

INDUSTRY SPEAKS

THE FOLLOWING E&E TALENT EXPERTS OFFER EXCLUSIVE INSIGHT ON THE FUTURE FOR GRADUATES WHO ARE LOOKING TO START THEIR CAREER IN THE E&E SECTOR.

"IT'S NOT A JUST A JOB IN THE SEMI-CONDUCTOR INDUSTRY. IT IS ABOUT CUTTING EDGE TECHNOLOGY AND DESIGN WORK, CAREER DEVELOPMENT AND COMPETITIVE COMPENSATION!"

– SURESH CHANDRA; HR DIRECTOR, INTEL CORP



Technological innovation is happening on a daily basis in Intel and in the E&E sector in Malaysia. A chance to etch your name in history is possible by pursuing a career in this sector. You could be designing the next generation of microprocessors in Malaysia, whilst benefiting from great career development programmes, flexible work hours, job rotations as well as international assignments.

"WE ARE HELPING TRANSFORM SO MANY ASPECTS OF HUMAN LIVES."

– DR HARI NARAYANAN; DIRECTOR OF ENGINEERING, PRODUCT DESIGN AT MOTOROLA SOLUTIONS



Innovations and breakthroughs in electronics which have paved the way for smartphones to transform the way people work, live and communicate. The E&E sector is an innovative and rapidly evolving sector, making it a good sector for talents to build a career in. Consider a career at Motorola Solutions, home to the largest two-way radio manufacturing and R&D centre in the Asia-Pacific region. This centre is a one-stop for radio communication solutions that offers graduates an opportunity to pursue a career in fields such as design and development, manufacturing and distribution of two-way radios to the global markets.

"WE DESIGNED THE FIRST AUTOMOTIVE MATCHBOX SIZE BLUETOOTH HANDS-FREE SYSTEM IN THE WORLD – THAT WAS WAY BACK IN 2003!"

– TK TAN; MANAGING DIRECTOR, CLARION MALAYSIA



Tan has guided Clarion into defining trends way ahead of the curve, with Clarion's innovation being driven by Malaysia rather than Japan. Tan returned home from the UK to run Clarion, and has shaped the Malaysian operations with a unique direction – to be creative and do things differently. Focusing on developing new audio visual navigation technologies for cars, Clarion remains committed to R&D as the driving force behind the company.

Working for a global semiconductor company provides engineers the ability to work on different technologies, in different end markets, and in different jobs. Imagine working with customers on next-generation technologies as a sales or applications engineer, or understanding the product life cycle as a product engineer – imagine an exhilarating career path!

"IF YOU HAVE HIGH INTEREST IN ENGINEERING, A RESEARCH MINDSET AND PASSION TO SOLVE REAL ISSUES – THIS IS THE SECTOR FOR YOU!"

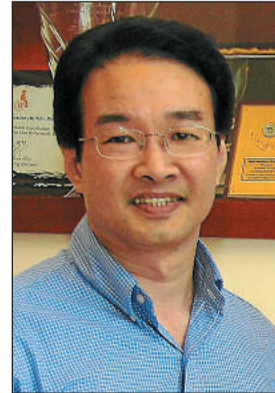
– KAMALDIN NORDIN; HR DIRECTOR, BOSE MALAYSIA



The Malaysian E&E sector is fast attracting new investments. Bose is such an investor, establishing its presence six months ago, and already with ambitious growth plans in place. Kamaldin also mentions that the E&E sector is highly competitive, with opportunities for learning and multinational exposure making it the sector of choice.

"AS A R&D ENGINEER IN MALAYSIA, YOU HAVE EQUAL OPPORTUNITY WITH YOUR AMERICAN COUNTERPARTS TO INNOVATE AND SHAPE THE FUTURE OF FIELD PROGRAMMABLE GATE ARRAY TECHNOLOGY."

– SK FONG, VICE-PRESIDENT OF RESEARCH & DEVELOPMENT, ALTERA CORP



A lot of high-end design and development work is currently being done in Malaysia. It is both technically challenging and intellectually rewarding. SK Fong also says that Altera's growth rate is twice that of the semi-conductor industry. Having helped create many value added jobs in Malaysia over the past few years, particularly in the field of systems and software architecture, advanced analog design, IP development and programme managers, Altera is on the lookout for bright and inquisitive minds to drive its future.

"CONVERGING TECHNOLOGIES ARE CREATING WORLD-CHANGING BREAKTHROUGHS. AGILENT'S ENGINEERS DESIGN AND DEVELOP SOLUTIONS ACROSS ELECTRONICS, BIOTECHNOLOGY AND CHEMICAL ANALYSIS."

– SHIDAH AHMAD; VICE-PRESIDENT/GENERAL MANAGER, AGILENT TECHNOLOGIES MALAYSIA



Agilent Technologies places emphasis on product development and innovation at its Malaysian operations, where it produces sophisticated test and measurement equipment for the global market. Since expanding into the life sciences and the bio-analytical test space, Agilent has consistently moved up the value chain. With a new "Gen Y" friendly facility and investment in training fresh graduates, Agilent hopes to attract more young talent to drive the change!

"AN OPPORTUNITY TO WORK ON REAL LIFE CUTTING-EDGE PROJECTS RIGHT HERE IN MALAYSIA, AN OPPORTUNITY TO MAKE AN IMPACT!"

– SHARIFAH SALMAH SYED HARUN; HR DIRECTOR, TEXAS INSTRUMENTS MALAYSIA



Texas Instruments Malaysia's (TI) comprehensive first-year development programmes provide the building blocks to fresh graduates by combining hands-on experience on real world projects with individual coaching and mentoring, and organised access to TI's top business and technical leaders.

