National ICT Policy Planning and Strategic Intervention in Malaysia

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21 February 2004
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The stages a society goes through as it develops and progresses* can be depicted as shown below…

Malaysia was able to move from an agro-based economy to an industrial one within a single generation (60’s – 80’s).

*Development and progress is however non-linear
The change in the ‘economic pie’ can be clearly discerned as indicated here. Agriculture has shrunk from about 29% in 1970 to 8.4 % 2002, whereas manufacturing has grown from about13.9 % to 30.1% for the same period.

One reason for the ‘remarkable’ change could be attributed to the Malaysia Inc. concept pursued where the public sector acted both as a ‘facilitator’ and ‘pace-setter’ with the private sector driving the economic development.

![Diagram showing GDP components for 1970 and 2002]
However, we realized that the export-oriented economic growth then pursued would not take Malaysia to its Vision 2020 i.e. that of becoming a developed nation by the year 2020.

This called for a hard re-think … and we decided upon Information and Communication Technology (ICT) as the vehicle that could help us attain our Vision 2020.
The Information & Communication Technology (ICT) was envisioned as the means to help Malaysia leapfrog from an industrial society to a post-industrial one, by-passing the ‘developed society’ phase.

Since ICT accelerates information & knowledge development and consumption, ICT, by default, was seen as the key driver of future growth in all phases of work & life.
In national development, ICT can be said to play a dual role; one, as a production sector, and two as an enabler. Malaysia’s new development context embraces both roles of ICT.

- **ICT as a new sector of growth**
  to achieve development goals and value creation

- **ICT as a strategic enabler**
  in moving Malaysia towards Knowledge Society and Knowledge Economy

**Taking cognizance of the ICT’s dual role, a three-phase migration strategy towards attaining Vision 2020 was identified to provide overall guidance for development.**
The K-Malaysia Migration Strategy

A Three Phase Migration of the nation

- Competitive Knowledge Economy
- Value creating knowledge products and services
- ICT as a sector and information as a commodity

Economic

People are Integral

Knowledge Society

ICT as an Enabler

- Access to information
- Culture of lifelong learning and innovation
- United, moral and ethical society
- Sustainable quality of life

Social

Values-based Knowledge Society

Note: Development is non-linear

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The K-Malaysia Migration Strategy

A Three Phase Migration of the nation

2005

Competitive Knowledge Economy

Competitiveness

2010

Integral Knowledge Society

Equity

2020

Values-based Knowledge Society

Social

Sustainable quality of life

Note: Development is non-linear
We undertook two major initiatives to address both the issues of economic competitiveness and social equity.

- Multimedia Super Corridor (MSC) – targeting economic development
- National IT Agenda (NITA) – targeting social development
The MSC heralded ICT as a new sector of growth to develop knowledge industries.

Essentially, the MSC is a bold attempt at developing a dynamic industrial cluster for producing innovative ICT-based multimedia products and services, or in other words kick-starting a ‘content’ industry.

MSM – the next engine of growth – is a test bed for ideas and ideals; an environment to jumpstart innovation in ICT (multimedia)

Physically, it is an area 15 kilometres wide and 50 kilometres long, that starts from the Kuala Lumpur City Centre (KLCC), down south to the Kuala Lumpur International Airport (KLIA).

URL: http://www.msc.com.my
The MSC Strategy: Leapfrogging Malaysia’s development.

Go Global

Create the ideal Multimedia environment for world-class companies to use as a regional hub

Leapfrog into success in the Information Age

Catalyze a highly competitive cluster of Malaysian multimedia/IT companies that become world-class over time

Lead Regional

Enhance domestic productivity

Create value from Information Age businesses
Some key MSC benefits …

- A world-class physical and information infrastructure that will grow to encompass the entire country
- The Malaysian Government supported Bill of Guarantees
  - Cyberlaws
- An integrated logistics hub with rapid rail links and a smart highway system to Kuala Lumpur
- A world-class high capacity global telecommunications and logistics network built on a 2.5 - 10 gigabits digital fiber optic backbone
- Incentives – financial & non-financial
- Seven MSC Flagship Applications to drive the project's development; Electronic Government, Multipurpose Card, Smart School, Telehealth, R&D Cluster, e-Business and Technopreneur Development.

http://www.msc.com.my
MSC: Some facts and figures (#1)

2002* - actual – based on 402 companies
2003(p) – based on 527 companies
2004(p) – based on 499 companies

Source: MDC
MSC: Some facts and figures (#2)

Technology Cluster

- System Tools & Utilities: 15%
- Infrastructure Systems: 17%
- Enterprise App: 14%
- Content: 8%
- Vertical App: 16%
- Services: 24%
- Tech. Blocks/Developer of core tech.: 9%

Source: MDC
Before going on to NITA, let me first touch upon the National IT Council (NITC), the think-tank that gave birth to NITA.

