MiGHT

…. Home of Foresight

" .... MIGHT is formed to prospect for business opportunities for Malaysia through strategic exploitation of technology for attainment of Vision 2020 objective. "

Launching of MIGHT

by the Hon. Prime Minister of Malaysia

22 February 1993.

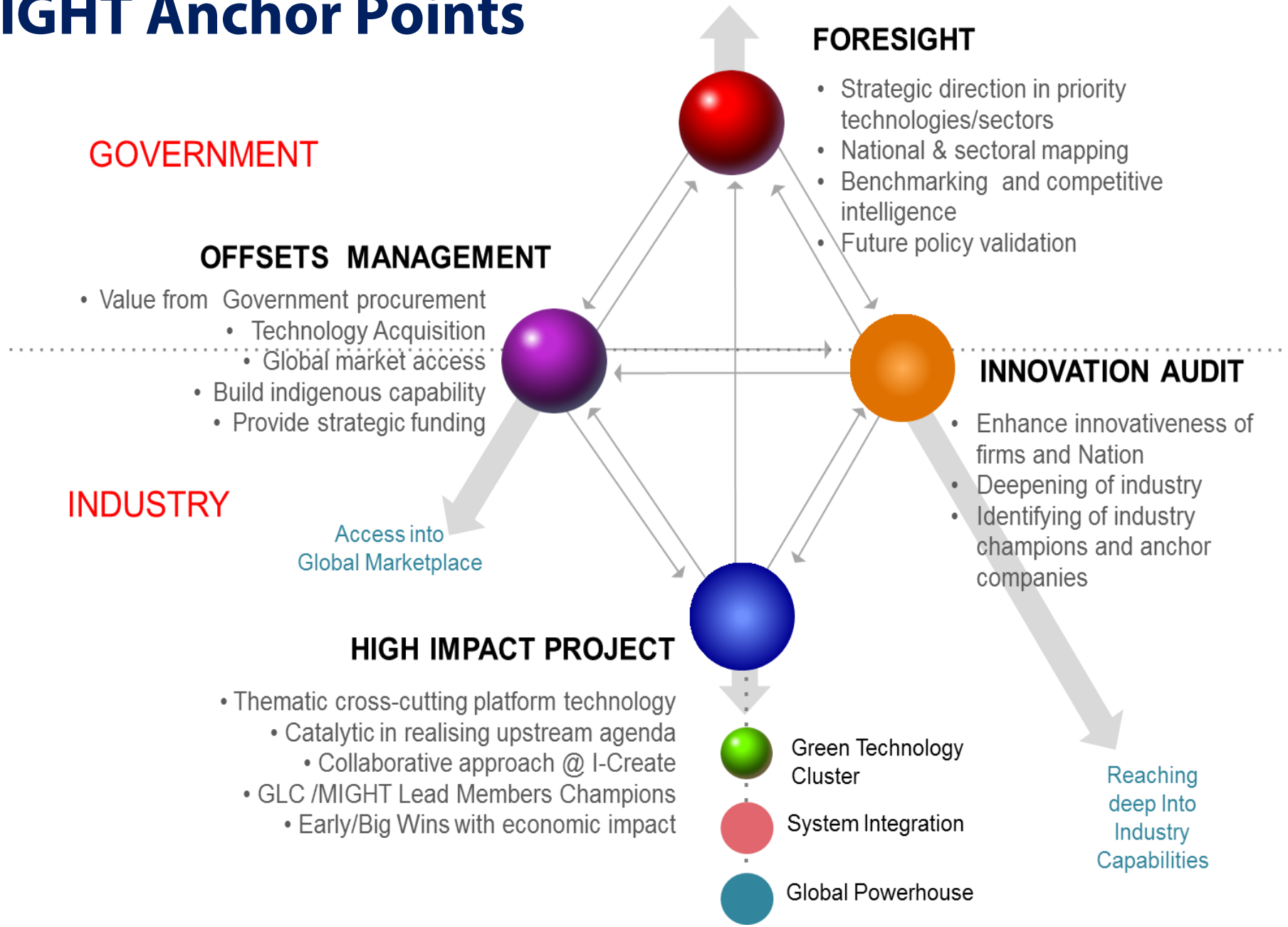
Established in 1993 as an independent organization limited by guarantee

MIGHT is under the patronage of YAB Prime Minister of Malaysia & operationalized under The Prime Minister's Department.

