



MIMOS FOCUS

FOCUSING IN, REACHING OUT

A birthday party to remember



The MIMOS campus had been all spruced up weeks before the big day. Then the day came. On Thursday 5 May 2011, the weather was nice and sunny from the start.

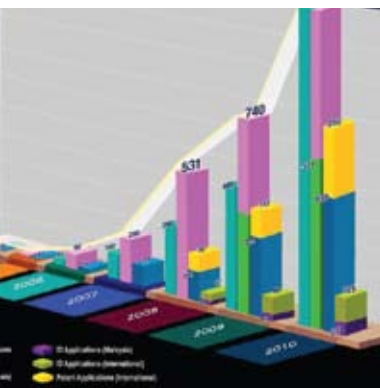
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Customised learning set to flourish



E-learning applications will see better days ahead when the technology is further developed by MIMOS and Perfisio Solutions Sdn Bhd.

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More patents granted

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Customised learning set to flourish with

MIMOS-Perfizio pact



E-learning applications will see better days ahead when the technology is further developed by MIMOS and Perfizio Solutions Sdn Bhd. The two companies exchanged documents for a Technology Licensing Agreement (TLA) on 4 March in Putrajaya. The event was witnessed by Deputy Prime Minister Tan Sri Muhyiddin Yassin, who is also Minister of Education. Also present were Science, Technology and Innovation Deputy Minister Datuk Fadillah Yusof, MIMOS chairman Dato' Suriah Abdul Rahman and Majlis Amanah Rakyat (MARA) chairman Datuk Seri Idris Jusoh.

At the event MIMOS also exchanged an MoU with MARA. Earlier, Muhyiddin launched the Tutor Intelligent Learning Management System (Tutor iLMS), a collaborative

project between MIMOS, Perfizio Solutions and MARA. Tutor iLMS, which provides an objective learning platform based on attributes and characters of students through cognitive profiling, is the first of its kind to be developed in Malaysia and Southeast Asia. Under the TLA, Perfizio Solutions will improve the application and commercialise it both in Malaysia and overseas.

In his speech Muhyiddin urged private companies to use technology developed by local research centres. He said government agencies should emulate Perfizio Solutions, which had shown confidence in using technology developed by MIMOS. Perfizio Solutions would undertake the Proof of Concept of iLMS at institutions under MARA, namely the MARA Junior Science College (MRSM) and the MARA Skills Training Institutes (IKM). ■

AGRIBAZAAR 2.0 | a tool to further boost agriculture

Prime Minister Datuk Seri Najib Tun Razak on 22 April listed the creation of a marketing network as one of the seven principles that would further elevate the agricultural sector in line with national aspirations. He made that summation at the Assembly of Farmers, Breeders and Fishermen in Seri Kembangan, where he also launched AgriBazaar 2.0. The agribusiness portal is developed by MIMOS in collaboration with the Ministry of Agriculture and Agro-based Industry. Also present at the event was its minister Datuk Seri Noh Omar.

Commending the ministry for launching the portal, Najib said that in this borderless world, where all transactions could be done at one's fingertips, it was not impossible to market our agriculture products abroad. "The agriculture community should make use of this facility, provided by the government to help agropreneurs run their business more competitively," he said. He described AgriBazaar 2.0 as a good example of a marketing network that would benefit agricultural producers. "Hopefully, we can achieve



EMPOWERING THE FARMERS... Najib presenting an iDOLA computer to a representative of the Kor Tani (agricultural corps) while Noh looks on.

a wider market within and outside the country through cyberspace," he said.

AgriBazaar 2.0 is a portal for buyers and producers of agricultural products that enables them to conduct business online in an effort to offer better prices, reduce administrative costs and expedite the buying and selling process. Designed for ease of use by the agriculture community, AgriBazaar 2.0 offers portal solutions with enhanced features like intelligent business matching, social networking capability, online payment as well as logistic services. ■

Bangladesh market for MIMOS NetTablet



On 24 February a MoU was signed between Wing Technology International Sdn Bhd (WTI) and Digital Bangladesh Technology in Dhaka, Bangladesh. WTI is a MIMOS technology recipient.

The MoU was signed in the presence of Minister of Science, Technology and Innovation Malaysia Datuk Seri Dr Maximus Ongkili. The Minister was on a working visit to Bangladesh from 24 to 25 February to explore opportunities for Malaysia-Bangladesh collaboration particularly in ICT and bio-technology fields.

Under the MoU, WTI will commercialise MIMOS NetTablet in Bangladesh through its partnership with Digital Bangladesh Technology. MIMOS NetTablet is the first Malaysian version of a Tablet PC which recently won the Malaysia Good Design Mark (MGDM) Awards 2010. ■

MIMOS goes global with Indian pact

MIMOS has signed an MoU with Mindteck (India) Ltd to adopt and market its Enterprise Knowledge Management System (eKMS). The MoU signing ceremony was witnessed by Minister of Science, Technology and Innovation Malaysia Datuk Seri Dr Maximus Ongkili at Mindteck's headquarters in Bangalore on 21 February.

Mindteck is a public-listed global technology company that delivers business and technology services to Fortune 500 companies, multinationals and enterprises worldwide. Under the MoU, Mindteck will customise the eKMS, and develop specific solutions for its global clients in various industry verticals. The eKMS is designed mainly for the life sciences industry.

"This collaboration will enhance and globalise MIMOS' Intellectual Property portfolio while strengthening Mindteck's position in the marketplace," Maximus said. "Mindteck already has a strong presence in Malaysia and this partnership will further strengthen existing ties between Mindteck and the Malaysian Government," he added.



At the signing ceremony, MIMOS was represented by CEO Datuk Abdul Wahab Abdullah and Mindteck by Group Chief Financial Officer Suresh Rao. ■

Celebrating new technologies amidst Harvest Festival



On 21 to 22 May, eight MOSTI agencies participated in an exhibition in conjunction with Pesta Kaamatan (Harvest Festival) 2011 at Kota Marudu, Sabah. MIMOS featured the WiWi with the latest Outdoor Access Point, alongside the iDOLA and NetTablet.

MIMOS' booth received more than 500 active visitors during the two-day show, including a number of interested users as well as several potential buyers for our technologies. MOSTI Minister Datuk Seri Dr Maximus Ongkili, who visited the booth, said that MIMOS' technologies would benefit farmers, businesses and the society in general.

