

# **MALAYSIAN INNOVATORS**

Journey of Creativity To Reality

Perpustakaan Negara Malaysia

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MALAYSIAN INNOVATORS



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# INTRODUCTION

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here do innovators come from, and what are the innovations of Malaysians, if any. These are few inquisitive reservations of those curious of the innovation landscape in Malaysia.

Welcome to the exhilarating journey of a select bunch of fruitful Malaysian innovators. This book **Malaysian Innovators : Journey of Creativity to Reality** is all about innovations conceived, developed and commercialised by individuals. They come from diverse settings – from those with basic primary school education to those highly qualified with PhDs. They are inspired by their surroundings and challenges - a more efficient way to cook half-boiled eggs; a more interesting method to improve mathematical skills; a better device to prevent cooking oil contaminating the drains; a more effective design to harness solar power; a safer method for circumcision and a host of solutions to many other problems.

Many have been bestowed accolades and awards by prestigious organisations, nationally and internationally. Collectively they have dozens of patents to their credit. One of them had even been named as 'Hero for the Planet' by the TIME Magazine. Some of these innovators had lost all their assets, and made back millions. Yes indeed

among them are those who have made millions of Ringgit. In fact all the innovators in this book are entrepreneurs on their own accord, generating wealth out of their own innovations.

Innovation is not just about making new and better products. It encompasses all aspects of ideas. Besides products, innovation can be clearly manifested in processes, systems, services, methods and models. In each of the cases featured in this book, there is more than one aspect of innovation that has contributed to their success. It may be in the branding, the business approach or methods used to strategize the business competitive edge.

In advocating creativity and development of innovations, an array of tools are used by trainers to drive the point that innovations can be created by anyone. Our innovators are indeed the personification of creativity as preached by innovation gurus. They are living proof of creativity and ideal mentors for the programs on creativity and innovation.

These select pool of innovators should pave the path for more innovations to emerge and for MPC to feature them in future publications. These are the intellectual assets that should inspire the next wave of innovations by Malaysians.



# ABOUT MPC

## MPC THE WAY FORWARD

### FIVE STRATEGIC PRIORITIES



#### 1. Regulatory Review (RR)

Monitor, review, assess and provide recommendations for policy/regulatory changes, and on new regulations, to enhance national productivity and innovation.

Provide support for existing committees on facilitating businesses.

#### 2. Enterprise Innovation (EI)

Improve innovation at companies by creating and implementing eco systems to address the entire innovation value chain.

#### 3. Business Excellence (BE)

Measure and certify companies, and showcase role models to spur competition and set best practices for others to emulate.

Set and enhance innovation standards with the Health check framework.

#### 4. Global Competitiveness (GC)

Develop global and national macroeconomic knowledge base on Malaysia's competitiveness.

Expand focus to state level benchmarking and support international benchmarking for regulatory review.

#### 5. Knowledge Management (KM)

Create knowledge base with productivity and industry reports, and provide fact base on productivity and innovation.

Support Regulatory Review and Enterprise Innovation with research output.

Website: [www.mpc.gov.my](http://www.mpc.gov.my)

Email: [marketing@mpc.gov.my](mailto:marketing@mpc.gov.my)

# FOREWORD

I would like to congratulate MPC on this maiden issue of Malaysian Innovators - Journey of Creativity to Reality, which features the creativity and ingenuity of our homegrown innovators. My appreciation goes to the Malaysian Association of Creativity and Innovation (MACRI) for their kind collaborative efforts in inviting their members to narrate their journeys and accomplishments from the time of idea conceptualisation to eventually taken it to the market.

Various government initiatives are being promoted to mobilize Malaysians to embrace and enhance their creativity and innovative skills. This could not have happened at a better time, when the Nation is in need of a new impetus and catalyst to move it forward from the efficiency-stage of development to one driven by productivity through innovation. It is also in line with MPC's new tagline of Transformation, Innovation and Partnership signifying its expanding scope in tandem with the Government's aspiration to transform the Nation to a high income economy. With various initiatives in place, I am confident MPC will continually emphasize on process and social innovation to strengthen the creativity and innovation culture, that will eventually lead to business innovation and excellence to sustain competitiveness.

Creativity and Innovation will energise people like never before. It can happen in all segments of our society, from the grassroot and individual levels to schools and colleges, businesses and industries. I would like to extend my gratitude to all the innovators who are featured in this publication. I am sure their experiences in transforming creativity to reality would serve as valuable examples to budding innovators. Their journeys of success are testimony of perseverance and persistence, and will inspire others to follow.



**Tan Sri Azman Hashim**  
Chairman  
Malaysia Productivity Corporation







# ABOUT MACRI

The **Malaysian Association of Creativity & Innovation (MACRI)** is a non-profit organisation dedicated to promoting and championing Creativity and Innovation. It was established by people passionate about the spirit of Creativity and determined to nurture the culture of Innovation. Simply put, MACRI is driven by a network of creative thinkers and innovators, bonded by a common aspiration. Established on 3rd April 2007, MACRI is led by the nation's foremost proponent of Creativity and Innovation – Founder/President, Dato' Ghazi Sheikh Ramli.

MACRI believes that Innovation starts from simple ideas. Hence we adopted '**Empowering Simple Ideas**' as our tagline to reflect the path to an Innovative society. Simple ideas and initiatives through a concerted effort will be able to germinate a greater pool of Innovations. This is the cornerstone of MACRI's aspiration.

More specifically, our aims and objectives are:

- To complement the Government's initiatives in instilling an Innovative culture and facilitate the creation of a greater pool of Malaysian Innovations.
- To promote Creativity and Innovation through workshops, courses, camps and other knowledge based training programs.

- To provide assistance, advice and support to Innovators in developing, protecting and commercialising their Innovations.

- To establish resources that will nurture and develop Creative and Innovative talents in a structured and sustainable manner.

To help achieve our aims and objectives MACRI had forged strategic partnership with Malaysia Productivity Corporation (MPC) through which we jointly organise programs and share available resources and expertise in Creativity and Innovation.

MACRI also draws considerable strength from within its membership. The Association is blessed with diverse internal resources ranging from speakers to coaches, from consultants to trainers. We are also proud of many of our members who are accomplished Innovators and inventors. Hence, MACRI is able to provide much needed expertise and assistance to any individuals or organisations that would like to embark on the journey to Creativity & Innovation.

**Website:** [www.macri.com.my](http://www.macri.com.my)

**Email:** [info@macri.com.my](mailto:info@macri.com.my)



# FOREWORD

First of all, let me congratulate the Malaysia Productivity Corporation (MPC) for their vision and forward thinking in coming up with this timely publication.

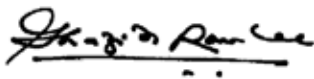
I have always breathed the passion for anything that embodies creativity and innovation. I concur with the authorities that the economic progress of our Nation will hinge on the flow of creative ideas and volume of innovations generated by Malaysians. Therefore I feel that the time has come to motivate and encourage more Malaysians to embrace the culture of innovation. This belief, or should I say this conviction, was actually the basis for the establishment of the Malaysian Association of Creativity & Innovation (MACRI) in April 2007.

I wish to emphasize the need for innovators and creative thinkers in both the private and public sectors, to join forces in order to amplify the pool of innovative talents in Malaysia. Consciously this idea paved the way for MACRI's strategic alliance with MPC, whose tagline, Transformation, Innovation & Partnership, is in harmony with MACRI's own confidence in the power of collaboration.

MACRI is blessed with a diverse mix of members across the entire spectrum of professions. Uniquely we have a pool of self-made innovators whom we call upon to share their experiences at our talks and forums. When MPC mooted the idea of publishing a book to highlight the cases of successful Malaysian Innovators, we were delighted to share our resources in the spirit of our partnership.

This book which narrates the journeys of a select pool of accomplished innovators is an excellent effort that pays tribute to their innovative endeavours and dedication. Their perseverance has resulted in the creation of valuable assets for themselves and for the Nation. The route to success as related by these innovators will surely be an inspiration to all.

I must say that this initiative resonates well with the spirit of "Malaysia Inovatif 2010", as declared by the Honorable Prime Minister. Thanks to MPC for giving this timely recognition to our independent innovators who are the representation of Grassroot Innovators in Malaysia.



**Dato' Ghazi Sheikh Ramli**  
Founder & President  
MACRI



# IP – THE DRIVER OF SUCCESS IN ECONOMIC TRANSFORMATION



**T**his publication, *Malaysian Innovators – Journey of Creativity to Reality* - showcasing Malaysian innovators and their creativity is timely considering the spectacular growth in the number of patent applications in Malaysia in the last five years by local inventors. Patent applications more than doubled from 522 applications in 2005 to 1,234 applications in 2009. It would appear that efforts to create a more conducive environment for local innovation and creativity is beginning to bear

fruit. This book is a testimony to the value of IP.

The Malaysian government has taken numerous steps to emphasize the important position of Intellectual Property (IP) rights in the economic transformation of the country. As an example, apart from Yayasan Inovasi Malaysia (YIM) that champions grassroots innovation and the commercialisation arm under MOSTI to help promote Malaysia innovations, there is now the Special Innovation Unit (UNIK) under the Prime Minister's Department established recently to consolidate assistance to local inventors under one umbrella.

Apart from policies and bodies, we need to move towards an innovation culture. This culture is one where innovation and creativity are valued and appreciated. It is supported by a climate risk-taking balanced against the use of market discipline and good practices to identify the best products and services to bring to market.

We need to inspire creativity and innovation so that aspiring innovators will persevere

undaunted. If we look at the early Toyotas and Hyundais they were not as good looking or as high up on safety standards as they are today. With perseverance and a firm faith in the technology and innovation behind these new machines as well as some protectionist policies ensured that subsequent models improved on quality, performance and innovation. Today these cars have captured the world market – Toyota is the world's largest car manufacturer and Hyundai is a respectable fourth after producing the first Korean car in 1975. Importantly they have amassed thousands of patents and these IP assets are worth billions which are part of their corporate arsenal to remain competitive.

We are no less short of local heroes in the innovation and creative industry. However, the innovators and entrepreneurs in this book wouldn't have been able to move to the next level and commercialise their ideas without a system in place to protect their intellectual property rights. Their stories offer a very inspiring account of the journey from idea to commercial value of their intellectual property. The lessons they have shared in this book will serve as an impetus to others

embarking on the same journey.

We are coming to the end of **Malaysia Inovatif 2010**, a year dedicated to encouraging local inventions. Let us not stop at the idea or the prototype. Let us look at putting policies in place to ensure they have commercial viability. Let us support innovation and creativity with commercial reward. Let us fine tune our intellectual property rights regime to protect the creative talents of our innovators. We need to be surrounded by Malaysian innovations just like the US, UK, Japan and Korea are surrounded by innovations developed in their respective countries. Only then can we look forward to a truly developed Nation by 2020.

Conclusively, IP should be perceived as a tool that benefits the innovating society by enhancing competitiveness. The lessons shared by our innovators demonstrate that innovations can be translated into valuable assets. It is clear that IP makes good economic sense in their scheme of business. We have to recognize that IP is a key driver for the success of our economic transformation.

***We have to innovate. No nation can be successful unless they are involved in innovative and creative activities.***

- Y.A.B Dato' Sri Mohd. Najib bin Tun Razak



# technology

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Azli Paat  
Paul Chang  
Robest Yong  
Teoh Siang Teik





# Azli Paat

## The Communications Whiz



SMS DAPAT | 32728



**A**zli Paat is a man who is passionate about new technology and loves to share it too. Regardless if it is regarding Internet, mobile, electronics or biotechnology, new technology fascinates him!

Azli who is currently a software and hardware engineer has had work experience in big and internationally reputable computer companies as Technical Support Manager and Consultant to various projects in areas of

digital publishing, multimedia creation, 2D cell and 3D animations. Having had vast experience in digital video editing and web publishing and graphics industry, this communications expert is equally comfortable working on Mac, PC and Unix platforms. Through his training centre, the Emacs Academy Professional training center, he has trained creative staff of hundreds of major corporations in the field of multimedia and web design.





Polis



New Straits times



Jabatan Pendaftaran Negara



Jabatan Kerja Raya



PLUS



JAKIM



Lembaga Koko Malaysia



R@kanBH



IMetro

### The beginning of a brilliant idea

Azli and a friend were drawn together in 1998 by a common goal, that is to commercialise their ideas. They decided to pool together and started up Howtraffic (M) Sdn. Bhd. to focus on wireless application solutions for telcos. The first product of their brainstorming was a wireless traffic information system that could deliver traffic information via multiple channels. These included the World Wide Web, Wireless Application Protocol (WAP), Short Messaging Service (SMS), Voice and even the conventional fax. It did not take off well, due to lack of compelling content and inadequate research. Regardless, it was experience for them and they got out wiser for it.

In 2001, the ideas restrategised and they started on developing SMS-based applications. One notable product was Grabix, a telco grade multi-application





SMS content management system. This system allowed telcos to provide content over the web, SMS, email and fax. The change of strategy paid off and the Grabix platform served the broadcasting media as Customer Relationship Management (CRM) repository to receive and send SMS to viewers and listeners. Azli indicated that in addition, media owners could utilise the technology to diversify and expand their revenues.

**When innovation and technology combine**  
Azli is now the Vice President of **DAPAT Vista**, which was established in 2000 that sets the standard in SMS communication. **DAPAT Vista** business owners are known to spend much money, sometimes millions on advertising, promotions and publicity to reach out to as many potential customers as possible. Azli has the solution – **DAPAT**. Setting the standard in SMS communications, **DAPAT** pioneered on



how the public can interact with the organisation via SMS. **DAPAT** sets out to serve the demand for mobile interactivity and to spearhead the development of innovative and dynamic mobile data service and products. Together with Television Airtime Service, the parent company, they offer comprehensive and creative mobile marketing and advertising tools. These serve to assist organisations in implementing interactivity into their communications and business strategies with stakeholders.



Community initiative: Subang Jaya OCPD Asst Comen Mohamad said Talib pointing out Rakan Cop's impact numbers to Kelana Jaya MP Chong Kok (left) during the launch of the programme in Subang Jaya.

...uals, where identities would not be confidential, would become a liability for the police to fight crime in the shortage of manpower in police force.

Azlan said the ideal ratio of police to population in a developed city was 1:350 but the local ratio had a bigger number of people to deal with.

"Fighting crime is a shared responsibility. Everyone in the community is also involved in guarding the safety of the community by being observant and cooperative, not just the police.

"Rakan Cop empowers the public to play a more active role in crime prevention," said Mazlan, urging more people to register as Rakan Cop.

To register as a Rakan Cop, type rakancop<space>register (KL, NS, PK, etc<space> state) (real or nickname in one word) and send it to 32728 (DAPAT).

One will receive a registration number immediately.

To send information, type POLISSEL<space>ty and send it 32728. For more info, visit www.rakancop.net

As a short code, **DAPAT** comprises the first letter on the handphone's alphanumeric keypad representing the code 32728, greatly overcoming the need to remember numbers for its many services. **DAPAT** provides a myriad of useful SMS applications for its customers to help with interaction and speedy information receiving and sending to make lives easier.

Specialising in information provision segment, **DAPAT Vista** is now a popular market leader in the interactive mobile data industry. It has also been providing interactive radio services since late 2003, focusing mainly on RTM's radio stations.

**DAPAT** has offered the Government the set-up of free infrastructure to link all relevant Government authorities and public broadcast stations to enable Malaysians to receive disaster notification via SMS. It already has an SMS Disaster Alert Notification in place and the Government can use it for the implementation of the national SMS disaster alert. Through **DAPAT's Gempa Alert**, Malaysians can get the latest updates of earthquakes measuring up to five on the Richter scale within Asia.

