technology that may increase their inclusiveness and participation in government, businesses and society.   |
|    | <b>Governance Dimension</b>    | Enhance efficiency and security, promote transparency and accountability, increase responsiveness in public service and heighten the civil service's push towards greater digital participation.  |
|    | <b>Technological Dimension</b> | Enable productivity and innovation by encouraging smarter use of technology, creation of high value intellectual property across all sectors, which will ultimately springboard local solution providers to become national, regional and global suppliers. |
|  | <b>Environmental Dimension</b> | Create a sustainable future through the advocacy of green technology that will enhance efficiency in industries, cut down resource wastage as well as reduce the nation's carbon footprint.   |




**Drivers and Enablers for Digital Malaysia**



In developing demand-focused programmes within Digital Malaysia, certain select drivers and enablers need to be streamlined and strengthened to provide the necessary support and facilitation for the said programmes.

Essentially, the roles played by the Drivers and Enablers are to engage multiple players from both the public and private sectors in order to align the Dimensions with the national programmes as well as to initiate the actions that are necessary to enhance and strengthen key areas.

At the same time, they ensure the effective implementation of the Digital Malaysia and other national initiatives via actions like syndication management, establishment of each programme's natural homes and thought leadership.

Drivers for Digital Malaysia have been identified as follows:

|   |                             |   |
|---|-----------------------------|---|
|  | <b>Leadership</b>           | Provide thought leadership, political will, visionary thinking and consistent communication of goals and plans. |
|  | <b>Strategy and Roadmap</b> | Establish the direction to meet market demands and fulfil expectations.   |
|  | <b>Market Demand</b>        | Develop market for the production of ICT as well as digital products and services.                              |

|   |                           |   |
|---|---------------------------|---|
|  | <b>Policies</b>           | Guide and monitor the development and implementation of initiatives as well as programmes, including the provision of incentives.                               |
|  | <b>Innovation Capital</b> | Increase focus on Research and Development (R&D), Intellectual Property (IP), intellectual capital (intangible assets) and creative capital to generate growth. |

While the five Enablers are:

|   |  |  |
|---|--|--|
|    | <b>Infostructure and Infrastructure</b>            | Ensure the existence of physical, institutional and technological foundation such as coordinating bodies, facilities and communication channels for the development of digital technologies. |
|    | <b>Research, Development and Commercialisation</b> | Innovate with new and existing products and services that meet current and future market demand.   |
|   | <b>Talent</b>                                      | Ensure the nation's human capital has the required knowledge and skills for current and future job requirements.   |
|  | <b>Legislation</b>                                 | Enact and update the necessary laws governing the use of ICT, eCommerce and the development of digital technologies and their related applications.  |
|  | <b>Risk Capital</b>                                | Provide funds and capitals for start-ups, angel investors and capital markets for private businesses.  |

**Being a Part of Digital Malaysia's Success Story**

For Digital Malaysia to realise its full potential, the ecosystem has to be one that is all encompassing and sustainable. Each element within the Drivers, Enablers and Dimensions of Digital Malaysia need to be in support of one another with an underlying doctrine of an effective Public-Private Partnership (PPP). In this context, the PPP doctrine emphasises the need for both sectors to work together in order to achieve the greater good, with the private sector playing a more active role in realising national agendas and the public sector giving ample support to create a conducive business environment.

All three stakeholder groups are welcomed to contribute to the development and implementation of Digital Malaysia through a structured ideation process that are held on a yearly basis. The ideation workshop, commonly known as the Digital Malaysia Labs, will be an avenue where ideas on new business initiatives as well as enhancement of existing ones are developed within a collaborative environment.

Ideas from all participants can contribute to the enhancement of the areas under Digital Malaysia's Dimensions, Drivers and Enablers, and collectively, they will drive Malaysia towards a fully-developed digital economy by 2020.

### Digital Malaysia's Game-Changing Strategic Thrusts

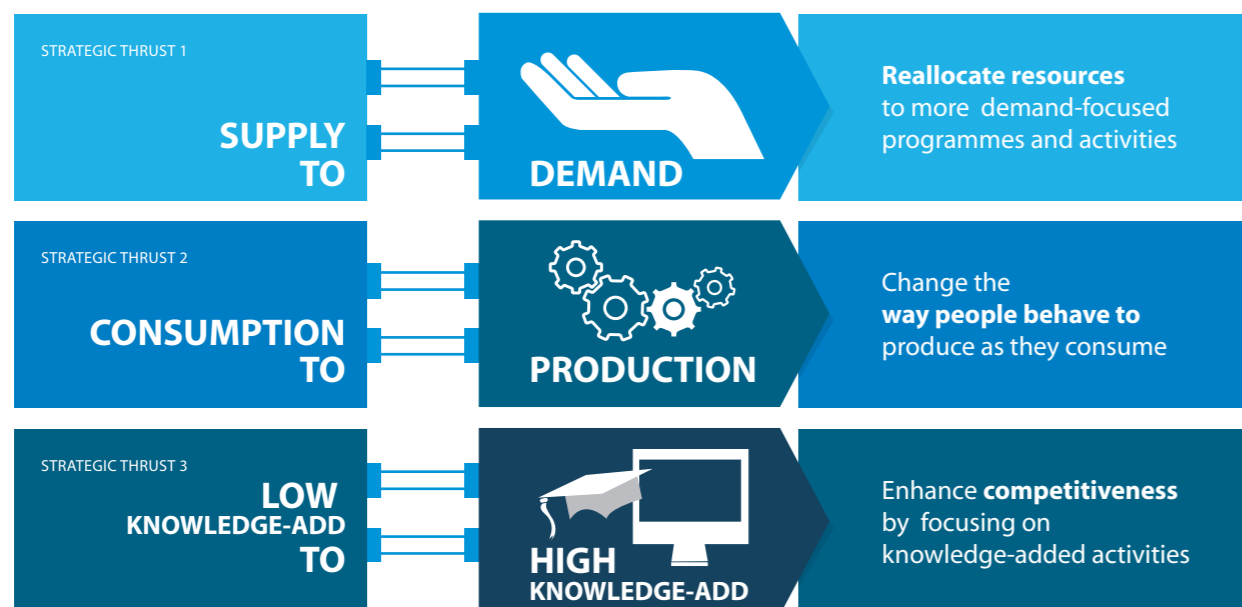
To join the ranks of the high-income economies, Malaysia can no longer rely on business-as-usual strategies and policies that have previously propelled the nation from low-income to middle-income status.

To make up the shortfall, the nation has to reinvent itself into an economy and society that generates innovative products and services that it can market to the rest of the world. We have done this on more than one instance – first by migrating from an agriculture-based economy and agrarian community to an industrial production economy and skills-based talent pool, then to a service-based economy and knowledge-based society.

Once again, our nation is at a crossroads. The nation has already kick-started transformative efforts through the ETP and GTP programmes that concentrate on identified NKEAs. Coupled with existing nationwide economic programmes, the ETP and GTP hope to be among the main engines of growth for the country.

However, with only seven more years to reach the goals of Vision 2020, efforts are needed to be stepped up and Digital Malaysia hopes to be a catalyst and an enabler to such efforts via a set of strategic thrusts. Digital Malaysia can only achieve that by adopting certain game-changing efforts.

The strategic thrusts of Digital Malaysia are seen as a game-changing focus of the initiative. In other words, the country cannot just rely on business-as-usual efforts, but to focus on certain strategies that will deliver the best result for the initiative.



The first strategic thrust - **move from supply to demand-focused activities** - requires the reallocation of resources to more demand-focused initiatives. Based on the 10MP, the Malaysian public sector spent almost 54% of its ICT investment on developing information-based infrastructure (Source: MDeC). Initiatives such as the High Speed Broadband (HSBB) project and the MSC Malaysia initiative have successfully provided the necessary ICT infrastructure as well as the talent and enterprise pool to support the nation's transformation plan. To fully benefit from these initiatives, Digital Malaysia will concentrate on kick-starting demand-focused activities that will ensure maximum usage of the available information and infrastructure. It is hoped that these efforts will enhance the ROI before the infrastructure and soft skills become obsolete. Additionally, Digital Malaysia will concentrate on developing new sources of growth that will create high-value jobs.

The second strategic thrust – **shift from consumption to production** - aims to change the way Malaysians behave and think, and to encourage them to produce as they consume. Malaysian netizens consume information and use the internet extensively for social networking, news and research but have not fully capitalised the internet for revenue generation. Digital Malaysia intends to create platforms and programmes to nurture and grow netizens from consumers to producer-consumers or 'prosumers'. It also plans to create new income generation opportunities via new digital business models.

The third strategic thrust – **evolve from low to high knowledge-added activities** – seeks to enhance our level of competitiveness by focusing on high knowledge-added activities. Currently, Malaysian companies have low business ICT usage, as well as low knowledge-intensive activities and outputs. Malaysian SMEs' contribution to GDP also remains low, at 32.5%, while ironically SMEs make up the biggest component of the economy at 97.3% (Source: SME Corp Annual Report 2012). Digital Malaysia will promote innovative digital business models that will drive the creation of high-value products and services. Through its projects, it will also target to increase productivity of employees through automation and innovative digital tools.

These three strategic thrusts will shape Digital Malaysia's initiatives where focus will be on high impact results and speed of delivery. The initiatives that will serve as Digital Malaysia's priority areas are:

- Tap the demand for digital goods and services
- Improve citizen's income
- Nurture digital-savvy youth
- Increase SMEs productivity by encouraging entrepreneurship

Additionally, the three strategic thrusts will also influence the Digital Malaysia projects identified in Block 1, 2 and 3 as well as the current, existing and new projects by the government ministries, agencies and the private sector.

It is equally important to give due recognition to game-changers who will play an important role in creating significant impact in the marketplace and drive the digital transformation.



#### Move from Supply to Demand-Focused

##### Key Factors of Change

1. Reallocate public resources to more demand-focused activities.
2. Initiate more demand-focused research and development activities to identify market trends, consumer behaviour and insights, distribution channels, market forecast, etc.
3. Enhance the Public-Private Partnership (PPP) model by improving and creating private sector-driven policies and legislations.
4. Drive domestic direct investments (DDI) to reduce reliance on foreign direct investments (FDI) and public investments.
5. Maximise usage of existing info and infrastructure to enhance ROI before obsolescence sets in.
6. Develop industries, especially new sources of growth that create high-value jobs.

Digital Malaysia aims to create 4,000 digital entrepreneurs in the marketplace and establish leadership in new niche areas. In order to realise these aspirations, Digital Malaysia needs to create effective and efficient channels for production and distribution to help companies reach the targeted local and global markets.



Source: spad.gov.my

Demand within the digital space has increased over the years. Addressing what is needed by the nation can lead to enhanced standard of living and more efficient use of resources.

**Case Example 1:  
Addressing Urban Transportation Woes**

- GTP's newly completed Integrated Transport Terminal in Salak Selatan is complete with digitised ticketing and transport information services.
- A Performance Monitoring Hub System (PMHS) is also currently being developed.

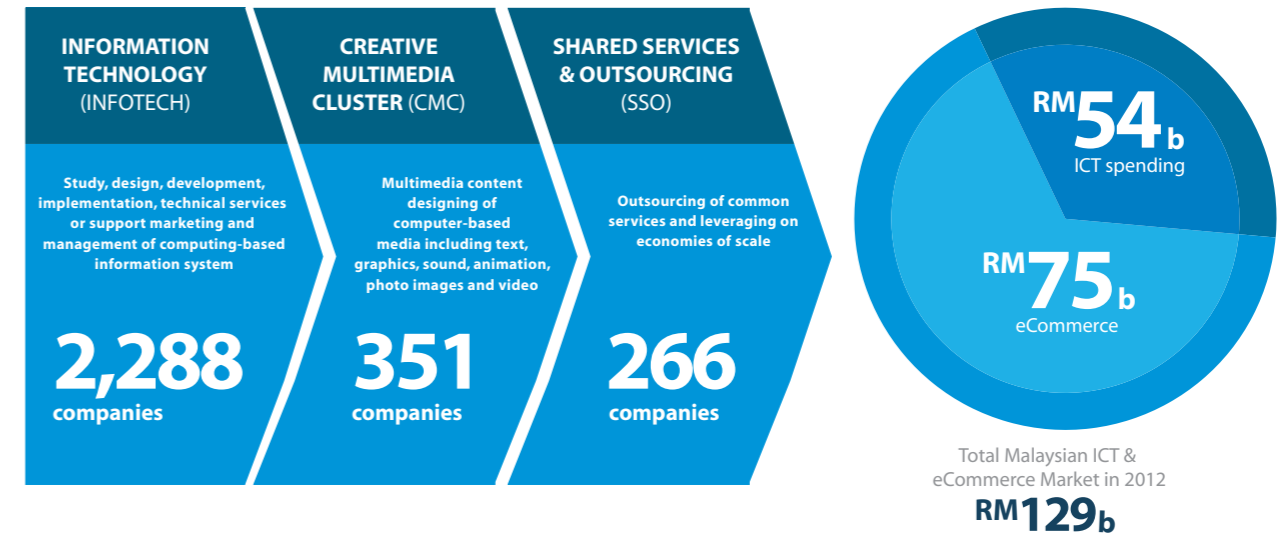


Source: pemandu.gov.my

**Case Example 2:  
Telemedicine to Improve Healthcare Services**

- ETP's 'Creating a diagnostic services nexus to achieve scale in telemedicine for eventual international outsourcing' project aims to cut down cost and time for radiology diagnostics services.
- Pilot hospitals such as Hospital KL, Hospital Selayang and the University Malaysia Specialist Centre are equipped with a centralised DSN Reporting Centre that services nationwide healthcare needs.

**Nurturing efforts have created a strong domestic ICT industry that fights for a small local market**



Malaysia already has in place the infrastructure for good connectivity through internet and mobile phones where:

- 81% broadband penetration in populated areas;
- 133% mobile penetration where every one in two Malaysian owns a smartphone; and
- More than 2,600 broadband community centres that can be used as work location.

For the ICT industry to expand, it is vital for both the government and businesses to redistribute their resources to activities that are more demand-driven or more customer-centric. Fundamentally, the government should give emphasis on activities such as incentives to grow selected emerging sectors as well as funding for specific areas of product or service offering. For the business sector, they should be encouraged to explore opportunities in providing services and products which fulfil consumers' demands that are mostly driven by digital technology.

Those who have succeeded in transforming their business models will reap the benefits from opportunities brought by these technological trends as they will be able to exploit the capabilities to effectively react to existing and new market demands. More importantly, they will be able to survive in the competitive marketplace as they successfully maintained their relevance in this digital age.

Demand within the digital space in the local market has increased over the years through the initiatives implemented by the GTP, ETP and 10MP where 87 out of the 131 ETP's Entry Point Projects (EPP) are ICT-enabled and/or ICT-intensive while 20 National Key Result Areas (NKRA) are ICT-enabled. Under the 10MP, 253 projects are ICT-related. It is projected that the nation's ICT spending from these three transformation plans will total RM175 billion by 2020.





**Shift from Consumption to Production**

**Key Factors of Change**

1. Create platforms and programmes to nurture and grow netizens to become producer-consumers or prosumers.
2. Turn hobbies into income-generating activities with the help of technology to cope with economic upheavals.
3. Create new income generation opportunities via new digital business models.
4. Take advantage of democratised economies and affordable marketing vehicles, and turn the global market into a production-centric environment.

The digital revolution saw Malaysians embracing the internet with open arms. In fact, Malaysians are found to be one of the most actively engaged netizens in consumption-centric activities in the world where their activities are mostly concentrated on social networking, search and navigation.

This was made possible with high broadband household penetration rate of 81%, as at the third quarter of 2011, while there are about 18.3 million internet users or 63.7% penetration rate recorded in the second quarter of 2012. As for mobile penetration, Malaysia has a high percentage of 133% mobile phone users, as at the second quarter of 2012.

There is no doubt that eCommerce is growing in the country but there is still lack of utilisation of the internet as a channel for revenue generation. Malaysians are largely pure consumers of the digital technology. It has been proven that digital technology is an enabler for ordinary citizens to become a producer to generate income through creative means. In 2012, Malaysians' eCommerce spending chalked up to approximately RM75 billion where majority of this spending was channelled to the top three B2C eCommerce segments, namely, 'buying of travel and leisure items like airline tickets, hotel rooms, etc', 'buying of clothing' and 'buying of books, CDs, DVDs, etc'.

To capitalise on this emerging trend, Digital Malaysia plans to develop a new generation of digital-savvy youths and transform them into digital producers. At the same time, an action plan will be activated to encourage more Malaysians, especially those from the B40 group who have been categorised as those who are living on average monthly household income of RM1,440 to become entrepreneurs by adopting digital business models and technology to unlock new sources of income which will inevitably improve their standard of living.

**Technology breaks traditional business shackles and democratises it, enabling ordinary citizens to increase their income creatively**



**Evolve from Low to High Knowledge-Added Activities**

**Key Factors of Change**

1. Promote innovative digital business models that will drive the creation of high-value products and services.
2. Repurpose local talent via training and re-skilling efforts to move employees from low knowledge-add to high knowledge-add.
3. Increase productivity of employees through automation and innovative digital tools.
4. Drive continuous and accelerated innovation to keep up with the pace of technology.
5. Encourage greater personalisation of products and services to cater for niche but lucrative markets via engagement in high-value knowledge-intensive activities.

Malaysian SMEs presently have low business ICT usage with only 20% of SMEs using IT extensively in their daily operations. According to the McKinsey's report on 'The Internet Impact on Aspiring Countries', Malaysia's score for Consumer and Business adoption rate is at 5.80, ranking it at 36th place compared to Sweden which was ranked number 1 with an 8.75 score.

Most Malaysian SMEs tend to pursue low knowledge-intensive activities and outputs with little emphasis on innovation. This was evident from Malaysia's 31st placing in the Global Innovation Index 2011, as compared to its neighbour, Singapore which secured third placing.

In addition, majority of the SMEs believe that adopting technology into their fold will involve high capital expenditure (CAPEX). However, they were unaware of the possibility of shifting ICT spending from CAPEX to operational expenditure (OPEX).

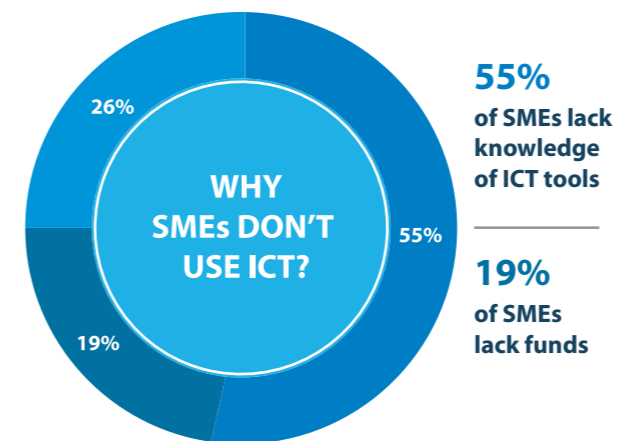
Insufficient technology adoption and reliance on unskilled workers have led to low productivity level by SMEs where they contribute only 32.5% to the country's GDP. In Japan, SMEs contribute about 55% to the nation's GDP. Additionally, the average SME productivity is estimated at RM50,498 per employee as opposed to the productivity of RM140,691 per employee of large firms (Source: SME Corp Annual Report 2012).

For Malaysian SMEs to keep up with the changing business and market landscape as well as increase their competitiveness in the global market, they will need to move up the value chain and embrace technology. They will have to adopt innovative business models and technology to increase the productivity of their employees and create high value-added products and services as well as ensuring significant growth in their contribution to the nation's GDP.

Investment in ICT capital is vital in order to benefit from advancement in ICT. While technological advancement in the past were centred on manufacturing, ICT capital is a technology that can permeate the economy and bring about significant production gains in trade, finance, transport and communication.

Digital Malaysia outlines a plan to drive Malaysian SMEs to automate and utilise technology for productivity growth which will also help them to reduce operational costs. Among the programmes that will be initiated are enterprise enablement and eCommerce projects, which include providing economic incentives for SME technology adoption.

With the implementation of these initiatives, Digital Malaysia aims to impact a minimum of 100,000 Malaysian SMEs and increase their productivity growth to 11.5% on year-on-year basis by 2020.



Knowledge-intensive initiatives can enhance companies' ability to compete more effectively and efficiently, as well as enable industry players to move up the sectoral value chain.



**Traditional vs Smart Agriculture**

Felda Agricultural Services and MIMOS collaborated in developing the world's first intelligent plantation using remote and accurate monitoring of soil conditions and crop parameters in 740,000 hectares of Felda estates to produce better crops on demand.



**From manufacturing assembly to embedded systems design**

Local company, Pradotec, helped the nation move from a mere assembly line player to the top echelon of the embedded systems industry by producing a home-grown mobile ePassport reading device, utilising the Intel Atom Z510 processor.

**Identifying the communities**

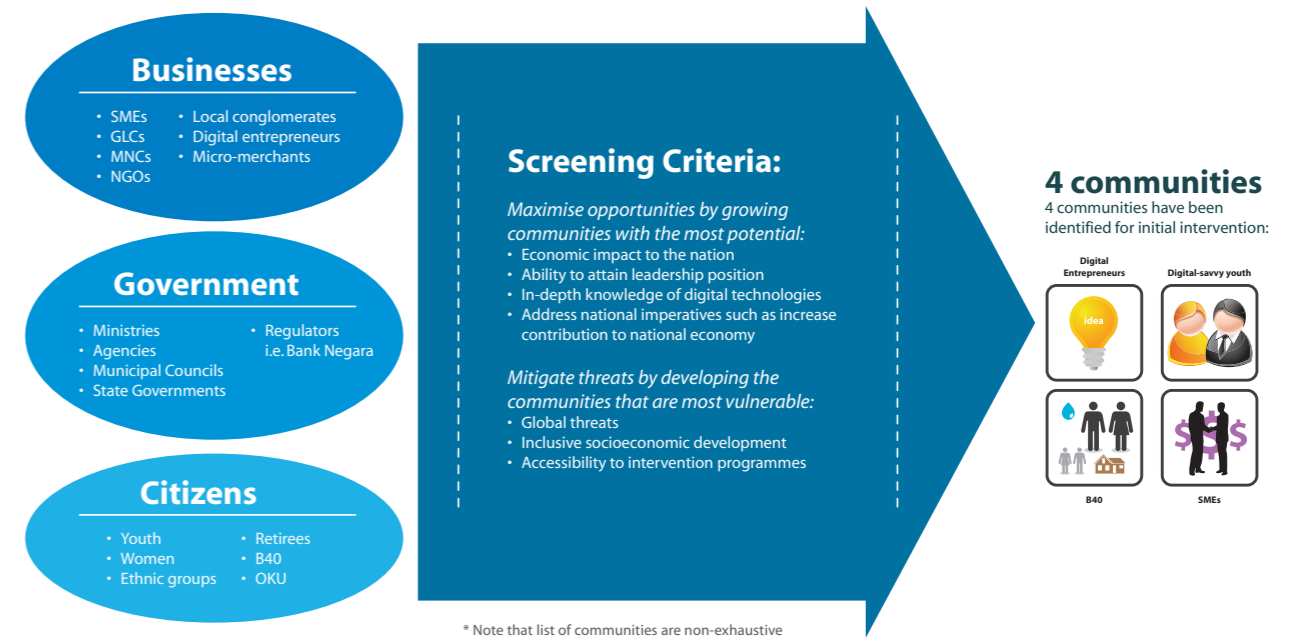
The initiatives selected to drive the Digital Malaysia Strategic Thrusts will impact the three stakeholders mentioned earlier, namely the citizens, businesses and government. To make sure that the benefits of pervasive use of digital technologies are effectively delivered, the stakeholders need to be defined further. This was achieved by prioritising communities who are receptive and will benefit most from digital intervention, communicating and obtaining the buy-in from relevant stakeholders, and facilitating engagement with prioritised connected communities through a participatory platform.

A screening matrix was utilised to narrow down the focus to ensure the right targeted connected communities are chosen. As a result, four communities were ascertained, namely digital entrepreneurs, the bottom 40% of the income group or the B40 group, the digital-savvy youth and SMEs.

With the identification of these four communities, Digital Malaysia hopes to create holistic solutions via the opportunity based approach (OPPA) and outcome-driven approach (DOBA) to achieve optimum results from the Digital Malaysia initiatives.

Fundamentally, OPPO is based on the notion of spurring people's creativity by providing them with the right opportunity such as provision of better infrastructure, training, certification and financial capital.

On the other hand, initiatives from DOBA are implemented with the end result in mind, especially with high consideration of market and community demands. By working backwards, the best approaches, routes and players are identified to achieve the agreed milestones. This approach works particularly well if there is a constraint in resources and time to deliver the desired results or outcomes.

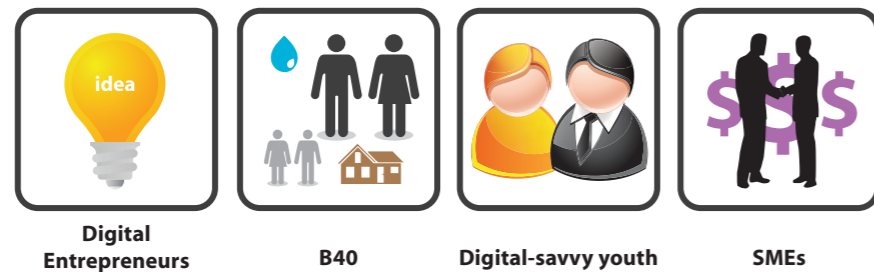




### Digital Malaysia initiatives

Four initiatives were subsequently earmarked to push the communities towards achieving their aspirations and goals. The first initiative encapsulates projects that are formulated to create demand for digital products and services. In the second initiative, Digital Malaysia aims to increase citizen income and propagate entrepreneurship among the B40 group while the third initiative involves efforts to nurture a new generation of digital-savvy youth in the country. Meanwhile, the fourth initiative concentrates on increasing the productivity of the SMEs, regarded as one of the nation's engine of growth.

#### PERVASIVE USE OF DIGITAL TECHNOLOGIES



#### IMPACT CREATION IN DIGITAL MALAYSIA INITIATIVES

|   |  |
|---|--|
| <p>STRATEGIC THRUST 1</p> <p>SUPPLY TO DEMAND</p> <p>Reallocate resources to more demand-focused programmes and activities</p> <p><b>1,000 digital entrepreneurs</b></p> <p><b>Create leadership in new niche areas</b></p> <p><i>Capture new opportunities in the ICT landscape by focusing on new digital technologies/models such as cloud enterprise applications, gamification, micro-sourcing and data analytics.</i></p> | <p>STRATEGIC THRUST 2</p> <p>CONSUMPTION TO PRODUCTION</p> <p>Change the way people behave to produce as they consume</p> <p><b>5 million digital-savvy</b></p> <p><b>Catalyse producers of digital goods and services</b></p> <p><b>53% of workforce are digital-savvy producers</b></p> <p><i>Empower the next generation of workforce with digital skillsets and productive use of digital tools.</i></p> |
| <p>STRATEGIC THRUST 3</p> <p>LOW KNOWLEDGE-ADD TO HIGH KNOWLEDGE-ADD</p> <p>Enhance competitiveness by focusing on knowledge-added activities</p> <p><b>1 million citizens</b></p> <p><b>RM7,000 average digital income per annum</b></p> <p><i>Increase income of 1 million citizens via digital means to uplift standard of living.</i></p>   | <p>STRATEGIC THRUST 4</p> <p>LOW KNOWLEDGE-ADD TO HIGH KNOWLEDGE-ADD</p> <p>Enhance competitiveness by focusing on knowledge-added activities</p> <p><b>Impacts minimum of 100,000 Malaysian SMEs</b></p> <p><b>Additional 1% SME contribution to GDP</b></p> <p><i>Drive technology adoption amongst Malaysian SMEs to enhance productivity.</i></p>  |

Under the first initiative - **Tap demand for digital products and services** – Digital Malaysia will emphasise on demand-focused activities in line with the first Strategic Thrust. This will be achieved by catalysing digital entrepreneurs to harness the demand opportunities for digital products and services in the marketplace, which have been created mainly through the ETP, GTP and the 10MP programmes.

