The **power of location** in the new world of hyper-connectivity

A round table discussion of industry leading experts - July 2019





A Message From The Host

Companies and society are faced with increasingly complex problems. At the same time, digitalisation is providing a new wave of innovation to help solve these problems. Inherent in this complexity is location – everything happens somewhere, and this context is critical to unlocking relevant and value-adding solutions.

This is the converged world of geospatial analytics and location intelligence – or geospatial intelligence – the convergence of advanced digital technologies (machine learning, Internet of Things, as well as advanced and modern computing technologies) and socio-economics (the discipline that seeks to understand the earth, society and their natural interacting complexities).

At our recent roundtable, attended by experts from industries as diverse as Nature Conservation, Logistics, Retail and Education to name a few, the consensus was reached that data is indeed the most valuable resource that a company can own today.

When combined with geointelligence, business and transactional data has become the single most important factor in achieving business success. While most companies still have a way to go to gain the full value offered by geointelligence, the insights offered by / our thought leaders suggest that investment into geointelligent insights will become increasingly important to realising competitive advantage. We hope that this overview of the conversation provides some food for thought, and offers a different perspective on what we are sure is the future of business: **the spatially intelligent enterprise.**

Regards

Kamal Ramsingh GeoInt

Forward



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The demand for geospatial content is on the rise in business, governments and consumers.

With increased volumes and velocity of data available, geospatial intelligence can only be delivered through the efficient harnessing of data and analytics to produce insights and products to match the pace of decision making

Geointelligence is fast becoming the most important factor in gaining value, not just from IoT, but from all data. Everything is connected, and everything happens somewhere. On its own, sensor data is one dimensional. When combined with geospatial analytics, business data, and operational data, hidden patterns and relationships can be revealed for more effective outcomes.

This requires having the data in the right places in order to derive insight, which is dependent on the readiness of the organisation, and especially the countries it operates in. Every country is at a different level of readiness, with some having embarked on the geospatial journey sooner than others. Australia, for example, established a standardised geospatial index decades ago, as did the USA, which added access to its geospatial programmes early on. In comparison, India started its geospatial initiatives from a basic level of readiness, which is somewhat comparable to Africa today.

Africa's readiness level is constrained largely by infrastructure and connectivity challenges, which will only be highlighted further as digitisation continues to take hold. With data sources such as smart sensors becoming increasingly significant in the creation of actionable insight, these challenges will need to be resolved to ensure the continent keeps pace. Solutions will likely differ from country to country, with directives and policies being established by parties such as South Africa's 4IR Commission.

It's All About The Data

With more data available today than ever before, business owners are creating cluttered dashboards and wasting time on numbers that don't give them the insight they need, causing them to become "data-rich and insight-poor".

Geospatial analysis of all data types promises to create the data-rich insights that will allow improved decision making, better results, new revenue opportunities, and overall a better view of the company's data, opening up new areas for growth.



Marinus van der Merwe - Fernridge Thuli Khanyile - NkaThuto Edupropeller

Harnessing the power of various forms of data is getting easier as processing and storing big data has become less challenging. As the volume and variety of data continue to grow, companies have to determine how they can best use different data types, and how they can enrich it from different sources. As they do this, they will discover more value in their data.

While location remains one of several data dimensions that can be collected and analysed, it also represents the single point of correlation between a transaction (and or event). For example, logistics planning and weather conditions, or traffic density and advertising opportunities.

As businesses become more reliant on insights to drive business change and stay ahead of competitors, it's becoming more valuable to add time and context to data – hence the power of geospatial intelligence. The challenge, however, remains that is still being collected in pockets, making it that much harder to turn data into wisdom.



Charmaine Houvet - CISCO, 4IR Commission | Andiswa Mlisa - SA National Space Agency | Mia Andric - Exposure Unlimited | Lee Annamalai - GeoInt

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Geospatial Enablement

While IoT ranks among today's biggest buzzwords - and is a massive generator of data - it's still in its infancy. The bulk of the data collected by organisations remains transactional, and most businesses have decades worth of information stored, and at their disposal. Companies have obtained some value from analysis of that data, but common approaches have not yielded the types of results they require in order to gain the data-rich insights that will give them a competitive edge.

The expanding application of GIS, the ongoing maturation of location intelligence and burgeoning, business use cases across a number of verticals are sparking new, more imaginative approaches.

In short, businesses are starting to gain value from their data through the addition of geointelligence.

Geospatial enablement, that is, the ability to add location to almost all existing information, unlocks a wealth of knowledge from both new and existing data sets. Geospatial data infrastructures underpinning location-based information make for better decision-making and provide deeper and more detailed insights. This, in turn, better enables the business to achieve its goals, become more competitive, and innovate.

Success relies on the ability to collect, update, analyse, represent and communicate all data in a way that facilitates knowledge sharing within the business, with partners, and with customers. To achieve this, companies need to focus less on a particular type of data and more on managing all information spatially. Making better use of the available geointelligence, combined with all the other data available, companies can create new, smart ways to harness, integrate and interpret their data.



Kamal Pillay - SANPARKS | RC Kalaga - TomTom

Charmaine Houvet - CISCO, 4IR Commission

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Andiswa Mlisa - SA National Space Agency

The Reality Of Data **Monetisation**

Effectively finding and leveraging insights is only one of the challenges faced by companies that require geospatial enablement. Many businesses are still struggling to figure out how to monetise the data they are collecting. This is partly as a result of the challenge of anonymising data.

