

KERATAN AKHBAR-AKHBAR TEMPATAN
TARIKH: 31 JULAI 2015 (JUMAAT)

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Industri perlu manfaat nanoteknologi

Oleh ZUNAIDAH ZAINON
ekonomi@utusan.com.my

■ KUALA LUMPUR 30 JULAI

PEMAIN industri tempatan perlu memanfaatkan sepenuhnya pengetahuan teknikal dalam mengintegrasikan nanoteknologi untuk menjalankan aktiviti pemprosesan dan pengeluaran produk terkini.

Menteri Sains, Teknologi dan Inovasi, Datuk Wilfred Madius Tangau berkata, tanpa pengetahuan dan maklumat mengenai nanoteknologi akan menyebabkan pemain industri dan pelabur keberatan untuk melabur dan melibatkan diri dalam pengeluaran nano elektronik.

Pada masa sama, katanya, semua pemain industri digalakkan mendapatkan pensijilan oleh NanoMalaysia Berhad (NanoMalaysia) di bawah Program Pengesahan Nano bagi pengeluaran produk dan

pemprosesan.

"Saya berharap dengan bantuan dan panduan daripada NanoMalaysia, dapat membantu pemain industri untuk memaksimumkan peluang yang ada bagi meningkatkan keupayaan pengetahuan teknologi," katanya ketika merasmikan Siri Seminar Jumpstart NanoMalaysia di sini hari ini.

Teks ucapan beliau dibacakan Timbalan Ketua Setiausaha (Sains) Kementerian Sains, Teknologi dan Inovasi, Dr. Zulkifli Mohamed Hashim.

Yang turut hadir, Ketua Pegawai Eksekutif MIMOS Berhad, Datuk Abdul Wahab Abdullah dan Ketua Pegawai Eksekutif NanoMalaysia, Dr. Rezal Khairi Ahmad.

Pada majlis itu, empat memorandum persefahaman (MoU) ditandatangani melibatkan dua agensi kerajaan dan dua institusi pengajian tinggi bagi membangunkan sektor elektrik dan elektronik.

Menurut Wilfred, nano elek-

tronik dikenal pasti sebagai satu daripada penyelesaian teknikal untuk menambah baik dan menjadi nilai tambah kepada aktiviti pembuatan di Malaysia dalam penyelidikan dan pembangunan elektronik dan peningkatan penglibatan perusahaan kecil dan sederhana (PKS) dalam perniagaan teras.

"Kita menjangkakan sektor elektrik dan elektronik dapat menyumbang 20 hingga 30 peratus kepada Keluaran Dalam Negara Kasar (KDNK) menjelang 2020 dengan Internet Nano Segala-galanya (IoNT) sebagai pemangkin utama," katanya.

Sementara itu, Rezal Khairi berkata, PKS digalakkan menggunakan kemudahan yang disediakan melalui penubuhan Pusat Teknologi Nano Semikonduktor di MIMOS yang mempunyai infrastruktur lengkap bagi menyokong bidang nanoelektronik, grafen dan semikonduktor mikroelektronik.



ZULKIFLI MOHAMED HASHIM (tengah) menurunkan tanda tangan sebagai simbolik perasmian Nano Semiconductor Technology Centre sambil disaksikan Abdul Wahab Abdullah (kiri) dan Rezal Khairi Ahmad di Kuala Lumpur, semalam.
- UTUSAN/ZUANIDAH

Manfaat teknologi nano dalam pemprosesan

Kuala Lumpur: Pemain industri tempatan digesa memanfaatkan dan menyepadukan teknologi nano dalam pemprosesan serta produk masing-masing bagi membawa pasaran tempatan ke tahap lebih baik.

Timbalan Ketua Setiausaha (Sains) Kementerian Sains, Teknologi dan Inovasi (MOSTI) Dr Zulkifli Mohamed Hashim berkata, pada ketika ini kesedaran dan pengetahuan pemain industri mengenai kelebihan teknologi itu dilihat rendah, sekali gus membuatkan ramai pihak tidak berani mene-

rokai serta melabur dalam pengeluaran nano elektronik.

"Untuk memanfaatkan teknologi ini, ia memerlukan pendekatan pelbagai disiplin yang menggabungkan penyelidikan dalam bahan reka bentuk, pemprosesan, pemodelan, pencirian dan metrologi," katanya pada ucapan pelancaran siri Seminar JumpStart NanoMalaysia di sini, semalam.