Governed by a Board of Directors under a Joint-Chairmanship representing the Industry and the Government

Our core business : Consensus building think-tank to harness technology for business

MIGHT Anchor Points



myForesight

another strategic program by

MiGHT

Malaysian Industry Government Group
for High Technology

trends & issues scanning

experts consultation

how?

industry consultation

scenario building

future oriented analysis

declining household size

increase reproductive age

aging population

change of values

privatized education

declining individual time

mobility issues

social trends

communication

more electronic leisure time activities

change of gender role

change of media use pattern

demographic disparity

demand for health & organic food

growth in security concerns

communities

increase role of social media

environmental trends

solar power

land clearing & degradation

nuclear power

climate change

renewable energy

depleting natural resources

water pollution

green movement

urbanization & metropolization

natural disasters

sand mining

corporate social responsibilities

increase consumption of fossil fuel

diminishing biodiversity

air pollution

water scarcity

what does the future hold?

what future lies beyond?

However good our futures research may be, we shall never be able to escape from the ultimate dilemma that all our knowledge is about the past, and all our decision are about the future

"The future is already here. It is just unevenly distributed"
William Gibson

"Looking at the future should disturb the present"
Gaston Berger

"The best way to predict the future is to invent it"
Alan Curtis Kay

Future is not necessarily continuation of the past

What happens when humans predict their future?

London 1867

In 1867, a British scientist predicted that London's population would grow very fast over the next 100 years…

… because of the population growth, he argued, also many more horse carriages would be needed…

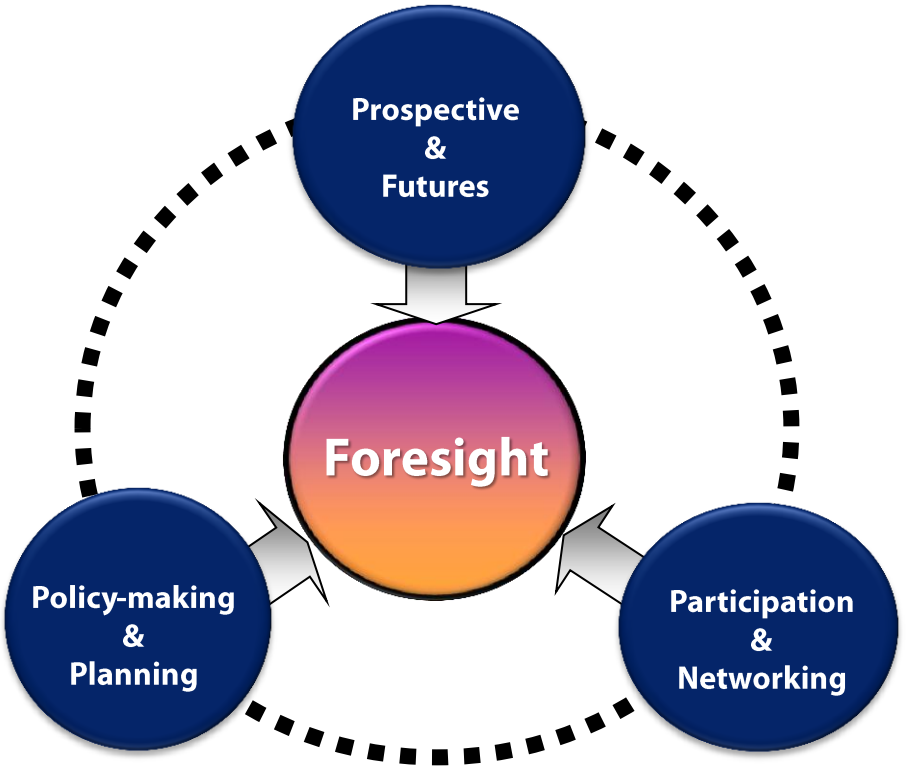
…and knowing about the horses' public bathroom habits, he concluded:

By 1967, London would be buried six feet deep in horse dung!

2007 World Economic Forum/Roland Berger Strategy Consultants

What is foresight?

