Re-engineering economic growth for greater prosperity

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Overview

Malaysia continued to achieve steady economic growth and is poised to attain the aspiration of becoming an advanced economy and inclusive nation by 2020. In order to achieve this goal, the nation will need to ensure that its economic focus pivots towards high-value and knowledge-intensive activities. Small and medium enterprises (SMEs) will continue to be strengthened to increase their share in terms of Gross Domestic Product (GDP) and exports. Efforts to promote innovation will be undertaken at the enterprise and societal levels. Regional economic corridors will be further developed to ensure balanced development. In addition, there will be greater investment in selected cities to enhance their global competitiveness and gain from economic agglomeration.

During the Tenth Malaysia Plan, 2011-2015, all sectors of the economy witnessed positive growth with the services sector taking the lead. Regulatory reforms and further liberalisation increased the ease of doing business and measures to strengthen human capital provided the foundation for stronger sector outcomes. SMEs continued to propel the economy. The strategies implemented resulted in more inclusive and sustainable growth, reflected by rising household income, low unemployment rate, benign inflation, and a robust financial system. However, challenges still lie ahead for Malaysia. While economic fundamentals are solid, as a small and open economy, Malaysia remains exposed to external risks and shocks. To further strengthen its economic resilience, Malaysia will need to focus on enhancing productivity, unlocking innovation, and maximising its export potential.
In the Eleventh Malaysia Plan, 2016-2020, strategies are formulated to accelerate economic growth and promote towards an economy that will be driven by high-value and knowledge-intensive activities. The focus will be on quality growth, sectoral governance reforms, and enhancing internationalisation of products and services. A more cohesive and comprehensive approach to raise productivity will be implemented across national, industry, and enterprise levels. The ecosystem to stimulate private investment, innovation, and exports will be further improved. The Eleventh Plan will embark on game-changing strategies to spur economic growth such as intensifying innovation activities and developing competitive cities and regional economic corridors.

Please refer to strategy papers 15, 18, 19, 20, and 21 for further details at www.epu.gov.my
Highlights
Tenth Malaysia Plan, 2011-2015: Achievements

- **Services sector** contributed RM2,550 billion to GDP at 6.3% growth per annum.
- **Manufacturing sector** contributed RM1,111 billion to GDP at 4.8% growth per annum.
- **Agriculture sector** contributed RM455 billion to GDP at 2.4% growth per annum.
- **Construction sector** contributed RM194 billion to GDP at 11.1% growth per annum.
- **SMEs** contributed RM1,606 billion to GDP across all sectors at 7.5% growth per annum.

Shifting to higher value-added economic activities.

Malaysia ranked 33rd on the Global Innovation Index out of 143 countries in 2014.

64% contribution to total research and development expenditure by business enterprises in 2012.

Realised investment with RM175 billion created across five regional economic corridors.

Improving business ecosystem for accelerated growth

Stimulating regional growth
All sectors of the economy witnessed positive growth. The strategies implemented have resulted in a more inclusive and sustainable growth, reflected by rising household income, a low unemployment rate, benign inflation, and a robust financial system.

During the Tenth Plan, the economy is estimated to expand at an average annual growth of 5.3% amid a challenging external environment. This growth is supported by strong domestic demand and sound economic fundamentals. The Government embarked on the Economic Transformation Programme to further fuel economic growth and productivity, including further liberalisation of the services sector. The economy witnessed sustained growth across major sectors. In addition, there were several achievements in terms of economic enablers, including strengthening SMEs, liberalising regulations to increase the ease of doing business and enhancing the innovation ecosystem.

**Sector outcomes**

**Services sector**

During the Tenth Plan, the services sector continued to be the primary driver of growth and is estimated to expand at 6.3% per annum, contributing 53% to GDP, as shown in Exhibit 8-1. Growth in the services sector was supported largely by the wholesale and retail trade, finance and insurance, and communications subsectors. Investment in the services sector increased 9.5% annually to RM125.3 billion in 2013, supported mainly by expansion in domestic investment. Labour productivity in the services sector is estimated to increase at an average rate of 2.8% per annum, mainly contributed by the information and communications technology (ICT), real estate and business, finance and insurance as well as transport and storage subsectors. The services sector continued to be the main source of employment, which is expected to provide 8.4 million jobs or 60.9% of total employment. Exports of services is estimated to grow at 5.6% per annum to reach 18% of total exports by 2015. In 2013, Malaysia was ranked among the top 30 services exporters in the world.
**Exhibit 8-1**  
Major indicators of the services sector, 2010-2015

<table>
<thead>
<tr>
<th>Sector</th>
<th>RM million in 2010 prices</th>
<th>% of total</th>
<th>Average annual growth rate, %</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2010</td>
<td>2015</td>
<td>2010</td>
</tr>
<tr>
<td>Services value added</td>
<td>420,382</td>
<td>571,835</td>
<td>100</td>
</tr>
<tr>
<td>Electricity, gas &amp; water</td>
<td>22,173</td>
<td>27,094</td>
<td>5.3</td>
</tr>
<tr>
<td>Wholesale &amp; retail trade, accommodation &amp; restaurants</td>
<td>134,635</td>
<td>185,410</td>
<td>32.0</td>
</tr>
<tr>
<td>Transport, storage &amp; communications</td>
<td>68,511</td>
<td>97,363</td>
<td>16.3</td>
</tr>
<tr>
<td>Finance, insurance, real estate &amp; business services</td>
<td>93,939</td>
<td>121,328</td>
<td>22.3</td>
</tr>
<tr>
<td>Government services</td>
<td>64,359</td>
<td>94,152</td>
<td>15.3</td>
</tr>
<tr>
<td>Other services</td>
<td>36,766</td>
<td>46,487</td>
<td>8.7</td>
</tr>
<tr>
<td>Labour productivity (RM/worker)</td>
<td>59,278</td>
<td>68,111</td>
<td></td>
</tr>
<tr>
<td>Services export (RM million in current prices)</td>
<td>111,466</td>
<td>146,387</td>
<td></td>
</tr>
<tr>
<td>Employment (’000)</td>
<td>7,092</td>
<td>8,396</td>
<td>59.3</td>
</tr>
<tr>
<td>Contribution of total services sector to GDP (%)</td>
<td></td>
<td></td>
<td>51.2</td>
</tr>
</tbody>
</table>

Note: 2015 numbers are estimated  
Source: Economic Planning Unit; Malaysia Productivity Corporation; Department of Statistics Malaysia

**Box 8-1**  
Highlights - Services sector

Malaysia continued to be one of the world’s leading tourist destinations with an increase in tourist arrivals from 24.6 million in 2010 to 27.4 million in 2014. Tourism remained an important source of foreign exchange earnings at RM72 billion in 2014, an increase of 27.4% from RM56.5 billion in 2010. The industry provided 2.2 million jobs or 16.8% of total employment in 2013. In addition, the healthcare travel segment recorded an increase of 82% in total revenue to RM690 million with 770,000 foreign patients in 2013, compared with RM379 million and 393,000 foreign patients in 2010.

The ICT industry, including e-commerce, is estimated to contribute 16.8% to GDP in 2015. The ICT services subsector contribution to GDP is estimated to increase from 5.2% in 2010 to 5.5% in 2015, while the ICT manufacturing subsector contribution is estimated to decrease from 4.6% in 2010 to 3.9% in 2015, reflecting the transition of the ICT sector from manufacturing towards higher value-added services. As per the ICT Satellite Account, employment in the industry increased by 2.2% per annum from 762,800 in 2010 to 779,500 in 2013, due to new job creation in the ICT trade and services subsectors. Net exports of the ICT industry declined from RM54.3 billion in 2010 to RM45 billion in 2013. This was due to a drop in the ICT goods exports percentage from total exports, from 29.4% in 2010 to 25.4% in 2013.
Manufacturing sector

The manufacturing sector is estimated to grow at 4.8% per annum during the Tenth Plan and contribute 23% to GDP in 2015, as shown in Exhibit 8-2. Manufactured goods also dominated exports, contributing RM636.7 billion or 81.8% of total exports in 2015. The growth of the sector was contributed largely by the electrical and electronic (E&E) and chemicals subsectors. The value added of E&E increased from RM44.2 billion in 2011 to RM53.8 billion in 2015, partly due to new applications for semi-conductors in digitalisation, mobility, connectivity, energy efficiency, and miniaturisation. The chemicals subsector recorded an average growth of 3.4% per annum with an increase in value added from RM24.8 billion in 2011 to RM27.8 billion in 2015, as chemical products are important inputs to fast-growing industries such as automotive, E&E, pharmaceuticals, and construction. Performance of the sector was driven by strong demand from the Association of Southeast Asian Nations (ASEAN) member countries and Free Trade Agreement (FTA) partners.

Investment in manufacturing amounted to RM159.1 billion, which accounted for 20.4% of total approved investment between 2011 and 2014. Of this amount, domestic direct investment (DDI) represented 42.8% and foreign direct investment (FDI) represented 57.2%. This investment provided an estimated 348,000 new job opportunities, out of which 75% was in the managerial, technical, supervisory, and skilled categories. Overall, the sector is expected to provide 2.5 million jobs, representing 18% of total employment in 2015.

| Exhibit 8-2 |

**Major indicators of the manufacturing sector, 2010-2020**

<table>
<thead>
<tr>
<th>Item</th>
<th>2010</th>
<th>2015</th>
<th>2020</th>
<th>Tenth Plan Achieved</th>
<th>Eleventh Plan Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contribution of manufacturing sector to GDP (RM billion in 2010 prices)</td>
<td>192.5</td>
<td>243.9</td>
<td>312.5</td>
<td>1,110.9</td>
<td>1,417.3</td>
</tr>
<tr>
<td>Annual growth rate (%)</td>
<td>12.1</td>
<td>4.7</td>
<td>4.4</td>
<td>4.8</td>
<td>5.1</td>
</tr>
<tr>
<td>Share to GDP (%)</td>
<td>23.4</td>
<td>23.0</td>
<td>22.1</td>
<td>23.1</td>
<td>22.5</td>
</tr>
<tr>
<td>Total exports of manufactured goods (RM billion in 2010 prices)</td>
<td>489.6</td>
<td>636.7</td>
<td>812.8</td>
<td>2,801.3</td>
<td>3,677.9</td>
</tr>
<tr>
<td>Share to total exports (%)</td>
<td>76.6</td>
<td>81.8</td>
<td>83.4</td>
<td>76.4</td>
<td>82.8</td>
</tr>
<tr>
<td>Share to total employment (%)</td>
<td>17.0</td>
<td>18.0</td>
<td>18.2</td>
<td>3.9</td>
<td>2.5</td>
</tr>
</tbody>
</table>

Note: 2015 numbers are estimated; 2020 numbers are forecasted
Source: Economic Planning Unit and Department of Statistics Malaysia

**Box 8-2**

**Highlights - Manufacturing sector**

The medical devices industry in Malaysia is made up of more than 190 companies dominated by SMEs and more than 20 multinational companies (MNCs). Malaysia remains the world’s leading producer and exporter of catheters, providing 80% of the world market, and 60% of the world market for medical rubber gloves. In 2013, the medical devices industry contributed RM11.9 billion to total exports. The industry has been identified as a priority growth area with a gradual shift towards the manufacture of higher-value medical devices such as orthopaedic products, surgical instruments, and diagnostic radiographic equipment.