### Rakan Cop

Rakan Cop is a virtual SMS community intended to bridge the gap between the police and the public by encouraging voluntary registration and participation via SMS in a joint effort against crime, which helps the police deliver its 15 minute commitment to action upon receipt of information.

Azli said, "Beta tests in Kuala Lumpur revealed that crime rates dropped by 50 percent. What is important is that

it addresses issues of pushing information to the police before an actual crime happens". He further mentioned that the solution lends itself to global adoption across sectors that include public transport, police forces, immigration as well as Internet security agencies.

In sharing his sentiments, Azli has this to say, "Rakan Cop saves life and saving life is very dear to my heart". For Azli is also a member of the Organisational Development Committee and Regional Disaster Response Team (Radio Communication) for Malaysian Red Crescent Society.

Rakan Cop's database has recorded 2 million SMSes from the public within 5 years and now membership has swelled to over 400,000. Azli's proudest moment was when our Honourable Prime Minister incorporated this into the NKRA (Rakan Cop as one of the 18 KPIs).

### **Awards & Recognitions**

- Winner — Best of Communications Application, Merit Award from MSC Malaysia Asia Pacific ICT Awards (2007)

The award is presented to the most innovative nomination for developing outstanding communication technologies or for developing ICT solutions that make creative use of communications technologies.

- Winner — Best of e-Inclusion and e-Community Category from MSC Malaysia APICTA (2009)

- Winner — The Prime Minister's Best of the Best Award from MSC Malaysia APICTA (2009)

### **Commercially lucrative**

**DAPAT Vista's** revenue stood a little over RM10,000 in 2001 but owing to effective changes in strategy, revenues grew to

RM500,000 by 2002. Currently the revenue generated is estimated at RM50 million annually. The growth strategy now is to maintain its dominance in the SMS sector with innovative applications that generates recurring revenues for telcos.

### **Keep moving forward**

In keeping abreast with technology, which goes obsolete every two years or so, Azli is now moving from multimedia CD to multimedia interactive publishing and subsequently, to Web Publishing. His zest to empower people with access to information, Azli is looking into ADA (232) to enable data access without the use of Internet or smart phones. One may also be able to create their own radio station to communicate and broadcast respective FMMS. Plans are also in motion to collaborate with tuition providers and our Educational Technology Division, Ministry of Education where in time, educational articles and information may be downloaded into memory pens.

Azli's favourite quote is Thomas Edison's "None of my inventions came by accident. I see a worthwhile need to be met and I make trial after trial until it comes. What it boils down to is one percent inspiration and ninety-nine percent perspiration".

### **Advising budding innovators**

Azli reminds those who aspire to become innovators that it is not an instant process. One must always start somewhere and possess sustaining power. One needs not reinvent an existing facility but instead, leverage on all the existing knowledge. You just need to add more value and enhancements.

"Do not treat others as competitors," says Azli. "Innovation is really about building ideas upon ideas. Whatever you invent, it must serve to solve a real problem, not to compete with others," he concludes.





# Paul Chang

## A Passion for Safety



**P**aul Chang who hails from Muar, Johore has had a passion for inventing since as long as he can remember.

His love for inventing and innovating saw him join forces with a group of innovators and creative thinkers like himself and together they established the Malaysian Association of Creativity & Innovation (MACRI) in 2007.

He always had a passion for inventing, thus understandably, it is his hobby. This can be testified by the amount of innovative contraptions that filled his house. Being surrounded by daddy's inventions turned out to an inspiration for his daughter Paulina, who in 1990 won a WIPO Gold Medal at the Malaysian Invention & Design

Competition.

Paul is a retired senior member of Robotics International of SME, USA and a retired member of Institute of Motor Industry, UK. Not many people might know this, but he is also a product of Hard Knock University.

### **The beginning of a famed innovation**

Paul pursued research and development on household automation ideas and telecommunications accessories. Among his successful innovations were a barring device for unauthorised phone-calls and car alarm with auto-locking doors system way back in 1986. This self-motivated person is filled with an



innovative spirit and possesses a mindset of always wanting to contribute to society. In 1980 he founded **Caltona Lab (Cal-Lab)**, a small company that thrived on research and development. **Cal-Lab** soared to greater heights when he engaged in working on a better lightning isolator which utilised patented technique to revolutionise the way modern electronic equipments are protected from lightning surges.

#### The revolutionary device

In 1989 Paul challenged himself to innovate a circuit that would be 100% effective in protecting electronics, IT and telecommunications equipments from being damaged by lightning surges of practically any magnitude. His target was a device that was completely safe for equipment as well as users. He unveiled the **Cal-Lab Lightning Isolator** in 1993 at a national invention exhibition and won an award for its innovativeness and commercial viability.

When the device was perfected in 1994 he filed a patent for his **Cal-Lab Lightning Isolator**, the first ever using an isolation method. Ordinary lightning arrestors attempt to arrest the full power of lightning. This leads to the high risk of main components themselves being burnt and exposing equipments to dangerous forces. The **Cal-Lab Lightning Isolator** is designed to trigger only designated weak links to be burnt, keeping key components safe, hence isolating equipments and users from dangers! The





# Award-winning lightning surge protector

At any one time about 1,000 thunderstorms occur worldwide producing lightning flashes at a total rate of 100 per second.

In an average year, about 200 people are killed and several hundred more are injured by lightning in the United States alone, a death rate exceeding deaths caused by hurricanes and tornadoes. Total property losses due to lightning in the United States range as high as several hundred million dollars a year.

A bolt of lightning discharges millions of volts of electricity along its path. Imagine what will happen if you have your ear on the telephone when lightning strikes the telephone line. Or if your personal computer and modem, fax machine, television, satellite decoder, or any other electronic equipment is on when lightning hits the power lines.

In October 1996, a Malaysian invention which will not only enable a telephone user to be almost 100% safe but also provide better than 99% chance for the phone line equipment to be safe from even a very powerful lightning surge was granted a US patent.

Cal-Lab Laboratory (Cal-Lab) Group designed the Performance-

Guaranteed Lightning Isolator (PG-LI) and have sold over 100,000 units within three years.

PG-LI isn't a fancy name but it probably reflects the product's simplicity and effectiveness.

Cal-Lab chief executive officer and PG-LI inventor Paul Chang said though his invention competes with hundreds of other such products worldwide, statistics on PG-LI's effectiveness are encouraging.

"We have restored a handful of isolators damaged by lightning strikes in cases where the user's equipment were also damaged by lightning. We found that most of the problems were due to wiring connections."

In two cases, we found no fault in the isolator system but the lightning stroke had been severe. The isolator units were pulverised while the equipment was spared the worst effects of the strike," Chang said.

Cal-Lab also designed an interface unit that goes with Astro's Philips decoder unit.

Unlike conventional lightning protection systems, Chang said PG-LI is designed to isolate your equipment when a predetermined level of surge is detected instead of attempting to



PG-LI surge protectors.

invest this danger while your machine is already being exposed to it.

The built-in protection empowers in your machine can normally handle dangerous surges to a certain point, after which it will break down, just like other conventional systems, leaving your machine to face the full force of the dangerous surge.

PG-LI, by acting before the built-in components are activated, will keep these components as a second line of defence.

"After selling 100,000 units, we receive less than 10 units a week for restoration and between 20 and 30 a week during rainy seasons. This statistic show that PG-LI is able to absorb most lightning strikes without damage," Chang said.

Using a Malaysian-made lightning isolator has another advantage after sales service.

PG-LI offers a Limited Lifetime Service Warranty to users. The price you pay extends for life your customer to obtain a replacement unit (recycled) in exchange for a lightning damaged unit in any condition, at a fraction of the initial price.

Even if your PG-LI is beyond repair after a lightning stroke, you may return it to any authorised participating dealer and be given a recycled unit for only 100.00. You may also choose to send your damaged unit directly to Cal-Lab Restoration Centre in Klang for direct service.

PG-LI received a silver medal at the International Inventions Exhibition in Geneva in 1995, a Merit Award at the 1993 Malaysian Inventions and Design Exhibition, an award for "Excellence in Invention" by the Malaysian Invention and Design Society in 1996.

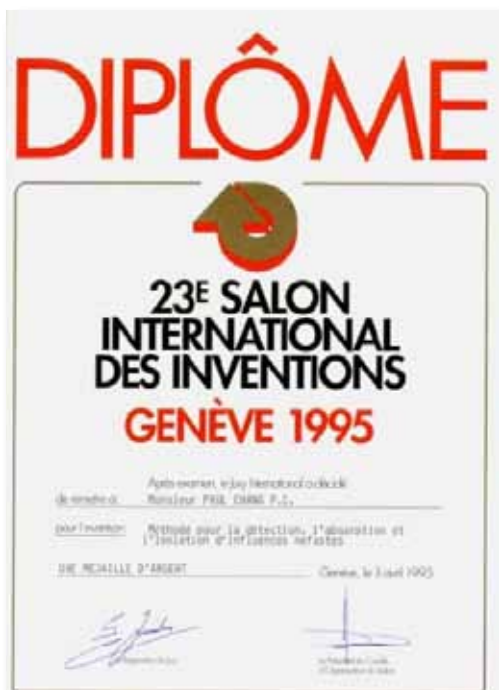
But among Chang's proudest achievements are recognition from major brands such as Philips, US Robotics, and other Japanese manufacturers who now install PG-LI variants into their products.

isolator has the functional advantage of a four-in-one concept where it addresses surges from the power-line, satellite dish, TV antenna and telephone lines. The **Cal-Lab Lightning Isolator** can be used to create a safe-island for each equipment set-up at home, office or factory.

## Awards & Recognitions

Paul has won a series of commendations, recognitions and awards to his name. Below are some reasons why Paul stands tall today as a renown innovator.

- Certificate of Award, MINDEX 1993
- Silver Medal winner at the 23rd International Exhibition of Events, Geneva 1995
- Sijil Pengiktirafan Kementerian Sains, Teknologi dan Alam Sekitar 1995
- Excellence in Invention by Malaysian Invention and Design Society 1996
- Merit Award at Asia Pacific ICT Awards (APMMITA '99)
- APICTA Award 2010, MSC Malaysia - for his latest invention to enhance PLC adapter throughput.





He was elected as a member of the International Who's Who Professional in 1997. In that same year, the **Cal-Lab Lightning Isolator** was granted a United States Patent. In 1999 the device was awarded a Malaysia Grant of Patent and China Grant of Patent. It was also entered in the Malaysian Book of Records as the first Lightning Isolator Invention in 1999.

Paul had been featured in the Who's Who in Science and Engineering USA 2000/2001.

Commercial Value of **Cal-Lab Lightning Isolator**  
**Cal-Lab** has made a reputable name for itself. Starting from 1996 when they got a major contract from SatelliteTV decoder supplier to incorporate the devices into their decoder setup. From then on, **Cal-Lab** went on to receive more orders from other brands of electrical appliances and manufacturers.

Today **Cal-Lab** has a distribution network of over 300 agents throughout the country and since 1994, 1,000,000 units of the Lightning Isolators have been sold. Needless to say, it is widely acknowledged and accepted by leading brands and manufacturers of electrical and electronic products.

#### Forward and ahead

It took a remarkable but humble inventor and entrepreneur to address a problem and turn its solution into a successful business. Paul's passion for innovation continues and some new products coming up are a cooling system utilising water as coolant (talk about eco-friendly!) and power-line communications. The **Cal-Lab Lightning Isolator** for power-line communication is aimed at enhancing PLC-adaptor transfer rate, keeping equipment and users safe from power surges, enabling sharing of power from one wall outlet and filter off power-line noise.

In addition to that, we also look forward to the upcoming EPSM – Equal Potential Safety Mat, which will offer safe-islands for work-stations or around appliances, creating safer working environments even during thunderstorms.

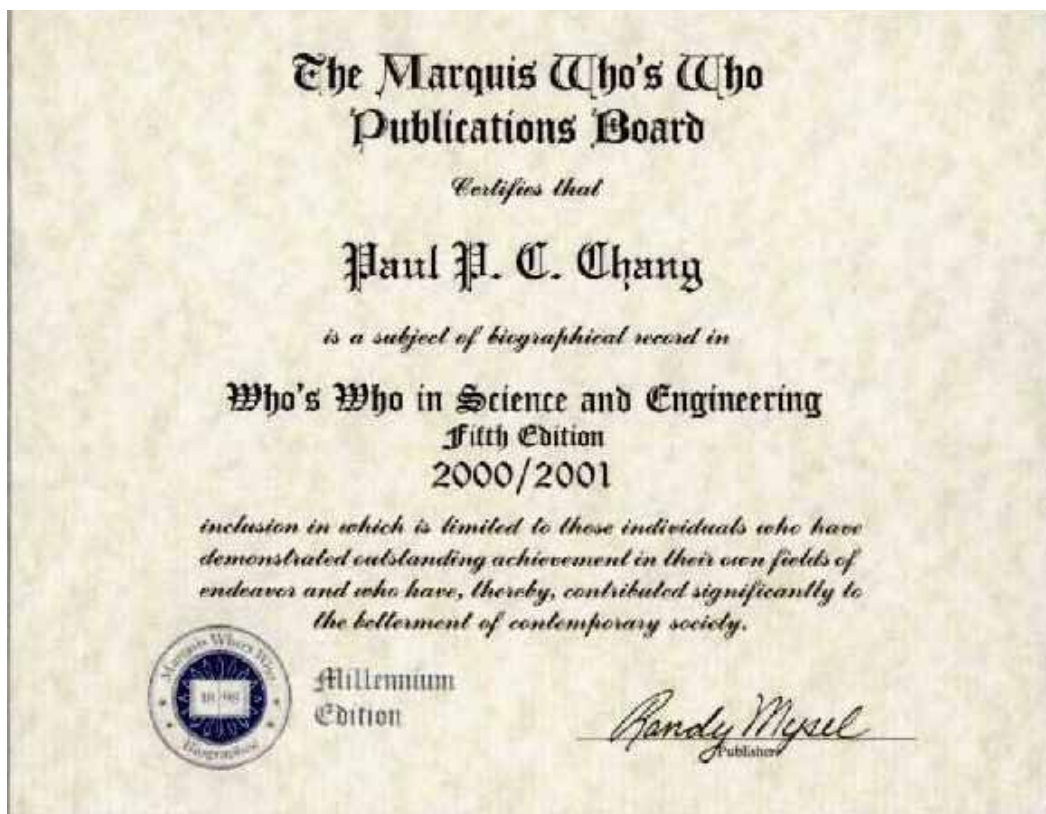
"I am just a simple person who is fortunate to have been blessed with some guts to think



[illegible]

"It's not how much you know, but how you apply that knowledge that makes a difference," said Paul when asked if he had any advice for

Last but not least, Paul advises budding innovators to never underestimate the power of positive thinking. "It may be the difference that makes you stand out from others," he says with conviction.







# Robest Yong

## A SERIAL INNOPRENEUR



“Someone once told me that my **Polyclone rubber stamp** machine invention was either copied or it wouldn't work,” Robest Yong said calmly in an exclusive interview.

“They said if it could be done, the Americans or the Japanese would have done it by then,” he continued. Well, Robest then went on to win a gold medal at the Geneva International Invention Fair in 1994 for that very invention, proving his critics and many more skeptics so

wrong!

### The early years

Robest Yong was born in Georgetown, Penang and received his early education at the Methodist School in Nibong Tebal. Robest formally started inventing in the early 1990s, but his passion for invention could be traced back to his humble beginnings where he used to make animal cages and fish tanks on his own. At just 10, he was making his own wooden toy guns. His favorite subject in



school was not surprisingly Industrial Art.

Robest had no role models to emulate. "I think my success as an inventor was inspired by my own interest in innovations and creativity". Robest lives by the saying "Be realistic or you will die a pauper".