Beliau berkata, semua pemain industri digalakkan mendapatkan pensijilan NanoMalaysia Berhad (NanoMalaysia) di bawah Program Pengesahan Nano bagi pengeluaran produk dan pemprosesan.

"Saya berharap panduan NanoMalaysia akan membantu pemain industri bagi memaksimumkan peluang yang ada bagi meningkatkan keupayaan pengetahuan teknologi," katanya.

Dalam majlis sama, empat perjanjian persefahaman ditandatangani membabitkan satu pemain industri, dua agensi kerajaan dan dua universiti dalam usaha yang jangka mampu melonjakkan sektor Elektrik dan Elektronik (E&E) dalam tempoh lima tahun akan datang.

Empat perjanjian itu membabitkan NanoMalaysia Berhad (NMB) dan Mimos Berhad (Mimos); NMB, Mimos dan Penchem Technologies Berhad; Mimos dan Universiti Malaya (UM) serta Mimos dan Universiti Multimedia.

FAKTA

Semua pemain industri digalakkan mendapatkan pensijilan NanoMalaysia Berhad

NANOTEKNOLOGI

SUNTIKAN MAMPU LONJAK KDNK RM50B

» MOSTI
yakin ciptaan
baharu E&E
tingkat
pengeluaran

Oleh Shahrizan Salian
shahrizan_salian@bh.com.my

Penemuan baharu dalam bidang nanoteknologi berpotensi menambah kira-kira RM50 bilion atau 30 peratus daripada sumbangan sektor elektrik dan elektronik (E&E) kepada Keluaran Dalam Negara Kasar (KDNK) menjelang tahun 2020.

Nanoteknologi merujuk kepada cabang sains yang menumpukan kepada jirim bersaiz antara satu hingga 100 nanometer, yang mana membolehkan penciptaan bahan serta kegunaan baharu dalam industri E&E.

Menteri Sains, Teknologi dan Inovasi, Datuk Madius Tangau, berkata eksport E&E Malaysia yang bernilai RM256 bilion pada 2014 adalah disebabkan oleh permintaan kukuh global bagi aplikasi semikonduktor

selain perkembangan pantas industri teknologi maklumat.

Potensi besar

"Kerajaan mahu melihat lebih banyak usaha dan pembangunan dilaksanakan dalam bidang ini memandangkan potensi bagi sektor nanoelektronik adalah besar dan tidak boleh dipandang ringan," katanya berucap merasmikan Siri Seminar Permulaan Nano-Malaysia di Taman Teknologi Malaysia Kuala Lumpur, semalam.

Teks ucapannya dibacakan oleh Timbalan Ketua Setiausaha (Sains) Kementerian Sains, Teknologi dan Inovasi (MOSTI), Dr Zulkifli Mohamed Hashim.

Zulkifli turut melancarkan Pusat Teknologi Semikonduktor Nano selain menyak-

sikan empat memorandum persefahaman (MoU) kerjasama penyelidikan dalam bidang nanoteknologi dimeterai antara agensi pengkomersialan nanoteknologi nasional, Nano-Malaysia Bhd dengan MIMOS Bhd, Penchem Technologies Sdn Bhd, Universiti Malaya (UM) dan Universiti Multimedia (MMU).

Yang hadir sama ialah Presiden dan Ketua Pegawai Eksekutif MIMOS, Datuk Abdul Wahab Abdullah dan Ketua Pegawai Eksekutif NanoMalaysia Bhd, Dr Rezal Khairi Ahmad.

Berucap lanjut, beliau berkata, kerjasama penyelidikan antara agensi, industri dan universiti akan menghasilkan peluang keemasan kepada negara untuk memacu bidang nanoteknologi sebagai antara sumber baharu pertumbuhan ekonomi yang menepati keperluan Rancangan Malaysia Ke-11 (RMKe-11).

"Nanoteknologi adalah satu bidang dinamik dan potensi yang dimilikinya adalah sangat luar biasa," katanya.