The aerospace industry is a fast-growing, high value added industry, comprising activities related to aviation and space management; maintenance, repair and overhaul (MRO); design, development, assembly, and operation of light aircraft; as well as support services. In 2014, there were 159 companies with 19,500 employees generating a revenue of RM11.8 billion. Exports by the aerospace industry totalled RM2.4 billion in 2013. To further accelerate the growth of the industry, the Malaysia Aerospace Industry Blueprint 2030 was launched on 17 March 2015 and aspires to propel the nation to be a leader in the aerospace industry by 2030.
### Agriculture sector

The development of the agriculture sector was guided by the National Agro-food Policy, 2011-2020 and the National Commodity Policy, 2011-2020, which aimed to increase food production and exports of industrial commodities. During the Tenth Plan, the sector is estimated to record an average annual growth of 2.4%, as shown in Exhibit 8-3. In 2015, the agro-food subsector is estimated to contribute 38.8% to the total agriculture value added, while the industrial commodities subsector at 60.5%. Palm oil continues to be the largest contributor, followed by fisheries and livestock. Higher self-sufficiency level for several food commodities are estimated in 2015, such as poultry at 104.6%, fisheries at 92.6%, and rice at 71.4%.

Overall agriculture labour productivity grew by 2.2%, mainly due to better agronomic practices, quality input, application of modern farming technology, improved infrastructure, and continuous skills training programmes. During the Tenth Plan, agricultural export earnings are estimated to decline at an average rate of 2.8% per annum mainly due to lower commodity prices and weaker external demand. However, the sector remains an essential supplier of raw materials to the resource-based industries, contributing 19.6% to the total manufacturing value added in 2015.

### Exhibit 8-3

**Major indicators of agriculture and agro-based industry, 2010-2020**

<table>
<thead>
<tr>
<th>Sector</th>
<th>RM, in 2010 prices</th>
<th>% of total to GDP</th>
<th>Average annual growth rate %</th>
<th>Tenth Plan Achieved</th>
<th>Eleventh Plan Target</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Agriculture value added</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(RM million)</td>
<td>82,881</td>
<td>93,184</td>
<td>110,707</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td><strong>Industrial commodities</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(RM million)</td>
<td>55,646</td>
<td>56,407</td>
<td>63,096</td>
<td>67.1</td>
<td>60.5</td>
</tr>
<tr>
<td><strong>Agro-food (RM million)</strong></td>
<td>26,595</td>
<td>36,200</td>
<td>46,979</td>
<td>32.1</td>
<td>38.8</td>
</tr>
<tr>
<td><strong>Contribution of Agriculture to GDP (%)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Labour productivity</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(RM/worker)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Agricultural exports</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(RM million)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Agro-based industry</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(RM million)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total agriculture &amp; agro-based industry (RM million)</strong></td>
<td>121,923</td>
<td>140,872</td>
<td>167,754</td>
<td>14.8</td>
<td>13.3</td>
</tr>
<tr>
<td><strong>Contribution of total agro-based industry to manufacturing value added (%)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: 2015 numbers are estimated; 2020 numbers are forecasted. Source: Department of Statistics Malaysia and Economic Planning Unit.

### Box 8-3

**Highlights - Agriculture sector**

The agriculture sector has been steadily making progress towards increasing productivity and shifting to higher-value downstream activities, as highlighted in the examples below:

- In the agro-food subsector, the establishment of Permanent Food Production Parks (TKPM) has benefited 453 farmers involving 6,105 hectares as well as improving the income of 171 farmers to more than RM3,000 per month; and

- Palm oil downstream processing saw unprecedented private investment commitment of more than RM3 billion, spanning a wide range of high-value products from oleo derivatives such as bio-polyols and bio-lubricants to phytonutrients such as tocotrienols and carotene.
Construction sector

The construction sector is estimated to record an average annual growth rate of 11.1% during the Tenth Plan. The growth is supported by expansion in the civil engineering subsector, growing at 9.3% per annum, followed by residential subsector at 16.5% and non-residential at 9.1%. The sector provided 1.2 million jobs, constituting 8.9% of total employment. From 2011 to 2014, a total of 29,435 construction projects were awarded, valued at RM470 billion. These were largely private sector projects totalling RM387 billion or 82% of total value, with the remaining RM83 billion from public sector projects.

Among the large-scale projects implemented were Klang Valley Mass Rapid Transit (KVMRT) Line 1 from Sungai Buloh to Kajang, Electrified Double-Track Railway from Ipoh to Padang Besar, Light Rail Transit (LRT) extension from Kelana Jaya and Sri Petaling to Putra Heights, Kuala Lumpur International Airport 2 (KLIA2), Central Spine Road from Kuala Lipis to Bentong, and Regasification Terminal in Melaka. The implementation of these projects reflects the increasing use of technology and modern practices in the construction sector right from the design phase through to execution and maintenance.

Small and medium enterprises

Based on the Economic Census 2011, there were 645,136 SMEs, making up 97.3% of total business establishments. To reflect the current business environment, the SME definition was revised on 1 January 2014, as shown in Exhibit 8-4. The maximum threshold for sales turnover was adjusted from RM25 million to RM50 million and for employment from 150 to 200 workers. As a result, the share of SMEs to total establishments increased from 97.3% to 98.5%.

90.1% of SMEs are in the services sector, with 5.9% in manufacturing, 3% in construction, and the remaining in agriculture, and mining and quarrying. SMEs are estimated to grow at 9.3% and contribute 35% to GDP, 59% to employment and 19% to total exports in 2015 as shown in Exhibit 8-5.

The average labour productivity of SMEs between 2011 and 2013 was RM50,818 per worker, which is lower than the national average productivity level at RM59,131 per worker for the same period (based on 2005 prices). However, the productivity level of SMEs in the services sector was lower at RM47,699 per worker as shown in the Exhibit 8-6.

Box 8-4

Highlights - Construction Sector

The use of technology and modern construction methods such as building information modelling (BIM) and industrialised building system (IBS) were crucial in improving the efficiency of construction project implementation. BIM was used in projects such as the National Cancer Institute in Putrajaya - the first government project that used the technology, and in the construction of the administration complex of the Malaysian Anti-Corruption Commission in Shah Alam.
The lower productivity level was partly due to the dominance of microenterprises in the services sector, involved in basic and low value add businesses such as retail, restaurants and accommodation.

Several initiatives contributed to the growth of SMEs, including developing the SME Masterplan 2012-2020. The role of SME Corporation Malaysia (SME Corp.) was also strengthened and the coordination mechanism steamlined to enable the Master Plan to be implemented effectively.

### Liberalisation and regulatory reform

During the Tenth Plan, the Government autonomously liberalised the services sector and continuously improved the ease of doing business to boost investor confidence and enhance competitiveness. In 2012, 18 services subsectors were liberalised to allow up to 100% foreign equity within the wholesale and retail trade, healthcare, professional services, environmental services, telecommunications, courier, and education subsectors. At the regional level, Malaysia implemented 80% of the total 505 measures under the ASEAN Economic Community (AEC) Blueprint. This indicates the Government’s commitment towards realising the AEC, which envisions Southeast Asia as a single market and production base with free flow of goods, services, and investments. In addition, regulatory reforms and business process improvements were undertaken to complement the liberalisation initiative. This resulted in Malaysia being ranked at 18th position out of 189 economies in the 2015 World Bank’s Doing Business Report.

The Government also enforced the Competition Act 2010 on 1 January 2012. The Act provides a regulatory framework against anti-competitive practices, such as the formation of cartels, and horizontal and vertical agreements. In 2013, the Malaysian Competition Commission issued two landmark decisions related to an aviation market-sharing deal and infringement of dominant position by a steel manufacturer. This reflects the Government’s commitment towards a fair and competitive business environment.
Innovation

Efforts to strengthen the innovation ecosystem were undertaken along four key areas, namely shaping a supportive ecosystem, creating opportunities, putting enablers in place, and providing funding. Initiatives included establishing specialised agencies to drive the innovation programmes such as the Agensi Inovasi Malaysia (AIM), National Science and Research Council (NSRC), and Yayasan Inovasi Malaysia (YIM). Higher order thinking skills (HOTS) programmes were implemented in schools and tertiary institutions to inculcate a thinking culture to enable the next generation of Malaysians to think creatively. Khazanah Harta Intelek Malaysia, a centralised repository of Intellectual Properties (IPs) arising from Government research programmes, was created to catalyse commercialisation. Intermediaries such as PlaTCOM Ventures Sdn. Bhd. (PlaTCOM) and Steinbeis Malaysia Foundation (Steinbeis) were set up to enhance collaboration and provide advisory services to both researchers and companies in order to connect knowledge creators and those who need the knowledge. Online programmes such as UReka and GIGIH were implemented to provide open innovation platforms where people were given the opportunity to share ideas, seek expertise, form collaborative teams, attract funders and customers as well as generate additional income through proven innovative and sustainable business models.

There have been many recent successes in Malaysia. These include consumer-focused apps to improve the delivery of taxi services such as MyTeksi and Sunlight Taxi, and improvements in production processes that ensure the consistency of quality in the food and beverages industry, which have enabled local food chains to expand regionally such as Secret Recipe, Nelson’s, and Old Town Kopitiam.

The effectiveness of these initiatives were measured based on national innovation-related indicators and international rankings. The gross expenditure on research and development (GERD) as a share of GDP increased from 1.07% in 2010 to 1.13% in 2012, as shown in Exhibit 8-7. Research and development (R&D) by business enterprises accounted for 64.4% of GERD in 2012, conducted mainly by MNCs and large local companies. In 2014, Malaysia was ranked 33rd out of 143 countries in the Global Innovation Index (GII) and 20th out of 144 countries in the Global Competitiveness Index (GCI). In both global indices, Malaysia was ranked second highest among ASEAN countries.

Regional economic corridors development

Regional economic corridors continued to contribute towards sector growth and overall economic development. The five regional economic corridors, attracted total realised investment of RM174.5 billion across priority economic sectors including creative and content development, tourism, E&E and downstream petrochemicals processing. 427,100 jobs were created as a result of these realised investments.