To help elevate the revenue and growth for the ICT industry, the initiative will also include five growth areas, namely cloud computing, embedded systems, gamification, enterprise mobility and eCommerce.

From this initiative, Digital Malaysia aims to create 1,000 digital entrepreneurs in the marketplace and establish leadership in new niche areas.

The second initiative - **Increase citizen income and unlock entrepreneurship potential for B40 group** – focuses on elevating the standard of living of the B40 community. Through this initiative, the B40s will be introduced to digital-based platforms and have access to channels that will unlock new sources of income.

This initiative targets to help the B40 community attain higher quality of life through new income avenues by introducing various innovative income generation opportunities and creation of job opportunities.

Digital Malaysia's third initiative - **Nurture a new generation of digital-savvy youth** – aims to establish a strong foundation for youths to improve their competitiveness in the economy, and to ensure that they are employed in mid- to high-skilled jobs.

This initiative targets to transform five million school-going children (aged between 7-18 years old) into a new generation of digital-savvy youth who are ready to be digital producers in 2020. Playing a pivotal role in achieving the Strategic Thrust of moving from consumption to production, this initiative will have a positive impact in creating an ICT-literate society, creating a 53% workforce that is not only digital-savvy but are equipped to be the producers of digital goods and services.

The fourth initiative - **Enhance SME productivity** – aims to encourage SMEs to utilise digital business models, ICT and operational technologies to elevate their productivity level. While SMEs account for a large proportion of businesses in Malaysia, representing 97.3% of total business establishments and contributing 32.5% to GDP (Source: SME Corp Annual Report 2012), most SMEs lag behind in innovativeness and have very poor technology uptake.

In line with the Strategic Thrust of moving from low to high knowledge-added activities, this initiative focuses on technology adoption amongst SMEs, impacting a minimum of 100,000 SMEs in an effort to increase their productivity growth and contribute an additional 1% to the country's GDP by 2020.

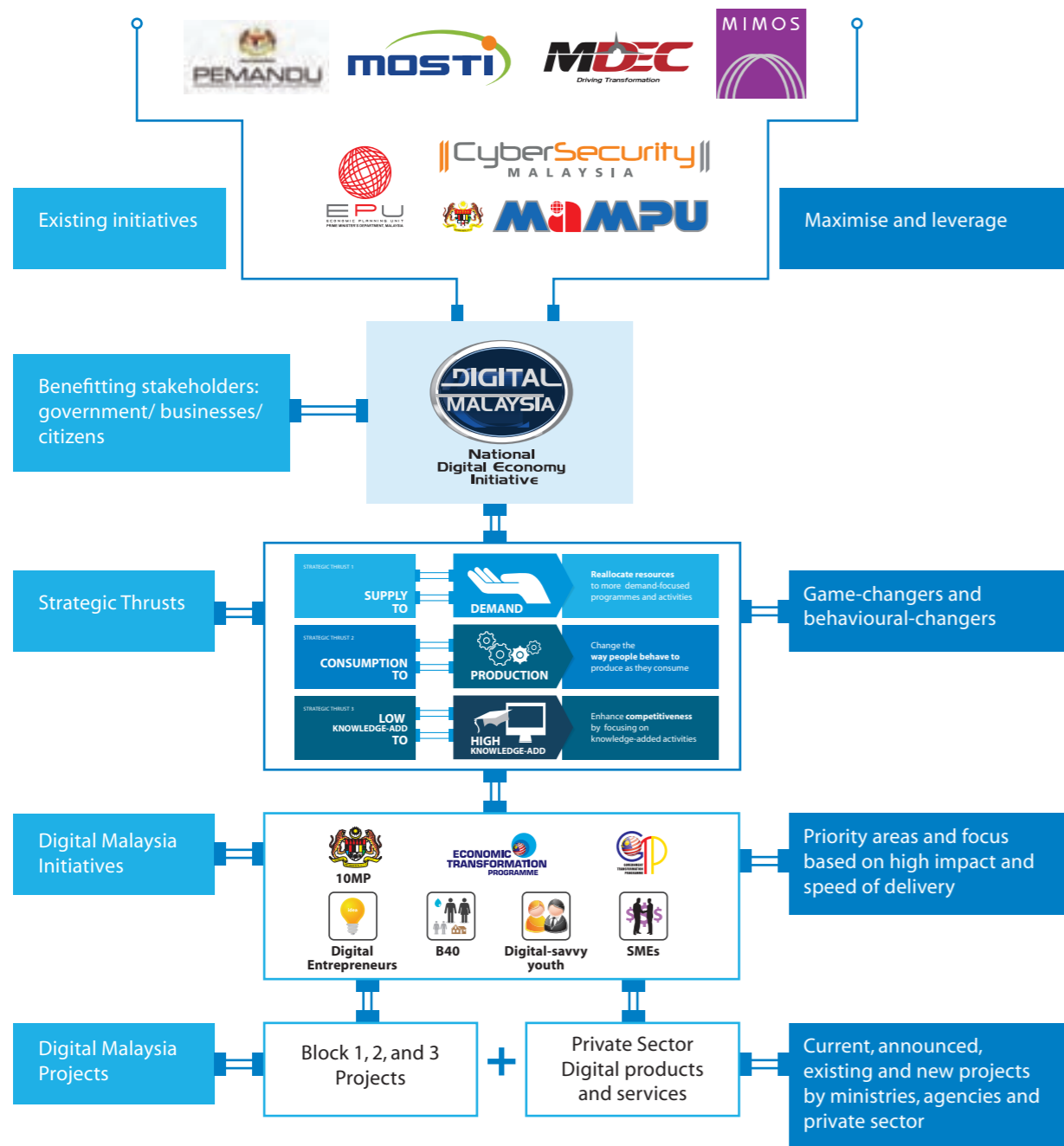


### Concerted efforts towards achieving Digital Malaysia

In order to better harness the power of the digital age, a more structured and cohesive approach is needed to nurture and coordinate efforts to exploit the opportunities that arise, while maximising existing benefits and extending the adoption of digital technology and knowledge to a wider segment of the economy and society.

As such, it is essential for us to identify what we have and what we need to have in order to bridge the existing gaps. To achieve this, a comprehensive stock-take of all existing ICT initiatives has to be conducted to prevent the potential for overlap in the development of initiatives for Digital Malaysia.

By taking on a holistic approach, Digital Malaysia will be able to complement and augment the components already in place for Malaysia's national transformation towards a fully-developed nation by 2020.



**“Leveraging on past and present initiatives, Digital Malaysia is designed to complement, enable and enhance the nation’s overall transformation agenda by focusing on programmes and initiatives that will develop innovation, productivity and competitiveness within the governmental, business and social environments.”**



## Conducive environment for a fast-paced economy

*To be on par with the developed nations, a country needs to build an advantageous economic platform. Thus, it is Digital Malaysia's aim to realise Malaysia's vision to be a developed and high-income country - building a beneficial digital economy to enhance the country's national competitiveness*

### PART E

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# Key Achievements In 2011

## Digital Transformation Programme Milestones

The year 2011 and 2012 formed the foundation years of the Digital Transformation Programme (DTP), which saw the development of the Innovative Digital Economy (IDE) Framework, building of extensive syndications with various stakeholders and think-tanks, the ideation of new projects and the start of its implementation.

### YEAR 2010

#### Oct 2010

The Prime Minister mandated MDeC to develop the IDE Framework during the MSC Malaysia Implementation Council Meeting (ICM)



#### 13 July 2011

Digital Malaysia Labs (DM Labs) Onboarding Session – a prelude to the five-week DM Labs



#### 18 July-19 Aug 2011

DM Labs 2011 – the inaugural DM Labs, jointly organised by MDeC, PEMANDU, MOSTI, MAMPU, EPU, MOF and the Prime Minister's Office (PMO)



#### Sept-Oct 2011

Syndications with various stakeholders and think-tanks on outputs of the Digital Malaysia Labs 2011:

- National Information Technology Council (NITC)
- Relevant GTP and ETP (Content, Communications and Infrastructure, Business Services, Tourism, Low Income Household, Healthcare)
- Malaysian Communications and Multimedia Commission (MCMC)
- MITI
- SME Corporation
- National Development Planning Committee (NDPC)
- PEMANDU
- EPU
- MAMPU
- Economic Council

#### Dec 2011

Communications and Engagement sessions with:

- Public Sector Chief Information Officers under MAMPU
- JITIK

Digital Economy Satellite Account (DESA) Steering Committee is established

#### 19 Oct 2011

Digital Malaysia presented to the MSC Malaysia International Advisory Panel (IAP) invitees and generated interests for collaboration



#### 19 Oct 2011

Digital Malaysia tabled at the ICM Meeting and approved for implementation



### YEAR 2011

#### Apr 2011

The IDE Framework is developed

#### 17 May 2011

The IDE Framework presented and branded as Digital Malaysia by the Prime Minister at the Global Science and Innovation Advisory Council (GSIA) Meeting in New York

#### May-July 2011

Syndications with various stakeholders and think-tanks to strengthen the Digital Malaysia Framework:

- PEMANDU
- Economic Planning Unit (EPU)
- Ministry Of Finance (MOF)
- Government IT and Internet Committee (*Jawatankuasa IT dan Internet Kerajaan* or JITIK)
- MSC Malaysia International Advisory Members

### YEAR 2011



# Key Achievements In 2012

## YEAR 2012

### 17 Jan 2012

Digital Malaysia showcased at the Cabinet Workshop organised by PEMANDU



### 2 Feb 2012

Inaugural DM Steering Committee (DM SC) Meeting  
 - Formalised steering committee establishment, established scorecard for year 2012 and kick-started the implementation of Digital Malaysia

### 6 June 2012

Workshop on DESA was held, hosted by MOF



### 16 May 2012

Four Digital Malaysia Initiatives were tabled by the Prime Minister at the GSIAC Meeting in New York. Strategic inputs were obtained.

### July 2012

Communications and engagement:

- Digital Malaysia Programme was unveiled at the National Digital Conference (NDC) 2012
- Digital Malaysia Media Announcement was held
- Digital Malaysia Media Channel was launched



### Aug 2012

DESA Online Forum went live at <http://desa.mdec.com.my>

### 10 Aug 2012

Digital Malaysia Awareness Session at the National Civics Bureau (*Biro Tatanegara* or BTN)

### 23 Oct 2012

Presentation on Digital Malaysia Co-Creation Platform at the PEMANDU Townhall Session

### 9 Oct 2012

Ideas and collaboration on Digital Malaysia Initiatives were sought at the IAP and ICM Meetings.

Digital Malaysia Partnership Recognition Ceremony for Digital Malaysia's initial eight projects approved for implementation



### 8 Oct 2012

Ideas and collaboration on Digital Malaysia Initiatives



## YEAR 2012



**2011 KEY ACHIEVEMENTS**

**Inaugural Digital Malaysia Labs and Outcome**

The inaugural Digital Malaysia ideation workshop was held from 18 July to 19 August 2011. Referred to as the Digital Malaysia Labs, the workshop was essentially an ideation quest with set idea creation processes that aim to harness thoughts and inputs of the lab participants who came from various fields. Relevant stakeholders, namely from government bodies, industry players as well as community groups, were invited to participate in the Labs to ideate projects that contribute to the Digital Malaysia aspirational goals, targets and desired outcomes. More than 500 participants from over 154 organisations, agencies and groups participated in the Labs.

During the Lab sessions, emphasis was placed on ideating demand-side initiatives, that is, to create projects catering to market and consumer demands, as well as those that leverage on existing infrastructure and enablers. These projects can also be those that complement, expand and optimise existing national plans and transformative programmes like the 10MP, ETP and GTP. In addition, the Labs were also viewed as a vital avenue to garner agreement from respective stakeholders as well as to prevent duplication of existing projects with the ones proposed.

During the Lab sessions, participants identified potential projects which were later prioritised and filtered to determine the most viable ones, before their full details were developed.



Throughout the five-week period, the 2011 Digital Malaysia Labs received a total of four visits by senior government officials and Ministers who gave invaluable inputs to the development of the Digital Malaysia projects. Among the visitors were:

**YAB Tan Sri Muhyiddin Yassin**  
Deputy Prime Minister

**YB Dato' Sri Mustapa Bin Mohamed**  
Minister of International Trade and Industry

**YB Dato' Sri Idris Jala**  
Minister in the Prime Minister's Department and Chief Executive Officer of PEMANDU

**YB Datuk Seri Panglima Dr Maximus Johnity Ongkili**  
Minister of Science, Technology and Innovation

**Datuk Fadillah Yusof**  
Deputy Minister of Science, Technology and Innovation



**Key Lab Outcome:**

- A total of RM57.2 billion GNI is envisaged from the initial burst of projects developed during the inaugural Lab sessions
- 25 potential projects requiring RM31.1 billion in total investments
  - RM29.6 billion (95.2%) in private sector investments
  - RM1.5 billion (4.8%) in public sector investments
- ~160,000 jobs to be created

**500 people from 154 organisations working over 5 weeks**  
(18 July - 19 August 2011)

**OUTPUTS FROM 1st DM LAB** ▶ **25 projects**

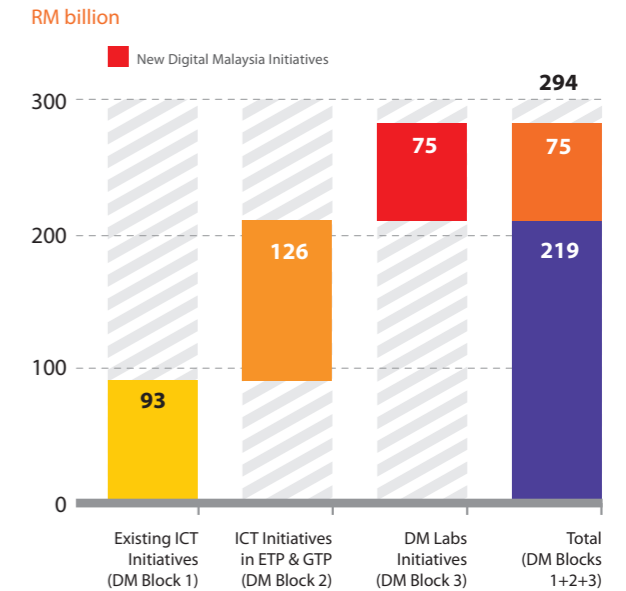
... that are poised to deliver the following in 2020

|                                     |  |                         |
|-------------------------------------|--|-------------------------|
| <b>RM57.2b</b><br>GNI contribution* | <b>RM31.1b</b><br>in total investments** | <b>~160,000</b><br>jobs |
|-------------------------------------|--|-------------------------|

\* this represents the GNI contribution of the initial burst of 25 projects. It is envisaged that future projects will be initiated to achieve the aspirational goal of RM75 billion in 2020

\*\* RM29.6 billion (95.2%) in private sector investments; RM1.5 billion (4.8%) in public sector investments

**GNI Contribution in 2020**



**Digital Malaysia approved for implementation**

Subsequently, the Digital Malaysia Framework and outputs from the Labs were tabled at the 24th MSC Malaysia Implementation Council (ICM) Meeting on 19 October 2012. Digital Malaysia was approved for implementation and the Prime Minister announced Digital Malaysia as the nation's programme to forge ahead and embrace "the global digital revolution" to "drive wealth-creation and enhance standard of living." MDeC is then mandated to lead the Digital Transformation Programme, which will be referred to as Digital Malaysia.

**Digital Economy Satellite Account (DESA) Steering Committee establishment**

A key initiative under Digital Malaysia is the establishment of the Digital Economy Satellite Account (DESA), an account-reporting which consists of the ICT Satellite Account (ICTSA) and other indicators to track ICT impact on the economy. The DESA Steering Committee was established on 1 December 2011, chaired by the Ministry of Finance (MOF). The committee comprises 14 core members and eight additional members. DESA will be further elaborated under Part F – Ideation, Governance and Performance Management.

## 2012 KEY ACHIEVEMENTS

### Cabinet Workshop

Digital Malaysia was presented to the Prime Minister and his Cabinet Ministers at the PEMANDU-led Cabinet Workshop, held at the Putrajaya International Convention Centre (PICC) on 17 January 2012. MDeC's CEO, Datuk Badlisham Ghazali presented Digital Malaysia via a closed-door session to the Prime Minister and the Cabinet, which was then proceeded with a walk-through presentation to all other government dignitaries. Also presented at the workshop were the Corridors and Cities as well as the Rural Transformation Programmes.

### Inaugural Digital Malaysia Steering Committee Meeting

The Digital Malaysia Steering Committee was established to steer and drive the implementation of the Digital Malaysia Programme. The inaugural meeting, which was held on 2 February 2012, marked the start of the Digital Malaysia Programme implementation. The meeting was chaired by Datuk Seri Panglima Dr Maximus Johnity Ongkili, Minister of Science, Technology and Innovation.

Details on the Digital Malaysia Steering Committee will be further elaborated under Part F – Ideation, Governance and Performance Management.

### Digital Economy Satellite Account Workshop and Forum

In 2012, various engagement and input-gathering sessions were organised for DESA. These include:

#### DESA Workshop, 6 June 2012

Attended by 122 delegates from various ministries, agencies and commercial organisations, the DESA Workshop was held as a platform to obtain feedback and wider consensus for key ICT and eCommerce definitions. Two experts from the Australian Bureau of Statistics (ABS) were also invited to join the workshop and share knowledge and experience in the setting-up of the Satellite Account in Australia.

The one-day DESA Workshop was organised and coordinated by MOF.

#### DESA Online Forum, 2-31 August 2012 (<http://desa.mdec.com.my>)

Outputs from the DESA Workshop were published and an online forum channel was established and hosted by MDeC to gain feedback and solicit input from the public and government agencies on the proposed framework for the ICTSA.

The topics of discussion covered four areas:

1. Definitions of ICT and eCommerce
2. Process and Methodology
3. Supply-side indicators
4. Demand-side indicators



The DESA Online Forum commenced on 2 August and ended on 31 August 2012.

Based on the findings of the four working groups, an ICTSA experimental report was published by DOSM in December 2012. The ICTSA experimental report included six primary indicators:

1. Share of ICT industry to GDP
2. Domestic output of ICT products by industry
3. Supply and use of ICT products
4. Imports and exports of ICT products by type of product
5. Income components by ICT industry
6. Employment in the related ICT industry

DOSM will produce the ICTSA annually. The compilation of the ICTSA is based on various sources, namely:

1. Economic Census
2. Annual Survey of Establishments
3. Household Expenditure Survey
4. Household Income Survey
5. Labour Force Survey
6. Trade Statistics
7. Supply and Use Tables
8. Administrative records from other government agencies such as government account
9. Others

“DESA is a good initiative to measure the amount of contribution of the ICT industry to the economy. It is a very broad sector that overlaps with a few other sectors, hence, the existing system of national accounting cannot capture the total contribution.” - Dr Yeah Kim Leng, Chief Economist of RAM Holdings Berhad

Source: DESA Online Forum

### Digital Malaysia Drivers and Enablers Workshop

As a follow up to the first Digital Malaysia Labs, a workshop on the Drivers and Enablers of Digital Malaysia was organised by the secretariat to understand the facets, elements and status of the two Digital Malaysia ecosystem components. As an outcome of the session, the 10 elements within the two ecosystem components were mapped out to their respective and rightful natural home owners.

These 10 elements comprise five each for the drivers and enablers. The driver elements are leadership; strategy; market demand; policies; and innovation capital. While the enabler elements comprise infostructure and infrastructure; research, development and commercialisation; talent; risk capital; and legislation.

Syndication to gain their acceptance and cooperation towards the development of Digital Malaysia were carried out thereafter.

### Progress of Blocks 1,2 and 3

#### Digital Malaysia Block 1 Progress: Existing Nationwide ICT Initiatives

Since the early 1990s, Malaysia has developed and put in place a range of initiatives and projects in a bid to leapfrog the country into the Information Age. These initial initiatives and projects have built a solid foundation for the emergence of the domestic ICT industry. They have also catalysed large investments, spurred R&D to produce ICT products and solutions, as well as promoted the widespread adoption of technology amongst government, businesses and society.

These initiatives and projects encompass mainly supply-side activities carried out by various ministries and agencies, including those under the 10MP, which focuses on laying strong infostructure and infrastructure, creating ICT as a new economic engine, adopting ICT to increase process efficiency and productivity at the government level and strengthening the ICT ecosystem elements. For reference simplicity, we name these initiatives and projects as Block 1 initiatives.



These Block 1 programmes and initiatives are carried out as part of the internal needs and requirements of the respective ministries and agencies or implemented to cater to the national needs as a whole.

Some of the notable on-going ICT programmes and initiatives under Block 1 are:

- MSC Malaysia
- The National High Speed Broadband (HSBB) Initiative
- The Malaysian Information, Communications and Multimedia Services (MyICMS)
- The National Content Policy
- The National Technology Roadmap
- The National Research and Development (R&D) Roadmap

In year 2012, a study was conducted to analyse initiatives and programmes under Block 1. The following are the key findings:

- Block 1 initiatives and programmes can be broadly classified into the following categories - System Development; Computerisation; Infostructure; Research and Development; ICT Industry Development; ICT and Digital Technology Studies; Talent Development; and Funding and Incentives.
- These programmes and initiatives can either be in terms of infostructure and infrastructure development, policy and legislative build-up or R&D.
- A total of 253 projects funded under the developmental budget in the first roll-out plan of 10MP are ICT-related. These exclude approved projects with ICT components that are primarily socioeconomic in nature. Of these 253 projects:
  - 89% comprise projects on computerisation, system development, provision of better computer facilities for schools and enhancing government system delivery
  - 11% are projects aimed at developing ICT as an economic engine and enhancing the ICT ecosystem (for example, R&D, ICT industry development, talent programmes, etc)
  - These projects are being implemented by 20 government ministries, agencies or departments

| Nature of Project                  | No. of Projects | % of spending |
|------------------------------------|-----------------|---------------|
| System development                 | 101             | 39.9%         |
| Computerisation                    | 93              | 36.7%         |
| Infostructure                      | 31              | 12.2%         |
| Research and Development           | 10              | 4.0%          |
| ICT Industry Development           | 7               | 2.8%          |
| ICT and Digital Technology Studies | 6               | 2.4%          |
| Talent Development                 | 4               | 1.6%          |
| Funding and Incentives             | 1               | 0.4%          |
| <b>Grand Total</b>                 | <b>253</b>      | <b>100%</b>   |

Source: EPU, MDeC Analysis 2012

Digital Malaysia will add value to Block 1 initiatives and programmes by ensuring the following desired outcomes are achieved:

- Increase ROI for existing info- and infrastructure by maximising their usage
- Ensure resources are allocated to support the targeted demand-focused programmes to yield maximum impact
- Infusion of ICT and digital technologies across the government sector to drive productivity and innovation
- Creation of robust ICT and digital technologies solutions that can meet the demand arising from the 10MP, resulting in making Malaysia an innovative producer of ICT and digital technology solutions

To contribute to the desired outcomes, Digital Malaysia works closely with EPU and relevant agencies on the following:

- Ensuring all initiatives and projects proposed under Digital Malaysia look into scanning of existing infostructure and infrastructure, assess collaboration potential and where possible, to leverage on them instead of creating new ones.
- Streamlining initiatives and projects under the 10MP to ensure the necessary ecosystem is created or enhanced to support demand-focused programmes such as Digital Malaysia, GTP and ETP.

c) Identifying gaps and recommending potential intervention to ensure the holistic infusion of ICT and digital technologies across the government sector to drive productivity and innovation. Identified gaps can set the basis for the ideation of new projects by the private sector premised on the Public-Private Partnership (PPP) model to accelerate innovation in the government sector.

d) Aggregating demand to create leverage point opportunities:

- The 10MP will create new local demand for digital products and services; contributing to Malaysia's projected ICT spending of RM95 billion by 2020.
- Understanding the requirements will help prepare the local industry to meet the demand arising from the 10MP.

### Digital Malaysia Block 2 Progress: ICT Programmes under ETP and GTP

In 2010, the government introduced key national transformation programmes to spur the country forward into the ranks of high-income economies. These national transformation programmes are designed to further cultivate innovation, productivity and competitiveness within the governmental, business and social environments. The Digital Malaysia Programme collaborates closely with two of the transformation programmes, namely, the ETP and GTP to achieve synergetic outcomes.

The ETP aims to transform Malaysia's economy by improving the country's status from middle- to high-income where significant changes will be made to ensure that the country will be on par with other developed nations. In formulating the ETP, the government identified 12 NKEAs that have the potential to generate high income.

|  | NKEA   | Headed by   |
|---|--|---|
|   | Greater Kuala Lumpur   | Minister of Federal Territories and Urban Wellbeing |
| Wholesale and Retail  | Minister of Domestic Trade, Co-operatives and Consumerism  |   |
| Oil, Gas and Energy   | Minister of Energy, Green Technology and Water   |   |
| Tourism   | Minister of Tourism  |   |
| Healthcare  | Minister of Health   |   |
| Agriculture   | Minister of Agriculture and Agro-based Industry  |   |
| Communications Content and Infrastructure   | Minister of Information, Communications and Culture  |   |
| Business Services   | Minister of Human Resources  |   |
| Electrical and Electronics  | <ul style="list-style-type: none"> <li>• Minister of International Trade and Industry</li> <li>• Minister of Science, Technology and Innovation</li> </ul> |   |
| Financial Services  | Minister of Finance (II)   |   |
| Education   | <ul style="list-style-type: none"> <li>• Minister of Education</li> <li>• Minister of Higher Education</li> </ul>  |   |
| Palm Oil and Rubber   | Minister of Plantation Industries and Commodities  |   |

Whereas, GTP has two objectives:

- First, to transform the government to be more effective in its delivery of services and accountable for outcomes that matter most to the *rakyat*; and
- Second, to move Malaysia forward to become an advanced, united and just society, with a high standard of living for all.

