

Geomatics: *Highlights* explores one discipline that's fundamental to E&P



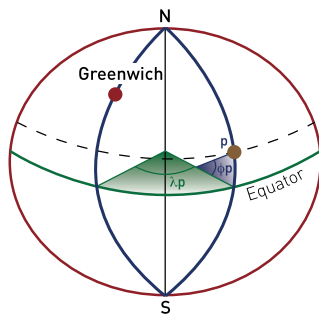
IOGP's Geomatics Committee is one of the Association's most active. What exactly does it do, and why does it matter? To find out, *Highlights* decided to get to the bottom of Geomatics by going to the top: an interview with the Committee Chair Walter Jardine of BP.



Highlights: *What on earth is Geomatics? Is it some kind of mathematical hocus pocus?*

Walter: Geomatics describes the dual disciplines of survey & positioning and geospatial data management. Activities include planning, acquiring, processing, managing, visualizing, and analysing geospatial data and covers subjects such as geodesy, land and offshore surveying, mapping, remote sensing, Geographic Information Systems (GIS) and geospatial analytics. It also encompasses live positioning support during operational activities such as seismic, site hazard surveys, rig and well positioning, field development and integrity management.

Highlights: *OK, it's not hocus pocus. But isn't it all needlessly complicated? Surely common technology like satnav and popular Earth-mapping systems make this relatively straightforward?*

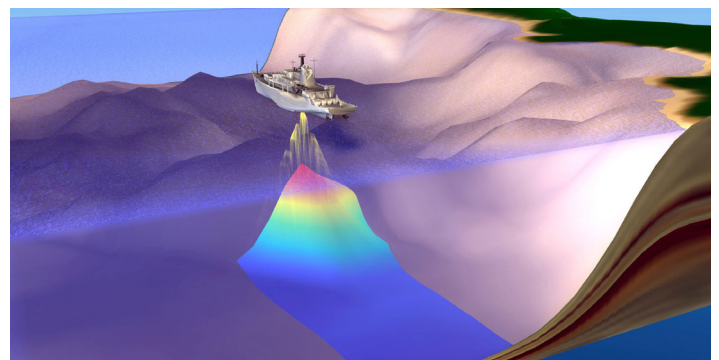


Walter: The energy industry is sensitive to the quality of 'spatial' information. About 80% of the data we use is spatially referenced, and the position element of the data is important to the efficient and safe running of our business. Although technology has helped in many cases, if you don't take the appropriate precautions, it's still surprisingly easy to mis-position something, or mis-interpret 'location'. How often does your satnav not quite do what you expect it to do? And that is just basic navigation on land. It gets more complicated when you need to be very accurate, deal with multiple datasets and applications, or work underwater, where we conduct significant exploration and production activities, often in challenging areas of the world.

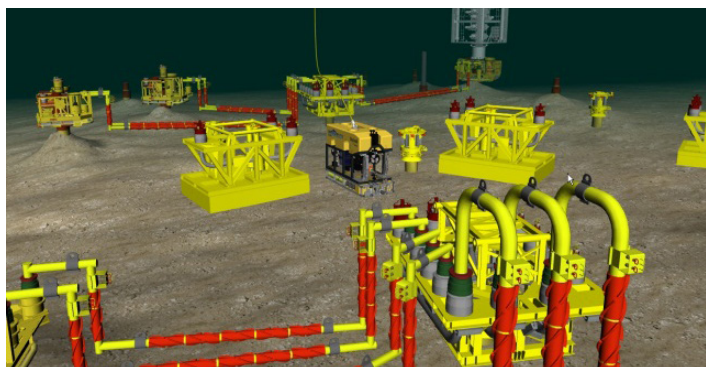
So licence boundaries, seismic data, wellbores, topography, geohazard, environmental, pipeline and infrastructure data, rig, mooring and vessel locations... all usually require accurate positioning. The industry also relies on key products that we derive from such data – for example prospect locations, reservoir volumes, field development options. Geomatics input is also essential in avoiding wellbore collisions, and for efficient field development, maintaining a common operating picture, or managing an emergency response effectively. The list is almost endless.

Highlights: *So to cut to the chase, is accurate position and geospatial data management really that important in our industry?*

Walter: To minimize risk, trusted positioning and geospatial products are becoming increasingly important in our business. There are many and improving spatial data collection and analysis options available – autonomous data acquisition (air, surface, underwater); 3D scanning; fleet tracking; more frequent and resolute satellite data; integrated visualization – to name just a few. Using this information and accounting for its positional element correctly is making our industry safer and more efficient, with better informed business decisions.