- *Foresight is **not about***
  - *merely forecasting by experts*
- *Foresight is **more about***
  - *sharing a vision and/or a set of objectives*
  - *promoting trans-disciplinary research*
  - *engaging key stakeholders, including decision- and policy-makers*
  - *drawing upon and creating knowledge networks*
  - *extending the breadth and depth of the knowledge base for decision-making*
  - ***organising a long term thinking process***



Foresight is a process

Adopted from Popper 2010

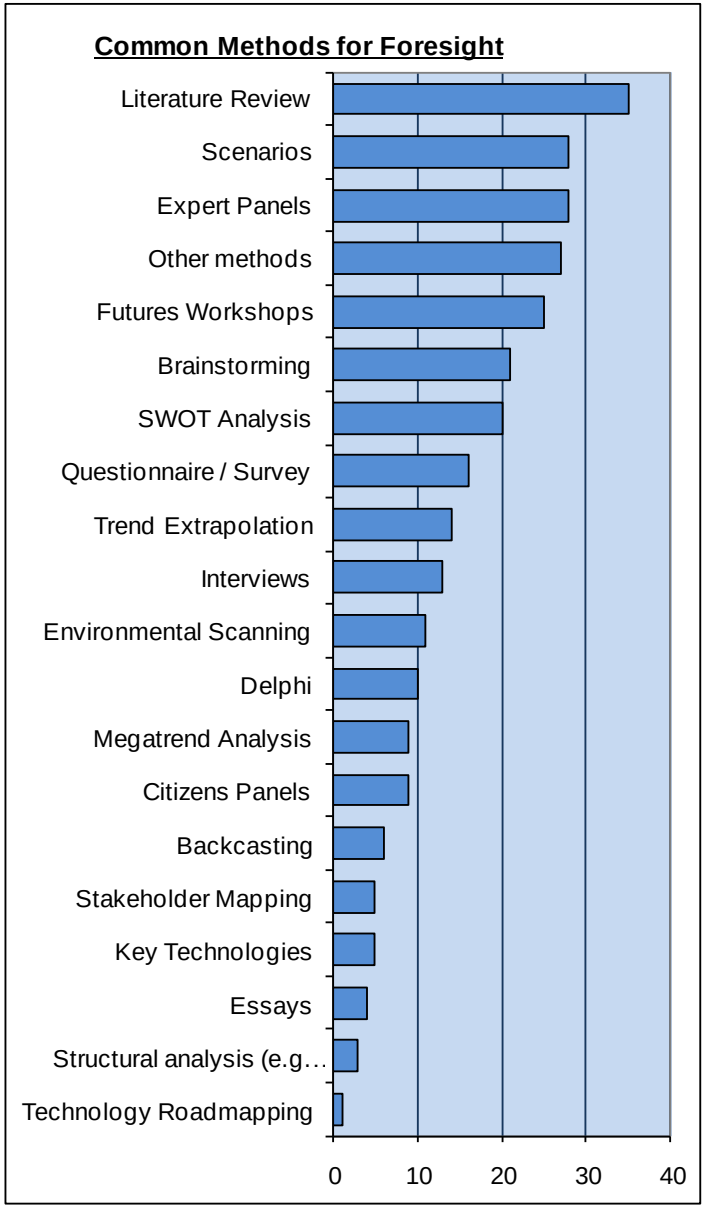
Malaysian Foresight Initiatives

	Input	Output
Sectoral Foresight (1999-2002)	• Asses competencies, Benchmarking, Scenario building	• Identification of Market, Product, Technology & Skills
	• Telecommunications • Pharmaceutical	National Technology Mapping Phase 1 (NTMP I : 1999-2000)
	• Wood based • Food product • Machinery & Equipment	National Technology Mapping Phase 2 (NTMP II : 2001-2002)
National Foresight (2010)	• Assess competencies, Benchmarking, Trend & Technology Scanning, Scenario building, Delphi	• Identification of Critical Technologies Areas
	• New Key Economic Activities • National S&T Planning	• Input to National Planning for next 10 years to support the NEM • Input to R&D&C activities

Foresight Methodology

According to the Global Foresight Outlook, there are more than thirty methods used in Foresight. The most widely used methods are without doubt literature review, scenarios, and expert panels.

Other commonly used methods are futures workshops, brainstorming, SWOT analysis, questionnaires / surveys, trend extrapolation, interviews, environmental scanning and Delphi.