The Malaysian economy has continued to grow despite external shocks and challenges on the domestic front. Going forward, the economy continues to be susceptible to external challenges, including global economic shocks, geopolitical risks and climate change. On the domestic front, the nation will continue to transform and modernise the various economic sectors. A number of challenges remain to be addressed during the Eleventh Plan, including issues related to human capital, productivity, innovation, regulatory and institutional challenges, and access to financing.
### Exhibit 8-7

**Major indicators for R&D, 2010–2012**

<table>
<thead>
<tr>
<th>R&amp;D expenditure by sector</th>
<th>2010</th>
<th></th>
<th>2012</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>RM billion</td>
<td>%</td>
<td>RM billion</td>
<td>%</td>
</tr>
<tr>
<td>Total GRIs and IHLs</td>
<td>2.98</td>
<td>35.0</td>
<td>3.77</td>
<td>35.6</td>
</tr>
<tr>
<td>Government research institutes (GRIs)</td>
<td>0.52</td>
<td>6.0</td>
<td>0.73</td>
<td>6.9</td>
</tr>
<tr>
<td>Institutions of higher learning (IHLs)</td>
<td>2.46</td>
<td>29.0</td>
<td>3.04</td>
<td>28.7</td>
</tr>
<tr>
<td>Business Enterprises (BEs)</td>
<td>5.53</td>
<td>65.0</td>
<td>6.84</td>
<td>64.4</td>
</tr>
<tr>
<td>Total</td>
<td>8.51</td>
<td>100</td>
<td>10.61</td>
<td>100</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>GERD/GDP (%)</th>
<th>1.07</th>
<th></th>
<th>1.13</th>
<th></th>
</tr>
</thead>
</table>

#### Human Resource in R&D

<table>
<thead>
<tr>
<th>Total headcount of R&amp;D personnel</th>
<th>88,314</th>
<th></th>
<th>103,986</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Full-Time Equivalent (FTE) of R&amp;D personnel</td>
<td>50,484</td>
<td></td>
<td>62,807</td>
<td></td>
</tr>
<tr>
<td>Researchers per 10,000 labour force</td>
<td>53.08</td>
<td></td>
<td>57.45</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type of research (expenditure)</th>
<th>RM billion</th>
<th>%</th>
<th>RM billion</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic research</td>
<td>1.52</td>
<td>17.9</td>
<td>3.66</td>
<td>34.5</td>
</tr>
<tr>
<td>Applied research</td>
<td>5.8</td>
<td>68.2</td>
<td>5.36</td>
<td>50.5</td>
</tr>
<tr>
<td>Experimental research</td>
<td>1.19</td>
<td>13.9</td>
<td>1.59</td>
<td>15.0</td>
</tr>
<tr>
<td>Total</td>
<td>8.51</td>
<td>100</td>
<td>10.61</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Malaysia Science and Technology Information Centre
### Summary of focus areas

#### Eleventh Malaysia Plan, 2016-2020

<table>
<thead>
<tr>
<th>Transforming services</th>
<th>Energising manufacturing</th>
<th>Modernising agriculture</th>
<th>Transforming construction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fostering a dynamic environment for knowledge-intensive services</td>
<td>Moving towards complex and diverse products</td>
<td>Improving productivity and income of farmers, fishermen and smallholders</td>
<td>Enhancing knowledge content</td>
</tr>
<tr>
<td>Implementing comprehensive and integrated governance reforms</td>
<td>Enhancing productivity through automation</td>
<td>Promoting training and youth agropreneur development</td>
<td>Driving productivity</td>
</tr>
<tr>
<td>Stepping up internationalisation of services firms</td>
<td>Stimulating innovation-led growth</td>
<td>Strengthening institutional support and extension services</td>
<td>Fostering sustainable practices</td>
</tr>
<tr>
<td>Enhancing management of investment incentives</td>
<td>Strengthening growth enablers</td>
<td>Building capacity of agricultural cooperatives and associations along the supply chain</td>
<td>Increasing internationalisation</td>
</tr>
<tr>
<td>Expanding modern services</td>
<td>Ramping up internationalisation</td>
<td>Improving market access and logistics support</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Intensifying performance-based incentive and certification programmes</td>
<td></td>
</tr>
</tbody>
</table>

#### Selected Outcomes

- **Contribution of RM1,417 billion or 22.5% to GDP with 2.8 million jobs**
- **Contribution of RM327 billion or 5.2% to GDP with 1.2 million jobs**
- **Contribution of RM3,488 billion or 55.3% to GDP with 9.6 million jobs**
- **Contribution of RM2,421 billion or 38.4% to GDP with 9.5 million jobs**

**Enterprises innovation**

- Strengthening the governance mechanism
- Enhancing demand-driven research
- Strengthening industry-academia collaboration through intermediaries
- Promoting private financing of research, development, commercialisation, and innovation

**Social innovation**

- Strengthening collaboration through a whole-society approach
- Developing a social financing model
- Promoting higher order thinking skills to develop a dynamic society

**Growing dynamic SMEs**

- Enhancing productivity through automation and innovation
- Strengthening human capital development
- Enhancing ease of doing business
- Increasing demand for SME products and services

**Creating home-grown champions**

- Developing SMEs in Sabah and Sarawak

**Translating innovation to wealth**

- Strengthening the governance mechanism
- Enhancing demand-driven research
- Strengthening industry-academia collaboration through intermediaries
- Promoting private financing of research, development, commercialisation, and innovation

**Realised investment with 470,000 job opportunities created across five regional economic corridors**

**GDP growth**

- **6.9% Growth of per annum**
- **9.3% Growth of per annum**

**Gross expenditure on R&D of GDP**

- **70% of total R&D expenditure by Business Enterprises**
- **5.1% Growth of per annum**

**Increase in GERD**

- **2% of GDP**

**Contribution of RM3,488 billion or 55.3% to GDP**
Transforming services
Fostering a dynamic environment for knowledge-intensive services
Implementing comprehensive and integrated governance reforms
Stepping up internationalisation of services / firms
Enhancing management of investment incentives
Expanding modern services
Energising manufacturing
Moving towards complex and diverse products
Enhancing productivity through automation
Stimulating innovation-led growth
Strengthening growth enablers
Ramping up internationalisation
Improving productivity and income of farmers, fishermen and smallholders
Promoting training and youth agropreneur development
Strengthening institutional support and extension services
Building capacity of agricultural cooperatives and associations along the supply chain
Improving market access and logistics support
Scaling up access to agricultural financing
Intensifying performance-based incentive and certification programmes
Modernising agriculture
Transforming construction
Enhancing knowledge content
Driving productivity
Fostering sustainable practices
Increasing internationalisation
Developing city competitiveness master plans for four first-tier cities
Strengthening corridors to fuel regional development
Translating innovation to wealth
Growing dynamic SMEs
Strengthening the governance mechanism
Enhancing demand-driven research
Strengthening industry-academia collaboration through intermediaries
Promoting private financing of research, development, commercialisation, and innovation
Strengthening collaboration through a whole-society approach
Developing a social financing model
Promoting higher order thinking skills to develop a dynamic society
Enhancing productivity through automation and innovation
Strengthening human capital development
Enhancing ease of doing business
Increasing demand for SME products and services
Creating home-grown champions
Developing SMEs in Sabah and Sarawak
Enterprise innovation Social innovation
Contribution of RM3,488 billion or 55.3% to GDP with 9.6 million jobs
Contribution of RM519 billion or 8.2% to GDP with 1.6 million jobs
Contribution of RM2,421 billion or 38.4% to GDP with 9.5 million jobs across all sectors
Contribution of RM1,417 billion or 22.5% to GDP with 2.8 million jobs
Contribution of RM327 billion or 5.2% to GDP with 1.2 million jobs
Contribution of RM2,421 billion or 38.4% to GDP with 9.5 million jobs across all sectors
Gerda 2% of GDP
70% of total R&D expenditure by Business Enterprises
70% of total R&D expenditure by Business Enterprises
70% of total R&D expenditure by Business Enterprises
70% of total R&D expenditure by Business Enterprises
70% of total R&D expenditure by Business Enterprises
Moving forward
Eleventh Malaysia Plan, 2016-2020

During the Eleventh Plan, the focus is on accelerating the momentum of economic growth to place the economy on a strong foundation for sustained expansion and to withstand economic shocks. This is to ensure that Malaysia meets the per capita income target of US$15,000 to be classified as a high-income economy by 2020. Achieving this target will entail further broadening of the economic base, venturing into knowledge-intensive and complex economic activities to generate high-paying jobs, improving overall efficiency and capacity through increased productivity and innovation, and introducing new sources of growth.

Therefore, strategies to re-engineer economic growth are developed along three dimensions and seven focus areas as follows:

- Propelling sectoral migration towards high value-added and knowledge-intensive economic activities
  - Focus area A: Transforming services
  - Focus area B: Energising manufacturing
  - Focus area C: Modernising agriculture
  - Focus area D: Transforming construction

- Fostering the enabling ecosystem for sustainable growth
  - Focus area E: Growing dynamic SMEs
  - Focus area F: Translating innovation to wealth

Accelerating growth through competitive cities and regional economic corridors development
- Focus area G: Investing in competitive cities and regional economic corridors

Two of these seven focus areas have been identified as game changers in the Eleventh Plan - namely Innovation and Competitive Cities. These game changers are expected to accelerate economic growth and create a more inclusive society with more balanced geographical development and distribution of wealth. Effective application of innovation in the economy will increase Malaysia’s competitiveness and productivity, especially through collaboration between research and business, and strengthening the role of communities in innovative delivery of social services. As global competition for investment and talent is now between cities, Malaysia will develop several of its first-tier cities to become globally competitive and serve as growth catalysts.
Focus area A
Transforming services

In the Eleventh Plan, the development of the services sector will be guided by the Services Sector Blueprint, which aims to unlock the potential of the sector and transform it to become more knowledge-intensive and innovation-led. The sector is expected to grow at 6.9% per annum, contributing 56.5% to GDP in 2020, and providing 9.6 million jobs, as shown in Exhibit 8-8. To achieve these targets, five strategies will be implemented:

- **Strategy A1: Fostering a dynamic environment for knowledge-intensive services** by accelerating human capital development as well as enhancing access to technology and R&D;
- **Strategy A2: Implementing comprehensive and integrated governance reforms** by strengthening coordination and collaboration between various stakeholders as well as modernising the current regulatory regime;
- **Strategy A3: Stepping up internationalisation** by assisting firms to export services through better access to funding, upskilling, and market intelligence;
- **Strategy A4: Enhancing the management of investment incentives** with a more effective, transparent, and performance-based incentives programme; and
- **Strategy A5: Expanding modern services** towards higher value-added subsectors, including the halal industry, ecotourism, and ICT.

Exhibit 8-8
Major indicators for services sector, 2016-2020

<table>
<thead>
<tr>
<th>Item</th>
<th>RM million in 2010 prices</th>
<th>% of total</th>
<th>Average annual growth rate, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Services value added</td>
<td>571,835</td>
<td>100</td>
<td>6.9</td>
</tr>
<tr>
<td>Electricity, gas &amp; water</td>
<td>27,094</td>
<td>4.7</td>
<td>3.9</td>
</tr>
<tr>
<td>Wholesale &amp; retail trade, accommodation &amp; restaurants</td>
<td>185,410</td>
<td>32.4</td>
<td>5.9</td>
</tr>
<tr>
<td>Transport, storage &amp; communications</td>
<td>97,363</td>
<td>17.0</td>
<td>8.8</td>
</tr>
<tr>
<td>Finance, insurance, real estate &amp; business services</td>
<td>121,328</td>
<td>21.2</td>
<td>6.8</td>
</tr>
<tr>
<td>Government services</td>
<td>94,152</td>
<td>16.5</td>
<td>6.3</td>
</tr>
<tr>
<td>Other services</td>
<td>46,487</td>
<td>8.1</td>
<td>9.4</td>
</tr>
<tr>
<td><strong>Labor productivity (RM/worker)</strong></td>
<td>68,111</td>
<td>83,411</td>
<td>4.1</td>
</tr>
<tr>
<td><strong>Services export (RM million in current prices)</strong></td>
<td>146,387</td>
<td>195,890</td>
<td>6.0</td>
</tr>
<tr>
<td><strong>Employment (‘000)</strong></td>
<td>8,396</td>
<td>9,552</td>
<td>2.6</td>
</tr>
<tr>
<td><strong>Contribution of total services sector to GDP (%)</strong></td>
<td>53.8</td>
<td>56.5</td>
<td>55.3</td>
</tr>
</tbody>
</table>

Note: 2015 numbers are estimated; 2020 numbers are forecasted
Source: Economic Planning Unit, Malaysia Productivity Corporation, Department of Statistics Malaysia
Strategy A1
Fostering a dynamic environment for knowledge-intensive services

Accelerating human capital development
Key structural challenges in human capital development will be addressed while developing soft skills needed by the services sector. Initiatives will focus on delivering the skills most critical to industries through existing graduate employability programmes. Greater collaboration between industries and higher education institutions will also be fostered, including the provision of more structured internship programmes. A co-funded scholarship programme between the Government and SMEs will be developed to enable the latter to tap on high-quality talent.