Still in Pesta Kaamatan festivity, another exhibition was held at the Kadazan-Dusun Cultural Association (KDCA) Building in Penampang, on 30 to 31 May where six MOSTI agencies took part. MIMOS booth attracted more visitors here. VIP visitors included Yang Dipertua Negeri TYT Tun Hj Juhar Hj Mahiruddin, Chief Minister Datuk Seri Musa Aman and his deputy Tan Sri Joseph Pairin Kitingan; and Dr Maximus, who gave a brief on Kampung WiWi.

MIMOS has been a regular at the annual Pesta Kaamatan exhibitions for the past three years. The festival has proven to be an opportune time for MIMOS to meet the people – not only Sabahans but also visitors to the state – to raise awareness on its roles and technological pursuits. ■



MAKING LIVES BETTER... Musa with Dr Maximus checking out technologies on display at the MIMOS booth. At the booth, free wireless broadband access was provided utilising MIMOS WiWi technology.

MIMOS shows its class at LID exhibition

MIMOS' latest frontier technologies were showcased before a high-profile international delegation that included leaders and senior officials of African nations, at an exhibition held on the sidelines of the Langkawi International Dialogue 2011 which convened at the Putrajaya International Convention Centre on 19-21 June. The technologies, spanning across five industry verticals namely Agriculture, Health, Education, Government and Communications, were proudly exhibited by MIMOS Technology Recipients.

Scores of local technology companies, technopreneurs and foreign journalists also came round the MIMOS booth. The exhibition featured 86 exhibitors from Malaysia and African nations, spread out over more than 100 booths. On display were products, services and technologies in various categories including ICT, manufacturing, agriculture and biotechnology.

Amidst the curious crowds, the MIMOS exhibition team led by Senior Director of Technology Ventures Ahmad Helmi Abd Halim along with Director of Corporate and Marketing Communications Rosli Mohd Yoosuf made some quick but quality briefings and had fruitful discussions with the foreign and local delegates on MIMOS' roles and vision, while the Technology Recipients provided the visitors with more in-depth explanations on the technology applications. ■

Sarawak Youth Carnival draws fair crowd despite election fever

Although the Sarawak state election largely stole the show in March – the month before the state's polling day, turnouts at the *Karnival Belia Sarawak* (Sarawak Youth Carnival) hosted by the Ministry of Youth and Sports was quite satisfactory. MOSTI was invited to participate in exhibitions held at five out of the 71 venues of the carnival, and MIMOS participated at two of the five venues along with several MOSTI agencies and departments.

The MIMOS booth attracted a good number of visitors, mostly young people who gathered or attended other events at the carnival. Although there was limited opportunity for serious business or technology talks, the exhibitions provided an excellent platform for



HOMEOWN PRIDE... Prime Minister Dato' Sri Najib Tun Razak accompanied by MOSTI Minister Datuk Seri Dr Maximus Ongkili looking at MIMOS' products and technologies.



NUMBER ONE... Hj Fadillah (right) with a group of youths at the prize-giving ceremony at the carnival.

public relations and branding. Present was Satok assemblyman Datuk Amar Abang Johari Tun Openg, who was briefed on MIMOS' current research activities. Also present Deputy MOSTI Minister Datuk Hj Fadillah Yusof. ■



MIMOS takes home three MGDM awards '10

We did it again! MIMOS has won the Malaysia Good Design Mark (MGDM) Awards, for the fourth time in a row. This time around, MIMOS won three awards under the Media and Home Electronics Category for design and quality excellence. The winning technology platforms were Agriculture Network Point Terminal - MIMOS Gateway™ 2.0, MIMOS WiWi™ Outdoor Access Point, and MIMOS NetTablet™. The awards were presented by Minister of Science, Technology and Innovation Dato' Seri Dr Maximus Ongkili at a function in Kuala Lumpur on 10 March.

"The awards are credited to the innovative in-house MIMOS Industrial Design team and will spur them to reach greater heights in their design work. The awards underscore the innovativeness of MIMOS' technology platforms and are a testimony of MIMOS' capability in our technology platforms design and quality," MIMOS President and CEO Datuk Abdul Wahab Abdullah said.

Malaysia Good Design Mark (MGDM) was established in 1997 by the Malaysia Design Council to recognise design and quality excellence as well as recognise the research and development efforts of new products towards making Malaysia a net exporter of technology.

PREVIOUS MGDM AWARDS WON BY MIMOS

- 2007 • iDOLA
- 2008 • Agriculture data collector
 - WiWi wireless router
 - Jen-ii
- 2009 • Precision agriculture wireless sensor node
 - Precision agriculture daisy chain wireless sensor network system



Agriculture Network Point Terminal – MIMOS Gateway 2.0
Robust, reliable gadget for modern farming

Developed based on wireless sensor network technology, Agriculture Network Point Terminal - MIMOS Gateway 2.0, is a proven and robust system for precision agriculture. Its design, incorporating unique styling grooves, portrays its robustness to be used as an outdoor unit in systematic agriculture formation.



MIMOS WiWi Outdoor Access Point
World's first hybrid wireless access router

MIMOS WiWi Outdoor Access Point is a solution for WiMAX-WiFi Customer Premises Equipment (CPE) as a replacement for last mile connectivity. Its durability makes it an ideal solution for wireless network operators who can deploy it anywhere, especially to counter connection problems in poor coverage areas such as in rural areas.



MIMOS NetTablet:
Redefining total mobility

MIMOS NetTablet is the first Malaysian version of a Tablet PC. Thin, compact and lightweight, this sleek, high-quality gadget exudes an aura of exclusivity. It features a multitouch screen, making it suitable for usage in environments which are not conducive to a keyboard or mouse. Besides performing normal PC functions such as Internet browsing and communication, the MIMOS Net Tablet also functions as a convenient reading device and supports mouse-oriented games. ■

More patents granted



After the first two patent grants in December 2010, AMIMOS received another one just before the year ended, followed by three more in 2011. The patents were filed in 2007-2008. We are proud to announce the four MIMOS patent grants:

1. Patent Grant Number My-142676-A: **Integrated Ion Sensitive Field Effect Transistor Sensor**

Inventors: Ali Zaini Abdullah, Azlan Zakaria, Azlina Mohd Zain, Lee Hing Wah, Mohd Rofei Mat Hussin, Nor Azhadi Ngah, Rozina Abdul Rani, Siti Aishah Mohamad Badaruddin and Sudarti Suparmin