Under the GTP, seven NKRA were identified to improve the socioeconomic growth of Malaysia. These NKRA represent a combination of short-term priorities to address urgent public demands as well as long-term issues affecting the people that required the government's immediate attention.

|  | NKRA  | Headed by                |
|---|---|--------------------------|
|   | Reducing Crime                                      | Minister of Home Affairs |
| Fighting Corruption   | Minister in the Prime Minister's Department         |                          |
| Improving Student Outcomes  | Minister of Education                               |                          |
| Raising Living Standards of Low-Income Households                                 | Minister of Women, Family and Community Development |                          |
| Improving Rural Basic Infrastructure  | Minister of Rural and Regional Development          |                          |
| Improving Urban Public Transport  | Minister of Transport                               |                          |
| Addressing Cost of Living   | Deputy Prime Minister                               |                          |

**Collaboration between the Digital Malaysia Programme with ETP and GTP**

The Digital Malaysia Programme collaborates closely with the ETP and GTP to achieve synergetic outcomes. In this regard, Digital Malaysia will add value to relevant GTP and ETP EPPs to ensure the following desired outcomes are achieved:

- Infusion of ICT and digital technology across impacted economic sectors and the government sector to drive productivity and innovation
- Creation of robust ICT and digital technology solutions that can meet the demand arising from the GTP and ETP projects, resulting in making Malaysia an innovative producer of ICT and digital technology solutions
- Pervasive use of ICT to increase the standard of living across impacted communities

To achieve these desired outcomes, Digital Malaysia worked closely with PEMANDU in the following areas:

- 1. Identify new projects** that complement, expand or optimise existing EPPs/projects under the GTP and ETP.
  - Under the Digital Malaysia ideation process, new projects that maximise opportunities and mitigate threats shall be identified.
  - The ideation process will also consider new Digital Malaysia projects that may enhance projects under GTP and ETP.
- 2. Identify ICT-intensive and ICT-enabled projects** under both the GTP and ETP, ascertain the gaps and recommend potential intervention to ensure a holistic infusion of ICT and digital technologies to drive productivity and innovation.
  - a. New ICT investments from ETP EPPs and GTP projects** will generate local demand for new technologies:
    - i. 87 out of the 152 EPPs under the ETP have been identified as ICT-enabled or ICT-intensive.
    - ii. 23 projects under GTP 1.0 have been identified as ICT-enabled or ICT-intensive.
    - iii. 32 projects under GTP 2.0 have been identified as ICT-enabled or ICT-intensive.
    - iv. Achievement data for these identified projects are available in the ETP and GTP Annual Reports which are downloadable from the PEMANDU website.
  - b. Upon analysis, these EPPs/Projects** require mainstream technologies as well as new digital technologies.
    - i. Mainstream technologies include radio frequency identification (RFID), IT outsourcing, supply chain management (SCM), customer relationship management (CRM) as well as database management and integration.
    - ii. New digital technologies include green technology, embedded systems, gamification, social media and data analytics.
  - c. Further analysis** will be conducted to identify gaps and recommend potential intervention to ensure a holistic infusion of ICT and digital technologies to drive productivity and innovation.

- 3. Aggregate demand** to create leverage point opportunities:
  - a. The ETP and GTP will create new local demand for digital products and services.
  - b. A co-creation platform is established by MDeC and PEMANDU to create opportunities for Malaysian companies by matching MSC Malaysia Status-companies with local demand for digital products/services and tap into the demand arising from GTP and ETP.
- 4. Ideate and implement** Digital Malaysia Initiatives and Projects that can further promote the pervasive use of ICT to increase standard of living across impacted communities as described under the earlier section on Digital Malaysia Initiatives and Ideation Process.

**Digital Malaysia Block 3 Progress: New Digital Malaysia Initiatives and Projects**

**Four Digital Malaysia Initiatives and Projects**

The Prime Minister tabled four Digital Malaysia Initiatives at the Global Science and Innovation Advisory Council (GSIAC) Meeting in New York on 16 May 2012 to seek strategic inputs. The Initiatives were later approved for implementation under the Digital Malaysia Programme, focusing on four target communities: digital entrepreneurs; the bottom 40% of the income group or the B40 group; youth; and SMEs.

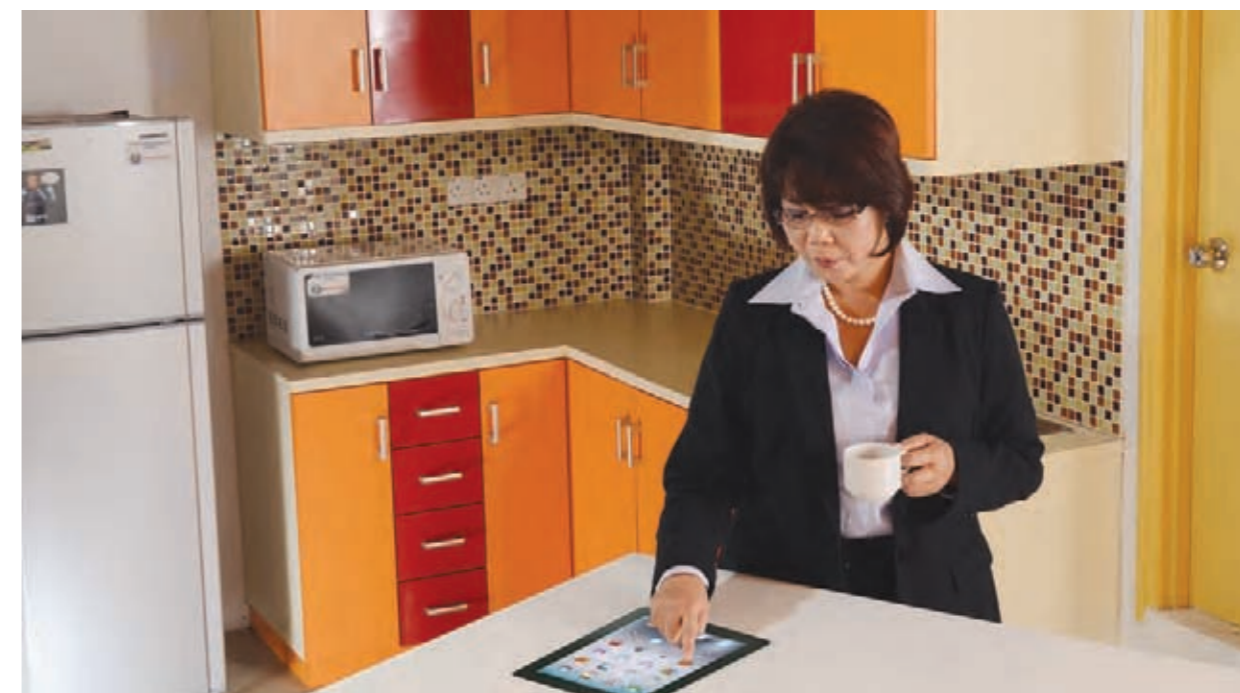
The four Digital Malaysia Initiatives are as follows:

- i. Tap global demand for digital products and services
- ii. Increase citizen income and unlock entrepreneurship potential of the B40 group
- iii. Empower the next generation of workforce with digital skillsets and the productive use of digital tools
- iv. Drive technology adoption amongst Malaysian SMEs to enhance productivity

All future project ideations shall be aligned with the abovementioned four approved Digital Malaysia Initiatives to ensure impactful outcomes that can contribute to the Digital Malaysia aspirational goals and targets.

The following paragraphs provide the details of the four approved Digital Malaysia Initiatives and respective Projects that were implemented in 2012.

*(Note: Private sector organisations are welcomed to propose additional game-changing digital age projects that are aligned with the aspiration of the Digital Malaysia Initiatives for targeted communities.)*

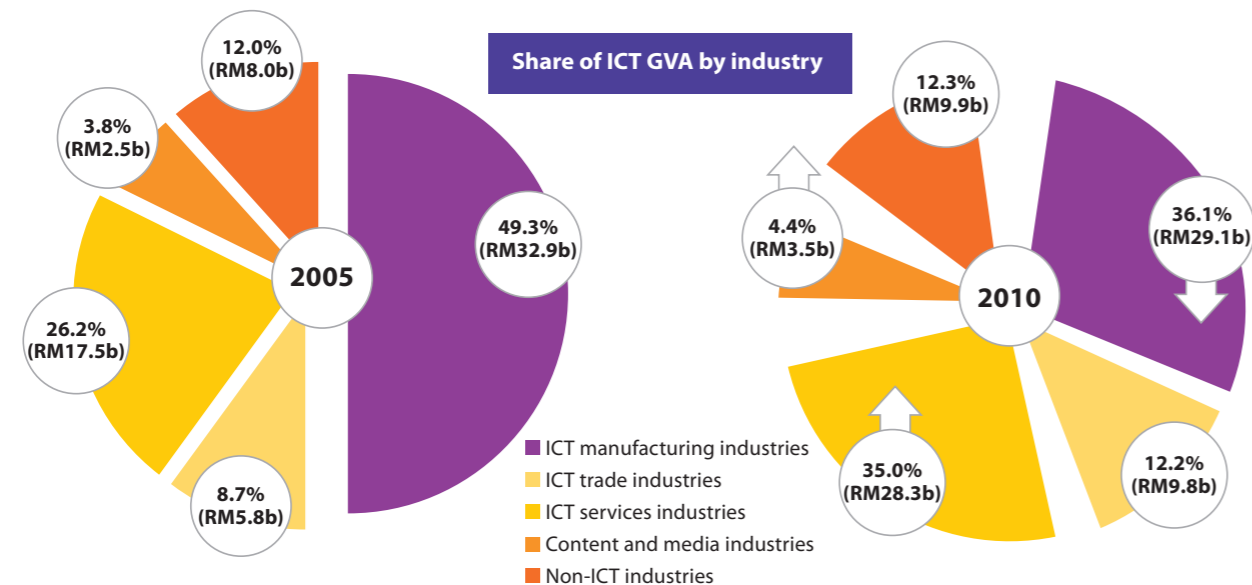


### Digital Malaysia Initiative 1: Tap Demand for Digital Products and Services

The demand for digital products and services saw a sharp spike in the past years as we continue our quest to search for avenues that offer us the greatest convenience to increase our efficiency. It is reported that worldwide spending on information technology was RM5.8 trillion in 2011 and is expected to grow to RM7.6 trillion by 2016, an equivalent of a Compound Annual Growth Rate (CAGR) of 5.3%.

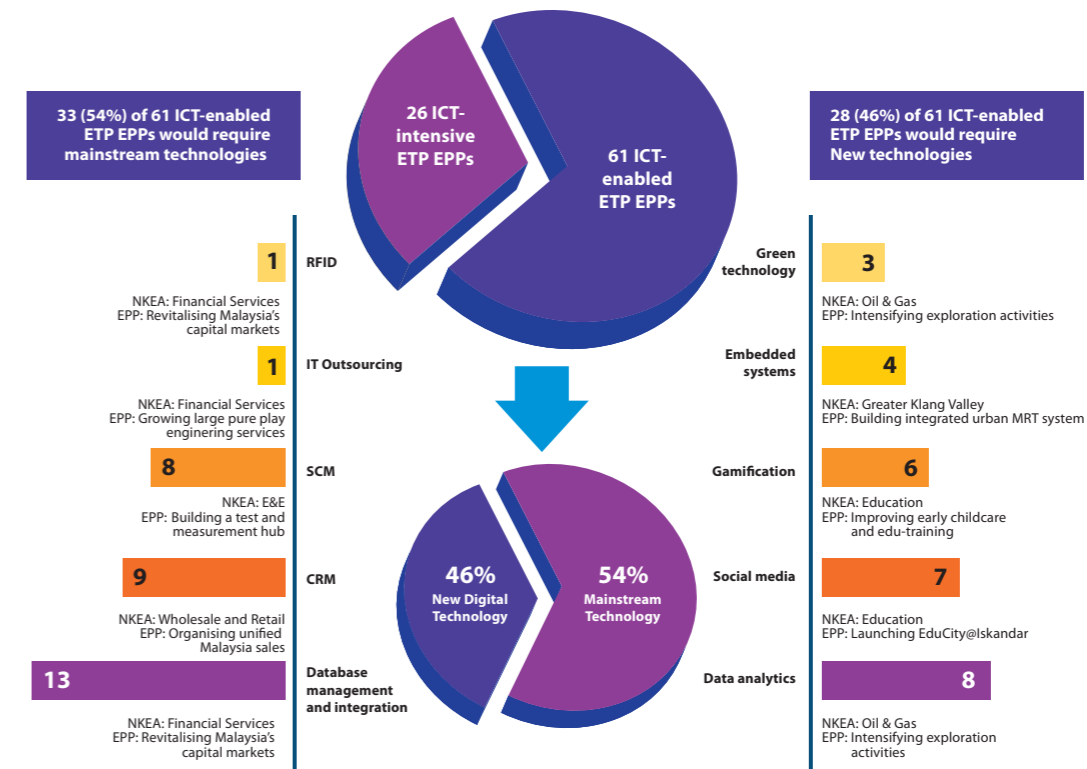
In Malaysia, total spending on ICT products was recorded at RM52 billion in 2011 and is forecasted to reach RM68.1 billion by 2016. Despite the fact that reports showed a drop in total ICT GDP contribution from 12.7% in 2005 to 10.5% in 2010, mainly due to the global recession impact on Electrical and Electronics (E&E) exports, the gross value added (GVA) in ICT Services and ICT Content and Media industries grew. Since ICT services attract higher margins, opportunities exist to tap into these high growth and high margin areas. Logically, this can be achieved by capitalising on domestic demand and capturing global opportunities. Hence, the creation of Digital Malaysia Initiative 1: Tap demand for digital products and services.

| SHARE OF ICT INDUSTRY TO GDP AT CURRENT PRICES |                      |                      |                        |                      |
|--|----------------------|----------------------|------------------------|----------------------|
| Year   | ICT GVA (RM million) | ICT GDP (RM million) | Total GDP (RM million) | Share of ICT GDP (%) |
| 2005   | 66,695               | 69,260               | 543,578                | 12.7                 |
| 2010   | 80,659               | 83,747               | 795,037                | 10.5                 |
| CAGR   | 3.9%                 | 3.9%                 | 7.9%                   |                      |



Source: ICTSA

Currently, the ETP, GTP and 10MP are driving the demand for new digital products and services in the domestic market. Under the ETP, 33 (54%) of the 61 ICT-enabled EPPs require mainstream technologies while 28 (46%) of 61 ICT-enabled EPPs involve the usage of new digital technologies. Meanwhile, 253 projects under the 10MP have been identified as ICT-related.



Malaysia's IT spending is small and limited compared to the total worldwide market, hence, in order to grow the domestic IT output, there is a need to capture global opportunities. Worldwide IT spending was registered at RM5.8 trillion in 2011 and is expected to grow to RM7.5 trillion by 2016 (CAGR of 5.3%). Meanwhile, Malaysia's spending on IT products was RM51.3 billion in 2011 and is forecasted to reach RM67.2 billion by 2016.

Among the growth areas that have been identified to drive more revenue and growth for the ICT industry are:

- Cloud Computing
- Embedded Systems
- Gamification
- Enterprise Mobility
- eCommerce

|        | Revenue and Growth   |   |   |   |  |
|--------|--|---|---|---|--|
|        | Cloud Computing  | Embedded Systems                              | Gamification  | Enterprise mobility   | eCommerce  |
| Global | RM446.7 billion by 2014<br><i>Source: Gartner</i>            | RM3 trillion in 2015<br><i>Source: IDC</i>    | RM8.4 billion by 2016<br><i>Source: M2 Research</i> | RM521.7 billion by 2017<br><i>Source: Global Industry Analyst</i>   | RM11.4 trillion in 2020<br><i>Source: The Internet Economy: 25 years after .com, ITIF Mar 2010</i> |
| Local  | RM2.8 billion by 2020<br><i>Source: Frost &amp; Sullivan</i> | RM4.2 billion in 2020<br><i>Source: Intel</i> | NA  | Market set to expand from growth of smartphones from current 20% to 60% by 2015<br><i>Source: F&amp;S</i> | RM90 billion in 2020, YoY 20-30%<br><i>Source: PIKOM</i>   |

(All figures are based on an exchange rate of USD1 = RM3, as at 31 December 2012.)




In order to cater to these demands, there is a need for new digital entrepreneurs who are able to provide and create new solutions for the market. Some Malaysian individuals are already reaping the rewards from the digital age. However, there is a need to develop more of these entrepreneurs to capitalise on domestic demand and capture global opportunities.

|                | Digital Entrepreneurs   |  |   |
|----------------|---|--|---|
|                | Net Entrepreneurs Individuals   | Emerging Start-ups   | SMEs  |
| Characteristic | <ul style="list-style-type: none"> <li>Individuals starting online business</li> <li>LOW ROI</li> <li>Starting up on part-time basis</li> </ul> | <ul style="list-style-type: none"> <li>First stage operations</li> <li>Not more than 2 years in establishment</li> <li>Attempt to capitalise on developing product and services</li> <li>Not sustainable without funding assistance/ investment</li> </ul> | <ul style="list-style-type: none"> <li>More than 2 years</li> <li>At the growth stage</li> <li>Sustainable and stable</li> <li>Also includes MSC Malaysia-status companies</li> </ul> |
| Groups         | <ul style="list-style-type: none"> <li>Homemakers</li> <li>Working individuals</li> <li>Students</li> </ul>                                     | <ul style="list-style-type: none"> <li>Start-ups</li> <li>Incubators</li> <li>Accelerators</li> <li>Students</li> </ul>  | <ul style="list-style-type: none"> <li>Micro enterprises</li> <li>Small businesses</li> <li>Medium enterprises</li> <li>Technopreneurs</li> </ul>                                     |

The first Digital Malaysia initiative aims to address just this, which is to devise an effective strategy that will exploit the increasing demand for digital products and services as a means to create wealth for the nation and at the same time nurture digital entrepreneurs into leaders in new niche areas and lead to wealth creation.

**Malaysian individuals are already reaping the rewards from the digital age**



**Tan Yin See**  
Developed ARMS F&B application which generated 2,000 downloads with **RM14,750** in revenue as of May 2012.

Source:  
*A Global Digital Transformation: How Businesses, Citizens and the Government Can Respond; A Digital Malaysia Position Paper on New Digital Business Models, 2013*

Under Digital Malaysia Initiative 1, two projects have been initiated in 2012, namely:

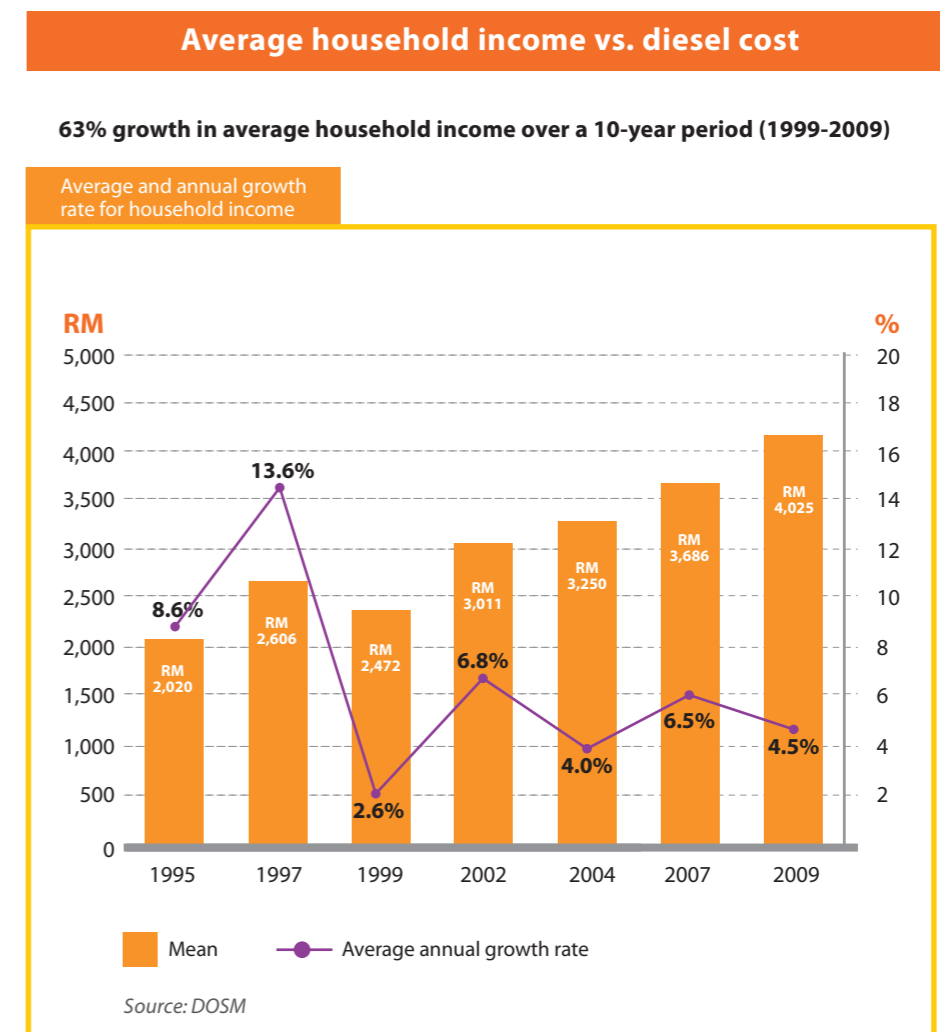
- Establish a trusted Mobile Digital Wallet Platform
- Grow the Embedded Systems Industry

Refer to the Appendices for progress updates on the above projects.

(Note: Private sector organisations are welcomed to propose additional game-changing digital age projects that are aligned with the aspiration of the Digital Malaysia Initiatives for targeted communities.)

### Digital Malaysia Initiative 2: Increase citizen income and unlock entrepreneurship potential for the B40 Group

The rising cost of living has greatly impacted the average household in Malaysia. There is a clear discord between the rate of increase in the cost of living and average household income, with the latter growing at a slower rate. For instance, the average Malaysian household income grew 63% over a 10-year period (1999-2009) from RM2,472 to RM4,025. However, the cost of diesel escalated 161% over the same period from 65.1 sen to 170 sen. The increase in diesel cost is inevitably transferred to consumers via food, transportation, etc. Consequently, the average Malaysians' purchasing power was reduced, particularly for the B40 community.



The 'Bottom 40' or B40 group are made up of households that are living on an average income of RM1,440 per month. It is estimated that there are about 2.4 million households that fall into this category, which translates to 40% of total households in Malaysia. Most of the individuals who are in this group have not graduated from high school and work in low-income jobs.

It is crucial that the livelihood of Malaysians, especially the B40 community, is increased to ensure that they are able to cope with the rising cost of living. ICT is regarded as a viable avenue to help elevate the lives of the B40s. As such, Digital Malaysia has identified this as the main goal of its second initiative, which is to help the B40 community attain higher standard of living through new income avenues by introducing various innovative income-generation opportunities and creation of job opportunities.

Projects under this initiative will also take into consideration the following three key challenges faced by the B40 community:

- Limited economic mobility as majority have not graduated from high school and work in low income jobs;
- Lack of comprehensive profiling of the individual's capability and needs to develop demand-based programmes; and
- Accessibility to intervention programmes.

Under Digital Malaysia Initiative 2, two projects have been initiated in 2012, namely:

- Microsourcing to Generate Income for the B40
- Facilitating Societal Upliftment

Refer to the Appendices for progress updates on the above projects.

(Note: Private sector organisations are welcomed to propose additional game-changing digital age projects that are aligned with the aspiration of the Digital Malaysia Initiatives for targeted communities.)

**Harnessing the power of the internet to increase income: Initiative to address the non-IT literate and IT literate B40s**



**Kabilah Abd Hassan**

Seaweed farmer who improved her sales tremendously via internet promotion has earned up to RM20,000 per month (used to earn an average of RM450 per month before tapping into the online platform)

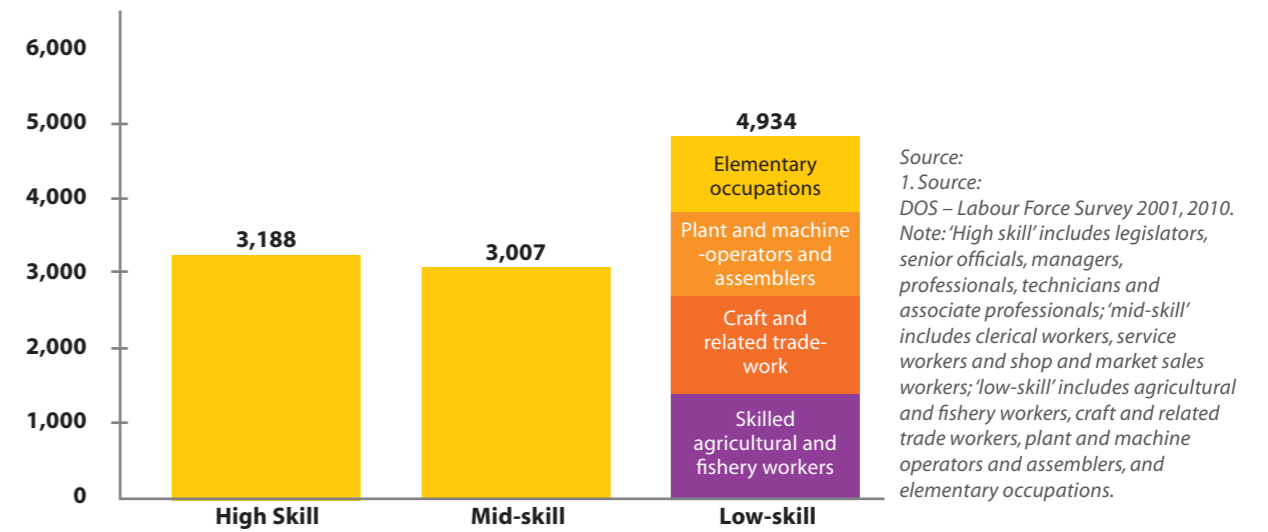
Source: MCMC

**Digital Malaysia Initiative 3: Nurture a new generation of digital-savvy youth**

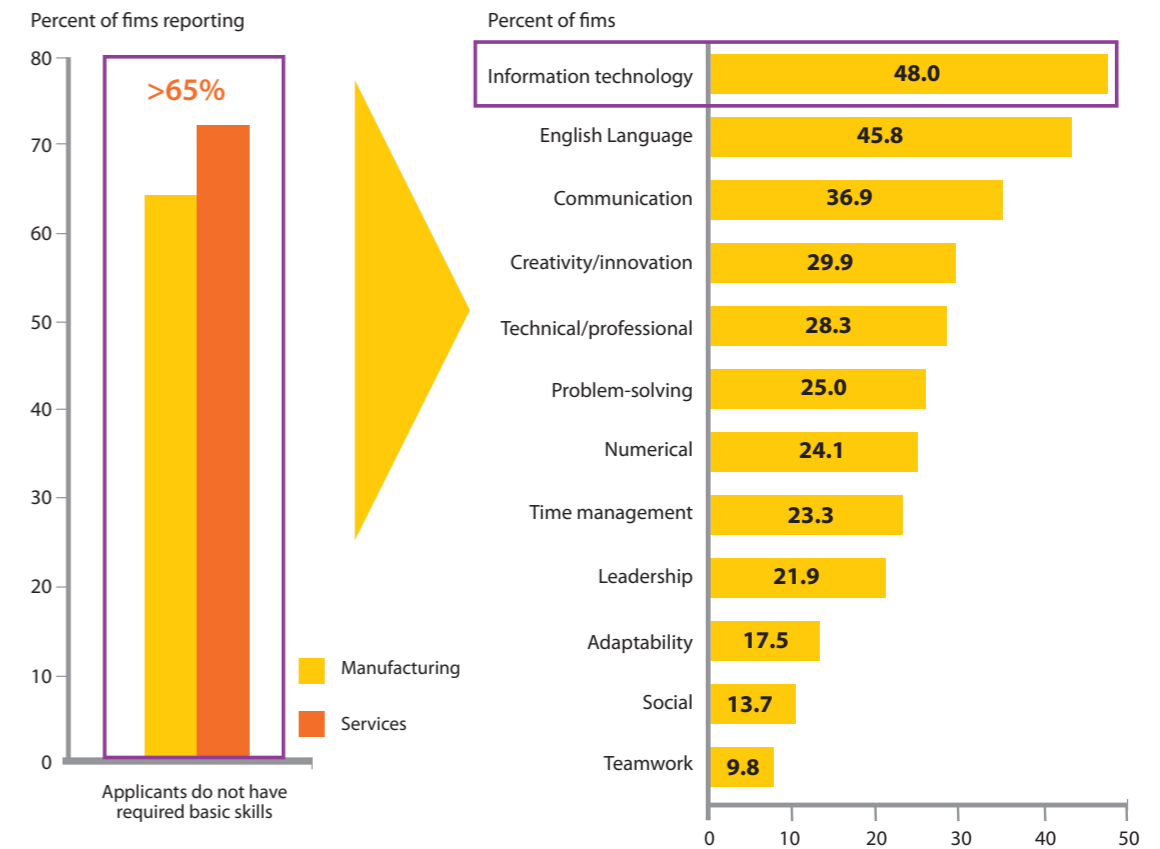
It is undeniable that youth unemployment is on the rise across the world with more than 75 million youth worldwide currently looking for jobs.