Beliau berkata, nanoteknologi telah dikenal pasti sebagai penyelesaian untuk meningkat serta menambah nilai aktiviti pengeluaran di negara ini, sejajar dengan arah aliran pertumbuhan dalam R&D elektro-

nik di samping bertambahnya penggunaan teknologi itu oleh perusahaan kecil dan sederhana (PKS).

Bagaimanapun, katanya, penggunaan elektronik nano dalam aktiviti pengeluaran di negara ini masih dalam peringkat permulaan dan ia menawarkan potensi keuntungan ekonomi yang besar jika dimanfaatkan secara strategik.

Langkah evolusi

"Elektronik mikro mengubah dunia kita secara drastik. Komputer, telefon pintar, televisyen digital, peralatan keselamatan, peralatan perubatan dan penjagaan kesihatan semuanya menjadi barangan penting dalam kehidupan seharian.

"Justeru, elektronik nano adalah langkah evolusi generasi berikutnya memandangkan jumlah transistor yang boleh dipasang ke dalam sebuah cip boleh mencapai satu bilion, namun ia memerlukan revolusi teknologi untuk melangkah ke depan," katanya.

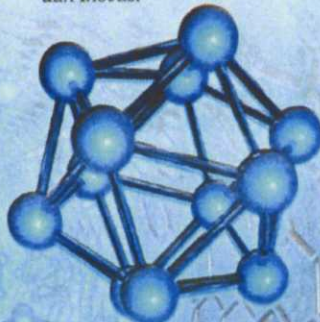
Beliau berkata, ketika menyiapkan kertas RMKe-11, kerajaan antara lain menyedari negara kekurangan tenaga kerja diperlukan untuk mengangkat industri nanoteknologi ke tahap berikutnya.

Justeru, tegasnya satu pendekatan pelbagai disiplin yang menggabungkan penyelidikan reka bentuk bahan, pemprosesan, pemodelan, pembentukan serta metrologi akan dilaksanakan.

"Tanpa pengetahuan dan maklumat mengenai bagaimana nanoteknologi boleh menambah nilai ke atas produk atau menambah baik proses pengeluaran, maka peserta industri dan pelabur enggan menceburi bidang pengeluaran elektronik nano," katanya.

“
**Nanoteknologi
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sangat luar biasa”**

Madius Tangau,
Menteri Sains, Teknologi
dan Inovasi



Nanotechnology will help **boost** E&E exports

> Nano-electronics in manufacturing activities still in infancy stage, offers huge potential for economic gain

BY **EE ANN NEE**
sunbiz@thesundaily.com

BUKIT JALIL: Malaysia's exports of electrical and electronic (E&E) products are expected to increase 20-30% by 2020 with nanotechnology and the rise of Internet of Things (IoT).

Science, Technology and Innovation Ministry deputy secretary-general Dr Zulkifli Mohamed Hashim said the value of E&E exports in 2014 totalled RM256 billion, driven by strong global demand for new semiconductor applications and the rapid emergence of IoT.

"The adoption of nanoelectronics in manufacturing activities is still in its infancy in Malaysia and this offers a huge potential for economic gain if exploited strategically," he said at the signing of four memorandums of understanding (MoUs) on nanotechnology and the launch of the Nano Semiconductor Technology Centre here yesterday.

Nanotechnology is the manipulation of materials at a very tiny scale, essentially at atomic and molecular levels, while IoT is a network of physical objects or "things" embedded with electronics, software, sensors, and connectivity to enable objects to exchange data with the manufacturer, operator and other connected devices.

Zulkifli said nanoelectronics as an emerging technology has been identified as a technological solution for upgrading and



From left: Mimos Bhd president & CEO Datuk Abdul Wahab Abdullah, Zulkifli and NanoMalaysia Bhd CEO Dr Rezal Khairi Ahmad at the launch of the Nano Semiconductor Technology Centre at Mimos, Bukit Jalil, yesterday.

value-adding relevant manufacturing activities in Malaysia corroborated by a growing trend in electronics research and development (R&D) and an increasing number of adoptions from SMEs.

"The collaborative research between the national applied research and development agency for ICT, micro and nanoelectronics Mimos Bhd, universities and the industry will present opportunities to drive nanotechnology as new source of growth in line with the 11th Malaysia Plan."

The Nano Semiconductor Technology Centre, a comprehensive shared service facility located at the Mimos premises for small, medium and large enterprises in the E&E sector, will also serve as a catalyst to thrust nanotechnology as a new growth engine.

