



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!**

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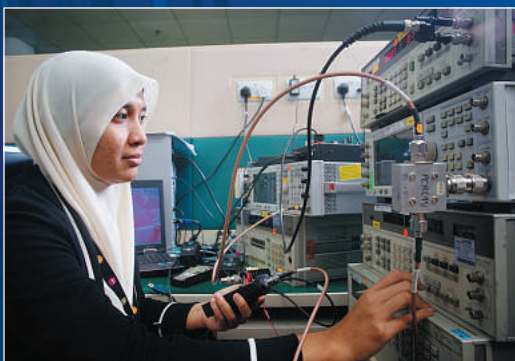
TALENTCORP'S CONTRIBUTION TO THE E&E SECTOR



"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.

CALLING WOMEN TO THE ELECTRONICS SECTOR

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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

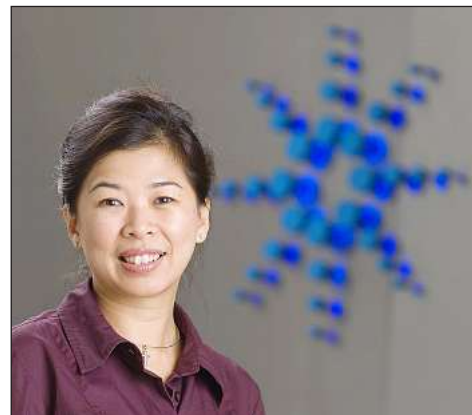
I code the new features from Microarchitecture Specifications. As these feature sizes become smaller and circuits operate at higher speeds, we need to design innovative architectures to deliver new levels of performance and energy efficiency.

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.



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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!

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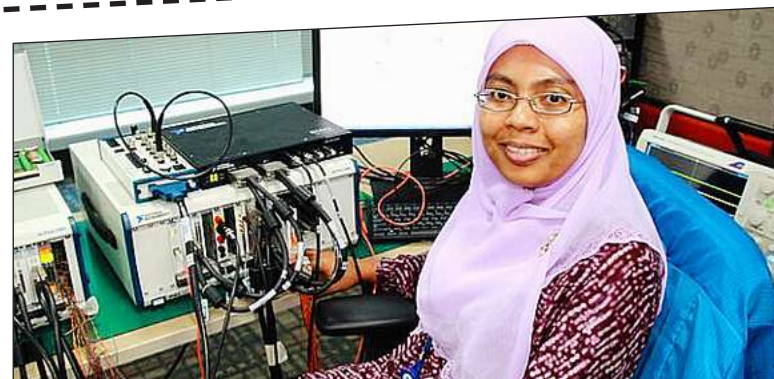
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activities. Last year, I chaired Altera's Technical Symposium. I also appreciate the travel opportunities provided to me in my course of work to meet and work with my counterparts. It is a field which is constantly changing and evolving, and to be 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.

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

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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.



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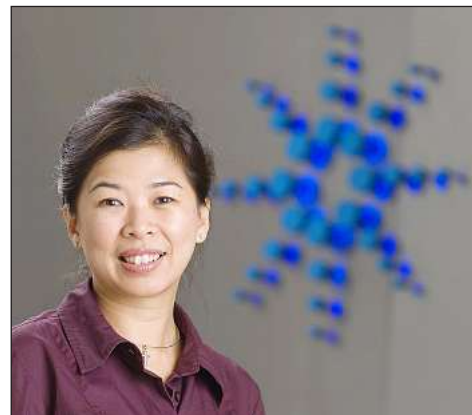
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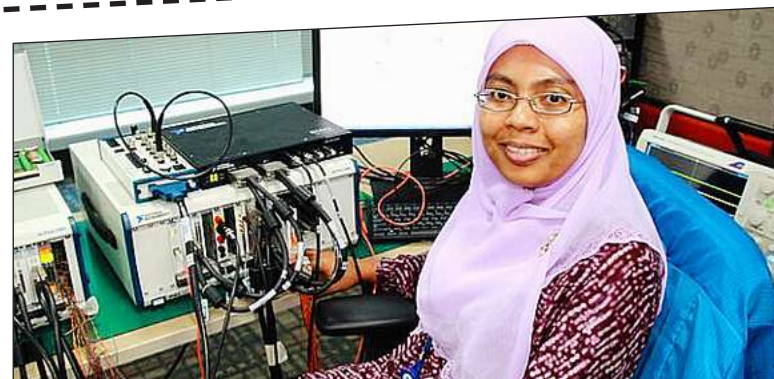
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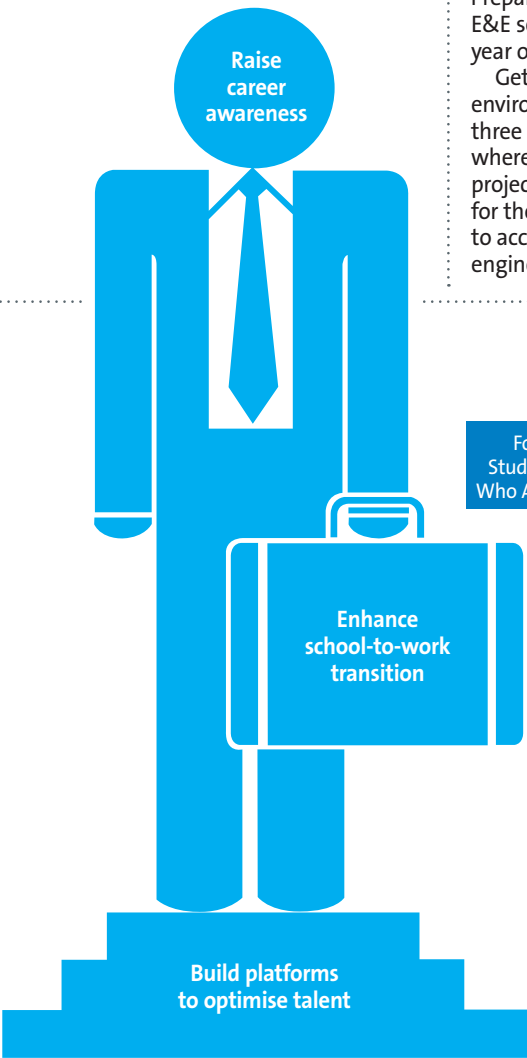


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THE ELECTRONICS SECTOR CAN GROOM YOU INTO AN ENGINEER FROM DAY ONE!

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
CHE	- 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