Based on the 2010 statistics for Malaysia, Generation Y (Gen-Y) and the younger segment of the society made up 34% or 4 million of the total workforce. By 2020, there will be an addition of 4.3 million Malaysians who will enter the workforce looking for jobs. This demographic is expected to balloon to 55% or 8.3 million.

Additionally, close to half of Malaysians are in low-skilled jobs. In 2010, 71.4% of the country's workforce is employed in mid- (26%) to low-skilled jobs (45.4%). High-skilled jobs only represented 28.6% compared to Singapore's 49%.



Most Malaysian firms also reported there is an acute shortage of talent and key basic skills among job seekers. From the total of the firms surveyed, the skill that most job seekers lack is information technology, at 48%. Further details of the survey are indicated in the chart below:



Source: 6th Malaysian Economic Monitor, World Bank, 2012

With such large numbers, it is vital that plans are formulated to ensure this new generation of the workforce is competitive and gainfully employed in mid- and high-skilled jobs to ensure that the nation is on the right path to achieve its developed status.

There is a need to create more mid- and high-skilled jobs which is currently being addressed through the ETP and Digital Malaysia where 3.3 million new jobs are being developed. Efforts must be placed to ensure the workforce has the necessary skills and soft skills.

The country has recognised the importance of developing plans that help reduce youth unemployment by providing them with relevant skills, creating a conducive environment and establishing avenues for either employment or business ventures. Malaysia's Gen-Y and the younger population, who are savvy users of the social media and digital entertainment such as Facebook and YouTube, can be trained further to use these digital tools productively, i.e. moving from consumption to production.

Some of the groundwork has already been laid down in the National Budget 2013 which was unveiled by the government last year, where it pledged to continuously plan and implement programmes and activities centred on knowledge, creativity and innovation.

Digital Malaysia will contribute to this national cause and has adopted this as a goal for its third initiative, that is to create digital-savvy youth who can serve as a catalyst for the future growth of the nation.

Under Digital Malaysia Initiative 3, one project has been initiated in 2012, namely:

- Develop on-demand, customised online education

Refer to the Appendices for progress updates on the above projects.

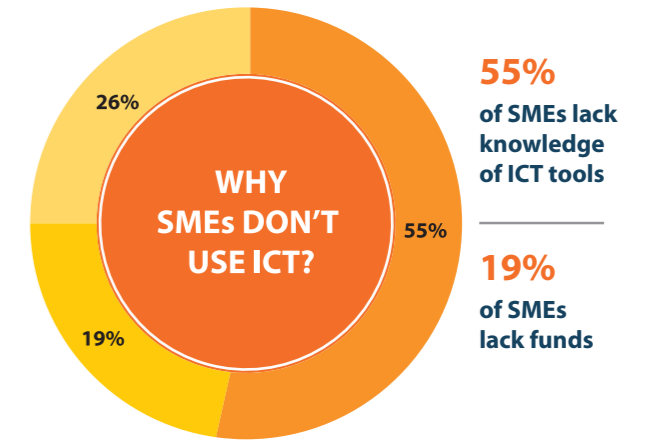
(Note: Private sector organisations are welcomed to propose additional game-changing digital age projects that are aligned with the aspiration of the Digital Malaysia Initiatives for targeted communities.)



### Digital Malaysia Initiative 4: Enhance SME productivity

SMEs form the backbone of Malaysia's economy. Apart from that, SMEs also play a huge role in the national savings of an economy as it reduces the income disparity by creating opportunities. In Malaysia, SMEs account for 97.3% of the total number of business establishments and employs 56% of its workforce. However, this sector only contributes 32.5% to the country's GDP (Source: SME Corp Annual Report 2012).

To realise Malaysia's target of becoming a developed nation by 2020, the Small and Medium Enterprise Corporation Malaysia (SME Corp) expects SMEs to contribute at least 40% to the country's GDP and employ 62% of the country's workforce.

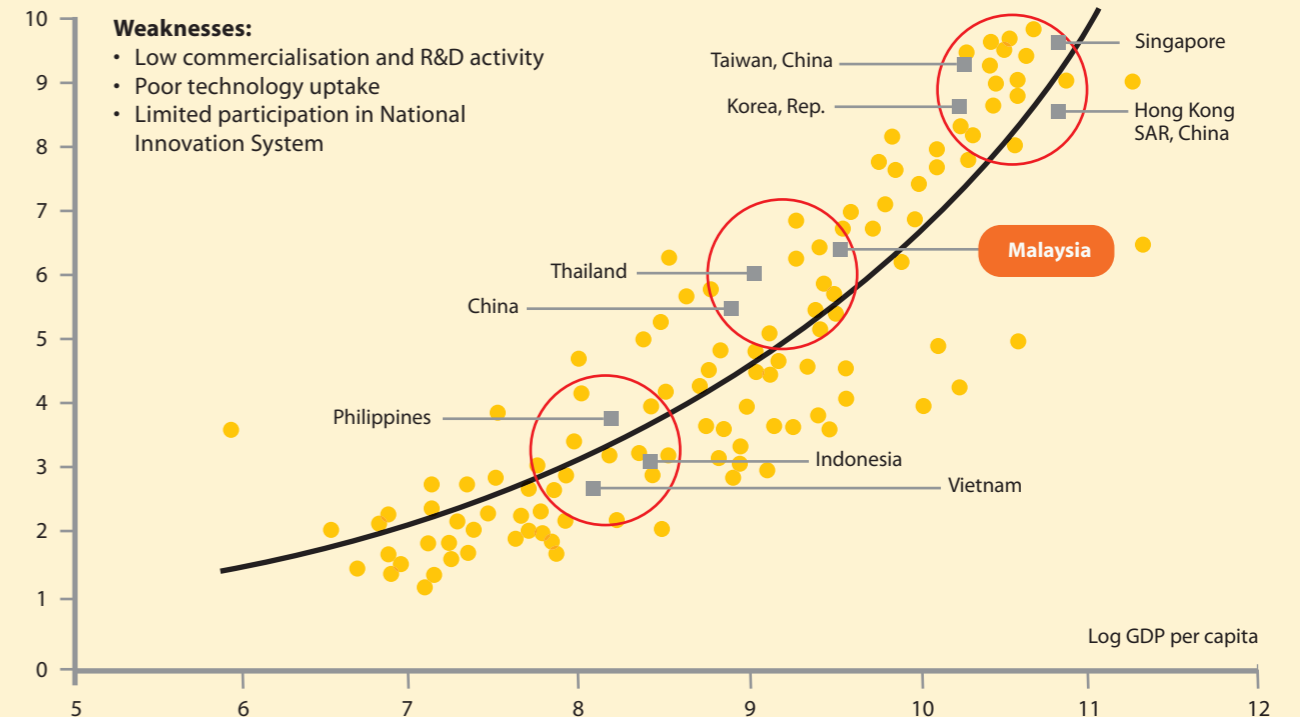


However, there are key gaps in technology knowledge among the SMEs as well as the issue of costs that need to be addressed. Research data shows that 55% of SMEs lack knowledge in ICT tools, with a further 19% lacking the funds to invest in ICT (Source: MeriTalk survey of 102 US Federal Finance & IT Managers, 2012).

Based on the World Bank Knowledge Assessment Methodology Innovation Index (KAM), 2009, Malaysian SMEs scored poorly in terms of innovativeness. Among the weaknesses identified are low commercialisation and R&D activities; poor technology uptake; and limited participation in the National Innovation System.

### SME innovation can be enhanced

Malaysia scored low in firm level innovation



Source: World Bank Knowledge Assessment Methodology Innovation Index 2009

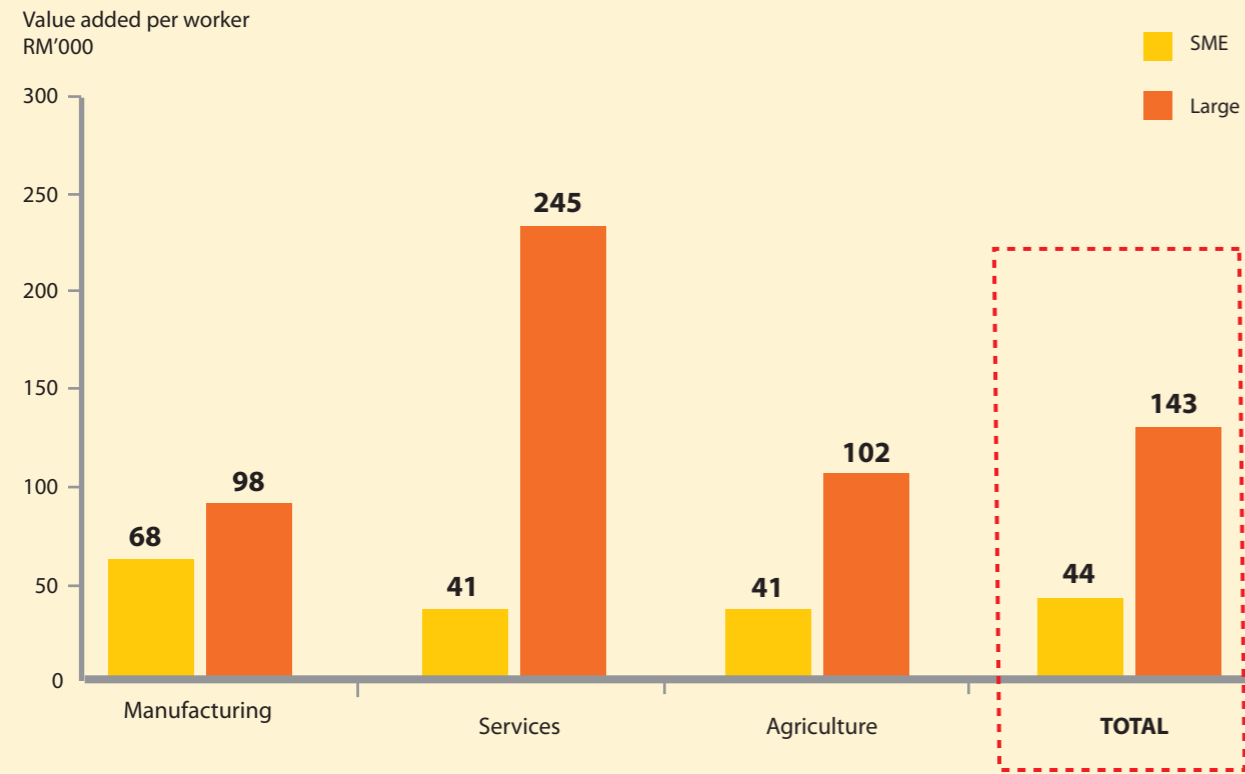


In addition, the productivity of Malaysian SMEs is less than one-third of large companies. This could be attributed to insufficient technology adoption where the sector's ICT capital is only 8.8%. There is also a heavy reliance on cheap labour which has caused this sector to be trapped in low knowledge-add business activities.

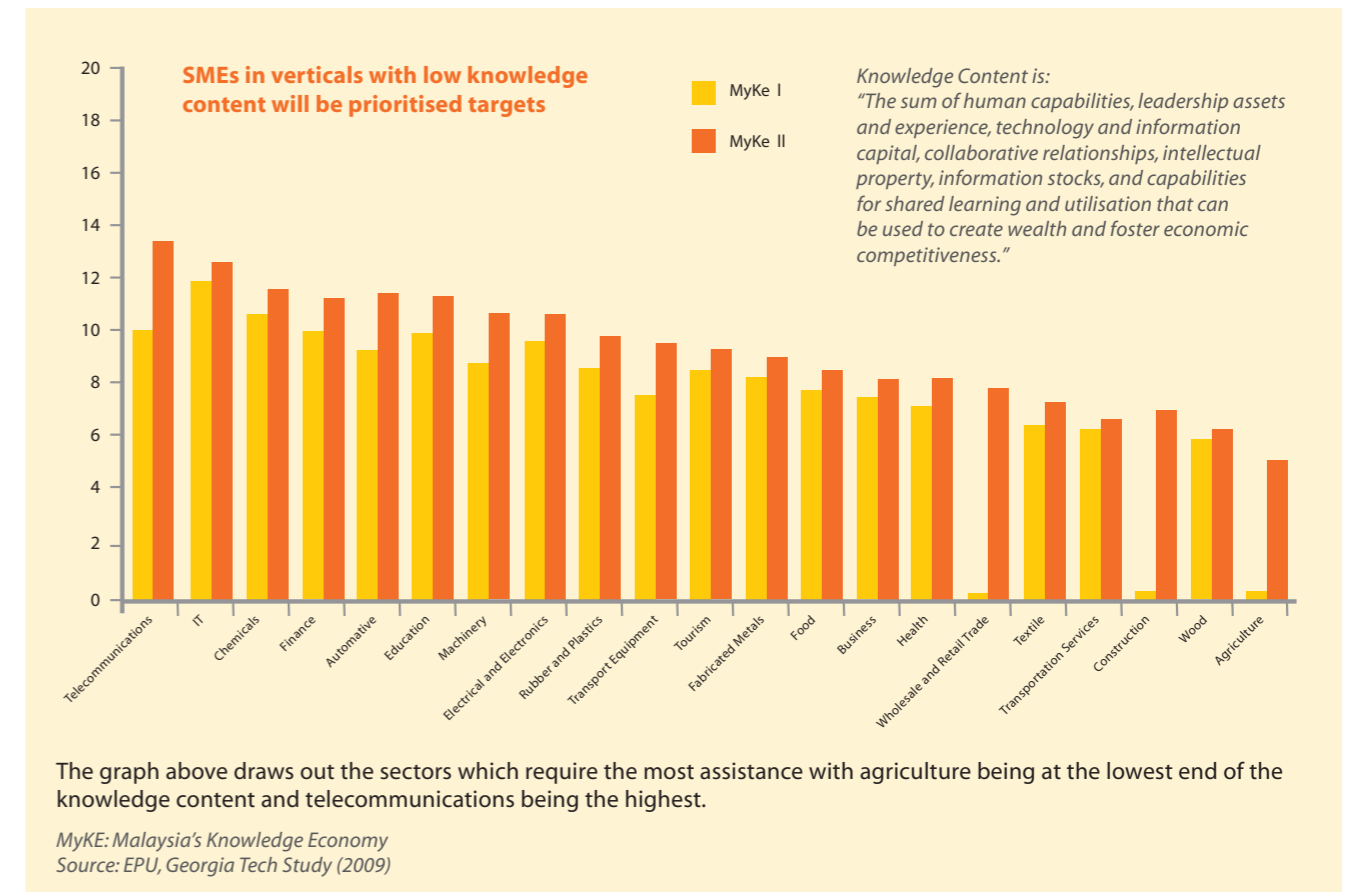
Thus, the end goal for this Digital Malaysia initiative is to encourage more SMEs to adopt digital business models as well as IT and operational technologies for their productivity gains.

**Malaysia: Labour Productivity by Sector in 2008 (RM'000 per worker)**

- Productivity of Malaysian SMEs is less than one-third that of large companies
- Insufficient technology adoption has limited productivity growth due to ICT capital of 8.8%
- Reliance on cheap labour has trapped Malaysia SMEs in low knowledge-add business activities



Source: DOSM, SME Corp



Under Digital Malaysia Initiative 4, three projects have been initiated in 2012, namely:

- Asian eFulfilment Hub
- Enabling ePayment Services for SMEs and Micro Enterprises
- Shared Enterprise Services

Refer to the Appendices for progress updates on the above projects.

(Note: Private sector organisations are welcomed to propose additional game-changing digital age projects that are aligned with the aspiration of the Digital Malaysia Initiatives for targeted communities.)



## Taking the leap of faith

*A spark of idea led to the collaboration of many. The national digital transformation programme started its ground work in 2011 and is currently enjoying its fruits of labour.*

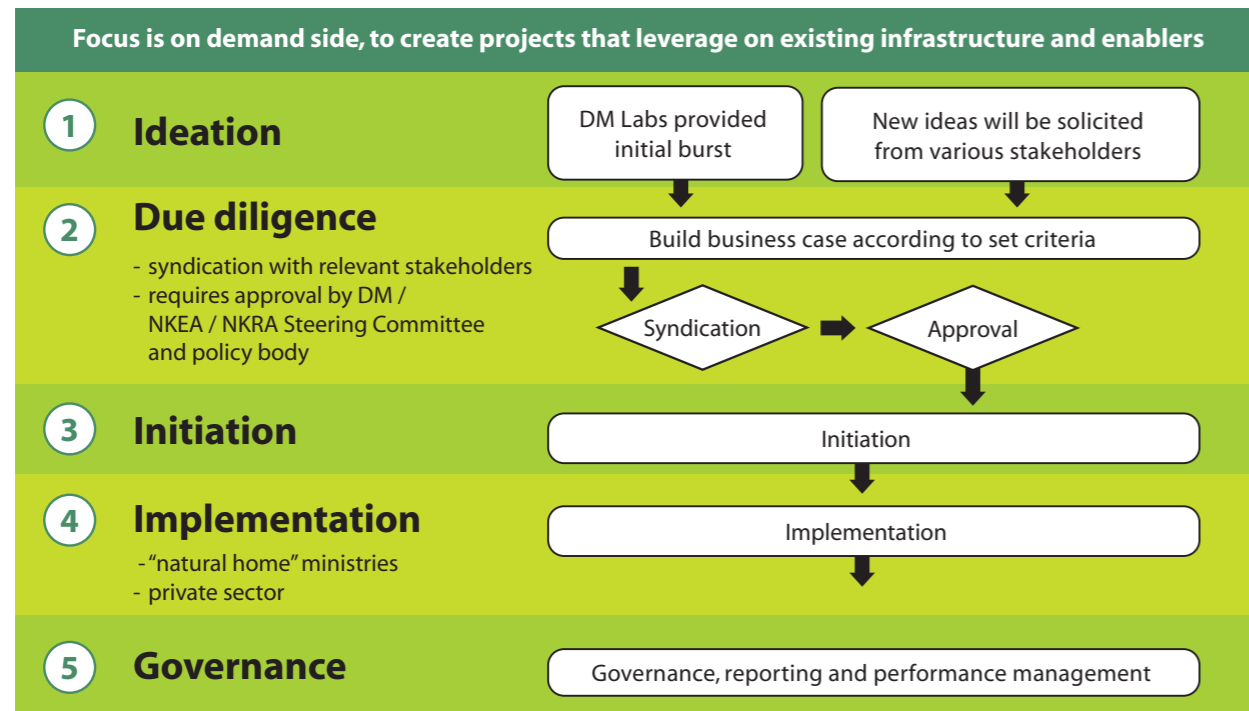
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| <b>PART F</b>                                      |     |
| <b>IDEATION, GOVERNANCE AND PROGRESS REPORTING</b> |     |
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**PART F**

# Ideation, Governance and Performance Management

Digital Malaysia Secretariat has established a five-step robust process to facilitate idea-creation until the implementation and governance stage.

**Process to facilitate ideation, initiation, implementation and governance**



The following paragraphs describe the above process.



Participants of the inaugural Digital Malaysia Labs 2011.

**Ideation**

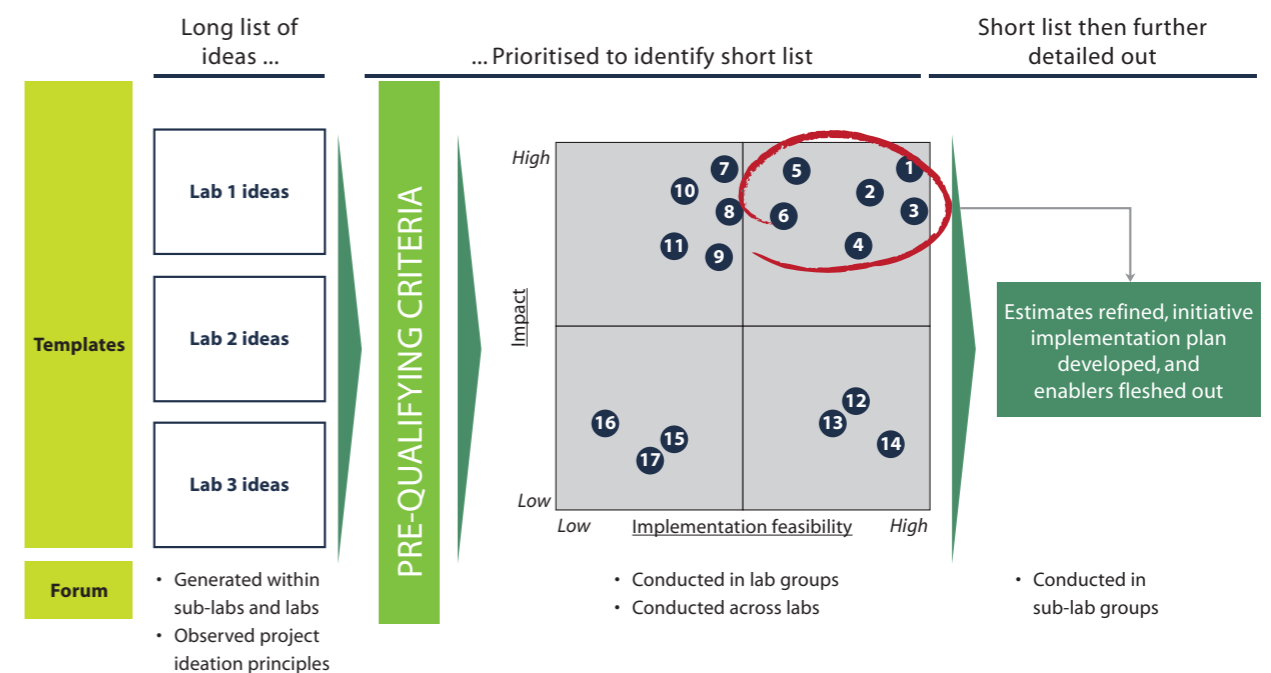
Digital Malaysia projects are built on a continuous ideation process, whereby ideas or inputs are generated, developed and syndicated with relevant stakeholders. For Digital Malaysia, this ideation process can be generally categorised as proactive ideation and reactive ideation methods.

A proactive ideation method is where labs, workshops, brainstorming sessions or ideation factories are organised specifically to generate ideas for new projects or to enhance existing ones. On the other hand, a reactive ideation method is when ideas are received from unsolicited sources, normally as a result of promotional activities or awareness campaigns on Digital Malaysia.



Since its inception, Digital Malaysia has carried out several ideation events. The first one was the Digital Malaysia Labs which was held from 18 August to 19 September 2011. Utilising the lab model popularised by PEMANDU, the five-week event saw the participation of approximately 500 participants who were guided to produce ideas for demand-focused projects and activities that will impact various Digital Malaysia Dimensions.

**Idea prioritisation process during lab sessions:**





The following project ideation principles are observed during the ideation stage.

### Project Ideation Principles



**Empower targeted communities via game-changing strategies**  
 • Four communities have been identified for initial intervention



**Mobilising the Private Sector**  
 • Public-Private Partnership (PPP) as main economic model  
 • Big results fast



**Maximising Potential of Local Assets**  
 • Repurpose resources to more demand-focused activities



**Elevating Conventional Sectors**  
 • Modernise and value-add traditional industries and activities to enhance competitiveness  
 • Drive innovation in business models to better meet customers' demands



**Mitigating Threats and Risks**  
 • Exploit digital technologies and infuse K-intensive activities to counter threats and disruption



**Realising Opportunities in global/emerging markets**  
 • Be an early mover in emerging economies through innovative business models, ideas and processes

### Qualifying Criteria

Before any of the ideas can be considered for further evaluation, they must first fulfil the following pre-qualifying criteria:

- Project must have ICT or digital technology elements;
- Project must be aligned to Digital Malaysia Initiatives' strategic intent and targeted communities;
- Project must have Private Sector Champions with their own investments as well as a natural home ministry/agency;
- Project must not be conflicting with other national programmes; and
- Project must not require any urgent or extensive policy direction or intervention at national level\*, unless there is strong government commitment to execute it.

\* Projects with such requirement will be managed from the angle of Drivers/Enablers before Digital Malaysia projects (demand-focused) can be introduced.

Once the pre-qualifying criteria have been met, the proposed projects will then undergo a rigorous due diligence. This is to ensure that the right projects are selected for implementation in order to deliver the desired outcomes for the nation.

### Due Diligence Process

Each project will be put through a due diligence exercise, which includes, amongst others:

- Review of the project viability
- Confirmation of the project's desired outcomes, deliverables, targets and Key Performance Indicators (KPI)
- Verification of project implementation plans
- Confirmation of private sector's commitment to project delivery
- Ascertain the private sector's unique differentiators and capabilities as the chosen or rightful driver or member of the project
- Research and validate the private sector's track record, expertise, technical competencies and experience
- Checks on potential conflicts of interest, if any
- Conduct financial due diligence on the private sector companies

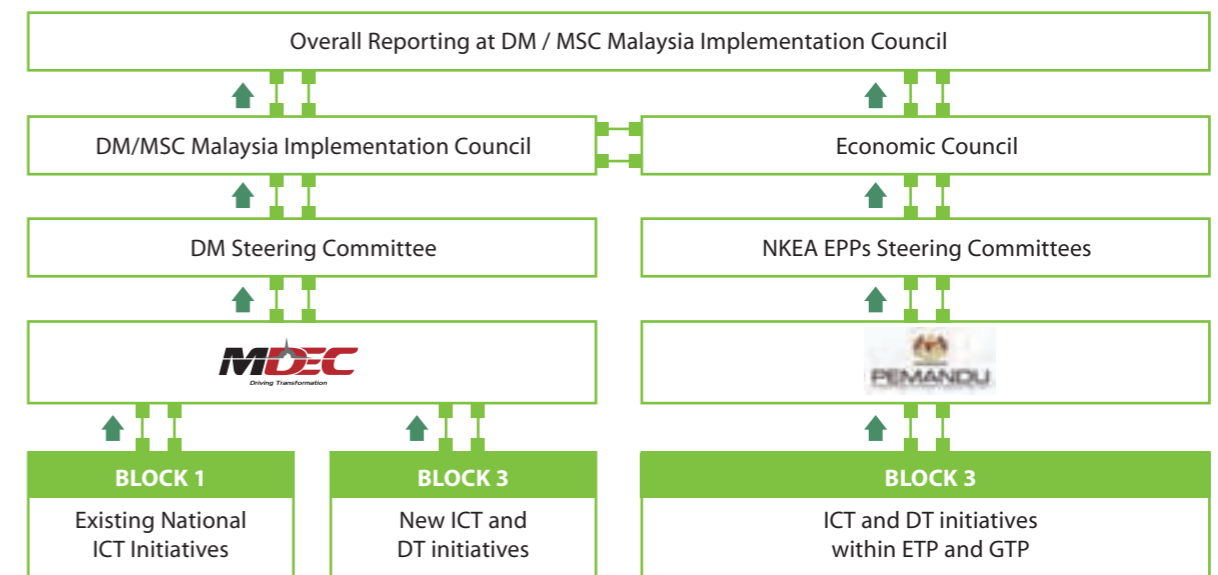
Thereafter, necessary syndications with relevant stakeholders (government bodies, private sector partners, etc.) will be performed to ensure their buy-in before submission for relevant approvals and proceeding to the implementation phase.

