

# Challenging Engineers In National Economic Transformation Programme



## BIODATA

**Y.Bhg. Dato' Ir. Lim Chow Hock**

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**Y**.Bhg. Dato' Ir. Lim Chow Hock (林照福) was the Director of the Division of River Basin and Coastal Zone Management with the Department of Irrigation and Drainage Malaysia (JPS). He holds a B.Eng (Hons) (Civil) from the University of Malaya and a post graduate Diploma in Water Resources Engineering from the University of Birmingham.

Prior to being elected as the President of the Institution, he served IEM in various capacities including as Deputy President, Vice President, Chairman of the Standing Committee on Finance, Chairman of the Standing Committee on Corporate Affairs, Deputy Chairman of the Standing Committee on Welfare and Service Matters and member of several other Standing Committees, Subcommittees and Technical Divisions. He also serves as the Chairman of the APEC/International PE Register. He was the Chairman of the IEM Southern Branch from 1991 to 1993.

Y.Bhg. Dato' Ir. Lim has more than 35 years of experience in irrigation, agricultural drainage, flood mitigation, urban stormwater management, river engineering, coastal zone management, hydrology and water resources management. He has served in many States in various capacities throughout his career at JPS district, project, State and headquarters offices. In his current role at JPS, he oversees

all programmes and initiatives associated with Integrated River Basin Management (IRBM) and Integrated Coastal Zone Management (ICZM); including major projects such as the River of Life Project, the Melaka River Beautification Project, the Pahang River Mouth Breakwaters and the Tak Jembal Beach Nourishment Project in Terengganu. He is also responsible for all water management capacity building in Malaysia especially in relation to Integrated Water Resources Management (IWRM).

He is the Chairman of the Malaysian Capacity Building Network (MyCBNet) and Member of several other professional associations including the Board of Engineers Malaysia, the Malaysian Institute of Management, the Malaysian National Committee on Irrigation and Drainage, the Malaysian Hydrological Society and the International Association for Hydro-Environment Engineering and Research. He is also an Exco member of the Malaysian Water Partnership. He is a Certified Auditor with the Malaysia Register of Chartered Auditors (MRCA) and also a Certified Professional in Erosion and Sediment Control (CPESC).

Y.Bhg. Dato' Ir. Lim received the "Pingat Sultan Ismail" award from Johor in 2001. In 2008, he received the "Dato' Paduka Setia Mahkota Kelantan" (D.P.S.K.) which carries the title "Dato'" from His Majesty Al-Sultan of Kelantan.

I am honoured to be elected as the President of the Institution of Engineers, Malaysia (IEM) for the 2014-2015 session and I thank the IEM Council for their vote of confidence. I will do my utmost for the Institution and the engineering fraternity at large.

I would not be at the helm of the Institution today, had it not been for the invaluable guidance of Past Presidents and Council Members. I am also indebted to fellow engineers and members who have shared their views and experiences with me.

I am fully cognisant of the responsibilities that lie before me. It is a challenging task that is both exciting and daunting,

one that will require the collaboration of each and every member of this Institution. I therefore ask for your fullest support and cooperation to assist me in not only maintaining the excellent tradition of this Institution but also making IEM even more relevant and recognised than it is today.

As President, I will embrace and continue with the good works of our Past Presidents. I will also take stock of our strength and weakness as well as to refocus and set the direction for the Institution. Allow me to share my thoughts on what I see as opportunities and challenges that lie ahead for us.

In 2010, the Prime Minister launched the Economic Transformation Programme (ETP) to spearhead Malaysia



towards becoming a developed nation, in line with Vision 2020. Realising the significant role that engineers must play in our national development agenda has prompted me to speak on "Challenging Engineers In National Economic Transformation Programme".

### **THE NATION IN TRANSFORMATION**

In a highly globalised environment, Malaysia must adapt and seek solutions to the challenges posed by the changing social, economic and technological landscape.

The Government has given high priority to the social and economic development of the nation. Implicit in the strategies and action plans of the ETP is the strong commitment to leverage on engineering as the foundation for the necessary economic transformation. So to this end, engineers must take on an increasingly prominent role.

The ETP takes on new perspectives that are holistic, inclusive and sustainable, with social and environmental impact to be given due prominence. The approach to policy making and its implementation will see greater integration and co-ordination among the different authorities and agencies as well as greater partnership between government, private sector, civil society and non government organisations such as IEM.

