

KERATAN AKHBAR-AKHBAR TEMPATAN
TARIKH: 14 OKTOBER 2013 (ISNIN)

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KERATAN AKHBAR
UTUSAN MALAYSIA (MEGA) : MUKA SURAT 20
TARIKH : 14 OKTOBER 2013 (ISNIN)

EIMA 2013 tawar hadiah RM40,000

GANJARAN yang meningkat kepada RM40,000 adalah tarikan utama perlumbaan Inovasi Pendidikan Sukan Motor dan Automotif (EIMA) edisi kelima, 2013.

Saingan tahun ini membabitkan dua pusingan di dua litar membabitkan 60 jentera dari 48 institusi pengajian tinggi (IPT).

Satu kategori baharu juga bakal mewarnai dan menyuntik lebih kemeriahan untuk edisi kali ini.

Pada tahun lalu hanya kategori SS130cc dipertandingkan. Kali ini muncul satu saingan baharu iaitu TS250cc dan saingan diperluas ke Litar Maktab Teknik Polis Diraja Malaysia, Bakri, Muar, Johor selain gelanggang tradisi, Litar Pulau Datuk Sagor, Kampung Gajah, Teluk Intan, Perak.

Pusingan pertama EIMA 2013 yang akan diadakan dari 29 November hingga 1 Disember di Kampung Gajah dan pusingan kedua, 27 hingga 29 Disember.

Sesi pembentangan reka bentuk jentera lumba oleh setiap pasukan ditetapkan pada 16 hingga 17 November ini di Universiti Teknologi Malaysia (UTM), Kuala Lumpur.

Majlis pelancaran EIMA 2013 telah disempurnakan, Timbalan Menteri Sains, Teknologi dan Inovasi, **Datuk Dr. Abu Bakar Mohamad Diah** di Kampus

UTM di sini dengan turut dihadiri Dekan Institut Teknologi Antarabangsa Malaysia-Jepun (MIJT), Prof. Megat Johari Megat Mohd. Noor di Kuala Lumpur baru-baru ini.

Abu Bakar berkata, EIMA mampu menjadi medan penggalak kreativiti, inovasi dan ilmu pengetahuan penuntut IPT dalam sukan bermotor selain melatih mereka memupuk semangat sepadan dan bekerjasama, berdaya saing, menimba pendedahan pengurusan sukan serta mencegah gejala buruk sosial golongan belia.

"Cabarannya turut akan mencungkil dan mengasah bakat baharu tempatan dan kementerian amat mengalu-alukan kehadiran mereka ke arah menyumbangkan pembangunan negara," katanya pada sidang akhbar selepas pelancaran EIMA 2013 baru-baru ini.

EIMA 2013 mendapat penajaan utama dari DreamEDGE Sdn. Bhd. manakala pengeluar kenderaan Jepun, Honda menyumbangkan lapan buah motosikal yang enjinnya bakal digunakan pasukan seperti UTM Kuala Lumpur, Universiti Malaysia Pahang, Universiti Taylor's, Politeknik Ungku Omar Ipoh, Politeknik Kota Bharu dan Johor Bahru, GiatMara Seputeh Kuala Lumpur dan Institut Kemahiran Belia Negara Dusun Tua.



ABU Bakar Mohamad Diah (dua dari kanan) menerima cenderamata penghargaan daripada Megat Johari Megat Mohd. Noor pada sidang akhbar pelancaran EIMA 2013 di UTM, Kuala Lumpur.

Pengarah Perlumbaan, **Hairul Lail Ismail** memberitahu, sebanyak RM22,600 ditawarkan sebagai hadiah wang tunai bagi kategori TS250 dengan juara keseluruhannya bakal merangkul RM6,000, piala pusingan dan sijil penyertaan manakala RM4,000 untuk pemenang SS130 daripada sejumlah RM15,000.

Juara setiap pusingan pula beroleh

RM1,600 dan RM1,200 bagi kategori masing-masing.

Sebarang keterangan lanjut mengenai EIMA 2013 boleh diperoleh menerusi laman sesawang www.eimrace.com atau dengan menghubungi Hairul Lail, 013-6290410 atau e-mel, hairullail@gmail.com dan Norazam Kamisan, 012-3158465 atau e-mel, norazam@dreamedge.jp.

**KERATAN AKHBAR
BERNAMA
TARIKH : 14 OKTOBER 2013 (ISNIN)**



Society Urged To Use Local Products

KUALA LUMPUR, Oct 13 (Bernama) -- Members of the society are urged to use local products, particularly those from medical research and robotics technology in order to help the government achieve a developed nation status.

Deputy Science, Technology and Innovation Minister Datuk Dr Abu Bakar Mohamad Diah said to become a developed nation by 2020, the society cannot be copying the style and progress of other developed countries.

"We have to accept local products, 'implement' the usage of these products and God willing this will help make our country prosperous in the future," he told reporters at the closing ceremony of the Southeast Asia Combat Robot Competition 2013, at the National Science Centre, here, Sunday.

Abu Bakar said local products are not so marketable because people are under the perception that foreign goods are of higher quality even if local products proved to be better.