2. Patent Grant Number My-142897-A: **SOG O2 Treatment To Prevent SOG Bubble Defect on Double Coat SOG Process**

Inventors: Khairil Mazwan Mohd Zaini, Nora'zah Abdul Rashid and Rahimah Mohd Saman @ Mohamed

3. Patent Grant Number My-143022-A: **Method To Detect Unattended Object Using Image Processing Technique**

Inventor: Dr. Hon Hock Woon

4. Patent Grant Number My-143043-A: **Method for Preparation Of Regenerative Imidazolium Reagents**

Inventor: Dr. Mohd Rais Ahmad

For Dr Mohd Rais, this is the second patent grant after having been granted his Immobilised Synthetic Anion Receptors last year. Congratulations to all inventors for this achievement and recognition. ■

Innovator Award to inspire MIMOSians to scale greater heights



AWARDED... MOSTI Secretary-General Dato' Madinah Mohamad (centre), MIMOS Chairman Dato' Suriah Abd Rahman and CEO Datuk Abdul Wahab Abdullah flanked by Innovator Award winners, from left; Liang, Saharuddin, Prof Ridza, Dr Hon and Dr Mohd Rais.

For the first time, MIMOS recognises its outstanding researchers with the Innovator Awards. The exclusive awards are presented in recognition of R&D achievement and contribution to the innovation aspiration of MIMOS. Selection of recipients is based on a number of factors spanning ideation to commercialisation. The winners have filed IPs, with some granted, have commercialisable patents pending, won awards for MIMOS, represented MIMOS or have been involved in significant research efforts at national or international level.

Ten recipients were selected to receive the inaugural Innovator Awards. Five winners received their awards during MIMOS' 25th Anniversary celebration main event on 5 May. They are Dr Mohd Rais Ahmad, Dr Hon Hock Woon, Prof Dr Mohamed Ridza Wahiddin, Saharudin Busri and Liang Kim Meng. The remaining five received their awards from CEO Datuk Abdul Wahab during Q2 Townhall recently. They are Gopinath Rao Sinniah, Dr Daniel Bien Chia Sheng, Zulaikha Kadim, Dr Mohd Ismahadi Syono and Prof Dr Masuri Othman. ■

Modelling the way, **inspiring the hearts**

Mohamed Ridza Wahiddin was 31 when he first put forward the idea of Quantum Cryptography in Malaysia. That was when he first met with MIMOS Founder Tengku Dr Azzman Shariffadeen. Somehow, the timing was not right, and it was only 12 years later in 2005 that the bright Computational and Theoretical Sciences professor at International Islamic University Malaysia (IIUM) was requested by MIMOS to spearhead the Ninth Malaysia Plan Quantum Cryptography project. Prof Mohamed Ridza, now 49, has been on a secondment with MIMOS since then and has held various lead positions in the areas of quantum cryptography, biometrics, e-forensics, trusted systems and mathematical sciences until his last post as Chief Research Director of the Advanced Analysis and Modelling (ADAM) cluster.

At the recent MIMOS 25th Anniversary celebration, Prof Ridza was one of the recipients of the Innovator Award. With a total of 18 IPs filed from 2008 to 2010 and eight patents pending in MIMOS Quantum and Cryptography Project in his bag, Prof Ridza certainly deserved the honour. In June, Prof Ridza was requested to return to IIUM. MIMOS is nevertheless privileged to continue to gain from Prof Ridza's invaluable contribution with his new appointment as the first MIMOS Associate Scientist. Prof Ridza's shares his thoughts and chords with MIMOSFocus in a recent email interview.

MIMOSFocus: *Prof Ridza, please describe your journey in knowledge, from being an academic at IIUM to being a scientist at MIMOS.*

Prof Ridza: At IIUM prior to joining MIMOS I was very much a domain expert in the technical areas of Quantum Optics and Mathematical Modelling. I was unable to comprehend why the academics and the industry boys, whilst are able to talk to each other, they fail to communicate, hence the existence of innovation chasm. During my six years of secondment to MIMOS I began to understand the needs and challenges of a value chain within the innovation eco-system that link downstream basic research right through to the end users. As MIMOS Associate Scientist, I am now quite prepared to facilitate in building bridges between universities, especially IIUM, with the industry, because I now know how and who to approach to make things happen, God willing.



How do you define innovation in relation to your field of research? How do you see your research areas contributing to Malaysia's competitiveness?

In 2005 I was requested by MIMOS to spearhead the 9MP Quantum Cryptography project. Not many countries are able to invest in this challenging enterprise. To date MIMOS has successfully realised a five-node Quantum Key Distribution Network after USA, Europe, China and Japan. In the process, MIMOS has developed several homegrown quantum communication protocols and innovative methods. MIMOS is also the pioneer Asian representative in the world's first Quantum Key Distribution standards initiated by the European Telecommunication Standards Institute (ETSI). The knowledge, experience, community of practice and research spin-offs (including several trade secrets) will go a long way in preparing Malaysia to cope with the next generation super computers such as Quantum Computers. With the above backdrop, innovation, I define as the realisation of ideation to creation and thus offering options for e-sovereignty.

Of all your contributions at MIMOS, which ones do you like the most?

I enjoyed modelling the way, inspiring and encouraging the hearts of my young, obedient MIMOS researchers. Somehow our team spirit and comradeship became a benchmark to the other MIMOSians.

What is your most memorable moment with MIMOS?

Interestingly Tengku Dr Azzman brought me in on 1 July 2005 but he retired in October of the same year. Then I had to persistently convince Raja Ainin (Raja Noor Ainin Raja Zainal Abidin, then Acting MIMOS CEO), Datuk Shahril (Datuk Shahril Shamsuddin, then Chairman of MIMOS) and eventually (present CEO) Datuk Abdul Wahab to ensure the Quantum Cryptography project is accepted and delivered during the 9MP. The challenge sessions then with the ups and downs were really memorable and they definitely further developed my character.

You have seen MIMOS in the different phases of its journey. What are developments that you hope to see for the next phase of MIMOS' journey?

Commercialisation and utilisation of MIMOS research outputs especially appreciated by the local market is high on the wish list. This will lead to a snow-balling effect and equally important will ensure MIMOS researchers be motivated and recognised through payouts of royalties and licensing. ■



SMALL TOKEN... Prof Ridza receiving a memento from MIMOS Chief Operating Officer En Abd Aziz at his farewell do on 10 June.

