

GeoSmart Information for Infrastructure

The Digital Convergence

Kaushik Chakraborty



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hot news

High time laws caught up with drones, experts say

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SINGAPORE – Some can hit speeds of 80kph and stay aloft for 45 minutes, some are small enough to fit into the palm of your hand with a camera attached, and some can even peek small projectiles.

With drone technology heating up and becoming more readily available to consumers, industry players are cautioning that the technology could be outpacing the ability to police the risks, and are urging that laws be reviewed more frequently, while acknowledging the difficulties of enforcement.

Laws were passed in Parliament in May last year to assuage concerns over safety, security and privacy surrounding unmanned aerial vehicles (UAVs).

The Unmanned Aircraft (Public Safety and Security) Act outlines regulations for the safe flying of drones and enforcement action against errant users. Permits are required to fly drones above 7kg, or within a 6km radius of an aerodrome.

Despite the regulations, the Government received a report of a remote control airplane that damaged the roof of a housing block in Hulan in the past year.

Tv data, the operator has not been located, said Transport Minister Khaw Boon Wan in a written parliamentary response last week.

Meanwhile, flashy new models are entering the market. Just two weeks ago, Paris-based developer Parrot launched four new drones, available at retailers Challenger and Populac.

The lightweight Oxyon drone's features – for instance, a view from the "cockpit" of the drone streamed in the

to burst a balloon, and "grabbers" that can pick up small items.

Experts point to the risks of increasingly sophisticated drone technology accessible to anyone at brick-and-mortar shops or online, such as high-definition video capabilities making it easier for surveillance to be carried out furtively.

"It's quite a strange time for UAVs," said Dr Fong Shao-hui, an assistant professor at Singapore University of Technology and Design who has an interest in robotics and unmanned systems.

"It's gotten cheaper and anyone can get one. Without proper training, even a drone weighing just 1kg can cause property damage and serious injuries. In this aspect, the Act does have some inadequacies," he said.

"Even if you stop the sale of a

From left, Drone enthusiasts Xu Zhuohua, Zacky Akmal Razak, Derrick Tan and Haseem are part of the surge in the popularity of flying unmanned aerial vehicles. Experts point to the risks of increasingly sophisticated drone technology accessible to anyone at brick-and-mortar shops or online.

Below the Act kicked in last year, then Transport Minister Lui Tuck Yew said in Parliament that there had been more than 20 reported incidents involving drones between April 2014 and May last year, two of which involved the drones falling onto MGT tracks.

In such cases, it can be "almost impossible" to find the pilot, said Mr Mohamed Faizal Mohamed Salleh, deputy director of Nanyang Technology University's Air Traffic Management Research Institute.

He suggested using aircraft surveillance technology, in which aircraft are tracked through satellite navigation, to trace the positions of all UAVs.

"In research, we're looking beyond this. We could be using teleo networks or wireless networks, or creating an Electronic Road Pricing system in the

certain weight and size with geo-fencing capabilities, to prevent them from entering prohibited spaces.

"To prevent the use of drones for terrorist attacks, it's necessary for our security agencies to acquire the latest technologies available to detect and defeat rogue drones, and have personnel trained to engage them during emergencies," said Mr Giam.

Government Parliamentary Committee (Home Affairs and Law) member Desmond Choo felt it was a matter of time before more incidents involving unmanned aircraft, such as the crash in Hulan highlighted by Mr Khaw, surfaced. "We must prepare for this eventually. The education part is critical, and we shouldn't just target users, but the companies bringing in drones as well," he said.

Education campaigns could be conducted for operators about the do and don'ts of flying drones, he added.

His view was echoed by Mr Derrick Tan, owner of drone retailer Sky Hobbies Singapore. "It's our duty to inform customers when they buy a drone. We have to do our part to protect the reputation of the community," said Mr Tan.

Retailer Drone Matters' owner Xu Zhuohua added, "Drones are something you can top off the shelf and also buy parts and build your own. It'll be almost impossible to license each and every one of them. It's more important to have education and common sense."