### **WHAT THE ETP MEANS FOR THE NATION**

The ETP represents the catalyst for economic growth and investments needed for us to achieve developed-nation and high-income status by 2020, with Gross National Income (GNI) per capita of RM48,000 or US\$15,000 compared to RM23,700 or US\$6,700 in 2009. This will be achieved by attracting RM1.4 trillion in investments which will, in turn, create 3.3 million new jobs by 2020.

While the Government will play a facilitator role in funding the ETP, the private sector has been placed in the driver's seat and is expected to fund the bulk of the investments needed to implement the projects drawn up in the ETP. It is envisaged that, in terms of the overall funding, 60% will come from the private sector, 32% from the Government Linked Companies (GLC) and the remaining 8% from the public sector.

The ETP will be achieved through the implementation of 12 National Key Economic Areas (NKEAs), representing economic sectors which account for significant contributions to Gross National Income (GNI) and which can create multiplier effects across the national economy. Each NKEA will have various Entry Point Projects (EPPs), which are new growth programmes with high economic impact for moving the sector up the value chain.

The ETP is also centred on raising Malaysia's competitiveness through the implementation of six Strategic Reform Initiatives (SRIs). These comprise policies which will strengthen the country's commercial environment to ensure that Malaysian companies are globally competitive and sustainable.

### **WHAT THE ETP MEANS FOR ENGINEERS**

The ETP is heavily dependent on advanced engineering knowledge and specialised skills to deliver most if not all of the Entry Point Projects identified under the respective NKEAs.

Engineering based activities dominate in 11 of 12 NKEAs, directly or indirectly, and provide substantial business and employment opportunities. The oil, gas and energy sector, for example, will see 50,000 new jobs with about 40% for professionals such as engineers of various disciplines.

Extensive infrastructure build-up, particularly in the areas of broadband and logistics, is necessary to support the communications, content and infrastructure sector. The penetration rate for broadband is targeted to reach 75 percent of households by the end of 2015 from the current 40 percent. Infrastructure such as roads, ports and airports are being upgraded and major projects in the pipeline include the new West Coast Highway, the extension of the north-south electrified double-track railway line to Johor Bahru and the Kuantan Port expansion.

The urban population will grow from 64 percent to 70 percent, mostly in the Greater Kuala Lumpur-Klang Valley (KL-KV) where there will be a continuous demand for infrastructure projects to cope with the increase. Among the most ambitious projects are the River Of Life, which will see the cleaning, beautification and re-development of the Klang and Gombak Rivers, the Mass Rapid Transit system and the proposed high-speed rail system from Kuala Lumpur to Singapore. Extensive growth is also taking place in Penang and the Iskandar Region.

Education is one of the most critical drivers for transformation. The strategy is to rebrand Malaysia from a stopover location for education to a major education centre of choice globally. As the private education sector is expected to grow six-fold, an additional 500,000 jobs will be created, especially in professional and technical fields.

The structure of our economy will have to be transformed. Liberalisation measures are being put in place to expand the potential market of the country beyond national boundaries, intensify competitiveness, as well as attract foreign investments. The economy will become less dependent on resource-intensive industries and will instead, be driven more by innovation and a shift to higher value-added activities.

The services industries in particular, will become more crucial and is estimated to increase to 65 percent of the Gross Domestic Product by the year 2020.

### **CHALLENGING ENGINEERS**

The ETP depends on a new paradigm shift that demands new ways of thinking, new skills and capabilities and new methods of doing things. There will be a need for innovation, for entrepreneurship, for business acumen, good management ability, a global perspective and multi-disciplinary skills to meet the challenges set by the ETP and will demand no less than a major transformation of the engineer.

Engineers are trained to solve problems and to build things which form a strong foundation for innovation but that is not enough. They will need to think "out-of-the-box", to view things in a different perspective and to challenge the norm.

Innovation brings about new ideas but creating value from these new ideas will require skills to translate them into



successful businesses. Engineers already have the analytical and problem solving abilities but they will need to augment those abilities with soft skills and business knowledge such as finance, marketing, and sales.