As a dynamic, self-challenging young man, Robest grew to understand that an invention is only worth the commercial potential it holds. Perhaps that is one of the main reasons he is



one of the most prolific local inventors today.

### **Challenging moments**

Lack of money to realize his dream was the biggest challenge back in 1994, when there were no grants for independent inventors. Inventing was more like an expensive, impractical hobby, hence not much attention was paid to it. "Patenting itself carried a cost of over RM8000, so the most exasperating question I had to ask myself time and again was, to patent, or not to patent?" cited Robest. His belief, however, till this very day, is that if the idea carried a commercial value it is always best to file for a patent. "Inventors and innovators today are a lucky bunch! The Government has many grants worth billions for them to apply for."

### **Stamping his mark worldwide**

The Polyclone rubber stamp machine is Robest's proudest achievement and rightly so as it has revolutionized the rubber stamp industry of the world! With this invention, it takes only five minutes to make rubber stamps when previously one had to order, days or weeks in advanced. With this major breakthrough, Robest knew his dreams has taken him to a whole new level and he never looked back since.

Today, Robest's rubber stamp machine is sold and used worldwide – USA, China, Japan, Korea, Russia, South Africa, Papua New Guinea, Indonesia and Thailand. In fact, being one of the most user-friendly inventions ever, it would not be surprising to find this machine in many more countries worldwide!

Since the invention of the Polyclone rubber stamp machine, Robest proceeded to embark in a series of other innovations. He turned his creativity and innovating skills to three automobile gadgets, all of which were proudly displayed at the MINDEX/INOTEX 1996. The inventions were:

- THE**  
**Star**  
*the people's paper*
- A6: 4115 Wednesday May 26, 1981 PP1045(375)



## Stamping out his profits

By JASON CHEN

The quickest, easiest and healthiest way to make a rubber stamp takes five minutes and uses tap water, according to Robert Yong.

The 35-year-old businessman from Petaling Jaya was talking about his invention called the Polyclear rubber stamp pro-

The invention is among the early entries to the Malaysian Invention and Design Exhibition 1993 (MIDE 93), to be held from Aug 12-15.

Young says the process and machines are environmentally friendly as no chemicals are involved. "Only plain tap water is used for stitching."

He says that compared to current methods of making rubber stamps, the polycarbonate was cheap, maintenance free, compact and portable.

"Conventional methods need big and bulky equipment and a lot of space." (The machine is about the size of a laptop computer.)

He claimed his invention would save people the "agony" of waiting two days or more (not including delivery) for a new rubber stamp to be made.

Yong said his machine is not just for rubber stamps; you can also make prints for name cards, envelope headings and letter press machine.

All you need is a negative of the required design.

even needed, as the negative can be produced directly from artwork or computer printed transparencies in a matter of minutes.

This negative is then set on what is called a photostyrene plate, heated up in the machine for two minutes before being washed in water for another

Being in the proving business, Tong fully understands the concept of the kind of technology needed to make rubber

It is not surprising then to note that he only took three to four months to develop the machine.

After a few attempts, this was the fourth machine he developed and by far the most efficient and advanced. He is still making improvements to the

"Hopefully, I will come out with a new version by March '81," he said.

likely benefit businesses in the smaller towns where the



Yang showing how to make a rubber stamp on his Poly clone rubber stamp presser.

could well outstrip the supply.

Yong is also targeting the school entrepreneur clubs. "Instead of the usual 'T-shirt printing and key holders making' projects, this would surely

thing to do. Profits could range from 200 per cent to 300 per cent."

(A stamp made using Yong's machine would cost about RM6 compared to RM4 for the conventional machine.)

- **ABL Automatic car-braking system:** This indispensable safety invention allows the vehicle to remain stationary even when the driver's foot has been released from the brakes pedal.

- ROBEST YONG
- 29**
- MALAYSIAN INNOVATORS



can actually indicate to the driver if he or she is driving too fast or if there's a dangerous corner ahead to be wary of.

Subsequently Robest came up with the **Flush and Wash**, a water closet modified to enable users to wash their hands using water straight from the tank. He then went on to make locking and unlocking connecting doors a cinch. An exceptionally useful invention when it comes to ensuring connecting bathroom doors lock and unlock as needed.

Robest's passion for innovation and improvement also led him to invent the **Green Whizzard**, a plant fertilizer using probiotic enzyme. In its concentrated form, only a few grams will keep plants green and healthy. This invention was proudly in collaboration effort with University Teknologi Mara.

### Awards & Recognitions

In 1989, a young Robest started his own company to venture into new ideas and inventions. For someone who has walked the path less traveled locally, Robest has a huge share of recognition for his efforts and creativity. This prolific innovator has more than a dozen inventions and innovations to his name and has won numerous awards locally and globally. Among them are:

- 1994 — Malaysian Inventor of The Year
- 1994 — Guinness Effort Award
- 1994 — Gold Medal Winner, International Inventions Competition of Geneva
- 1995 — 1st Prize Winner, Malaysian Invention Exhibition (MINDEX)
- 1995 — Silver Medal Winner, International Inventions Competition of Geneva

- 1996 — Bronze Medal Winner, International Inventions Competition of Geneva
- 1997 — National Youth of the Year
- 1997 — Entry into the Malaysian Book of Records
- 1997 — Bronze Medal Winner, International Inventions Competition of Geneva
- 1998 — Silver Medal Winner, International Inventions Competition of Geneva
- 1998 — Gold Medal Winner, London International Invention Fair
- 1999 — Silver Medal Winner, International Inventions Competition of Geneva
- 2000 — Outstanding Young Malaysian Award
- 2006 — Medal Winner at the Malaysia Technology Exhibition

### Forward and ahead

"I am still inventing new product. I aspire to be an iconic Malaysian inventor," states Robest. He has big plans for a company that 'Lives on dreams and ideas' as he puts it. Indeed, for one who has proven himself as a local inventing hero! The company Robest has in mind would be quite like a 3M company, with full focus on new innovations.

Robest, currently an innopreneur reveals that he dreams of a more creative and innovative Malaysia. It is my sincere hope that the Government will introduce the setting up of innovating clubs in school, so that young, undiscovered inventors may be discovered, and nurtured to reach great heights to make our country proud.

### Pearls of wisdom for budding inventors

Robest firmly believes in being realistic. "Yes, you can dream a dream, but keep that dream



realistic" advises Robest, who has served as judge in many local and international invention and innovation competitions. His most valuable advice to young, budding inventors is to "go for the low hanging fruits" for they will be more likely to bear greater, more valuable results. He cited "Liquid Paper" as a brilliant creation as there was a need for the product in offices and schools. In the end, the clerk who invented this managed to sell the rights to Gillette for billions. A brilliant invention indeed! In other words, forget about inventing a spaceship to fly to Mars, but set your sights on something that can actually sell and make a difference in people's lives.

"In invention, problems must be solved. Do not make the mistake of inventing another problem in the effort of solving one problem. It will be a waste of time, money and effort. Realistic thinking is the key to being a great



innovator or inventor," says Robest.

"People don't buy ideas, they buy products. Hence, you will not become a millionaire just because you have a good idea. In inventions, there are elements of science, and in greater ones, there might seem to be a touch of 'magic' even. A great invention has to be born of either or both," says Robest, who is a founding member of MACRI.

Having been there and done that, Robest gently reminds budding innovators and inventors to take skeptics, critics and cruel, discouraging words in their stride. Needless to say, if Robest himself took to heart and was discouraged by his skeptics and down-pouters, he would not be where he is today! "The world can be cruel and no one owes you a living" he reminds young, aspiring innovators.





# Teoh Siang Teik

Harnessing The Power of the Sun through Technology



**Microsolar**



**I**f you can dream it, you can do it – Walt Disney. It is one of Teoh Siang Teik's favorite quotes. However, it never crossed his mind that he would one day end up designing an award winning, world-class solar heater. It all started in 1982 when he was working in Kathmandu with UNDP where the project required him to provide a very effective and cost-efficient solar water-heater that can work even on cloudy days

and during cold weather.

Teoh didn't know much about the subject of solar heating and there weren't any suppliers who could guarantee a heater that could work on non-sunny or cold days. He had a deadline to meet and the sense of commitment to his project made him feel the need to deliver one way or another so he got cracking to design his own solar heater.



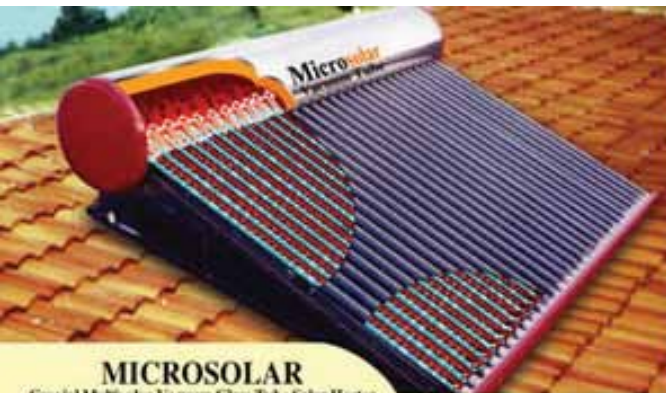


### **Problem in the conventional solar water heater systems**

Teoh, who earned his Masters from University of Edinburgh, Scotland proceeded to spend time researching and dwelling on the flow analysis of the conventional solar heater. The 20 tubes going into one storage tank was like an ill-planned traffic system causing bottleneck constriction on the flow diameter. As Thermosyphon flow slows down, a hot spot develops in the panel and heat is lost through the glass resulting in less water being collected in the tank.

The bottleneck problem seemed further aggravated by hot water stagnation due to

the horizontal angle of the upper manifold. Due to the hotspot which developed in the panel, the stagnant water gets hotter and hotter but heat is re-radiated back through the glass. This heat loss should have been collected safely in the insulated hot water tank. After pondering on all these problems and more, Teoh set to work on his design that would better the situations, but eventually he ended up designing a winner in solar technology. He concluded that the end result of his invention should retain heat for longer periods, provide highest temperature and high volumes of hot water.

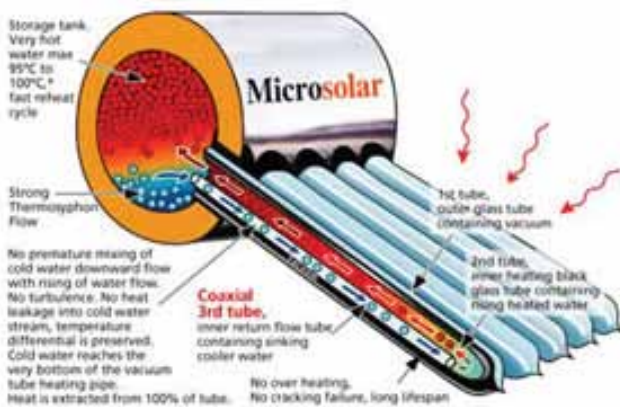


## MICROSOLAR

Coaxial Multivalve Vacuum Glass Tube Solar Heater  
(Separated upwards and downwards flows, very efficient)

### MICROSOLAR's Patented Coaxial Multivalve Vacuum Tube Solar Water Heaters (with inner coaxial return pipe 3rd tube)

Patent Teoh, USA Patent 6,014,966, 18 Jan 2000 (search in [www.us patent and trademarks office](http://www.us patent and trademarks office))



### About The Innovation

**Microsolar** has a 25 year history having been the first multivalve solar water heater in Nepal back in 1982 and later in Malaysia in 1995. It is a 3rd generation thermosyphon water heater where the novelty lies in the 16 inner cold water tubes in 16 outer heating tubes which deliver hotter water in higher volumes per panel. Teoh's design allows for strong thermosyphon flow with no bottleneck, stagnation or horizontal flow. The end result is higher temperature and more hot water volume making electricity backed-up heaters obsolete.

The hybrid double-glazed glass-paneled

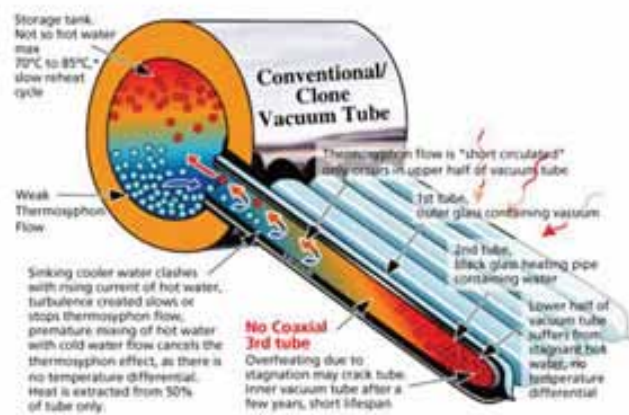


## CLONE

Non Coaxial Multivalve Vacuum Glass Tube Solar Heater  
(Unseparated upwards and downwards flows, inefficient)

### Other Vacuum Tube Solar Water Heaters (without inner coaxial return pipe)

Patent Takemchi, USA Patent 4,566,431, 28 Jan 1986 (search in [www.us patent and trademarks office](http://www.us patent and trademarks office))



collectors reach 90 degree Celsius on sunny days with a temperature of 32 degree Celsius. That is indeed a world record level performance for a solar water heater without pumps, electricity, chemicals or vacuum heaters, most conventional water heater will not even reach above 75 degree Celsius.

In addition to all this, the nickel chrome mirror finish stainless steel with high reflectivity casing prevents heat loss from the tank during the night. This ensures that the water stays hot through the night and right up till morning. **Microsolar** boasts the ability to retain heat and to be fully operable even in intensely frigid conditions of -31.7 degree Celsius.





The **Microsolar** Coaxial Multivalve M80VTHE 356 litres is the world's highest efficiency thermosyphon solar water heater, operating fully without electricity, capable of reaching a maximum temperature of 100 degrees Celsius within six hours of full sunshine. In some countries, such as in Kenya, **Microsolar** is used for water pasteurization too.

#### **International Recognitions**

1997 — Patented worldwide through The World Intellectual Property Organisation

1999 — TIME Magazine featured Teoh as one of the Heroes for the Planet/Design in its March issue that year.

#### **World Market**

**Microsolar** is distributed and sold in many



## Powered by the Sun: Hot Water on the Cheap

By JOHN COLDWELL KUALA LUMPUR

**T**HEH SIANG TEK DOESN'T SET OUT TO DESIGN TWO OF THE most powerful solar water heaters. He just wanted to go to work. As an architect trained in Scotland in 1970, the young Malaysian was looking for a way to getting a job in Singapore when a local businessman asked him to design a hotel in a rural area with no electricity. His energy-efficient solution won first prize from Scotland's Royal Incorporation of Architects. He returned with his architecture degree and designed 69 small buildings for the Singapore government, incorporating solar water heating. "My professors had told me to leave engineering to engineers and be an architect," Teoh recalls. "I was just looking for a way to save money on materials."

That quest resulted in a stunningly simple engineering breakthrough. At the time, there was essentially one way to build solar water heaters, using a 1950s Japanese patent that is still commonly applied today. In that basic design, an array of tubes in a flat glass panel is placed on a slope or roof and connected to a water tank. The water in the tubes is heated by the sun, rises slowly and enters a pipe running across the top of the panel, where it pushes forward and empties into the tank. The circle is completed when cold water is forced out of the bottom of the tank into a pipe running to the bottom of the panel. From there it begins the journey through the panel and back up to the tank again. Relying on the roof of one his houses in Nepal, Teoh was watching the hot water rise and shoot into a black 55-gallon drum when he realized how much heat was being lost pushing the water through the system, says Teoh. "The first rule of solar water heating was that the tank was separate from the panel" and connected by a single tube. "I knew there had to be a more efficient way."