MATHEMATICAL SCIENCE

Tackling real life problems through mathematics



The inaugural Mathematics in Industry Study Group (MSIG) Malaysia 2011 was co-organised by MIMOS and Universiti Teknologi Malaysia (UTM) in collaboration with the University of Oxford, United Kingdom and Massey University, New Zealand on 14-18 March 2011; with the objective to solve mathematical problems posed by local industries. The event was held at UTM campus in Skudai, Johor.

Representatives from the industries including the Johor State Government, Johor Specialist Hospital, PETRONAS and MIMOS, presented their problems to an audience comprising applied mathematicians. The mathematicians then formed problem-solving teams which worked collaboratively with the industrial partners.

The mathematical teams formulated ideas in an accessible way in order to realise the benefits from mathematical modelling, analysis and computations. At the end of the meeting, the mathematicians presented the results of their investigations and outlined possible solutions.

MSIG is a global network of collaborative problem-solving workshops where applied mathematicians tackle real life problems brought in by local industries. ■

2011: Creating Malaysian technology companies

“Numbers never lie.” - Abdul Wahab

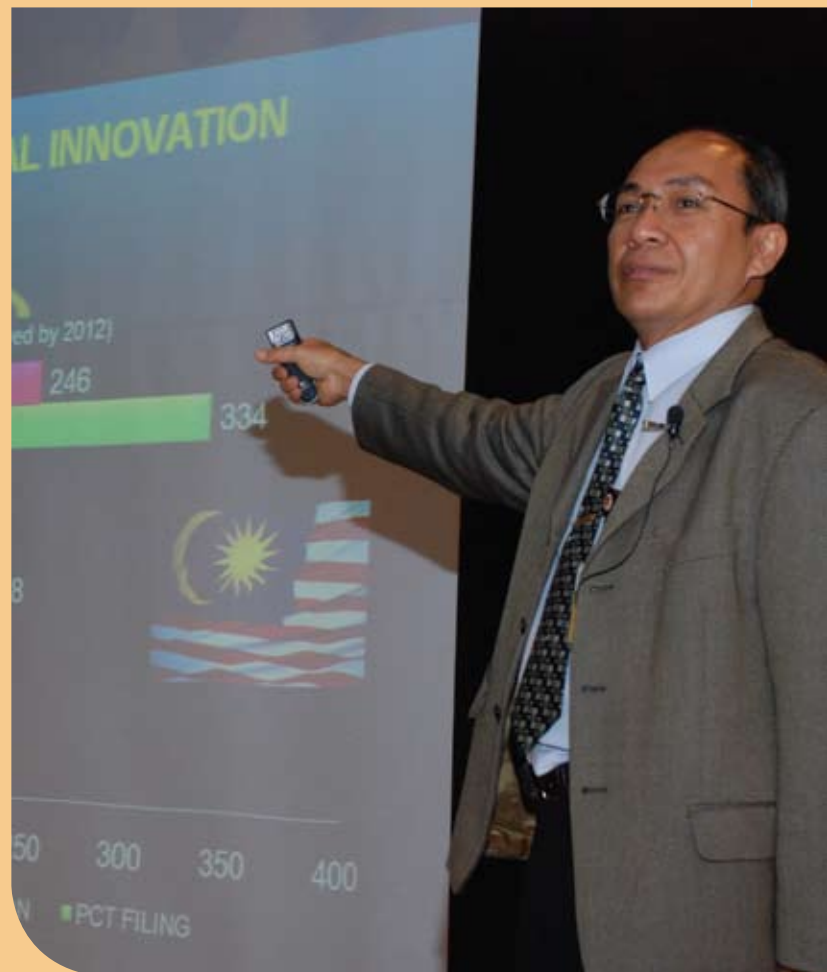
The MIMOS townhall meeting for Q1 2011 was held on Thursday, 24 March, as a run-up to the 25th Anniversary celebration which would kick off on 5 May. Focussing on commercialisation strategies and action plans for the year, the meeting took on the central theme of “Creating Malaysian Technology Companies”, which is the way forward in MIMOS’ innovation journey.

Starting the slide presentation with a brief look at MIMOS’ key milestones since its inception in 1985, CEO Datuk Abdul Wahab Abdullah highlighted on MIMOS’ accomplishments during the past few years. The awards and accolades established MIMOS’ position as an innovation leader, Abdul Wahab said.

The meeting was later informed that MIMOS had so far generated 18 technology platforms, created 23 products, transferred its technology platforms to 23 companies and served five market verticals. “Numbers never lie,” the CEO said, adding that MIMOS would continue to lead innovation in the 10th Malaysia Plan (RMK10), which implementation period started this year. Abdul Wahab said that MIMOS now was working at par and at same pace with, not trailing behind the big players any more.

The CEO later presented the Green Belt Award to 11 Six Sigma achievers, MIMOS gold badges to 17 MIMOSians and platinum badges to 12 others. For the first time, a sapphire badge is presented to a MIMOSian for filing more than 50 patents. The award went to Dr Hon Hock Woon. There was also the IP Filing Reward, which was presented to 17 recipients.

Meanwhile in the Ask the SLT segment, a number of MIMOSians raised several issues relevant to their areas of work. Highlight of this segment was the fine points of the cost-cutting measures, which was explained by Vice President of Corporate Services Pn Emelia Matrahah.



Abdul Wahab concluded the meeting by quoting ancient Chinese military strategist and philosopher Sun Tzu to emphasize the importance of understanding the market and its competitors. “Know the enemy and their strengths,” he said. ■

Minister has high hopes for

MIMOS' role

MIMOS' achievements have made a significant contribution towards the KPI of the Ministry of Science, Technology and Innovation, its minister Datuk Seri Dr Maximus Ongkili said, calling MIMOS a "platinum agency". The minister made this remark during MIMOS' 25th Anniversary Celebration at the MIMOS campus on 5 May.

For the record, MIMOS contributed 40.4 percent or 135 of Malaysia's 334 patent applications filed at the international Patent Cooperation Treaty in 2010. This has contributed to the country's ranking at 25th spot for the most number of patents filed.

Maximus said that marketable IPs from research would result in royalties for researchers. He also called for an increase in the uptake of MIMOS' various technology platforms by local companies to generate wealth for the country. "I believe it is possible for us to become an innovation leader in the Asean



region based on the progress shown by local research facilities and the number of patents being filed," he said.