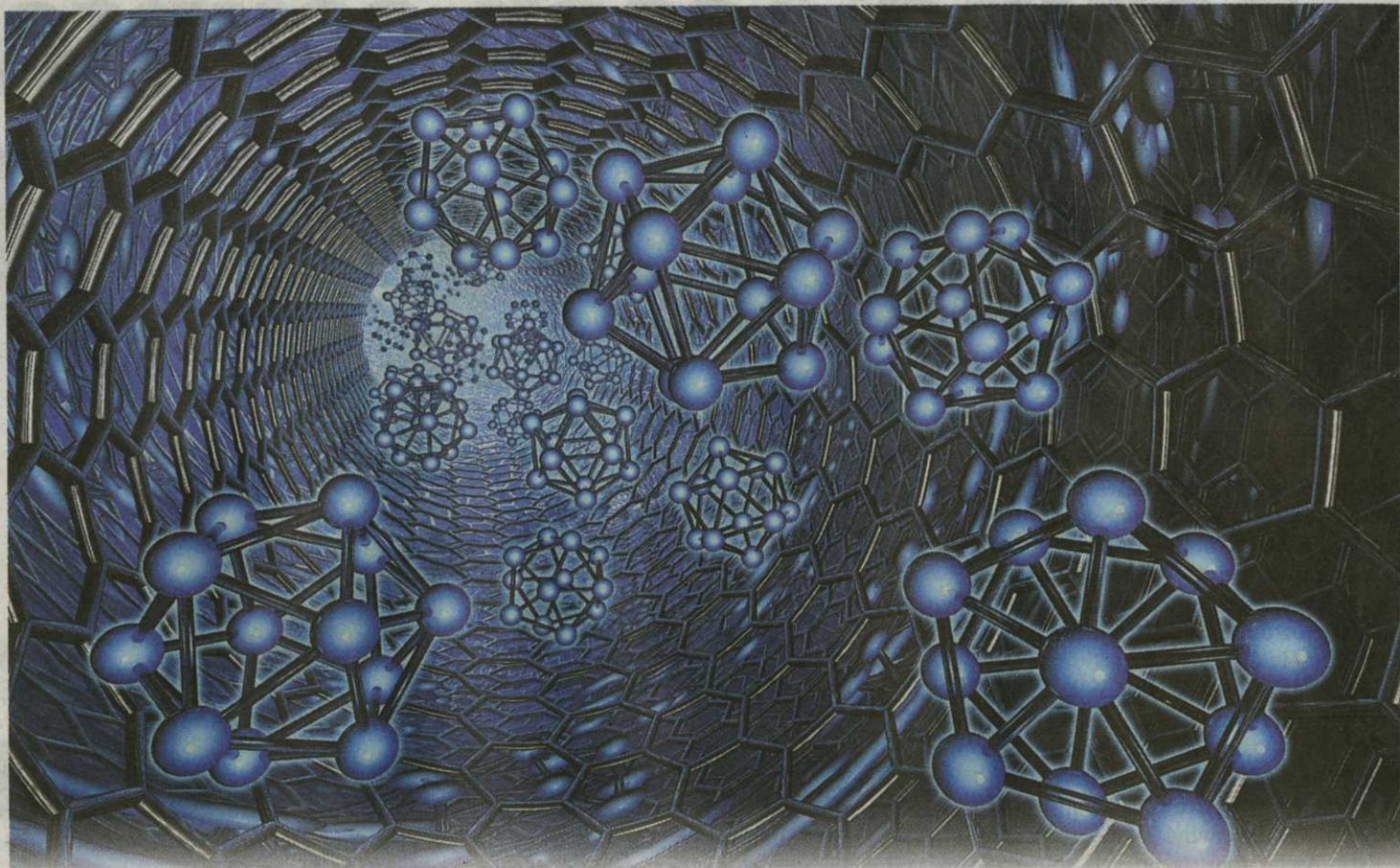
Zulkifli said there are many set-up and operationalisation of nanoelectronics-related activities currently available for the manufacturing sector, such as advance materials R&D, prototyping, testing and trials facilities at the Semiconductor Technology

Centre for Microelectronics and Nanoelectronics at Mimos, the Institute of Microengineering and Nanoelectronics, Universiti Kebangsaan Malaysia and the Institute of Nano Electronic Engineering, Universiti Malaysia Perlis.