There was. After pondering the problem for several years, Teoh designed a heater in which each tube in the panel pours hot water directly into the tank. That changes the path the water has to travel: it simply a water and then slides the energy loss is minimized. Building on the notion of reducing resistance to hot water flow, Teoh's research over the next decade led to several more design improvements. For example, he added an additional lower panel with exposed tubes exposed to a climate that allows the heater to receive additional sunlight and even work on a cloudy day.

Teoh's solar water heater, which was granted one of three international patents issued by the World Intellectual Property Organization (under the Patent Cooperation Treaty) in 1995, outperforms the competition. It guarantees a water temperature of 80-75°C—as opposed to the previous 50-60°C ceiling—more than enough for an entire family of five to take two hot showers a day, unlike other solar water heaters, it doesn't need an electric power unit, which on cloudy days can make operating costs sky-

rocket. And Teoh's model can be built using materials available at a local hardware store. Such simplicity allows the company Teoh has set up in his home, Microsolar Malaysia, to sell heaters for as little as \$1,000. That's more than the cost of a more technological, sophisticated solar model designed by the U.S. National Aeronautics and Space Administration. Teoh's design not only produces hot water without burning fossil fuels, but it requires fewer materials than other solar models. In the first 10 years, his heater costs a family of five \$100 annually, compared with \$200 for a conventional solar unit with an electric booster and just under that for an all-electric model. "It works," says one of Microsolar Malaysia's 1,200 customers. Affordably, Teoh, a Kuala Lumpur sales executive, affords solar water to help the environment and to avoid having individual clients a heater for his home bathroom. He now enjoys "a substantial savings on my monthly bill."

More importantly, Teoh's innovation could make many more, including solar air-conditioners. Until now, finding an efficient way to use the sun's energy to cool air has eluded engineers because the water temperature must be maintained at an average 75°C in order to run existing solar air-conditioning models. Currently, five to



**KEEPING HEAT:** Teoh's solar water heater system, which is known to contribute to global warming, is a boon for the environment, as well as an important new industry for Malaysia, already a major manufacturer of air-conditioners.

Though Teoh has gained international recognition for his design of solar engineering, he remains very much an architect, designing buildings throughout Asia. Microsolar Malaysia plans to franchise his low-cost water heaters in the developing world, beginning with Indonesia this year. Nevertheless, Teoh rejects the notion that he is a hero. "I don't like the idea of the word," says the inventor. "I just want to be somebody who makes a small contribution to the world." And if he is lucky, he may still have time to go thinking, although the demands of time are making that increasingly difficult.

countries worldwide. Teoh is appreciative of Matrade for undertaking activities to promote the product to overseas markets.

The product is patented worldwide and is in use in Malaysia, the USA, UK, New Zealand, Japan, Indonesia, Philippines, Singapore, India, Nepal, the Middle East, the Caribbeans, Kenya, Tanzania and Maldives.

It achieved world levels of excellence in performance in the mid-winter testing in Pewaukee, Wisconsin USA in January 2004.

### The future looks hot

Teoh's aspiration is to continuously focus on research and design and improving the solar heaters. No matter how 'perfect' everyone else perceives the product to be, innovators are constantly looking for ways to improve even more.

One needs to constantly innovate and keep abreast with new technologies and hopefully be always a generation ahead. Having said that, Teoh expressed that he is grateful and for the fact that he is in an industry where the scope of innovation is rather limited, unlike, say, the IT or mobile phone industry where the speed of technology and changes is extremely fast.

### What Teoh wants budding innovators to know

"Believe in what you're doing and be passionate in your undertakings," say Teoh with utmost conviction. He believes that innovators should ideally try out all their ideas but overall goal should lean towards efficiency and simplicity. He urges budding

innovators to work on niche markets as there are lots of areas in the world that can be improved.

Innovators cannot afford to sit on their laurels for technologies are changing every time and there are many smart people out there. Hence, if you want to be known as an innovator, you have to waste no more time and start working on your ideas.

"Be prepared to sacrifice time and put in a lot of hard work, for that's what it takes to get something commercialised and recognised in the international market".

***The greatest wealth is health.***

- Virgil



# health and wellbeing .....

Dr. Gurchran Singh  
Dato' Hew Ah Kow  
Jimmy Lai  
Dr. S. Radhakrishnan





# DR. GURCHHRAN SINGH

## The Tara KLamp Success Story



It was 1971 when Dr. Gurchran Singh first saw an urgent need to address badly performed circumcisions which led to infections and other complications in young boys. Appalled at the sight of these problems, he decided to embark on a low-key, self-funded research, lasting over 20 years - all to make circumcisions safer and easier.

His research, revealed that most of these

problems arose because the procedure was always "Invasive". Hence, absence of sterile conditions as in rural circumcisions, caused infections. Existing devices and circumcision methods were capable of addressing only a few problems. The challenge, therefore was whether "Non-Invasive Surgery", knowledge of which was non-existent, would solve all these problems. Astoundingly, he realized that nature itself provided examples of 'non-invasive' tissue rejection - ie frostbite and



other calamities where there were no open wounds or broken skin. Probing deeper into these, he discovered the Surgical Principles that enabled selective tissue rejection clinically, without toxæmic effects to the individual. Based on these Surgical Principles, Dr. Gurchran Singh then invented the **Tara Klamp**. It is manufactured and promoted worldwide by Taramedic Corporation Sdn. Bhd.

Additionally, new surgical knowledge has been created as The Royal College of Surgeons, Ireland have confirmed that these 'Surgical Principles' have never been described before.

### **Materialising the impossible**

Dr. Gurchran, himself sketched and explored various designs for devices incorporating his ideas of non-invasive circumcision procedures. Finally, based on these sketches and despite initial difficulties, the device was

successfully designed by a team of British designers and manufactured in London, UK. Dr. Gurchran describes it as an exhilarating and emotional event.

He quotes, "Free your inner self to pursue your desires – fear being of course the ever present enemy. Overcome the fear and you have nearly won the battle if not the war". A chapter of his life with a long struggle and journey has finally come to pass.

#### A moment to cherish

As Dr. Gurchran's invention was a controversial one and it underwent much scrutiny. It came as no surprise that garnering support did not come easy for him. The determined doctor, however persevered and successfully

“ Free your inner self to pursue your desires – fear being of course the ever present enemy. Overcome the fear and you have nearly won the battle if not the war ”

completed his research in UK. He also received a grant of RM163,336 for Research & Development by the Government. The product has been granted patents in Malaysia and numerous countries worldwide.

#### The revolutionary Tara KLamp

The **Tara KLamp** enables circumcisions to be performed easily and safely. One does not have to be in a surgical clinic to use it.





Because of the inherent Non-Invasive Surgical Principles, this device can be used practically anywhere, even by the roadsides or the bush without fear of infections. Mutilations etc are also avoided thanks to the design of the device. Even a paramedic may use it easily with minimal training, which is mandatory.

The pre-sterilised disposable device is designed for single use, thus guarding against cross-infections such as from Hepatitis and HIV. There is no need for sutures, ligatures and even dressings. There is no open wound and results are predictably neat and even. There is no post-surgical bleeding or oozing and the patient can resume normal activities straight away.

From the time, when the **Tara KLamp** first hit the market, there have been a number of improvements made to the design, the most



notable being the changing of the material used to mould the device.

### **Worldwide Awards & Recognitions**

The revolutionary **Tara KLamp** is a renowned circumcision device and is acclaimed worldwide with several international and local awards to its name.

1995 – Malaysia :

Bronze Medal winner in the Medical, Surgical and Orthopaedic category at The MINDEX/INNOTEX Innovations and Inventions Malaysia.

1996 – Geneva :

(1) Gold Medal in the Medical, Surgical, Orthopaedic and Hygiene Category, at The International Exhibition of Inventions, Geneva.

(2) Gold Medal of Excellence. Awarded by the President of the World Exhibition and Innovations of Morocco for the BEST INVENTION at the International Exhibition of Inventions Geneva 1996.

1996 – Casablanca :

In the World exhibition of Invention and Innovation in 1996 at Casablanca, Morocco, the **Tara KLamp** was awarded:

- (1) The Prize on the International Jury.
- (2) The Prize of the Ministry of Public Health, Morocco.
- (3) The Prize of the Industry and Commerce chamber of Morocco.
- (4) Gold Medal of East West Euro Intellect, Bulgaria.
- (5) Gold Medal of World Exhibition of Invention and Innovation at Morocco in the Classification of Medicine, Surgery, Hygiene and Orthopaedic.

2009 – Malaysian Medical Association(MMA) Award for Outstanding Public & Healthcare Services Award.

The **Tara KLamp** is the only circumcision device that has been listed under Circumcision Devices in the UMDNS, a baseline system for the Global Medicine Device Harmonisation Project which is used internationally for medical device classification and registration purposes by regulatory agencies. It has also been accorded the CE Mark of the European Union (EU).

### **Global success**

Despite controversies, the **Tara KLamp** has been accepted by international health organisations and NGO's. It is being sold and used in Indonesia, Kenya, Tanzania, Uganda, Rwanda, Burundi, Lesotho and China.

The fruits of Dr. Gurchran's inventiveness, has indeed brought about a sigh of relief among young boys the world over, for they no longer have to fear this procedure. All thanks to the wonders of our very own Malaysian inventor, Dr. Gurchran Singh.

### **Traveling down the rocky road**

For taking the road less travelled, Dr. Gurchran's journey was full of critics, scrutiny and controversies. He, however, survived them all. The biggest challenge, perhaps was himself, for he had to convince himself, many times, to plod on for the sake of those young boys who need to be circumcised.

The far-sighted inventor could foresee a myriad of problems in trying to design the perfect device to perform a safe circumcision but it did not stop him from achieving his dream of seeing his invention hit the market and help thousands of individuals to undergo a safe and uneventful circumcision.



# Dato' Hew Ah Kow

## The Humble Path To A Great Destiny



**H**ailing from Kuala Pilah, Dato' Hew Ah Kow only managed to attend school till Standard Six, for poverty forced him to go out to work to support his family. The irony of this is, he never lost his passion for learning and always found ways to experiment and learn new things by himself. Dato' Hew was most interested in all things pertaining to science and often burned the midnight oil by himself despite having to work hard to support and help his family.

### The very beginnings of fame and fortune

At the age of 16, he found himself working deep in the forests of Kuala Pilah for a timber company. This was the time when his innovative side was first proven and his path to fame began. Dato' Hew explained that his co-workers and him were fond of having half-boiled eggs for breakfast, but often enough, the eggs turned out hard-boiled instead. To solve this problem, he invented the prototype of the famed 1st generation **Egg-Matic**, a half-boiled egg maker.





He ended up selling the prototype, Intellectual Property, and ownership to a plastics manufacturer who took the opportunity to improve on the design. The manufacturer then sold it off to Newton, a well-known local MLM company. In 1989 however, Dato' Hew came up with the 2nd generation **Egg-Matic** and he himself sold it to Cosway for commercial gain.

Dato' Hew's passion for problem-solving inventions saw him inventing one product after another, and among them were a rubber tapping knife with changeable blades, deodorizing device for water closets, combined tooth brush and dental floss and even a brain bending polygon logical toy.

#### The big turning point

The 80's also saw Dato' Hew moving to Kuala Lumpur to look for a job. He rented a room in a wooden house where mosquitoes was quite a problem every single night. The usage of mosquito coils was a common practice and one day, Dato' Hew accidentally burnt down





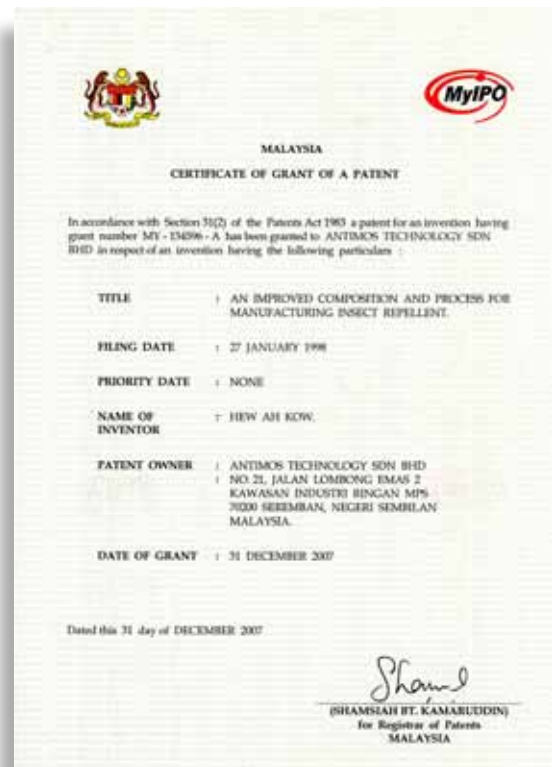
his room and part of the house too, for he had forgotten to put off a burning mosquito coil before leaving for work!

This incident left him determined to seek out a safer and more effective solution to mosquito woes, so much so that he quit his job and dedicated his life to inventing and innovating for the improvement of life around him. He was successful in a few inventions which he sold for commercial income, but his mind was still very much into trying to find the perfect solution for keeping mosquitoes away.

It took him three years and 300 different variations of formulas before he finally, at the 301st try, came up with the perfect solution which he aptly named **Antimos 301**. The name serves as a testimonial of his hard work, and the fact that it is 100% natural is nothing short of sweet success to Dato' Hew. Truly inspiring indeed!

### Naturally remarkable product

**Antimos 301** is made of 5 natural ingredients and seemed almost fated to be a huge success. But it was not all smooth sailing for Dato' Hew, for there were many obstacles to overcome. Dato' Hew's first attempt to manufacture and sell his mosquito repellent invention on his own came to a halt when he ran into a string of problems ranging from lack of resources, capital and failed machines. Then through the Ministry of Science,





Technology and Innovation, he managed to secure a grant for Research & Development. This time around, through thorough research, he decided to take the manual approach in the re-making of **Antimos 301**.

The natural, non-toxic repellent was developed to evaporate and release a comforting, pleasant odour at room temperature. It works by disabling mosquitoes from detecting the presence/scent of humans. The product is found to be well-received not only locally but worldwide as an excellent, natural mosquito repellent.

#### Commercial excellence

By means of promoting **Antimos 301** at major expos and trade fairs, Dato' Hew saw his prized product take off with a RM70,000 order from Cosway which got the ball rolling and set the path for better things to come. Big names like Giant Supermarket and Jaya Jusco are now among Dato' Hew's customers. Dato' Hew's company exports to countries worldwide, Africa being the bulk of the importer.

When **Antimos 301** hit the market in 1998, the total revenue for the year was RM100,000. Now the total annual revenue stands at over RM8 million. **Antimos 301** is doing so well in

the local and international market that Dato' Hew is looking forward to the opening of his second factory soon.

#### Awards and recognitions

Needless to say, the humble but enterprising Dato' Hew has his fair share of awards and recognition for his many inventions.

- 1989 – 1st prize, Malaysian Invention and Design Competition (Rubber-tapping knife with Changeable Blade)
- 1991 – 1st Prize winner, Malaysian Invention and Design Competition (Controllable Boiled-Egg Maker)
- 1992 – 1st prize winner, The Malaysian International Invention, Innovation, Industrial Design & Technology Exhibition (MINDEX)
- 1993 – 1st prize winner, The Malaysian International Invention, Innovation, Industrial Design & Technology Exhibition (MINDEX)
- 1993 – Gold medal winner, Geneva International Invention Award (**Egg-Matic**)
- 1994 – Geneva International Invention Awards (Deodorising device for water closet)
- 1994 – Certificate of Achievement, Kementerian Sains, Teknologi & Alam Sekitar (Polygon Logical toy)
- 1998 – Gold Award, London Innovation, Invention and Competition (**Antimos 301**)



- 1998 – Silver Award, China Fair of Invention and New Technologies (**Antimos 301**)
- 2005 – Malaysian Emerging Brand Award (**Antimos 301**)
- 2007 – Asia Pacific Excellent Brand Award
- 2008 – The Best Award/Gold Award, Malaysia Technology EXPO, Malaysia Global Innovation & Invention (Lockable three-pin switch socket)

**Antimos 301** was the official insect repellent used for athletes' in the 2008 Beijing Olympics, something that makes Dato' Hew and all Malaysians proud! At the present time, Dato' Hew is still an active inventor and is working on bringing to life more of his inventive and innovative ideas.