Noting MIMOS' global collaborations such as with Mindteck (India) Ltd recently, Maximus also expressed hope that the marketing of MIMOS' technology platforms would be expanded to more countries including African nations. ■

Quest for

1000 researchers by 2015

Now that MIMOS has built a reputation as a premier national R&D centre, Datuk Abdul Wahab Abdullah is aiming at increasing the number of Malaysian researchers to 1,000 in four years' time to take locally-bred technology to the world stage. "This is crucial if the nation aspires to be a net exporter of IT products and services," the MIMOS President and CEO said on the occasion of the organisation's 25th Anniversary celebration on 5 May.

Abdul Wahab said that MIMOS was pulling alongside its counterparts in countries such as Singapore, Taiwan and South Korea. MIMOS presently has 400 researchers. He said that to this end, MIMOS would work with Talent Corp Sdn Bhd to help retain the country's world-class talent, increase the number of Malaysian researchers and work with Malaysian researchers in other countries. By increasing the number of Malaysian researchers, the CEO said MIMOS could bring better technologies to the global arena.



TECHNOLOGY DRIVERS... Abdul Wahab flanked by MIMOS Founder Tengku Datuk Dr Mohd Azman Shariffadeen and pioneer researcher Datuk Dr Mohd Arif Nun during MIMOS' 25th Anniversary celebration.

On the 25th Anniversary celebration, Abdul Wahab said: "The key drivers of our success have been the commitment and dedication of MIMOS employees, consistent investment in R&D, and the network of strong collaborations with our partners... We have worked hard to stay ahead of the technology curve and we have been proactively developing innovative frontier technology platforms for commercialisation by Malaysian companies." ■

A birthday party to re

MIMOS celebrates 2



GOOD TO SEE YOU AGAIN, SIR... Tengku Azzman getting a warm welcome from familiar faces at MIMOS. He later shared on his developments with other MIMOS veterans.

The MIMOS campus had been all spruced up weeks before the big day. Then the day came. On Thursday 5 May 2011, the weather was nice and sunny from the start. And on that auspicious day, almost everyone was here early – including the five pioneer MIMOS scientists from the 1980s, together with the then Prime Minister who made it all happen. It's MIMOS 25th birthday!

MIMOS kicked off the year-long 25th Anniversary celebration calendar with a half-day affair attended by MOSTI Minister Dato' Seri Dr Maximus Ongkili, Secretary-General Dato' Madinah Mohamad; and MIMOS' partners and collaborators. The occasion was made very special and most memorable with the presence of MIMOS' passionate advocate and former Prime Minister Tun Dr Mahathir Mohamad and MIMOS founder Tengku Datuk Dr Mohd Azzman Shariffadeen along with the organisation's pioneer management team comprising Datuk Dr Mohd Arif Nun, Dr Mohamed Awang Lah, Dr Muhammad Ghazie Ismail and Prof Emeritus Dato' Dr Mohd Zawawi Ismail. Tengku Azzman in his speech later also mentioned the names of two other pioneer members – Dr Mohamed Othman and Prof Emeritus Dr Harold "Bud" Lawson, who co-wrote the MIMOS concept paper that was presented to Dr Mahathir in 1984.

The event started at 9.50am sharp with the arrival of Dr Mahathir. The swirl of emotions began when the Fourth Prime Minister and special guests walked down the memory lane at the mini photo gallery displaying the 25 years of MIMOS' journey, after which the entourage were



Right: WE WERE HERE FIRST... Dr Ariff came armed with an original print of the 1985 photo of the pioneer team.

Remember 25 years of R&D

promptly taken back to the present with a tech briefing by members of the Senior Leadership Team. After some mind-expanding presentations, the event proper moved to Auditorium Tengku Datuk Dr Mohd Azzman Shariffadeen, where the mixed emotions grew to higher intensity. Seated in the centre front rows of the auditorium named after the MIMOS founder, the great architects of MIMOS were joined by other VIPs and present-day MIMOSians, amidst an atmosphere heavy with pride, joy and nostalgia.

After an opening remark by MIMOS Chairman Dato' Suriah Abd Rahman, who gave a quick account of MIMOS' milestones, the function proceeded with a video montage and award presentations, in between speeches by Dr Maximus, Tengku Azzman and Dr Mahathir. The video montage brought back special memories for many. Poignant yet informative, the montage was an instant hit. We saw tears shed and eyes red during the playback.

Dr Mohamed, Dr Mohd Zawawi, Dr Mohd Arif and Dr Ghazie were recognised as the Pioneer Management Team of MIMOS. Thanks to the transformation programme introduced in the past few years, notably the IP reward scheme, the MIMOS Innovator Awards were presented to recognise top five MIMOSians for their research achievements. Recipients were Dr Mohd Rais Ahmad, Dr Hon Hock Woon, Prof Dr Mohamed Ridza Wahiddin, Saharudin Busri and Liang Kim Meng.

Highlight of the morning was when MIMOS, through MOSTI, presented the **National ICT Leadership Award** to Dr Mahathir and the **MIMOS Founder Award** to Tengku Azzman. In his speech, Tengku Azzman



modestly credited Dr Mahathir as “the real founder of MIMOS” – to which Dr Mahathir humbly retorted later with “if Tengku Azman had not come to see me, I wouldn't know anything at all...”

“To think that we should go into this very new science – something that at that time we couldn't even imagine... but as you can see in 25 years MIMOS has done a great deal of job... I would like to say thank you and congratulations,” said Dr Mahathir in his speech.

In conjunction with the celebration, Dr Mahathir launched a book entitled “Innovation for Life: A Journey beyond Frontiers”, which is MIMOS' in-house publication commemorating the organisation's 25-year journey in R&D. The 90-page coffee-table book presents a pictorial perspective of MIMOS' history, past and present roles, transformation, accomplishments and aspirations.

At the conclusion, the event showed the strong bond that MIMOS shared across generations – protégés with mentors, students with professors, and among the research community in general. The 25th Anniversary do was a proud moment for MIMOS; a memorable event marking an important milestone, where MIMOS indeed celebrated its past, present and future. ■



THE FOUNDER... Tengku Azzman signing on MIMOS' “Proud Innovators” wall while Suriah and Abdul Wahab look on.

Dr M pleased with MIMOS' growth

“When can you start?” asked Dato’ Seri (now Tun) Dr Mahathir Mohamad in August 1984 when Tengku Dr Mohd Azzman Shariffadeen and Swedish-American visiting professor Prof Harold Lawson presented the concept paper for the “Malaysian Institute of Microelectronic Systems”. Barely five months later, MIMOS was born, and what started in January 1985 has come a long way.