The first MoU signed yesterday was for a technology partnership between nanotechnology commercialisation agency NanoMalaysia Bhd and Mimos will see the two agencies jointly undertake R&D and commercialisation of technology products.

The second MoU was a tripartite collaboration involving NanoMalaysia, Mimos and Penchem Technologies Sdn Bhd for R&D and commercialisation of smart sensors and advanced material applications for electronic products.

The third and fourth MoUs were signed between Mimos and the University of Malaya and Multimedia University respectively for research, design and development of grapheme, a carbon-based nanomaterial with superlative properties.



Nanotechnology for industry players

KUALA LUMPUR — The nanotechnology industry needs to focus more on enhancing awareness and technical know-how among local players in integrating the technology on products and processes.

Science, Technology and Innovation Minister Datuk Madius Tangau said the issue should be addressed through a multi-disciplinary approach, combining research in material design, processing, modelling, characterisation and metrology.

Hence, he urged the NanoMalaysia Jumpstart Seminar Series here today to use the forum in resolving problems faced by the industry players.

His opening address was read by Science, Technology and Innovation Ministry Deputy Secretary-General (Science) Dr Zulkifli Mohamed Hashim.

“Without the knowledge and information on how nanotechnology can add value to their products or improve their manufacturing processes, industrial players and investors are reluctant to invest and foray into the nano-electronics productions or adoption.

“I hope this problem could potentially be addressed and some level of understanding could be achieved at the end of this one-day session,” Madius said.

He said RM256 billion worth of electrical and electronics (E&E) products were exported last year, driven by strong global demand for new semiconductor applications as well as the rapid emergence of Internet of Things (IoT).

“With new breakthrough discoveries in nanotechnology and the rise of IoT, I dare to say that we can raise the E&E sector by

20% to 30% by 2020 with Internet of Nano-things (IoNT) as an essential development of IoT,” he added.

At the event, Zulkifli launched the Nano Semiconductor Technology Centre, a complete E&E ecosystem support in the areas of nanoelectronics, graphene and semiconductor microelectronics.

The seminar witnessed four memorandum of understanding (MoU) in the nanotechnology industry sealed among an industry player, two government agencies and two universities, with the objective of propelling the E&E sector to a new record level within five years.

The MoUs were signed among NanoMalaysia Bhd, MIMOS Bhd, Penchem Technologies Sdn Bhd, University of Malaya, and Multimedia University. — Bernama

PAC perlu pengerusi untuk mesyuarat

KUALA LUMPUR - Jawatankuasa Kira-Kira Wang Negara (PAC) tidak boleh mengadakan sebarang mesyuarat termasuk berhubung isu IMalaysia Development Berhad (IMDB) sehingga pengerusi baharu dilantik menggantikan Datuk Nur Jazlan Mohamed yang telah meletakkan jawatan kelmarin berikutan penyertaannya ke dalam Kabinet.

Speaker Dewan Rakyat, Tan Sri Pandikar Amin Mulia (**gambar**) berkata, Peraturan Mesyuarat 77(3) yang membenarkan seorang anggota jawatankuasa dipilih memengerusikan mesyuarat sekiranya ketiadaan pengerusi dan naib pengerusi atas sebab keuzuran atau sebab lain tidak boleh dipakai dalam situasi pada masa ini.

"Peruntukan itu hanya boleh digunakan dalam hal ketidakhadiran pengerusi atau naib pengerusi kerana sebab-sebab tertentu bukannya atas sebab pengosongan jawatan.

"Lagipun wajar mesyuarat PAC diadakan selepas jawatan pengerusi baharu diisi bagi mengelakkan sebarang pertikaian dan isu berbangkit berhubung kesahihan prosiding PAC

sekiranya ia tetap diteruskan pada masa ini," katanya ketika dihubungi di sini semalam.

Beliau mengulas kenyataan Naib Pengerusi PAC, Dr. Tan Seng Giaw yang mendakwa mesyuarat jawatankuasa itu masih boleh diteruskan tanpa kehadiran empat anggota yang telah meletak jawatan selepas mereka dilantik menyertai barisan Kabinet dalam rombakan diumumkan Perdana Menteri, Datuk Seri Najib Tun



Razak pada Selasa lalu.