Mr Yeo Keng Man, of Temasek Polytechnic's School of Engineering, proposed allocating indoor or fenced-up outdoor spaces for operators to hone their flying skills.

But Mr Khaw had said in his parliamentary reply that promoting shared use of space in land-scarce Singapore was preferable to setting aside special drone parks.

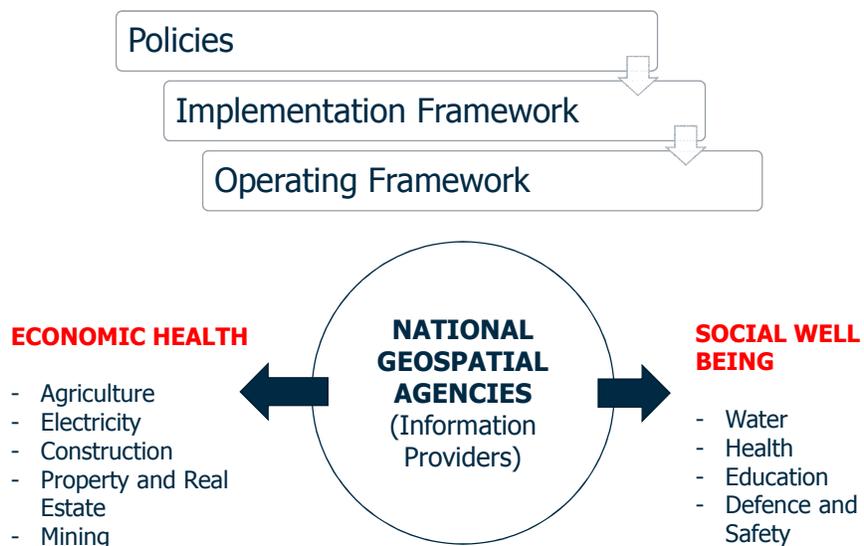
Geo-information, Policy and Security

What message Does this Send?

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Data and Information in the “Smart” Era

- In this era of Smart Cities, data is the new “Natural Resource” - vast and mostly untapped
- **80% OF ALL HUMAN ACTIVITY HAS LOCATION INFORMATION EMBEDDED IN IT!**
- Like our cultural heritage, Data is a resource that needs to be generated, protected and interpreted.
- Data based decision making must be our behavior.
- *As Plato pointed out, human behavior stems not just from knowledge but also from desire and emotion*
- It is the management of human desire and emotion which will be key to the UNGGIM information management policies



Aim is Better Management of public assets through the lifecycle of Design Build Operate Maintain



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ARC VIEW

MARCH 3, 2016

The Next Generation of ALIM: Connecting the Digital Asset

By Dick Slansky and Paula Hollywood

Keywords

ALIM, CAPEX, OPEX, TOTEX, Digital Asset, Asset Reliability, Asset Performance, Predictive Analytics, Internet of Things, Smart Connected Assets, Cloud Infrastructure, Engineering Information, System of Record

Summary

Global demand for new infrastructure, utilities, and process plants is increasing steadily with the growth of regional economies and the business and industrial requirements that accompany this growth. Along with this demand, comes increased risk for new projects that tend to be larger and more complex. This makes it more difficult to meet time and cost constraints and deliver plants that can operate with maximum efficiency and safety, as well as being maintained for reliability.

One of the single most significant issues associated with capital projects is the lack of accurate, complete, and timely project and engineering information. Not having access to the complete set of engineering and construction information can add substantial project and operational risk in terms of cost, time, and safety. Furthermore, accurate engineering information must be available and accessible to feed documentation needed for the OPEX (operations- and maintenance-related) cycle. EPCs, project managers, and owner-operators all concur that access to information throughout all phases of capital projects is critical to meeting schedule and cost goals.