MIMOS was instituted as a result of Tun Dr Mahathir’s far-sighted leadership, which provided the initial thrust for Malaysia’s ICT boom. At MIMOS’ 25th Anniversary celebration on 5 May, the organisation through the Ministry of Science, Technology and Innovation (MOSTI), honoured the great statesman with the National ICT Development Award, in recognition of his immeasurable contributions to the development of ICT in Malaysia.



MARKING A MILESTONE... Dr Mahathir inscribing his autograph to launch MIMOS' coffee table book, "Innovation for Life: A Journey beyond Frontiers".

“...You can see, with the very “stingy” amount of money that we spent on research, we have achieved quite a lot,” he said. We later realised that Dr Mahathir was transitioning his speech to emphasise the importance of spending money on R&D for the country to continue to move forward. “I hope the government will fix a percentage of the national budget for research,” he said. “Maybe not three per cent yet but slowly working up to three per cent,” he added.

Dr Mahathir, who congratulated MIMOS several times throughout his speech, concluded with a final one, saying he had never thought “something that was very, very small in the field of research” was going to be this big. Dear Tun, our hearts swelled with your generous support and kind recognition, and we will continue to work hard to bring MIMOS to greater heights. ■

Excerpts from Tun Dr Mahathir's speech at MIMOS' 25th Anniversary celebration



“I would like to congratulate the heads of MIMOS during this (present) time... Apparently they have done a great job... not apparently, CLEARLY they have done a great job...”

“What is interesting is that with MIMOS, we have managed to change the mindsets of Malaysians regarding the value of research. However we still have some problems because people do not understand about research and development. We are mainly users of other people's research and products resulting from these researches...”

“I was very impressed with the products that were exhibited... you can see there's a great deal of professionalism in the design of the products.”

“When you want to make a presentation, you cannot just show how the thing (product) works, but you have to package it... which indicates the level of sophistication and understanding of the market on the part of those who do the research. “

“It is good for us to see that MIMOS can come up with products which look very good and are in conformity with modern ideas about designs of products... I believe that they are on the right track.” ■



Much to do to invent future

-Tengku Azzman



The notion that innovation begins with an idea may not necessarily hold true, at least not in MIMOS – for how would one generate an idea if they did not have the knowledge and understanding to begin with? Without a sense of goal and strategic direction; without a vision of trends, can one spark an idea for the future?

It is clear to us now that Tengku Datuk Dr Mohd Azzman Shariffadeen had all these essentials before coming up with the MIMOS idea. For his exceptional contributions that paved the way for the Malaysian digital era, MOSTI through MIMOS honoured Tengku Azzman with the MIMOS Founder Award in conjunction with the organisation's 25th Anniversary celebration.

The silver jubilee celebration was a sweet homecoming for the former MIMOS CEO. Addressing his greater audience as “fellow travellers of digital space”, Tengku Azzman delivered his speech in his trademark luculent style. His delivery was calm but alive with conviction, his remarks succinct and crisp. The writer overheard whispers that Tengku's speech was “*masih macam dulu*” (still like in those days).

“I remember the time when MIMOS did not exist. Some of us dreamed about it. It took four years of persistent effort to turn the dream into reality,” he reminisced. Towards the end of his speech



Tengku Azzman said that he was “happy to see Datuk Abdul Wahab leading the challenge. I was once his teacher... and I was also teacher to (Chief Operating Officer) Aziz Kadir and (Director of Technology Strategy and Planning) Dr Chandran (Elamvazuthi),” he revealed.

As if asking MIMOSians to ponder or re-evaluate their roles, Tengku Azzman posed this profound question: “How can we use ICT to create life-changing solutions and build a better future? As it is often said, the best way to predict the future is to invent it. There is much to do to invent our future. After all, the tagline of MIMOS is Innovation for Life.” ■

Lively lessons from **NASA-Ames scientist**

Renowned American scientist Dr William J Clancey was in Malaysia on 6-17 June to share his knowledge and experience on human-centred computing. The programme was jointly organised by MIMOS and the International Islamic University of Malaysia (IIUM). For MIMOS, the NASA scientist's visit was part of the Expert Talk Series that complement its 25th Anniversary celebration. The series of meetings and lectures were organised under the header "Learn from NASA-Ames Scientist – Human-Centred Computing Methods and Technologies."

Dr Clancey began the series with a talk on "Work Systems Design @ NASA" where he spoke on the theory and accomplishments of Human-Centred Computing. The rest of the series of lectures include a talk on multi-agent modelling language, Brahms, of which Dr Clancey was one of the inventors; discussions on "Being a Researcher" and "Innovation and R&D"; meetings with Proton engineers, which were focused on the use of human-systems modelling in control systems engineering; and talks on agent-based systems integration and the Orbital Communications Adapter Monitoring System (OCAMS), a system designed to assist flight controllers in managing the file system onboard the International Space Station.



POTENTIAL SCIENTISTS... Dr Clancey responding to questions from enthusiastic students of Sekolah Menengah Islam Al-Amin in Gombak. The scientist had earlier presented a public lecture on "Voyages of Scientific Discovery with the Mars Exploration Rovers" at the Islamic religious school.



There was also a three-part talk on Situated Cognition, a panel discussion on "Knowledge and Values: Secular and Holistic Perspective", as well as two public lectures on the scientific work practices of the Mars Exploration Rover project, where Dr Clancey shared with the audience on discoveries made by the two rovers that were sent to Mars by NASA as well as work done by scientists and engineers on Earth during the exploration. Dr Clancey also held discussions and shared his research experience with researchers from various clusters of MIMOS, toured the MIMOS Nano Lab and was briefed on MIMOS technologies.