Our society finds it difficult to accept local products generated by new technologies and only hold robots produced goods from abroad in high esteem.

"But today through the Southeast Asia Combat Robot Competition, our students have demonstrated that they have the skills to build a robot for a competition and to emerge champion at the same time," he said.

In the competition, two groups of students - the DCEN and CON-Q - from the Faculty of Engineering Technology, Universiti Malaysia Perlis (UniMAP) clinched the first and second place respectively to take home RM20,000 and RM15,000 each.

The robot created by CON-Q ranked first for the 'best engineering design' category followed by Soutska College of Management and Technology, Vientiane, Laos, and the third place went to the Kepala Batas Industrial Training Institute, Penang.

The Southeast Asia Combat Robot Competition was first organised by the Ministry of Science, Technology and Innovation in collaboration with Myrobotz Enterprise which saw 72 local teams and four teams from Laos and Singapore participating.

-- BERNAMA

**KERATAN AKHBAR
MY METRO
TARIKH : 14 OKTOBER 2013 (ISNIN)**



Galak guna produk keluaran tempatan

Kuala Lumpur: Masyarakat disaran mengguna pakai produk keluaran tempatan khususnya hasil penyelidikan bidang sains seperti perubatan dan teknologi robotik dalam membantu kerajaan mencapai status negara maju.

Timbalan Menteri Sains, Teknologi dan Inovasi Datuk Dr Abu Bakar Mohamad Diah berkata, untuk menjadi negara maju pada 2020, masyarakat tidak boleh meniru dan menerima gaya serta kemajuan negara maju lain.

"Jadi kita kena terima produk tempatan, melaksanakan produk itu dan mengguna pakainya. Insya-Allah ini membantu menjadikan negara bertambah maju pada masa depan," katanya selepas merasmikan majlis penutup pertandingan Southeast Asia Combat Robot, di Pusat Sains Negara di sini, semalam.

Pertandingan dianjurkan Kementerian Sains, Teknologi dan Inovasi dengan kerjasama Myrobotz Enterprise, di sini, semalam.

Abu Bakar berkata, masyarakat kurang memberi sambutan terhadap produk keluaran tempatan berikutan persepsi barangan luar lebih bermutu.

"Apabila ada teknologi baru (produk tempatan) masyarakat sukar menerimanya dan bangga dengan robot luar negara.

"Tetapi hari ini melalui pertandingan Southeast Asia Combat Robot, terbukti pelajar kita mampu menunjukkan kemahiran membina robot sehingga menjadi juara," katanya

'Use local robot produced goods'

Posted on **October 14, 2013, Monday**

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Banks need to be more lenient

LOCAL financial institutions and banks should be more "lenient" in approving funds for young entrepreneurs to help kick-off pre-commercialisation projects or technology-related businesses.

In making the call, Minister of Energy, Green Technology & Water Datuk Seri Dr Maximus Johnity Ongkili said bankruptcy laws should also be relaxed a little while banks should change their traditional approaches in approving loans for new entrepreneurs.

They might be looking for the young entrepreneur's track record, which the latter might not have as they were only now entering the field of enterprise.

"Bankers should also not demand for collateral such as assets for their loans as a requirement before lending, they don't have this," he said after a policy round-table discussion entitled "University Technology Commercialisation," held in conjunction with the fourth Global Entrepreneurship Summit.

Maximus said bankers should look at the "green field" perspective such as being more

concerned over riskier sectors including green energy, as well as, technology-related sectors.

"We need people in the banking sector who have the courage to go beyond viability and bankability, and look at the creativity of the people."

Maximus said the main challenges facing the commercialisation of technology at universities were limited achievements by the student, low levels of research and development, lack of incentives, lack of early stage capital and skills.

"A lot of effort has been taken by ministries including the Finance Ministry and the Ministry of Science, Technology and Innovation to have funds increased for such activities.

"The total funds, especially for science-related fundamental research for higher education, increased almost 20% compared to the last two years."

Maximus also expressed hope other government bodies would inject more funds for lending purposes.

— Bernama

KERATAN AKHBAR
THE STAR (VIEW) : MUKA SURAT 26
TARIKH : 14 OKTOBER 2013 (ISNIN)



One Man's Meat by PHILIP GOLINGAI @PhilipGolingai

Charting Upko's future direction

Upko is at a crossroads. It has to decide on its political direction. And now, the fight for the deputy president's post has been touted as real Upko versus new Upko.

A FEW days after Prime Minister Datuk Seri Najib Tun Razak announced his new Cabinet rene-up in May, United Pasok lomogun Kadazandusun Organisation (Upko) held an emergency Supreme Council meeting in ongongon near Kota Kinabalu.

On the agenda of the meeting was the name Najib announced to fill in the Upko quota to be a minister.

"Some members were angry because Datuk Dr Ewon Ebin was made Science, Technology and Innovation Minister," an Upko Supreme Council member told me.

