

Geospatial Services: A \$1.6 Trillion Growth Engine for the U.S. Economy

How Consumers and Businesses Benefit from Location-Based Information

EW OF US THINK about it, but we all make use of the location-based tools and technologies provided by the geospatial services industry every day. Driving directions, delivery logistics, in-store promotions transmitted to GPS-enabled smartphones—these are just a few of the applications made possible by the data providers, location-enabled device manufacturers, app developers, experts, and educators who constitute the geospatial services ecosystem.

Geospatial Services: Big, Essential, and Growing

Although still young, the geospatial services industry is already an enormous force in the U.S. economy, generating annual revenues of almost \$75 billion (more than the U.S. paper industry), and providing jobs for 500,000 people—more than the number of airlines jobs and almost as many jobs as in residential construction.

The economic impact of the industry extends much further. Together, geospatial services companies drive \$1.6 trillion in revenues and \$1.4 trillion in cost savings throughout the U.S. economy. (See Exhibit 1.)

Geospatial services deliver location-based information to consumers and businesses; the industry employs some 500,000 people and generates approximately \$75 billion in annual revenues.

We All Use Them—Every Day

There are some 240 million connected consumers in the United States, and just about all of them access geospatial information on their computers, mobile phones, tablets, and GPS devices. (See Exhibit 2.) They place considerable worth on these services. The perceived value that consumers themselves believe they receive—over and above what they pay for devices, applications, and access—amounts to some \$37 billion a year, or more than \$350 per year for the average U.S. household.

Geospatial tools have long been essential to national security and law enforcement. Today, businesses are reaping big benefits as well. More than 5 million U.S. employees, in industries ranging from health care to food service, use geospatial services on the job. Companies rely on information rooted in computer mapping and satellite imagery to create new efficiencies, better target customers, create leaner operations, and make more strategic decisions. U.S. companies spend approximately \$1.2 trillion annually on logistics, much of which relies on location-based infor-

mation. Geospatial services are having an increasing impact on the nearly \$400 billion that U.S. companies spend on marketing each year.

We expect that the economic impact of geospatial services in three key business functions—marketing, logistics, and strategic decision-making—will grow by at least 10 percent a year over the next five years.

EXHIBIT 1 | Geospatial Services Have a Multiplier Effect on the Economy Annual U.S. revenues driven by U.S. geospatial services industry (revenues \$B) Source: BCG analysis.

Keeping the Growth Growing

Despite swift growth and extensive impact, geospatial services remains an emerging industry. We expect that it will keep growing rapidly, approaching \$100 billion in annual revenues in the next five years, while continued technological innova-

tions will lead to efficiency gains that add \$2.6 trillion to broader U.S. economic activity.

This continued growth will depend, however, on sustained public- and private-sector cooperation and partnership. Data collection requires governgenerate much of the mapping and imaging data open policies governing collection and dissemination of location-based data facilitate the flow of vital information to businesses and consumers. As with many technology-based industries, a looming talent shortage demands greater emphasis on, and promotion of, technical education and training at all levels.

Implementing smart and informed policy now will generate a big payback. By encouraging continued growth of this vibrant industry, policymakers can boost revenues, jobs, economic

impact, and U.S. competiveness in the global information-based economy.

ment support for the constellation of satellites that on which the industry's output depends. Clear and

Among the many examples of how businesses—including small and medium-sized enterprises—use geospatial services are:

- Restaurants and hotels depend increasingly on geo-enabled recommendation services to bring in new customers.
- Farmers use mapping and environmental information and applications to optimize crop management.
- Geospatial services are crucial to site selection and land acquisition for construction companies.
- Real time, location-based information enables more efficient fleet management for all manner of transportation-related businesses, from trucking companies to car-rental firms.
- Energy companies use geospatial data to enhance exploration efforts.

EXHIBIT 2 | The Geospatial Services Landscape **Geospatial Services Industry Geospatial Data Applications and Experts** Users • Basic services, admin • Resource management Geo-applications and devices Defense Human geo-data and maps (e.g., street names, addresses, demographic info) Production of geo-enabled software and devices such as GPS units Logistics and operations Sales and marketing Satellite imagery and environmental data Geo-expert industries Strategic decision-making (e.g., elevation, weather conditions) Maps, directions Local business search • Local weather, social media Source: BCG analysis.

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