Source: Global Foresight Outlook 2007

Choosing The Right Method

DIAGNOSIS

Data Collection & Analysis

PROGNOSIS

Scenario Building

PRESCRIPTION

Identification & Recommendations

- ☑ *What are the objectives?*
- ☑ *What Time Horizon are we looking at?*
- ☑ *Building on existing resources and materials*
- ☑ *What is the cost?*
- ☑ *Who are the stakeholders?*
- ☑ *Stakeholders availability?*
- ☑ *How much time do you have?*
- ☑ *Matching skills & competencies…*

Choosing The Right Method

Methods that were chosen signify the needs to cater its adoption to Malaysia's case studies. Therefore the selection and combination of methods are made to ensure the best outcome and participation of stakeholders in Malaysia. This includes but not limited to the following:-

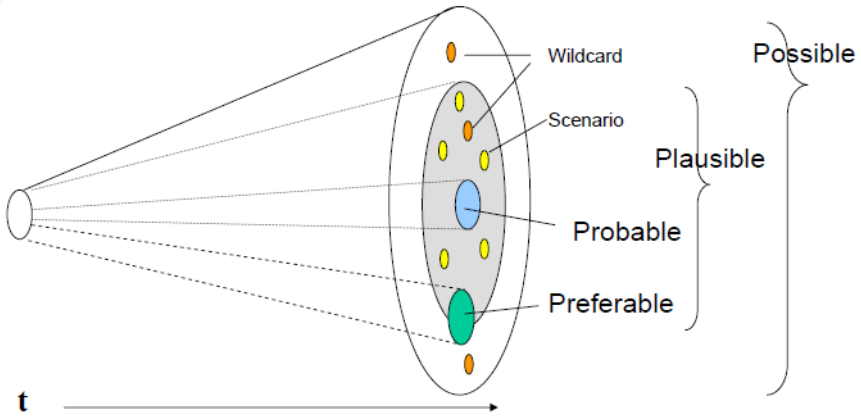
- *The need to educate potential stakeholders on the benefits and potential impact of foresight;*
- *To negate the relatively high level of cynicism of the stakeholders;*
- *To enable change of thinking and mind set;*
- *To inculcate and incorporate discipline and subjectivity. This includes receptiveness towards methods and systematic approaches of foresight;*
- *To ensure engagement of diverse and equal distribution of participants;*
- *The need to sustain continued interest in the foresight exercises by introducing creative and participatory approaches;*
- *Enabling use of multi tools environment*

Choosing The Right Method

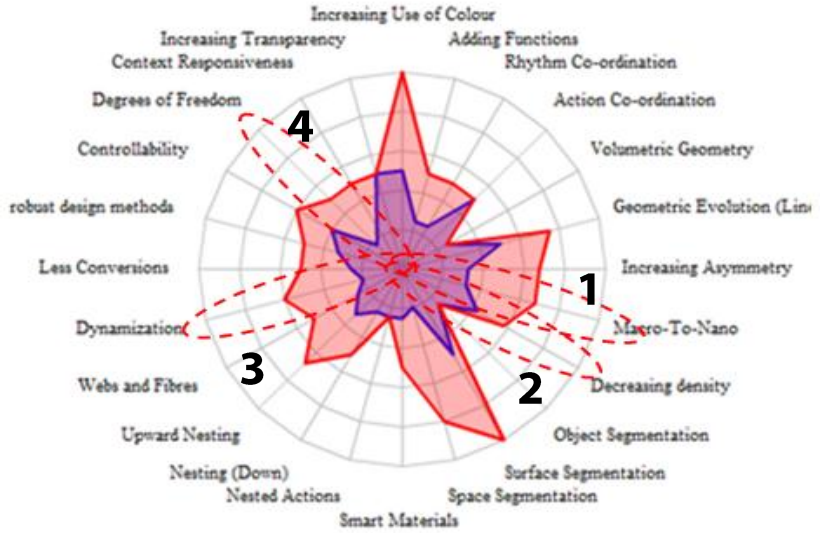
- ☑ *STEEP Analysis*
- ☑ *Patent Analysis & TRIZ™*
- ☑ *Scenario Planning*
- ☑ *Technology Prioritization*
- ☑ *Online Survey*
- ☑ *Delphi*
- ☑ *Expert Panels Workshops & Focus Group*
- ☑ *Cross Impact & Keyword Analysis*

