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TARIKH: 3 NOVEMBER 2014 (ISNIN)

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Better healthcare with nanotech



NanoMalaysia Bhd CEO Dr Rezal Khairi Ahmad says nanotech is the next level of technology

BIG POTENTIAL: New technology set to innovate drug delivery systems, cancer treatments

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NANOTECHNOLOGY or nanotech will power the country's healthcare industry towards a more efficient drug delivery system and cancer treatments.

One such example of nanotech-based medical advancement is cancer patients in the future will not have to endure chemotherapy which has various side effects like hair loss, nausea, blood disorders

and mouth ulcers.

Instead, cancer patients can opt for a cheaper, faster and less invasive treatment, thanks to the targeted drug delivery approach.

NanoMalaysia Bhd chief executive officer Dr Rezal Khairi Ahmad said cancer-detecting gold nanoparticles with anticancer drugs could be delivered to the exact area of the cancer cells in the body, hence posing no side effects to the patient.

"Nanotech is the next level of technology, and everything that you will be experiencing in the next five or 10 years will be nanotech-based products," he told the *New Straits Times*.

Nanotech is the manipulations of materials at a very tiny scale, essentially at the atomic and molecular levels, to custom arrange those atoms so that they will exhibit certain qualities and properties tailor-made to certain applications.

The definition most frequently

used by the government and industry involves structures, devices, and systems having novel properties and functions due to the arrangement of their atoms on the one to 100 nanometre scale.

Rezal said nanoscale-sized materials had increased strength and resilience that enhanced the products' efficiency and flexibility.

Malaysia, he said, had established itself in the field for more than a decade now, in line with the country's aim to be a developed nation by 2020, with nanotech identified as one of the new growth engines for the New Economic Model (NEM).

Many fields of endeavour contribute to nanotech, including molecular physics, materials science, chemistry, biology, computer science, electrical engineering, and mechanical engineering, Rezal added.

To develop innovative products and nanomedicine experts in

Malaysia, he said IBM Research and NanoMalaysia had embarked on a joint research programme to develop nanogel star polymer-based materials that would ease access to antimicrobial coatings and drug delivery applications.

"Anti-microbial coating will be used as part of a comprehensive infection control programme in hospitals and other public health-care settings.

"Hospitals have been identified as a medium for spreading infections.

"The anti-microbial application will combat these infections through the development of a cheap nanotech-enhanced polymer coating for rapid and convenient deployment to existing hospital steel touch surfaces.

"Such a coating will be able to reduce the number of microbes on a surface without outside intervention."

→ Full report at www.nst.com.my

'Ensure safety of nanotech products'

† KUALA LUMPUR: As nanotechnology is being used increasingly in industries, there is a need to regulate the technology to ensure the safety and health of those at risk, said the National Institute of Occupational Safety and Health (Niosh).

Its chairman, Tan Sri Lee Lam Thye, said: "It is estimated that more than one per cent of the products in

the market contain nanomaterials as their critical components, or use nanotech in the manufacturing process.

"In the coming decade, the usage of nanomaterials is expected to increase by 10 per cent, leading to a rapid expansion of nanotech that will have an impact on our everyday life," he said yesterday.

Lee said in the coming years, the Asia-Pacific region would play a key role in the industrial production of nanotech-related products.

Those who might be at risk, he said, were industrial workers, researchers and consumers of the finished products.

"For instance, workers in factories producing nanotech-products may

be exposed to airborne nanoparticles without adequate protection.

"Consumers may come into nanomaterial products that will have an impact on their health.

"Therefore, it is vital for more research to be carried out and steps taken to disseminate information to the public," he said.

→ Full report at www.nst.com.my

Platform bagi BioNexus

■ PNS optimis buka lapangan francais dalam segmen penjagaan kesihatan

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Perbadanan Nasional Berhad (PNS) optimis mampu membuka lebih luas lapangan francais dalam segmen penjagaan kesihatan di negara ini yang berteraskan teknologi, sekali gus dapat diperluaskan kepada bidang berkaitan.

Buat permulaan, ia diunjurkan untuk berada di bawah rangkaian francais berkonsepkan 'BioShoppe' dengan kerjasama Malaysian Biotechnology Corporation Sdn Bhd (Biotech Corp).

Ketua Pegawai Eksekutifnya, Datuk Syed Kamarulzaman Syed Zainol Khodki Shahabudin berkata, ia bakal menyediakan platform kepada syarikat yang mempunyai status BioNexus di bawah Biotech Corp bagi pemasaran produk mereka ke pasaran.



“PNS akan memberi khidmat nasihat dalam bentuk idea menjalankan perniagaan francais dan skim pembiayaan”

Syed Kamarulzaman Syed
Zainol Khodki Shahabudin

Katanya, ia adalah jalinan kedua-dua pihak apabila melihat peluang dalam industri itu secara domestik dan antarabangsa.

“PNS akan memberi khidmat nasihat dalam bentuk idea menjalankan perniagaan francais dan

skim pembiayaan kepada bakal pengurus dan francais BioShoppe.

“Ia mungkin dijalankan sebagai secara penembusan rantaian runcitan sedia ada sebelum diperluaskan kepada peragaan konsep sendiri di bawah BioShoppe,” katanya.

Beliau berkata, kerjasama itu akan membuka lebih banyak peluang kepada usahawan untuk terbabit dalam industri francais yang mempunyai potensi dan nilai tinggi dalam pasaran global.