A QUICK GLANCE AT THE E&E INDUSTRY



E&E BY THE NUMBERS

RM37BIL

How much the E&E sector contributed to the nation's GNI in 2009

522,000

Jobs created by the sector in 2009

41%

The percentage which E&E contributed to Malaysia's total exports in 2009

RM236.53BIL

The value of Malaysia's exports of E&E products in 2011

RM90BIL

The GNI target for the sector by 2020
157,000 additional E&E jobs targeted to be created by 2020

MORE THAN 2000

The total number of E&E companies in the nation

28.8%

The percentage of E&E talents making up Malaysia's labour force



A BRIGHT FUTURE INDEED!

MALAYSIA'S ELECTRICAL & ELECTRONICS (E&E) SECTOR IS BRIMMING WITH EXCITING OPPORTUNITIES. WANT TO BE PART OF THIS VIBRANT SECTOR? FIND OUT WHAT'S AHEAD FOR YOUNG GRADUATES AS WELL AS HOW YOU CAN GET STARTED.

Think of all the gadgets you use on a daily basis: laptop, tablet, smartphone, television, and even your car. All of these depend on innovations from one key sector.

You guessed it, the E&E sector. Globally, the E&E sector is experiencing a significant boost thanks to the role technology now plays in our lives. In 2009, the estimated global E&E revenue stood at US\$3.2 trillion. Brands like Apple, Samsung, Philips, Siemens have all become household names, enhancing our lives and connections with each other.

Datuk Sofi Osman, managing director and vice-president at Altera Corp, agrees: "Technology touches our lives in everything. The GPS systems in our cars help us get to our destinations safely. Our smartphones not only make communicating easier, but also provide us entertainment at our fingertips.

And electronic medical devices like pacemakers, improve the quality of our health. Technology makes our lives easier, safer, and more productive. Imagine how much you could contribute by being part of the E&E sector."

This sector is a booming one especially in Malaysia, which has long been recognised as a hub for the electronics sector in the South-East Asian region. The establishment of the first semiconductor plant in Penang in 1972 marked Malaysia's initial foray into manufacturing.

The country has since moved up the value chain into design and development. Large multinational companies from the United States, Japan, and Europe have chosen Malaysia as their base and consistently increased their investments here.

The Penang Free Trade Zone is home to 2,000 companies and a

thriving E&E ecosystem. Dr David Lacey, senior R&D director at Osram Opto Semiconductors says: "Over the last 10 years, we have surprised our colleagues in the United States and Europe by showing what we can do and how fast we can do it. That translates not only into a lasting confidence in the Malaysian team, but also in an international working environment." And this is great news for young talents looking to start a career here in Malaysia.

In 2012, the E&E sector in Malaysia contributed almost RM48.5bil in gross national income and created 8,800 jobs. To drive the sector forward, companies are aggressively looking for talents in value-added roles. "E&E graduates are currently high in demand, especially in the R&D segment and software development," says Osman. Reha Abdul Razak, regional human resource director, ON

Semiconductor, adds: "We require candidates with strong fundamentals and a passion for engineering because we use physics, chemistry, algorithm and statistics in our daily operations."

The E&E sector has become more competitive in its efforts to attract the right talent. "This is the 21st century – a balanced work life with competitive compensation is the new norm," says Jenny Ooi, HR director at Agilent Technologies. Many E&E companies offer job rotations, flexible working arrangements, and opportunities for international assignments. In short, a career in this sector is exciting and provides an opportunity for graduates to create history in a conducive work environment. **Join us and drive the change!**

BROUGHT TO YOU BY
TALENTCORP

TALENTCORP'S CONTRIBUTION TO THE E&E SECTOR



"IT FEELS GREAT TO BE ABLE TO CONTRIBUTE MEANINGFULLY TOWARDS HELPING MALAYSIA MOVE UP THE VALUE CHAIN."

RAJ PURUSHOTHAMAN, MANAGING DIRECTOR OF NATIONAL INSTRUMENTS, PENANG
Residence Pass – Talent holder

National Instruments (NI) plans to have its largest R&D centre outside of the United States in Malaysia. A relatively new investment in the country, NI is looking to use Malaysia to help drive its ambitious global R&D growth plans to accelerate the introduction of new and innovative products in the field of test, measurement, control and embedded design applications. The **Residence Pass-Talent (RP-T)** aims to attract and retain top highly-qualified expatriates in the country, such as Raj, to continue living and working in Malaysia on a long-term basis.



"FASTRACK HELPED ME TO EXPERIENCE AND THINK LIKE AN ENGINEER WHILE WORKING ON REAL LIFE PROJECTS."

NASIBAH DZULKIFLY, FASTRACK 2011-12 TRAINEE WITH MOTOROLA SOLUTIONS
BEng Mechatronics Engineering, International Islamic University Malaysia

FasTrack is a 12-month programme targeted at high-achieving Malaysian engineering graduates like Nasibah to enlarge the pool of R&D engineers needed for progression of the E&E sector up the value chain. It involves apprenticeship with hands-on experience working on actual R&D projects at host companies, supplemented by formal training. At the end of the 12-month period, it is expected that the apprentices will be employed by the host companies.



"THE RETURNING EXPERT PROGRAMME (REP) WAS ATTRACTIVE ENOUGH FOR MY HUSBAND AND I TO SERIOUSLY CONSIDER OUR PLANS TO RETURN TO OUR HOMETOWN AND START A NEW LIFE TOGETHER IN THE PLACE WE KNOW SO WELL AND MISS SO MUCH. I DO MISS THE WEATHER IN CALIFORNIA BUT THERE ARE NO REGRETS."

TEOH CHIN BERN, GLOBAL FIXED ASSET TEAM MANAGER AT ADVANCED MICRO DEVICES MALAYSIA
(First featured in "myPenang/ my workplace" CAT website www.penangcatcentre.my – managed by Invest-in-Penang Sdn Bhd)

The **Returning Expat Programme (REP)** was launched to facilitate the return of Malaysian professionals from overseas, such as Teoh and her husband, with the objectives of overcoming the shortage of professional and technical expertise in the country, and creating a world-class workforce in Malaysia, especially in the context of the Economic Transformation Programme (ETP).