Tools & Techniques

Scenario Planning



Technology Scanning

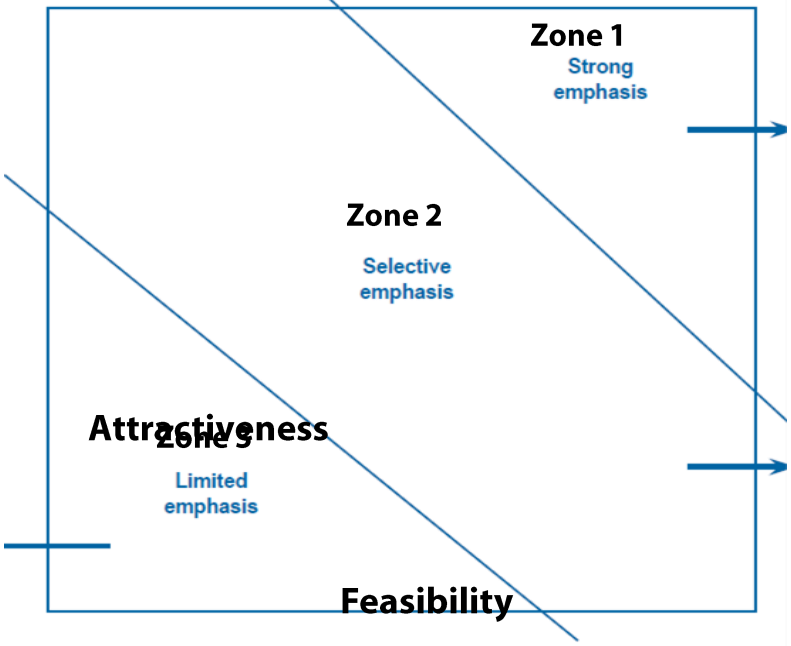


Global Industry Scanning

Watch · Dainippon Printing · Du Pont · Exxon · Gen Electric · Glaverbel · Guardian · Hitachi · Hitachi Chemical · Honda Motor · Hughes Aircraft · Kanegafuchi Chemical · Kogyo Gijutsuin · Kyocera · Matsushita Electric · Matsushita Electric Works · Misawa Homes · Mitsubishi Electric · Mitsubishi Heavy · Mobil Solar Energy · Mori Kei · Nasa · Nippon Electric · Nippon Sheet Glass · Nippon Telegraph Telephone · Oreal · Owens Illinois · Philips · Rca · Saint Gobain · Samsung Electronics · Samsung Sdi · Sanyo Electric · Seiko Epson · Sekisui Chemical · Sharp · Shinetsu Chemical · Showa Shell Sekiyu · Siemens · Suwa Seikosha · Tokyo Shibaura Electric · Toyota Motor · Yazaki