#### **Advice for budding inventors and innovators**

Inventors most know what they want and where their passion lies. The best bet, according to Dato' Hew, is to invent or innovate on something that is needed, practical and functional. Practicality and functionality are important to ensure that their

invention and its ideas are well-received and can have a commercial value.

An aspiring inventor must try to use failures as an opportunity and driving force to work harder and improve on an idea. As for Dato' Hew himself, his own experiences and problems that he himself had encountered was the motivating force for him to start inventing to find solutions for the betterment of life, for himself and others too. "Do not give up easily," says Dato' Hew. "Perseverance is sign of a successful inventor", he went on.

#### **Kindness knows no boundaries**

Dato' Hew has not let the huge success of his invention get the better of him in regards to attitude towards the less fortunate. His humble beginnings are actually what put him where he is today, as one of the country's top inventors. Hence, as a demonstration of his appreciation for the good life he enjoys now, Dato' Hew donates 10 percent of his company's earnings to charity organisations and welfare associations.







# Jimmy Lai

## Oral SPA – The New Oral Health & Beauty



**D**uring his younger days, Jimmy Lai developed a wind-screen engraving machine which was capable of engraving the car plate number onto wind-screens of cars to prevent car theft. At this point of his life, although it was a great feat to accomplish, the invention was merely a hobby for him, as was his other passion, fishing.

For the past 28 years Jimmy has been involved in the catering business and distributing daily consumables. Before that, he had been a

broiler farmer from 1979 till 1981. Today, Jimmy, a HSC Graduate of TARC, is a leading one of the country's outspoken and outstanding innovators. Through his company, Ameba Products (M) Sdn. Bhd., Jimmy has been busy putting whiter and brighter smiles on people's faces.

### The toothbrush story

Jimmy felt that the existing oral care solutions were inadequate so much so that customers perceive that it is usual to have tooth decay.



Bad breath, stains, gum inflammations or bleeding, dental plaque, tartar and mouth infections are thought to be common and nothing to be overly concerned about. Jimmy begged to differ in those perceptions and went on to innovate and develop dental hygiene apparatus that would challenge the norm.

In 1999, through the help of his family and his own funding, Jimmy Lai developed a fingertip toothbrush with soft TPE resin. In 2003, he started a mass production process of that product adapted to a reputed German CNC tufting machine. By 2006, the fingertip toothbrush was launched and took off in a manner that would bring a smile to its inventor!

2008 saw the development of the first model modular toothbrush with high-speed vibration.

Another model, the **Sonic Toothbrush** was developed this year with improved features. The present product is a toothbrush that takes the concept of oral hygiene to a whole new level. With its detachable brush head, sonic locking arm and powered handle, it provides all-round cleaning with its high-speed stroking action. The areas of cleaning include teeth surface, areas between teeth, gum pockets and tongue surface.

The patented locking sonic arms provide more applications. The product even includes a floss holder and inter dental brush holder. It is also a DIY dental stain remover tool, hence this is no ordinary dental care apparatus. It is akin to a dental spa! Despite all the extra special features of the **Sonic Toothbrush**, owing to its simple patented technology, the cost of the **Sonic Toothbrush** is comparatively



cheaper than others in the similar category. The **Sonic Toothbrush** is sturdily designed to be water resistant and built to last.

#### **The commercial value**

As of 2010, the fingertip toothbrush has enjoyed a sales volume of RM 1 million, mainly from Malaysia Prison Department. It is also exported to Kenya, Sri Lanka, Singapore and Europe.

Ameba Products (M) Sdn. Bhd. is currently

working on introducing the **Sonic Toothbrush** in the domestic market. We anticipate substantial demand following awareness of personal image and oral care through dental-care education and advertisement. The **Sonic Toothbrush** however is sold online to USA, Australia, UK and Europe.

#### **Smile-worthy awards**

Jimmy's passion for innovative ways to improve dental care has been highly successful. So much so that the term dental care, when pertaining to products from Ameba Products (M) Sdn. Bhd., has been elevated to a new term, **Oral SPA**. For his efforts and innovative accomplishments in **Oral SPA** products, Jimmy has garnered the following awards:

- ITEX 2010 Gold Award (toothbrush category)
- ITEX 2010 Silver Award (vibrating apparatus category)



### Proudest moments

Jimmy indeed has a lot to smile about for his **Oral SPA** products are changing the way people perceive oral hygiene.

One proud moment for Jimmy was Ameba Products (M) Sdn. Bhd. first started commercialising the fingertip toothbrush. His first customer was the Malaysian Prison Department, NOT your ordinary customer, to say the least!

The commercialisation of the **Sonic Toothbrush** was also a proud moment for Jimmy, for this saw customers of this revolutionary dental product coming back to Ameba Products (M) Sdn. Bhd., asking to become sales agents!







That's appreciation at its best, straight from the consumers' confidence in the product.

Another proud moment was when the company was awarded patents grant for novelty of a mass production jig holder; toothbrush with simple locking system and others.

#### **Challenges of Oral SPA innovations**

It is difficult to change the mentality of consumers, especially the adults about the idea of using a 'novel' **Sonic Toothbrush**. Hence we depend a lot on word-of-mouth and smart advertising. Cash flow also proved a problem, especially in the initial stages of starting up.

The competition in dental care products industry is stiff. Main players of the **Sonic Toothbrush** industry are big and long-standing reputable names. Pursuing the dream of

developing and marketing his **Oral SPA** products were a challenge to Jimmy, one that he won hands-down. Furthermore, the recognition and awards garnered for his efforts and the sales turnout makes it all worthwhile.

#### **Inspiring budding innovators**

"Failures only serve to inspire innovators to persist with even more determination to succeed," says Jimmy. "Hence, if at first you don't succeed, try and try again. To give up is the real reason why you lose."

Jimmy finds that failures may defeat the innovative mind, but it is the best inspiration yet for pushing yourself further for greater achievement.



# Dr. S. Radhakrishnan

## Revered Accomplishment in Dentistry



**T**eluk Intan-born Dr. S. Radhakrishnan is a true Malaysian inventor story of persistence and inspiration. This dentist toiled for more than 10 years on a revolutionary creation that had the international world of dentistry talking. His invention was in the form of an extraordinary dental amalgam. Today, it is a well-known and respected product in the world of dentistry.

### **At the beginning**

In 1994, Dr. Radha decided to venture into business, supplying conventional amalgams to Government and private dental clinics. It was during this time that Dr. Radha toiled at

home to produce a revolutionary product in dental history, that is a dental amalgam that will eliminate the risk of free mercury.

Before the invention of Dr. Radha's breakthrough product, free or excess mercury particles which were common in conventional dental amalgams were getting to be of great concern among dentists and Dental Bodies worldwide as there were indications that the excessive mercury could lead to toxicity depending on the degree of hypersensitivity of the patients. The issue was routinely raised and pondered upon by health authorities.





Inspired to address this issue, Dr. Radha set out to invent what is now known as **Silverfil**, a breakthrough in dental fillings. Conventional fillings or amalgams are made of silver, tin and copper with mercury as a solvent for the silver. It was found that free or excess mercury have the tendency to leach out from the fillings, resulting in the risk of toxicity to the dental patient. Mercury is known to be one of the most toxic non-radioactive material.

#### **Silverfil – A true success**

**Silverfil** is to date the world's only silver filling with a mixture of pure silver particles and a partially amalgamated silver-mercury compound. It contains no tin or copper. Furthermore, Silverfil through its highly reactive powder acts to completely absorb all of the mercury used for amalgamation hence leaving no excess mercury at all behind.

Conventional amalgams have been in use for about a generation and a half for there are no known superior alternatives. Existing alternatives were merely composite materials and mostly are like plastic. Dentists were known to use them for small cavities and for





restorative dentistry procedures on the front teeth. The main problem was when dealing with large cavities, especially in the molar teeth. Composites are difficult to manage as a filling in large cavities. There was also the problem of shrinkage. **Silverfil**, being made of pure silver with mercury as the solvent, binds and provides a good seal to the margins.

Dental amalgam wastes are generally considered to be hazardous where else Silverfil wastes is safe for it does not contaminate water systems in clinics and does not require any special storage conditions either. It has been successfully used for the past 10 years **Silverfil** waste is also environmentally-friendly. Its process technology is patented.

The product has been tested for biocompatibility too according to international guidelines. Hence it is proven to be free of irritants, sensitization, cytotoxicity and genotoxicity, bringing a big sigh of relief and a solution in the world of restorative dentistry.



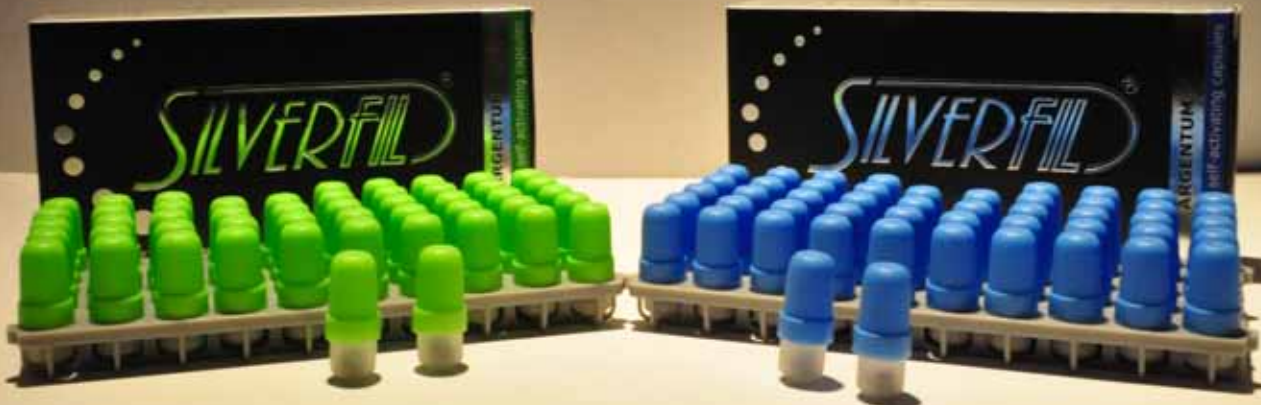


### Commercial value

The Oral Health Division of the Ministry of Health has taken the pro-active steps to replace the use of conventional amalgam material with **Silverfil** capsules for two for two reasons namely; that **Silverfil** has no excess mercury, thus patient safety and easy disposal as it is environmentally friendly. **Silverfil** has also secured the US FDA approval for sale in the USA. **Silverfil** has the potential worldwide to be used as the revolutionary dental amalgam. The processing technology of **Silverfil** has already been patented internationally and is being manufactured in Malaysia. **Silverfil** has also recently been approved for sale in Saudi Arabia.

### Recognitions for Dr. Radha and Silverfil

- The then Prime Minister of Malaysia, Tun Dr. Mahathir Mohamad officiated the launch of **Silverfil** locally in Taman Technology in 2001.
- Was invited to introduce and speak on his revolutionary product in 2004 at the Golden Jubilee Celebration of the General Dental Association (UK) held at the hall of the Royal College of Surgeons, London, UK.
- Was invited in 2004 to speak on **Silverfil**



at the 96th Annual Convention & Scientific meeting of the Philippines Dental Association in Manila.

- Has been recognised by The Star newspaper as 'Man of the Year' in 1986.
- In 2005 as a speaker at the 46th Annual Conference of the Dental Faculty of University Pandjadjaram, Bandung Indonesia on **Silverfil** as a breakthrough in amalgams.
- As a speaker in 2008 to speak on '**Silverfil** as a Safe Dental Amalgam' at the Fifth Malaysian Conference and Exhibition on Anti-Aging and Aesthetic Medicine at Kuala Lumpur.
- Dr. Radha was Invited as a speaker at the 19th Malaysian Private Dental Practitioners Association (MPDPA) SCIENTIFIC CONVENTION/TRADE EXHIBITION 2008.

### Challenging moments

Dr. Radha prevailed through some tough times to see his dreams come true. He was turned away in the early days by many banks when he tried to get a loan to launch a large-scale production line. He even resorted to mortgaging his house and roping in investors to keep his business afloat and his dreams

alive. He incurred costs up to RM1 million for filing and sustaining a worldwide patent, all of which he took to stride for the sake of his business. In the end, **Silverfil** was launched in June 2004 at the 50th Annual Convention of General Dental Practitioners Association of United Kingdom.

"Fortunately for me, I had the full support of my family members and some close friends which helped to see me through financially trying times," recalls Dr. Radha of his past tribulations.

### Words of advice for budding inventors

"Make full use of research grants available now for inventors and innovators. I did not have the opportunity of such assistance during my time, which is why it was difficult for me in my undertakings" advises Dr. Radha to intending inventors and innovators.

"Pursue what you believe in. I would sum it up by saying perseverance is the road to success," says the famed dentist with conviction.







# environment

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Hj. Inas Saidin  
Hj. Nayan Salleh  
Zaiwin Kassim



# Hj. Inas Saidin

## The Conscious Environmentalist



**S**tarting his career in sub-contract works, Hj. Inas Saidin saw a need to address the need for better drainage systems. Most drainage systems in the country were obsolete and posed a health and environmental hazard because they were prone to corrosion, got clogged up easily and encouraged the breeding of Aedes mosquitoes. An idea borne into him and that was to develop a drainage system that would not only address and solve these problems but one that is lucrative in terms of

commercial value as well.

### Concreting a vision

I & M Concrete was established in 2006. The company made an impact with its presence in the construction sector, gaining great local market prominence from a patented product innovation, a drainage system named "Longkang Konkrit Tahan Haksan dan Anti Aedes" (**CG Drainage System**).

Hj. Inas, the Managing Director of I &



M Concrete (M) Sdn. Bhd. successfully developed the **CG Drainage System**, the first of its kind which was well received and supported by local authorities such as Jabatan Kerja Raya (JKR), Majlis Perbandaran Selayang (MPS), Majlis Perbandaran Subang Jaya (MPSJ) and Majlis Bandaraya Shah Alam (MBSA). There has also been a huge demand for its usage by local contractors.

#### **CG Drainage System Development**

It was found that the installation of a conventional drainage often involves many workers to get the job done. It is usually a lengthy process involving seven steps of installation. The job is risky especially during rainy seasons and it is quite rare to get a neat, tidy end product.

The drains, even newly installed ones, would crack easily and the cement easily detaches





itself from the glaze. This condition requires continuous maintenance and this can prove quite costly. With the development of a superb and unique drainage system, Hj. Inas through I & M Concrete (M) Sdn. Bhd. managed to revolutionise the country's drainage system to one that is cleaner, more efficient, cost effective and only involves three easy steps of installation.

**CG Drainage System** is not only easy to install, they are safer, involve less manpower and less time is consumed for installation. The pre-cast drain is molded together with the glaze and has been tested for durability by SIRIM Bhd.

There are lesser risks involved in installation even on rainy days. The quantity of raw materials such as sand, rocks, water and cement are also cut down. On the top of it all, **CG Drainage System** produce neat and

tidy finishes.

By use of this product, drainage systems would be with a smoother water- flow with little pollution, free from corrosion, free from stagnant water (Aedes mosquitoes breeds in stagnant water) and durable from wear and tear.

**CG Drainage System** is also cost-saving to the parties involved such as District Council (PBT), Jabatan Kerja Raya (JKR), developers and contractors. The drainage system is also maintenance free and environmentally friendly too.