### Governance and Performance Structure

Digital Malaysia is governed by a steering committee that reports to the Digital Malaysia/MSM Malaysia Implementation Council on an annual basis. Chaired by the Prime Minister, the Council sets the agenda for Digital Malaysia and provides the highest level of focus on the implementation of projects developed for Digital Malaysia.

MDeC acts as the Project Management Office (PMO) and oversees all working level matters, implementation, performance management, as well as the provision of analytical and governance support.

### Digital Malaysia Governance Structure



(ICT data from EPU)

MDeC works closely with PEMANDU to consolidate ICT data:

- MDeC – manages data from existing ICT initiatives as well as new Digital Malaysia projects where it consolidates as well as reports to the Digital Malaysia Steering Committee and Digital Malaysia/MSM Malaysia Implementation Council on the progress of Digital Malaysia
- PEMANDU – manages Digital Malaysia projects that enhance GTP and ETP initiatives as well as EPPs that are ICT-intensive and ICT-enabled, developed under the existing ETP and GTP initiatives

All materials for presentation to the Steering Committee, workshops, public engagements, and such will also fall under the responsibility of the PMO.

### The Digital Malaysia Steering Committee

From 2011 to 2012, the governance of Digital Malaysia is under the stewardship of the Digital Malaysia Steering Committee which is chaired by Datuk Seri Panglima Dr Maximus Johnity Ongkili, Minister of Science, Technology and Innovation, with MDeC acting as its Secretariat.

The inaugural steering committee meeting was held on 2 February 2012 and three other quarterly meetings proceeded after that.



The roles and responsibilities of the Digital Malaysia Steering Committee are:

- To steer and drive the implementation of the Digital Malaysia Programme by providing leadership, guidance and direction;
- To provide oversight of Digital Malaysia's progress;
- To resolve conflicts and overlaps;
- To endorse major milestones and deliverables;
- To approve new initiatives that may arise from time to time; and
- To obtain resources necessary for implementation.

Meanwhile, the Digital Malaysia Secretariat carries out the following functions:

- To design, build and drive the Digital Malaysia Programme;
- To serve as the singular coordinating body for the entire programme;
- To ensure that Digital Malaysia continues to draw on the changes and advancements in digital technology;
- To ensure consistent and frequent updates and reports on the progress of Digital Malaysia; and
- To provide input on projects that may have an impact on Digital Malaysia.

### The Digital Economy Satellite Account (DESA) Steering Committee

As part of the Digital Malaysia Programme, a key initiative known as the Digital Economy Satellite Account (DESA) was developed. The account represents a statistical framework for organising and presenting information on ICT products and ICT-related activities, which currently consists of an ICT Satellite Account (ICTSA) and other indicators. As ICT is not a sector on its own but touches different sectors, there is a need to create ICTSA to track ICT impact on the economy.

The Ministry of Finance (MOF) in collaboration with the Economic Planning Unit (EPU), Department of Statistics Malaysia (DOSM) and MDeC have been tasked to spearhead the establishment of ICTSA to assess Malaysia's progress with regard to its digital economy aspirations.

Primarily, ICTSA serves as an input for DESA as it provides a uniform, consistent and comprehensive means of measurement and comparison of ICT with other sectors of the economy. The data compilation was based on the concepts recommended by the System of National Account 2008, United Nations and adopted the guidelines of ICT as stipulated in the Guide to Measuring the Information Society 2001, Organisation of Economic Co-operation and Development (OECD).

The DESA Steering Committee is chaired by the MOF. Established on 1 December 2011, the Steering Committee comprises 14 core members and eight additional members.



DESA Steering Committee's roles and responsibilities are:

- Steering the creation and operationalisation of DESA;
- Providing oversight, guidance and direction;
- Recommending policy actions for decisions at higher platforms;
- Assessing process effectiveness and pushes for improvement;
- Handling of conflict resolution; and
- Ensuring resource allocation.

### DESA Working Groups

Four DESA core working groups have been formed to develop the ICTSA, with each working group being responsible for a specific area as follows:

- **Key Definitions (headed by MDeC)**  
Propose standardised definitions for ICT and eCommerce as well as industry and product classifications to facilitate eventual data gathering, analysis and reporting.
- **Process and Methodology (headed by DOSM)**  
Propose and determine best practices and methodology for the compilation of the ICTSA.
- **Supply Side (headed by EPU)**  
Identify indicators that the supply side should comprise.
- **Demand Side (headed by MOF)**  
Identify indicators that the demand side should comprise.

### Progress Reporting

As part of Digital Malaysia's governance and performance management efforts, periodic reports and publications are published for stakeholder communications, information-sharing and awareness purposes.

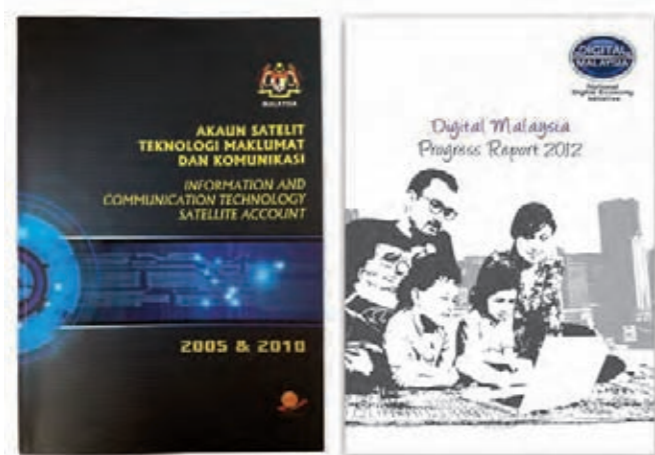
Among the notable reports and publications to be produced on an annual basis are:

- Malaysia's Digital Economy Report
- ICTSA Report
- Digital Malaysia Progress Report

The **Malaysia's Digital Economy Report** details out the state of the country's digital economy, comprising the progress and status of the nation's core ICT sectors, MSC Malaysia initiatives and eCommerce landscape. The report also reviews, provides comments as well as suggestions on the way forward for the development of the nation's digital economy. Also included in the report is a commentary on emerging technology trends that the nation can capitalise on.

The **ICTSA Report** publishes data and information of the national ICT contribution to the economy. This report is essential in order to collate data on ICT-specific products and services within the ICT industry, as well as those that cuts across other industries or sectors such as agriculture, manufacturing, wholesale and retail, and services. ICTSA allows the development of an integrated set of statistics on these components that are otherwise not captured by the existing national accounting system. The ICTSA report is published by DOSM as commissioned by the DESA Steering Committee.

Last but not least is the **Digital Malaysia Progress Report** which aims to communicate overall news and updates on Digital Malaysia, from the development of new initiatives to the implementation progress of Digital Malaysia projects and activities. The report also includes upcoming plans for the Digital Malaysia Programme.



**“Ideation (n): the creative process of generating, developing and communicating new ideas, where an idea is understood as a basic element of thought that can be either visual, concrete or abstract.”**



## eNabled for success

*Effective governance will lead to just rewards, where transparency, accountability and responsiveness beget confidence. Digital Malaysia is the result of team work and group efforts with one single aim – a better Malaysia.*



# The Way Forward

## The journey so far

The journey of Digital Malaysia began with the vision to capitalise on the global digital economy in order to drive wealth creation, stimulate efficiency and enhance the standard of living of the nation. To reach this goal, MDeC set the wheel in motion by building the necessary framework for a holistic digital transformation programme in 2011, and launching Digital Malaysia to the public in 2012.



As Digital Malaysia progresses into the next level, more actions need to be taken. Amongst the key actions being planned for year 2013 are:

1. Expanding Digital Malaysia's aspirational goals
2. Facilitating Digital Malaysia's ecosystem enhancement
3. Championing Digital Malaysia
4. Delivering Digital Malaysia's initiatives and projects
5. Communicating the tenets of Digital Malaysia

## Expanding Digital Malaysia's aspirational goals

Although the aspirational goals for Digital Malaysia have been identified, there is still the need to define and break down the components within these goals for absolute clarity. In addition to the existing components, the process may identify new components that will drive towards accomplishing the aspirational goals. Once this is achieved, these goals can be given appropriate measurements to ensure efforts are concentrated in the right areas that will help achieve maximum results.

Subsequently, the relevant components will be prioritised and a time-based high level plan or annualised targets will be developed to ensure that the aspirational goals are achieved within the stipulated timeline.

In a nutshell, this exercise aims to:

- Define existing components of Digital Malaysia's aspirational goals;
- Identify new components to measure the competitiveness, productivity and standard of living which will then be mapped to Digital Malaysia's aspirational goals;
- Establish a Digital Malaysia Maturity Model;
- Find the right levers to push in order to ensure the overall success of Digital Malaysia; and
- Set annualised targets for the components in Digital Malaysia's aspirational goals.

This effort is crucial as it will align the Digital Malaysia Initiatives and Projects to the key components of the Digital Malaysia aspirational goals and desired outcomes.

## Facilitating Digital Malaysia's ecosystem enhancement

Crucial to the success of Digital Malaysia is the development of a robust Digital Malaysia ecosystem. Earlier, it was stated that there are the Drivers and Enablers at the heart of the Digital Malaysia ecosystem which will support demand-driven initiatives. Drivers and Enablers form the backbone and support of the ICT and digital industry and utilisation. Each element within the Drivers, Enablers and Initiatives of Digital Malaysia need to be in support of one another with an underlying doctrine of an effective Public-Private Partnership. Successful implementation of the Digital Malaysia Initiatives partly lies in the effective and efficient intervention of the Drivers and Enablers.

Efforts to strengthen the connections between the Digital Malaysia Drivers and Enablers will be taken to their next logical steps in 2013. Following the workshop carried out on Drivers and Enablers in 2012, Digital Malaysia will carry through and communicate the findings of the workshop via roundtable discussions and syndication meetings with the identified natural home owners. Realising project alignments and cohesive methods of reaching desired end goals will be the ultimate aim of these syndication and discussion sessions.

To further enhance the Digital Malaysia ecosystem, MDeC together with the EPU, will perform a stock-take exercise of all the government-initiated ICT projects, including those in Block 1 and Block 2 of Digital Malaysia's building blocks.

Among the aims of this exercise are to:

- Identify the alignment of all the ICT projects initiated by the government in Block 1 and Block 2 with Digital Malaysia's aspirational goals, strategic thrusts and communities as well as initiatives;
- Identify total ICT projects commissioned by the government within the vertical sub-sectors, e.g. eCommerce, healthcare, education, transportation, etc; and
- Identify the gaps and duplications of ICT projects and subsequently streamlining them as well as recommending the next course of action to develop a more vibrant ecosystem.





To complement this effort is a government ICT initiatives and projects stock-taking exercise, which MDeC will undertake with the support of the EPU. The exercise also hopes to:

- a) Streamline initiatives and projects under the 10MP to ensure that the necessary ecosystem are created or enhanced to support demand-focused programmes such as Digital Malaysia, GTP and ETP.
- b) Identify gaps and recommend potential intervention to ensure a holistic infusion of ICT and digital technologies across the government sector to drive productivity, innovation and a conducive ecosystem.

### Championing Digital Malaysia

To realise Digital Malaysia at its most optimum level, its game-changing Strategic Thrusts must be communicated to the stakeholders in order to attain maximum buy-in and promote mindset change at all levels.

To achieve this, efforts will be made to appoint Game-Changing Champions to help encourage behavioural change amongst all Malaysians. Among the efforts include identifying appropriate national and thought leadership platforms as a channel to communicate and engage with the government, business communities and citizens at large.

A total of 10 potential Game-Changing Champions comprising five each from the public and private sectors will be selected. These champions may be successful digital entrepreneurs in their own right or influential public figures. Their main role is to advocate the three Strategic Thrusts by targeting the three main Digital Malaysia stakeholders, namely, the government, businesses and citizens. In other words, these Game-Changing Champions will serve as the beacons of change and lead the way for others to follow.



### Delivering Digital Malaysia's initiatives and projects

Successes on the ground must be felt. As such, one of Digital Malaysia's key focuses for 2013 is to ensure that the identified Initiatives and Projects are expanded, further developed and efficiently implemented to deliver the desired results. Ideation and syndication exercises with relevant stakeholders will also be conducted regularly.

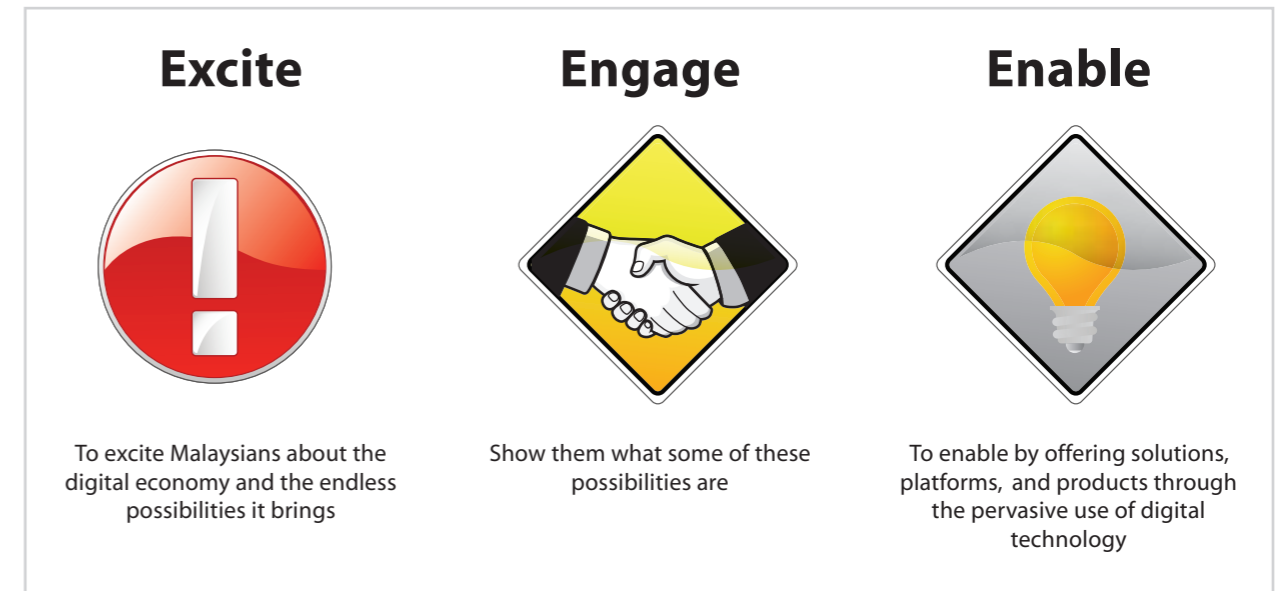
At the same time, DESA will be expanded from just reporting ICT data to include reports on the nation's state of eCommerce as well. A system will be developed and established to collate, track and monitor progress and

development of the sectors within the ICT and digital economy. Based on the information, value-adding insights will be derived. Such insights will be imperative to form the basis for recommendations that will then be put forth in the 2013 Digital Economy Report.

Responsible for these efforts is the Digital Malaysia Steering Committee and the Digital Economy Satellite Account Steering Committee, where both committees will play important roles to steer and drive the implementation of the Digital Malaysia Programme.

### Communicating the tenets of Digital Malaysia

As a way to encourage government bodies, business communities and the general public to partake in shaping Digital Malaysia, MDeC will embark on a mission to excite, engage and enable Malaysians to fully reap the rewards of Malaysia's digital economy.



Awareness will take precedence to get the stakeholders **EXCITED** about what Digital Malaysia hopes to aspire, as well as the opportunities and possibilities it can offer. Following that, they will then be **ENGAGED** in making substantive contributions and efforts in providing cohesive and holistic participation from all parties. Lastly, Digital Malaysia seeks to **ENABLE** the stakeholders to take the necessary actions to support and drive it from all factions. At the end, the desired outcome of reaching out to the people of Malaysia is to create enthusiasm and promote mind-set changes amongst them, to become innovative creators and producers of all-rounded products and services that are either ICT or digital technology-centric, that will contribute to the nation's growth as a whole.

MDeC welcomes ideas and suggestions from entrepreneurs and members of the public on how digital technologies can be used to increase wealth, enhance productivity, and improve living standards or to connect government, businesses and citizens. They may submit their project(s) and have the opportunity to contribute to any of the four Digital Malaysia Initiatives.

Contact MSC Malaysia Client Contact Centre (Clic) at clic@mdec.com.my or call +603 8325 3000 for further enquiries.





**PART H**

# Appendices and Glossary

## Appendix 1: New Digital Malaysia Projects starting 2012

### Project 1: Asian eFulfilment Hub

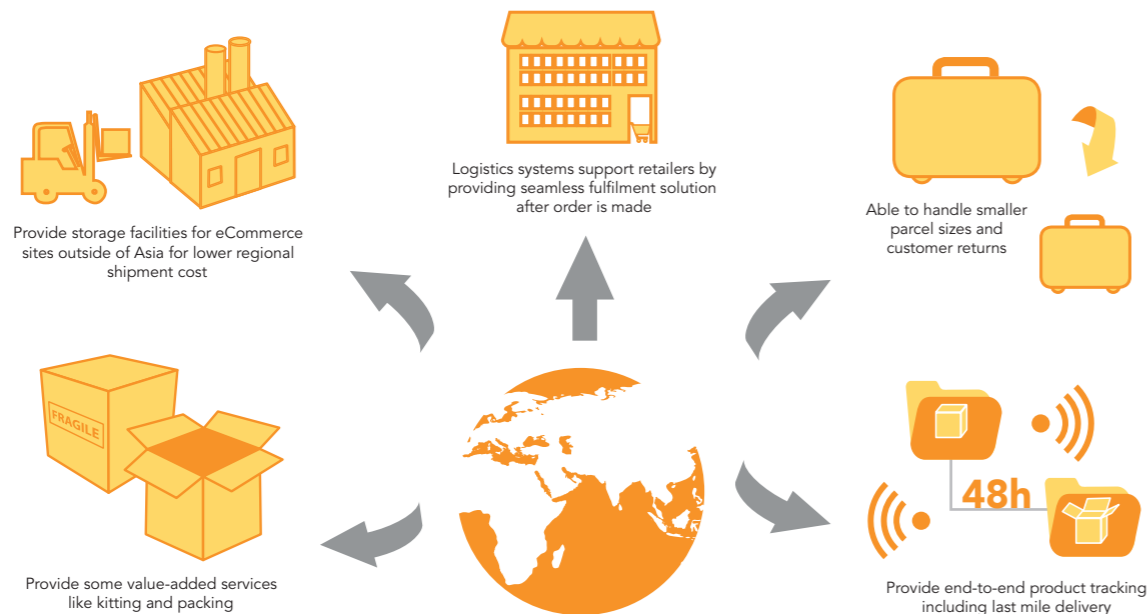
**2020 TARGETS**

|            |                      |
|------------|----------------------|
| GNI        | <b>RM294 million</b> |
| Jobs       | <b>1,622</b>         |
| Investment | <b>RM620 million</b> |

#### About the Project

Logistics and fulfilment make up key components of the eCommerce value chain, facilitating the movement of goods and products of various shapes and sizes across borders, and providing the last mile delivery of eCommerce transactions.

Capitalising on the nation's excellent regional connectivity and to take advantage of the above needs of eCommerce, Digital Malaysia aims to develop Malaysia's eFulfilment capabilities and infrastructure. Through this project, Digital Malaysia will build eFulfilment capabilities and infrastructure in Malaysia, targeting global online retailers to use these facilities as their Asian eFulfilment centre. The hub will offer integrated logistics solutions to global online retailers and also make available comprehensive fulfilment services such as warehousing, packaging and kitting.



The Malaysian Investment Development Authority (MIDA) will act as the Public Sector Lead for the project, with emphasis on making Malaysia the centre of eCommerce logistics and fulfilment services for Asia. This is spurred by the region's projected eCommerce growth from 22% to 35% in the next 10 years. Supporting MIDA in this effort is SnT Global Sdn Bhd which has been selected as the Private Sector Champion.

#### Case for change

The global eCommerce sector has been charting a steady growth pace of about 20% year-on-year and is expected to increase its worth to RM9.6 trillion by 2020. Asia is the main driver of this growth and the region's share in this sector is projected to increase from the current 22% to 35% in 10 years.

#### eCommerce in Asia has been growing



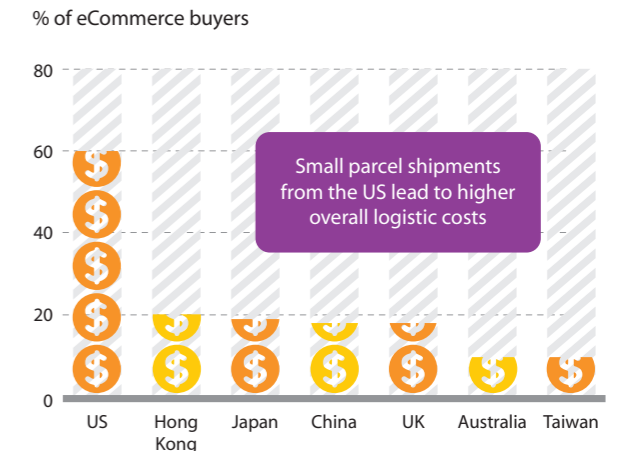
Source: Frost & Sullivan

In addition, emerging economies in Asia have embraced eCommerce with open arms, with countries such as the Philippines, Indonesia and Vietnam recording double-digit growth in online retail. Most of the goods and products for cross-border eCommerce trade originate from the USA which made up about 61% of the total trade recorded. However, cross-border transactions can face some challenges due to stringent requirements on eCommerce transactions imposed by some countries.

As cross-border eCommerce trade grows, a different approach for fulfilment needs to be taken to meet the logistic requirements for this form of trade.

In eCommerce, logistics have to ensure that the cost of shipment must remain a small part of the total cost of the product and be able to provide kitting services where individual and separate but related items can be grouped, packaged and supplied together as a unit. If traditional methods are used, shipment costs will take up a high percentage of the total cost of the products, especially for small ticket items. eFulfilment can achieve lower logistics cost as it provides filling, kitting and packing services to merchants.

#### 61% of all eCommerce imports into Asia originate from the US



Source: Frost & Sullivan

Speed is also of perennial importance due to the fast movement of goods from retailer to customer in eCommerce. With eFulfilment, delivery period can be reduced from approximately 60% to 80% since the products are stocked in the eFulfilment hub.

At the same time, logistics must be able to provide a solution that will keep the cost low for returns and a shorter end-to-end return cycle. Compared to traditional methods, eFulfilment is able to shorten the end-to-end return cycles and keep cost of returns at a manageable level.

Traditional logistics methods provide less visibility of the goods' location where tracking is conducted manually or via a barcode system. With the automated tracking system used by an eFulfilment hub, both the merchants and customers are able to track the location of their goods, right from the warehouse to delivery and receipt of the goods.

### Recommendations

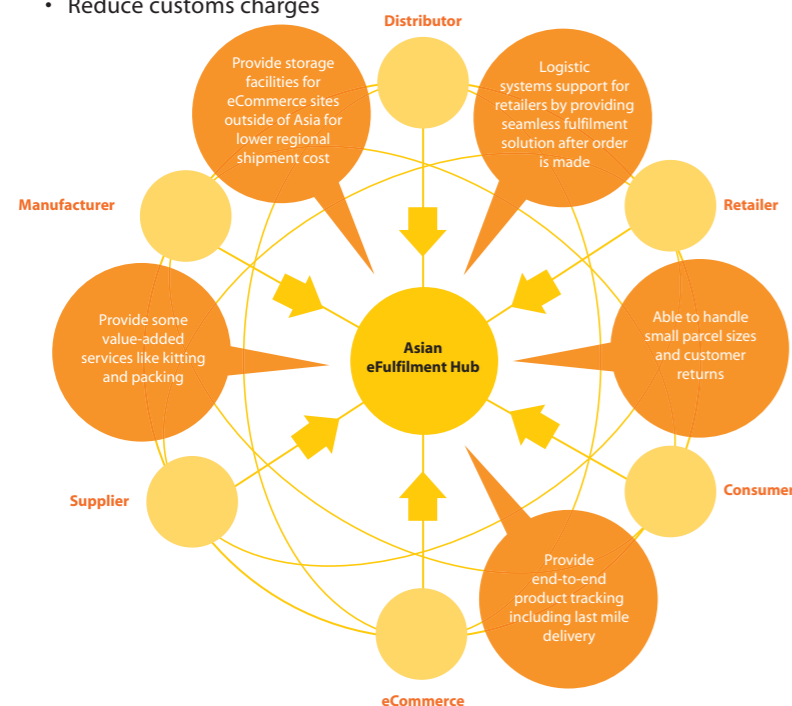
- Build an eFulfilment hub in Malaysia and spokes in other countries
- Infuse ICT in developing the eFulfilment hub
- Secure partnerships with global leading eCommerce retailers
- Streamline trade facilitation processes

The Asian eFulfilment Hub project will capitalise on Malaysia’s strategic location for regional connectivity and develop the necessary infrastructure and capabilities to serve as the region’s eFulfilment centre.

There will be two phases to the project. In the first phase, Malaysia will target the South-East Asian market where it will leverage on the ASEAN relationship. Once this is reached, Malaysia will commence the second phase after 2015 where efforts will be made to extend its reach to China, India and the Middle East by forging local partnerships or acquire distribution assets.

Four recommended initiatives are to be undertaken to realise these ambitions and they are:

1. Build an eFulfilment hub in Malaysia and other spoke countries
  - Leverage on existing strengths in Malaysia’s airport and seaport infrastructure and gain access to surrounding land
  - Explore synergies with existing freight and air transport providers
  - Seek partnerships at local sites to build ‘spoke’ and gain access to last mile distribution
2. Infuse ICT in the building of an eFulfilment hub
  - Enable an eFulfilment hub with the latest ICT-enablement technologies
3. Secure partnerships with eCommerce retailers
  - Secure partnerships with large online retailers in the USA/European Union/Australia
  - Leverage on government-to-government (G2G) arrangements to attract retailers
4. Streamline customs procedures
  - Implement a single-window system at customs to drive the streamlining of processes and lower turnaround time for shipments
  - Reduce customs charges



*“Digital Malaysia will build eFulfilment capabilities and infrastructure in Malaysia, targeting global online retailers to use these facilities as their Asian eFulfilment centre. The hub will offer integrated logistics solutions to global online retailers and also make available comprehensive fulfilment services.”*

### Key activities and achievements in 2012

| Period/Date   | Project Descriptor  |
|---|---|
| 19 June   | MDeC sent appointment letter to MIDA to be the Public Sector Lead for the Asian eFulfilment Hub project.  |
| 31 July   | MIDA accepted the role of Public Sector Lead for the Asian eFulfilment Hub project.   |
| 9 October   | Collaboration between MDeC and SnT Global for the Asian eFulfilment Hub project announced during the Digital Malaysia Partners Recognition ceremony in Putrajaya. |
| 11 December   | Asian e-Fulfilment Hub project was presented at the National Committee on Investment (NCI) meeting for further deliberation.                                      |
| 16 January 2013   | SnT Global received approval letter from MIDA.  |
| <b>Plan of action in 2013</b>   |   |
| To select other potential logistic companies with the right criteria to be part of the project. |   |

### Commitment and impact

By 2020, this project will contribute RM294 million to Malaysia’s GNI. Once fully operational, Malaysia’s eFulfilment services will have a market share of 12.5% in Asia.