Within the ICT industry, a professional body to govern professional competencies and ethics in ICT will be considered to ensure ICT professionals’ competencies are on par with global standards. This professional body will enhance the value of the profession, raise professional standards, review qualifications, provide assurance of quality, and serve as the central repository database of registered ICT professionals. It will also enable Malaysia to be a signatory to the Seoul Accord, a multilateral agreement among agencies responsible for the accreditation of tertiary level computing and IT-related qualifications to ensure that Malaysian ICT qualifications are internationally recognised.

In addition, ICT will be offered as a compulsory subject at the lower secondary level and as an elective at the upper secondary level to ensure students have a sound ICT background prior to enrolling in higher education. The ICT subject will also be strengthened to integrate computational thinking into learning modules, in addition to programming languages, hardware and software design, databases and information retrieval.

Enhancing access to technology and R&D
The utilisation of technology, particularly ICT, will be enhanced among services firms through the Embed ICT programme to reduce dependence on low-skilled foreign workers and to boost productivity. In addition, the funding mechanism for R&D and commercialisation (R&D&C) that is mainly supply-driven today will be replaced with a mechanism that is demand-driven and private sector-led.

The Research Incentive Scheme for Enterprises will be expanded to enhance technology absorption and allow companies to hire experienced R&D researchers by partially funding the monthly wages of researchers for a specified period. This incentive is expected to attract technology leaders to set up R&D centres or centres of excellence (CoE) in prioritised technology focus areas, such as big data analytics, cloud computing, and the Internet of Things (IoT). In addition, access to digital infrastructure, particularly in Sabah and Sarawak, will be further improved to spur the growth of knowledge-intensive services.

Strategy A2
Implementing comprehensive and integrated governance reforms
In the Eleventh Plan, coordination and collaboration between ministries, agencies, and other relevant stakeholders will be strengthened to improve their effectiveness and efficiency. The Special Committee on the Services Sector will oversee the implementation of the services sector development strategies and action plans, particularly the Services Sector Blueprint, the Logistics and Trade Facilitation Master Plan (LTFMP), and the Construction Industry Transformation Programme (CITP). The Committee will also ensure cross-sectoral policy coherence with national development objectives. For the logistics industry, the National Logistics Task Force will be set up to lead the implementation of the LTFMP.

Comprehensive and integrated governance reforms will be pursued to ensure a thriving and competitive environment for the services sector. The National Policy on the Development and Implementation of Regulations (NPDIR) to modernise the current regulatory regime will be fully implemented to include states and local governments. The capacity of regulatory coordinators in ministries and agencies will be strengthened to ensure adherence to the NPDIR. The regulatory reform will also be aligned to Malaysia’s commitments in existing free trade agreements and unilateral liberalisation initiatives. A regulatory portal will be established to improve access to and transparency of regulations.
Strategy A3
Stepping up internationalisation of services firms
Given the low number of services exporters, it is imperative to build their export capabilities and enhance their readiness to export. Among the initiatives to strengthen the capabilities of services firms to export are: a dedicated Services Sector Guarantee Scheme; an improved Services Export Fund (SEF) to provide assistance to services firms to expand overseas; upskilling programmes to improve service providers’ knowledge of international market opportunities, export requirements, and processes. In addition, the franchise development programme will be improved and efforts will be taken to further harmonise markets.

Strategy A4
Enhancing the management of investment incentives
The current investment incentive programme will be replaced with a more effective, transparent, and performance-based incentive programme to attract quality investment and boost productivity. The Incentive Coordination and Collaboration Office (ICCO) will be established under the Malaysian Investment Development Authority (MIDA) to act as a coordinator for all investment incentives. The ICCO will enable cross-agency visibility and allow for a more holistic assessment of incentives through structured information sharing between the approving government agencies. In addition, ICCO will undertake an impact assessment on the incentives provided, besides assisting in high-level monitoring from a demand perspective.

Strategy A5
Expanding modern services
The Eleventh Plan will focus on the development of subsectors and industries that are tradeable, have high knowledge intensity and linkages with the rest of the economy, and the potential to generate high-income jobs. Industries such as Islamic finance, ICT, oil and gas services, private healthcare, private higher education, ecotourism, the halal industry, and professional services will be further promoted.

The halal industry
In the Eleventh Plan, the halal industry will adopt strategic approaches to further develop the industry as a source of competitive advantage and catalyst for growth, encourage innovation and creativity anchored on Islamic principles and values, as well as being pragmatic in implementing development strategies. Institutional and regulatory reforms will be undertaken to increase the efficiency and effectiveness of relevant agencies governing the halal industry. A business-friendly ecosystem and greater collaboration between agencies related to halal certification and auditing processes will be enhanced. In addition, special preference in public sector procurement for halal-certified products and services will be promoted to support the growth of the industry.

To facilitate international market penetration, Malaysian halal standards will be linked to international standards to enhance global acceptance. Local industry players will be incentivised to obtain halal certifications to increase the halal offerings in the domestic market and position Malaysia as a global halal hub. In addition, the halal services industry will be further intensified through the development of a regional distribution centre that is equipped with an e-trading platform to link local halal suppliers to the global supply chain. Growth in the industry will be catalysed through innovation and R&D. Leveraging Malaysia’s strength in palm oil derivatives, the alternative ingredients industry will be further developed to produce halal ingredients thereby strengthening Malaysia’s role in the global trade of halal ingredients.
**Islamic finance**

The strong position of Malaysia as a global Islamic finance marketplace will continue to be reinforced. This will involve the introduction of innovative Islamic financial products and services to meet the diverse global demand for Shariah-compliant financial solutions. Efforts will continue to enhance the diversity of industry players, increase vibrancy in the Islamic financial markets, and promote Malaysia as the referral centre for Islamic financial transactions.

**Information and communications technology products and services**

In the ICT industry, niche areas will be further promoted and export capabilities enhanced to ensure that Malaysia captures a bigger export market for ICT products and services. Within the identified niche areas – digital content, IoT, data centres and cloud services, cyber security, software development and testing, and big data analytics – the ICT ecosystem will be strengthened, including the capacity of start-ups, talent, infrastructure, R&D&C, and governance.

The quality of local digital content will be improved to further strengthen the export potential of local digital content. The number of registered digital content IPs will be increased and exploited as collateral for loan financing, product line expansion, and licensing and merchandising. Emphasis will be given to animation, gaming, simulation, and virtual reality in the areas of education, entertainment, and healthcare.

Three main initiatives that will be implemented are attracting anchor companies to serve as industry drivers, building local capacity and capability, and raising global market access through a better understanding of global technology trends towards greater adoption of digital distribution and new business models.

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**Exhibit 8-9**

**Modern services**

<table>
<thead>
<tr>
<th>Sub-sector</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Halal industry</strong></td>
<td>Develop halal industry by linking Malaysian halal standards to international standards and promote the alternative ingredients industry</td>
</tr>
<tr>
<td><strong>Islamic finance</strong></td>
<td>Reinforce Malaysia’s position as a global Islamic finance marketplace through innovative Islamic financial products and services</td>
</tr>
<tr>
<td><strong>Information and communications technology</strong></td>
<td>Improve exports of ICT products and services by developing ICT technology focus areas, infusing ICT in other sectors and strengthening ICT industry support ecosystem</td>
</tr>
<tr>
<td><strong>Oil and gas services</strong></td>
<td>Develop Malaysia as an oil and gas hub in the Asia Pacific region through strengthening upstream capability, and improve collaboration between industry and higher learning institutions</td>
</tr>
<tr>
<td><strong>Private healthcare</strong></td>
<td>Grow healthcare travel through international accreditation, increased insurance coverage, and leverage regional referral network</td>
</tr>
<tr>
<td><strong>Private higher education</strong></td>
<td>Continue to develop reputable and high-quality private higher education institutions through ratings and quality assessments and self-regulation incentives</td>
</tr>
<tr>
<td><strong>Ecotourism</strong></td>
<td>Position Malaysia as a premier ecotourism destination by leveraging biodiversity assets and increased branding and promotion</td>
</tr>
<tr>
<td><strong>Professional services</strong></td>
<td>Promote Malaysia as an outsourcing centre for professional services to increase exports through capacity building</td>
</tr>
</tbody>
</table>
Oil and gas services
The development of the oil and gas services industry (OGSI) will be enhanced further towards Malaysia’s aspiration of becoming an oil and gas services hub in Asia Pacific. The development of OGSI will focus on three technology clusters namely, process engineering, sub-surface, and marine systems. Efforts will continue to be directed towards strengthening capabilities of local companies to offer the whole range of upstream engineering, procurement, construction, installation, and commissioning services. The establishment of Industry Centre of Excellence (ICoE) will foster stronger collaboration between industry and institutions of higher learning in identifying technology needs, enhancing manpower development, and promoting local technologies overseas. Participating higher education institutions include Universiti Teknologi Malaysia, Universiti Teknologi Petronas, and Universiti Malaya.

Private healthcare
In further promoting the healthcare travel services industry, focus will be given to attract healthcare travellers to seek treatment in areas such as oncology, cardiology, orthopaedic, reproductive help, and dental treatment. Encouraged by the increasing global demand for natural healthcare, the traditional and complementary medicine industry will be further developed with an aim to become a regional referral centre and hub. International accreditation, increased insurance coverage and portability, and regional referral network will be fully leveraged to ensure Malaysia attracts higher in-patient mix and revenue-per-patient in the identified areas.

Private higher education
Continued focus will be given to developing reputable and high-quality private higher education institutions. This will involve increasing their participation in the rating and quality assessment system, where institutions with proven track records will be allowed to self-regulate. Academic staff will be given greater access to scholarships and loans to improve their academic qualifications. A targeted financing mechanism will be developed to ensure eligible students receive adequate funding. To promote the export of education services, appropriate measures will be introduced to attract students from targeted markets, such as the People’s Republic of China and Central Asia.

Ecotourism
Ecotourism will be positioned as a premier segment of the tourism industry by leveraging biodiversity assets through extensive protection and conservation, supported by targeted branding and promotion activities. Ecotourism products will be developed along the value chain of high-yield tourism by attracting reputable investors who are competent in the conservation and preservation of nature and wildlife. Experience-enriching elements, such as tourism facilities, interpretive centres, safety measures, and communications, will be strengthened. The development of ecotourism will also offer greater opportunities for local communities to participate in related income-generation activities to raise living standards.