"In the meeting, Tan Sri told us that he met the Prime Minister and gave him a letter bearing the name of the Upko choice for minister," said the source, referring to Upko president Tan Sri Bernard Dompok. Tan Sri said, "sorry the name was not yours" and he looked at Ewon.

"All the Supreme Council members were in the understanding that out of the three Upko MPs, the party president only gave one name, and it was that of Tangau," he said, referring to Datuk Wilfred Madius Tangau, the secretary-general and Tuaran MP.

Three Supreme Council members angrily spoke out against Ebin's unexpected appointment as a minister. "Ewon told us he never lobbied for the post," said the source.

"How did Ewon become a minister then?" I asked.

"All we know is our friend (Ebin) became a full minister due to support from someone here (Sabah). In the two terms he was a minister in (Sabah Chief Minister Datuk Seri Musa Aman's) state Cabinet he never spoke in line with what Tan Sri had vocally spoken. We believe No. 1 had an influence in Ewon becoming a minister," he said, referring to the most powerful politician in Sabah.

"Some of us in the Supreme Council felt that Tangau, who holds a senior position as secretary-general should have been a minister. And he is also in the mould of Tan Sri who is vocal," said the source.

The question whether Tangau or Ebin is in the mould of Dompok, who founded Upko in 1994 after the collapse of the PBS government, has spilled over to the party polls on Oct 22.

For the deputy president's post,

which fell vacant after Datuk Wilfred Bumburing quit the party to join the Opposition, Tangau will face off Ebin, a vice-president and Ranau MP.

"Both are claiming to be party loyalist. But I see this fight as real Upko versus new Upko," said the source.

"Tangau will continue what Tan Sri is doing. Tan Sri has always been vocal. We have been called the opposition in Barisan Nasional and some in Barisan had asked us to quit the coalition.

"That is the character of the party. We consider ourselves the conscience of the coalition. We are prepared to be unpopular (in Barisan) to do the right thing. We have been a thorn in Barisan's flesh as we take on issues such as Allah and Royal Commission of Inquiry (RCI) on Sabah's illegal immigrants."

In an interview with Bernama, Tangau said: "We believe, Upko being a small party, we can only gain the respect of the people by sticking to our own struggle."

Ebin, however, has promised a new Upko.

"I will WhatsApp you his recent statement," said the source. In the

photographs of two Sabah newspaper reports was Ebin's statement saying: "There is a need to have a less extremist approach when dealing with issues affecting the people."

"We feel that there is a need for more appropriate approaches because we are with other Barisan component parties in governing the state as well as the federal Cabinet," Ebin said.

"Our friend (Ebin) wants to be moderate. He doesn't want to step on people's toes. That statement is telling the (Upko) president, Tan Sri, you got it wrong all this while," said the source.

"Who will win, Tangau or Ebin?" I asked.

"It is a very close fight. Just look at the number of nominations they received," he said.

Tangau and Ebin got 10 nominations each while vice-president Datuk Wences Anggang only obtained one nomination, which disqualifies him from contesting the deputy president's post.

It looks like Ebin has the edge.

"As Science, Technology and Innovation Minister, he has the power of patronage. He is also

backed by an Upko YB (picked by No. 1 as a Barisan candidate) who is a big time businessman," said the source, adding that Tangau was Malaysian Timber Industry Board chairman.

Upko is also at a crossroads. It has to decide on its political direction.

Before the general election, Upko had six assemblymen and four MPs. In GE13, it only won four state and three parliamentary seats with Dompok losing his Penampang MP seat.

Upko members, according to the source, should not give too much attention to the deputy president fight.

"Whether Ewon or Tangau wins, it does not matter as Tan Sri is still president and he won it uncontested," he said. "The point is Upko is still intact. And the Ewon and Tangau camps respect the president."

"But in Ewon's case, if he wins, perhaps not too long?" I said, just to provoke.

"Probably," he said.

After the party polls, Tan Sri might just spring a surprise.

> The views expressed are entirely the writer's own.

Oleh Noor Azlina Zainudin
azlina.z@bh.com.my

► Kuala Lumpur

SK St Francis juara NSC 2013 kali ketiga

» Minat tinggi peserta, dorongan keluarga rahsia kejayaan

Pasukan Sekolah Kebangsaan (SK) St Francis, Melaka, berjaya merampas kembali Piala Perdana Menteri yang menjadi rebutan apabila diumumkan sebagai juara dalam Pertandingan Akhir Cabaran Angkasa Kebangsaan 2013 (NSC 2013) yang berlangsung di Planetarium Negara, dekat sini, baru-baru ini.

Kemenangan itu diibaratkan seperti sirih pulang ke gagang kerana pasukan sekolah berkenaan pernah menjadi juara dalam NSC 2010 dan NSC 2011 sekali gus mengubati kekecewaan tahun lalu selepas hanya berjaya memperoleh tempat keempat dalam NSC 2012.

Lebih menarik, pasukan tahun ini diwakili pelajar Tahun Lima, Justin Peter Royan dan Muhammad Nazhif Mohd Shamsul yang juga adik kepada Jonathan Aidan Royan dan Muhammad Syahmi Mohd Shamsul yang pernah menjadi juara NSC dalam dua musim.