The project is also expected to create around 1,622 jobs for Malaysians that ranges from low-skilled labour working at distribution centres to highly skilled professionals who will be responsible for developing and maintaining the eLogistics system for creating end-to-end visibility of the products.

The project will be implemented in phases between 2012 and 2020 and requires a total funding of RM620 million. From the total funding, RM128 million will come from public sector funding.



**Project 2:  
Enabling ePayment Services for SMEs and Micro Enterprises**

|                     |            |                      |
|---------------------|------------|----------------------|
| <b>2020 TARGETS</b> | GNI        | <b>RM5 billion</b>   |
|                     | Jobs       | <b>2,000</b>         |
|                     | Investment | <b>RM600 million</b> |

**About the Project**

Accepting ePayment in business is fast becoming a norm with today's lifestyle demanding higher mobility and security in every area.

However, carrying out business via ePayment methods can be a costly affair to most SMEs and micro enterprises. In 2012, only 17,853 merchants out of 645,136 SMEs and micro enterprises in Malaysia are enabled with ePayment facilities. This accounts for only 2.8%.

Recognising the importance of this method of transaction and the challenges the SMEs and micro enterprises face, Digital Malaysia together with SME Corp Malaysia as the project's Public Sector Lead, embarked on a quest to encourage and enable easier adoption of the ePayment method. Amongst others, the project aims to provide these SMEs and micro enterprises easy access to affordable terminals and readers, thus, enabling them to reap the rewards of ePayment transactions.



***"The benefits of transactions via ePayments are many. ePayments enable merchants to increase their revenues by reducing their cash-conversion cycle. Customers gain through higher safety and security features as well as convenience and efficiency compared to using cash or cheques."***

**Case for change**

One of the monumental challenges that SMEs and micro enterprises face in migrating to cashless transactions is the difficulty in securing a suitable and affordable ePayment service. Hindrance comes in the form of high acquisition cost for processing, high transaction costs, tedious account set up processes and expensive transaction terminals.

At the same time, due to the inherent risks, acquiring banks implement long credit rating and application processes, resulting in applications by SMEs and micro enterprises being rejected. Moreover, majority of the SMEs and micro enterprises do not have the necessary tools such as internet shops or Point-of-Sales (POS) systems to enable them to capitalise on the ePayment functionality.

**Challenges and mitigation steps in ePayment for SMEs and micro enterprises**

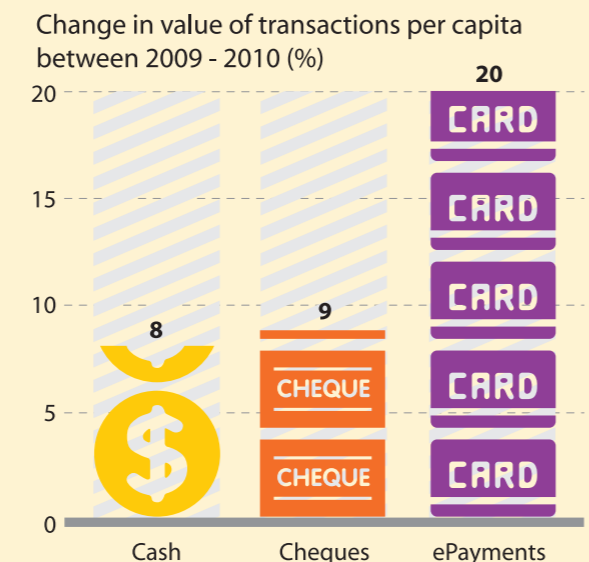
| Key Challenges                              |  | Potential Mitigating Steps  |  |
|---|--|---|--|
| Perceived high ePayment transaction cost    |  | <ul style="list-style-type: none"> <li>Lower margin merchants think transaction charges are too high</li> </ul>   | <ul style="list-style-type: none"> <li>Reduce transaction cost for ePayment</li> <li>Introduce loyalty programme</li> </ul>  |
| Long and painful application process        |  | <ul style="list-style-type: none"> <li>Acquiring banks take necessary but long credit rating process</li> <li>Small merchants often rejected</li> </ul>                                     | <ul style="list-style-type: none"> <li>Allow Third Party Acquirers (TPA) to sponsor SMEs and micro merchants which do not qualify as direct merchants</li> <li>TPAs to offer high level of service due to competitive environment</li> </ul>   |
| High acquisition cost                       |  | <ul style="list-style-type: none"> <li>Acquisition cost (processing, set up account and customer service) remains high</li> <li>Terminal cost remains a hindrance</li> </ul>                | <ul style="list-style-type: none"> <li>Introduce lower cost POS devices</li> <li>Subsidise hardware for SMEs and micro merchants</li> <li>Force adoption in selected areas (eg. reduce toll cash lanes, subsidy through ePayment)</li> </ul>   |
| Lack of current hardware capabilities       |  | <ul style="list-style-type: none"> <li>Majority of SMEs and micro merchants do not have internet shops or POS systems to capitalise on the ePayment functionality</li> </ul>                | <ul style="list-style-type: none"> <li>Empower SMEs and micro enterprises with easy to set up middleware that facilitates ePayments such as:                             <ul style="list-style-type: none"> <li>- Entry level, tablet or smartphone POS systems</li> <li>- Business applications online and offline</li> </ul> </li> </ul> |
| Limitation in Payment Systems Act on eMoney |  | <ul style="list-style-type: none"> <li>Acquiring banks won't recruit individuals to become their merchant to receive card payment</li> <li>PayPal becomes first choice by design</li> </ul> | <ul style="list-style-type: none"> <li>Change regulation to allow for TPA business model to sponsor SMEs and micro enterprises</li> <li>Increase the limit of eMoney liabilities</li> <li>Allow individuals to pay, receive and store money</li> </ul>   |

Source: Industry interviews

However, cashless transactions have always been a goal of developed nations as it brings several benefits to the society in the form of overall cost savings. For merchants, ePayments enable them to increase their revenues as they are able to reduce their cash-conversion cycle which, in turn, reduces their cost of doing business. A 2007 report by Forbes indicated that a business that does not accept cashless payments will stand to lose up to 70% of revenue to their competitors who accept cashless payments.

In addition, customers will also benefit from the safety and security features that ePayment offers, as well as convenience and efficiency compared to using cash or cheque transactions. ePayment will also indirectly help promote financial inclusion at every level of the society.

**Most customers prefer to use cashless or chequeless modes of payment**



- Other benefits to customers:
- Improve safety and security
  - Increase convenience and efficiency
  - Promote financial inclusion

Source: Bank Negara

Evidently, there is an increase in demand to shift to ePayments by both merchants and customers in Malaysia. Between 2009 and 2010, transactions performed through eMoney doubled compared to transactions via cash and cheques. PayPal also witnessed growth in its customer base in Malaysia. On 29 June 2011, PayPal crossed the first 100 million active accounts, recording about half a million Malaysians who currently use their service.

**Recommendations**

- Increase the number of low cost terminals and readers
- This project will contribute to the acceleration of the ePayment ecosystem to promote debit and credit card acceptance
- Create nationwide service hubs
- Offer attractive ePayment service packages

The target for this project is to increase the number of terminals to 43 per 100 persons, which is at par with Taiwan. In addition, the project also aims to push for 50% of new SMEs registered each year to adopt ePayment initiatives into their enterprises. Through this initiative, the new terminals issued will increase to about 100,000 per year.

To ensure that these targets are reached, the project will:

1. Permeate low cost terminal or mobile phone equipped with a reader
  - Leverage on the growing number of smartphones in the country by using attachments or applications that can accept cashless payment modes
  - Aggressively penetrate smaller merchants with low cost device

2. Create the infrastructure to facilitate acceptance of ePayment
  - Promote credit/debit card to SMEs and encourage B2B trade among them to complete the ePayment ecosystem
3. Create nationwide service hubs
  - Provide services for merchant application processing, call centre, walk-in service centre, device maintenance, sales enquiries, workshop and training
4. Offer attractive ePayment service packages
  - The competition between TPAs will benefit SMEs and micro enterprises where there will be cost reduction in ePayment devices, reduction on merchant discount rate and improvement of TPA customer services.
  - Introduce integrated low cost POS terminals

**Key activities and achievements in 2012**

| Period/Date  | Activities and Outcome  |
|--------------|---|
| 15 May       | • MDeC sent Letter of Appointment to SME Corp to be Public Sector Lead for this project.  |
| 17 July      | • SME Corp accepted its role as Public Sector Lead through the formation of the TPA Selection Committee, chaired by SME Corp Chairman, Datuk Ir (Dr) Al Amin Bin Abdul Majid. Members of the Committee are as follows:<br>1) SME Corp<br>2) Bank Negara Malaysia<br>3) MDeC<br>4) CyberSecurity Malaysia                                    |
| 4 September  | • The inaugural TPA Selection Committee meeting was held at SME Corp. The meeting agreed on the Terms of Reference for the committee, the TPA Selection Criteria and Eligibility Criteria for SMEs and micro enterprises.   |
| 28 September | • Four TPAs were approved by the TPA Selection Committee during the Second TPA Selection Committee Meeting. These TPAs are:<br>1) ManagePay Services Sdn Bhd<br>2) iPay88 Sdn Bhd<br>3) MOLPaySdn Bhd<br>4) Revenue Solution Sdn Bhd<br>• Total project budget for 2012 with the total amount of RM5.6 million was transferred to SME Corp. |
| 9 October    | • Digital Malaysia Partnership Recognition with SME Corp was held in Putrajaya.   |

**Project achievements in 2012**

- Merchant Outlet Points enabled: 29,419
  - o 25,556 (Physical Terminals)
  - o 3,763(Online)
- Number of Merchants (SMEs and micro enterprises) enabled: 17,853
- Service Hubs developed: 6
  - o Current Service Hubs established in Subang Jaya, KL Sentral, Cyberjaya, Penang, Ipoh and Kota Kinabalu

**Plan of action in 2013**

- SME Corp, via the TPA Selection Committee, approved the allocation for a marketing and promotion campaign to encourage greater use of ePayment
- Additional 2 TPAs were approved in January 2013:
  - o ePay (M) Sdn Bhd
  - o Casa Works Sdn Bhd
- Project Target for 2013
  - o Merchant Outlet Points: 42,581. This will comprise:
    - Flea market operators
    - Cottage industries
    - Small restaurant operators
    - *Pasar Tani* operators
    - Night market operators
  - o New Service Hubs: 6
  - o Transaction Value (new KPI) = RM14.4 million

**Commitment and impact**

The total funding required for this project is about RM600 million. From this total, RM50 million will be sourced from public funding that will be utilised for device subsidies and marketing campaigns to create awareness among SMEs and micro enterprises on the benefits of offering ePayment services.

By 2020, it is anticipated that more than 45% of SMEs and micro enterprises will be enabled with ePayment facilities.

This project is anticipated to contribute RM5 billion to the country's GNI. Part of the contribution comes from the potential increase in revenues of existing merchants who offer ePayment services while SMEs and micro enterprises, such as online merchants, will also play a part as they are now able to expand their options to accept payment. With a buoyant environment, SMEs and micro enterprises are expected to flourish and create about 2,000 jobs for the market.

**Project 3:  
Shared Cloud Enterprise Services**

**2020 TARGETS**

- GNI **RM300.5 million**
- Jobs **1,572**
- Investment **RM45.5 million**

**About the Project**

Local businesses, particularly SMEs, often lack the resources and knowledge to invest in new digital technology. This impedes their ability to increase efficiency and improve competitiveness.

The key objective of this project is to steer Malaysia's economic organisation and human capital through the development of enterprise shared services, making it the largest in the region with a strong foundation to compete with leading regional players. At the same time, the project also targets the SMEs' adoption of cloud solutions in order to spur them to be 'global vendors', thus, increasing their business volumes by elevating their level of business competitiveness and efficiencies.

**"This project aims to accelerate the adoption of cloud-based enterprise application solution by local companies whilst encouraging more ISVs to offer their services on the Cloud."**

With MDeC as the Public Sector Lead, this Digital Malaysia project hopes to accelerate the adoption of cloud-based enterprise application solution by local companies whilst encouraging more independent software vendors (ISVs) to offer their services on the Cloud. The project also aims to address the shortage of qualified ICT talents in the country by embarking on initiatives that will unearth more ICT professionals in the Software-as-a-Service (SaaS) model through training and certification.

Providing the support to MDeC for this project to reach its key objectives are Vantage Point Sdn Bhd and Strateq Sdn Bhd, two companies which have been selected as the Private Sector Champions.

**Case for change**

SaaS refers to a delivery model where the software and associated data is centrally hosted in the internet cloud that can be accessed via a web browser. Due to its

accessibility, the model is commonly used to host most business applications or shared services and outsourcing (SSO) such as accounting, customer relationship management (CRM), enterprise resource planning (ERP), invoicing, human resource management (HRM), and content management (CM).

More countries have adopted SSO, especially developed nations as well as emerging markets in the Asia Pacific. SSO adoption is expected to grow up to 8% year-on-year. In Asia Pacific, excluding Japan, the number of organisations which are currently using or planning to use Cloud initiatives went up from 22% in 2009 to 45% in 2010 (Source: Springboard Research Aug 2010). The main reasons for the encouraging growth are because it offers cost-effectiveness, fast deployment and is agile in meeting changing business demands.

With more countries using SSO, the potential market growth is tremendous. Notwithstanding, Malaysia still lags behind in the SSO adoption and much needs to be done to ensure it is at par with other countries. According to Frost & Sullivan's July 2011 research, the percentage spent on SSO in Malaysia against overall global IT spending is only 22% compared to Singapore which has a 37% share. The same research also found that 34% of Malaysian organisations are ready to adopt SSO.

SSO adoption can help SMEs and large enterprises save significant costs. Based on industry projections, SMEs can save about 84% in initial IT setup and 37% for recurring IT costs. Large enterprises on the other hand can enjoy savings of about 75% in initial cost and 21% for recurring IT costs.



To encourage more SMEs to adopt SSO, there should be adequate ICT professionals in the market who are able to provide guidance and training to these companies on the installation and usage of the various applications. In Malaysia, there has been a decline of 6% year-on-year on the enrolment of ICT professionals in institutions. Thus, there is a need to establish a Centre of Excellence (CoE) which can produce more ICT professionals for the market's needs.

What this project seeks to achieve is to drive more local companies to adopt outsourcing services. Once this is achieved, more companies will be able to garner more knowledge on the international market which can be used as a platform for their overseas expansion initiatives.

**Recommendations**

- Expand the adoption of cloud-based enterprise application solutions and SSO both domestically and regionally
- Collaborate with government agencies in driving cloud-based enterprise application solutions/SSO awareness among GLCs and agencies
- Educate SMEs on SSO and Cloud best practices
- Establish a CoE to consolidate the country's cloud-based enterprise application solutions training into a single cost-effective programme

Four initiatives have been identified to help push this project towards its targets:

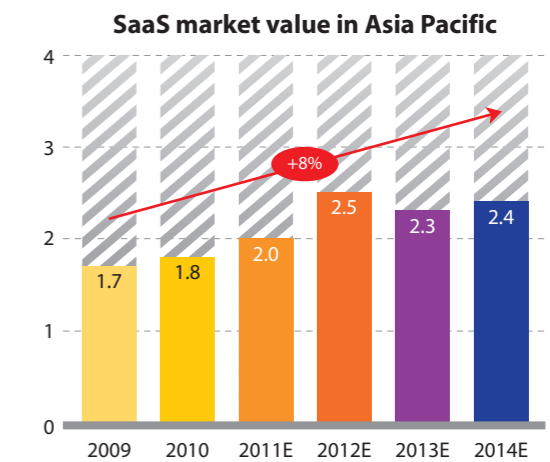
1. Expand the adoption of cloud-based enterprise application solutions and SSO both domestically and regionally. Enlist the Malaysian Administrative Modernisation and Management Planning Unit (MAMPU) to assist with G2G security and data privacy clearance to enable cross-border services hosting for selected restricted countries.
2. Collaborate with government agencies such as the Ministry of Finance, Khazanah Nasional Berhad, MAMPU, the Putrajaya Committee to drive SSO awareness and adoption amongst GLCs and government agencies.
  - Drive awareness through GLC High Performance programme
  - Set policy to standardise reporting to increase potential to leverage standard applications
3. Collaborate with SME Corp to educate SMEs with SSO and Cloud best practices.
  - Explore bundling government-led financial packages with cloud-based enterprise application solutions package to enable KPI management by respective financial providers
4. Establish a CoE to consolidate the country's cloud-based enterprise application solutions training into a single cost-effective programme. The CoE should have key

characteristics such as open admission for new college graduates who will be charged a minimal programme fee which may be subsidised through government grants. In addition, the CoE should:

- Develop a curriculum to train new graduates with essential ICT, linguistic, and soft-skills to prepare them for the job market
- Set up supporting ecosystems for placements of the certified EAS professionals upon graduation

**SSO market is rapidly growing in Asia Pacific**

Market value (US\$ billion)

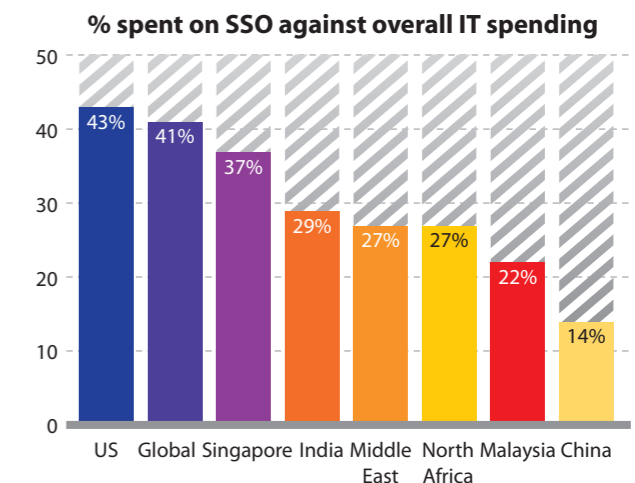


E = Estimate  
45% of organisations in Asia Pacific, excluding Japan (APEJ) are either currently using or planning Cloud initiatives, up from 22% in 2009

Source: Springboard Research, Aug 2010

**Malaysia lagging behind in SSO adoption**

% Share of IT spending



34% of Malaysian organisations are ready to adopt SaaS

Source: Gartner, Frost & Sullivan



**Key activities and achievements in 2012**

| Period       | Activities and Outcome  |
|--------------|---|
| April        | Vantage Point Sdn Bhd was appointed as the Private Sector Champion for the project. The company embarked on their cloud expansion plan by working with SAP Malaysia Sdn Bhd on a joint cooperation for the SAP Business One 'on the cloud initiative'.  |
| July         | Global Sourcing Cluster (GSC), a department within MDeC, was given the mandate to take over the lead as the Public Sector Champion. In its capacity as the lead, GSC's primary task is to facilitate and assist local companies to move up the value chain and be competitive in the global markets.  |
| August       | InfoTech Cluster, a department within MDeC, took over the helm from GSC as the project lead. InfoTech was deemed more suitable to take on the lead role due to its immediate focus on developing their suite of innovative Go-To-Market models, particularly investing in key technologies such as Cloud Computing.   |
| 25 September | Strateq Sdn Bhd was approved to be the second Private Sector Champion at the Fourth Digital Malaysia Steering Committee Council. With the inclusion of Strateq, the Cloud-based Enterprise Applications, or EAS adopters, increased from one to a total number of 405 adopters. At the same time, the new graduates from the CoE have also risen from 47 to 168 cumulatively. |
| 9 October    | At the Digital Malaysia Partnership Recognition Ceremony, both Strateq and Vantage Point were recognised as MDeC's partners.  |

**Plan of action in 2013**

- For 2013, this project aims to encourage more participation from technology providers and partners. By participating, the service providers will be able to deliver competitive cloud services, culminating in the availability of a range of affordable cloud solutions for the benefit of SMEs.

**Commitment and impact**

This project is expected to contribute about RM300.5 million to the nation's GNI and bringing about 1,572 jobs by 2020. These knowledge workers will earn salaries that commensurate with their knowledge and training while simultaneously providing the highly sought consulting services to the SMEs.

The estimated funding required to realise this project is RM45.5 million which will be fully financed by the private sector. The funds allocated will be used to set up the data centre to host the applications as well as the cost to construct the CoE.



**Project 4: Develop On-Demand, Customised Online Education**

**2020 TARGETS**

- GNI: **RM265 million**
- Jobs: **1,025**
- Investment: **RM39.8 million**

**About the Project**

One of the core features of a developed nation is the availability of skilled and innovative talent pool. These talents must not only be technically the right fit for a job but also be armed with the necessary cognitive, entrepreneurial and soft skills.

Currently in Malaysia, most learning programmes are 'one size fits all' which can result in an uneven distribution of knowledge and education. This may give rise to Malaysia having human resources that are regimented and lacking in individualism – leading them to be mere followers rather than influencers.



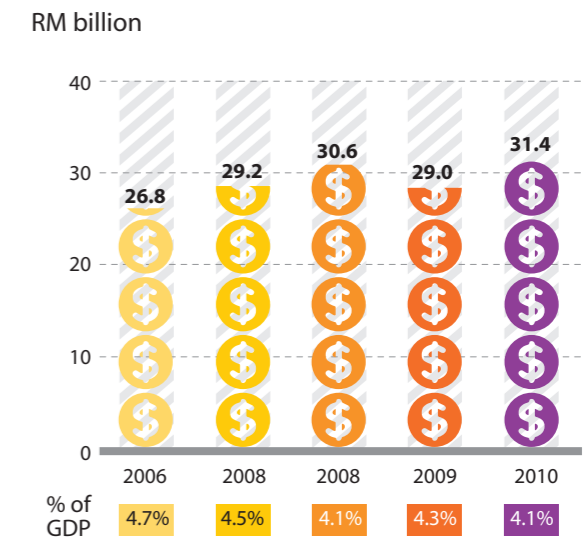
To address this challenge, Digital Malaysia is developing a centralised customised education and learning exchange portal (CELEX) that will, amongst others, serve as online classrooms for both degree and non-degree programmes, education and career counselling service providers as well as meeting points for employers and students. This portal will be open to students from all age groups as well as working professionals, who will be able to access rich learning content and obtain certification from different institutions around the world.

This online experience is envisioned to provide a robust environment for learners of all ages to interact, exchange ideas and create, at a cost effective and technically efficient manner, thus, making their learning experience fun, affordable and customised to their needs.

MDeC, has been appointed as the Public Sector Lead for the project, and is currently supported by Sage Interactive MSC as its Private Sector Champion.

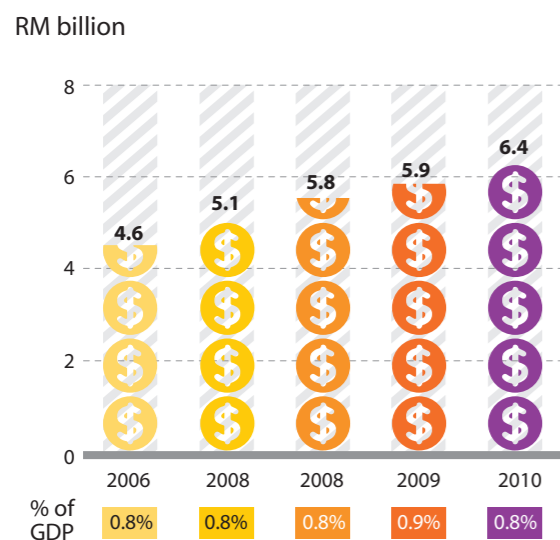
**Case for change**

Malaysia's expenditure by both the government and consumers amount to 5% of the country's GDP. It is expected that consumer spending on education will grow from RM6.4 billion to RM12.9 billion by 2020.





**“Not only does the CELEX portal offer education and career counselling to all students, it will also serve as a virtual meeting point for employers and students. This in turn leads to the creation of a buoyant online education ecosystem that will spur the growth of knowledge workers in Malaysia.”**



There is evident uneven distribution of accessibility to quality teachers and schools which leads to an uneven distribution in terms of quality of education, especially in rural and remote areas. The situation is compounded by the fact that lessons are taught in classroom settings that limit opportunities to learn outside the formal school setting.

In the tertiary education segment, there are a number of institutions in Malaysia which are currently offering online courses. They are:

- Wawasan Open University
- Open University Malaysia
- University Tun Abdul Razak
- Multimedia University
- Malaysia Education Online

The courses offered by these institutions only cater to specific target groups and have limited offerings to secondary school dropouts aged between 15 to 17 years old. Students are also not given the flexibility to choose courses from different institutions to obtain their desired degree programme. Even the courses provided by these universities are limited with practically very few offerings for online technical and vocational training. There is also no platform for employers to interact directly with students on specific skills-on-demand.

These challenges can be addressed through ICT and digitalised education as enablers for customised and remote learning opportunities.

Even though there is a large spending on education, the current system can be further improved to overcome two key challenges, namely, the lack of customisation of the programmes and uneven distribution of the system.

The current Malaysian education system is unable to meet the different needs of children. For example, some children who are gifted may find that the current system is inadequate to help them realise their full potential, while those who are challenged may be left behind. Also, some may find that what is currently offered at classrooms may not necessarily match their interest.

### Recommendations

- Develop CELEX as the central education market place connecting educational content providers with students
- Allow students to combine online courses from different schools into a recognised degree
- Provide education and career counselling
- Create a virtual meeting point for employers and students

The initiative identified for this project is a customised education and learning exchange portal (CELEX) which will look into the customisation or distribution of eLearning outside the standard classroom. Simultaneously, it will complement the existing initiatives and leverage on their connectivity.

- By establishing CELEX in Malaysia, students will get access to:
- programmes which allow combining courses from different institutes;
  - online courses, both certified and recreational;
  - education and career counselling, also termed as ‘career DNA’;
  - educational materials; and
  - provide a meeting point for employers and students.

This portal will spur the creation and growth of a larger online education ecosystem that includes education content and course providers.

Among the key advantages of establishing the CELEX is lower course costs compared to traditional education methods. With a large student base, CELEX will be able to attract multiple content providers to provide similar courses, thus offering more variety to students. Additionally, content providers are able to utilise CELEX as a platform to showcase their offerings. Another key feature of CELEX is that it allows users to customise the courses that they have chosen to fit their educational needs.

### Key activities and achievements in 2012

Various activities were held throughout 2012, among which were syndication exercises, strategic meetings and pilot programmes with relevant government ministries and agencies, public and private higher learning institutions, content providers and book publishers. These activities were held with the objective of gaining input and support as well as sourcing for quality educational content, digital reading materials and sustainable activities for CELEX.