Professional services
Malaysia will continue to be promoted as an outsourcing centre for professional services to increase exports in knowledge-intensive activities, such as oil and gas, aviation maintenance, repair and overhaul (MRO), and construction. Professional services firms will also be encouraged to build capability and scale in niche areas through industry consolidation, partnerships with larger corporations or form multi disciplinary consortia when bidding for projects, either domestically or internationally. This will enable firms to leverage on the trust, network, synergy, and shared technical know-how when venturing abroad. Professional services firms will also be encouraged to use Free Trade Agreements (FTAs) and Mutual Recognition Agreements (MRAs) to facilitate internationalisation of the industry. Non-tariff barriers in targeted markets will be reduced through proactive government-to-government negotiations.
Focus area B
Energising manufacturing

In the Eleventh Plan, the manufacturing sector will transition towards more high-value, diverse and complex products, driven by three catalytic subsectors, namely chemicals, E&E and machinery & equipment (M&E) as well as industries with high potential growth such as medical devices and aerospace. These subsectors have strong interlinkages to other manufacturing subsectors and have demonstrated capabilities and potential to deliver more complex and high value added products. The manufacturing sector is expected to grow at 5.1% per annum, contributing 22.1% to GDP and 18.2% of total employment in 2020.

This transition will be underpinned by enhanced R&D, more sustainable manufacturing practices, greater compliance to global standards, and collaboration between stakeholders. To this end, five strategies have been identified to grow and energise the manufacturing sector, as shown in Exhibit 8-10.

Exhibit 8-10
Strategic framework for manufacturing sector

<table>
<thead>
<tr>
<th>Rubber-based</th>
<th>Textiles</th>
<th>Pharmaceuticals</th>
<th>Metal</th>
<th>Food processing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical devices</td>
<td>Wood-based</td>
<td>Palm oil-based</td>
<td>Transport</td>
<td>Aerospace</td>
</tr>
</tbody>
</table>

Three catalytic subsectors will stimulate growth and development of 11 related subsectors

- **Strategy B1:** Moving towards complex and diverse products
  - Incentivise pioneers in catalytic subsectors to promote development of frontier products
  - Enhancing collaboration between SMEs and MNCs
  - Develop workforce skills and capabilities in producing frontier products

- **Strategy B2:** Enhancing productivity through automation
  - Promote automation to reduce reliance on unskilled foreign workers
  - Enhance industry-led training for local workforce skills development

- **Strategy B3:** Stimulating innovation-led growth
  - Leveraging intermediaries to increase R&D and innovation activities
  - Promoting IP registration, sharing and protection
  - Adopting life cycle assessment
  - Increasing environmental compliance

- **Strategy B4:** Strengthening growth enablers
  - Increasing access to financing
  - Introducing targeted and performance-based incentives with exit policy
  - Enhancing logistics and infrastructure support
  - Strengthening industrial estate management

- **Strategy B5:** Ramping up internationalisation
  - Intensifying export promotion via National Export Council
  - Increasing compliance to standards
  - Leveraging AEC and FTAs
  - Leveraging industry associations for greater market access
Strategy B1: Moving towards complex and diverse products
by strengthening the output base and increasing exports of frontier products;

Strategy B2: Enhancing productivity through automation
supported by developmental and performance-based financial assistance and collaboration with industry;

Strategy B3: Stimulating innovation-led growth by engaging
with intermediaries to increase R&D and innovation activities as well as implementing sustainable consumption and production practices;

Strategy B4: Strengthening growth enablers by improving
access to financing, prioritising performance-based incentives as well as increasing competitiveness of the logistics supply chain and industrial estates; and

Strategy B5: Ramping up internationalisation by providing
targeted support to exporters, leveraging the AEC and FTAs as well as encouraging smart partnerships between SMEs and MNCs.

Strategy B1
Moving towards complex and diverse products

Strategic diversification of the manufacturing sector will be promoted to strengthen its output base and increase exports. The Complexity Analysis Study of Malaysia’s Manufacturing Industries in 2014 identified 238 frontier products which are complex, technologically feasible, and valuable for strategic diversification. These products include electric lasers, photon beams, apparatus using X-rays, beauty and cosmetics preparations, lubricating products, power tools as well as electric ignitions.

Manufacturers will be incentivised to diversify into frontier products which will be included in the promoted list of products under MIDA. The scope of funds under various agencies will be expanded to encourage SMEs and start-ups to venture into frontier industries. Partnerships between SMEs and large companies, including MNCs, will be encouraged to develop the capabilities of SMEs to venture into frontier products and gain access to export markets. A task force will be established to foster collaborative research in the chemicals and M&E subsectors by emulating the model of the Collaborative Research in Engineering, Science & Technology (CREST) Centre for the E&E subsector. In addition, skills gaps in the identified industries producing frontier products will be bridged through closer collaboration between industries and technical and vocational education and training (TVET) institutions.

Strategy B2
Enhancing productivity through automation

Measures to increase productivity will be undertaken by increasing automation and enhancing workforce skills development. Greater automation and technology utilisation will be encouraged through developmental and performance-based financial assistance to reduce the high dependence on unskilled foreign workers. The current levy system will be expanded and a cap on employment of unskilled foreign workers will also be introduced. The emphasis on skills development will be driven by enhancing industry-led training through greater collaboration between industry experts and training institutes to ensure workforce readiness.

Strategy B3
Stimulating innovation-led growth

Manufacturers will be encouraged to undertake R&D and innovation activities to improve their products and processes by leveraging existing research institutions through intermediaries. Strategic alliances with developed economies will be increased, especially in the field of technology, innovation and R&D, to strengthen capabilities in producing high-value products. Intermediaries that have been
established include Steinbeis, SIRIM-Fraunhofer, and PlaTCOM. These intermediaries will engage the right experts to solve manufacturing problems and strengthen collaboration between manufacturers and research institutions. The collaboration will cut the cost of conducting R&D, enhance technical knowledge as well as improve work processes of manufacturers. In addition, the sharing and protection of IP rights will be promoted, with clear and transparent guidelines formulated to ensure fair returns for manufacturers and researchers. Industry associations and chambers of commerce will also be leveraged as platforms to further promote R&D and technology adoption.

Sustainable consumption and production practices will be promoted in manufacturing processes, particularly by adopting life cycle assessment to optimise raw materials usage. The manufacturing sector development will also be streamlined to ensure compliance with multilateral environmental commitments and other international environmental standards in order to overcome non-tariff barriers.

Strategy B4
Strengthening growth enablers

Financing, incentives, logistics services, and industrial estates (IEs) are key enablers of growth for the manufacturing sector. Improvements will be undertaken to strengthen the enablers including encouraging financial institutions to better understand innovation processes and risks to improve access to financing, mainly by engaging panels of experts when evaluating business and innovation projects in new areas. Specific and performance-based incentives, with clear key performance indicators and exit policy, will be introduced to raise productivity and spur innovation.

A more integrated logistics supply chain will be developed to drive growth and increase competitive advantage. A full life cycle costing approach will be adopted to ensure viability and sustainability of the IEs, supported by a self-sustaining park management model to enhance governance and competitiveness. MIDA will utilise a centralised database to streamline information on IEs to facilitate investment promotion.

Strategy B5
Ramping up internationalisation

The Malaysia External Trade Development Corporation (MATRADE) and related agencies will strengthen their capability to assist export-ready companies across all sectors to penetrate a wider export market and strengthen product distribution. The Mid-Tier Companies Development Programme will be further intensified to accelerate export growth by mid-tier companies (companies with average annual revenues of RM20 million to RM500 million) by providing targeted market intelligence, building export capabilities, and matchmaking mid-tier companies with suitable business partners abroad. In addition, the newly established National Export Council will address gaps and challenges in the export supply chain.

The AEC and FTAs will be leveraged to further ramp up exports and investments. MATRADE will promote greater intra-ASEAN industry linkages to strengthen supply chain and production networks to maximise opportunities in ASEAN and other markets. To facilitate market access and protect investment, companies will be encouraged to utilise provisions in FTAs when venturing abroad. The role of industry associations will also be further strengthened to deal with global competition through smart partnerships with industry associations in target export markets. In addition, greater collaboration between MNCs and SMEs will continue to be fostered through the Vendor Development Programme and the factory-in-factory concept. MNCs will also be encouraged to source for inputs locally, particularly from SMEs.
Focus area C
Modernising agriculture

In the Eleventh Plan, the agriculture sector, namely the agro-food and industrial commodity subsectors will be transformed and modernised into a high-income and sustainable sector. This sector is expected to grow at 3.5% per annum, contributing 7.8% to GDP in 2020. Industrial commodities will contribute 57% and agro-food 42.4% to the total agriculture value added in 2020. Efforts will be focused on ensuring food security, improving productivity, increasing skills of farmers, fishermen, and smallholders, enhancing support and delivery services, strengthening the supply chain and ensuring compliance to international market requirements. The development of the sector will also take into account the impact of climate change on sustainability of agricultural practices. Special focus will also be given to the industrial commodities smallholders to further boost productivity through the infusion of modern technologies with the aim of reducing labour dependency as well as to address low commodity prices through income stabilising measures. Seven strategies have been identified to spur the growth of the agriculture sector.

- **Strategy C1: Improving productivity and income of farmers, fishermen, and smallholders** by accelerating adoption of ICT and farming technology, preserving and optimising agricultural land, and intensifying R&D&C in priority areas;
- **Strategy C2: Promoting training and youth agropreneur development** through collaboration across agencies and the private sector to modernise farming techniques and nurture agribusiness start-ups;
- **Strategy C3: Strengthening institutional support and extension services** by streamlining extension services and encouraging advisory services from industry and academia;
- **Strategy C4: Building capacity of agricultural cooperatives and associations along the supply chain** by vertically integrating the supply chain for selected crops, enhancing management skills, and pooling resources for promotion and exports;
- **Strategy C5: Improving market access and logistics support** by strengthening logistics and enhancing access to domestic and international marketplaces;
- **Strategy C6: Scaling up access to agricultural financing** by restructuring and providing a more flexible payment mechanism as well as increasing sustainability of financing mechanisms for replanting programmes; and
- **Strategy C7: Intensifying performance-based incentive and certification programmes** by encouraging farmers to get certified, and prioritising certified farms for incentives and support.

**Strategy C1**
Improving productivity and income of farmers, fishermen, and smallholders

**Accelerating adoption of ICT and farming technology**
The use of smart farming technologies and ICT in plantation, farming, livestock, and fishing activities will be intensified to improve production efficiency and reduce dependency on labour. ICT-based applications to support farm and plantation management, precision farming, and monitoring and surveillance will be expanded to increase productivity and reduce the cost of production. Mobile phone applications and portals will be used to disseminate real-time information on market demand and prices, early detection and warning alerts on disease outbreaks as well as provide interactive platforms for technical advice.

**Preserving and optimising agricultural land**
State governments will be encouraged to gazette agricultural land, particularly granary areas and permanent food production parks, to preserve land for farming. In this regard, incentives in the form of infrastructure including farm roads and grants will be provided to compensate for loss of revenue. Integrated farming and inter-cropping in farms and plantation areas will be intensified to optimise the use of agricultural land to increase the income of farmers. A land bank database for idle land will be established through the cooperation of ministries and state land offices. Such land subsequently will be leased to farmers and corporations for agricultural ventures.
Intensifying research & development and commercialisation in priority areas

Focus will be given to R&D&C, particularly in the development of quality seeds, breeds, fries and animal feeds, integrated pest and disease management, as well as product improvement and development of green products. In addition, research will also focus on addressing climate change issues to ensure crops, livestock, and fisheries are climate resilient. Collaboration in agricultural research will be spearheaded by a research management agency (RMA) with support from existing agricultural research agencies, such as the Malaysian Agricultural Research and Development Institute (MARDI), Malaysian Palm Oil Board (MPOB), Malaysian Rubber Board (LGM), universities, and private research centres. This is to ensure that the research is participatory and market-driven to promote the uptake of solutions among industries and farmers.