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According to ARC Advisory Group research in the power, process, and utilities sectors, information management and access is equally important to EPCs and owner-operators. Nearly all owner-operators want information turned over in a form that they can import into asset management/maintenance management systems that they use to operate

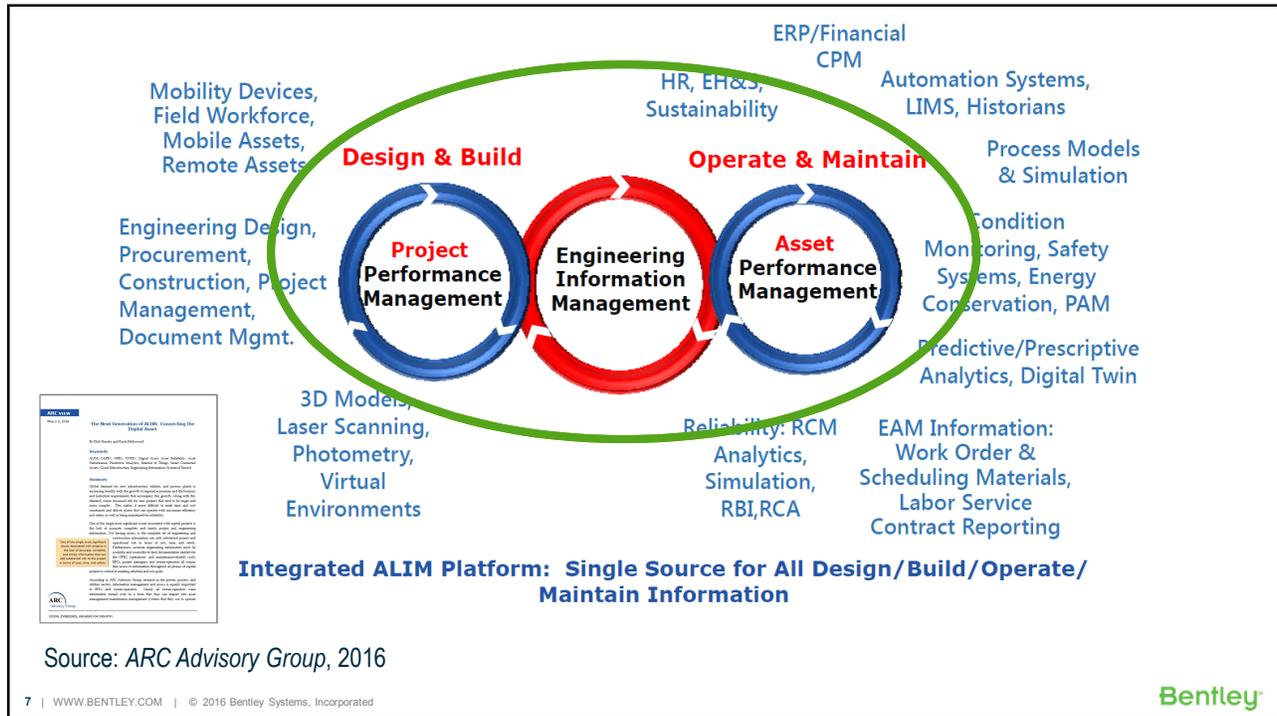


VISION, EXPERIENCE, ANSWERS FOR INDUSTRY

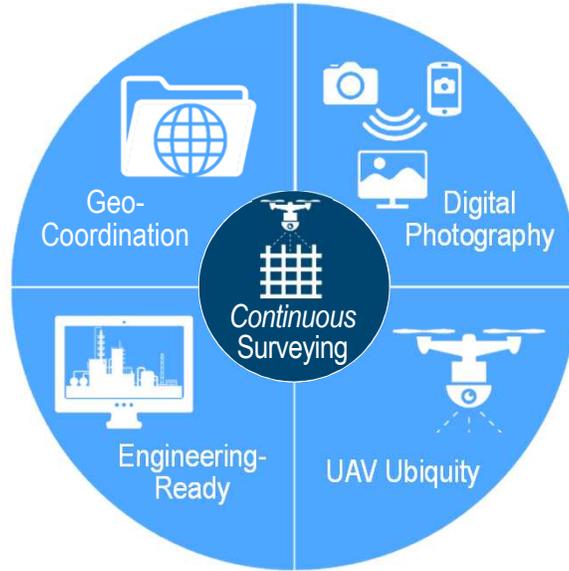


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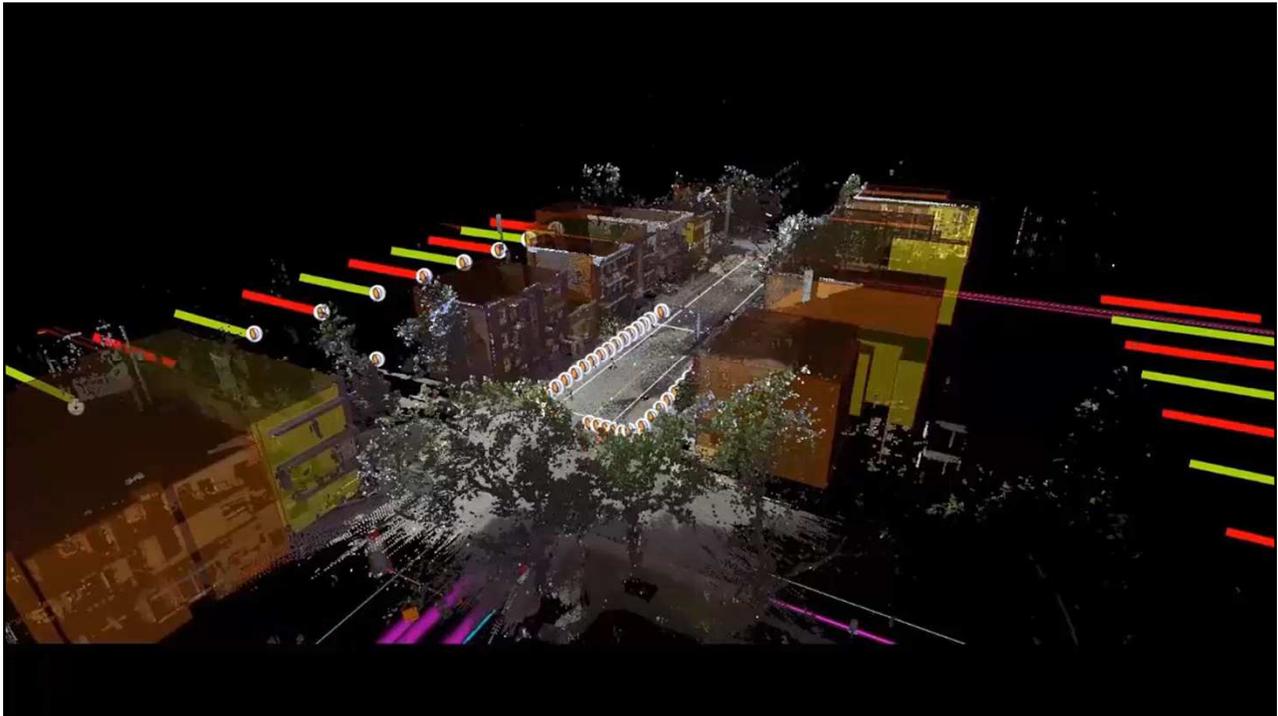


Continuous Surveying



Reality Modeling...