Menurut guru pembimbingnya, Puan Nor Aini Mat Saed, Justin dan Muhammad Nazhif diletakkan dalam pasukan pelapis sejak pasangan itu berada dalam Tahun Dua lagi berikutan potensi dan minat tinggi yang ditunjukkan oleh mereka.

Tambahan pula, katanya, mereka mendapat galakan penuh dan suntikan semangat daripada abang yang juga pernah menjadi juara.

Berfikiran positif

"Ibu bapa Justin dan Muhammad Nazhif sangat komited, berfikiran positif dan sentiasa bersedia membantu dari segi penyediaan bahan rujukan dan ulang kaji di rumah.

"Selain itu, ahli pasukan saya berusaha mencari sendiri maklumat tambahan berkaitan bidang astronomi dan sains angkasa sama ada dalam internet, ensiklopedia mahu pun jurnal bagi melengkapkan diri

dengan ilmu secukupnya sebaik saja diberitahu mereka terpilih menyertai peringkat seterusnya," katanya.

Selain piala pusingan, pasukan SK St Francis turut membawa pulang teleskop StarMax 127EQ Maksutov (1), plak, pingat emas, permainan susun suai gambar angkasa dan sijil kece merlangan.

Tempat kedua dimenangi oleh pasukan Sekolah Jenis Kebangsaan Cina Han Chiang, Pulau Pinang diikuti SK Puteri, Negeri Sembilan ketiga, SK St George Satu, Perak keempat dan SK Convent (2) Klang, Selangor kelima.

Hadiah disampaikan oleh Pengarah Bahagian Khidmat Pengurusan dan Sumber Manusia, Agensi Angkasa Negara (ANGKASA), Azlee Abu Bakar.

Turut hadir pegawai Bahagian Kokurikulum dan Kesenian, Kementerian Pendidikan, Alias Yoop dan Pengarah Bahagian

Pendidikan dan Sains Angkasa, ANGKASA, Azreena Ahmad.

Terdahulu, Azlee yang berucap mewakili Timbalan Ketua Pengarah ANGKASA, Dr Noordin Ahmad, berkata NSC yang telah masuk kali ke-16 penganjurannya bertujuan meningkatkan pengetahuan serta menanam minat pelajar dalam bidang astronomi dan sains angkasa.

Tenaga kerja mahir

Katanya, usaha ini perlu memandangkan negara memerlukan tenaga kerja mahir yang mencukupi dalam bidang sains angkasa dan teknologi bagi menjamin kejayaan negara dalam persaingan pada peringkat global.

"Pelbagai usaha dilakukan oleh kerajaan untuk membudayakan bidang sains angkasa terutama dalam kalangan generasi muda sama ada pelajar sekolah mahu pun institusi pengajian tinggi.

"Justeru, NSC yang dilaksanakan sejak 1997 dilihat sebagai platform terbaik dalam menceburi minat pelajar untuk terus menerokai bidang itu yang menjanjikan keseronokan dan keunikan tersendiri," katanya.



Pelajar SK St. Francis Melaka bersorak gembira selepas muncul juara NSC 2013 di Planetarium Negara.

(FOTO SYAHARIM ABDIN/ BH)

Justin (kiri) dan Muhammad Nazhif (kanan) bersama-sama guru mereka Nor Aini menunjukkan piala juara NSC 2013 di Planetarium Negara.



Siri IV

Minggu ini artikel Siri IV memaparkan aplikasi satelit yang sebahagiannya telah diketahui. Siri kali ini agak mudah untuk peserta menjawab soalan.

Oleh HAFIZAH NASIR

MUNGKIN ada di antara kita yang faham mengenai satelit tetapi tidak semua yang sedar akan fungsi sebenar satelit di dalam kehidupan seharian kita.

Satelit lebih banyak dikaitkan dengan bidang penyiaran dan telekomunikasi tetapi fungsi atau aplikasi sebenar satelit telah wujud di angkasa lepas sejak berdekad lalu.

Teknologi satelit terbahagi kepada tiga iaitu pandu arah dan penentu kedudukan, penderiaan jauh dan juga komunikasi.

Pandu arah dan penentu kedudukan adalah salah satu aplikasi satelit yang telah berjaya menghasilkan peningkatan dalam produktiviti dan kejituan sebilangan besar industri.

Sistem Penentukedudukan Global (GNSS) merupakan rangkaian satelit yang memancarkan isyarat radio frekuensi yang mengandungi maklumat berkenaan masa dan data jarak yang boleh diambil oleh penerima, dan membolehkan pengguna untuk menentukan lokasi mereka dengan tepat di mana sahaja di seluruh dunia.

NAVSTAR *Global Positioning System* (GPS) milik Amerika Syarikat adalah antara satelit navigasi yang wujud dan kini alat penerima GPS telah dimuatkan ke dalam kereta, telefon bimbit, kapal, pesawat, peralatan pembinaan, peralatan pembuatan filem, mesin pertanian, bahkan komputer untuk tujuan navigasi, penentu kedudukan, penjejakan dan pemetaan.