- **Multimedia Super Corridor (MSC)** – targeting economic development
- **National IT Agenda (NITA)** – targeting social development
NITC was formed in 1994 as national planning body to drive ICT utilization for national development. It was chaired by the Prime Minister and MIMOS Berhad was the secretariat, the secretary being the President/CEO of MIMOS.

The NITC strategic coordination framework shows the various linkages between the relevant players. The framework served not only as a coordination mechanism but also as a cross-sectoral planning tool.
The NITC policy intervention framework helped to clearly delineate the strategic, tactical and operational aspects of policy intervention.
In 1996 NITC came out with the National IT Agenda (NITA), a document outlining how balanced ICT development ought to be driven. It espoused a ‘people centered’ approach to development.

The working model for NITA is the National IT Framework (NITF), which focuses on the balanced development of people, infostructure, content and applications to create value, to provide equity and access to all Malaysians, and to qualitatively transform our society into a values-based knowledge society by the year 2020.

This document formed the basis for the ‘informatisation of society’ i.e. the use of ICT in all walks of life to improve productivity and enhance quality of life. The focus was more on ICT4D to address the ‘equity’ issue.
NITA was operationalized using the ‘Five E-thrusts Model’.

Five Strategic Policy Thrusts

- **Learning**: A culture of learning, unlearning and relearning
- **Governance**: Delivery of public services
- **Economy**: Evolution of inclusive community
- **Social**: Value creation for a new economy
- **Sovereignty**: National sovereignty and security in a borderless world
Some of the more important strategic interventions/initiatives of NITA are highlighted here.
Lessons Learnt

- **Political stability** and **peace** play a very important role in attracting foreign investments. — Although a multi-racial, multi-religious country, Malaysia has seen peace & political stability since its independence. The underlying development socio-economic theme has been **Growth with Equity** (grow the cake larger for everyone to share).

- **Political will and commitment** is imperative for marshalling national resources, especially funds, for bold strategic initiatives. — In the case of the MSC, the **Prime Minister** himself was the Chief Evangelist!

- **Visionary leadership** and **championship** are necessary to provide vision and motivation, and to see projects to the end. — Again, in the case of the MSC, the **Prime Minister** himself provided both!
**Lessons Learnt**

- **Smart Partnerships** are a must to move fast since one may have to buy technologies, work with others for mutual gain, or hire talents. – The MSC is about building *industrial clusters* and the foundation for this is collaboration and cooperation between various players.

- **Domestic industry development** is crucial for long term sustainability. – This is a lesson we learnt from our E&E industry, which is very MNC dominated with low technology transfer, and hence amenable to relocation if conditions elsewhere are better.

- **Technology savvy human capital** is the driving force behind technology innovations. – We are re-introducing **English** as the medium of instruction for Science & Mathematics from the primary school onwards in view of globalisation and the role of English as an international lingua franca. A lack of qualified **research scientists** is hampering our efforts to carry out R&D activities.
Lessons Learnt

- **Entrepreneurial skills** are imperative for turning innovations into world beating products and capture global markets. – Innovations need both technical and business knowledge. We lack people with **business building skills**, especially in the area of ICT. Some of the MSC flagships are not doing well due to poor business models.

- **Industry clusters** are necessary to promote and sustain innovation. – The MSC has yet to evolve full-fledged dynamic clusters in the true sense of the word. The reasons could be a lack of sustained cluster building activities and low synergy between academia and industry.

- **Intense marketing campaigns** world-wide are a must to tell your story to link with smart partners and gain market share. – In the case of MSC, we have not done enough of targeted marketing.
Lessons Learnt

‘Top-down’ has generally been the Malaysian mode of development -- government as initiator and enabler, with the private sector and community complementing bottom-up. – The MSC is a classic example. Our industry is not mature enough to evolve on its own driven by market forces. Here again, we practice the Malaysia Inc. concept – government facilitation with private sector participation.

The networked society is said to be the future society. Information and knowledge are going to be the key drivers for socio-economic growth. – Thus, network security is going to be a major issue. This is the reason why the NITC initiated the set up of NISER.

‘Informatisation of society’ (use of ICT to enhance one’s activities, to create added value) must be given equal emphasis as infrastructure development. – The Koreans have found out that ICT infrastructure development alone is not going to pay dividends. This is why we have focused NITA on ICT4D. DAGS and BDD are examples of our ‘informatisation’ efforts.
Key Message

All countries are jostling to go forward in the dynamic global ‘competitiveness field’.

Laggards need to accelerate to overtake the leaders.