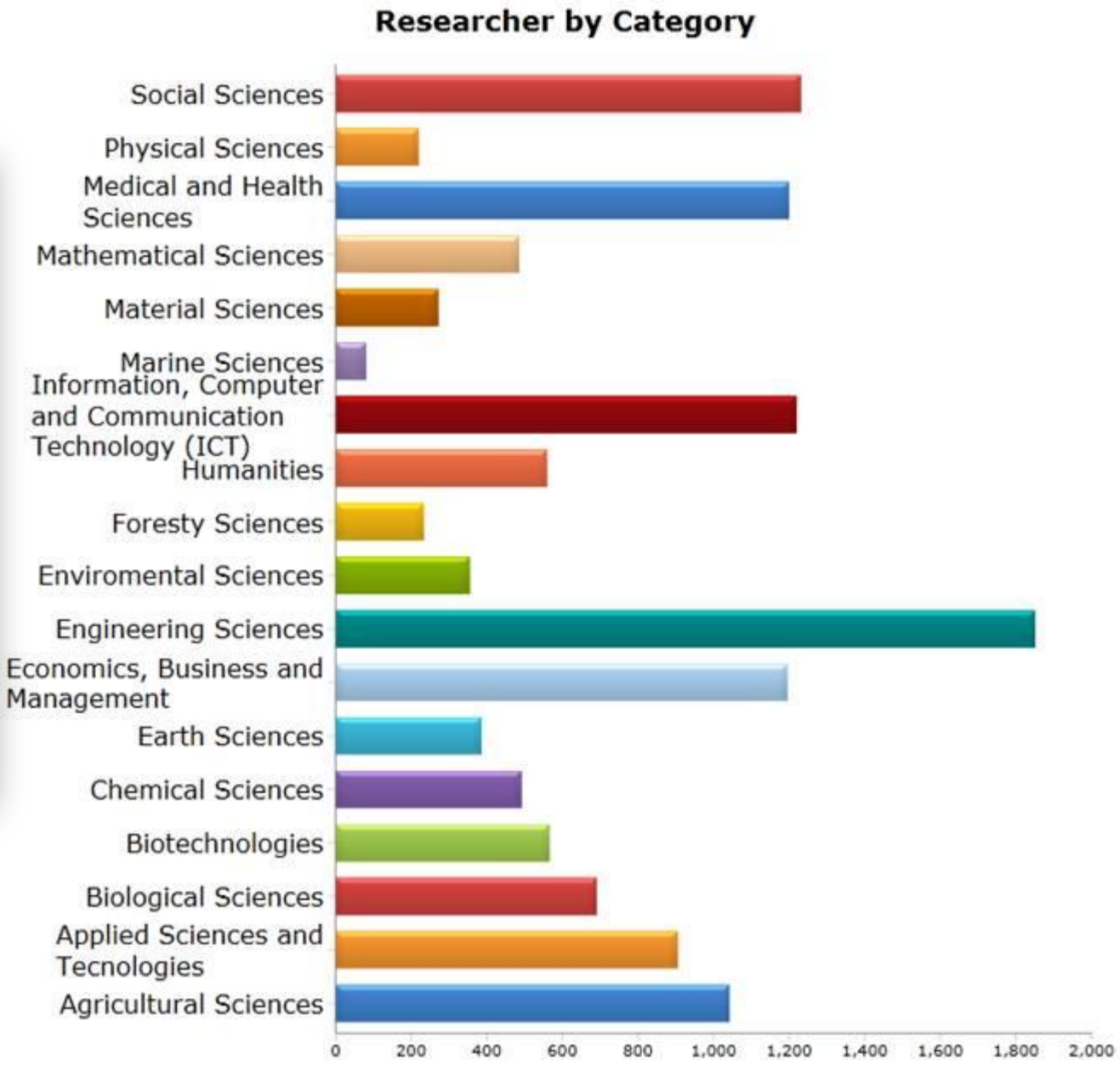
COUNTRY	COUNT
China	13464
United States	8625
Germany	7615
Japan	4809
France	2180
South Korea	1898
Spain	1491
United Kingdom	1163
Taiwan	808
Switzerland	694
Russia	692
Netherlands	601
Australia	562
Canada	543
Israel	512

Prioritization



Foresight Framework

Highlights of Stakeholders Engagement



Highlights of Stakeholders Engagement

Strategic Policy & Content Partners :

Strategic Industry Partners :

