Extracting value from Geospatial Data

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Location Intelligence Leads to Business Insights and Creates Competitive Advantage

NEW YORK (March 12, 2015) — According to a new report by Forbes Insights, in association with Pitney Bowes, “The Eureka Moment: Location Intelligence and Competitive Insight,” by mapping different types of data—such as storm patterns, infrared heat signatures or waterways—location intelligence can bring previously unseen spatial relationships to light and, as a result, improve decision making.

If, as is commonly estimated, 80% of all business data contains a location component, it is critical to understand how location affects business. Properly analyzing location can provide insights that support and improve decision making in everything from marketing to supply chain logistics and operations.

In recent years the convergence of business intelligence, mobile and big data has given rise to data-driven organizations. But business intelligence platforms typically miss an important dimension of data analysis: location.

Location intelligence (LI) can be described as the process of deriving meaningful insight from geospatial data relationships to solve a particular
# Geospatial data for decision making

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Making fact-based business decisions based on data</td>
<td>48%</td>
</tr>
<tr>
<td>Developing a corporate strategy</td>
<td>43%</td>
</tr>
<tr>
<td>Focusing resources to get the most insights from data</td>
<td>43%</td>
</tr>
<tr>
<td>Viewing data as a valuable asset</td>
<td>41%</td>
</tr>
<tr>
<td>No significant strategic challenges</td>
<td>10%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location-based data</td>
<td>56%</td>
</tr>
<tr>
<td>Text (emails, fax, PDF)</td>
<td>48%</td>
</tr>
<tr>
<td>Social media</td>
<td>43%</td>
</tr>
<tr>
<td>Images</td>
<td>39%</td>
</tr>
<tr>
<td>Weblogs</td>
<td>38%</td>
</tr>
<tr>
<td>Videos</td>
<td>37%</td>
</tr>
<tr>
<td>Sensor data</td>
<td>31%</td>
</tr>
<tr>
<td>Speech</td>
<td>30%</td>
</tr>
<tr>
<td>Other</td>
<td>4%</td>
</tr>
</tbody>
</table>
DigitalGlobe big data

90 Petabyte!

155 km
In the past
Derive economic indicators
Understanding global economy

“To bring transparency to the global economy by tracking trends from space.”
Locate remote villages

“One of the greatest challenges of our generation”
Building footprint at scale
Forestry analysis

Accurately measure volume and health of forests

**Save money** by cutting the right number of trees to fulfill demand

**Reduce risk** when acquiring new properties
Machines are getting extremely good...
...but!

Human brain can identify some things better than machines

Roof Types
Solar Panels
Swimming Pool
Jacuzzis/Spas
Uncovered Deck
Pool Enclosure

Driveway
Cars parked in street
Large Trees Covering Roof
Chimney
Roof Dormer
Detached Garage
Yard Shed
Crowdsourcing
Crowdsourcing

Large community of volunteers analyses satellite imagery to

- Identify Features
- Validate (QA/QC) output of algorithms and increase accuracy
CrowdRank

Users are rated based on the consensus of their tags among other users.
Scale

A large crowd can scan vast areas quickly!

200,000 features/week

20,000 km²/week
Crowdsourcing platform

Extraction of Geo Data

Enrichment of Geo Data
Examples

Ecuador: Earthquake

A 7.8 magnitude earthquake struck near Portoviejo, Ecuador over the weekend, leaving thousands of buildings destroyed and thousands of people injured or displaced.

We're searching satellite imagery for:

- Damaged building
- Impassable road
- Area of major destruction
Examples

**Adelaide: Swimming pools**
The goal of this campaign is to map swimming pools across Adelaide by adding a new attribute field (pools or no pools) to an existing data set of property

10x Coverage

| 40% searched | 697,059 tasks | 2,435 taggers | 2 days active |

**Ethiopia: Population mapping**
In our ongoing effort to support GDOs, we are mapping populations across Ethiopia. Population data is important for growing economies and stopping the spread of

10x Coverage

| 15% searched | 206,202 tasks | 154 taggers | 3 days active |
Enrichment of Geo Data
Solar Panel Mapping
Adelaide, SA | January 2016
Customer provides features
Crowd answers 1 question
Solar panel validation
Some stats to share

17,500

DAYS 3

>90%
The aftermath of the 7.8-magnitude earthquake that struck Nepal at 11.56 am on 25 April was chaotic. The quake struck at a depth of 9.3 miles, and combined with the tremors and aftershocks that followed has killed at least 5,000 people. That number is still growing.

That same morning, a different kind chaos sprang up thousands of miles away, in disparate directions, across the globe – the effort to use data and satellite maps to help first responders before they even hit the ground.
Empowering decision making