

## **Kamal K Singh**

Chairman & CEO  
Rolta Group

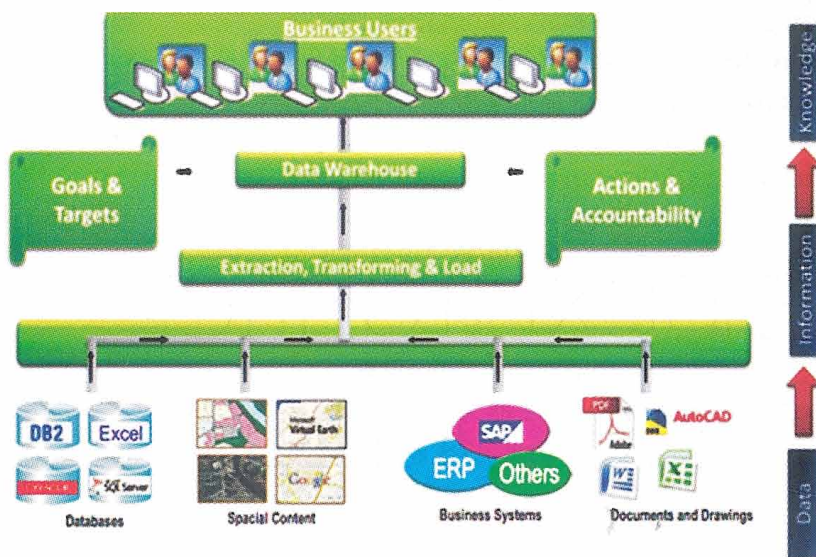
# Powering the next frontier of information revolution

**S**ustaining earth, in the face of fast-changing geopolitical balances, economic turbulence, technology thrusts and population dynamics, depends on our ability to maintain a delicate balance between human-promoted planetary modification and decline in thresholds for land, water, atmosphere and biological systems. As our lives become more and more complicated due to competing demands of development and conservation, geospatial information and solutions are coming to our rescue and helping us in managing our resources better.

Today, we live in a world that has been dramatically transformed by technological innovations and advancements. In the last three decades, GIS, combined with modern information technology, communication, Internet and advances in space technology, has significantly transformed our lives. The use of geospatial information is increasing rapidly. There is a growing recognition amongst both government and the private sector that an understanding of location and place is a vital component of effective decision making. Citizens with no recognised expertise in geospatial information and who are unlikely to even be familiar with the term are also increasingly using







and interacting with geospatial information, and in many cases, contributing to its collection as well. Geographic information is becoming ubiquitous in almost every aspect of government and citizen lives.

### G-tech and economic growth

In today's world, the use of geospatial technology is a very important catalyst for economic growth, which can radically change models of governance and business on the whole. Timely, reliable and comparable information on social, demographic, economic and environmental conditions are the key inputs for policymakers to make evidence-based planning and policy decisions. The importance of information to individuals and organisations, and therefore the need to manage it well, is growing rapidly.

The advent of PCs, Internet and mobile telephony has provided a wide choice in collection, storage, processing, transmission and presentation of information in multiple formats to meet the diverse information requirement, leading to information revolution. Considering that all information pertains to a certain geography/location on earth, geospatial information plays a key role in powering information revolution.

### G-tech and information management

Man has been creating maps for thousands of years for navigation, territory identification and a host of other uses. From hot air balloons to aerial flights to satellites, man's ingenuity to gather geographic data has been commendable. With advances in sensors and platform technologies, processing capabilities, mobile, cloud and information and ICT capabilities, geospatial information is getting more accurate, more dynamic and capable of being provided in real time.

This rich geospatial information is being used to reveal new insights about the physical world, our relationships with it and amongst ourselves. The movement of geospatial technology to SaaS, PaaS or DaaS is getting popular and profitable with valuable geospatial content to serve. Today, more than ever, dynamic geospatial information is enabling governments understand complex situations like economic trends, natural disasters, ocean levels, military action, or even demographic dynamics. With an increase in fully automated decision systems, geospatial computation is becoming a non-human consumable in nature. This power of geospatial analysis is providing a new way of managing and mainstreaming digital information, which have become crucial enabling factors in information revolution.

### G-tech for public good

Campaigns to promote geospatial data as essential public good and the consequential support from free and open data policies are increasing the ease of access to information, underscoring the value of geospatial information in increased economic activity. The emergence of volunteered geographic information, location-enabled social media and other actor networks is adding a new dimension to information revolution. The biggest challenge is to integrate all the data,

***There is a growing recognition amongst both government and the private sector that understanding of location and place is a vital component of effective decision making. Geographic information is becoming ubiquitous in almost every aspect of government and citizen lives***

both spatial and non-spatial, residing in different sources into a manageable environment for unified view in real time. The data fusion technology, i.e. geospatial fusion, can easily facilitate data sharing and integrate both spatial and non-spatial data from disparate sources to create a common intelligence picture.

This approach is key to providing capabilities which establish a flexible, robust and solid foundation for information exchange, interaction and decision making in any organisation. Increasing integration of geospatial technology with enterprise information and communication technologies will now see the advent of a “geospatial web” in the coming years.

However, sheer existence of this data is not in itself a driver of value. One critical factor influencing the impact of the information revolution is the sophisticated analytics that are being applied to aggregate, analyse and manipulate the data being collected. Technological evolution will accelerate, with previously niche geospatial information technologies becoming mainstream, while mainstream technologies like

cloud and SaaS will get absorbed into geospatial information. Data will be increasingly interconnected through the Web via capabilities such as linked data and this will challenge standard methods. Technology will enable rapid distribution and absorption of information, and also accelerate responses to that data to the extent that location devices will be pervasive.

The emerging trend is towards the provision of 3D and even 4D geospatial information to meet global goals. Geospatial information, coupled with other big data components, is empowering and ushering the information revolution into a new era of effective decision-making, increased productivity and improved performance. The philosophy of big data analytics is changing long-standing ideas about the value of experience, the nature of expertise, unleashing innovation and opening up new avenues in public-private collaboration. This is spurring new business models and bringing a fundamental shift in how businesses are run. Geospatial industry is at the core of this fundamental shift and is ushering a new frontier in information revolution. 

***Increasing integration of geospatial technology with enterprise information and communication technologies will now see the advent of a “geospatial web” in the coming years***