NATIONAL TECHNOLOGY FORESIGHT 2010

foresight at work
the stakeholders engagement

Focus Group Sessions

Expert Panel Sessions

Foresight InterConnect™

Scenario Planning

Visioning

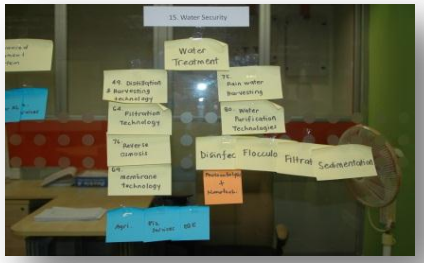

NATIONAL TECHNOLOGY FORESIGHT 2010
VISION BUILDING
GROUP 2

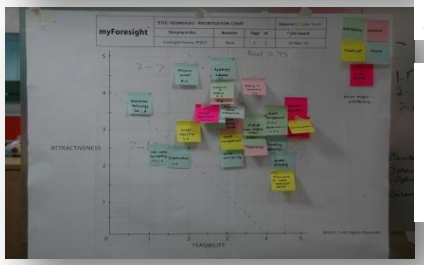

GROUP 5

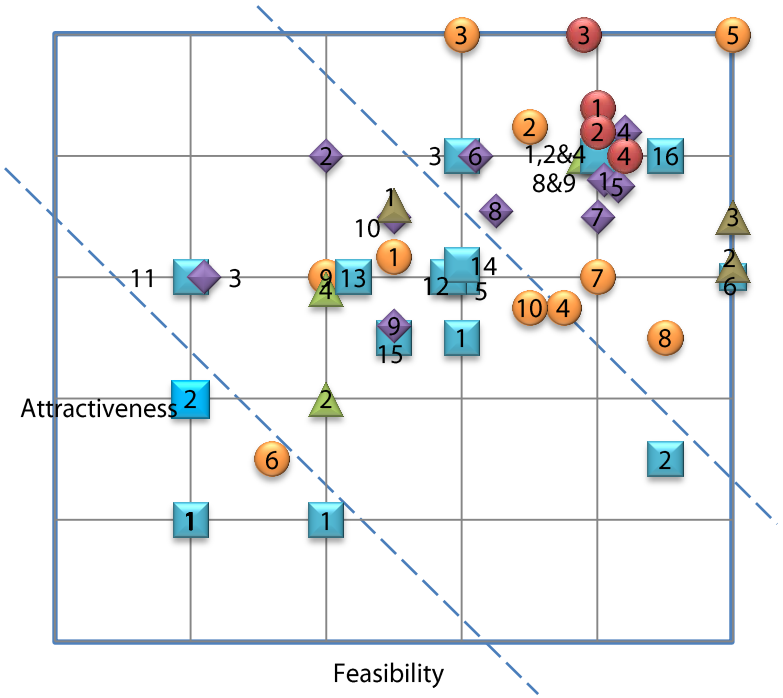

NATIONAL FORESIGHT PROGRAMME
STRATEGIC NAVIGATION TOWARDS A SUSTAINABLE FUTURE

WATER SECURITY

Contributors:







Source
1. Catchment Protection
2. Groundwater
3. Hydrology
4. Rainwater Harvesting
5. Riverbank Filtration
6. Seawater
7. Treated Municipal Wastewater
8. Tunelling Technology
9. Urban Run-off
10. Water Quality & Recycling

Conservation & Sustainability
1. Good Land Management Practice
2. Protection of Buffer Strip
3. Swale
4. Wetland

Treatment
1. Asset Management
2. Automation of Water Treatment Process
3. Biotechnology
4. Desalination
5. Green Technology
6. Instrumentation
7. Magnetic Technology
8. Membrane Bioreactor Technology
9. Membrane Technology
10. Nanotechnology
11. Ozonation
12. Reverse Osmosis
13. Sludge recycling
14. Tertiary Filtration for Wastewater
15. Tunelling Technology
16. Ultraviolet

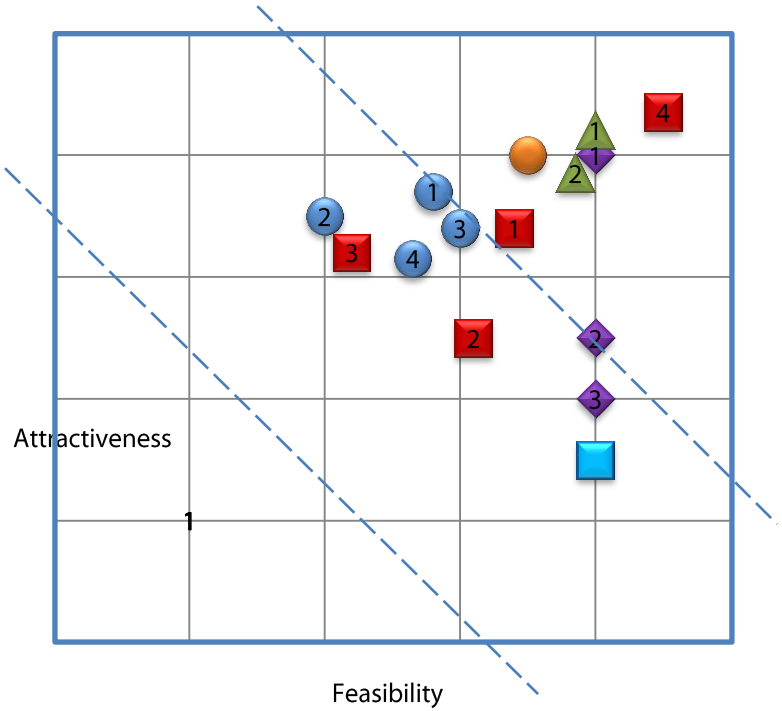
Consumer
1. Billing & Metering
2. Customer Preference on Water Quality
3. One Utility Bills
4. Water Saving Device

Cross-cutting
1. Energy Efficiency
2. ICT
3. Robotics Automation

Distribution & Collection
1. Asset Management
2. Decentralization of Water facilities
3. Dual Piping System
4. In pipe Technology
5. Leakage Control
6. Material Fitting
7. Pipeline Rehabilitation
8. Reduction of NRW
9. Tunelling Technology
10. Water Quality