Strategy C2
Promoting training and youth agropreneur development

Focus will be given to enhancing the agricultural and entrepreneurship skills of farmers to modernise the sector. The National Agricultural Training Council (NATC) and Institute of Malaysian Plantation and Commodities (IMPAC) will collaborate with higher learning institutions and industry players to continuously review existing training curriculums to meet industry demand. The current skill sets of farmers, fishermen, and smallholders will be assessed and upskilling programmes introduced to assist them in adopting modern technologies and good agricultural practices.

Entrepreneurship development programmes will be improved through collaboration among the NATC, IMPAC, Malaysian Global Innovation & Creativity Centre (MaGIC), and National Institute of Entrepreneurship (INSKEN) to assist and nurture more start-ups, particularly by young agropreneurs, into successful and sustainable agribusinesses. Existing facilities in agricultural training institutes will be optimised to undertake entrepreneurial courses. In addition, the young agropreneurs programme, a collaborative effort between Agrobank, universities, and agricultural training institutes, will be further promoted to attract undergraduates into agribusinesses. Participants of this programme will be given priority in obtaining start-up grants and soft loans.

Strategy C3
Strengthening institutional support and extension services

Extension services provided by various agencies will be reviewed and streamlined based on location, agricultural activities, and relevance of services provided. Extension officers will be pooled at these establishments to offer one-stop advisory services to farmers, fishermen, and smallholders. The officers will be trained in areas such as livestock, aquaculture, oil palm, rubber, modern technologies, sustainable practices, and managing climate change impact. Modern technologies, such as remote sensing and drones will be used for planning, surveillance, and monitoring activities by the extension officers. In addition, the private sector, universities, and farmer associations will be encouraged to provide advisory and technical services in specialised areas.

Strategy C4
Building capacity of agricultural cooperatives and associations along the supply chain

A cluster-based approach that vertically integrates production, quality control, processing, and marketing will be promoted to encourage participation of cooperatives and associations in agro-food and industrial commodities along the supply chain. This approach will assist in securing demand contracts, enabling better farm-gate prices and profit-sharing from processing activities, and ensuring sustainable income for farmers and smallholders. Specific clusters will be developed for rubber, cocoa, fruits and vegetables. To ensure the successful implementation of the clusters, the cooperatives and associations, will be managed by professionals appointed by the cooperatives or area farmers' organisations.

In addition, the capacity of cooperatives and associations including fishermen associations in the area of management, finance, investment, and marketing will be strengthened to enable them to undertake new business ventures along the supply chain. Fishermen associations will be incentivised to assist members in purchasing deep-sea vessels equipped with modern technologies through special schemes. In the area of industrial commodities, assistance will be provided to smallholders in the establishment of new cooperatives. Professionalism in the management of
cooperatives will be enhanced with the placement of young agropreneurs programme participants to infuse entrepreneurship and dynamism. In addition, cooperatives and associations will be encouraged to pool their collective resources and participate in various local and international events to showcase their products and secure contracts. Assistance in the form of matching grants and soft loans will be provided for product testing, packaging, and promotional activities at cooperative or association-level.

**Strategy C6**

**Scaling up access to agricultural financing**

Government funding through Agrobank will be restructured from fixed-term financing to flexible repayment based on harvest cycles of agro-food commodities. The current practice of loan repayment for paddy based on harvesting cycles will be extended to other agro-food commodities, such as aquaculture and vegetables. In addition, these loans will have greater flexibility, where credit insurance will be allowed in place of collateral requirements.

The suitability of the current mechanism in financing the replanting of rubber through the collection of cess will be explored for extension to oil palm, cocoa, and pepper. This is to ensure the availability of sustainable funds to finance long-term replanting activities. The difference between actual replanting cost and total cess collection will be covered through a soft loan scheme. The management of the loan scheme will be undertaken by smallholder cooperatives or Agrobank for the case of independent smallholders, while loans for organised smallholders will be managed by the respective agencies, such as the Rubber Industry Smallholders Development Authority (RISDA), Sabah Rubber Industry Board, and Malaysian Cocoa Board.

**Strategy C7**

**Intensifying performance-based incentive and certification programmes**

Existing input-driven subsidies will be gradually replaced with performance-based incentives to ensure productivity-led assistance. Incentives will be provided to encourage compliance of farmers and smallholders to the Malaysian Good Agricultural Practices (MyGAP) certification and other certifications such as the Malaysian Sustainable Palm Oil (MSPO), a sustainable palm oil certification scheme. This is to ensure farm produce complies with sustainable agricultural practices and food safety requirements to command premium prices.

Certified farms will be given priority for grants or soft loans. In addition, the MyGAP certification will be streamlined according to the Global GAP requirements to increase market access, particularly to the European Union. The benefits of MyGAP certified products will be promoted to consumers through campaigns and awareness programmes. For industrial commodities, quality certification of products such as palm oil, cocoa and pepper, and sustainable forest management certification for forest plantation will be encouraged. The MSPO will be promoted among plantations and smallholdings to ensure palm oil from Malaysia complies with sustainable practices to enable them gain better market access. In addition, the Malaysian Timber Certification Scheme, an internationally recognised national timber certification scheme, will also be promoted.
Focus area D
Transforming construction

The construction sector is becoming more important due to higher demand for modern and efficient infrastructure in line with the aim of becoming an advanced nation. The construction sector is expected to grow at 10.3% per annum with a contribution of RM327 billion or 5.5% to GDP by 2020. The Government will introduce the Construction Industry Transformation Programme (CITP), 2016-2020, to propel the industry forward and meet market demand.

In the Eleventh Plan, efforts to transform the construction sector are based on four main strategies, namely:

- **Strategy D1: Enhancing knowledge content** by increasing human capital quality, accelerating capacity and capability building of SMEs and Bumiputera contractors, and reducing the mismatch between labour demand and supply;
- **Strategy D2: Driving productivity** by increasing technology adoption and modernising construction methods;
- **Strategy D3: Fostering sustainable practices** in the construction value chain and developing legislation that supports sustainable construction activities; and
- **Strategy D4: Increasing internationalisation** by building capacity and scale of firms to export and addressing issues through negotiations at government-to-government level as well as utilising the Services Export Fund.

### Strategy D1
Enhancing knowledge content

The strategies to enhance knowledge content in the construction industry include increasing the quality of human capital, accelerating capacity and capability building of SMEs and Bumiputera contractors, and reducing the mismatch between labour demand and supply. Key initiatives include fostering greater collaboration between Construction Industry Development Board (CIDB), the respective professional boards, and training institutions to develop industry-relevant training modules. A structured skilled trade apprenticeship programme for specific courses such as safety supervisors, crane operators, and rotary drill operators will also be introduced to produce a highly skilled workforce. SME capabilities will be enhanced, particularly Bumiputera contractors, with the support of key partners and the establishment of productivity CoE for sharing of best practices. Regular manpower planning will be undertaken to reduce the mismatch between labour demand and supply. The proportion of skilled foreign labour will be increased by streamlining entry requirements and introducing a new levy system.
Strategy D2
Driving productivity

The strategies to increase productivity in the construction sector will focus on increasing technology adoption and modernisation of construction methods as well as reducing dependency on low-skilled labour. The labour productivity of the sector is targeted to increase by about 1.6 times, from RM39,116 per worker in 2015 to RM61,939 per worker by 2020. A number of initiatives will be introduced to drive productivity, including expediting the adoption of the IBS by the industry through the revision of the public procurement policy and Uniform Building by-Laws 1984 and improving existing regulations to ease construction-related business processes. This effort, which started with Kuala Lumpur City Hall, will be expanded to other local authorities. The use of ICT will be enhanced by providing a common platform to use BIM on a pay-per-use basis.

Strategy D3
Fostering sustainable practices

In line with the growing need for green construction practices, strategies will be geared towards increasing the sustainability of built infrastructure. This will include inculcating green practices in the construction value chain and developing legislation that supports sustainable construction activities. Three initiatives to foster environmental sustainability in the sector are: mandating compliance to sustainable waste management practices through EMS ISO 14001 certification; enhancing the current rating systems for buildings and developing new standards for infrastructure to promote sustainability; and enhancing the awareness and accountability of health, safety and environment (HSE), where HSE good practices will be made obligatory. The minimum level of construction workers’ amenities will be raised in the code of practice and further mandated within standard contracts.

Strategy D4
Increasing internationalisation

The strategies to increase the internationalisation of firms will focus on building capability and scale of firms by encouraging high-performing SMEs to forge partnerships with larger corporations or form multidisciplinary consortia when bidding for international projects. The public procurement policy will be reviewed to facilitate the formation of such consortia. In addition, firms will be encouraged to leverage FTAs and MRAs, and provide feedback to the Government on challenges faced when venturing abroad to enable issues to be addressed at government-to-government level. The SEF, which covers activities such as tendering, negotiating, and conducting feasibility studies for international projects as well as export promotion activities, will assist construction firms to secure opportunities abroad.
Focus area E
Growing dynamic SMEs

The Eleventh Plan will focus on developing resilient and sustainable SMEs to achieve inclusive and balanced growth. The contribution of SMEs across all sectors is targeted to increase to 41% of GDP by 2020.

The development of SMEs will be based on the SME Masterplan 2012-2020, encompassing six strategies, as follows:

- **Strategy E1: Enhancing productivity through automation and innovation** by promoting increased use of ICT and continuing the Technology Commercialisation Platform (TCP) and Inclusive Innovation programmes;
- **Strategy E2: Strengthening human capital development within SMEs** by reskilling and upskilling workers through industry partnerships;
- **Strategy E3: Enhancing ease of doing business** by simplifying the process of formation and formalising of businesses as well as increasing ease of access to financing;
- **Strategy E4: Increasing demand for SME products and services** by reviewing policies for procurement from SMEs and encouraging SMEs to obtain international standards and certifications to increase exports;
- **Strategy E5: Creating home-grown champions** through the Catalyst Programme to build high performing SMEs into regional and international players; and
- **Strategy E6: Developing SMEs in Sabah and Sarawak** by strengthening infrastructure, encouraging market expansion through e-commerce, reducing the cost of doing business, and increasing outreach of government assistance.

### Strategy E1
Enhancing productivity through automation and innovation

SMEs will be encouraged to adopt greater automation in production processes and business services. Greater ICT utilisation will be promoted, mainly in business operations, supply chain management, and delivery systems. Two existing high impact programmes, namely TCP and Inclusive Innovation will be continued. The TCP links innovation initiatives under one platform and aims to remove market and financing barriers to innovation. This end-to-end facilitation enables SMEs to use technology as well as acquire IPs and early stage financing. In this regard, PlaTCOM, established in 2014, will continue to implement the TCP to assist SMEs to innovate and commercialise products and services. The Inclusive Innovation programme aims to empower microenterprises in rural areas and the B40 households to leverage innovation. The programme will provide technical, financial, and management support to the target groups and encourage grass-root innovation.