Menurutnya, prospek pasaran berkaitan bioteknologi khususnya kesihatan menawarkan peluang perniagaan yang dapat membuka jalan kepada kerjasama antarabangsa

dalam membawa produk tempatan ke luar dan sebaliknya.

“Jalanan ini sedang dalam proses pelaksanaan dan diunjurkan kita dapat melihat hasilnya kemungkinan pada pertengahan pertama tahun depan atau seawal akhir tahun ini bergantung kepada ketersediaan keseluruhannya,” katanya.

Kerjasama antara PNS dan Biotech Corp dimeterai pada Persidangan Bio-International Advisory Panel (BIO-IAP) 2014 pada 22 September hingga 24 September lalu di New York, Amerika Syarikat.

Sejak 2005, Biotech Corp sudah membantu pembangunan 225 syarikat berstatus BioNexus dengan nilai pelaburan RM3.2 bilion.

KERATAN AKHBAR
HARIAN METRO (SETEMPAT): MUKA SURAT 11
TARIKH: 3 NOVEMBER 2014 (ISNIN)

Dibadai 'downdraft'

Alor Setar: Jabatan Meteorologi Malaysia (JMM) mengklasifikasi fenomena pusaran angin yang membadai kawasan perumahan di Taman Wira, Mergong, di sini, petang semalam, sebagai angin kencang dikenali 'downdraft'.

Pegawai Meteorologi Kanan Pusat Cuaca Nasional JMM Dr Mohd Hisham Mohd Anip berkata, angin kencang itu juga berpunca daripada pertembungan dua kelajuan angin berbeza iaitu angin perlahan pada kadar 30 kilometer per jam (km/j) dan 100 km/j menyebabkan terbentuknya pusaran angin.

"Fenomena itu kebiasaannya berlaku disebabkan sel awan ribut petir yang bergerak laju, bertembung dengan angin biasa pada kadar kelajuan perlahan.

"Bagaimanapun, disebabkan angin tidak menyentuh tanah, maka ia tidak membentuk puting beliung," katanya ketika dihubungi, di sini.

Katanya, fenomena itu lebih tepat sekiranya diklasifikasikan sebagai pusaran angin berskala kecil, namun mampu memusnahkan harta benda kerana masih mempunyai kekuatan seperti ribut berikutan membawa sel awan ribut petir.

Call for TORNADO ALARM



By Yasmin Ramlan ■ yasmin@mmail.com.my

PETALING JAYA — Malaysia is not getting an early weather warning system despite six mini tornadoes causing havoc this year.

While affected residents have called for such a system to be installed, the Meteorological Services Department has said "not yet."

A meteorologist said the number of mini tornadoes that would occur during the inter-monsoon period still did not warrant an alarm system, advising the people to instead monitor weather reports closely.

Residents living in the affected areas claim to

have suffered huge losses after they were hit by the severe weather activity and they felt they should be warned of future recurrence.

The number of mini tornadoes this year is the highest in the last four years. More than 150 homes have been damaged or destroyed.

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Mini tornadoes no cause for alarm, says meteorologist

By Yasmin Ramlan
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PETALING JAYA — The Malaysia Meteorological Department has no plans to install an alarm system to detect "mini tornadoes" although the country has been hit by six since August.

Its meteorological officer, Ambun Dindang, said the number of cases in the country were not high enough to merit the installation of an alarm although the country has recorded the highest number of mini tornadoes this year.

"The cases are very low. We have no plans for such an alarm but if the situation gets worse and if the system to detect them is really effective, we will consider setting it up," he said.

"I advice residents to take the initiative by updating themselves on the weather condition as a preventive measure."

Ambun said the department uses the Doppler radar system used to determine the location and velocity of a storm, clouds and precipitation in the atmosphere.

"We have located a radar in Alor Star, Kedah, but it has limitations and could not detect the recent mini tornado because it was small and far from the radar station."

When asked why there were so many land or water spouts this year compared with previous years, Ambun said spouts occurred because of unstable atmospheric conditions caused by a change in wind direction.

Describing it as a "minor phenomena", he said spouts usually happen during the inter-monsoon period.

"There are more spouts this year because there is a lot of cumulonimbus cloud formation. It is the most suitable atmosphere for a mini tornado to occur."

He said the inter-monsoon period starts in early October and lasts until mid-November.

Ambun said the recent mini tornado which had hit Kuala Sungai, Kedah, was caused by moist air near the earth surface.



2014

1. October 31 - Kuala Sungai, Kedah
2. October 21 - Pandamaran, Klang
3. October 18 - Pantai Kidurong, Bintulu, Sarawak
4. October 14 - Pendang, Alor Besar, Kedah
5. October 9 - Kota Kinabalu, Sabah
6. August 8 - Port Dickson, Negri Sembilan

2013

- December 18 - Lido Beach, Johor Baru
November 6 - Ipoh, Perak

2012

None

2011

None

2010

- November 15 - Gurney Drive, Penang
November 5 - Ipoh, Perak
October 28 - Arau, Perlis

Differences between a tornado and a land/water spout

A tornado is a violently rotating column of air that stretches from a cloud to the earth's surface. Most tornadoes form within rotating thunderstorms called Supercells with mesocyclones (a cyclonic air mass). These extends from the cloud and move down to the ground.

Land or water spouts are referred to as 'mini tornadoes'.

A landspout is similar a tornado but land-

spouts are not associated with the mesocyclones of a thunderstorm.

It happens when boundaries merge near a developing thunderstorm. As these boundaries collide, the air will swirl.

The swirl may happen on the ground or a couple hundred feet above the ground.

A waterspout, meanwhile, is a tornado formed over water or moving from land to water.