The activities were:

1. Digitisations of 500 local titles funded through an investment of RM800,000 by the government into CELEX.
2. Syndication exercises that included:
  - Syndication with Perpustakaan Negara Malaysia (PNM) leading up to the launch of eBook and eMagazine services on CELEX
  - CELEX introduction and hands-on session with students from Nadi Ilmu Amalan Membaca (NILAM), organised by the Ministry of Education (MOE)
  - CELEX introduction to Science, Technology, Engineering, Mathematics (STEM) Workshop to MOE and industry players
  - Launch of Skillsoft courses on the CELEX portal
  - Commencement of the content development project at the Islamic Banking and Finance Institute of Malaysia (IBFIM)
3. Pilot programmes implementation, such as:
  - VocabNetwork USA – CELEX modules piloted at Universiti Teknologi MARA (UiTM) and Management and Science University (MSU)
  - JOOTA – CELEX modules piloted at three schools in Selangor in collaboration with the Selangor Education State Department
4. Collaborations with content providers, such as:
  - NDA signed with Vocab Network
  - MoU signed with BrainPOP, USA
  - MoU signed with One Click Digital DCA
  - MoU signed with Universal Class DCA
  - MoU signed with Transparent Language DCA
  - MoU signed with CPH Technology
  - MoU and retail agreement signed with Pelangi
  - Commercial agreement signed with Nuazure
  - Commercial agreement signed with PNM Overdrive
  - Commercial agreement signed with PNM Zinio
  - Content development agreement signed with IBFIM
  - Content development agreement signed with MHRIM



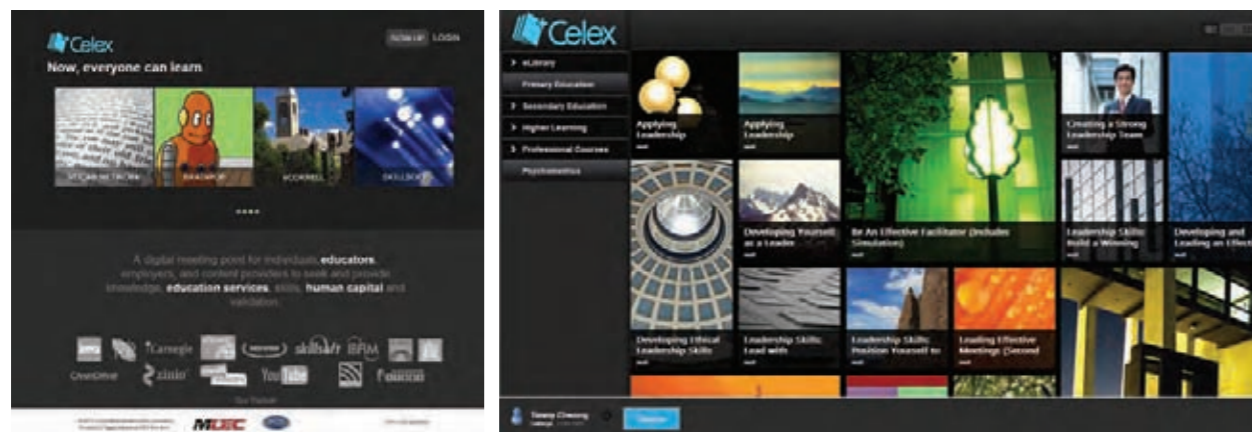
## Achievements in 2012

As a result of the initiatives taken with local and global partners, many users have become CELEX members, thus, creating a greater CELEX presence and increasing its popularity as the place for networked lifelong learning. This has enabled CELEX to achieve the following outcomes:

- Establishment of a one-stop online platform. The CELEX portal is the digital meeting point for individuals, educators, employers and content providers to seek and provide knowledge, education services, skills, human capital and validation. As of December 2012, CELEX users reached a total of 2,589.
- Foundation for growth of the larger ecosystem for educational content and content providers. As of December 2012, the CELEX programme collaborated with 11 content providers and achieved GNI of RM4 million, with private investments of RM6.1 million and created 25 jobs.
- Increased number of digital books by local publishers. As of December 2012, 500 local books have been digitised from local publishers, such as, collections from the National Library and Pelangi Publisher.

Digital Malaysia has established a platform that will enable the achievement of the ultimate goals of CELEX which are to make learning easy and accessible to all, to enable individual self-enhancement and to connect learners to the world's knowledge.

The CELEX portal can be accessed at [www.celex.com.my](http://www.celex.com.my)



## Commitment and impact

The CELEX portal and the ecosystem of online courses including the content providers will generate RM265 million by 2020 and create 1,025 jobs. On standard of living, the project will create better education opportunities which will lead to higher income and better distribution. It will also help decrease unemployment rate by allowing more Malaysians to have access to formal and information education. CELEX also plays a part in saving the environment by cutting down the need for usage of papers through the utilisation of online resources such as eBooks.

The investment set to develop this project is RM39.8 million.

## Project 5: Microsourcing to Generate Income for the B40

**2020 TARGETS**

- GNI **RM2.2 billion**
- Jobs **340,000** task workers
- Investment **RM413 million**

### About the Project

Microsourcing or crowdsourcing, is the distribution of well-defined discrete or micro tasks, to a potentially large group of networked users (such as task or micro workers) through the internet. The flexible nature of these tasks mean that they can be completed at anytime and anywhere, and require only basic internet-connected devices such as application-capable phones, tablets, netbooks or notebooks and personal computers.

Although anyone can participate as a task worker, it especially offers opportunities to people outside the traditional workforce and those at the bottom 40% of the community (B40) who want to increase their income. In the Malaysian context, the definition of the B40 is those with household income of RM1,440 per month or below, and may include:

- Homemakers, including those who used to work full-time
- Retirees and senior citizens
- Unemployed graduates
- Recently laid-off workers
- Part-time workers
- Disabled citizen who are capable of knowledge work
- Prison/institution inmates
- Under-employed

Among the tasks that can be distributed to this group of workforce are:

- Data entry
- Data-gathering, including census-taking and price watch
- Promotional service
- Translation

This project, with the Ministry of Women, Family and Community Development (KPWKM) as the Public Sector Lead, focuses on unearthing the 6.6 million latent workforce which currently exists in Malaysia by offering them digital access that will help them generate some income.

### Case for change

Currently, the total traditional outsourcing market is estimated to be worth approximately RM5.4 trillion globally which is largely driven and served by large corporations. It is expected that the total worldwide microsourcing market will experience accelerated growth over the next few years.

Malaysia has the resources to tap into the vast opportunities of microsourcing. There are about 338,000 unemployed workers in the country of which 34% possess a diploma or higher qualifications. There is also a high adult literacy rate of 92% (2005-2008) and a majority of Malaysians are multi-lingual with the ability to speak in English, Bahasa Melayu, Arabic, Chinese and Tamil.

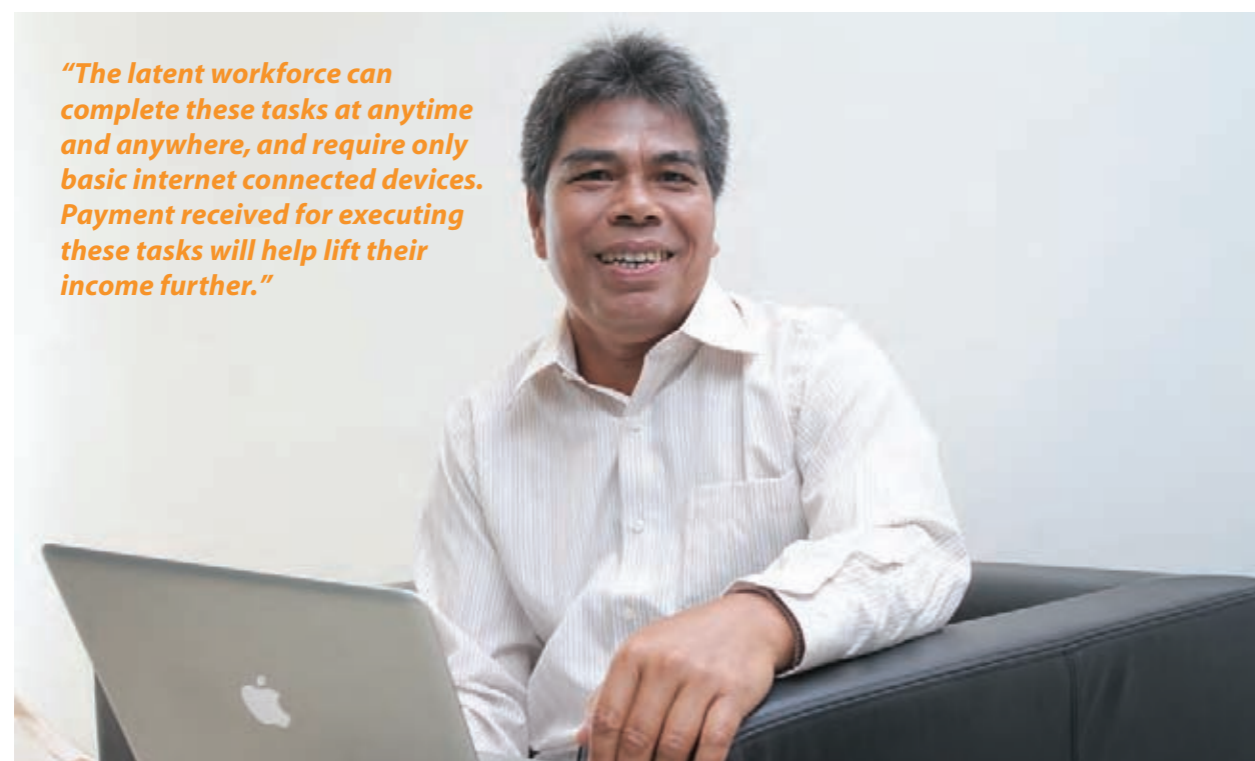
For connectivity, Malaysia has the right infrastructure to drive microsourcing further. Malaysians generally enjoy great connectivity through the internet and mobile phones. This has led to a high mobile penetration rate which stood at 119.2% while broadband household penetration rate and internet user penetration rate are 57.6% and 62% respectively. Plus, there are about 2,400 broadband community centres available nationwide that can be used potentially as a work location.

Additionally, Malaysia has a high degree of knowledge of Islamic affairs and sensitivity towards it. This factor can be an advantage when seeking microsourcing for Islamic finance business processing.



Companies can also benefit from micro-sourcing which offers cost reduction. At this point of time, SMEs and individuals have yet to outsource micro tasks to resources outside of their organisation. However, if they are to outsource selected tasks or gain access to external resources, they would be able to cut down some of their operational costs.

Outsourcing will also help companies and outsourcers to lessen the pressure on their existing resources, especially for surge and project-based work. This will also apply to large tasks such as conducting census which can be executed more efficiently by large groups of people.



### Recommendations

- Establish private-public sector collaboration to spearhead micro-sourcing in Malaysia
- Catalyse local micro-sourcing platform champions
- Nurture, recruit and train task workers
- Create and capture demand both domestically and internationally


With its available resources, Malaysia aims to build the country into a worldwide centre for micro-sourcing. To realise this aspiration, four initiatives will be implemented under this project.

The first initiative involves establishing a private-public sector partnership to spearhead micro-sourcing in Malaysia while the second initiative looks at catalysing local micro-sourcing platform champions. To kick start the second initiative, the project will identify a "reference" champion and grow the number to reach its target of 15 companies/platforms by 2020.

The third initiative is to nurture, recruit and train the task workers. Basic training on computer literacy skills will be given to enable the recruited task workers to perform simple tasks such as data collection and data entry for corporations and organisations.

For the fourth initiative, the project aims to create and capture demand for micro-sourcing in the domestic and international market. This is achieved by promoting Malaysian micro-sourcing firms internationally and to allocate part of the government's existing or planned spending to micro-sourcing.

### Key activities and achievements in 2012

| Period/Date               | Activities and Outcome   |
|---------------------------|--|
| 18 July                   | <ul style="list-style-type: none"> <li>• The Micro-sourcing for B40 Implementation Committee (MSIC) was formalised, chaired by the Secretary-General of KPWKM. The committee is mandated to steer, oversee and make implementation decisions related to the project. This committee comprises multi-stakeholders from key ministries and agencies from the public sector; private sector champions as well as members of the academia and relevant NGOs. Two subject matter experts - Datuk Dr Tengku Mohd Azzman Shariffadeen and Prof Datuk Dr Syed Othman Alhabshi - were also part of the MSIC. The committee has also been positioned as a sub-committee reporting to the Low Income Household – National Key Result Area (LIH – NKRA) Steering Committee, chaired by the Deputy Prime Minister.</li> </ul>  |
| 25 July                   | <ul style="list-style-type: none"> <li>• A Micro-sourcing Strategic Study was commissioned to Universiti Teknologi MARA (UiTM). The Study was completed by end 2012.</li> </ul>  |
| 29-30 August, 20 December | <ul style="list-style-type: none"> <li>• Two national micro-sourcing workshops were held, which saw the participation of stakeholders from all sectors to discuss the micro-sourcing programme development and implementation strategies.</li> </ul>   |
| 22-23 October             | <ul style="list-style-type: none"> <li>• The project team attended the Crowd Business Model Summit and CrowdConf 2012 in San Francisco to identify potential collaboration with international crowdsourcing players.</li> </ul>  |
| 29 November               | <ul style="list-style-type: none"> <li>• The MSIC approved four local micro-sourcing platforms to conduct pilot micro-sourcing training programmes for the B40s. To date, about 410 individuals from B40 households have been trained and equipped with basic ICT knowledge and the soft skills needed for them to become micro workers.</li> </ul>  |

### Plan of action in 2013

- In 2013, apart from efforts to train B40s to become micro workers, the project will also focus on generating demand for the local micro-sourcing industry with activities such as:
  - o Promotion and engagement with local businesses/corporations to introduce micro-sourcing/crowdsourcing as one of the options to complete jobs
  - o Discussions with international crowdsourcing players with the aim of bringing overseas micro tasks to Malaysia
  - o Current Service Hubs established in Subang Jaya, KL Sentral, Cyberjaya, Penang, Ipoh and Kota Kinabalu
- The project has also identified key events to participate as part of its efforts to generate demand. In support of this, local micro-sourcing platforms are also continuously enhancing their platforms and developing niche areas in the micro-sourcing industry.

### Commitment and impact

The project is expected to generate RM2.2 billion revenue and create jobs for 340,000 task workers, with an approximate investment of RM413 million by the year 2020.

More importantly, the project will have a significant impact on the standard of living of the latent workforce, or the B40s, as their income distribution will greatly improve through the complementary income earned by them. The secondary benefits that they will gain from the project is that micro-sourcing allows them the flexibility to work at any time from any location of their choice, and the increased education they would obtain from the additional training given to them to develop their skill set.

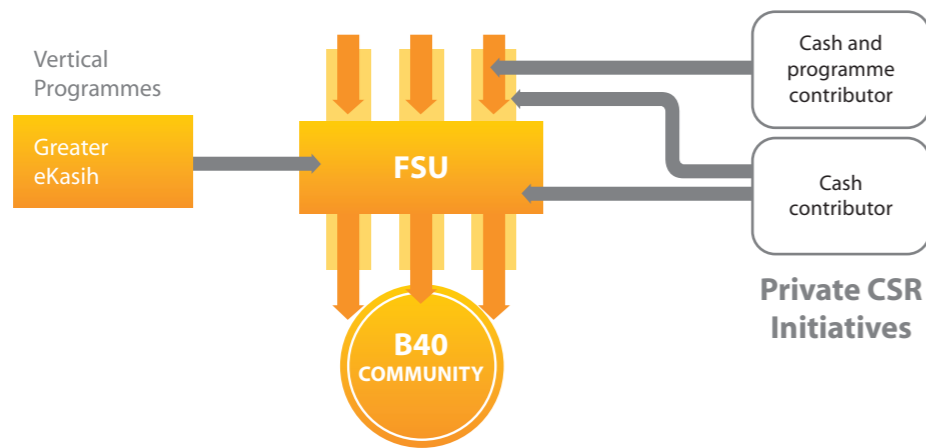
**Project 6:  
Facilitating Social Uplift**



**About the Project**

Malaysia has countless societal programmes that are run both by the public and private sector. Due to the multi-faceted nature of these programmes, a structured methodology needs to be drawn out to consolidate them into a cohesive structure that will bring about meaningful outcomes to uplift the social well-being of every level of society.

ICT-enabled systems can achieve this end goal and can support both the planning and deployment of these various projects and programmes in order to bring a greater and more holistic good to the people.



The Ministry of Women, Family and Community Development (KPWKM) has taken helm of this project as the Public Sector Lead. Specifically, the Ministry shall focus on socially uplifting the nation's bottom 40% of the community or better known as the B40. The Ministry is collaborating with MDeC to ensure that the ICT system and tools have the necessary and efficient mechanics to plan, match and distribute vertical programmes and funding to the target communities and need areas. The project will also provide the proper mechanisms to redistribute and track these programmes, and obtain feedback from the target communities.

**Case for change**

Generally, the community facilities or programmes currently deployed are not producing enough desired outcomes. This is primarily due to the lack of engagement with targeted communities before and after deployment of the programmes. As a result, some programmes were found to be ineffective in addressing the community needs and issues.

At present, most of the societal programmes ranging from healthcare, education, employment, entrepreneurial opportunity, infrastructure, nation-building and direct monetary aid, rely heavily on government resources. Although it is acknowledged that the private sector and NGOs have also made contributions for the betterment of society, their contributions are confined to a rather limited spectrum of community and need areas. Some of the more popular examples include assistance or programmes for orphanages.

Another factor that contributed to the shortcomings of current programmes is the top-down execution and the silo approach taken by agencies as well as the lack of end-to-end inter-agency collaborations. Also, the low value placed by the communities on the facilities and programmes contributed to their lack of cooperation to provide the necessary feedback. To change the community mindset, the methodology and approach towards programme deployment need to be revised.

With this project, it is hoped that the private sector will be able to collectively affect a wider distribution in a more equitable fashion. As the nation's economy prospers, more private sector corporations are increasingly willing to contribute to society as part of their Corporate Social Responsibility (CSR) exercise. However, there are concerns raised by the business community which needs to be tackled in order to realise a higher and steady stream of private contribution.

These issues include:

- Lack of transparency on the utilisation of funds by third-party programme implementers;
- Difficulty for private contributors to identify and reach the target communities on their own; and
- Lack of expertise in the deployment, tracking and impact assessment of programmes.

Hence, this project has been designed to effectively address all these requirements, by employing ICT as an enabler and streamlining the interest of multiple stakeholders as well as the target beneficiary viewpoints.

**Recommendations**

- Verify and manage structured community data including needs and issues
- Data analytics on root cause of issues and reports on social landscape at various levels
- Design of need-based programmes for CSR and promotion to private corporations
- Conduct pre-deployment simulation needs to measure potential impact and outcomes
- Roll out this programme via a structured deployment mechanism to all states

There are currently no independent monitoring mechanism to monitor the progress and effectiveness of the facilities and programmes. With the right system and support services in place to ensure proper planning, executing and monitoring of programmes, the project is expected to attract greater contribution from the private sector and NGOs by enabling them to reach out to the wider spectrum with improved efficiency and accuracy. Hence, with this project in place, a structured methodology will be created which will enable the implementation of a more effective social uplifting programme.

The structured system shall be able to:

1. Verify, update, process and manage dynamic data to be transformed into socio-economic reports;
2. Create community portfolios based on the different needs, issues and priority groupings;
3. Generate pre-deployment simulations to measure potential impact and outcomes; and
4. Facilitate programme implementation by offering services and accessibility to a network of volunteers, micro workers, and local community facilities throughout the states and eventually nationwide.

***"A structured methodology will be developed to match community development programmes and funding distributions to the right communities and areas. Proper mechanisms will also be provided to redistribute and track these programmes as well as obtain feedback from the target communities."***

### Key activities and achievements in 2012

| Period/Date | Activities and Outcome   |
|-------------|--|
| Q1-Q2       | <ul style="list-style-type: none"> <li>During the first six month of 2012, a series of discussions and planning were held with KPWK and the Implementation Coordination Unit (ICU) of the Prime Minister's Department to review the project's scope and establish relevant linkages and synergy between the project's system and Greater eKasih, particularly on community database. It was agreed that the project component on data collection and verification of the poor and hard core poor groups be omitted. Instead, the project will leverage on Greater eKasih as one of its sources of statistical data to generate reports on social landscape at the state and district levels and to create different B40 portfolios.</li> </ul>   |
| Q2          | <ul style="list-style-type: none"> <li>A workshop and a series of dialogues with NGOs and the private sector was conducted in May 2012 to gain a better understanding of the issues faced by them in terms of planning and implementing societal programmes. These events also sought to obtain inputs and feedback on the project concept and scope, including its system process flow and related activities. The project was well received by the participants. As a start, 10 of them agreed to be the pioneer users of the platform where it will be used to deploy their programmes</li> <li>Taking into account all inputs, the project scope was further revised to include state-wide development of local volunteers, which will be networked and made accessible to support deployment of societal programmes. The revised scope, including its procurement approach, was subsequently approved by the Digital Malaysia Steering Committee in June, with Pahang identified as the pilot state.</li> </ul> |
| Q3          | <ul style="list-style-type: none"> <li>In September, and following syndications with the Pahang State Government, the Menteri Besar of Pahang agreed that Perbadanan Kemajuan Negeri Pahang (PKNP) will helm the project at the state level.</li> </ul>  |
| Q4          | <ul style="list-style-type: none"> <li>On 28 November, a Memorandum of Understanding (MoU) was signed between MDeC, KPWK and the State Government of Pahang, on their respective roles and responsibilities.</li> <li>On 28 December, a contract agreement was signed between PKNP and Cypress Diversified SdnBhd, the Private Sector Champion.</li> <li>By year end, 90% of the platform's system was completed and fully funded by the Private Sector Champion.</li> </ul>   |

### Plan of action in 2013

- Initiate pilot projects, with the first scheduled pilot to be held in Pahang beginning January 2013, and two other states to be identified in the second half of 2013. For the first phase, the Pahang pilot project will consolidate and profile 200,000 B40 citizens in the state. It will also directly engage and funnel 60,000 B40 community members into relevant programmes/activities to be deployed by agencies and the private sector.
- Train 1,000 volunteers and wire up 100 community centres throughout the State, in order to facilitate deployment of vertical programmes to the community.
- Carry out engagement workshops with the private sector and NGOs to introduce platform concept, and get buy-in from them to contribute and become platform users. It is expected that RM1.5 million worth of programmes/aid will be contributed by the private sector and NGOs via the platform by end 2013.

### Commitment and impact

The project will need a total investment of RM72 million which will be channelled to obtain the necessary resources to develop a structured system and relevant content. Nonetheless, the benefits obtained will be great as the social programmes and facilities implemented will be able to reach the targeted segment of the society and uplift their social well-being. The system will also be able to gather public feedback and give an overview of the state of welfare in the country, hence, allowing the government to improve the nation's societal programmes.

The project is expected to contribute RM70 million to the nation's GNI and create about 1,400 jobs, and attract private contribution of RM72 million worth of societal programmes and/or aid by 2020.

### Success stories from the Pahang FSU experience

|   |   |
|---|---|
| <p><b>Rubber tapper turned ICT trainer</b></p>  <ul style="list-style-type: none"> <li>Nurul Fatimah binti Abdullah, a 29 year old rubber tapper from FELDA Kampung New Zealand, attended the ICT Trainers Programme</li> <li>She then became a part-time ICT trainer and is now a role model for ICT in Kampung New Zealand</li> </ul>   | <p><b>More than 4,000 underprivileged students identified and trained for 1 Azam Programme</b></p>  <ul style="list-style-type: none"> <li>4,638 pupils (age 7-12) from poor families who were identified via the FSU database were trained in the ICT Starter Programme</li> </ul>   |
| <p><b>A new crowd puller to surau/mosques</b></p>  <ul style="list-style-type: none"> <li>Digital Quran Comprehension classes were conducted and was facilitated by local <i>Ustaz/Ustazah</i> in Kuala Tembeling, Selendang 3&amp;4 and Sentosa</li> <li>Within three months, attendance has doubled. Attendees comprised mainly senior citizens who are generally not technology-inclined</li> </ul> | <p><b>50 NGOs/Clubs make Pusat Induk Komuniti (PIK) their preferred base for access to technology and knowledge network</b></p>  <ul style="list-style-type: none"> <li>Various organisations (e.g Pencinta Sungai, Persatuan Pengasuh, Kelab Pemilik MyVi, JAIP) have access to high-end multimedia facilities</li> </ul> |

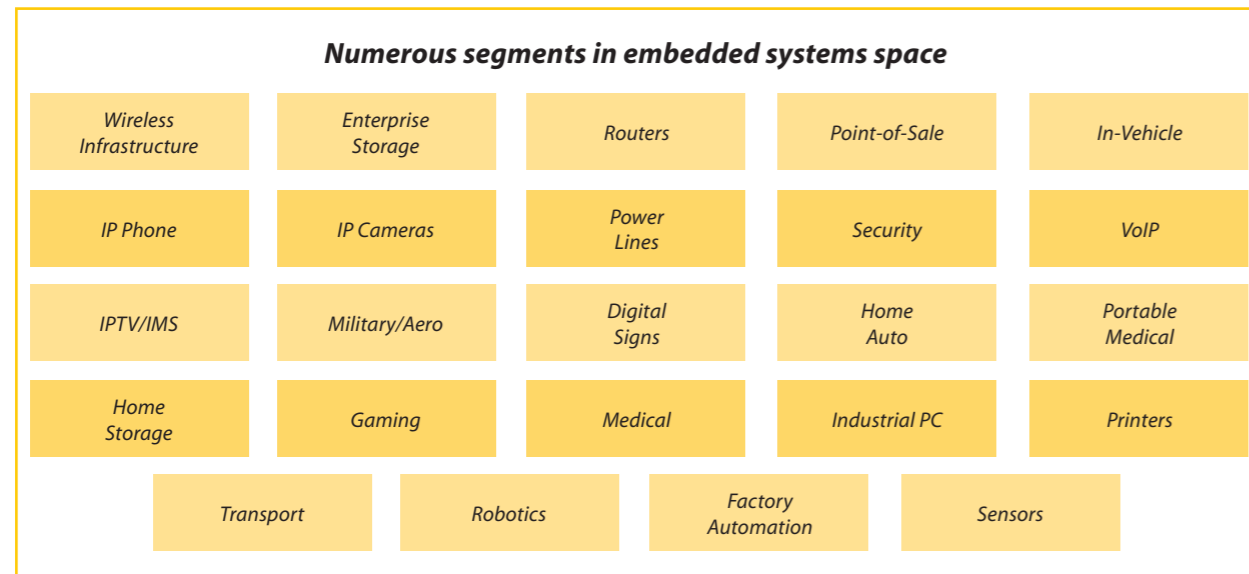


**Project 7:  
Grow the Embedded Systems Industry**



**About the Project**

Embedded systems are intelligent solutions with tightly integrated hardware and software, designed to perform a dedicated function. These systems are currently represented in over 80 industry segments including wireless infrastructure, enterprise storage, in-vehicle infotainment and factory automation.



Digital Malaysia's 'Grow the Embedded Systems Industry' Project aims to develop the embedded systems industry as a new source of growth to capture the growing global embedded systems market. This is achieved by capitalising on Malaysia's established electronics ecosystems and skilled local enterprises.