To accelerate, a planned approach is a must. Thus, top-down strategic intervention becomes imperative to not only narrow the gap between current status of a country and leaders of the pack but also to overtake them.
THANK YOU

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Vision 2020 – ‘Malaysia as a Fully Developed Country’ (launched in 1991)

• Characteristics of a Vision 2020 society:
  Strong moral and ethical values; self-regulating and self-managing; empowered through information and knowledge based on the concept of the dignity of human-kind

• Characteristics of a Vision 2020 economy:
  Robust and resilient, competitive and dynamic, but with fair and equitable distribution of wealth

Nine strategic challenges

- Establishing a united Malaysian nation with a sense of common & shared destiny
- Creating a psychologically liberated, secure, and developed Malaysian society with faith & confidence
- Fostering & developing mature democratic society that can be a model for developing countries
- Establishing a fully moral & ethical society
- Establishing a matured, liberal and tolerant society
- Establishing a scientific & progressive society
- Establishing a caring society & caring culture
- Ensuring an economically just society
- Establishing a prosperous society
NISER was formed to provide ICT security services and to fill up gaps that could be detrimental to National Security.

This is done by working with other Agencies.

NISER will not nullify the need for dedicated teams within organizations, government agencies, etc.

NISER enhances services provided by dedicated teams within organizations through mutual cooperation, info sharing and technical assistance.
NISER Achievements

**National Level**
- Developing the National Information Infrastructure Protection Agenda framework
- Managing national strategic initiatives such as Panel of Experts
- Providing technical support to the National Information Security Committee (NISC)
- Promoting the ISO 17799 that provides recommendation for the development of information security standard and effective security management in an organisation
- Setting up the Computer Forensics Lab and Information Assurance Lab
- Providing computer incident response services to the Malaysian Internet users
- Conducting awareness programs such as information security training, survey and seminar

**International Level**
- Co-founder of APCERT (Asia Pacific Computer Emergency Response Team)
- Member of FIRST (Forum of Incident Response and Security Teams)
- Active participation (represent Malaysia) in information security standards working groups
- Promoting information security initiatives particularly among Islamic countries
Demonstrator Application Grant Scheme (DAGS)

A Social Innovation to Seed NITA Realisation

DAGS is a funding platform primarily for content and community development for the following priority areas:

- Social Digital Inclusion (BDD)
  - eg. Rural Poor, Urban Poor, Senior Citizens, Disabled, Women, Youth, SMEs

- Economic Competitiveness
  - eg. SMES, E&E

- E-Public Service
  - eg. Local Authorities
DAGS: Awards & Recognitions (#1)

- **Project e-Pekak** received:
  - Swiss Dev. Foundation Financial Support.

- **Project e-Bario** received:
  - 2002 Industry Innovator Award by Society of Satellite Professionals International, NY, USA.
  - Top 7 Intelligent Communities in the World by World Teleport Association, NY, USA.

- **Project Cybercare** received:
  - Recognition & adoption by the Microsoft Foundation
DAGS: Awards & Recognitions (#2)

Project **ARBEC** received:
- Recognition by Mc Arthur Foundation & London Museum of Natural History
- South East Asia’s only virtual museum of natural history and affiliated to major museums of natural history in Europe and the US as well as on-line journal consortium of Swets-Blackwell

Project **nutriWEB** received:
- The prestigious "Golden Web Award" given by the The International Association of Web Masters and Designers (I.A.W.M.D), Florida USA

Project **Primarycare** received:
- Acknowledgement as a dynamic Open Source application for health by Open Source Health Care Alliance, Minoru Development Corp, France.
The E&E TIGeR Project

(TIGeR: Tech., Industry and Govt. Working for e-Revolution)

To re-intermediate in the economic competitiveness of the Manufacturing Sector with emphasis on the electronic and electrical clusters

Encourage SMIs to adopt RosettaNet

Encourage SMIs to adopt and implement e-business applications
Why E&E TIGeR?

Challenges:
- Technology is driving the new business paradigm
- Virtual supply chains are displacing traditional supply chains
- Malaysian E&E suppliers will be driven out of global business relationships if they do not participate in the global virtual supply chain

Solution: Industry and Government must develop a conducive environment for growth and sustainability of the Malaysian suppliers to:
- Improve Malaysia’s competitiveness in the global E&E / ICT manufacturing sector
- Demonstrate applicability of e-enabling solutions for promotion of supply chain management in other sectors
E&E - 70% of Total Manufactured Exports in 2002

Total 2002 Manufactured Exports, RM298.925bil

Source: BNM
Some relevant URLs

http://www.mdc.com.my


Suruhanjaya Komunikasi dan Multimedia Malaysia http://www.mcmc.gov.my

Malaysian Communications and Multimedia Commission


Malaysian Industrial Development Authority http://www.mida.gov.my

The National Chamber of Commerce and Industry of Malaysia http://www2.jaring.my/nccim

Malaysia Industry-Government Group for High Technology http://www.might.org.my

MATRADE http://www.matrade.gov.my

Department of Statistics Malaysia http://www.statistics.gov.my
Informatisation in Asia: an Evaluation

Fully embrace the opportunities offered by ICT; offer high-speed access to the Internet; in the course of developing economies based on sophisticated services and knowledge

Networked readiness seems similar to China and India; focus on providing high-quality services to their main cities, as well as to some high-tech parks

Developing countries; focus should continue to be on the further development of a skilled workforce and on basic infrastructure

Key challenges in Japan – age divide, limited spread of PCs in homes, and the development of an effective e-govt. program. In India, the ICT revolution has further accentuated some of the inequities already present in the huge socio-economic diversity. China – the most significant emerging player in global ICT markets; hence, huge strides in informatisation are possible.

