

# Incorporating Geospatial Information into Business Systems

**White Paper**

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Increasingly, geospatial information is being used to drive decisions in large organizations. In the past, geospatial technology companies focused on developing and providing solutions to data providers, geospatial service providers, airborne sensing organizations, national mapping agencies, state mapping agencies, DoD/National Programs and the natural resources sector. However, as geospatial technology capabilities have increased, more organizations outside this traditional geospatial customer base are discovering the offerings, with increasing interest in integrating this technology into their organization's existing enterprise business system.

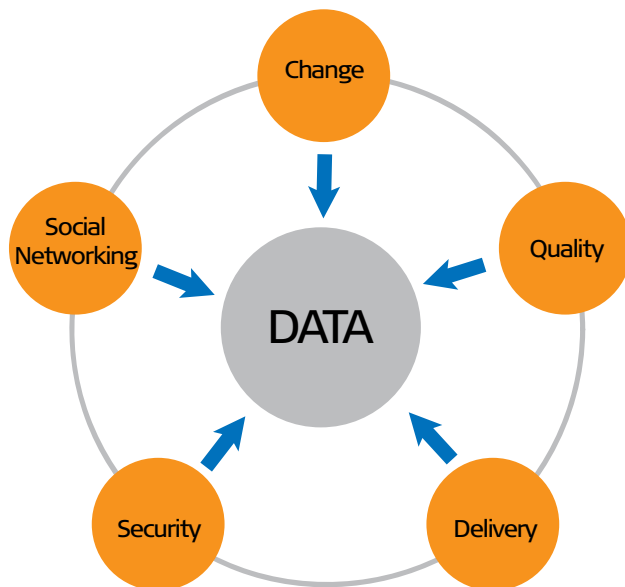
Rather than understanding the vast array of remote sensing, GIS, photogrammetry, or other related geospatial offerings, these new customers speak only in terms of their business need, requiring a solution that operates and integrates with their existing software applications. For these new customers, it is vital that geospatial technology providers adequately understand their requirements, matching these needs appropriately. The geospatial tools must also meet the organization's existing security and sharing specifications.

Some of these non-traditional customers and their needs are listed in the chart below.

Customer	An Example Need
Urban Planners	Monitoring green space
Real Estate Companies	Finding the nearest schools to a house
Environmental Consulting Firms	Evaluating the effects of residential development on a river channel
Civil Engineering Companies	Viewing a "before and after" highway project
Oil & Gas Companies	Monitoring the effects of ice sheet movements on pipelines
Insurance Companies	Assessing flooding on a residential neighborhood
Forestry Companies	Determining the financial potential of a forest stand
Land Developers	Calculating the value of a parcel of land
Tax Assessors	Estimating the effects of zoning changes on storm water infrastructure
E911	Ascertaining an appropriate place to land a helicopter
Command Control	Understanding the terrain in an area

Incorporating geospatial information into the large quantities of existing data these new, non-traditional customers maintain adds immense value. Maturing standards and improvements in web services, data compression, metadata standards, delivery and processing power are bringing geospatial data exploitation to the enterprise, making this technology readily available to non-traditional geospatial businesses. Organizations integrating geospatial technology are more equipped to manage their data and storage, with new tools to automate, extract, collaborate and share information.

Previously, geospatial technologies operated in the desktop environment, or via web applications detached from other vital software packages. Without interoperability, geospatial technology remained separate from other integral applications, including those associated with an organization's manufacturing, supply chain, financial, human resources and customer resource management systems. Separated from geospatial applications, data spread throughout an organization could not be adequately analyzed and fully transformed into the most comprehensive and understandable information. However, recent innovations and Service Oriented Architecture (SOA) developments have introduced a growing number of interoperable, platform agnostic geospatial solutions. These technological advancements allow an organization to maximize the effectiveness of their existing business system.



## Business Needs

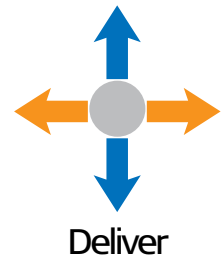
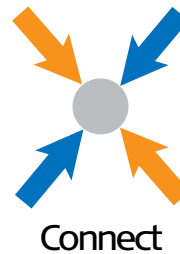
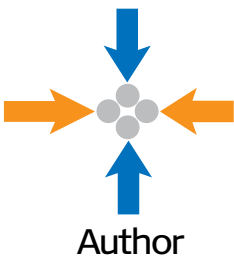
Integrating geospatial and location-based information into an organization's existing business system provides greater understanding and management capabilities. Because the geospatial ingredient is interoperable with the organization's current system, it not only provides powerful tools, but also quickly increases ROI. With the appropriate tools, an organization's data can truly provide the fuel for its success. Therefore, adding the vital geospatial component to business information addresses the following universal business problems:

- **Change** How current is the location-based content in the business system?
- **Quality** How accurate is the information and content in the business system?
- **Social Networking** Is it easy for employees scattered around the world to find, access and retrieve information from the business system?
- **Delivery** How long is the wait for a request to receive an information product for a given area of interest?
- **Security** Can the business system be secured to ensure reliable content and prevent corruption of business critical information?