With society becoming more complex and engineering jobs becoming more diverse, it will be necessary for engineers from different disciplines to work together. They can expect to work more with experts from other fields such as scientists, economists, planners, politicians, business and community leaders and others. Technical knowledge alone will no longer suffice; engineers will need to know about social sciences, the arts and commerce to get a more holistic view of how things can be done.

## **IEM IN TRANSFORMATION – A VISION OF WHAT IT CAN BE**

### ***Human Capital Development***

IEM has a role to ensure that the education, training and qualifying standard for professional engineers is on par with the best in the world. It must also ensure a sufficient pool of competent technical personnel to meet demand. Already, IEM has initiated the Structured Training Program to provide an alternative path for engineers to meet the requirements of practical experience when they do not have the opportunities at their work place.

To complement the Government's effort to increase local talent, both in quantity and quality, IEM already has several Continue Professional Development (CPD) programmes, aimed at upgrading the knowledge and skills of the engineers in the ever-changing technological landscape. In view of this, I shall ensure that all CPD programmes are continuously reviewed, revised and upgraded to the standards to suit the current needs of the nation, in particular the ETP. The Institution shall identify new training areas and focus on priority sectors that can support the ETP, based on regional needs.

As innovation is a key success factor in the ETP, IEM shall work closely with the Ministry of Science, Technology and Innovation (MOSTI), institutions of higher learning and other engineering research organisations to conduct necessary complementary courses related to innovation, standards and accreditation.

We must produce engineers who are relevant to the needs of the industries and the public sector. In this respect, IEM shall complement the Government's effort to educate students in schools on what engineers actually do and to assist universities develop an engineering education curriculum that is more practical, relevant and interesting.

### ***Re-establish a Special Link with PEMANDU***

The Performance Management & Delivery Unit (PEMANDU) under the Prime Minister's Department, was established in 2009 to plan, oversee the implementation, and assess the progress and impact of the ETP. Since the bulk of the Entry Point Projects (ETPs) of most NKEAs are engineering based, it is pertinent that IEM re-establishes a strong link with PEMANDU.

For its view to be heard and considered, IEM must engage proactively with the Government at all levels by offering expert advice on matters related to engineering.

IEM must be seen as the most relevant body to be invited by the Government to give professional engineering input at every stage, especially during policy formulation of all our national socio-economic development programmes. I shall actively liaise with all relevant Government authorities, including local authorities, for IEM to be represented in the appropriate decision-making bodies or committees. In a similar vein, IEM must position itself to respond to such invitations in the most effective and timely manner.

IEM must also work closely with various related statutory bodies such as the Board of Engineers Malaysia (BEM), the Construction and Industry Development Board (CIDB), the Energy Commission, the Malaysian Communication and Multimedia Commission, etc. to provide the necessary synergy towards nation development.

### ***Engagement with the Media***

To be an effective voice of the profession, IEM must be able to reach out to the public through the media, particularly the print and electronic media. For that to happen, IEM must have a good database of relevant engineering information and position papers on all major engineering issues which define the views and stands of the Institution. It must also have in place, members with the expertise and credibility to provide the necessary input in preparing Press statements on behalf of the Institution.

I will continue to engage actively with the media to project the image of IEM as the professional organisation collaborating with the Government to tackle the nation's engineering issues. IEM must fulfil one of its most important primary roles: To shape the practice of engineering, to protect the interests of engineers and the public at large, and to contribute to the success of nation development.

### ***Liberalisation, Competition and the Borderless World***

With the impending liberalisation of trade within ASEAN, APEC and across the world, the engineering community must be ready to work in a borderless environment where competition intensifies and opportunities abound. Engineers must adopt a global outlook as potential clients, partners and competitors will come from all corners of the world. I shall follow up closely on current efforts taken by the Institution in collaborating with the Ministry of International Trade and Industry (MITI) to promote the export of engineering services in the global market.

## **CONCLUSION**

IEM must fully support the ETP and engineers must seize the opportunities available and rise to the challenges. There must be active engagement with PEMANDU and all relevant Government authorities, statutory bodies, related business communities, the media and the public.

I implore members to participate actively in all engineering related issues in society so that our expert views and contributions will be appreciated and acknowledged.

Last but not least, I envisage an enlarged IEM with the continuation of Vision 100K in order to have more clout, a louder voice and stronger leverage to enable us to champion the advancement of the engineering profession. ■