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GeoInformation – an enabler for a global business

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- A quick introduction to Shell
- Global energy challenges
- GeoInformation, and the spatial drivers for the Exploration and Production Industry
- The impact of poor geoinformation
- Taking things back to the basics with data and tools
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Shell

A global energy business

- 110,000+ staff, 145+ countries
- 1 aeroplane & 1,200 cars fill up with Shell fuel every 4 seconds
- World leader in gas
- 20% of the world's solar panels have been manufactured by Shell
- Among the top 10 wind energy producers

Focus on Shell Exploration & Production (oil & gas) :

- 20,000+ staff, 30+ countries
- Highly technology driven business
- Oil & gas industry is the biggest IT spender after the military

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The facts of life …

- Oil / gas is …
  - Difficult to find
  - Useless as found
  - Not wanted where it is found
  - Consumed in huge quantities

- The oil / gas business is …
  - Upstream risk ($'s)
  - Technically based
  - Inherently international
  - Huge scale
  - Capital intensive

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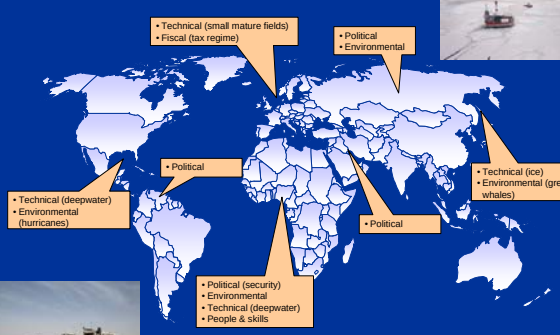
Global Challenges



World energy consumption to increase by 50% over next 25 Years (International Energy Agency).

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Role of Technology and Information

"Tackling the world's energy challenges will depend on the industry's ability to develop new technologies and deploy them - in an integrated way - effectively."
Malcolm Brinded, 21 November 2005

"Oil is no longer the most important commodity in the world economy… it is information."
Tony Blair

Concept of "Intelligent Energy" (Smartfields) - the integration of a wide range of technologies including sophisticated IT technology, and supported by a variety of skills and workflows

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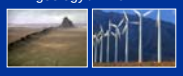
The main drivers in the energy industry are spatial !

Distribution of geology / wind



Proximity to infrastructure & markets

Geographic restrictions (legal, environmental, physical)

Location of petrol stations

Geo-marketing

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The real impact of poor geoinformation

Pipeline materials over budgeted by 30% due to wrong map projection

Missing sea floor data – barge with oil platform capsized

Assumed wrong boundary: embarrassment, litigation, loss of privileged data

Missing pipeline / cable data – costly rig move delays or worse, damaged pipeline/cable

Correct lat / long but in wrong coordinate system – drill in wrong position (a deepwater well can cost up to $ 70 mln)

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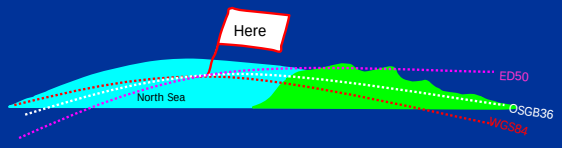
But isn't Lat / Long unique ?



- WGS84 / WGS84: lat = 53°00'00" N , lon = 4°00'00"E
- Int24 / ED50: lat = 53°00'02.763"N , lon = 4° 00'04.857"E
- Airy1830 / OSGB36: lat = 52°59'58.943"N , lon = 4°00'07.748"E

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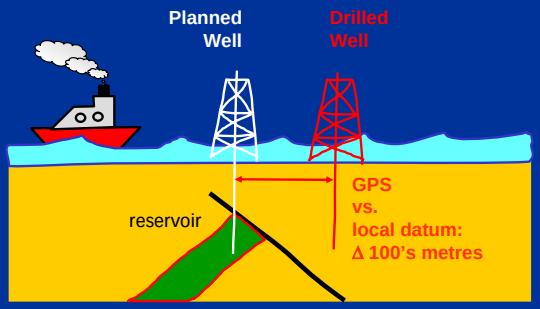
The importance of understanding the details



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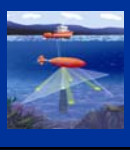
So, accurate and precise geoinformation is vital

yes,
but ….
so are the people / skills
the tools
the processes
the standards



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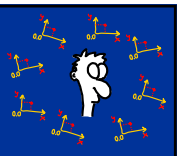
GIS Back 2 Basics

Root Causes of identified problems



- Lack of understanding and appreciation of value of (spatial) data
- Spatial technology and information stores not mapped to existing exploration workflows
- Organisational interfaces not fit-for-purpose
- Standards perceived to be limiting (as opposed to enabling)
- No consequence or reward related to adherence to data management
- Insufficient focus on end-to-end IT delivery of GIS from data store to desktop

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Back 2 Basics recommendations

- Workflow & Standards
  - Documented workflow, linked to technology & data stores
  - Globally maintained spatial data – "Map cabinet"
  - *Pragmatic* standards
  - but which?
- Skills
  - GIS and Geodetic awareness
  - Cookbooks, quick-guides, & learning events (e.g. e-learning)
  - More expert support staff – let geologists do geology !
- IT & Technology
  - GIS stretches your IT infrastructure !
  - End to end approach
    - Desktop, network, middleware, database servers, services and support etc.
  - GIS as part of Enterprise IT architecture & strategy

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Concluding Remarks

- GIS & spatial data are playing an increasingly important role in supporting global exploration
- Back to basics approach :
  - Integrating workflows & data, supported by pragmatic standards
  - Developing skills & resources
  - Deploying Technology
  - Addressing data management behaviours
- Google, Microsoft, Yahoo et al have changed users expectations
  - 'Simple' / consumer tools mean correct geoinformation is even more important
  - Technology is changing even quicker than ever before
- As geoinformation professionals we must :
  - Collect and supply the relevant and correct data
  - In a format and speed that our users need / demand
  - Make formal data management a 'must do'

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And finally … speaking of Google…

There is no such thing as a free lunch

Yes this looks great for e.g. pipeline routing

But beware of data tectonics…
(here Heathrow runway 09L)

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Thank you.