"THE STAR PROGRAMME ALLOWS ME TO DEVELOP MY POTENTIAL AND APPLY THE ENGINEERING SKILLS AND KNOWLEDGE ACQUIRED OVERSEAS BACK IN MALAYSIA."

ONG YI FENG, PRODUCT ENGINEER WITH AGILENT TECHNOLOGIES
JPA scholar under the Scholarship Attraction and Retention (Star) Programme

The **Star Programme** is a collaboration between TalentCorp and the Public Service Department (PSD). Star enables PSD scholars like Ong to serve their scholarship bond in the private sector. Participants who take part in this programme will be given opportunities to serve at key Malaysian companies that support the ETP.



SITI NASUHA MOHD RASHID, 25
COMPANY: Texas Instruments
DEGREE: Biomedical electronics engineering, Universiti Malaysia, Perlis
JOB TITLE: Product engineer

"The difference between my degree and current job with the business division of Texas Instruments is like the sun and the moon!
 In biomedical electronics engineering, you'd deal with ultrasound machines and multi-resolution imaging. Here, it's down to microelectronics where I deal with the very, very minute components of a microchip. But the beauty about being in the engineering field is the common sharing of basic principles which makes it easy, even for a newbie like me, to adjust."



MOHD AFIQ TAJUL ARIFFIN, 27
COMPANY: Infineon Technologies
DEGREE: BET in air-conditioning and industrial refrigeration, UNIKL Malaysia France Institute
JOB TITLE: Quality engineer

"I am currently in the quality management department, a field not related to my degree. This means having to hit the books again and walking around to the different departments and approaching the senior engineers with a question mark at the end of each sentence!
 I am working on a project to list down all the gasses used in the factory's fabrication process. We use up to 40 different types of gasses in our production line and this means obtaining data from gas vendors and also our own in-house departments. It is a job that requires me to be active as I have to go to the relevant departments and observe the processes."



PREETA NAMBIAR, 27
COMPANY: Osram Optosemiconductor
DEGREE: Electric and electronics engineering, Universiti Putra Malaysia
JOB TITLE: R&D senior engineer

"My key role is in data analysis where we calculate the required colour control towards fulfilling the customer's LED application needs.
 Admittedly, when I first entered the industry I had no idea that there were so many different colour temperatures and different methods of producing white light. As I made these discoveries, I was fascinated. Since then, apart from continuously discovering new things, I have also experienced many new exciting challenges in the LED development process. For these reasons, I enjoy being part of the R&D team."

PHISON: SUCCESS-DRIVEN

DID YOU KNOW THAT THE PEN DRIVE WAS INVENTED BY A MALAYSIAN?

The device to store data has become an essential item since 2001. Now, the company behind the invention has opened a branch in Malaysia to develop the local industries in the pen drive's supply chain.
 Phison Electronics Corp, a Taiwanese company founded by Sekinchan-born Pua Khein Seng, introduced the world's first single-chip USB flash drive or the pen drive which contributed revenue of more than US\$1bil to the company in 2010.

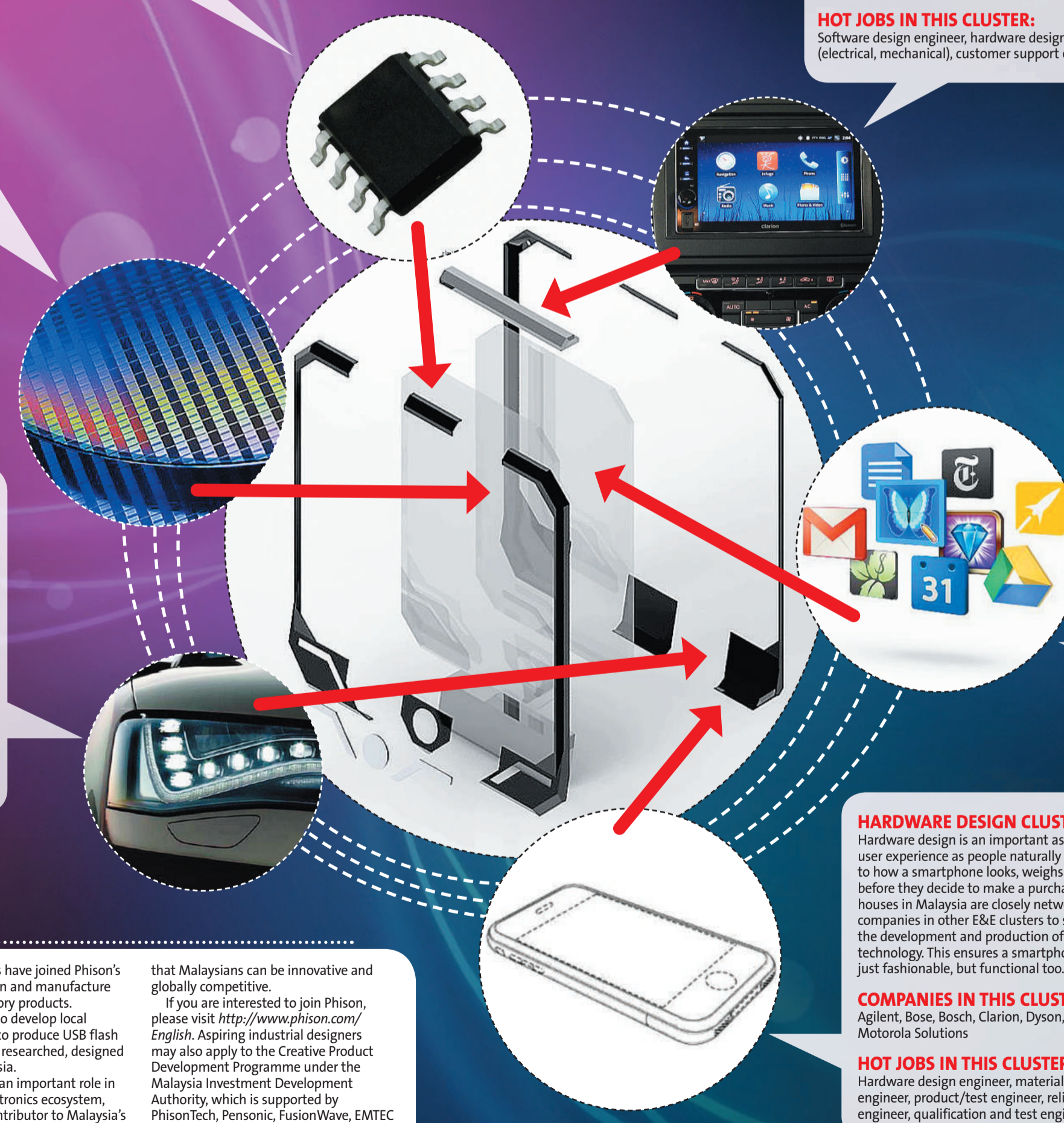
Pua started Phison with four other partners after graduating from Taiwan's National Chiao Tung University in electrical and control engineering at a young age of 26. The meaning of the company's name is "a group of people united", which summarises Phison's values of teamwork and collaboration.
 This teamwork continues with the opening of the PhisonTech Centre in Bayan Lepas, Penang, where local small-to-

