

## **Energy and changes in the geo-information market 2010-2015**

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### **Current position**

The exploration and production sectors of energy companies are voracious consumers of geo-information. The distribution of the resources that we initially seek, and later exploit, are inherently geographical. Much of the data that is collected, purchased and licensed, such as seismic data, indicating the geological strata beneath the sea bed or lands surface, would not typically be thought of as geo-information, but are certainly so. Volumes of data are massive, and the costs involved in collecting, managing and processing such geo-information are high. Specialist companies frequently provide niche data management services, operating in a very commercial environment. Global agreements are often put in place, for both data and technology, providing much needed economies of scale and also service level agreements, and the provision of uniformities of service, regardless of geography.

Geo-information, and the technology that supports it, is seen as a key enabler for our business. There are however many more areas in which the correct application of geo-information could result in improved business opportunities.

Much of the geo-information utilised is classified as 'confidential' – this could have been the result of a client specific seismic survey, information derived from a production logging tool from one of our own wells, or a satellite image captured from a tasking requested by ourselves for a specific target. Such information will rarely be shared, reflecting both the high value of its capture, and the commercially sensitive nature of the results.

Extensive use is also made of commercially licensed data from vendors such as IHS Energy and Wood Mackenzie. Such vendors provide data services tailored to the exploration and production companies. Data is most often supplied on physical media, although service based delivery is slowly becoming available, primarily driven by customer demand.

Systems that use geo-information vary from the well known 'Geographical Information System' category, but also a much wider, and industry specific class of application. Applications from vendors such as Schlumberger and Landmark / Halliburton are dominant, and often rely on proprietary data formats, and exhibit a nearly total lack of 'interoperability' in terms of data exchange. Whilst the problems of data silos are well understood, and valiant efforts towards Enterprise Architectures are driven from both the top and the bottom, proprietary stores and application formats, driven by commercial models are still prevalent, and strongly protected.

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# The AGI Foresight Study - The UK Geospatial Industry in 2015

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Technology will remain a balance of both thick and thin clients – the latter will make increased use of developing technologies such as Silverlight and REST, with external and internal services being blended prior to client consumption.

Data quality and the currency of data are key, especially in terms of coordinate reference systems, and the absolute positioning of data in its real place on the earth's surface. Decisions will be based on data that will cost millions of dollars; a well that misses its target by 20m due to an incorrect or missing datum or CRS could mean the difference between exploration success or failure. Conservatism and pragmatism are two qualities often exhibited by choice in such an area.

### Anticipated Changes

The use of geo-information will continue to increase rapidly, partly driven by greater availability, and an ease of integration. It is expected that as the 'new wave' of employees joins our companies, the so-called 'playstation generation', part of the large 'crew change', there will be a greater expectation of instant accessibility to all information. Those who have grown up with Microsoft Bing Maps or Google Maps on their iPhone have different expectations than previous generations.

Data will increasingly be available as a service, perhaps served from a cloud environment such as Amazon's Web Services or Elastic Compute Cloud, thus providing the promise of similar levels of performance and availability regardless of whether a user is in Houston, Amsterdam, Lagos (Nigeria) or Kuala Lumpur (Malaysia). The provision of data as a service will place increased importance on specific aspects of data quality such as coordinate reference systems, and strategies will need to be developed for data archiving, especially where the data used to make an investment decision is required to be captured. Real time data feeds will continue to be important.

External hosting of customers' own data will also increase, mirroring the trend towards the outsourcing of other services such as Data Centers and Networks.

Increasingly, data formats will become less important, and the sharing of geo-information between disciplines and applications will become more widespread. However, this will require a step-change in the commercial behaviours of application vendors who have thrived in a world of closed formats.

It is not expected that 'open source' / publicly captured data will have a significant impact, although increased use of 'consumer' services such as Microsoft Bing Maps and Google Maps will occur, especially with regards to imagery.

### Impact of Changes upon the geospatial industry and upon customers

Data vendors will increasingly be called upon to provide their products as services, both in standards-based formats such as OGC's WMS and WFS, but also efficient streaming protocols such as JPIP, and

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formats tailored for specific clients such as ArcGIS. Commercial agreements will need to increasingly reflect the global market, whilst also becoming more flexible to reflect the challenging market place which all energy companies now find themselves in.

Application vendors will continue to be pushed to provide software which supports and facilitates interoperability. This will take a long time, and 'middle tier' solutions such as Safe FME and OpenSpirit will continue to be required to provide the bridge.

### Scenario 1

The geo-information industry gets consumed by the wider 'information' / 'IT' industry, and the geographical component of information becomes the norm.

"Everything is somewhere"

Mainstream vendors, be they software or data, increasingly offer 'geo-information' services, and it becomes expected by customers that the locational element of a data record is managed by default, with no special treatment or fanfare.

### Scenario 2

The geo-information industry demonstrates where specific value is to be had, and explores new opportunities for integration and exploitation. It stops the 'paleo / neo' posturing, which whilst interesting and sometimes amusing, the reality is, the rest of the world doesn't care. Business can see that 'geography' delivers value, and the industry needs to reflect that. The industry retains its strong identity, and retains its understanding of geomatics, cartography etc., but also learns to work across other disciplines and industries in true collaboration and partnership.

### Summary of 5 key points

- Increased reliance on data as a service – challenges of archiving and licensing
- Data quality remains paramount
- Commercial nature of much proprietary data means data sharing within the energy industry will remain low, apart from regulatory purposes
- Data discovery needs to improve, but this does not mean big metadata projects
- Everyone likes standards, as long as they are their own ...

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