Seng Giaw mendakwa, PAC masih mempunyai korum mencukupi iaitu sekurang-kurangnya sembilan orang untuk melakukan pendengaran mengikut Peraturan Mesyuarat Dewan Rakyat.

Beliau berpendapat, siasatan terhadap IMDB perlu diteruskan segera walaupun tanpa empat anggota PAC terbabit termasuk bekas pengerusinya, Nur Jazlan.

Pandikar Amin menegaskan, selain Nur Jazlan yang dilantik menjadi Timbalan Menteri Dalam Negeri, tiga lagi kekosongan anggota PAC melibatkan **Datuk Wilfred Madius Tangau** (Menteri Sains, Teknologi dan

Empat ahli PAC anggota pentadbiran baharu Najib

KUALA LUMPUR - Seramai empat orang anggota Jawatankuasa Kira-Kira Wang Negara (PAC) dilantik menyertai Kabinet dan menjadi anggota pentadbiran kerajaan Perdana Menteri, Datuk Seri Najib Razak.

Dalam rombakan Kabinet itu, Pengerusi PAC, Datuk Nur Jazlan Mohamed dilantik sebagai Timbalan Menteri Dalam Negeri dan Datuk Seri Reezal



KERATAN Kosmo! 29 Julai 2015.

Inovasi), Datuk Seri Reezal Merican Naina Merican (Timbalan Menteri Luar) dan Datuk Mas Ermieyati Samsudin (Timbalan Menteri Pelancongan dan Kebudayaan) turut perlu diisi sebelum mesyuarat PAC dapat dijalankan.

iMDB probe **MUST GO ON**

> Opposition PAC members adamant that hearing **MUST CONTINUE: Deputy chairman**

BY **KAREN ARUKESAMY**
newsdesk@thesundaily.com

PETALING JAYA: The five opposition members in the Public Accounts Committee (PAC) are adamant about attending its scheduled meeting on Tuesday to continue hearing the iMalaysia

Development Berhad (iMDB) issue.

"There is nothing wrong in having the meeting and questioning where the money went. It is not about making a decision," PAC deputy chairman Tan Seng Giaw told *theSun* yesterday.

"iMDB is a much bigger issue compared with the appointments

of new deputy ministers," he said in response to Dewan Rakyat Speaker Tan Sri Pandikar Amin Mulia's reported call not to go on with the hearing.

Pandikar was reported as saying earlier yesterday that the hearing cannot resume until a new

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Tan: It is urgent and in the best interest of the people

► **FROM FRONT PAGE**

chairman is elected in October, and that it is better for the remaining PAC members to wait to avoid disputes on validity of the proceedings.

According to the Barisan Nasional backbenchers club (BNBBC) news portal, Pandikar said that although Meeting Order 77(3) allows a PAC member to be nominated to chair the committee meeting, it is only if the chairperson or his deputy is unable to attend, and does not apply if the chairman has to vacate his seat in the committee.

Describing Pandikar's statement as a matter of interpretation, Tan said Standing Order 77(3) states that any PAC member can be nominated to chair the committee meeting, when a chairman is unable to attend.

"Unable to attend or being absent from the meeting could be for any reason. It does not specify that the meeting cannot continue when its members are appointed as deputy ministers," he stressed.

On Tuesday, PAC chairman Datuk Nur Jazlan Mohamed and three other BN members were appointed as members of the administration by Prime Minister Datuk Seri Najib Abdul Razak, who is also iMDB advisory board chairman.

The other three are Datuk Wilfred Madius (science, technology and innovation minister), Datuk Seri Reezal Merican Naina Merican (deputy foreign

minister) and Datuk Mas Ermieyati Samsudin (deputy tourism and culture minister).

"We cannot wait three months until a chairman is appointed when Parliament sitting convenes. The matter is urgent and the meeting is in the best interest of the people.

"Are you saying we cannot ask relevant questions on iMDB's accounts and funds until a chairman is appointed?" he asked.

Tan said the people would be upset if the opposition members backed out on the meeting until October, and stressed they would proceed as scheduled to fulfil their duty to the people.