monitoring



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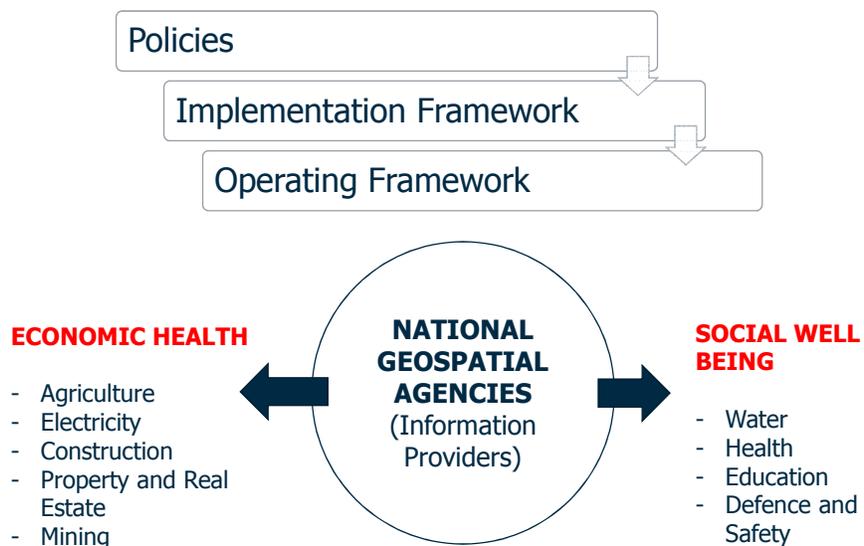
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OPEN DATA IS THE NEED OF THE HOUR!

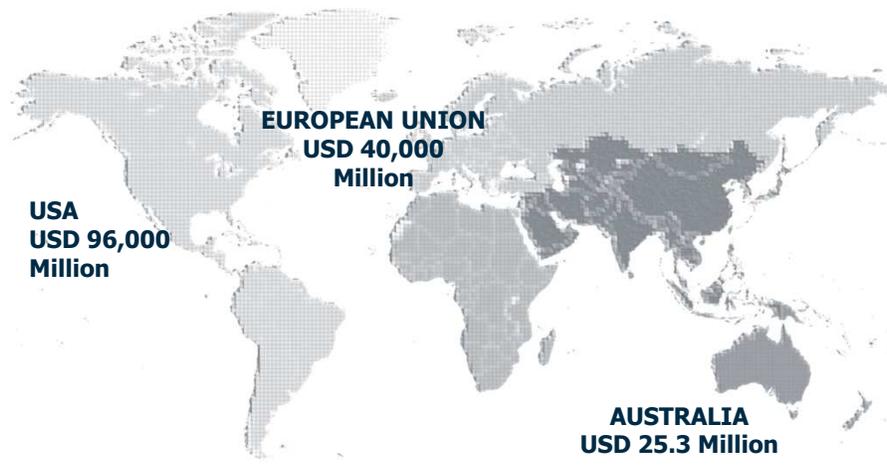
Conscious efforts are being made by countries to make their data, including geospatial data, **OPEN** and often times, **FREELY AVAILABLE** for use by public and private enterprises

Globally too, like, **Group of Earth Observations (GEO)** have been striving to make EO data freely and openly available for societal benefit areas via the GEOSS platform



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Economic Value of **Geospatial OPEN Data** across countries



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Issues with **DATA PRIVACY** Policies

- **Transparency** and specificity of purpose
- Catching up with complexity of Data Proliferation and accessibility
- **Balance** needs of NMAs vs. Users vs. non-traditional data generators
- Policies for **volunteered geospatial information (VGI)**
- Acknowledging **voice of industry, academia, as well as government** while creating policies
- First create policies to market geospatial information and **encouraging use** of fundamental geospatial data

Issues with **DATA PRIVACY** Policies

- Free data needs to be matched with complementary infrastructure, so **policy for suitable data infrastructure**
- No single legal framework possible to address multi user-multi supplier system of today – **multiple legal framework needed**
- Put **professional responsibility and liability on data generators** and distributors in times of risk

“PRIVACY IS A MOOT POINT”

hot news

High time laws caught up with drones, experts say

VALERIE ECH
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Geo-information, Policy and Security

What should be the Story?





Thank you

“PEOPLE HAVE REALLY GOTTEN COMFORTABLE NOT ONLY SHARING MORE INFORMATION AND DIFFERENT KINDS, BUT MORE OPENLY AND WITH MORE PEOPLE - AND THAT SOCIAL NORM IS JUST SOMETHING THAT HAS EVOLVED OVER TIME.”

MARK ZUCKERBERG

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