

**KERATAN AKHBAR-AKHBAR TEMPATAN
TARIKH: 18 JULAI 2016 (ISNIN)**

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By Michael Kang

LAST July, the Science, Technology and Innovation Ministry and MIMOS Bhd launched the National Internet of Things (IoT) Strategic Roadmap, outlining the vision and the way forward for driving IoT adoption.

What is IoT?

According to the Roadmap, IoT is "a convergence of smart devices that generate data through sensors to create new information and knowledge to boost human intelligence, efficacy and productivity to enhance the quality of life."

There are three key technological components in IoT: connected things with embedded sensors (smart devices), connectivity and infrastructure, and analytics and applications.

IoT is going to create game-changing opportunities for businesses in production efficiency, distribution and innovation.

According to *McKinsey Quarterly*, IoT will generate US\$11.1tril a year globally in economic value. A large proportion of the value would be generated from investing in IoT hardware, which includes sensors embedded in manufacturing equipment and products to electronically tagged items along the supply chain.

The largest value created would be coming from IoT data that informs decisions. For example, data collected from sensors embedded in production can be used to make processes more efficient and to optimise workflow and staffing.

In retailing, IoT data can contribute to higher sales that real-time, in-store personalised offers are expected to deliver. For instance, real-time location data can show a shopper's whereabouts in a store and display the shopper's online browsing history. Suggestions and promotions can then be forwarded to said

IoT: A paradigm shift

The Internet of Things, whereby a whole array of devices become connected to the Web and generate data streams that help boost efficiency and decision-making, presents opportunities that SMEs would do well to anticipate and capitalise on.

shopper. Customers can also be directed to a specific aisle, where he or she could use an instant coupon sent to a phone to buy an item previously viewed online.

How ready are we for the adoption of IoT? Based on the statistics shown in the Roadmap, Malaysia seems to have put in place some conducive conditions for it:

- High mobile penetration at 143.7% and observation of multiple handset ownership
- 65.8% of Malaysians are Internet users with 59% being active users
- Social media penetration in Malaysia is at 45%
- Domestic ICT consumption is projected at RM118.6bil in 2015 and will hit RM117.65bil by 2020 with a compound annual growth rate of 8.32%

Challenges remain, however. We need to create an environment that allows IoT to operate on open standards.

The infrastructure has to be ready to facilitate free flows of data from sensors to gateways to clouds.

This leads to another challenge for ensuring security of data. Companies would be exposed to high risks when they deploy large-scale systems, and many of the data sources like sensors are in the public eye or are available in big data centre.

Apart from the technological challenges, low labour costs in the country may work against the

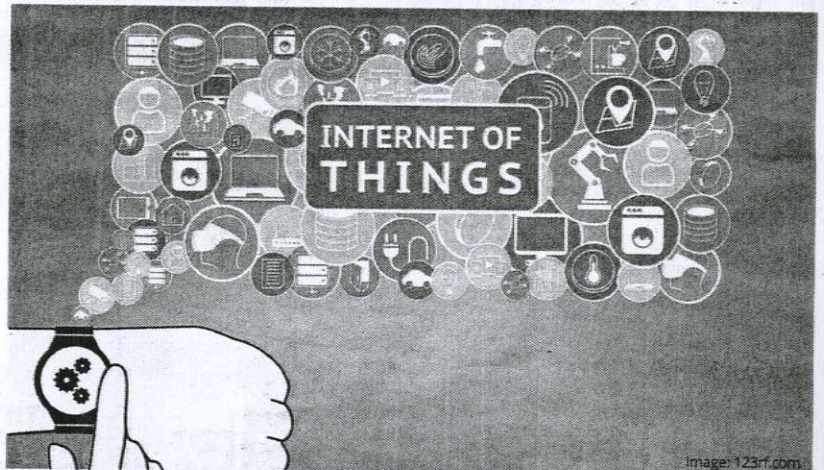


Image: 123rf.com

adoption of IoT.

Many companies, especially SMEs, are not motivated to replace labour intensive production model with automation. Some may suffer from the lack of economy of scale, while others are inclined to maintain status quo.

Adoption of IoT requires a major change in organisational responsibilities as well. Key decision-makers of various departments of a company would need to be receptive to linking up their systems; employees need to be

trained with new skills so that they are analytically rigorous and data-driven; analytics experts and key decision makers need to be connected in order to fully utilised big data for informed decisions.

The adoption of IoT requires a paradigm shift among SMEs in terms of organisational and business models, perspectives on human resources and human capital development, and customer relationship management.