## Business Solutions

An integrated geospatial business system provides the following important capabilities, fully responding to an organization's needs, thereby adding value to the decision-making processes:

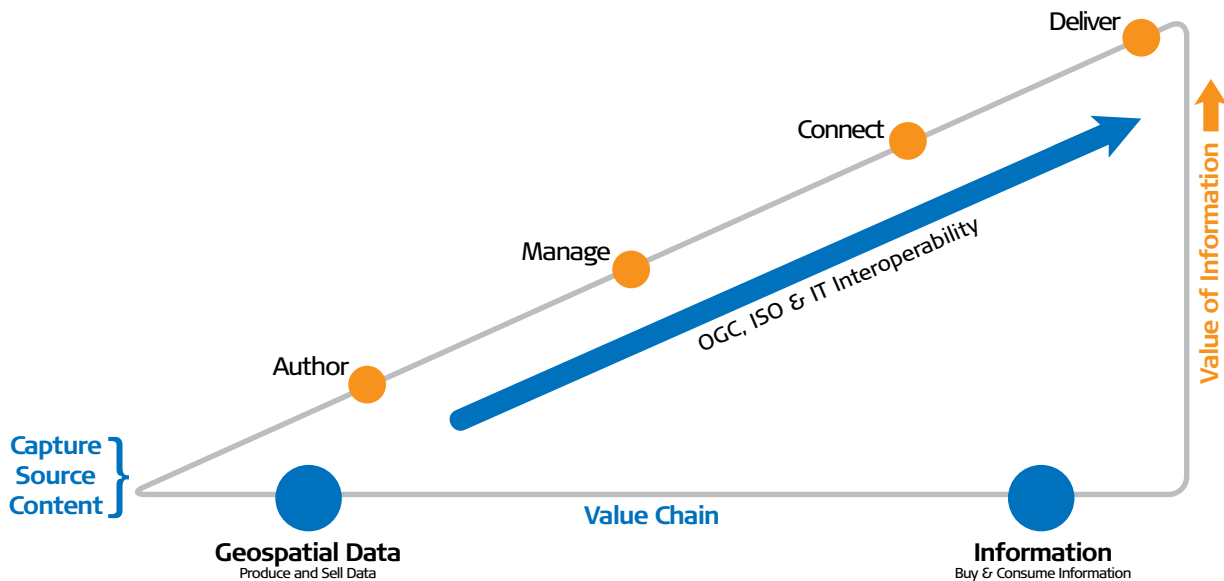
- **Change** Authoring and maintaining fresh up-to-date content that can be used as the source for creating information products
- **Quality** Creating accurate and precise data and web service solutions
- **Social Networking** Dynamically connecting users to one another inside an organization while also connecting organizations to one another (B2B)
- **Delivery** Rapidly delivering the right content and online services in an IT and Open Geospatial Consortium (OGC) compliant manner
- **Security** Preserving the investment organizations have made in their source content by providing secure business systems



## Adding the Geospatial Value

A geospatial business system meets the full spectrum of an organization's requirements, transforming geospatial data into information useful for decision-making processes. The specific components and capabilities built-into geospatial business systems include:

- **Authoring** Transforming source data into products, including orthos, terrain, features, 3D data, land cover data and processing models
- **Managing** Finding, describing, cataloging and publishing data and web services
- **Connecting** Linking users within an organization, allowing the rapid sharing of content throughout the organization or business to business (B2B)
- **Delivering** Subscription, mobile and web services which contain value added content delivered to a variety of domain specific and business applications



By incorporating the geospatial component into a business system, organizations have the ability to complete the value chain, transforming data into geospatial information. By incorporating standards-based interoperability throughout the authoring, managing, connecting and delivering components, the data is seamlessly integrated. As the data progresses from authoring to delivery, the value of the information also increases, from captured source content to information providing valuable decision support.

By incorporating geospatial technology into an existing business system, vast quantities of data become useable information, fully equipped to serve an organization cross-departmentally and in the B2B context. The enterprise is fully utilized, thereby maximizing an organization's potential. The future for the geospatial industry and for successful organizations is the geospatial business system – empowering the existing business system's structure by integrating existing and emerging geospatial and location-based technology to provide information throughout the enterprise.