

# Satellite Applications

## Case Study

## Geospatial Insight

Using satellite data to help clients gain an 'information edge'



Technology Strategy Board  
Driving Innovation

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## The Company

Company Name	Geospatial Insight
Managing Director	David Fox
No. of employees	4
Launched	July 2012
Location	Leicester
Sector	Business Intelligence

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## Overview

Geospatial Insight helps clients in the financial services sector, from reinsurers to hedge funds, to use satellite data to better understand the risks and opportunities associated with major investments. They provide unique, proprietary intelligence that allows them to 'see' the world from a new vantage point.

By unlocking data sets from space for finance sector markets, Geospatial Insight helps clients gain an 'information edge' by providing:

- A rapid, clear and unequivocal picture of a client's area of interest or concern through expert analysis and interpretation of satellite imagery and data, geospatial information and proprietary data
- Near-real time information to understand what is actually happening on the ground
- Better decision making from geospatial information is helping drive growth and profitability for companies in the corporate, investor and insurance sectors and government clients.

## Delivering an 'Information Edge'

Intelligence derived from the analysis and interpretation of satellite imagery is not a new field. During World War II, the Photographic Interpretation Unit, code named MI4 was formed in Britain alongside the better known units of MI5 and MI6. The department has undergone many changes but survives today as Defence Geospatial Intelligence Fusion Centre (DGIFC).

David Fox, Founder and Managing Director of Geospatial Insight, began his career with the Ministry of Defence gathering geographic intelligence for the army and air force. Following a successful career in the commercial satellite imagery sector, where he was Managing Director of EADS satellite data and geospatial services arm in the UK, Infoterra, Fox and his team launched Geospatial Insight in 2012.

They understood that accurate intelligence is as vital to business operations and investment strategies as it is to military operations.

David Fox, Managing Director commented "Companies need answers to the questions: what has happened, what is happening now and what might happen in the future? But whilst there were large quantities of geographical data being produced, little was accessible to a commercial audience, and few firms had the analytical expertise to interpret the data and transform it into useful business intelligence."

Using satellite and aerial imagery, mapping data and open data from government and client's own datasets, Geospatial Insight deliver accurate information about what's happening on the



This evidence-based intelligence informs commercial decision making on risk analysis, investment evaluation, commodity tracking, and the impact of catastrophic events.

With access to a virtual constellation of over 100 satellites and aerial imagery operators across the globe, Geospatial Insight can deliver detailed intelligence almost anywhere in the world.

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“Mining is a good example of how satellite data can evaluate the status of overseas investments. Typically operating in remote conditions, owners may need to assess the condition of the mine more frequently than on-site inspections would allow. Satellite imagery can look at the infrastructure of the extraction and processing operations, look at access to the site for transport and monitor the size of the mine tailings (waste materials from processing) to reduce environmental degradation. Increasingly, companies are using satellite derived data to track the sustainability of their commodity supply chains from illegal logging to plantation development.”

For retailers looking to invest in the US, Geospatial Insight has unique access to the RS Metrics database to monitor competitor footfall (eg. the number of cars travelling to a rival’s location and parked in its car park), sales promotion traffic ‘uplift’ and new store location information, combined with established market research data collection sources.

Each client receives a tailored report based on specific timing and resolution requirements including detailed analysis and interpretation, satellite and airborne imagery and if relevant, 3D city models.

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Recent major flood events in the UK have proved the value of rapidly available, high resolution data from satellite instruments that can penetrate cloud cover. Not only does this data enable emergency services to respond to the situation and authorities to monitor effectiveness of flood prevention schemes, it can reduce the need for insurance companies to conduct on-site investigations, speeding up the claims process for business and homeowners.

### Catapult Support for Geospatial Insight

Geospatial Insight has benefitted from the Catapult’s investment readiness process. The three month support package is about lean start-up, rapid prototyping, testing assumptions with customers and working quickly to develop a scaleable and investable business model. The process culminates in a pitch to real investors who examine each element of the business plan.

Commenting on Geospatial’s participation in the investor readiness programme, Dave Fox said, “The assistance we received was invaluable – we were challenged to think hard about the scale and scope of our business and market approach, and supported to translate this

#### Case Study:

### Tracking cargo at sea

Over 80,000 ships across the globe use an automatic tracking system known as Automatic Identification System (AIS). An AIS system incorporates a Global Positioning System (GPS) receiver to collect data on position and movement, electronic navigation sensors such a gyroscope and a VHF transceiver to communicate the information with nearby ships either via an AIS base station or satellites.



Tracking cargo at sea

For clients who require absolute assurance of the location of cargo assets at sea, Geospatial Insight can deliver near real-time situational awareness information using a combination of satellite imagery and AIS. The satellite data comes from a unique partnership with Kongsberg Satellite Services, a leading ground station operator for major global satellite owners.

In the UK, we have a real opportunity to take current data processing capabilities and our historic knowledge of this field of intelligence to become global business leaders.

into a realistic, yet ambitious, plan. Furthermore, we were given the opportunity to improve the content and impact of our investor presentation, which is already showing benefits in terms of the responses from potential partners.”

## Future Developments

Prediction is one of the key growth areas for Geospatial Insight: demand for satellite-derived data modelled to show not just what has happened but what might happen, is increasing. This would help insurance companies to more accurately and objectively set premiums, or FMCG manufacturers to understand the future impact of their supply chain operations, for example.

“The geospatial industry has been producing complex derived data for decades but has traditionally sold itself short by not converting this intelligence into commercially relevant products,” says Fox. “In the UK, we have a real opportunity to take current data processing capabilities and our historic knowledge of this field of intelligence to become global business leaders, delivering end-user intelligence saving clients from having to manage and process vast quantities of data.”

### Case Study:

## Hurricane Sandy



*House Fallen into Bay in Nassau County after Hurricane Sandy*

On the 29th October 2012, Hurricane Sandy hit the East Coast of the USA, causing devastation across several eastern seaboard. As the associated storm surge hit New York City, streets, tunnels and subways were flooded and severe damage was caused to businesses and property.

Working in partnership with a major global reinsurance broker, Geospatial Insight rapidly sourced a range of satellite Earth Observation (EO) data sources and other geospatial information to quickly create an independent assessment of the flood boundary and damage levels across the affected area.

Flood maps and similar geospatial products allow insurers to calculate the extent of their liability and provide a source of data for the evaluation of claims. The use of EO technologies made it possible for Geospatial Insight to provide the reinsurer with accurate and up-to-date damage and risk assessment as the crisis unfolded.

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