"iMDB is a much bigger issue compared with the new appointments of deputy ministers," he said, reiterating that the five opposition members will be at the meeting as scheduled.

They also expect iMDB's past and present chief executive officers Shahrol Halmi and Arul Kanda Kandasamy to appear for questioning.

Tan said PAC meetings cannot be delayed or halted because the people are demanding answers for the long-standing issue.

It is, however, unknown if the four remaining PAC members from the BN - Datuk Abd Aziz Sheikh Fadzir (Kulim Bandar Baru), Datuk Liang Teck Meng (Simpang Renggam), Hasbi Habibollah (Limbang) and Datuk Wee Jeck Seng (Tanjung Piai) will be attending.

Cari pengganti secepat mungkin

SHAHALAM - Parlimen mungkin perlu segerakan pelantikan anggota Jawatankuasa Kira-Kira Wang Negara (PAC) yang baharu menggantikan mereka yang dilantik dalam rombakan Kabinet kelmarin.

Ketua Kluster Politik, Keselamatan dan Hal Ehwal Antarabangsa, Profesor Datuk Dr Mohamed Musatafa Ishak berkata, langkah itu dilihat perlu bagi memastikan proses siasatan kes 1MDB yang sedang ditangani PAC tidak terjejas.

"Satu cara yang terbaik adalah mencari jalan untuk mempercepatkan pelantikan jawatankuasa baharu dengan segera. Selagi Parlimen tidak bersidang mungkin agak sukar, melainkan dibuat satu notis untuk menyegerakan pelantikan (ang-

gota PAC)," katanya.

Dr Mohamed Mustafa berkata, beliau tidak melihat ada pilihan lain untuk mempercepatkan siasatan kes itukerana pelantikan mesti melalui persetujuan daripada Parlimen.

"Satu-satunya langkah mempercepatkan siasatan adalah dengan membuat pelantikan segera bagi jawatankuasa baharu itu," katanya lagi.

Mengikut prosedur biasa, pelantikan anggota PAC adalah melalui persidangan Parlimen yang mengikut jadual hanya akan diadakan pada Oktober.

Ini susulan pelantikan Pengerusi PAC, Datuk Nur Jazlan Mohamed serta tiga anggotanya iaitu Datuk Datuk Seri Rizal Merican Naina Merican, Datuk Mas Ermieyati

Samsudin dan Datuk Wilfred Madius Tangau menyertai Kabinet baharu yang diumumkan kelmarin.

Bagaimanapun menurut Dr Mohamed Mustafa, jika pelantikan itu dibuat pada Oktober, ia akan mengambil lebih banyak memakan masa kerana ahli jawatankuasa yang baharu dilantik itu perlu meneliti, menyemak dan membaca laporan siasatan sebelum ini.

Katanya, ia sudah pasti akan memakan masa dan berlaku kelewatan siasatan bagi menyiapkan laporan berkenaan.

"Jawatankuasa baru ini juga perlu masa untuk semak dan baca, jadi sudah pasti ambil masa sedikit... itu sahaja penyelesaian yang ada untuk masa ini," katanya.

R&D's pivotal role in palm oil industry's success

WONDER CROP: The once maligned commodity has proved its critics wrong, thanks in no small measure to extensive R&D

WE often take things for granted. Take the case of palm oil. Many may not be aware that palm oil, now a global leader in edible oils supply, had humble beginnings. In the days when countries of Western Africa were the lone suppliers of palm oil to the world, palm oil was not considered suitable for use in cooking or for making margarine.

Most of the palm oil export which ended up in the European Union was used for making soaps and lubricating grease. But at home in Western Africa, the crude form of palm oil was their favourite cooking oil. In fact if one were to visit



DR AHMAD
IBRAHIM

Ghana or Nigeria, the reddish crude palm oil is widely sold even to this day in the local market as cooking oil.

How did palm oil change from an oil which was almost an unknown to one that now dominates the world trade in oils and fats? How did palm oil change from a basically wild crop to one that is now cultivated using sophisticated plantation technologies? How did the consumer perception of palm oil change from negative to super positive?

Looking back, some countries were known to even ban the use of palm oil for human consumption then. In Iran they had a ruling in their nutrition guides which suggested that palm oil was unfit for human consumption. Of course, we are all aware of the notorious episode in the United States then when palm oil was even labelled as

a poison. So what changed the destiny of palm oil?