Aplikasi dari sistem GNSS dalam bidang pandu arah dan penentu kedudukan ini adalah sangat luas.

Aplikasinya merangkumi operasi mencari dan menyelamat bagi kapal laut atau pesawat yang terkandas sama ada di dalam hutan belantara, di gunung-ganang, di tengah lautan atau di mana sahaja di muka bumi ini.

Melalui sistem GNSS ini, amaran kecemasan dan data lokasi akan dihasilkan bagi membantu operasi mencari dan menyelamat untuk mengesan dan menentukan kedudukan isyarat mercu suar kecemasan pada pesawat tersebut.

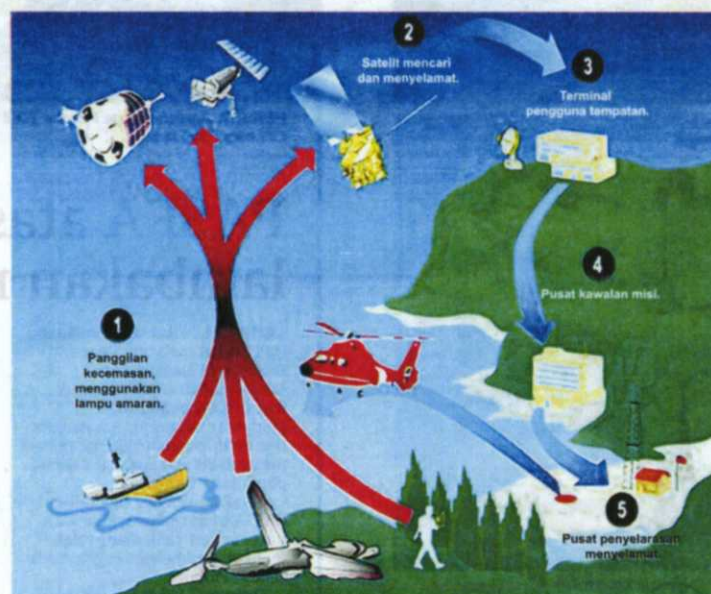
Kedudukan peristiwa kecemasan dan



PENGUNAAN satelit dalam alat pintar GPS.

Fungsi satelit dalam kehidupan

Pelbagai aplikasi untuk kegunaan manusia bagi mengurus dan memantau sumber

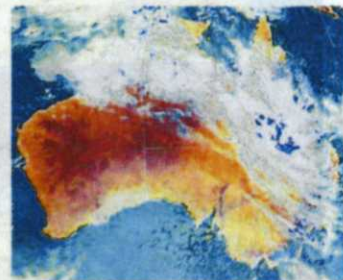


SATELIT turut digunakan dalam kerja-kerja mencari dan menyelamat.

maklumat lain yang berkaitan akan disampaikan kepada Pusat Perhubungan Mencari dan Penyelamat yang berkenaan pada kawasan kecemasan yang terlibat.

Selain mencari dan menyelamat, bidang pandu arah dan penentu kedudukan juga membolehkan pengesanan pelbagai kenderaan (udara, laut dan darat) yang mana melibatkan penggunaan GPS dengan komunikasi satelit dua hala bagi mengesan kenderaan dan menjelakannya di mana jua ia berada.

Ini sangat penting bagi mana-mana organisasi pengangkutan awam yang melibatkan penjadualan dan perancangan laluan, dan pada masa yang sama memastikan pengangkutan awam



DENGAN ada satelit ahli meteorologi boleh memerhati perubahan di pada bumi.

banyak.

Data tersebut kemudiannya ditukar kepada bentuk ilmu untuk digunakan dalam membuat keputusan pengurusan perladangan yang lebih wajar bagi pengeluaran hasil tanaman.

Dengan maklumat berkenaan dan penderia dalam satelit, peralatan perladangan mampu memantau hasil tanaman dan memandu aplikasi input hasil tanaman seperti baja dan racun rumput.

Di samping mempertingkatkan hasil tanaman, perladangan tepat mempunyai potensi untuk mengurangkan kos melalui aplikasi input tanaman yang lebih cekap dan berkesan.

Kelebihan utama imej satelit yang diperoleh melalui penderiaan jauh ialah pandangan data berasas wilayah atau sinoptik.

Pandangan perspektif wilayah itu dipertingkatkan lagi dengan menggabungkan secara digital beberapa imej yang dikumpulkan oleh satelit yang sama, untuk meliputi kawasan wilayah yang lebih luas.

Satu lagi kelebihan ialah aspek multitemporal imej satelit tersebut, yang boleh digunakan untuk memantau perubahan pada permukaan Bumi atau mengemas kini suatu set data sedia ada.

Dengan adanya kelebihan-kelebihan tersebut, imej satelit telah digunakan dengan meluas untuk tujuan pemetaan.

Pemetaan hutan, tanah, pertanian, atau mana-mana pemetaan lain kesemuanya memerlukan data yang lengkap dan berterusan yang diperoleh daripada satelit.

Pertanian

Pertanian ialah satu lagi bidang yang menggunakan imej satelit untuk mengoptimalkan penghasilan dan meminimumkan kos.