medium enterprises have joined Phison's value chain to design and manufacture finished flash memory products.
 The centre aims to develop local engineering talent to produce USB flash drives that are fully researched, designed and made in Malaysia.
 Phison is playing an important role in the Electrical & Electronics ecosystem, which is a major contributor to Malaysia's gross domestic product. Pua is an example

that Malaysians can be innovative and globally competitive.
 If you are interested to join Phison, please visit <http://www.phison.com/English>. Aspiring industrial designers may also apply to the Creative Product Development Programme under the Malaysia Investment Development Authority, which is supported by PhisonTech, Pensonic, FusionWave, EMTEC and Cari.com.

TRUST ME, I'M AN ENGINEER... BROUGHT TO YOU BY TALENTCORP

Isn't it cool to say you've worked on a product used by millions around the world? Let us take the example of a smartphone; the image below of a smartphone teardown illustrates just how the whole E&E industry can be linked to your iPhone, Samsung Galaxy or Blackberry (or any device of your choice, including a tablet or a computer).
 Within the E&E industry, there are clusters that focus on a wide range of smartphone technologies from microprocessors, memory, lighting to the most popular apps. Companies within these clusters are always looking to hire top engineering talent, and the good news is that a number of these companies and exciting jobs can be found right here in Malaysia! Let's hear it from the engineers about what really happens in the E&E sector.



THE INTEGRATED CIRCUIT (IC) DESIGN CLUSTER

IC Design is the design of electronic circuits integrated into a chip, giving it the name "integrated circuits". These circuits contain thousands of electrical components in the size of a fingernail and perform specific tasks depending on how the components are configured. Examples of integrated circuits within a smartphone include the microprocessor, flash memory to store your files and more. Malaysia has achieved success as a design centre for ICs, with a mix of multinational IC design centres and domestic IC design companies.

COMPANIES IN THIS CLUSTER:
 Altera, Intel, Silterra, Texas Instruments, Phison

HOT JOBS IN THIS CLUSTER:
 IC design engineer, software design engineer, applications engineer, customer support engineer, process/mechanical engineer, product/test engineer, reliability engineer, qualification and test engineer

THE WAFER FABRICATION CLUSTER

Wafer fabrication basically allows chips to be placed inside a smartphone. All chips are built upon a silicon wafer, which are round thin discs of pure silicon. Several companies in Malaysia make wafers for well-known international foundry customers.

COMPANIES IN THIS CLUSTER:
 Silterra, Infineon, ON Semiconductor, Fuji, ASE, Venture

HOT JOBS IN THIS CLUSTER:
 Wafer fabrication engineer, process engineer (chemical, materials), hardware design engineer (electrical, mechanical), materials/ metrology engineer

THE LIGHT EMITTING DIODE (LED) / SOLID STATE LIGHTING (SSL) CLUSTER

LEDs are used to light up your smartphone's screens and keypads. They are often used as they are small, bright and long-lasting. Malaysia has a strong lead in solid-state lighting (SSL) technology used in LEDs, and is one of the fastest growing segments in the nation's E&E sector.

Did you know the LED headlights in Audi cars were made by Osram Opto in Malaysia?

COMPANIES IN THIS CLUSTER:
 Osram Opto Semiconductors, Philips Lumileds, Avago, LEDZWorld

HOT JOBS IN THIS CLUSTER:
 Product development engineer (mechanical, electrical, industrial design), product/test engineer, reliability engineer, qualification and test engineer

AUDIO/VIDEO CLUSTER

Audio and video are increasingly getting the "smart" treatment with companies in this cluster integrating audio and visual equipment to smartphone devices. Don't like the song playing in the car? You can change it with a finger tap on your phone.

COMPANIES IN THIS CLUSTER:
 Bose, Bosch, Blaupunkt, Clarion, Motorola Solutions

HOT JOBS IN THIS CLUSTER:
 Software design engineer, hardware design engineer (electrical, mechanical), customer support engineer



TAN MIN KEE, 31
COMPANY: Clarion
DEGREE: Computer and communication engineering, Universiti Kebangsaan Malaysia
JOB TITLE: Software embedded engineer

"I am working on software that will enable a car audio player to mimic the operating system of android phones so that users can plug in their handphones and listen to the music stored within. We are now at the final testing stage.
 The field becomes more exciting with each passing day. Today, automobile DVD players not only play music but are expected to interface with a host of other electronic devices like GPS, reverse sensors and even act as a mobile TV. Being able to pair a simple car player with what is deemed current in today's lifestyle makes me feel like I have contributed to the betterment of everyday living."