Dr Clancey finished off his visit with a discussion on Innovative R&D, which was attended by representatives from MIMOS and IIUM. Overall, MIMOS and IIUM as well as participants and participating venues in the programme have gained tremendously from the visit of this distinguished scientist. Likewise, we believe Dr Clancey has taken home some new experience and exchange of viewpoints during his visit to Malaysia. ■

Text source: MIMOS Advance Analysis & Modelling

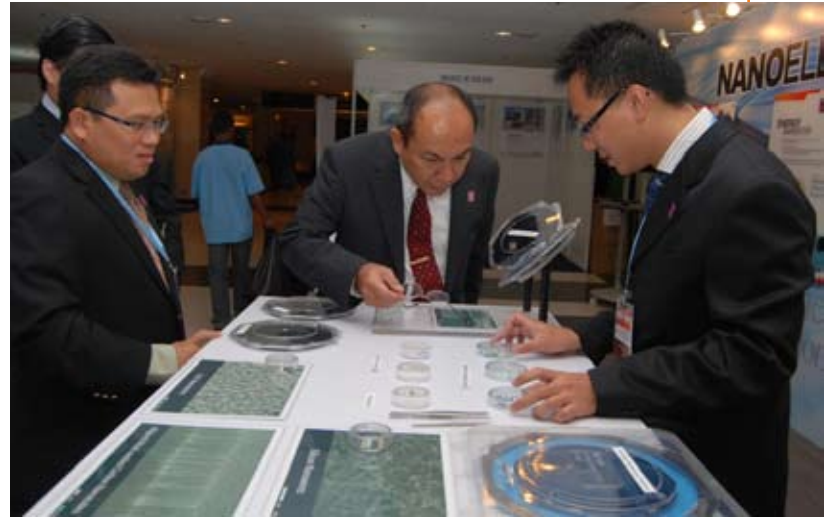
MIMOS Nano electronics CoE towards achieving Malaysia's nano aspiration

MIMOS Nanoelectronics was awarded the National Centre of Excellence (CoE) status by the Ministry of Science, Technology and Innovation (MOSTI). MIMOS President & CEO Datuk Abdul Wahab Abdullah received the CoE recognition from minister Dato' Seri Dr Maximus Ongkili at the Nano Malaysia Summit 2011 in Kuala Lumpur on 15 June. The CoE award was a clear recognition of MIMOS' continuous efforts in R&D on nanotechnology and presented a great opportunity for the cluster to focus on niche areas, namely high-performance self-powered ubiquitous sensor solutions.

Four other organisations were also named as National CoE in Nanotechnology; Centre of Innovative Nanostructures and Nanodevices of Universiti Teknologi Petronas, Ibnu Sina Institute for Fundamental Science Studies of Universiti Teknologi Malaysia, Institute of Microengineering and Nanoelectronics of Universiti Kebangsaan Malaysia and the Institute of Nano Electronic Engineering at Universiti Malaysia Perlis.



RECOGNISED... Dr Maximus presenting the National CoE recognition to Abdul Wahab. Also present, MOSTI Secretary-General Secretary General Dato' Madinah Mohamad.



FUTURE MATERIALS... Abdul Wahab inspecting the displays at the MIMOS booth. With him are Director of MIMOS MEMS/NEMS & Nanoelectronics Saat Shukri Embong (left) and Staff Researcher Dr Teh Aun Shih.

In his opening speech, Dr Maximus said that nanotechnology had the potential to be a vehicle of wealth creation for the country. At the event, the minister launched the development of the NanoMalaysia Programme where the five CoEs, supported by the industry and international alliances, would be engaged in focussed research activities coordinated by the proposed NanoMalaysia Centre, to be located at Senai High Tech Park in Iskandar Malaysia. The RM200 million centre will act as a one-stop centre for nano science and technology activities and provide the missing link between laboratory and market. The development of the centre is part of the 10-year (2010-2020) NanoMalaysia Programme Roadmap to facilitate and provide commercialisation platforms, including technology incubator facilities.

MIMOS Nanoelectronics currently focuses mainly in exploring the use and functionalisation of nanomaterials for applications in sensors and energy harvesters while exploring the characteristic of various nanostructures on our devices. With these nanomaterials and nanostructures, MIMOS aims to realise the development and commercialisation of technological breakthroughs especially in the areas of nanoelectronics, NEMS, nanosensors, nanophotonics, renewable micro energy and green technology. ■

Learning from the big boys at **PERFORMANCE UNLEASHED 2011**

Local IT players mainly from the content, web service and security industries were given a taste of top-notch performance when experts from the world's most renowned IT companies shared their ideas and experiences in Kuala Lumpur on 29 June.

The Performance Unleashed Conference 2011 organised by the MIMOS Product Quality and Engineering (PQRE) Lab brought together Facebook performance engineer Goranka Bjedov, Twitter's architect Evan Weaver, Joyent's Tom Hughes-Croucher, Google's software engineer Dounia Berrada, Julian Harty from Ebay and Google's Senior Engineer Simon Stewart. The conference was a practitioner-driven event that was dedicated to enabling knowledge sharing on architecting, operating, developing and testing of infrastructure and applications. The speakers shared and discussed on best practices of current technology trends and the strategies their organisations would take in implementing superior products and innovations.

MIMOS President and CEO Datuk Abdul Wahab Abdullah said: "Local IT players have to get knowledge from the best practitioners in IT services - the most renowned players from overseas. This conference provides an exposure to things not written in a book."



VALUABLE EXCHANGE...PQRE Lab Director Mohamed Redzuan Abdullah (right) in a conversation with Bjedov.

Topics covered included performance analysis and capacity estimation on servers, working with constricted resources, problem solving and testing methods. Participants largely agreed that the conference had provided an ideal platform for learning from the experts, exchanging ideas with peers and sharing best practices to prepare them for international market. ■



GEEKS UNLEASHED... The international speakers, from left: Weaver, Harty, Berrada, Bjedov, Hughes-Croucher and Stewart.

Capacity building

for Muslim communities

The government's efforts in building the capacity of mosques and turning them into modern institutions employing the latest information and communication technologies have been realised with the launch of MOSTI's K-Masjid project in Kota Kinabalu, Sabah. The district was first in the state to receive such a project. The project was launched on 5 March at Masjid Nur Al-Jannah in Kampung Petagas in Putatan District by Deputy Chief Minister who is also Petagas state assemblyman, Datuk Seri Yahya Hussin.

The following day in Papar District, the Raudhatul Ilmiyyah mosque in Kampung Kuala became the next recipient of another K-Masjid project. Deputy Health Minister Malaysia who is also Papar Member of Parliament. Datuk Rosnah Abd Rashid Shirlin graced the launching ceremony.

In Sarawak, a K-Masjid project was launched by Chief Minister Tan Sri Abd Taib Mahmud at Masjid Darussalam in Marudi on 25 March. This is the second K-Masjid for the state after the one in Sibuti, near Miri, which was launched last year.



ENHANCED COMMUNICATION... With K-Masjid's modern visual aids, digital systems and Internet connection, delivery of information and knowledge is more effective and efficient. Religious institutions no longer function merely as places for worship and spiritual activities but serve as knowledge and resource centres.

Costing RM150,000 each, a typical K-Masjid project comprises a K-Centre with 10 computers and a printer. The K-centre offers basic ICT classes for the community and can function as a cybercafe where, for a nominal fee, patrons can use the computers and Internet connection. Apart from the computer facilities, the mosque is also equipped with an LCD television set, a motorised white screen, a projector and a digital video camera.