The project will be helmed by MDeC as the Public Sector Lead, with Intel Malaysia, as the Private Sector Champion. Avenues for participation is open to all Malaysian Embedded Systems Development Companies (SME) where opportunities lie within areas that include technology access, training, funding for embedded systems product development, go-to-market assistance and prospects to work with technology leaders.

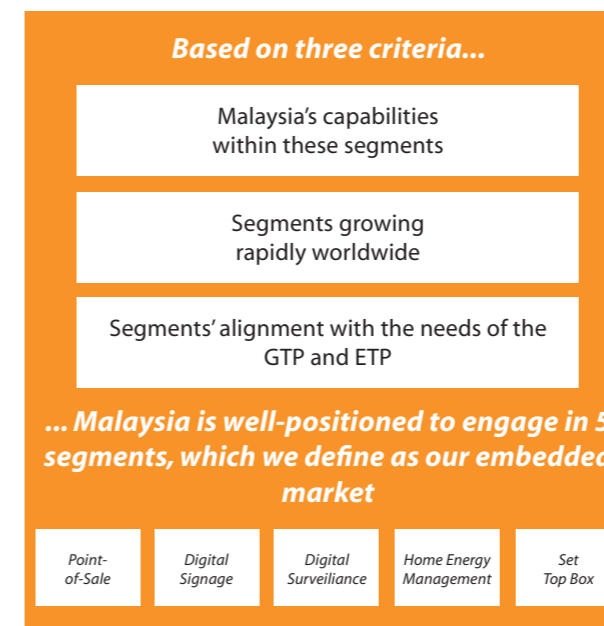
**Case for change**

The pervasiveness of the internet and the low cost of electronics have led to the proliferation of consumer and enterprise devices, all of which contain embedded systems. This has led to the rapid growth of the embedded systems industry. Intel predicts that over 15 billion devices will be connected to the internet by 2015 and one-third of these connected devices will be embedded systems. Globally, the market for embedded systems is estimated to grow at 6% to RM225 billion by 2020.

Malaysia already has an established electronics ecosystem with skilled local enterprises in embedded systems development. Now, the country has to intensify its efforts to move up the production value chain towards high-margin finished embedded systems products. This project aims to facilitate this transformation by fostering partnerships between technology firms and other embedded systems-related industry ecosystem parties.

While opportunities are aplenty from numerous segments in the embedded space, Malaysia is well-positioned to engage in five embedded market segments, namely Digital Signage, Digital Set Top Boxes, Home Energy Management, Digital Surveillance, Point-Of-Sale systems, Electric Mobility and Wireless Sensor. This conclusion was derived based on three criteria:

1. Malaysia's capabilities within these segments
2. Segments growing rapidly worldwide
3. Segments' alignment with the needs of the GTP and ETP



*"By capitalising on Malaysia's established electronics ecosystems and robust SME sector, the embedded systems industry will be nurtured to help SMEs move up the value chain by giving them access to technology, training, go-to-market assistance and opportunities to work with technology leaders."*



**Recommendations**

- Develop embedded systems projects
- Grow the embedded systems industry ecosystem

The project calls for capturing a larger portion of the global embedded systems market by developing local capabilities via growing the talent pool and securing projects both locally and internationally to spur the growth of the local embedded systems industry.

Moving forward, the project will develop embedded systems projects to produce locally developed embedded systems products that are globally competitive or fulfil certain niche markets. Further, a cohesive embedded systems ecosystem will need to be established to develop the capabilities of the local industry.

**Key activities and achievements in 2012**

| Period | Activities  | Outcome  |
|--------|---|--|
| Q1-Q2  | 'Exploring New Frontiers in Embedded Systems' workshop held jointly by MDeC and Intel<br><br>Date: 29 March 2012<br>Venue: KL Convention Centre | <ul style="list-style-type: none"> <li>The objectives of the workshop:                             <ul style="list-style-type: none"> <li>To introduce SMEs to both the Digital Malaysia programme as well as the 'Grow Embedded Systems Industry' project.</li> <li>To communicate to SMEs on how they can participate and submit embedded systems projects to MDeC.</li> <li>To gather market intelligence from participants on the identified embedded systems focus areas.</li> </ul> </li> <li>The workshop was attended by a host of embedded systems companies and related industry ecosystem partners.</li> <li>At the end of the workshop, a total of 23 embedded systems proposals were received from the embedded systems companies for embedded projects.</li> </ul> |
| Q2     | Digital Malaysia Embedded Systems Funding Framework approved  | The availability of the Digital Malaysia Embedded Systems Funding as a reimbursable grant scheme for eligible embedded systems companies to tap into for their embedded systems product development.   |
| Q3     | Digital Malaysia Embedded Systems Funding Briefing  | This briefing was held to inform companies that their embedded proposals were shortlisted and to request them to submit their full business plan for the embedded systems funding application.   |
|        | Digital Malaysia Embedded Systems Funding Evaluation Committee and Approval Committee formed  | Two Evaluation Committee Meetings and two Approval Committee Meetings were held respectively to review the embedded systems funding applications.  |
| Q4     | Digital Malaysia Partner Recognition ceremony   | Announcement of the Grow Embedded Systems Industry Project as one of the eight Digital Malaysia Wave 1 projects, together with the recognition of MDeC as the Public Sector Lead and Intel as the Private Sector Champion.   |
|        | Three embedded systems projects approved for Digital Malaysia Embedded Systems Funding  | The three embedded systems projects are involved in these embedded focus segments: <ul style="list-style-type: none"> <li>Electric Mobility</li> <li>Digital Set Top Box</li> <li>Wireless Sensor Monitoring</li> </ul>  |
|        | Integration with E&E NKEA under PEMANDU as a new EPP  | The Digital Malaysia Steering Committee approves the placement of this Grow the Embedded Systems Industry Project within the E&E NKEA as an EPP under PEMANDU. <ul style="list-style-type: none"> <li>At the same time, this project will continue to be part of Digital Malaysia.</li> <li>MDeC will continue to be the Implementation Agency.</li> <li>The integration would bring a win-win situation not only to this project but also to the E&amp;E NKEA and the E&amp;E sector of the country as a whole.</li> </ul>  |

**Commitment and impact**

The project is expected to contribute RM7.3 billion to the country's GNI and create 22,500 jobs by 2020 and estimates a 2020 investment of RM10.2 billion.

**Project 8: Develop a Trusted Mobile Digital Wallet System**



**About the Project**

The concept of a cashless society has been mooted for many years, but has largely remained as a mere pipedream for some.

With the advent of a technology called Near Field Communications (NFC), consumers are now able to move towards micro payments with the use of electronic chip-embedded cards. This technology allows simple encrypted data exchange between an electronic card and a terminal, thereby making it an avenue for convenient payment and authentication transactions.



*"Invariably, the existence of a trusted platform will bring about an ecosystem that will encourage more service providers to participate and increase the adoption of NFC, thus, enabling more customers to gain access to these services."*



This concept has now taken a step further with the NFC chips being embedded in mobile phones and smart devices. With virtual cards now made available in mobile devices, physical cards in wallets will be a thing of the past.

Malaysia's high mobile penetration rate of 128.7% and more affordable devices make cashless transaction service a reality for the country. With the power of the smartphone, various possibilities of providing value-added services have been created and will ultimately help to increase sales of enterprises. Consumer experience and loyalty will also improve greatly whereby consumers can simply 'tap' a smartphone with the NFC function for ePayment, coupon or voucher redemption, points collection, and access information or location-based services. It will also reduce the proliferation of counterfeit products that poses potential health risks to the public.

This very idea forms the basis of Digital Malaysia's Trusted Mobile Digital Wallet System. With MDeC as the Public Sector Lead, the project aims to establish a trusted nationwide system that allows consumers to transact securely and confidently by embedding virtual cards, vouchers and coupons in mobile digital wallet applications in their smartphones or other mobile devices. Invariably, the existence of a trusted platform will bring about an ecosystem that will encourage more service providers to participate and increase the adoption of NFC which will subsequently enable more customers to gain access to these services.

**Case for change**

The NFC systems are expected to be rapidly adopted globally, and its market size is expected to grow to about RM160 billion by 2014. Malaysia still lags behind in adopting and capitalising on the system due to the lack of joint efforts by the industry and public sector. There is also lack of early 'anchor' adopters and a national NFC framework to determine the interaction between the different parties within the system; and because of the lack of open local Mobile Wallet platform players in Malaysia, potential GNI contribution from a Mobile Wallet issuance and authentication will flow to foreign-based players.

NFC applications add value in various ways by improving convenience for consumers and create loyalty for brands or services, and can be made more secure through the application of authentication capabilities. The advantages of utilising NFC applications will ultimately help increase the sales of enterprises.



**Key activities and achievements in 2012**

| Period/Date | Activities and Outcome  |
|-------------|---|
| Q1-Q2       | <ul style="list-style-type: none"> <li>The first quarter witnessed the development of the National NFC Framework which included engagements between industry and government, modification of the framework from feedback received, and identifying priority industry verticals to focus on.</li> <li>On 20 February 2012, Smartag Solutions Berhad signed a Memorandum of Understanding with Samsung Malaysia Electronics Sdn Bhd to bring NFC technology to the Malaysian market. Under this collaboration, Samsung will provide Smartag with the necessary technical support to develop mobile applications on Samsung's product lines. This will support Smartag's NFC ecosystem as well as promote more NFC-based mobile phones in the Malaysian market. On the other hand, Smartag will provide application services as well as software consulting, support and development services relating to its projects to support its partners and customers with NFC technology.</li> </ul> |
| Q2          | <ul style="list-style-type: none"> <li>The second quarter saw the development and closed-loop trial of an NFC mobile money payment platform conducted with a major mobile network operator (MNO). The trials were held at two trial sites, targeting different types of users.                             <br/><b>Trial 1</b> <br/>Venue: MNO's own building facilities, including cafeteria, newsstand and parking access                             <br/>Target users: MNO employees                             <br/><b>Trial 2</b> <br/>Venue: Local lower science college in Kuantan where it was conducted in the cafeteria                             <br/>Target users: Students and faculty staff                         </li> </ul>   |
| Q3          | <ul style="list-style-type: none"> <li>On 9 October 2012, a Memorandum of Understanding was signed between MyClear and Smartag to explore the feasibility of collaborating on the development of the NFC ecosystem for Malaysia. Under this collaboration, MyClear and Smartag will work towards developing a value proposition on this project and will undertake the necessary efforts to establish a nationwide NFC ecosystem.</li> <li>Later on the same day, MyClear and Smartag's collaboration was announced during the Digital Malaysia Partners Recognition Ceremony in Putrajaya.</li> </ul>  |

**Plan of action in 2013**

- Roadshows will be held throughout the country as part of the project's nationwide awareness campaign.
- Establish a National NFC ecosystem
- Develop a National NFC Industry Blueprint
- Interim services to be implemented on payment, mobile loyalty and marketing as well as transit services

**Commitment and Impact**

The Mobile Digital Wallet project, which will require a total investment of RM112 million, is projected to generate about RM783 million to the country's GNI and create 122 new jobs by 2020.



## Appendix 2: ICT-related projects under ETP and GTP

| No | NKEA                                      | ICT-intensive EPPs  | ICT-enabled EPPs  |
|----|---|---|---|
| 1. | Greater KL                                | NA  | <ol style="list-style-type: none"> <li>1. Connecting to Singapore via a high speed rail system</li> <li>2. Building an integrated urban mass rapid transit system</li> <li>3. Developing an efficient solid waste management ecosystem</li> </ol>   |
| 2. | Wholesale and Retail                      | 1. Developing a virtual mall  | <ol style="list-style-type: none"> <li>4. Increasing the number of large format stores</li> <li>5. Transforming automotive workshops</li> <li>6. Developing 1Malaysia malls</li> <li>7. Making Malaysia duty-free</li> <li>8. Setting up wellness resorts</li> <li>9. Organising unified Malaysia sales</li> <li>10. Transforming KLIA into a retail hub</li> <li>11. Developing big box boulevards</li> </ol>  |
| 3. | Oil, Gas & Energy                         | NA  | <ol style="list-style-type: none"> <li>12. Rejuvenating existing fields through enhanced oil recovery</li> <li>13. Developing small fields through innovative solutions</li> <li>14. Intensifying exploration activities</li> <li>15. Building a regional oil storage and trading hub</li> <li>16. Consolidating the domestic fabricators</li> <li>17. Improving energy efficiency</li> <li>18. Deploying nuclear energy for power generation</li> </ol>  |
| 4. | Tourism                                   | NA  | <ol style="list-style-type: none"> <li>19. Declaring Malaysia as a global biodiversity hub</li> <li>20. Targeting more international events</li> <li>21. Establishing dedicated entertainment zones</li> <li>22. Establishing Malaysia as a leading business tourism destination</li> <li>23. Enhancing connectivity to priority medium-haul markets</li> <li>24. Improving rates, mix and quality of hotels</li> </ol>   |
| 5. | Healthcare                                | 2. Creating a supportive ecosystem to grow clinical research  | <ol style="list-style-type: none"> <li>25. Mandating private insurance for foreign workers</li> <li>26. Pursuing generics export opportunities</li> <li>27. Reinvigorating health travel through better customer experience, proactive alliances and niche marketing</li> <li>28. Creating a diagnostic services nexus to achieve scale in telemedicine for eventual international outsourcing</li> <li>29. Developing a health metropolis: A world-class campus for healthcare and bioscience</li> </ol> |
| 6. | Agriculture                               | NA  | <ol style="list-style-type: none"> <li>30. Expanding the production of swiftlet nests</li> <li>31. Venturing into commercial scale seaweed farming in Sabah</li> </ol>  |
| 7. | Communications Content and Infrastructure | <ol style="list-style-type: none"> <li>3. Nurturing Malaysia's creative content</li> <li>4. Connecting 1Malaysia</li> <li>5. Establishing eLearning for students and workers</li> <li>6. Launching eHealthcare</li> <li>7. Deepening eGovernment</li> </ol> | 32. Track & Trace   |

| No | NKEA                                      | ICT-intensive EPPs  | ICT-enabled EPPs  |
|----|---|---|---|
| 7. | Communications Content and Infrastructure | <ol style="list-style-type: none"> <li>8. Ensuring broadband for all</li> <li>9. Extending reach</li> <li>10. Offering a smart network</li> <li>11. Extending the regional network</li> </ol>   |   |
| 8. | Business Services                         | <ol style="list-style-type: none"> <li>12. Building globally-competitive outsourceurs</li> <li>13. Positioning Malaysia as a world-class data centre hub</li> <li>14. Growing large pure-play engineering services</li> </ol>   | <ol style="list-style-type: none"> <li>33. Growing aviation maintenance, repair and overhaul services</li> <li>34. Jump-starting a vibrant green technology industry</li> <li>35. Developing a global Islamic financial service advisory hub</li> </ol>                       |
| 9. | Electrical and Electronics                | <ol style="list-style-type: none"> <li>15. Semiconductors: Executing a smart follower strategy for mature technology semiconductor fabrication plants</li> <li>16. Semiconductors: Developing assembly and test using advanced packaging technology</li> <li>17. Semiconductors: Developing integrated circuit design firms</li> <li>18. Semiconductors: Supporting the growth of substrate manufacturers and related industries</li> <li>19. Solar: Increasing the number of silicon producers</li> <li>20. Solar: Growing wafer and cell producers</li> <li>21. Building a test and measurement hub</li> <li>22. Expanding wireless communications and Radio Frequency Identification (RFID)</li> <li>23. Growing automation equipment manufacturing</li> </ol> | <ol style="list-style-type: none"> <li>36. Creating local solid state lighting champions</li> <li>37. Building transmission and distribution companies</li> <li>38. Building an electrical home appliance manufacturing hub and international distribution network</li> </ol> |

| No  | NKEA               | ICT-intensive EPPs   | ICT-enabled EPPs  |
|-----|--------------------|--|---|
| 10. | Financial Services | 24. Creating an integrated payment ecosystem   | 39. Revitalising Malaysia's capital markets<br>40. Deepening and broadening bond markets<br>41. Transforming or rationalising developmental financial institutions<br>42. Insuring most, if not all, of our population<br>43. Accelerating growth of the private pension industry<br>44. Spurring the growth of a nascent wealth management industry<br>45. Accelerating and sustaining a significant asset management industry<br>46. Becoming the indisputable global hub for Islamic finances  |
| 11. | Education          | 25. Expanding international distance learning<br>26. Building an advanced engineering, science and innovation discipline cluster | 47. Scaling up early child care and education centres<br>48. Improving early child care and education training<br>49. Scaling up international schools<br>50. Expanding private teacher training<br>51. Scaling up private skills training provision<br>52. Building an Islamic finance and business education discipline cluster<br>53. Building a health sciences education discipline cluster<br>54. Building a hospitality and tourism discipline cluster<br>55. Launching EduCity@Iskandar<br>56. Championing Malaysia's international education brand<br>57. Introducing public private partnerships in basic education<br>58. Premium Health Education Cluster |
| 12. | Palm Oil           | NA   | 59. Improve fresh fruit bunch yield<br>60. Increasing the oil extraction rate<br>61. Developing biogas facilities at palm oil mills   |

Table 2: ICT-enabled or ICT-intensive Projects in GTP 1.0

| No | NKRA  | ICT-intensive Projects   | ICT-enabled Projects   |
|----|---|--|--|
| 1. | Reducing Crime                                    | NA   | 1. Motorcycle theft stake out<br>2. Motorcycle security features<br>3. House break-in stake out<br>4. House security features<br>5. Car theft stake out<br>6. Car security features<br>7. Proportional insurance premiums<br>8. Strict enforcement by PBTs on illegal workshops<br>9. Increase availability and usage of mobile access devices |
| 2. | Fighting Corruption                               | 1. MyProcurement portal<br>2. Name and Shame database<br>3. Automated Enforcement System (AES) | 10. Corporate Integrity Pledge (CIP) Portal – cism.my  |
| 3. | Improving Student Outcomes                        | NA   | 11. Pre-School<br>12. Literacy and Numeracy (LINUS)  |
| 4. | Raising Living Standards of Low-Income Households | 4. Put in place a single point backroom support mechanism (eKasih)                             | 13. Create Social Development Services (NaSDeD) Entity<br>14. Implement SDS Card and SDS Vouchers, Rollback Subsidies<br>15. Implement Non-Contributory Social Insurance   |
| 5. | Improving Rural Basic Infrastructure              | NA   | NA   |
| 6. | Improving Urban Public Transport                  | 5. Introducing a cashless Integrated Smart Ticket  | 16. Debottlenecking Monorail system<br>17. Strengthening enforcement on all vehicles<br>18. Implementing performance management for all public transport operators   |
| 7. | Addressing Cost of Living                         | NA   | NA   |

**Table 3: ICT-enabled or ICT-intensive Projects in GTP 2.0**

| No | NKRA  | ICT-intensive Projects   | ICT-enabled Projects   |
|----|---|--|--|
| 1. | Reducing Crime                                    | <ol style="list-style-type: none"> <li>1. Container Scanners</li> <li>2. Increase availability and usage of Mobile Computerised Access Devices</li> <li>3. Panic Button Smartphone App</li> <li>4. Sistem Semakan Online</li> </ol>                      | <ol style="list-style-type: none"> <li>1. Target hardening of public car parks</li> <li>2. Collaborative enforcement on illegal workshops</li> <li>3. Black Spot Initiative</li> <li>4. Increasing the efficiency of investigating officers</li> </ol>   |
| 2. | Fighting Corruption                               | <ol style="list-style-type: none"> <li>5. Name and Shame Database</li> <li>6. Corporate Integrity System Malaysia (CISM)</li> <li>7. AG Online Dashboard</li> <li>8. Upgrading MyProcurement and integration with related procurement portals</li> </ol> | <ol style="list-style-type: none"> <li>5. Establishing Corruption Prevention Secretariat in Institutes of Teacher Education</li> <li>6. Improve political financing governance framework</li> <li>7. Monitor compliance units of the enforcement agencies</li> <li>8. Project Management office on Prevention</li> </ol> |
| 3. | Assuring Quality Education                        | NA   | <ol style="list-style-type: none"> <li>9. Pre-school and early childcare</li> <li>10. Literacy and Numeracy (LINUS)</li> </ol>   |
| 4. | Raising Living Standards of Low-Income Households | <ol style="list-style-type: none"> <li>9. Expanding eKasih Database</li> <li>10. Branchless Banking</li> <li>11. Microsourcing</li> </ol>  | <ol style="list-style-type: none"> <li>11. Work Voucher Scheme</li> </ol>  |
| 5. | Improving Rural Basic Infrastructure Development  | NA   | <ol style="list-style-type: none"> <li>12. 21st Century village</li> </ol>   |
| 6. | Improving Urban Public Transport                  | <ol style="list-style-type: none"> <li>12. Centralised Taxi Service System</li> <li>13. Parking Control and Management</li> <li>14. Journey Planner</li> <li>15. Integration</li> </ol>  | <ol style="list-style-type: none"> <li>13. Bus Rapid Transit</li> <li>14. LRT line extension projects</li> </ol>   |
| 7. | Addressing Cost of Living                         | NA   | <ol style="list-style-type: none"> <li>15. Kad Siswa 1Malaysia</li> <li>16. Kebajikan Rakyat 1Malaysia (KARISMA)</li> <li>17. Perumahan Rakyat 1Malaysia (PR1MA)</li> </ol>  |

**“Digital Malaysia will foster an ecosystem driven by ICT in targeted aspects of the economy, governance and social interaction, and establish a climate that intensifies innovation, investment and talent growth.”**



# Glossary

|       |   |
|-------|---|
| 10MP  | Tenth Malaysia Plan                               |
| B2B   | Business-to-business                              |
| B2C   | Business-to-consumer                              |
| BNM   | Bank Negara Malaysia                              |
| BTN   | Biro Tatanegara (National Civics Bureau)          |
| CAGR  | Compounded Annual Growth Rate                     |
| CAPEX | Capital expenditure                               |
| CCM   | Companies Commission of Malaysia                  |
| CELEX | Customised education and learning exchange portal |
| CMC   | Creative Multimedia Cluster                       |
| CoE   | Centre of Excellence                              |
| CRM   | Customer relationship management                  |
| CSR   | Corporate Social Responsibility                   |
| DDI   | Domestic Direct Investment                        |
| DESA  | Digital Economy Satellite Account                 |
| DM    | Digital Malaysia                                  |
| DOBA  | Outcome-driven approach                           |
| DOSM  | Department of Statistics Malaysia                 |
| DTP   | Digital Transformation Programme                  |
| E&E   | Electrical and electronics                        |
| EDI   | Electronic data interchange                       |
| EPF   | Employees Provident Fund                          |
| EPP   | Entry Point Projects                              |
| EPU   | Economic Planning Unit                            |
| ERP   | Enterprise Resource Planning                      |
| ETP   | Economic Transformation Programme                 |
| FDI   | Foreign Direct Investment                         |
| FSU   | Facilitating social uplift                        |
| G2G   | Government-to-Government                          |
| GDP   | Gross Domestic Product                            |
| GLC   | Government-linked companies                       |
| GMBO  | Get Malaysia Business Online                      |
| GNI   | Gross National Income                             |
| GSC   | Global Sourcing Cluster                           |
| GSIAC | Global Science and Innovation Advisory Council    |
| GTP   | Government Transformation Programme               |
| GVA   | Gross Value Added                                 |
| HRDF  | Human Resources Development Fund                  |
| HRM   | Human resource management                         |
| HSBB  | High Speed Broadband                              |

|          |   |
|----------|---|
| IAP      | International Advisory Panel  |
| IBFIM    | Islamic Banking and Finance Institute of Malaysia                   |
| ICM      | Implementation Council Meeting                                      |
| ICT      | Information and communications technology                           |
| ICTSA    | ICT Satellite Account   |
| ICU      | Implementation Coordination Unit                                    |
| IDE      | Innovative Digital Economy  |
| IHL      | Institutions of Higher Learning                                     |
| iLMS     | Intelligent Learning Management System                              |
| InfoTech | Information Technology  |
| IRB      | Inland Revenue Board of Malaysia                                    |
| ISV      | Independent software vendors  |
| JITIK    | Committee for Ministerial IT and Internet Initiatives               |
| KPI      | Key Performance Indicator   |
| KPWKM    | Ministry of Women, Family and Community Development                 |
| LIH      | Low Income Household  |
| MAMPU    | Malaysian Administrative Modernisation and Management Planning Unit |
| MASTIC   | Malaysian Science and Technology Information Centre                 |
| MBAN     | Malaysian Business Angel Network                                    |
| MCMC     | Malaysian Communications and Multimedia Commission                  |
| MDeC     | Multimedia development Corporation                                  |
| MIDA     | Malaysian Industrial Development Authority                          |
| MITI     | Ministry of International Trade and Industry                        |
| MNO      | Major Mobile Network Operator                                       |
| MoU      | Memorandum of Understanding   |
| MOF      | Ministry of Finance   |
| MOHE     | Ministry of Higher Education  |
| MOHR     | Ministry of Human Resources   |
| MSIC     | Microsourcing for B40 Implementation Committee                      |
| MSU      | Management and Science University                                   |
| MVCA     | Malaysian Venture Capital and Private Equity Association            |
| MyICMS   | Malaysian Information, Communications and Multimedia Services       |

|          |  |
|----------|--|
| MyKE     | Malaysia's Knowledge Economy                           |
| NCI      | National Committee on Investment                       |
| NDA      | Non-Disclosure Agreement                               |
| NDC      | National Digital Conference                            |
| NDPC     | National Development Planning Council                  |
| NDBM     | New Digital Business Models                            |
| NEF      | New Entrepreneur Foundation                            |
| NEM      | New Economic Model                                     |
| NFC      | Near Field Communications                              |
| NGO      | Non-governmental organisations                         |
| NILAM    | Nadi Ilmu Amalan Membaca                               |
| NITC     | National Information Technology Council                |
| NKEA     | National Key Economic Areas                            |
| NKRA     | National Key Results Areas                             |
| NTP      | National Transformation Policy                         |
| OECD     | Organisation for Economic Co-operation and Development |
| OPEX     | Operational expenditure                                |
| OPPA     | Opportunity-based approach                             |
| PEMANDU  | Performance Management and Delivery Unit               |
| PHMS     | Performance Monitoring Hub System                      |
| PICC     | Putrajaya International Convention Centre              |
| PIK      | Pusat Induk Komuniti                                   |
| PKNP     | Perbadanan Kemajuan Negeri Pahang                      |
| PMO      | Project Management Office                              |
| PNM      | Perpustakaan Negara Malaysia                           |
| POS      | Point-of-Sales   |
| PPP      | Public-Private Partnership                             |
| PTP      | Political Transformation Programme                     |
| QoL      | Quality of life  |
| R&D      | Research and Development                               |
| RD&C     | Research, Development and Commercialisation            |
| RFID     | Radio Frequency Identification                         |
| ROI      | Return on Investment                                   |
| RTP      | Rural Transformation Programme                         |
| SaaS     | Software-as-a-Service                                  |
| SCM      | Supply chain management                                |
| SME      | Small and medium enterprises                           |
| SME Corp | Small and Medium Enterprise Corporation Malaysia       |

|      |  |
|------|--|
| SRI  | Strategic Reform Initiatives                     |
| SSO  | Shared Services and Outsourcing                  |
| STEM | Science, Technology, Engineering and Mathematics |
| STP  | Social Transformation Programme                  |
| TPA  | Third Party Acquirers                            |
| UiTM | Universiti Teknologi MARA                        |