Very few would disagree that the change in fate for the better was rooted in the revelation of new knowledge about the oil. And that came from a lot of work in research and development (R&D). As investment in R&D kept unveiling the true character of palm oil, more and more people appreciated the oil's many virtues. That was how palm oil garnered global support.

We in Malaysia should be proud of the fact that we can take most of the credit for that image and perception transformation of palm oil. The establishment of the Palm Oil Research Institute of Malaysia (PORIM), in the 70s was the true game changer for palm oil. Not many would deny that PORIM, now known as the Malaysian Palm Oil Board (MPOB), made strategic contributions to chart the eventual success of palm oil.

Through the R&D at MPOB, earlier apprehensions about the oil's health implications turned to positive appreciation as new evidence was uncovered. Much of the positive nutritional revelations were used to persuade countries like Iran and others to change their stand from banning palm oil con-



Palm oil is making a strong comeback, thanks to effective research and development.

sumption to encouraging palm oil intake as good nutrition advice.

There were other R&D in food uses which led to more applications of palm oil in products like margarine and shortening. Palm oil's natural semi-solid state also helped expand the use of palm oil in such products.

A major turning point came when nutritionists stumbled on the conclusive finding that trans fats found in margarines made from soya or sunflower are bad for health. As a semi-solid oil, palm oil is free of such trans fats!

MPOB has also helped convince the oleochemical industry of the world that palm oil is an excellent feedstock for the production of a whole range of oleochemical products. Not just the simple soap products, but the higher value and more

sophisticated detergents and surfactants used in many cleansing items such as shampoos and other cosmetics. That created more demand for palm oil worldwide. There is no denying that much of the research at MPOB was directed towards productivity improvements. Such R&D contributed much to the development of new more robust higher yielding clones of the oil palm.

But the latest breakthrough by MPOB's biotechnology team promises even more for productivity gains. There is understandable excitement among industry pundits about the new genomic breakthrough. This is because it will further enhance the productivity of palms. With all such R&D success, it is time MPOB is bestowed special recognition and award. If the Forest Research Institute together with Rubber Research Institute gave birth to the rubberwood furniture industry, MPOB has created a whole palm oil industry!

ahmad.ibrahim@
akademisains.gov.my

The writer is a Fellow at Academy of Sciences Malaysia



Call To Enhance Nanotechnology Industry Players Awareness, Technical Know-how

KUALA LUMPUR, July 30 (Bernama) -- The nanotechnology industry needs to focus more on enhancing awareness and technical know-how among local players in integrating the technology on products and processes.

Science, Technology and Innovation Minister Datuk Madius Tangau said the issue should be addressed through a multi-disciplinary approach, combining research in material design, processing, modelling, characterisation and metrology.

Hence, he urged the NanoMalaysia Jumpstart Seminar Series here today to use the forum in resolving problems faced by the industry players.

His opening address was read by Science, Technology and Innovation Ministry Deputy Secretary-General (Science) Dr Zulkifli Mohamed Hashim.

"Without the knowledge and information on how nanotechnology can add value to their products or improve their manufacturing processes, industrial players and investors are reluctant to invest and foray into the nano-electronics productions or adoption.

"I hope this problem could potentially be addressed and some level of understanding could be achieved at the end of this one-day session," Madius said.

He said RM256 billion worth of E&E products were exported last year, driven by strong global demand for new semiconductor applications as well as the rapid emergence of Internet of Things (IoT).

"With new breakthrough discoveries in nanotechnology and the rise of IoT, I dare to say that we can raise the E&E sector by 20 to 30 per cent by 2020 with Internet of Nano-things (IoNT) as an essential development of IoT," he added.

At the event, Zulkifli launched the Nano Semiconductor Technology Centre, a complete electrical and electronics (E&E) ecosystem support in the areas of nanoelectronics, graphene and semiconductor microelectronics.

The seminar witnessed four memorandum of understanding (MoU) in the nanotechnology industry sealed among an industry player, two government agencies and two universities, with the objective of propelling the E&E sector to a new record level within five years.

The MoUs were signed among NanoMalaysia Bhd, MIMOS Bhd, Penchem Technologies Sdn Bhd, University of Malaya, and Multimedia University.

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