### Strategy E2
Strengthening human capital development within SMEs

Curriculum for TVET will be strengthened with greater input from the industry to equip workers in SMEs with the right skill sets. In addition, reskilling and upskilling of workers will be intensified to enable them to fill higher-paying jobs. Other measures to strengthen human capital development include ensuring new entrants into the workforce meet industry requirements and creating an entrepreneurial culture in the society.
Strategy E3
Enhancing ease of doing business for SMEs

The on-going integration of Malaysia Corporate Identity Number (MyCoID) and Business Licensing Electronic Support System (BLESS) will simplify the process of formation and formalising of businesses. For better access to financing, SMEs are encouraged to engage industry experts when preparing proposals, particularly for technology and innovation activities. The SME Investment Partner (SIP) programme will also introduce new ways of financing for early stage companies by combining equity and loan financing features and providing up to 100% margin of financing. SIP financing will complement the existing venture capital, private equity, and angel financing landscape. SMEs will be encouraged to pool resources, utilise shared services, and purchase inputs, raw materials and services in bulk to reduce cost.

Strategy E4
Increasing demand for SME products and services

Government policy on procurement from competitive SMEs will be reviewed to increase the demand for high-quality local products and services. Similarly, government-linked companies (GLCs) and MNCs will be encouraged to procure from local SMEs and invest in supplier development programmes. The SMEs will leverage the consortium approach to take advantage of market opportunities for large orders. SMEs will also be encouraged to comply with international market standards and certifications, such as good manufacturing practices (GMP), eco-labelling, and Hazard Analysis & Critical Control Points (HACCP). To further boost exports, the Going Export (GoEx) Programme will be scaled up to assist SMEs to venture into exports.

Strategy E5
Creating home-grown champions

The Catalyst Programme will help to remove barriers and provide assistance to potential SMEs to become home-grown champions who can compete in regional and international markets. The selection of SMEs will be based on transparent and clear criteria to identify the most deserving and highest potential growth SMEs to participate in this programme. Support will be provided in the areas of financing, market access, and human capital development to the selected SMEs.

Strategy E6
Developing SMEs in Sabah and Sarawak

Infrastructure development in Sabah and Sarawak will be given priority to enable SMEs to expand their businesses. This includes increased coverage and quality of telecommunications network, supply of electricity and water as well as transportation connectivity in these states. In addition, SMEs will be encouraged to expand their markets by adopting e-commerce, cloud computing, and crowdsourcing for financing. Regulations will be reviewed to reduce the cost of doing business and increase the outreach of government assistance to allow businesses to enable and unleash the potential of SMEs in Sabah and Sarawak.
Focus area F
Translating innovation to wealth

Innovation is a game changer in the Eleventh Plan to sustain economic growth and improve the wellbeing of the rakyat. Focus will be on strengthening relational capital to foster stronger linkages, collaboration, and trust among stakeholders. This will enable better coordination as well as sharing and testing of ideas to create new value. Efforts to promote innovation will be undertaken at the enterprise and societal levels.

Enterprise innovation

Efforts to enhance innovation at the enterprise level are based on four strategies, namely:

- **Strategy F1: Strengthening the governance mechanism** by creating a research management agency (RMA) and expanding the 1Dana Portal;
- **Strategy F2: Enhancing demand-driven research** by streamlining public sector funding for research, development, commercialisation and innovation (R&D&C&I);
- **Strategy F3: Strengthening industry-academia collaboration through intermediaries** by encouraging local and international collaborations for technology transfer, including strategic alliances between MNCs and SMEs; and
- **Strategy F4: Promoting private financing of research, development, commercialisation and innovation** by increasing access to private sources of financing, and developing a framework for risk mitigation and management of crowdfunding activities.

With the implementation of these strategies, it is expected that the following outcomes will be achieved, as shown in Exhibit 8-11.

### Strategy F1
Strengthening the governance mechanism

An existing agency will be restructured to become the RMA to strengthen the institutional mechanism to manage public R&D&C&I initiatives to increase return on investment. It will undertake planning, coordination, and monitoring of public-funded R&D&C&I projects, conduct studies on technology foresight, set national priority areas, and foster interdisciplinary and multi-agency research efforts. In addition, the agency will eliminate overlapping and supply-driven programmes as well as reduce low-impact programmes.

The 1Dana portal, established in 2014, will be expanded to serve as a centralised registry for R&D&C&I-related information to encourage sharing of resources. This will include information on R&D facilities and equipment, expertise in various fields, research output, and registered IPs. Through this portal, owners of R&D capital will be able to maximise the use of their facilities and equipment, and increase their income through the pay-per-use approach. In addition, companies will have access to these resources without incurring large capital outlays and will be able to upgrade, test, and certify their products to meet international standards. Information from other related portals such as krste.my, TECHMart database, and myren.net.my, will be integrated with the 1Dana portal.

### Exhibit 8-11
Achievements and targets for enterprise innovation

<table>
<thead>
<tr>
<th>Item</th>
<th>2010</th>
<th>2012/13</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ratio of business and government expenditure on R&amp;D</td>
<td>65.35</td>
<td>64.36</td>
<td>70.30</td>
</tr>
<tr>
<td>GERD/GDP (%)</td>
<td>1.07</td>
<td>1.13</td>
<td>2.0</td>
</tr>
<tr>
<td>Ratio of researchers/10,000 labour force</td>
<td>53.1</td>
<td>57.5</td>
<td>70.0</td>
</tr>
<tr>
<td>Commercialisation rate of R&amp;D outputs by:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- IHLs (%)</td>
<td>3.4</td>
<td>2.1¹</td>
<td>5.0</td>
</tr>
<tr>
<td>- MOSTI R&amp;D funds (%)</td>
<td>5.5</td>
<td>3.1¹</td>
<td>10.0</td>
</tr>
</tbody>
</table>

¹ Data as of 2013
Source: Malaysia Science and Technology Information Centre and Ministry of Education
Strategy F2
Enhancing demand-driven research

Public sector funding for R&D&C&I will be streamlined to ensure better returns. The RMA will act as a clearing house for research proposals to coordinate and reduce duplication of proposals and increase collaboration for implementation. Funding will be channelled into fundamental research for experimental and knowledge creation; applied research to solve national issues and to develop new industries; and demand-driven research to solve problems, improve processes and create new value in industries. In this regard, emphasis will be given to applied and demand-driven research to promote strategic partnerships between companies and researchers, and generate higher return on investment.

Strategy F3
Strengthening industry-academia collaboration through intermediaries

Local and international collaboration between Government, industry, and academia will be further encouraged through platforms such as Public Private Research Network (PPRN), Steinbeis, SIRIM-Fraunhofer, and PlaTCOM. These platforms will serve as intermediaries to assist in connecting industries with the relevant research entities to provide solutions on companies' specific problems and support technology adoption. This collaboration, which includes strategic alliances between MNCs and SMEs, will increase commercialisation of research findings and accelerate sharing of knowledge and innovative ideas.

Strategy F4
Promoting private financing of research, development, commercialisation and innovation

Access to financing and assistance will be strengthened through continuous engagement with private financial institutions, venture capitalists, and angel investors to widen financial options, reduce dependency on Government resources and increase the financing of R&D&C&I projects. This includes the expansion of the Technology Park Malaysia Angel Chapter and early stage financing for SMEs through the SIP programme.

In addition, equity crowdfunding will be explored to widen the range of fundraising and investment products, as well as improve market access to a broader spectrum of issuers and investors. Crowdfunding is envisioned to provide financing opportunities for SMEs, start-ups, and innovative businesses seeking liquidity in a more efficient and transparent manner. The enabling environment for innovation will be further strengthened by providing a clear framework for risk mitigation and management.

Social innovation

Efforts to boost innovation at societal level are based on three strategies, namely:

- **Strategy F5: Strengthening collaboration through a whole-society approach** by encouraging broader participation across Government, residents, non-governmental organisations (NGOs), organisational and community leaders for social services delivery;
- **Strategy F6: Developing a social financing model** to promote investments from the private sector, foundations, and individuals in delivering social services; and
- **Strategy F7: Promoting higher order thinking skills to develop a dynamic society** by scaling up existing programmes such as i-Think and Genovasi, prioritising science and mathematics in education, and expanding career opportunities in science and technology.

Strategy F5
Strengthening collaboration through a whole-society approach

In increasing the impact of innovation at societal level, the design and delivery of social services will shift from a top-down, government-centric approach to a whole-society approach. This approach will strengthen relational capital in social services delivery, by encouraging collaboration across Government, residents, NGOs, organisational and community leaders for social services delivery.
leaders to optimise utilisation of resources and promote volunteerism. A task force comprising representatives from relevant ministries, private sector, NGOs and Community-based Organisations (CBOs) will be established to coordinate social services delivery. Through this task force, successful community-based programmes will be replicated and the Government will also be able to assist in improving the professionalism and capabilities of NGOs and CBOs.

Strategy F6
Developing a social financing model

In line with the whole-society approach, a social financing model for public-private partnership programmes will be introduced to promote investments from the private sector, foundations, and individuals in delivering social services. Through this model, the ‘payment by results’ mode will be introduced, where private social impact investors will provide funding for NGOs and CBOs to implement social services and will be reimbursed by the Government when the agreed outcomes are achieved. This model will reduce the burden and risk of social services programmes through the sharing of resources and leveraging civil society’s collective skills, enthusiasm, and innovation capacity with the Government as a facilitator. In addition, the involvement of NGOs and CBOs will increase the flexibility in implementation of the programmes.

Strategy F7
Promoting higher order thinking skills to develop a dynamic society

Existing HOTS programmes, including i-Think and Genovasi, will be scaled-up to inculcate the current and future workforce with critical thinking, communications, and leadership skills. In addition, science and mathematics in education will also be given priority in line with the Malaysia Education Blueprint, 2013-2025, as these subjects stimulate creativity and innovation. Career opportunities in science and technology will be expanded with the Government’s emphasis on knowledge-intensive and high value-added industries.

Game Changer
Translating innovation to wealth

Why is innovation important for Malaysia?
Innovation is a key driver for economic growth as it raises productivity through new or improved processes, technologies, and business models. In addition, innovation can create additional sources of revenue through differentiated products and services that serve unmet customer needs. As Malaysia continues to move towards a high-value, knowledge-based economy with a strong focus on the services and manufacturing sectors, innovation will be crucial to raise the overall efficiency and thus productivity of each sector.

What will success look like?
In the enhanced innovation ecosystem, there will be greater collaboration and integration across industry, academia, and communities. Research will be closely aligned with industry demand, and the private sector will be active partners in the R&D&C&I process by contributing funds, expertise, and other resources. Communities will be actively engaged in addressing social issues through a whole-society approach in the provision of social services. There will be a greater return on investment from innovation.