Data imej satelit juga boleh digunakan oleh perancang, pembuat dasar dan petani dalam membuat keputusan yang berkesan bagi menjamin bekalan air yang stabil untuk makanan dan persekitaran.

Melaluinya, dapat ditentukan: tempat terdapatnya air dalam lembangan sungai pada masa-masa tertentu dalam setahun; tempat yang air sampai atau tidak sampai kepada tanaman dalam suatu sistem pengairan; dan tindak balas antara air dengan tanaman, dalam vegetasi semula jadi dan kawasan pertanian.

Bantuan Kemanusiaan

Bantuan kemanusiaan terdiri daripada tindakan yang diambil bagi meringankan penderitaan akibat bencana alam seperti banjir, kebakaran hutan, ribut taufan,

berjalan mengikut jadual.

Pandu arah satelit juga boleh digunakan dalam kegiatan riadah seperti pengembaraan berjalan kaki bagi orientasi dalam persekitaran yang tidak dikenali.

Selain itu, kegunaan tersebut juga termasuk mencari kawasan yang subur untuk memancing, pandu arah sewaktu menaiki bot ketika keadaan tahap penglihatan rendah dan perkhidmatan berasaskan lokasi dengan menggunakan telefon bimbit untuk mencari restoran, pawagam, stesen petrol atau tempat lain yang menarik.

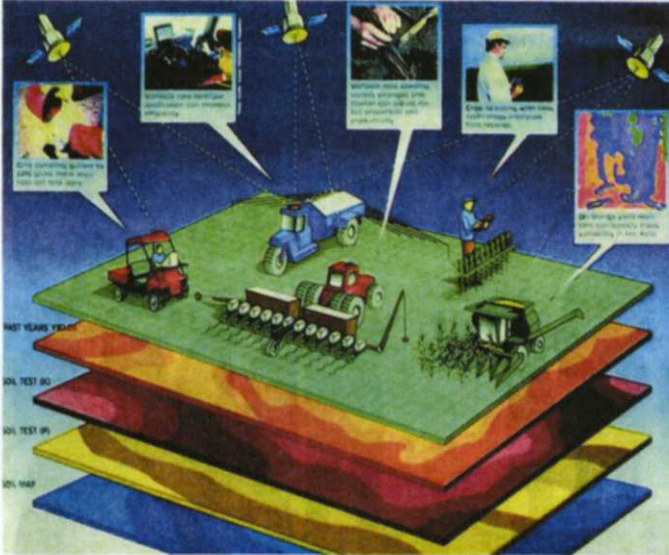
Selain pandu arah dan penentu kedudukan, teknologi satelit juga meliputi penderiaan jauh atau lebih dikenali dengan remote sensing.

Remote sensing adalah sains bagi mendapatkan maklumat permukaan bumi tanpa menyentuh objek (bumi) tersebut).

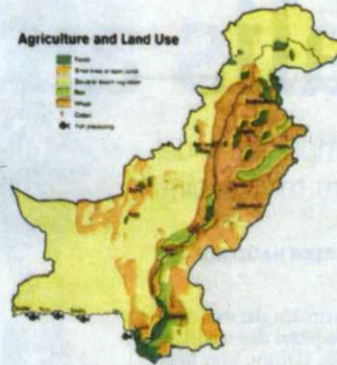
Perladangan tepat (*precision farming*) ialah suatu teknologi baru yang mana peladang boleh membuat penyesuaian bagi kepelbagaian dalam ladang bagi ciri-ciri seperti kesuburan tanah dan populasi rumput rumpai.

Perladangan tepat menggunakan sistem (GPS, terdiri daripada 24 satelit yang memancarkan isyarat yang disambut oleh alat terima pengguna untuk menetapkan lokasi penerima berserta sistem maklumat geografi (GIS) untuk mengumpul, menyimpan, melihat, dan menganalisis amoun data yang

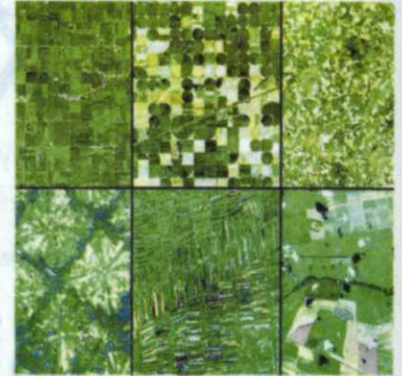
SAMBUNGAN... UTUSAN MALAYSIA (MEGA) : MUKA SURAT 8 TARIKH : 14 OKTOBER 2013 (ISNIN)



KONSEP pertanian tepat yang memanfaatkan aplikasi satelit.



PENGUNAAN tanah dalam pertanian.



KEGUNAAN satelit termasuk pemetaan kawasan pertanian.

gempa bumi, tsunami dan kemarau, dan bencana buatan manusia seperti peperangan, dengan akibat perpindahan populasi dan pergerakan pelarian.