#### **Award winning innovation**

I & M Concrete(M) Sdn Bhd, through Hj. Inas' **CG Drainage System** had been at the receiving end of acknowledgements and awards for introducing better and more



effective drainage systems that also helps halt the breeding of *Aedes* mosquitoes. The concept, although seemingly clear and understated, has never been realized before and can go a long way in halting the deadly attacks of dengue fever by destroying one of the main causes of *Aedes* mosquitoes' rampant breeding – clogged drains.

#### **Among the prestigious awards are:**

- 2008 — Winner in Inovasi Negara 2008 Awards (Akar Umbi)
- 2007 — Best Innovative Technology 2007 Awards (SIRIM)
- 2009 — Industry Excellence Award from MITI for Innovative Product
- 2010 — Special Award from the Selangor (Selangor Innovative Awards) from FESTISS

#### **Words of advice for budding innovators**

We can change our country's fate through innovation. To increase the quality of life,



our own or others', we should always be innovative to seek out solutions to problems and move ahead with the times. Innovations can bring endless satisfaction and successes!

Thus with Hj. Inas's innovation, Malaysians are now thankful for the reduced risk of contracting the deadly dengue fever caused by the breeding of Aedes mosquitoes in badly developed drainage systems.

As with all great innovators, Hj. Inas has not stopped at helping the country's drainage system. His passion for continuous innovation has led him to develop another innovative product – **The Anti-Landslide Aeroblock**. A patent is currently being sought for the product.

#### **A promising future, concreted!**

The future looks strong and bright for I & M Concrete (M) Sdn. Bhd. as the management is highly committed to investing and venturing

into more eco-friendly projects. They also aim to provide creative solutions through innovative products and ideas for the benefit of Malaysians.

I & M Concrete (M) Sdn. Bhd. looks forward to making major inroads into potential joint-ventures and business tie-ups with relevant agencies for more successes in the future. Quality, productivity and cost efficiencies will continue to be the focus for all future drainage systems developed by the company.

Hj. Inas very much lives by his motto, which is: Innovation will develop the well-being of society without boundaries. He is confident that backed by his dedicated team of professionals, clients, Government agencies, regulatory bodies and authorities, I & M Concrete (M) Sdn. Bhd. would be able to go far towards realizing its vision of fulfilling clients' demands for efficiency and effectiveness in its service.







# Hj. Nayan Salleh

## The Grease - Trap Genius



**F**rom a Boy Scout and prefect in school, Hj. Nayan Haji Nayan grew up to be a true environmentalist who has a passion and concern for public health. As a young boy, he enjoyed reading and coming up with new ideas. It was this passion and self-motivation that has led him to become one of our country's top inventors. Hj. Nayan is a diploma holder for Inspector of Health and has worked for the Ministry of Health as the Assistant Head Health and Environment Officer, a post which he held

from 1973 till he became a pensioner in 2008.

Like most inventors and innovators, Hj. Nayan saw the need for a better way to effectively manage waste materials that had a bad effect on public health and the environment. Hence, he ventured into creating a waste water disposable system which incorporates the functions of water, fats and food solids separation.



### **Striving to better the environment**

Clogged drains and pipes are common problems, especially where there are restaurants and eateries. This is mainly caused by rash and improper waste disposal methods, eg allowing fats and food particles to go down sinks and drains. This causes blocked pipes and the food solids and wastes that do manage to get through the pipes will eventually clog up the drains in return and disrupt or block the flow of water through those drains.



This unsightly and foul-smelling scenario is quite common locally and Hj. Nayan, from the habits of his life's profession saw the urgent need to address this problem and eliminate other problems as well such as the breeding of mosquitoes from the clogged drains and the spread of dangerous and contagious diseases which are affiliated with such unhygienic conditions. This is where his true inventive and innovative mind got to work and in time, this remarkable award-winning inventor came up with the solution with a

systematic contraption simply named **SIMPLAS**.

Through his invention, Hj. Nayan not only managed to help the environment, but also succeeded in seeking the cooperation of local authorities who recruited his services to install and use his invention in many rural and urban areas locally.

#### The invention - SIMPLAS

**SIMPLAS** is made up of a rectangle-shaped Polypropylene tank with a cover as the main outer body, quite an unassuming look for a significantly hard-working contraption. The inside of the tank consists of essential components to trap and isolate solids, grease, fats and liquids. The components are made up of a suspended strainer basket and netted divider to trap all solids that managed to get through the pipes and a T-trap that further avoids grease and fat from escaping into the pipes leading to the drains. The grease and fats are then managed using a biotechnical method, namely Effective Microorganism (EM), which utilises yeast, lactic acid bacteria and Phototrophic bacteria to treat grease and fats including used cooking oil to produce bio-diesel, an environmental-friendly by-product and an alternative to petro-diesel. The process that takes place in a **SIMPLAS** contraption is as follows:

Waste water with solids, food particles, grease and fats get through the sink and into the tank - Food particles, fat, grease and water



go through a separation and isolation process - Process is completed resulting in:

1. Water without grease, fat or food particles being flushed out to the drains.
2. Food particles being collected in disposal bags and disposed of.
3. Grease and fats being collected and managed via EM.

#### Commercial value of SIMPLAS

**SIMPLAS** is already widely used by restaurants and eateries, Government agencies and also by individuals. At this time, bulk of the sales are concentrated in areas around Perlis, Terengganu, Kedah and Johor.

The current revenue, namely between years 2008 and 2010 records that a total of 2100 units have been sold and installed. Hj. Nayan anticipates a growing number of orders as



health and environment campaigns continue to stress to the public on the importance of proper management and disposal of waste matters from kitchens.

#### **Awards & Recognitions**

Hj. Nayan has a number of awards to his name, owing to his achievements and inventions that addressed and solved household and industrial problems effectively. Among them are as follows:

- 1994 – Excellent Award in Invention (Waste Disposal System for Rural Homes) State of Perak
- 1996 – Excellent Award in Invention (Waste Disposal System for Rural Homes) State of Perak
- 1996 – Excellent Silver in International Invention Waste Disposal System for Rural Homes
- 1996 – Award from the Ministry of Science





and Technology for the Waste Disposal System for Rural Homes

- 1998 – Award for Invention of Waste Disposal System for Rural Homes from MAMPU
- 1998 – Excellent Award, International Gold Medal Geneva for the invention of Grease Trap for Urban Areas (Restaurants and Food Premises)
- 1998 – Excellent Award, International Gold Medal Bulgaria for the invention of Grease Trap for Urban Areas (Restaurants and Food Premises)
- 2000 – Award for invention of Grease Trap for Urban Areas (Restaurants and Food Premises) from MAMPU
- 2002 – Award for invention of Grease Trap for Urban Areas (Restaurants and Food Premises) from Pusat Sains Negara

Hj. Nayan also has the 1987 Pingat Jasa Kebaktian and 10 Genius Award 2003 to his name.

### Inspiring budding inventors

"If inventing and patenting is your passion, then you should never give up," says Hj. Nayan. There will undoubtedly be various obstacles in between, but let perseverance be your path to success," he continued. This innovative man who is very much an environmentalist at heart has long learned that trial and error are an essential part of becoming a successful inventor. Hj. Nayan firmly believes that discipline and good faith in God's help and presence has helped him in his long journey to become one of our top inventors. He stresses the importance of quality and continuous progress in every invention. Pertaining to this, Hj. Nayan mentions that one of his proudest moments was when he perceived his invention to have reached 100 percent perfection.

# Zaiwin Kassim

Promising Innovator of Green Solution





**Z**aiwin Kassim who hails from Kuching, Sarawak, holds a Bachelor of Engineering in Mechatronics from Tun Hussien Onn University. He was the President for his school's engineering club and seems born with a natural passion for inventing. From his early years, Zaiwin was awed and inspired by inventors such as Thomas Edison, Nikola Tesla, Benjamin Franklin and also Malaysian MacGyver, Zulkifli Haron.

Zaiwin observed that every year more and more vehicles are driven on Sarawak roads. This inspired Zaiwin to look into green aspect in cars by focusing on a device that could extract hydrogen from water to boost power motor vehicles.

#### Pro Auto Care Centre

Initiated by Zaiwin, Pro Auto Care Centre was established in 1992 in Bintawa Industrial Estate. The company provides automotive services for individuals and corporate customers. The company's name shot to fame together with Zaiwin when the robust and spirited innovator together with his now business partner, Eric Tee, successfully created the **GREEN-e** hydroxyl generator.

#### Going green in the engine

**GREEN-e** is a hydroxyl generator developed as an additional power source to an automobile's engine. It is categorised as

clean, renewable energy and is potentially the next big thing in green technology. **GREEN-e** is capable of stability and performance without the side-effects. Besides engine performance, **GREEN-e** has also been found to increase fuel efficiency.

**GREEN-e** has up-to-date chalked up an impressive 1000 satisfied customers. Pro-Auto reached RM1,050,000 of sales for **GREEN-e** at the end of five years trading with financial closing of RM250,000. Zaiwin feels that the more people become users of **GREEN-e**, the bigger the difference it would make to the environment.

#### Chasing the dream

Zaiwin is grateful to be surrounded by his obliging family members and supportive friends from the very beginning of his venturing into the development of **GREEN-e**. He feels that all aspiring innovators should make a serious decision to act on their dreams and make it a reality. As **GREEN-e** was self-funded, Zaiwin felt the financial pinch.

"**GREEN-e** will prevail," says Zaiwin. "We will continue to seek for bigger support for there is indeed potential for **GREEN-e** to make it big in the international market. What I hope for in return are happy customers. For me, that's the ultimate reward!" he exclaims enthusiastically.

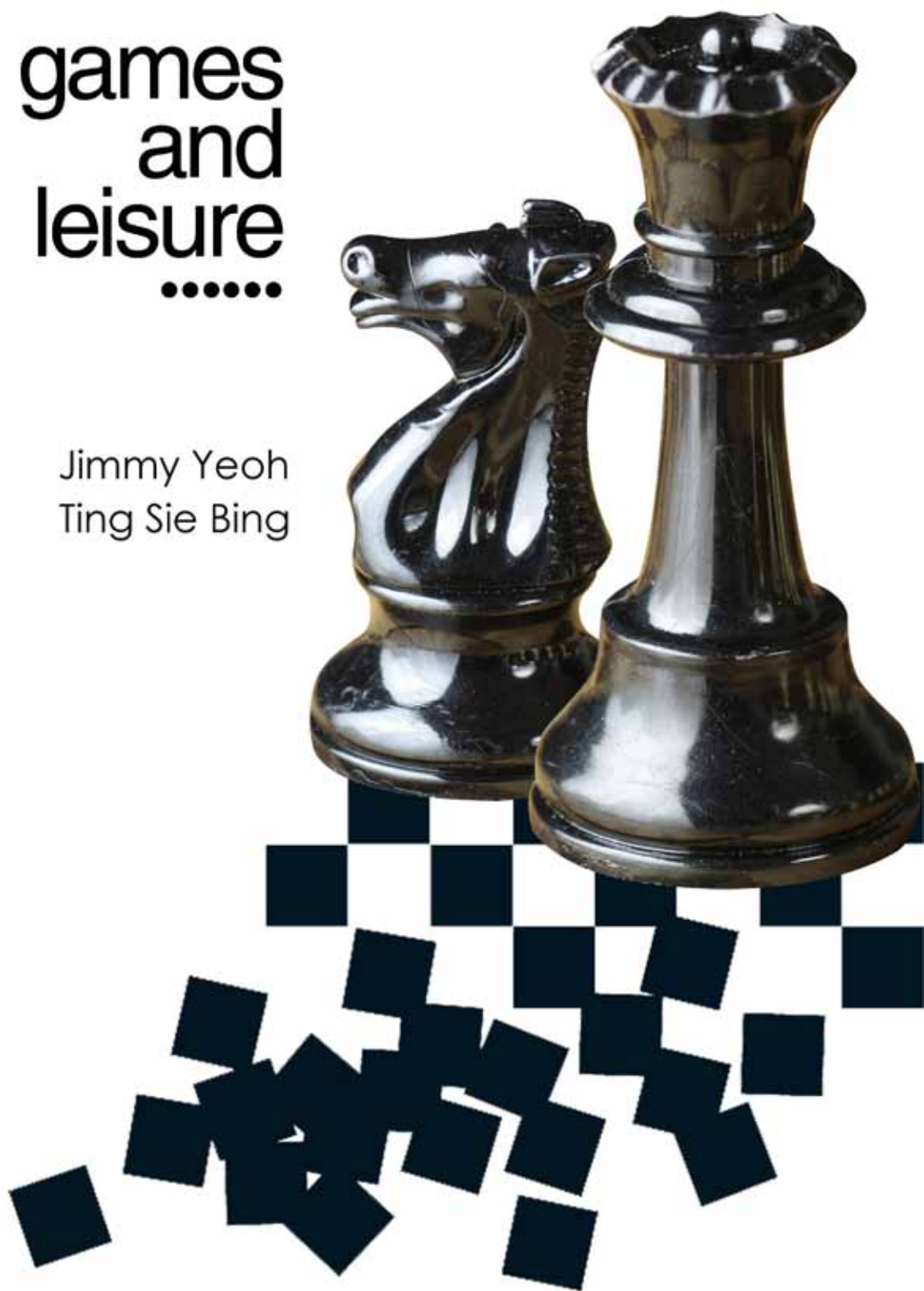
***To win, you've got to stay in the game.***