Analysing, using, or selling trace data can be complicated, because it might not be what the user voluntarily signed up for. Even if data is anonymised, it is easy enough to add a few additional points from other sources that can tell any company more about an individual than they necessarily agreed to.

At the same time that companies are trying to find ways to profit from their data, government agencies are committed to open access data, leading to a situation where data generated by government agencies is freely available to everyone, but additional data sets would have to be purchased by those agencies from businesses.

A possible solution is a geospatial marketplace, where these data sets could be traded in a fair way. Companies should start looking at the value proposition offered by data for cost reduction rather than revenue generation. Collaboration between academia, and public and private organisations can open new avenues to value, but without incentive, there's no reason for companies to share their data.

The Next Generation Of Skills

Geospatial skills and the widespread use of geographic information systems (GIS) have established themselves over the past three or four decades. and today GIS forms the backbone of many big data analytics projects in nearly every industry. But do we have the skills to turn geospatial analysis into geointelligence?

There is no shortage of people who understand how to work with GIS software and who understand the underlying concepts of what this software is designed to do. However, what we need is an extension of this knowledge into the field of analytics and problem solving, because that's what companies need in order to turn their data into intelligence.

It's becoming a necessity for organisations to improve their geointelligence capabilities, and many have started investing in the appropriate skills. Having grown up with location central to everything they do, Millenials and Generation Z are innately comfortable with the concepts around geointelligence and are going to form the backbone of the future workforce, but most business have only recently started investing in finding the right skills, or in up-skilling existing staff.



Leslie Moodley - Bytes System Integration



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The Policy Problem

Further complicating matters is the fact that policy is lagging behind advances in technology. Like all other technology currently being categorised under the banner of the Fourth Industrial Revolution, governments are unsure of how to regulate and develop policies for geointelligence that will establish effective directives while supporting the growth of the industry.

South Africa has been engaging in developing a Spatial Data Infrastructure (SDI) policy for a number of years and is regarded as the leader in this field in Africa. However, there is still much to be achieved in establishing a National Spatial Data Infrastructure (NSDI).

The Spatial Data Infrastructure (SDI) Act of 2003 establishes the South African Spatial Data Infrastructure (SASDI)

as the NSDI for South Africa, but the regulations still need to be promulgated. In fact, the Committee for Spatial Information (CSI), which is responsible for overseeing the establishment and management of the SASDI has admitted that the SDI Act needs to be amended to allow for the technological changes we have experienced in the past few years.

Any new policies and standards will have to balance regulation with investment enablement, and accessibility with privacy. New technologies are raised a number of security issues, especially privacy concerns. Cyber security capabilities differ from one company to another, from one sector to another, so security should be a vital consideration in the formulation of any relevant policies or regulations.



Francois Stols - Netstar | Scott Brighty - TomTom

Problematic Privacy

The question of privacy must be looked at in the context of the larger shifts we are seeing in the worlds of data and security, which are having major implications for how organisations think about and manage both. Privacy and security are now converging, and as a result, privacy is no longer the somewhat abstract concept it once was. Privacy now has a direct impact on the running of a business, and its bottom line.

Where the threat of unauthorised access to data used to pose the biggest danger, today the biggest risk has become the threat of unintended inferences. Once we generate data, anyone who possesses enough of it can be a threat, posing new dangers to both our privacy and our security.

This means we can no longer expect consent to play a meaningful role in protecting our privacy. Because the threat of unintended inferences reduces our ability to control unintentional use – or misuse – of data, companies are having to tread even more carefully in how they collect, store and use any information at their disposal.

The Spatial Organisation Is The Intelligent Organisation

Despite regulatory and privacy challenges, the integration of geospatial intelligence with active devices and/or sensors, technologies is providing new opportunities for businesses, and is transforming the way people work, move, live and play. Companies from the Insurance, Travel, Agriculture, and Construction industries, for example, are enriching data from business applications with geographic data from GIS.

They are overlaying business data, device location information, customer locations and more with detailed geographic information, like topography and satellite imagery. Rich graphics, such as heat maps and charts, help users visualise business activities, relationships, and patterns.

The technology offers a multitude of improvements in the retail space, particularly for online retail logistics. Only about 1.8% of South Africa's total retail sales are online, but that is expected to grow to 3.3% by 2023. The sector is currently experiencing service delivery pressure from customers who are increasingly demanding real-time updates and improved last mile delivery, which geointelligence can easily alleviate.

One of the reasons for these low numbers is that there is still a perception that online shopping is not secure, but that is changing. Millenials will be key to the transition to a more online-focused shopping public, and this connected demographic is already offering businesses all kinds of new opportunities.

Business opportunities brought about by geointelligence aren't only limited to new revenue streams. Process improvements are equally valuable. For example, geospatial data can improve the procurement process and reduce corruption.

The only thing holding back mass adoption across Africa is infrastructure. Connectivity is essential for geointelligence, and there are many areas on the continent where the readiness isn't where it should be because of a lack of connectivity. Organisations must therefore create innovate solutions to deal with their technical debt – regardless of whether it is related to their own infrastructure or connectivity challenges.

The bottom line is that geospatial solutions are vital to any digitisation initiative. In today's customer-driven world, companies have to respond to customer needs or be prepared to shut down. Without geointelligence, they can't match customer expectations. The future of every business lies in combining and realising the power of business, operational, IoT and geospatial data.



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