Oleh kerana organisasi kemanusiaan dalam Pertubuhan Bangsa-Bangsa Bersatu (PBB) memberi bantuan dalam bencana alam dan buatan manusia yang pelbagai, sering di kawasan yang tidak dikenali dan keadaan yang rumit, serta turut melibatkan jumlah bantuan kemanusiaan yang ramai terutama daripada agensi kerajaan, organisasi bukan kerajaan, ketenteraan, serta organisasi antarabangsa yang lain; maka keperluan maklumat geografi yang tepat dan relevan adalah sangat penting.

Kajian atmosfera

Kimia atmosfera mempengaruhi kesihatan manusia, cuaca dan pengeluaran makanan. Ia juga mempengaruhi cara kita melihat dunia, melalui impaknya kepada kuasa penglihatan. Kimia yang ada dalam udara memberi kesan kepada kita dengan setiap nafas yang diambil. Zarah-zarah terapung yang terbentuk daripada tindak balas fasa gas mempengaruhi amaun tenaga suria

yang sampai ke permukaan bumi.

■ Meteorologi.

Terdapat dua jenis satelit cuaca, dikenali melalui ciri orbit mereka. Yang pertama dikenali sebagai *Polar Operational Environmental Satellites* (POES) yang mengelilingi Bumi pada orbit kutub (dari kutub ke kutub) dalam masa lebih kurang 100 minit. Sementara itu, *Geostationary Operational Environmental Satellites* (GOES) mengelilingi Bumi pada orbit geopegun, terletak lebih kurang 36,000 km tingginya dari Bumi, dan bergerak pada kelajuan yang sama dengan kelajuan Bumi berputing.

Dengan meteorologi satelit, ahli meteorologi dan pendidik boleh memerhati fenomena jangka pendek di sekeliling dunia 24 jam sehari. Selain berfungsi sebagai penentu kedudukan dan penderiaan jauh, antara fungsi utama lain satelit ialah sebagai alat komunikasi. Satelit komunikasi merupakan sebahagian besar daripada kehidupan harian manusia moden, sebagai salah satu dari medium pertukaran maklumat ke seluruh dunia.

Keunikan satelit sebagai satu medium komunikasi ialah kerana sifatnya yang berada jauh tinggi dari permukaan bumi (contoh: 36,000km dari muka bumi untuk satelit

penyiaran TV seperti Measat (Astro), lantas dapat memberi liputan yang luas dan dapat menjadi perantara di antara dua kawasan yang jauh di muka bumi.

Antara fungsi-fungsi utama satelit komunikasi adalah seperti berikut:

■ Penyiaran

Kejayaan terbesar satelit dalam bidang komersial ialah dalam perkhidmatan satelit televisyen.

■ Telefon

Satelit komunikasi juga memberi perkhidmatan telefon ke kawasan-kawasan terpencil yang tidak mempunyai capaian telefon awam atau telefon mudah alih selular seperti di tengah laut (untuk perkapalan, perikanan dan ketenteraan), dan di tengah hutan.

■ Perkhidmatan Satelit Tetap (FSS)

Antara perkhidmatan yang menggunakan satelit komunikasi untuk tujuan komunikasi dalam kategori ini ialah penggunaan kredit kad di stesen-stesen minyak (lihat piring antenna besar di stesen minyak), liputan langsung siaran TV, dan juga perkapalan.

Penulis ialah Jurutera Prinsipal 3
Astronautic Technology (M) Sdn. Bhd.)

Soalan dwimingguan

SOALAN 1: Berikut adalah pembahagian teknologi satelit kecuali:

- A) Pandu arah
- B) Penderiaan jauh
- C) Pengimpalan besi

JAWAPAN: _____

Soalan 2: Antara fungsi utama satelit komunikasi ialah penyiaran, telefon dan perkhidmatan satelit tetap.

- A) Betul
- B) Salah

JAWAPAN: _____

***** (Tarikh tutup penghantaran borang 18 Oktober 2013)

Soalan terkumpul

(Jangan hantar dulu, tunggu hingga siri VI)

SOALAN: Berikan dua jenis satelit cuaca yang boleh dikenali menerusi ciri orbit

JAWAPAN: _____

1001 innovations and

Izwan Ismail journeys back in time to the Islamic Golden Age of science and technology

DID you know that flying machines, cameras, surgical instruments, algebra, the observatory, university, the globe, manned rocket and many other scientific findings were discovered by Muslim scholars and inventors a thousand years ago?

Names like Al-Zahrawi, Al-Khwarazmi, Ibn Sina, Abbas ibn Firnas, Zheng He, Al-Idrisi, Al-Jazari, Fatima al-Fihri and Ibn al-Haitham may not ring a bell to many people, but they were the brains that enlightened the period known as the Dark Ages of western civilisation.

It was the Golden Age of civilisation in the Islamic world, marked by innovation and creativity which formed the basis for many of today's modern inventions.

BRING BACK THE SPIRIT

For the first time, Malaysians will be able to see some of the early inventions and findings of these Muslim inventors at the 1001 Inventions exhibitions in Pusat Sains Negara in Bukit Kiara, Kuala Lumpur.