CHOW KIN WENG, 25
COMPANY: National Instruments
DEGREE: Electronic engineering, Multimedia University
JOB TITLE: Software engineer

"Although I graduated as an electronic engineer, I'm working as a software engineer at National Instruments. My main responsibility is to work on BIOS, a very important software component that is required to boot a system before an operating system is loaded.
 As I'm working with the team that designs new embedded controllers, the knowledge that I gained from university is somewhat relevant to what I do. Of course, there are a lot of product specific knowledge and general engineering practices that I have to pick up along the way. To catch up with all these new challenges, it is important to have the initiative to learn new skills, acquire new knowledge and take ownership of challenging tasks."

THE EMBEDDED SYSTEMS CLUSTER

Embedded systems refers to the software embedded within the hardware (e.g. a microprocessor) to carry out a specific application. The smartphone itself is an embedded system which makes it possible to run our favourite apps i.e. location-based services like Foursquare, and photo-based social networks like Instagram.
 For the embedded system to operate correctly, skilled talent is required for coding, which is a

time-consuming and extremely specialised process.

COMPANIES IN THIS CLUSTER:
 Agilent, Bose, Clarion, Motorola, Altera, Intel, National Instruments

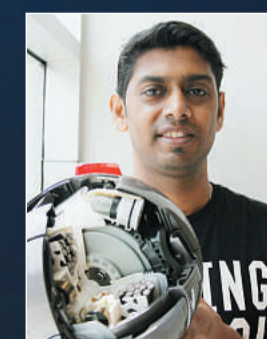
HOT JOBS IN THIS CLUSTER:
 IC design engineer, software design engineer, applications engineer, product/test engineer, reliability engineer, qualification & test engineer

HARDWARE DESIGN CLUSTER

Hardware design is an important aspect of user experience as people naturally respond to how a smartphone looks, weighs and feels before they decide to make a purchase. Design houses in Malaysia are closely networked to companies in other E&E clusters to support the development and production of the technology. This ensures a smartphone is not just fashionable, but functional too.

COMPANIES IN THIS CLUSTER:
 Agilent, Bose, Bosch, Clarion, Dyson, Intel, Motorola Solutions

HOT JOBS IN THIS CLUSTER:
 Hardware design engineer, materials/metrology engineer, product/test engineer, reliability engineer, qualification and test engineer



KOKULANATHAN MUNIANDY, 31
COMPANY: Dyson
DEGREE: Mechanical engineering, Universiti Tun Hussein Onn Malaysia
JOB TITLE: Senior design engineer

My job requires me to predict critical issues that may affect production or quality like suction power, manoeuvrability and button press force. Another area that I look into is the design optimisation. Many people think the more components a machine has, the better. Little do they know that more means extra production time and cost. In our rule book, the best design is the one that gives you the most solutions with the minimal parts.
 The perception of the factory as a rigid production line is no longer the norm. I remember when the department chief started a casual conversation on what I thought would be the best way to handle a technical glitch. It made me feel very proud that my opinion was valued.

CALLING WOMEN TO THE ELECTRONICS SECTOR

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TALENTCORP

Engineering is no longer a male-dominated field. With the Malaysian E&E sector moving up the value chain from manufacturing towards more design and development work, the variety of jobs has increased. Malaysian women have taken to R&D roles in a big way and one would find a large representation of women in the E&E sector. For example Agilent Technologies Malaysia, where 50% of its 1,200 engineers are women. There are so many ways women engineers can use their skills and build a career in the sector. There is a thriving E&E ecosystem in Malaysia with many multinational firms like Intel, Agilent and Motorola Solutions having been in Malaysia for close to 40 years. In recent times, more global corporations like National Instruments and Bose have also set up shop. So do consider building a career in engineering in the vibrant and exciting E&E sector – its not nuts and bolts anymore!



Chan Pei Lynn wants to change the world with her products. She became an engineer and in time, a component design engineer at Intel Penang Design Centre. Chan, who aims to add a few patents to her name, is working on the development and circuit design of Intel's next generation microprocessor to be released two to four years down the road.

CHALLENGING THE BOUNDARIES

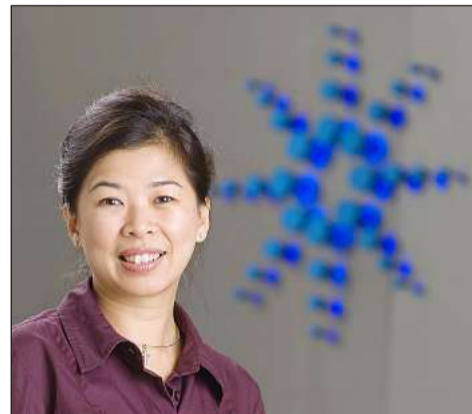
I code the new features from Microarchitecture Specifications. As these feature sizes become smaller and circuits operate at higher speeds, we need to design innovative architectures to deliver new levels of performance and energy efficiency.

WHY ENGINEERING ROCKS

The E&E industry in Malaysia is where I get to work with some of the smartest people in the business. Success in the E&E industry is purely merit driven. Diversity in every aspect is supported and promoted everywhere to encourage ideas and innovation. Age, gender, racial demographics, nothing matters in this industry. If I have a good idea and can prove it, I will make a difference and be rewarded accordingly.



"IN AGILENT, NUMBERS TALK! AT THE SENIOR MANAGEMENT LEVEL, FOUR OUT OF SEVEN VICE-PRESIDENTS AND THREE OUT OF SIX SENIOR DIRECTORS ARE WOMEN."