The K-Masjid project intends to mobilise the community by attracting the young generation, and in this instance the youth will also be exposed to ICT. By using the latest in ICT technologies, the project can uplift the position of religious institutions as learning centres, at the same time produce more IT-savvy people among of local community. In addition, the K-Masjid portal would be an ideal platform for the community to interact, access information and make online transactions.

Under the K-Masjid programme, MIMOS provides related ICT and technical services including web portal development. MIMOS expects that at least 40 K-Masjid projects to be up and running throughout the country by 2011 year end. ■



Driving MOSTI's corporate social responsibility



CROWD PULLER... The K-Wheels has never failed to draw the numbers in small towns and big cities alike. INSET: Then Prime Minister Dr Mahathir Mohamad on board the coach during its early days, attended to by the energetic "Cikgu" Kang.



MIMOS' MIU (Mobile Internet Unit) was officially launched by then Deputy Prime Minister, Datuk Seri (now Tun) Abdullah Ahmad Badawi on 6 August, 1999. Before being transformed into a 20-seater mobile cyber learning centre, the unit was a 44-seater bus. Funding for the MIU programme came from the National Information Technology Council (NITC), United Nations Development Programme (UNDP), Automobile Corporation Malaysia Sdn Bhd (ACM) and MIMOS. Soon after its launch, the coach travelled the length and breadth of the country with a sole aim of bridging the digital divide between the information rich and information poor.

The MIU was operated by a team which included a driver who doubled as a facilitator, and was led by project manager, Kang Wai Chin. A very energetic lady, Kang took her team from Perlis to Johor, reaching out to schools and community centres that had no computer facilities. A typical session for a young 'client' would include learning to use the computer and the accompanying multimedia software, basic software applications, basic Internet browsing and even creating simple websites. The coach would visit the same venue for a total of 10 sessions to achieve its mission. At each location, the MIU team would train up to 100 people.

In 2007, in line with MIMOS new CEO Datuk Abdul Wahab's vision to reach more people, the MIU was refurbished and later became known simply as K-Wheels. Functioning as a mobile exhibition of interactive and multimedia technology, the revitalised coach drove MOSTI's and MIMOS' vision of educating not only the young ones but everyone. A month-long nationwide tour that started on 5 March 2007 attracted more than 50,000 visitors, many in rural areas.

In the following years the K-Wheels became a major star at almost any event it participated. More content and games were loaded into the computers to attract more visitors and make the ICT learning experience more enjoyable and enriching. From kindergarten kids and farmers to prime ministers and heads of states, K-Wheels had seen people from all walks of life on board throughout its journey.

In the more than 11 years with MIMOS, K-Wheels has been an excellent vehicle in raising awareness, building interest and reducing fear of using computers. At the same time, K-Wheels' tours had helped in presenting MIMOS as a national Research Centre in Frontier Technologies. Beginning 2011, K-Wheels is parked at its new home at the National Science Centre under a role transfer programme. Thank you, K-Wheels, for the wonderful times. ■

Smart partnerships emphasised as LID delegates visit MIMOS

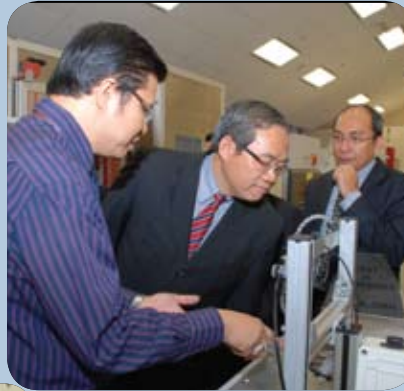
A group of participants of the Langkawi International Dialogue 2011 which convened in Putrajaya on 19-21 June visited MIMOS on the third and final day of the event. It was an important reception for MIMOS as the delegates were fresh from a highly-successful business forum and an exhibition which showcased MIMOS technologies, apart from the dialogues and discussions on Smart Partnerships where ICT was identified as an increasingly important area in the development process.

Chief Operating Officer Abd Aziz Abd Kadir shared with the visitors on what and how MIMOS contributed to the progress of ICT industry in Malaysia while Chief Technology Officer Thillai Raj gave a presentation on MIMOS technology thrust areas. Zimbabwe Deputy Prime Minister Arthur Mutambara said that his country would send a technical team to Malaysia to learn global best practices in ICT. "We are now learning how to use science and technology to leapfrog Zimbabwe into the information and knowledge economy," he told reporters who covered the visit. ■





7 Feb
POTENTIAL TECHNOLOGY...
Zimbabwean Minister of Science and Technology Development Prof Henri AM Dzinotyiweyi being briefed by MIMOS Product Development and System Integration senior staff engineer Ahmad Nizar Harun on MIMOS' sensor technology.



11 Feb
RELIABILITY CHECKED...
University of Malaya Vice-Chancellor Prof Datuk Dr Ghauth Jasmon accompanied by MIMOS CEO Datuk Abul Wahab Abdullah visiting the Product Quality and Reliability Engineering laboratory, ably assisted by senior staff engineer Nik Ahmad Fadzil Nik Muhammad Arifin.



14 Feb
LOOKING TO THE CLOUDS... CEO of TM Dato' Sri Zamzam Zairani listening to a brief by MIMOS Chief Technology Officer Thillai Raj at MIMOS K-World during his visit. Also present MIMOS CEO Datuk Abdul Wahab Abdullah and TM senior officials.



24 May
GETTING FAMILIAR...
Polish Ambassador to Malaysia Prof Dr Adam W Jelonek and his entourage browsing through at MIMOS' photo gallery, accompanied by MIMOS Chief Research Director Prof Mohamed Ridza Wahiddin.



10 March
CYBER DEFENCE...
Officials from the Ministry of Defence touring the Wireless Communication sector of MIMOS' K-World, guided by MIMOS Product Development and System Integration Vice President Mohd Ali Mustafa.



11 March
ACADEMIC INPUT... Multimedia University President Prof Dato' Dr Muhamad Rasat Muhamad accompanied by MIMOS' Director of MEMS/NEMS & Nanoelectronics Saat Shukri Embong visiting one of the laboratories during his visit.



Premier Applied Research Centre in
FRONTIER
 Technologies



Vision

To be a premier applied research centre in frontier technologies

Mission

To pioneer innovative information and communication technologies towards growing globally competitive indigenous industries

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