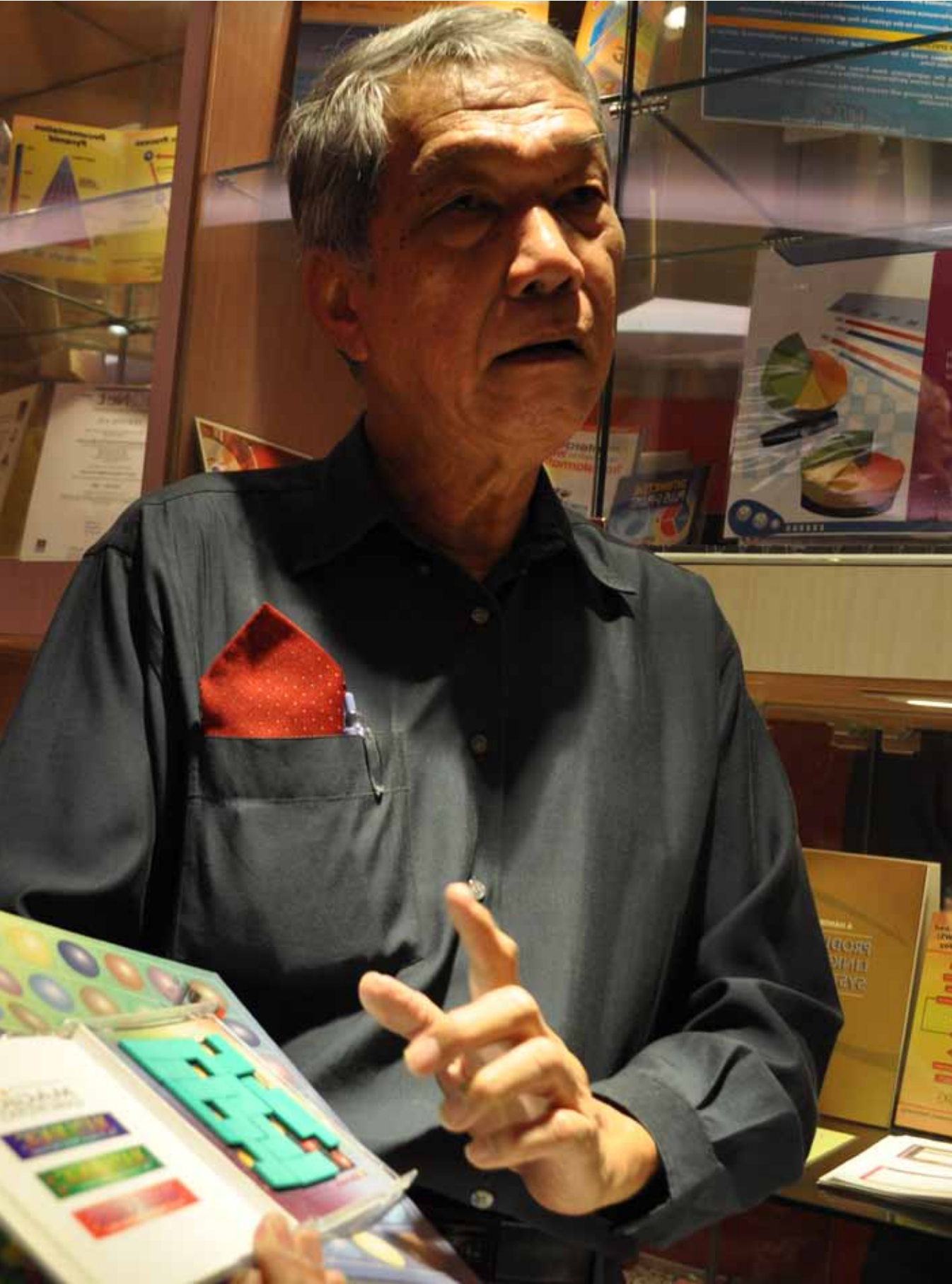
- Claude M Bristol



# games and leisure .....

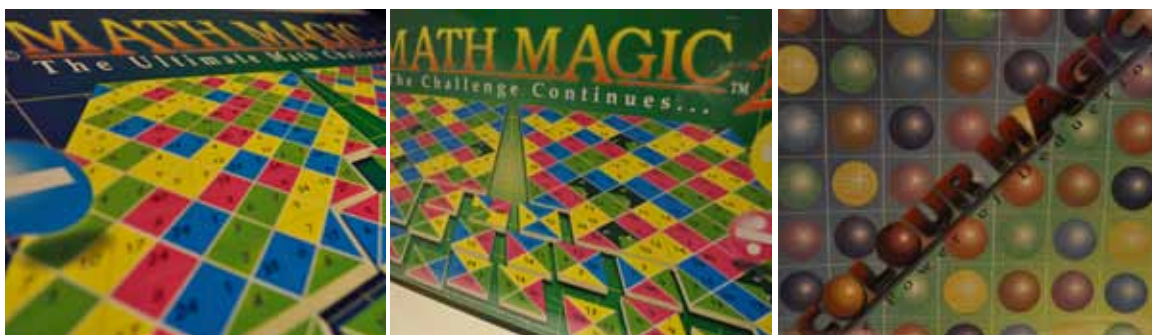
Jimmy Yeoh  
Ting Sie Bing





# Jimmy Yeoh

## The Enterprising Innovator



**A**n entrepreneur at heart, Jimmy Yeoh was always finding ways to do business, or, in his own words, to make money! During high school, Jimmy and two friends organised a talent time contest for the school students and came out RM 4000 richer for it. Later, as sports secretary of a school he was teaching in, Jimmy and two colleagues managed to design fast-selling key chains and badges based on horoscopes.

His journey to true success began when he was working as a sales executive in Reuters from 1979 to 1983. There, he was able to connect with main customers from banks, public listed companies and even commodity companies. He then started his own company and together with his team members, was able to develop the first ever real-time price reporting system from Malaysian stock and commodity exchanges and interbank foreign exchange quotations.





### Braving the skeptics

Data View, the first Malaysian and Asian online real time reporting system of Malaysian Stock Exchange, Commodity Exchange and Inter-Bank foreign exchange rates was launched in late 1983. Most computer companies at that time claimed that it could not be achieved, and yet Jimmy and his team saw it through without spending a single Ringgit as the entire system had been pre-sold to a venture capitalist – an unheard term then.

The launch of Jimmy's latest venture, the first version of **MathMagic** took place on December 1995. Again, critics, some even friends of Jimmy said that the product is not viable and it wouldn't last two years. Well, they were half right, for **MathMagic** is still a hot-selling game till today, not two years into the market but 15 years!

### How MathMagic came to be

**MathMagic** was conceptualized when Jimmy was playing with alphabet building





blocks with his daughter, then 4 years old. From playing adding and subtracting with those blocks came the idea of using colors and numbers and soon, a new game was created. Then, some new rules were added and the game concept was finalised. The first step into marketing this new game was launching a “cheap” version of **MathMagic** which was introduced to some Malaysian school teachers in 1997.

### What is MathMagic?

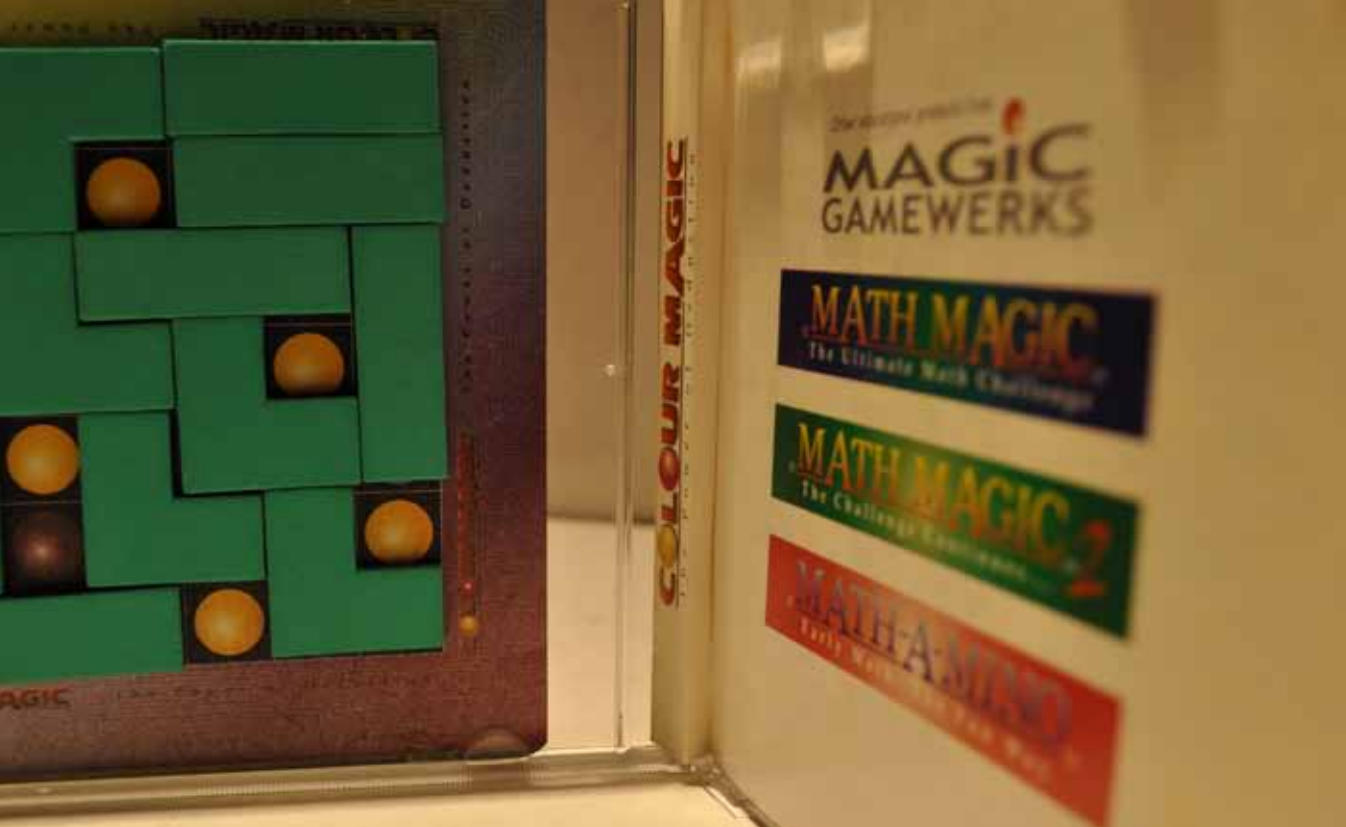
**MathMagic** is actually a board game designed as a math version of the popular word game Scrabble. Players, especially young children will be constantly working out scores for their next moves by utilizing the four operations of basic mathematics, namely addition, subtraction, division and multiplication. In the process of playing **MathMagic**, children will develop additional skills in risk taking, strategizing and evaluation. On the average, players will be working on up to 500 calculations per game! Subconsciously, they will be developing and polishing their

numerical skills.

Through the process of play and competition, children automatically develop skills and mastery of basic math, and in doing so lose the fear of math, or math phobia. This will help pave the way for easier learning of more complex math in later years.

**MathMagic Version 2** was developed in 2004 in response to demands for a more challenging game to cater for students in secondary schools, both locally and overseas. **MathMagic 2** hit the market with a bang and was well received.

In April 2009, Jimmy demonstrated his latest prototype development, **MathMagic 3** to math teachers and educators at the UK Association of Teachers of Math (ATM) Conference in Swansea University and then in July 2009 at the Australian Teachers of Math Conference in Fremantle, West Australia.



“ MathMagic is actually a board game designed as a math version of the popular word game Scrabble. Players, especially young children will be constantly working out scores for their next moves by utilizing the four operations of basic mathematics ”

### **MathMagic goes international**

**MathMagic**, while being suitable for people of all ages (as long as they know how to add, subtract, multiply and divide), is currently sold primarily as an educational and fun aid for school children ranging from 8 years to 13 years old in age. Children in this age range in the Western countries (North and South America, UK and Europe, South Africa, New Zealand, and Australia alone number about 250 million while Asia, Middle East and the African continent have about 650 million children – a massive potential market for **MathMagic**.

**MathMagic** is sold and distributed worldwide in countries such as Sweden, France, Germany, Holland, Denmark, USA, Mexico, West Indies, Australia, New Zealand, Japan and the UK. Jegro, a Dutch company has been distributing MathMagic to Switzerland, Italy, Spain and Portugal since 2001. They have, with permission from Jimmy's company, even translated the rules of **MathMagic** to Dutch, Italian, Spanish and Portuguese for their dealers in the respective countries.

Other European distributors have all translated the rules to their own languages. Currently, **MathMagic** is available in twelve languages including English, Bahasa Malaysia, Thai and Mandarin.

### **Special values**

Jimmy never considered to vie for any awards for his inventions. According to Jimmy, the fact that his first customer was Prof Ungku Aziz who bought about 40 sets of **MathMagic** as a gift for friends and business associates is recognition enough for him.

Other notable customers who are worth more than all the awards to Jimmy are lecturers from HK University of Science and Technology; Warwick University, UK; Loughborough University, UK; Swansea University, Wales; Manchester University, Cambridge University, UK; Guelph University, Canada; Ohio State University, US; The British Association of Teachers of Math and The US Association of Teachers of Math. These to Jimmy represent appreciation, support and encouragement towards his invention.

### **Aspirations**

The creator of **MathMagic** hopes to see his famous invention being distributed to all countries in the world. The customer potential for such a game is tremendous, and hence, with the right marketing strategy he feels that nothing is impossible. He would also like to see **MathMagic** in as many languages as possible. Jimmy visualizes the establishment of the first Malaysian company that will produce and market original games, designed by him and other Malaysian game designers for the international markets.

### **Encouraging the hopefuls**

Jimmy has had his fair share of hearing the words "It cannot be done". Hence he is all too aware of how discouraging the world can be towards inventors. He listed trying to sell his ideas to prospective funders and looking for financial assistance as his most challenging moments. To budding inventors and innovators, Jimmy has this to say : "Never give up on your dreams, for after all, the world is your oyster!"







# Ting Sie Bing

## The Mastermind of Local Board Games

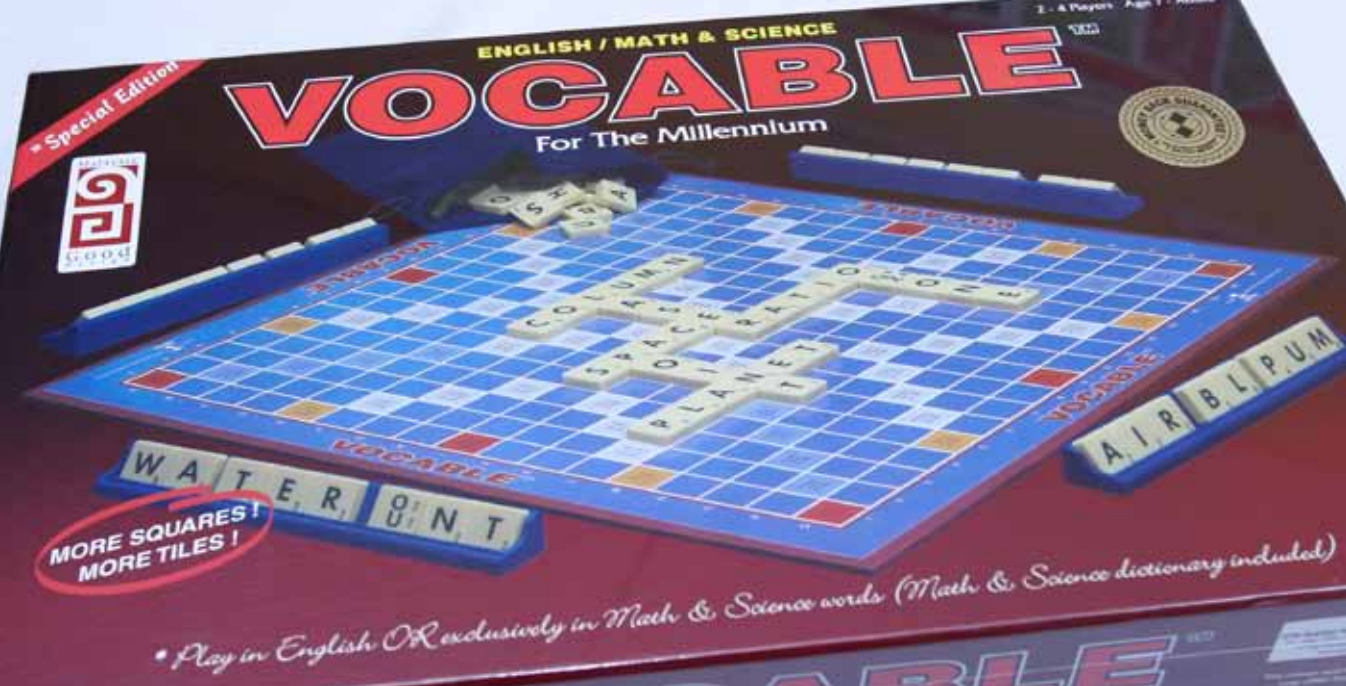


**A**s a child, Sitiawan-born Ting Sie Bing was always looking for new things to play with and was interested in finding out how things work. He was constantly on the look-out for new ideas and concept. This natural curiosity is probably why he is one of our most accomplished innovator.

His working experience in the early 70's with computing equipment also to some extent, paved the path for inspirations to bloom into innovations which has brought much delight to local board game lovers.

### The beginning of a mindful discovery

Mr Ting was working as an instructor for a Government industrial training institute with the Labour and Manpower Ministry when he won a UN fellowship to UK to look into training methodologies. He found himself drawn to the mental exercises found in board games. He observed that his colleagues were struggling when using the English language word game set of "Scrabble" to play in Bahasa Malaysia. There were either many unused tiles at the end of the game or there just weren't enough



tiles for a satisfactory game.

For four years he researched the games requirements essential for a Bahasa Malaysia version. It was during this painstaking period that he discovered the preponderance of letters such as B, K, S, T, P and L in a Bahasa Malaysia game, hence more chips were needed for those letters.