JENNY OOI
SENIOR DIRECTOR,
HR, MALAYSIA,
THAILAND AND
VIETNAM
Agilent Technologies
Malaysia



"I LOVE SEEING THE PRODUCT I WORKED ON SOLD BY MILLIONS AND TO RECEIVE RAVE REVIEWS."



ROBIN MARTIN
VICE-PRESIDENT,
TECHNOLOGY AND
MANUFACTURING
Intel Corp



"WOMEN HAVE WHAT IT TAKES TO MAKE SIGNIFICANT CONTRIBUTIONS TOWARDS THE ENGINEERING AND TECHNOLOGY FIELDS. AT INTEL, WE ENCOURAGE WOMEN TO REACH THEIR POTENTIAL WHILE PROVIDING A CONDUCIVE WORK ENVIRONMENT. HAVING WOMEN BRING DIVERSE OPINIONS HAVE LED TO HIGHER PERFORMANCE LEVELS OF OUR TEAMS."

PROMOTING WORK-LIFE BALANCE

The E&E sector is among the first in Malaysia to have adopted and promoted a culture that promotes work-life balance. Companies allow flexible working hours, offer support facilities on campus and the access to state-of-the-art technology which makes it efficient and seamless for employees to work from anywhere, anytime. For women, this means being able to be there to meet family commitments and still pursue a career. Take for example a company like Intel, which is highly committed to promoting diversity and inclusion at the work place; women are allowed to bring their children to work, the children can play in the crèche while their mothers are at work, and telecommuting from home is also an option. So do consider a career in engineering. Yes, you can have it all!



The E&E industry may be perceived as dry as it deals with circuits and chips, but for Altera Corp's Selvi Aldragen, it has its humanistic qualities. It is in E&E that she is able to have the financial independence and flexibility to spend quality time with her two children and tend to a long-term project – her vegetable patch!

WHY ENGINEERING ROCKS

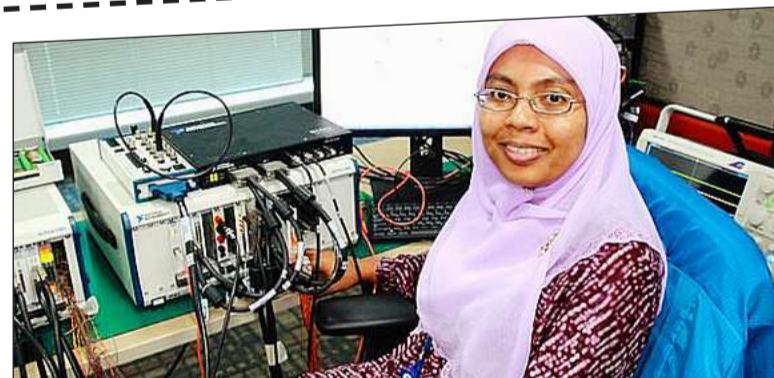
I have been working as a staff engineer with Altera Corp now for slightly over two years. Besides that, I support innovation efforts in my team and participate in host of technical-related training and coaching

activities. Last year, I chaired Altera's Technical Symposium. I also appreciate the travel opportunities provided to me in my course of work to meet and work with my counterparts. It is a field which is constantly changing and evolving, and to be successful, I am prepared for continuous learning and adaptation. It never gets boring! I hope to fast forward in the direction of innovation and would love to write more patents and attend and publish more papers in external conferences.

E&E remains exciting as it also allows me to stay contented by continuing to seize every opportunity to pursue my hobbies and interests.



"WORK HARD. PLAY HARD."



Sharina Mat Lani never thought she would be working in her dream job doing Research and Development (R&D) for a firm in the E&E sector. The ambitious wife and mother is currently getting the best of both worlds working as an analog design engineer in National Instruments (NI) while still making time for her family.

MAINTAINING WORK-LIFE BALANCE

Most companies exercise flexible working hours, but there are still guidelines on how many hours you need to work a day. I stick to this guideline so I do not need to stay back late. As a wife and a mother, this is crucial since family time is also my pri-

ority. I also participate in social activities organised within the company. This is an opportunity to build good relationships with colleagues and release stress!

WHY I THINK ENGINEERING IS AWESOME

I am very lucky to be in the R&D field in E&E. My main responsibility in NI is to design data acquisition boards for PXIe, PCIe and USB platforms.

As part of the pioneer team here, I want to develop my competencies, become a mentor and technical lead and share my knowledge and experiences to help others achieve their dreams of becoming successful engineers.



"MY MOST AWESOME PROJECT IS ONE THAT GIVES ME A REASON TO SHOW OFF TO MY KIDS."

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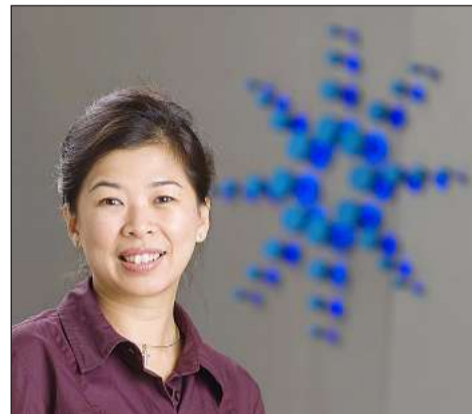
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MANUFACTURING
Intel Corp



"WOMEN HAVE WHAT IT TAKES TO MAKE SIGNIFICANT CONTRIBUTIONS TOWARDS THE ENGINEERING AND TECHNOLOGY FIELDS. AT INTEL, WE ENCOURAGE WOMEN TO REACH THEIR POTENTIAL WHILE PROVIDING A CONDUCIVE WORK ENVIRONMENT. HAVING WOMEN BRING DIVERSE OPINIONS HAVE LED TO HIGHER PERFORMANCE LEVELS OF OUR TEAMS."