How will this be achieved?
The Eleventh Plan will focus on strengthening relational capital by improving collaboration among all stakeholders. Innovation will be targeted at both the enterprise and societal levels, instead of previous efforts which focused primarily on national-level initiatives. At the enterprise level, initiatives will enhance demand-driven research, improve collaboration between researchers and industries,
and encourage private investment in R&D&C&I. At the societal level, communities will be encouraged to provide input into social services delivery mechanisms, while a social financing model will be developed to assist communities to fund new initiatives. Collectively, these strategies will produce a set of major shifts as set out in the table below:

<table>
<thead>
<tr>
<th>From</th>
<th>To</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Enterprise Innovation</strong></td>
<td><strong>Social innovation</strong></td>
</tr>
<tr>
<td>- Collaboration between industry and research institutes is limited, resulting in R&amp;D output that is not linked to industry demand</td>
<td>- High investments in social services but delivery is ineffective</td>
</tr>
<tr>
<td></td>
<td>- Communities remain dependent on the government</td>
</tr>
<tr>
<td>- Investments in R&amp;D have low returns and do not drive competitiveness and productivity for industry</td>
<td>- Focus on streamlining social services delivery by incorporating feedback from the community in line with the “whole-society approach”</td>
</tr>
<tr>
<td>- Better partnerships between industry and researchers, with industry helping to shape research to ensure relevance to business and contribute ideas, infrastructure, tools, and expertise</td>
<td>- Delivery supported by a social financing model and outcome-based funding to provide communities with avenue to invest in innovative initiatives</td>
</tr>
</tbody>
</table>

The two strategy canvases below highlight areas that should be eliminated, reduced, raised or created for this game changer.
Focus area G
Investing in competitive cities and regional economic corridors

Malaysia will invest in developing cities and regional economic corridors that are essential for growth, to maximise impact for local communities, and stimulate broader national development. Two strategies will be delivered to achieve this aspiration:

- **Strategy G1: Developing city competitiveness master plans for four major cities**, namely Kuala Lumpur, Johor Bahru, Kuching, and Kota Kinabalu, along the principles of creating density, expanding transit-oriented development (TOD), strengthening knowledge-based clusters, enhancing liveability, encouraging green-based development and practices, as well as ensuring inclusivity; and

- **Strategy G2: Strengthening corridors to fuel regional development** through a strategic review of corridor development master plans, accelerate investment in regional economic corridors, improve infrastructure, as well as enhance talent and skill development.

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3 A study by the World Bank aimed at unlocking the economic potential of Malaysian cities covering all major conurbations in Malaysia was completed in early 2015. Based on the findings from this study, city-specific competitiveness plans will be developed for four selected cities in the Eleventh Malaysia Plan. These cities were selected based on criteria such as population size, GDP contribution, existing major infrastructure, concentration of higher learning institutions, geographical advantage, and also the principles of inclusivity and fair distribution.
### What will success look like?

By 2020, four major cities in Malaysia will have undergone a step-change in their economic growth, importance as talent hubs, and liveability. City residents will be able to afford urban housing, have adequate public transportation systems, enjoy green and open spaces, and have access to economic opportunities that will enable them to provide their children with a better future. While these four cities – selected based on their strong fundamentals – will serve as pioneers, the transformation will be expanded to other cities over time. These cities will serve as role models for other cities in the country and region.

### How will this be achieved?

City Competitiveness Master Plans will be developed for the four major cities as a start, based on key principles that increase liveability and stimulate economic growth. These include creating density to increase efficiency; expanding transit-oriented development to enhance mobility; and strengthening knowledge-based clusters to facilitate agglomeration and innovation. These master plans will take into account each city’s competitive advantages, and will be formulated by the respective local authorities in consultation with the private sector and civil society. The major shifts that this game-changer will produce are summarised in the following exhibit.

<table>
<thead>
<tr>
<th>Economic density</th>
<th>Urban form</th>
<th>Resource usage</th>
<th>Housing</th>
<th>Industry focus</th>
<th>Role of local authorities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Economic density in cities is unplanned and organic, resulting in lower productivity</td>
<td>Uncontrolled and automobile-focused sprawl</td>
<td>Resource use not streamlined, leading to high usage of natural resources</td>
<td>New developments are expensive and exclusive with limited affordable options</td>
<td>Current industries are predominantly labour- and space-intensive</td>
<td>Local authorities focused on licensing, enforcement and provision of basic services</td>
</tr>
<tr>
<td>Increased economic density to enhance productivity</td>
<td>Transit-oriented development to increase use of public transportation and reduce reliance on personal vehicles</td>
<td>Efficient in waste management through guidelines on resource use and effective enforcement</td>
<td>Affordable and quality housing accessible to targeted segments of the society</td>
<td>Growth of knowledge-intensive industries with efficient use of space</td>
<td>Local authorities as strategic drivers of local economic and social development</td>
</tr>
</tbody>
</table>
Strategy G1
Developing city competitiveness master plans for four major cities

Increasingly, competition for investment and talent globally is between cities and no longer just at country level. Cities play an important role in a nation’s growth – as finance and logistics hubs, as well as magnets for talent seeking new opportunities. Cities across the world generated close to 35% of global GDP in 2011, and are projected to increase this share to 60% by 2025. Great cities also continue to develop into cultural and political epicentres with vibrant social, cultural, and intellectual atmospheres. In 2014, more than half the world’s population lives in cities, and this figure is expected to increase to 66% by 2050.

The Government will initially focus on four major cities, namely Kuala Lumpur, Johor Bahru, Kuching, and Kota Kinabalu, given their potential in terms of population size, GDP contribution, existing major infrastructure, concentration of higher learning institutions and geographical advantage.

Specific city competitiveness plans will be drawn up, taking into account the competitive advantages of each city. These plans will be formulated by the respective local authorities in consultation with the private sector, civil society, and other relevant stakeholders.

The development of these cities under the Eleventh Plan will take into account six principles to ensure that they will be economically advanced and be a great place to live in for urban residents of all socio-economic levels. These principles will be used as building blocks for local authorities to develop their city competitiveness plans.

**Principle 1: Enhancing Economic Density**
High economic density in cities is the key to innovation. It brings people and businesses closer and enables information and knowledge sharing, new technological inventions, and new businesses. In addition, economic density increases efficiency and optimises resource use. Existing Malaysian city planning guidelines will be revised progressively to optimise the built environment, enhance connectivity, and integrate infrastructure development.

**Principle 2: Expanding Transit-oriented Development (TOD)**
Transit-oriented Development (TOD) refers to urban development concepts involving the mixed use of residential and commercial development to be pedestrian-friendly, designed with maximum access to public transport. City authorities will adopt TOD as part of the city’s competitiveness master plan to provide mobility options to residents, add vibrancy to city spaces, reduce pollution and energy consumption by reducing commute times and increasing the use of public transport or walking, and also revitalise brownfield areas within the city. Efficient land use through TOD will be given priority along established public transport routes.
Principle 3: Strengthening knowledge-based clusters
Knowledge-based clusters will be developed to attract investment and talent. Knowledge-based clusters are physical hubs within the city that agglomerate industry-specific firms and talent, particularly for industries such as creative content, ICT, and professional services. Knowledge-intensive investments will be given priority in the selected cities. Institutions of higher learning and research institutes located in the cities will be the catalysts to create knowledge-based clusters.

Principle 4: Enhancing liveability
Cities need to be liveable and should create a conducive environment that attracts talent to live, study, work, and play in. Better city planning mechanisms will be developed, including land use zoning that promotes residential, commercial, and basic social amenities in close proximity to increase walkability. Sports, arts, and cultural facilities will be promoted through greater collaboration between related associations, corporate bodies, and NGOs. Emphasis will also be given to the quality, capacity, and reliability of public transport, social amenities, and telecommunications networks. Healthcare facilities and high-quality schools will be planned for and developed accordingly to meet local demand. Vibrant cultural attractions, food and beverage and retail spaces will be developed to create cities that are attractive to global talent.

Principle 5: Adopting green-based development and practices
All these cities will place high importance on continuous sustainable growth by enhancing green-based development and optimising low carbon resources. Environment-friendly practices, such as green buildings, green lifestyles, and sustainable consumption and production, will be embedded within the development plans of these cities.

Principle 6: Ensuring inclusivity
Inclusivity is the backbone to successful and competitive cities. Inclusiveness will be one of the main thrusts for the four cities, to ensure that communities have ample opportunities to participate in social, political, and economic activities. This will be achieved through greater interaction and social connectedness, paving the way for wealth sharing and improved wellbeing for city dwellers. Focus will also be given to address issues related to homelessness and poverty in cities through collaboration among relevant agencies, corporate bodies, NGOs, and local governments. In addition, good connectivity will be a priority to enable the spillovers of economic gains from these cities to the hinterland and suburban areas.
**Strategy G2**  
**Strengthening corridors to fuel regional development**

In the Eleventh Plan, regional economic corridors will continue to be a key enabler to ensure a more balanced geographic development across Malaysia. By the end of the Eleventh Plan, it is targeted that realised investment will reach RM236 billion across all corridors, and 470,000 jobs will be created.

Regional economic corridor development will be enhanced through a strategic review of the corridor development master plans and increased investment, improved infrastructure as well as talent and skill development across the five corridors to ensure that local communities continue to benefit from the investment and resulting economic growth in these areas.

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**Exhibit 8-12**  
**Key initiatives for regional economic corridors, 2016-2020**

<table>
<thead>
<tr>
<th>East Coast Economic Region</th>
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<tbody>
<tr>
<td>• Oil, gas and petrochemical, manufacturing, tourism</td>
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<tr>
<td>• Entrepreneurship and skill training programmes</td>
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<tr>
<td>• Central Spine Road and Kota Bharu-Kuala Krai Highway</td>
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<tr>
<th>Sarawak Corridor of Renewable Energy</th>
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<tr>
<td>• Pan-Borneo Highway</td>
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<tr>
<td>• Energy-intensive industries including aluminium, steel and glass</td>
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<tr>
<td>• Growth nodes in Baram and Tunoh for tourism and resource-based industries</td>
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<tr>
<th>Sabah Development Corridor</th>
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<tr>
<td>• Key focus areas include tourism and palm oil downstream processing</td>
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<tr>
<td>• Logistics infrastructure development</td>
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<td>• Creative content programme</td>
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<th>Northern Corridor Economic Region</th>
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<tbody>
<tr>
<td>• Agriculture, manufacturing, tourism, logistics and education</td>
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<tr>
<td>• Developing the nutraceutical industry</td>
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<tr>
<td>• Strengthening automotive and aeronautics industries</td>
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<th>Iskandar Malaysia</th>
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<tbody>
<tr>
<td>• Education and creative cluster</td>
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<tr>
<td>• Tourism and logistics hub</td>
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<tr>
<td>• Manufacturing focus on E&amp;E, food and oleo-chemicals</td>
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</table>
Conclusion

During the Tenth Plan, the economy sustained growth across all sectors amid a challenging external environment. This growth was supported by strong domestic demand and sound economic fundamentals. Policy shifts were undertaken to increase competitiveness including further liberalisation of the services sector, increasing the ease of doing business, enhancing the innovation ecosystem, and strengthening SMEs. The Eleventh Plan emphasises on re-engineering economic growth to enhance socio-economic development. The continued focus on knowledge-intensive sectors and high value-added activities will allow Malaysia to further capture growth opportunities and attract quality investments. Economic growth will be supported by increased investment, improved productivity, a robust regulatory framework, and a larger pool of high-skilled talent. SME development and innovation will spur further development and increase inclusiveness across the various segments of society. Competitive cities and regional economic corridors will be the catalysts for growth, creating vibrant hubs for investment as well as developing talent and knowledge. The successful delivery of the strategies outlined will ensure that Malaysia claims its rightful position among the ranks of other developed countries.