Opening Address by Dr Vivian Balakrishnan Minister-in-Charge of the Smart Nation Initiative at Geo Connect Asia 2021 (24 March 2021)

Introduction

1.   Good morning and welcome to Geo Connect Asia 2021. I'm afraid I am currently overseas, but I am very glad that the organisers have arranged for this hybrid conference, so that all of us, despite our separation in time and space, can still participate.

2.   Geospatial innovation is a critical dimension of Singapore's Smart Nation journey. We're all familiar with the exponential increase in computing power, in broadband connectivity, the explosion of big data, artificial intelligence, and robotics. Perhaps less well known but equally worth emphasising is the fact that high quality, high resolution spatial data and location technology, and the availability of this in real-time is in fact essential for more efficient planning, more responsive public services, enhanced productivity, and more importantly, to improve our quality of life on a daily basis.

3.   Consider a few examples that most of us, I believe, use on a daily basis. We use online map services to figure out the fastest way to reach our destination - not just on the basis of what is the shortest line between two points, but even taking into account live traffic conditions. Another example - ride-sharing and food delivery services would not be possible if we did not have the platforms and the data to provide location technology in order to match the real-time needs of customers to service providers.

The Singapore Government has built up its capability to tap on geospatial technology

4.   Besides these everyday use cases, the Singapore Government is also tapping on geospatial technology to support improved planning and to enhance delivery of public services.

5.   For this to happen, it is critical to enable seamless and secure access to high quality data across the public sector. Our Government Data Architecture includes Trusted Centres across 4 data domains - Individual, Business, Sensor and Geospatial. Public agencies can leverage the Geospatial Trusted Centre to access the relevant

geospatial data in order to strengthen our policy analysis and to drive evidence-based decision-making.

    a. One example is ePlanner, a geospatial urban planning system developed by the Urban Redevelopment Authority. Our planners can tap into a map with data pulled from different agencies to optimise decisions when planning for land use, public infrastructure and other programmes. For instance, healthcare and community organisations can also use the ePlanner to identify neighbourhoods with a larger proportion of seniors, and therefore plan more appropriate health and social programmes for these residents.

6. Besides improving planning and policy-making, geospatial technology has also enabled the Government to better streamline our operations and deliver services in myriad ways.

    a. Take for example the myResponder app, developed by the Singapore Civil Defence Force. It taps on real-time geolocation information in order to alert CPR-trained volunteers whenever there are nearby cases of cardiac arrest, and we all know that cardiac arrest requires urgent first aid. This app has been well-received and recently, a collaboration was announced between Grab and SCDF to equip some vehicles with AEDs. When the drivers are alerted by the myResponder app, they can drive immediately to the location to provide the emergency help that is so essential in such circumstances.

    b. Another example is the Infrastructure Works Dashboard, which is used by the Municipal Services Office to optimise overlapping infrastructure projects such as roads, public housing and utilities. This minimises inconvenience such as traffic obstruction and noise pollution to affected residents caused by recurrent episodes of having these projects implemented in their immediate neighbourhood.

7. Geospatial technology has also played a key role in helping Singapore to respond effectively to the COVID-19 pandemic.

    a. In April last year, we launched a website called 'Space Out' to provide regular updates on the crowd level at a variety of public venues like shopping malls, supermarkets and parks. This helps the public make informed decisions and to help us avoid going to crowded places unnecessarily.

The Government also plays an important role in educating and training our people for the geospatial industry

8. In Singapore, it is human capital that is our most valuable resource. Beyond the technology and the infrastructure, we need to build up a pool of professionals who can contribute to the local geospatial industry. The local geospatial industry has grown from $170M in 2009 to about $500M today, half a billion dollars. We also have about 2,200 geospatial professionals today. SLA has been working with regional partners and agencies to increase this pool of talent.

    a. The Singapore Geospatial Scholarship is a collaboration among 10 public agencies to offer undergraduate and postgraduate scholarships in geospatial-related courses. This will help us to build a pipeline of geospatial specialists within the public sector.

    b. At the same time, we are also engaging students to increase awareness and build up interest early in these technologies. SLA is co-developing a new Geospatial Scientist Badge with the Singapore Science Centre to encourage students to explore and appreciate different uses of geospatial tools, as well as apply them to real world scenarios, and perhaps in new and innovative ways which we have not yet imagined.

It is vital for the Government to engage the industry and facilitate co-development of solutions

9. The Government cannot, and should not try to do everything on our own. In order to provide the foundation for a vibrant private sector to innovate and develop new solutions, we have built digital platforms to facilitate geospatial data sharing across both the public and private sectors.

    a. One such shared digital platform is OneMap. This is a Whole-of-Government mapping platform that provides detailed and authoritative geospatial information to everyone who wishes to access it. An extensive set of APIs has been provided for developers to integrate mapping features into their own applications. In September 2020, a new upgrade known as OneMap3D Beta was launched to allow users to experience an immersive 3D view of their surroundings. This will drive greater co-creation of innovative solutions using 3D geospatial data.

10. We also have GeoWorks, which is a geospatial industry centre to promote innovation, business growth and a vibrant international GeoCommunity. GeoWorks houses start-ups and scale-ups to solve geospatial challenges through joint innovation projects and access to accurate, reliable government data.

a. An example is Garuda Robotics, a local company which develops enterprise-grade drones and drone data solutions. As traditional survey methods are not able to catch up with rapidly changing urban landscapes, Garuda contributes to OneMap3D Beta by providing up-to-date 3D data captured during their drone flight operations. Garuda also uses 3D urban data from OneMap 3D to guide their drones to rapidly deliver AEDs to support medical aid to cardiac arrest victims. I think this has great synergy with SCDF's myResponder app which I mentioned earlier.

Conclusion

11. We are still at an early stage of the journey and there is a lot more that we can do to push the boundaries of innovation together. I am a big believer in this collaborative approach between governments and the private sector to shape our future Smart Cities.

12. I hope that the subsequent presentations and discussions at this event will provide a fruitful exchange of new ideas. Thank you all for joining us today.