PROMOTING WORK-LIFE BALANCE

The E&E sector is among the first in Malaysia to have adopted and promoted a culture that promotes work-life balance. Companies allow flexible working hours, offer support facilities on campus and the access to state-of-the-art technology which makes it efficient and seamless for employees to work from anywhere, anytime. For women, this means being able to be there to meet family commitments and still pursue a career. Take for example a company like Intel, which is highly committed to promoting diversity and inclusion at the work place; women are allowed to bring their children to work, the children can play in the crèche while their mothers are at work, and telecommuting from home is also an option. So do consider a career in engineering. Yes, you can have it all!



The E&E industry may be perceived as dry as it deals with circuits and chips, but for Altera Corp's Selvi Aldragen, it has its humanistic qualities. It is in E&E that she is able to have the financial independence and flexibility to spend quality time with her two children and tend to a long-term project – her vegetable patch!

WHY ENGINEERING ROCKS

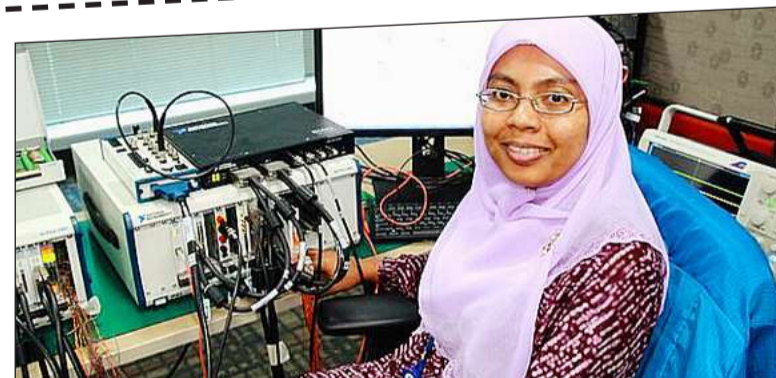
I have been working as a staff engineer with Altera Corp now for slightly over two years. Besides that, I support innovation efforts in my team and participate in host of technical-related training and coaching

activities. Last year, I chaired Altera's Technical Symposium. I also appreciate the travel opportunities provided to me in my course of work to meet and work with my counterparts. It is a field which is constantly changing and evolving, and to be successful, I am prepared for continuous learning and adaptation. It never gets boring! I hope to fast forward in the direction of innovation and would love to write more patents and attend and publish more papers in external conferences.

E&E remains exciting as it also allows me to stay contented by continuing to seize every opportunity to pursue my hobbies and interests.



"WORK HARD. PLAY HARD."



Sharina Mat Lani never thought she would be working in her dream job doing Research and Development (R&D) for a firm in the E&E sector. The ambitious wife and mother is currently getting the best of both worlds working as an analog design engineer in National Instruments (NI) while still making time for her family.

MAINTAINING WORK-LIFE BALANCE

Most companies exercise flexible working hours, but there are still guidelines on how many hours you need to work a day. I stick to this guideline so I do not need to stay back late. As a wife and a mother, this is crucial since family time is also my pri-

ority. I also participate in social activities organised within the company. This is an opportunity to build good relationships with colleagues and release stress!

WHY I THINK ENGINEERING IS AWESOME

I am very lucky to be in the R&D field in E&E. My main responsibility in NI is to design data acquisition boards for PXIe, PCIe and USB platforms.

As part of the pioneer team here, I want to develop my competencies, become a mentor and technical lead and share my knowledge and experiences to help others achieve their dreams of becoming successful engineers.

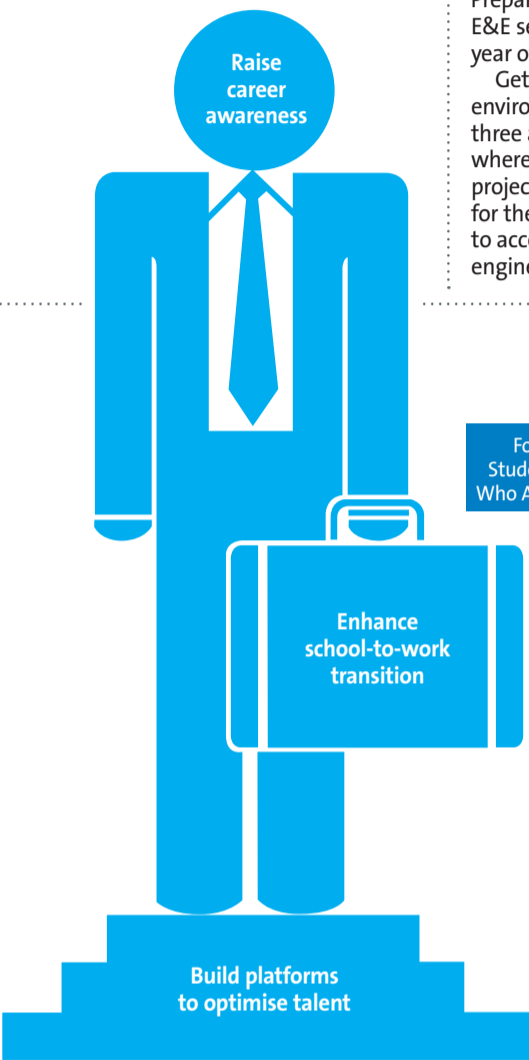


"MY MOST AWESOME PROJECT IS ONE THAT GIVES ME A REASON TO SHOW OFF TO MY KIDS."

THE ELECTRONICS SECTOR CAN GROOM YOU INTO AN ENGINEER FROM DAY ONE!

OPPORTUNITIES FOR STUDENTS INTERESTED IN E&E

Preparation for a career as an engineer in the E&E sector may begin as early as your first year of undergraduate studies in university. Get exposure to the corporate environment as early as year one to year three and follow it up with an internship where you can get to work on real life projects! For those interested in R&D, opt for the FasTrack programme post graduation to accelerate your career in high-end engineering jobs.