Usage of ICT amongst individuals, firms and governments differ in the various countries:

- Malaysia – government leads
- Korea, Singapore and Hong Kong – individuals lead
- Philippines, Indonesia and Thailand – governments lag behind citizens and companies

Core K-society problem
Greater emphasis on connectivity than on informatisation of society

<table>
<thead>
<tr>
<th>Country</th>
<th>NRI Index</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Singapore</td>
<td>5.74</td>
<td>3</td>
</tr>
<tr>
<td>Taiwan</td>
<td>5.31</td>
<td>9</td>
</tr>
<tr>
<td>Korea</td>
<td>5.10</td>
<td>14</td>
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<tr>
<td>Hong Kong SAR</td>
<td>4.99</td>
<td>18</td>
</tr>
<tr>
<td>Japan</td>
<td>4.95</td>
<td>20</td>
</tr>
<tr>
<td>Malaysia</td>
<td>4.28</td>
<td>32</td>
</tr>
<tr>
<td>India</td>
<td>3.89</td>
<td>37</td>
</tr>
<tr>
<td>Thailand</td>
<td>3.80</td>
<td>41</td>
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<tr>
<td>China</td>
<td>3.70</td>
<td>43</td>
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<tr>
<td>Philippines</td>
<td>3.25</td>
<td>62</td>
</tr>
<tr>
<td>Indonesia</td>
<td>3.16</td>
<td>64</td>
</tr>
<tr>
<td>Vietnam</td>
<td>2.96</td>
<td>71</td>
</tr>
</tbody>
</table>

Networked Readiness Index (NRI)

NRI is ‘the degree of preparation of a nation or community to participate in and benefit from ICT developments’

Networked readiness of selected countries of around the Mediterranean region

<table>
<thead>
<tr>
<th>Country</th>
<th>Score</th>
<th>NRI Rank 2002-2003</th>
</tr>
</thead>
<tbody>
<tr>
<td>Israel</td>
<td>5.22</td>
<td>12</td>
</tr>
<tr>
<td>France</td>
<td>4.97</td>
<td>19</td>
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<td>Spain</td>
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<td>Italy</td>
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<td>Tunisia</td>
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<td>Greece</td>
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<td>Turkey</td>
<td>3.57</td>
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<tr>
<td>Jordan</td>
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<tr>
<td>Morocco</td>
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</tr>
<tr>
<td>Egypt</td>
<td>3.13</td>
<td>65</td>
</tr>
</tbody>
</table>

- The NRI is defined as ‘the degree of preparation of a nation or community to participate in and benefit from ICT developments’
- Of the top 25 rankings, 2 are from the Americas, 14 from Western Europe, 7 from Asia & Oceania and 1 from Central & Eastern Europe
- Only one country from the Middle East and North Africa region is ranked in the top 25 - Israel

Based on 82 countries

## Digital divide of selected countries around the Mediterranean region

<table>
<thead>
<tr>
<th>Country</th>
<th>Infostate rank 2001</th>
<th>Infodensity rank 2001</th>
<th>Info-use rank 2001</th>
</tr>
</thead>
<tbody>
<tr>
<td>France</td>
<td>22</td>
<td>18</td>
<td>22</td>
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<tr>
<td>Israel</td>
<td>23</td>
<td>23</td>
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<td>Syria</td>
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<td>119</td>
<td>92</td>
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<tr>
<td>Mauritania</td>
<td>112</td>
<td>111</td>
<td>114</td>
</tr>
</tbody>
</table>

- Infodensity refers to the slice of a country’s overall capital and labour stocks related to ICT.
- Info-use refers to the consumption flows of ICT.
- Infostate is the aggregation of infodensity and info-use or the degree of a country’s ‘ICT-ization’.
- Digital Divide is the relative difference in infostates among countries.
- Countries with the highest infostates are from Western Europe, North America, Hong Kong, S’pore, Korea, Japan, Australia and New Zealand.
- Countries at the bottom are mainly in Africa, Myanmar and Bangladesh.

Based on 139 countries.

*Source: Monitoring the Digital Divide, Orbicom 2003*