Mr Ting successfully developed his flagship product, the Malaysianised version of Scrabble named **Sahibba**. There are two varieties to this product – A fully Bahasa Malaysia version and a bilingual version which can be played in either English or Bahasa Malaysia or both at the same time.

#### **A continuous success**

The satisfaction garnered from successfully marketing his brainchild **Sahibba** was a stepping-stone for Mr Ting to concentrate on his business. He went on to set up his own company in 1976, aptly named SPM (Syarikat Permainan Malaysia) Sdn. Bhd. SPM today continues to pioneer many innovations for board games.



A year after the successful development of **Sahibba** came the Malaysian version of Monopoly – a property trading game called **Saidina**. The objective of the game remains the same as Monopoly but the transactions are done in Ringgit instead of British pounds. In **Saidina**, instead of Paddington Station and Regent's Park, players are able to buy properties in Kuala Lumpur such as KL Railway Station, Bukit Bintang and even Shah Alam! **Saidina** is currently available in eight versions and in different editions – standard, deluxe, travel and Chinese editions. Among the other games innovated and revamped by Mr Ting are **Sarjana** which is akin to gin-rummy but using alphabets and **Mind Reader** which was inspired by the famous game Mastermind. Mr Ting then moved on to invent a quintuple game equipment cum table under the brand name "**Queenie**", which can be found in either the toys or sports equipment departments. **Queenie** comprises a snooker table set, checkers, ping-pong, snakes and ladders plus the table. The numerically brain-bending game **Digician** was then produced making mathematically inclined players.

#### **Innovative transformation of traditional and conventional games**

The innovation of the traditional game Congkak, a local leisure, was another feather to Mr Ting's hat. It appears that this game is over 3,000 years old and was first played by the Egyptians in 1400 BC. Internationally known as Mancala, the game is a popular pastime in West Africa, Japan, Australia, and New Zealand. The new look of the traditionally wooden Congkak incorporated CAD styling, used 100 percent recyclable plastic and manufactured using high volume plastics injection molding technology. This 'revived' Congkak by Mr Ting was designed to be user friendly and precious trees need not be felled for their production!

As far as saving the trees, **SPM's Congkak** was not the only one of Mr Ting's innovation that did away with the usage of wood. He re-invented the popular Carrom game. It took him one and a half years to perfect the concept into a foldable and colorful version. Made from high density plastics, **SPM's Carrom** has a "catching cap" for each pocket at the side of the board and was given the Good



Design Award (G-Mark) by the Malaysian Design Council.

SPM gained success after success and went on to launch four models of chess and checker sets. Among many of the successes also came **Vocable**, which combines two games in one and is based on a crossword puzzle game with some modifications.

### Awards & Recognitions

SPM's record of excellence is supported by the numerous awards it has garnered through Mr Ting's innovations. Here are the awards in recognition of Mr Ting's creativity and innovativeness.

- 1987 – Product Excellence National Award by the Malaysian Government
- Winner in the Malaysian Invention and Design Competition (for inventing the detachable chopsticks)
- 1997 – The first recipient of the Malaysia Good Design Mark (G-Mark) from the Malaysian Design Council, Ministry of Science and Technology for **SPM's Congkak**
- 1998 – Special Award in Design Excellence Award by MITI, conferred by the Prime Minister of Malaysia.
- 1998 – Licensed by the Ministry of Science, Technology and Environment to carry the "Standard Good Design Mark" on **SPM's**

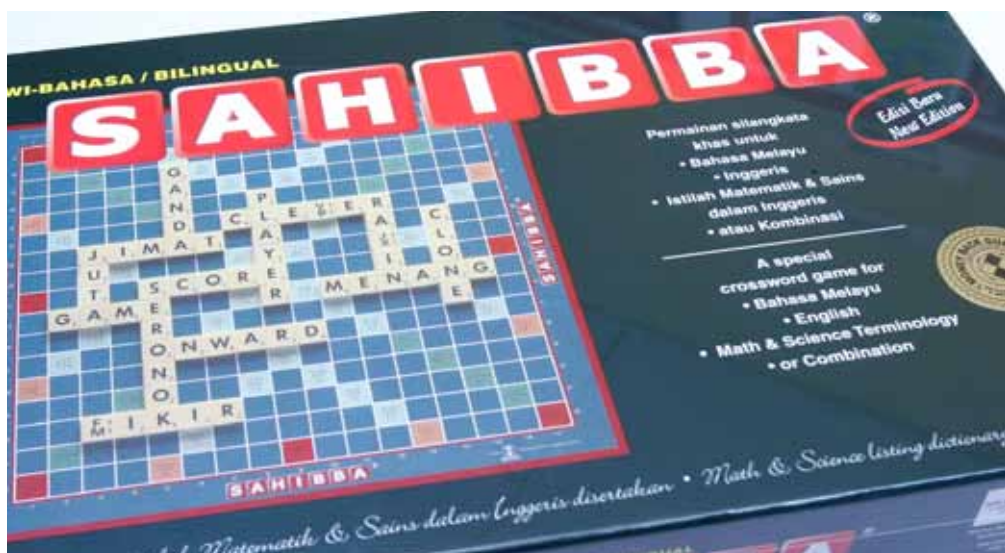


### Congkak

- 1999 – State Award (Selangor) for Invention Excellence

### Commercial value

During the time of the Buy Malaysian campaign, greater attention was given to local products and this proved lucrative for Mr Ting. Sales shot up and SPM grew rapidly.





Today, SPM is worth several millions. Mr Ting makes full use of MATRADE to promote his products and to find new contacts. The company now sells over 500,000 game sets annually through five authorized distributors in over 1000 retail outlets nationwide. SPM owns over 50 published copyrighted work for board games and trademarks.

### **The challenges of an innovator**

During the early days, language teachers were critical of Mr Ting's venture into his **Sahibba** project, saying it could never be done and in short, he did not receive much encouragement for taking it on. But look where perseverance has brought this innovative entrepreneur!

The lack of laws protecting ideas and inventions were also a problem. Before the Government decided to give recognition to ideas and inventions, things were quite vulnerable for inventors. Inventing was a big risk. "Who wants to invent when anybody can copy your idea?" he explained. Ting lauded the Government's action of beefing up the laws on intellectual property.

"All this recognition has helped change our country" said Mr Ting. And how right he was, for every time a local invention or innovation is recognized, it brings a good name to our country and its people.

### **Ahead of his game and walking proud!**

"When I hit an idea, and that idea gives birth to an invention or innovation, it is a proud moment indeed for me!" exclaimed Mr Ting, who acquired his education from a technical trade school. "It gives me tremendous satisfaction to see people benefiting from my ideas and also to see children becoming more practical-oriented through my games", he continued.

Mr Ting also prides himself in instilling national identity while promoting the use of our national language, Bahasa Malaysia through

his games. He also likens the success of his innovations and inventions to writing a book and publishing it.

### **To budding and future inventor and innovators**

Mr Ting has this to say: "Do not become frustrated and disillusioned when your efforts to seek financial aid seem futile. Do not become deterred but instead critically review all approaches for financial support and try to understand what exactly is required of your inventions or yourself. As for myself, only when I had understood their needs and conditions I became successful in convincing financial institutions and Government agencies to support the developments of my innovations".

He adds "One must acknowledge the importance of R & D if the idea is to remain competitive. Continuous promotion of the product through aggressive marketing is also a must".

Lastly, he believes it does not matter if you do not possess prestigious paper qualifications. What matters more is hard work and dedications to your respective projects.

### **Taking Dad's legacy to the next level**

Mr Ting's son, Ted Sun is one who is truly following in his father's footsteps. Well, it's not surprising in this business of fun and games that the apple hasn't fallen far from the tree! The enterprising junior Ting is convinced that the most competitive advantage SPM has is the profound efforts the company has poured into research and development. He aims to keep improving designs and even perhaps come up with some brand new games to maintain the legacy of their company and that of his accomplished dad.

Ted Sun, like his father, is consistently searching for new ideas. "Creativity should not be restricted, otherwise one would not be able to think outside of the box" he says with the familiar panache and flair as his proud father.

# Useful Contacts for Innovation Support & Development

## Ministry of Science, Technology & Innovation (MOSTI)

Innovation & Commercialization Division  
Technology and Innovation Division  
Level 3, Block C5, Kompleks C,  
Pusat Pentadbiran Kerajaan Persekutuan,  
62662 Putrajaya, Wilayah Persekutuan.  
Tel : (603) 8885 8839  
Fax: (603) 8888 5969  
Email : [info@mosti.gov.my](mailto:info@mosti.gov.my)  
Website: [www.mosti.gov.my](http://www.mosti.gov.my)



---

## Yayasan Inovasi Malaysia (YIM)

Lot 1-2 & 2-2 Support Service, Technology Park Malaysia,  
Lebuhraya Puchong – Sg. Besi, Bukit Jalil,  
57000 Kuala Lumpur  
Tel: (603) 8994 1714  
Fax: (603) 8994 1715  
Email: [info@yim.my](mailto:info@yim.my)  
Website: [www.yim.my](http://www.yim.my)



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## SIRIM Berhad

Design & Engineering Division  
No. 1, Persiaran Dato' Menteri  
Seksyen 2, Peti Surat 7035  
40911 Shah Alam  
Selangor Darul Ehsan  
Tel: (603) 5544 6000  
Fax : (603) 5510 8095  
e-mail: [web@sirim.my](mailto:web@sirim.my)  
Website: [www.sirim.my/services\\_DE.asp](http://www.sirim.my/services_DE.asp)



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## MSC Technology Centre Sdn. Bhd.

Suite S-07, 2nd Floor  
2300 Century Square, Jalan Usahawan  
63000 Cyberjaya  
Selangor Darul Ehsan  
Tel: (603) 8318 1980  
Fax: (603) 8318 1981  
Website: [www.msctc.com.my](http://www.msctc.com.my)



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## Malaysia Design Council

Level 26, Wisma MBSA, Persiaran Perbandaran,  
40000 Shah Alam, Selangor Darul Ehsan.  
Tel: (603) 5510 4714 / 4715 / 4717  
Fax: (603) 5510 4720  
Email: [info@mrm.gov.my](mailto:info@mrm.gov.my)  
Website: [www.mrm.gov.my](http://www.mrm.gov.my)



**Cradle Fund Sdn. Bhd.**

Suite 4.8.1 Level 4,  
PNB Darby Park  
10 Jalan Binjai,  
50450 Kuala Lumpur  
Tel: (603) 2166 4730  
Fax: (603) 2166 4737  
Email: [enquiries@cradle.com.my](mailto:enquiries@cradle.com.my)  
Website: [www.cradle.com.my](http://www.cradle.com.my)

**Cradle Investment Programme**

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**Malaysian Technology Development Corporation (MTDC)**

Level 8 -9, Menara Yayasan Tun Razak,  
55100 Kuala Lumpur  
Tel: (603) 2172 6000  
Fax: (603) 2163 7542  
email: [comms@mtdc.com.my](mailto:comms@mtdc.com.my)  
Website: [www.mtdc.com.my](http://www.mtdc.com.my)

**TPM Engineering Sdn. Bhd.**

Technology Park Malaysia Corporation Sdn. Bhd.  
Level 5, Enterprise 4  
Technology Park Malaysia  
57000 Bukit Jalil, Kuala Lumpur.  
Tel : (603) 8998 2234  
Fax : (603) 8998 1993  
Email: [enquiry@tpm.com.my](mailto:enquiry@tpm.com.my)  
Website: [www.tpm.com.my](http://www.tpm.com.my)

**Unit Inovasi Khas (UNIK)**

Office of The Prime Minister  
Main Block, Perdana Putra Building  
Federal Government Administrative Centre  
62502 Putrajaya, Wilayah Persekutuan  
Tel: (603) 8888 8098  
Fax: (603) 8888 3436

**Malaysia Venture Capital Management Berhad**

Level 10, Menara Bank Pembangunan  
1016 Jalan Sultan Ismail  
50250 Kuala Lumpur.  
Tel: (603) 2050 3000  
Fax: (603) 2050 3800  
Email: [enquiries@mavcap.com](mailto:enquiries@mavcap.com)  
Website: [www.mavcap.com](http://www.mavcap.com)



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**For further information, please contact  
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**Email:** marketing@mpc.gov.my

**Tel:** 03-79600173 / 79557266

**Fax:** 03-79600206 / 79551824

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### **MPC HEAD OFFICE**

#### ***Malaysia Productivity Corporation***

Lorong Produktiviti, Off Jalan Sultan

46200 Petaling Jaya, Selangor

Tel : 603-7955 7266, 7955 7050, 7955 7085

Fax : 603-7957 8060, 7955 1824

e-mail : marketing@mpc.gov.my

#### ***MPC PETALING JAYA***

##### ***Malaysia Productivity Corporation***

A-06-01, Level 6, No.23,

Jalan Barat, Section 8,

46050 Petaling Jaya, Selangor, Malaysia.

Tel : 604-7960 0173

Fax : 604-7960 0206

e-mail : marketing@mpc.gov.my

#### ***MPC KUALA LUMPUR***

##### ***Malaysia Productivity Corporation***

7TH Floor, West Wing, Menara

MATRADE, Jalan Khidmat Usaha,

Off Jalan dua,

50480 Kuala Lumpur, Malaysia.

Tel : 603-6203 7885, 6203 7085, 6203 7086

Fax : 603-6203 7886

e-mail : marketing@mpc.gov.my

## **MPC REGIONAL OFFICES**

#### ***NORTHERN REGION***

##### ***Malaysia Productivity Corporation***

Locked Bag 206, Jalan Bertam,

13200 Kepala Batas,

Pulau Pinang, Malaysia.

Tel : 604-575 4709

Fax : 604-575 4410

e-mail : nro@mpc.gov.my

#### ***SOUTHERN REGION***

##### ***Malaysia Productivity Corporation***

No.8, Jalan Padi Mahsuri,

Bandar Baru UDA, 81200 Johor Bharu,

Johor, Malaysia.

Tel : 607-237 7422

Fax : 607-2380798

e-mail : sro@mpc.gov.my

#### ***EAST COAST REGION***

##### ***Malaysia Productivity Corporation***

Level 7, Wisma TNB, Lot 14, Section 19

Jalan Gambut, 25000 Kuantan,

Pahang, Malaysia.

Tel : 609-513 1788

Fax : 609-513 8903

e-mail : mpcwpt@mpc.gov.my

#### ***TERENGGANU OFFICE***

##### ***Malaysia Productivity Corporation***

No.23-03, KT Business Centre,

Jalan Sultan Mohammad, Padang Hiliran,

21100 Kuala Terengganu,

Terengganu, Malaysia.

Tel : 609-622 8215

Fax : 609-631 6010

e-mail : mpctrng@mpc.gov.my

#### ***KELANTAN OFFICE***

##### ***Malaysia Productivity Corporation***

Lot 197C, Ground Floor, Bangunan MAIK,

Jalan Sultan Yahya Petra, 15150 Kota Bharu,

Kelantan, Malaysia.

Tel : 609-741 6260

Fax : 609-741 6263

e-mail : mpckel@mpc.gov.my

#### ***SABAH REGION***

##### ***Malaysia Productivity Corporation***

Level 2, MAA Tower, No.6, Lorong Api-Api

1,88000 Kota Kinabalu, Sabah, Malaysia.

Tel : 6088-233 245

Fax : 6088-242 815

e-mail : mpcwsb@mpc.gov.my

#### ***SARAWAK REGION***

##### ***Malaysia Productivity Corporation***

Lot 894, Lorong Demak Laut 3A,

Demak Laut Industrial Park, 93050 Kuching,

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Fax : +(603) 7955 1824  
Email : lokleelee@mpc.gov.my  
shahidah@mpc.gov.my