For Students Who Are In:

Industry Insights

Year 1 to Year 3

Similar to *Lawatan Sambil Belajar* (industrial visits) during school days, Malaysian undergraduate students from both local and overseas universities get a chance to visit companies during their summer break to gain insight on the companies' working environments.

"It is difficult to appreciate the work done in the local E&E landscape without the experience of physically being there. I appreciate TalentCorp for organising this trip as it has been quite an eye-opener." - Kamil Idris, engineering undergraduate student from Imperial College, London.



Structured Internship Programme

Year 2 to Year 3

Structured internships provide students with hands-on industry exposure as well as training for a period of three to six months. Students may get an opportunity with their host company to:

- Conduct their Final Year Project
- Participate in the annual Innovate Malaysia competition
- Gain employment

With structured internships, interns get hands-on problem solving projects and direct coaching from their supervisor.



Final Year Project

Final Year

Final year students get to work on an industry project with the support, coaching and guidance of both university and industry professionals. Projects may be entered into the Innovate Malaysia competition under the host company track.

Winners of the Innovate Malaysia competition may have their projects entered for the National Research and Innovation Competition (NRIC), get hired by the host company and/or have their product sold to the market.



Industry Ready Graduates

Fresh Graduates

Engineering graduates with a 3.5 CGPA and above may join the FasTrack programme which is a 12-month attachment with a participating host company. Trainees are paid RM3,000 a month, and receive technical and soft skills training while working on live projects with their host company.

"The FasTrack Programme provided basic training but what was really of value was learning about the real work environment. From this experience, I was able to adapt to the actual working situation quite easily." - How Chu Tiong, FasTrack Trainee with Silterra (2011-12).

Masters

Fresh Graduates And Early Career Professionals

FasTrack participants may pursue a postgraduate qualification during a 12 to 24 month attachment with their host company.

The MyBrain15 programme supports Malaysian talent who can spur the growth of research and innovation in the country.



COMPANIES IN THE E&E SECTOR LOOK FOR GRADUATES FROM A VARIETY OF DISCIPLINES. THE MATRIX BELOW SHOWS WHERE YOUR KNOWLEDGE AND SKILL SETS CAN FIT WITHIN A WIDE RANGE OF CAREERS AS AN ENGINEER. YOUR OPPORTUNITIES ARE LIMITLESS!

Electronic & Electrical (E&E) Sector Malaysia Wants You!

Who are companies hiring?

Field of Study										Career Opportunities
EE	ME	IE	CS	Comp.E	Ch.E	Chem	Bio.Sci	Mat.Sci	Phy	
*	*	*	*	*	*	*	*	*	*	Applications Engineer
*	*	*	*	*	*	*	*	*	*	Customer Support Engineer
*	*	*	*	*	*	*	*	*	*	HW Design Engineer
*	*	*	*	*	*	*	*	*	*	Mfg Development Engineer
*	*	*	*	*	*	*	*	*	*	Materials / Metrology Engineer
*	*	*	*	*	*	*	*	*	*	Mechanical Design Engineer
*	*	*	*	*	*	*	*	*	*	Process / Mechanical Engineer
*	*	*	*	*	*	*	*	*	*	Product / Test Engineer
*	*	*	*	*	*	*	*	*	*	Reliability Engineer
*	*	*	*	*	*	*	*	*	*	Qualification & Test Engineer
*	*	*	*	*	*	*	*	*	*	RF Design Engineer
*	*	*	*	*	*	*	*	*	*	Scientist / Technologist / Expert
*	*	*	*	*	*	*	*	*	*	SW Design Engineer
*	*	*	*	*	*	*	*	*	*	IC Design Engineer
*	*	*	*	*	*	*	*	*	*	Wafer Fab Process Engineer

LEGEND

EE	- Electronic and Electrical Engineering
ME	- Mechanical Engineering
IE	- Information Engineering
CS	- Computer Science
COMP. E	- Computer Engineering
CH. E	- Chemical Engineering
CHEM	- Chemistry
BIO.SCI	- Biological Sciences
MAT. SCI	- Material Science
PHY	- Physics

2011-2012 graduating batch of 101 FasTrack trainees with (Center L-R): Dato' Boonler Somchit (CEO of PSDC), Datuk Noharuddin Nordin (CEO of MIDA), YBhg. Dato' Redza Rafiq, (CEO of NCIA), Tan Sri Nor Mohamed Yakcop, En Johan Mahmood Merican (CEO of TalentCorp), YBhg. Professor Dato' Dr Omar Osman (vice chancellor of USM), Yang Berusaha Dr Nungsari Ahmad Radhi (executive director of Khazanah Nasional) and En Jaffri Ibrahim (CEO of CREST).

ACCELERATING YOUR CAREER IN HIGH VALUE-ADDED R&D JOBS

Interested to join FasTrack? Read on!

TELL ME MORE..

FasTrack aims to accelerate the development of the R&D talent pool for the E&E sector by equipping graduates with domain knowledge and industry relevant expertise and increase employability of the fresh graduates.

WHO IS ELIGIBLE TO APPLY?

- Malaysian citizens
- Holders of a Bachelor's degree in engineering, computer science, information technology and sciences
- CGPA of 3.5 and above

WHICH COMPANIES HAVE BEEN ON BOARD?

- Leading employers like Agilent, Altera, Intel, Motorola, Silterra, Clarion and Infineon
- More companies to be confirmed for 2013 batch

WHAT CAN I EXPECT?

- Technical and soft skills training
- Working on a live R&D project
- Coaching and guidance from an industry supervisor
- Competency and performance assessments
- RM3,000/month allowance
- Interested applicants may send their CVs to training@psdc.org.my