It is certainly a very challenging way forward for SMEs.



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Paras air di dua empangan kritikal

Kuala Lumpur: Bacaan paras stok simpanan air di dua empangan utama berada di paras kritikal apabila kedua-duanya mencatatkan bacaan pada baki simpanan kod merah.

Empangan Labong, Johor dan Empangan Bukit Kwong, Kelantan masing-masing mencatatkan takungan pada tahap 10.35 peratus dan 11.96 peratus.

Berdasarkan laman web rasmi Info Kemarau Jabatan Pengairan dan Saliran (JPS), sehingga jam 5 petang semalam, tiga empangan turut mencatatkan bacaan stok simpanan air di bawah 50 peratus iaitu Empangan Pedu, Kedah iaitu 36.11 peratus, Empangan Muda, Kedah iaitu 30.90 peratus dan Empangan Semenyih iaitu sebanyak 36.79 peratus.

Manakala beberapa empangan lain iaitu Empangan Anak Endau, Pahang mencatatkan bacaan 60.25 peratus, Empangan Ulu Kinta, Perak dengan bacaan 99.04 peratus dan Empangan Klang Gate, Selangor sebanyak 65.23 peratus.

Sementara itu, berdasarkan laporan cuaca yang dikeluarkan Jabatan Meteorologi, kebanyakan model iklim antarabangsa kini menjangkakan keadaan neutral beransur-ansur menjadi La Nina pada Ogos ini dan kebarangkalian akan menjadi La Nina lemah adalah sekitar 75 peratus.

Kebanyakan kawasan di Semenanjung Malaysia pada

Julai dan Ogos ini dijangka menerima curahan hujan sederhana antara 100 milimeter (mm) hingga 250mm dan jumlah hujan dijangka meningkat sedikit pada September terutama di kawasan utara dan pedalaman Semenanjung.

Manakala bagi negeri Sarawak terutama di Kuching, Samarahan, Sri Aman dan Sibu pula dijangka menerima jumlah taburan hujan sedikit melebihi normal pada Julai ini dengan curahan hujan antara 200mm hingga 250mm manakala kawasan lain akan menerima hujan pada paras normal.

Namun, berdasarkan tinjauan cuaca pada Ogos sehingga Disember nanti, dijangkakan kebanyakan bahagian di Sarawak menerima jumlah hujan pada paras normal kecuali Bahagian Kuching, Samarahan dan Sri Aman yang menerima jumlah hujan sedikit melebihi normal pada bulan November 2016 dengan jumlah hujan antara 300mm hingga 450mm.

Kebanyakan kawasan di Sabah juga dijangka menerima curahan hujan pada paras normal sepanjang Julai hingga Ogos depan dan kesan fenomena La Nina yang dijangka berlaku pada September di samping musim taufan yang aktif di barat Lautan Pasifik akan meningkatkan curahan hujan di kebanyakan kawasan di Sabah.

Info

FAKTA FENOMENA LA NINA

- Pada masa tertentu, walaupun tidak selalu, suhu permukaan laut di tengah dan timur Lautan Pasifik menjadi lebih rendah dari biasa. Fenomena ini dipanggil La Nina suatu keadaan yang bertentangan dengan El Nino.
- Dalam keadaan ini, tekanan atmosfera permukaan di kawasan khatulistiwa Pasifik barat menurun, menyebabkan pembentukan awan yang tinggi dan hujan lebat.
- Semasa keadaan La Nina, tekanan permukaan atmosfera meningkat di Pasifik tengah dan timur manakala tekanan permukaan menurun di bahagian Pasifik barat. Keadaan La Nina turut dikenali sebagai fasa sejuk ENSO.
- La Nina secara amnya meningkatkan taburan hujan terutama di Sabah dan kawasan pantai timur Semenanjung.
- Ketika kejadian La Nina, anomali iaitu perbezaan dari nilai jangka panjang suhu permukaan air laut di kawasan tengah dan timur Lautan Pasifik sekitar Khatulistiwa lebih rendah berbanding semasa El Nino apabila suhunya lebih tinggi daripada keadaan normal.
- La Nina meningkatkan kekuatan angin timuran yang bertiup dari arah timur Lautan Pasifik iaitu menolak semakin banyak air permukaan laut panas ke arah barat Lautan Pasifik (Asia Tenggara).
- Keadaan ini menggalakkan proses perolakan udara dan pembentukan awan dan seterusnya membawa hujan lebat di beberapa kawasan Asia Tenggara termasuk Malaysia.