The exhibition, organised by Science Discoveries in partnership with Pusat Sains Negara and sponsored by Tourism Malaysia and Axiata Group, will be on till February, 2014. It then moves to other States over the next three years.

What visitors will see are some of the major inventions



Oh: Boost the nation's tourism industry.

by Muslim inventors between 600 and 1600, and get a feel of the gadgets in interactive form.

According to Science Discoveries' chief executive officer Sabariah Md Daud, the exhibits feature a range of inventions researched by more than 50 of the world's leading academics from universities in Europe, North America, Africa and Asia.

HANDS-ON

The exhibition is highly interactive, with state-of-the-art multimedia hands-on experience for visitors. Among the 60 interactive exhibits are the famous Al-Jazari's elephant clock, Ibn al-Haitham's camera obscura, Al-Zahrawi's surgical instruments, Abbas ibn Firnas' flying machine and Zheng He's sea voyages.

The interactive factor is key to get visitors, especially school students, engaged with the subjects better. For example, visitors can interact with inventors



Suriani: The students really enjoy this kind of exhibition.



Sabariah: Engaging educational experience on Muslim inventions.

like Al-Zahrawi and his team of surgeons who will guide them through a hands-on eye cataract operation using surgical tools he created.

Or learn to fly with instructions by Abbas ibn Firnas, the man who designed a flying machine hundred of years before Leonardo da Vinci

Before they enter the exhibit hall, visitors will be introduced the wonders of the Muslim civilization through an award-winning educational film, *The Library Of Sec* projected from a five-metre-high screen.

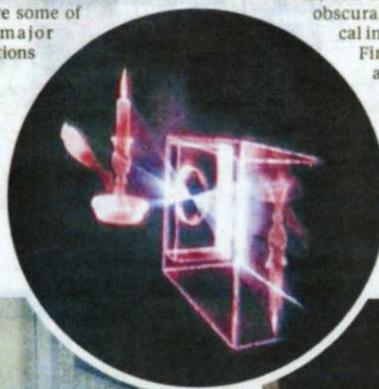
Told as a short story, the 10-min movie follows the journey of you children during the historically mired Dark Ages. This will give them a better understanding and appreciation when they enter the main exhibition.



Students with Al-Jazari's famous automatic elephant clock.



Students admiring one of the exhibits.



Zheng He's 400ft-long ship compared with a smaller Christopher Columbus ship.



A student trying out an interactive surgical experiment using Al-Jazari's

inventions



Oscar-winning actor Sir Ben Kingsley plays renowned 12th Century engineer Al-Jazari who introduces the wealth of innovation and advancement that occurred in the Muslim world from 7th to 17th Centuries.

SIMPLY INTERACTIVE

The 1001 Inventions exhibition features a diverse range of exhibits, hi-tech games, interactive displays and dramatisation that bring to life historic role models from the Muslim civilisation.

"It's not just about reading a description on a board as visitors will be able to actually interact with the inventors," says Sabariah.

Suriani Ibrahim, a teacher at SK Convent (2) Bukit Nanas, Kuala Lumpur, says the exhibition gives a new perspective on how things or concepts originated.

"We used to learn about western inventions and didn't know that many of the con-



The Obscura pinhole camera.

cepts and ideas of modern products come from Muslim civilisation," she says. "Students really enjoy this kind of exhibition."

BOOSTING TECH TOURISM

Meanwhile, Science Discoveries' operations director David Oh Seong Keat says the exhibition will boost the country's tourism industry as it is a unique world class exhibition.

"1001 Inventions will also intro-

duce the people to a world of science and technology that may inspire the younger generation to become the pioneering minds of tomorrow," he says.

1001 Inventions was voted the world's best touring exhibition by the Museum And Heritage Excellence Awards in London in 2011, and currently has more than three million online fans on Facebook, Twitter and other social media.

FAMOUS MUSLIM INVENTORS

1. Al-Jazari: He invented the famous automatic elephant clock, consisting of a weight powered water clock in the form of an elephant. The various elements of the clock are in the housing on top of the elephant. They are designed to move and make a sound every 30 minutes.



2. Ibn al-Haitham: A great authority on optics in the Middle Ages who lived around 1000AD, he invented the first pinhole camera, (also called camera obscura) and was able to explain why images were upside down.



5. Abbas ibn Firnas: The first person to make a real attempt to construct a flying machine and fly. In the 9th Century he designed a winged apparatus, roughly resembling a bird



3. Al-Zahrawi: Considered the greatest medieval surgeon from the Islamic World, he is described by many as the father of modern surgery. His pioneering contributions to the field of surgical procedures and instruments have had an enormous impact in the East and West, well into the modern period, and some of his discoveries are still being applied in medicine to this day.



4. Fatima al-Fihri: In 859AD, a young princess named Fatima al-Fihri founded the first degree-granting university in Fez, Morocco. Her sister Miriam founded an adjacent mosque and together the complex became the al-Qarawiyyin Mosque And University.



costume. In his most famous trial near Cordoba in Spain, Firnas flew upward for a few moments, before falling to the ground and partially breaking his back.