WASTE MANAGEMENT

Contributors:



Biological Treatment
- 1. Anaerobic Digestion
- 2. Bacteria Composting
- 3. Conventional Composting
- 4. Vermi composting

Waste Collection Technology
- 1. Pneumatic System
- 2. Special vehicle
- 3. Surveillance system

Recycling
- 1. Catalytic low pressure depolymerization process
- 2. Recycling center

Mechanical Application in Waste Treatment Technology
- Materials recovery Facilities

Thermal Treatment
- 1. Gasification
- 2. Incineration
- 3. Pyrolysis
- 4. RRC-WTE

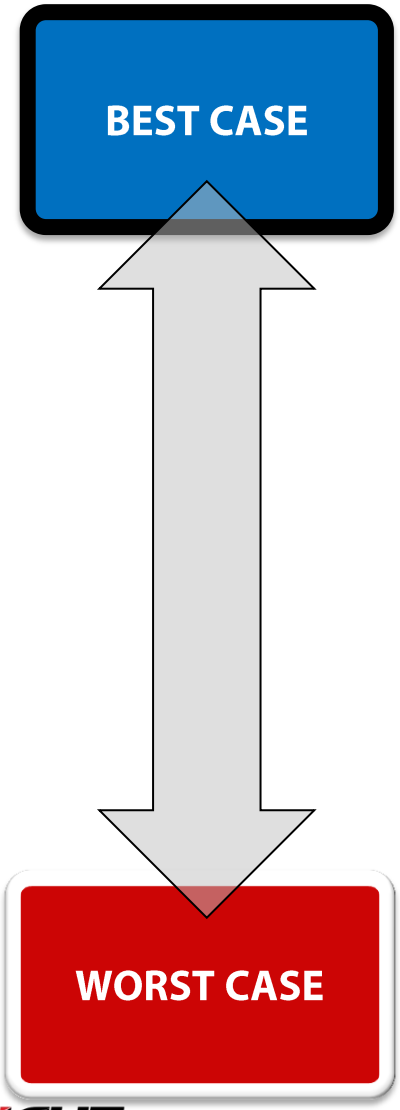
Landfill
- Landfill Technology

national technology foresight 2010

Drivers of Change

- Social reform & transformation;
- Change of population & demographic structure;
- Globalization & post globalization;
- Human capital development & knowledge based society;
- Information management & communication;
- Equitable & sustainable economic development;
- Security & safety;
- Healthcare services;
- Mobility & sustainable infrastructure;
- Innovation driven economy & innovation ecosystem;
- Acceleration in convergence of S&T;
- Crisis mitigation;
- Resources equilibrium & environment sustainability;
- Climate change.

Plausible Scenarios: Malaysia's Different Path Towards 2020



A star is born

A star is born describes how Malaysia continues on the path of social and economic reforms through the successful implementation of Government & Economic Transformation Plan. The scenario is written reflecting 10 years of progress.

Entrapment

The scenario entrapment tells of the country's effort of achieving good governance and creation of innovation culture at large. However all this effort does not translate positively as the economy fails to make the transformation to higher value added sectors as expected.

Don't worry, be happy

Taking the cue from a laid back song title in the 1980s, this scenario depicts Malaysians as a lackadaisical society which is stuck in neutral. The country is moving along on a "business as usual" mode, modest growth with no significant achievement to speak of yet is contended and happy of the way things are.

Sealed in a time capsule

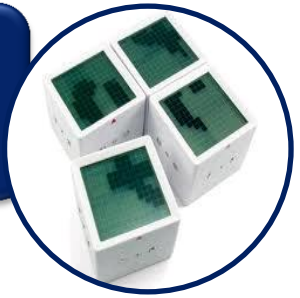
Sealed in a time capsule describes a Malaysia where the desire for economic development is not supported by the necessary reforms. The scenario reflects the sentiment among Malaysians that the promise made to them in terms of inclusive economic development has been largely unfulfilled.

Future Themes

- Green& Environment Friendly

- Mobility

- Modularity



- Security & Sustainability

- *Biotechnology*
- *Electronics*
- *ICT*
- *Material Science*
- *Nanotechnology*

Uptakes & Follow Up

1. National Science & Research Council
2. Global Science & Innovation Advisory Council
3. Future of Malaysian Rail Industry 2030
4. Aerospace Industry Roadmap 2015-2030
5. Youth Engagement 2011

MiGHT

Thank You