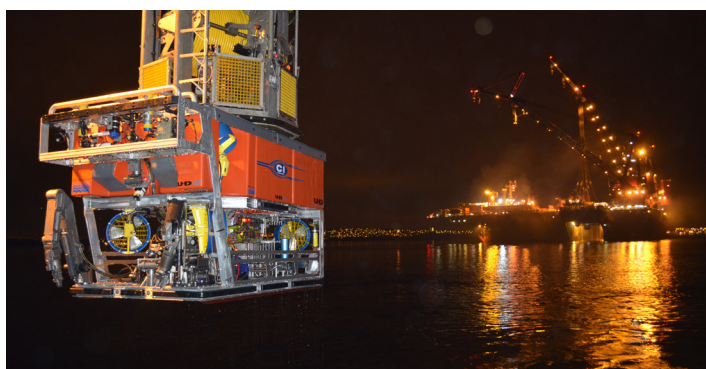
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For example, many oil and gas reservoirs are smaller, and harder to find these days. We need to manage them (and our bigger ones) efficiently, which means better understanding of how to drain them (for instance with more accurate wells, or by time-lapse seismic, where position repeatability is critical). Our subsea drill centres and land facilities are more complex, requiring more accurate structure installation, anchoring and mapping. We are often now working in harsher conditions (deeper water, more geohazard-prone locations) and also with increased focus on environmental monitoring and emergency response capability.

While disparate and 'big' data integration, 3D augmented and virtual reality visualization technology is unlocking better efficiency in our industry, they don't always work so well, or can deliver erroneous results if the spatial component is inaccurate or not accounted for correctly.

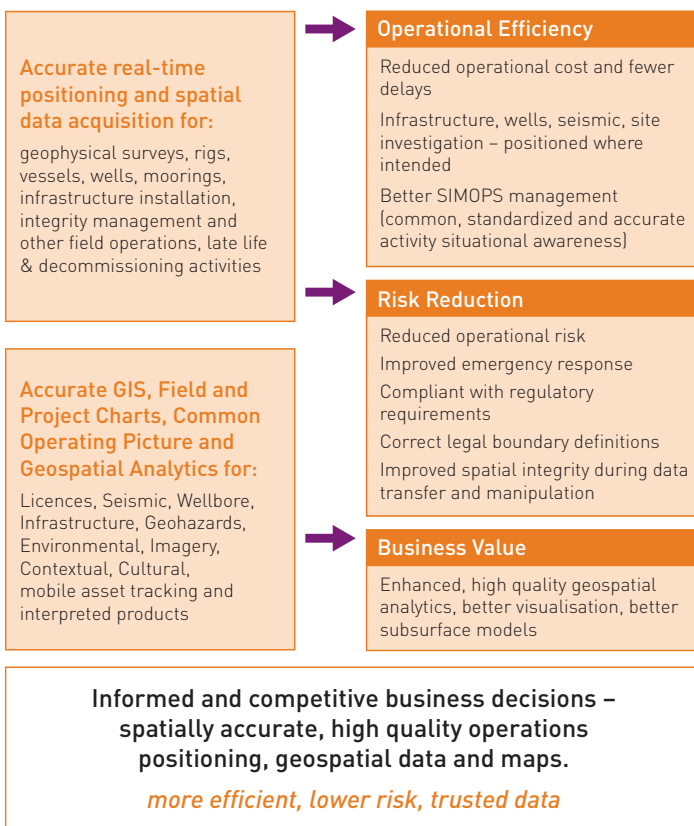
High quality spatial awareness and a 'common operating picture', supported by geospatial specialists, is becoming increasingly important, not just for emergency response, but to improve the safety and operational efficiency of our activities. Geomatics provides the relevant inputs, supporting correct, complete, current and consistent spatial data inputs to our activities.



Highlights: Now it's starting to make more sense in the real world. Can you summarize your Geomatics rationale?

Walter: The chart below says it all. Geomatics does the business by providing:

- Coordinate reference system and spatial integrity advice to geologists & geophysicists; software developers & data support groups, engineering & project managers; mariners; legal and business teams
- Operational support to seismic, site & route surveys; rig & well, pipeline, field development & integrity management positioning
- GIS and mapping – management, integration, visualization and analysis of geospatial data.



Highlights: Thanks for putting us in the picture – and for ensuring that the industry is precisely where it needs to be wherever it's operating.