The Value of Standards

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Energistics

Do we Need Data Transfer Standards?

- Data flows and data transfers are like traffic
- You need clear rules of the road for efficiency/safety
- Data standards facilitate collaboration and reduce costs

Photo courtesy of **Shutterstock.com**

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Standards impact every aspect of our lives

» Some of the thousands of ANSI standards supporting the service economy

Courtesy of ANSI; visit **ansi.org/services**

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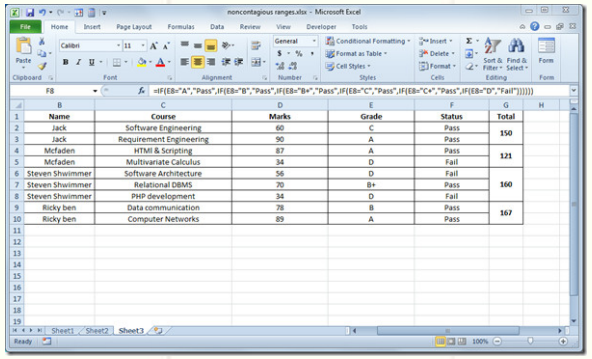
De Jure, De Facto, & Consensus Standards



Nutrition Facts
Serving Size 2/3 cup (55g)
Servings Per Container About 8

Amount Per Serving	
Calories 230	Calories from Fat 40
	% Daily Value*
Total Fat 8g	**12%**
Saturated Fat 1g	**5%**
Trans Fat 0g	
Cholesterol 0mg	**0%**
Sodium 160mg	**7%**
Total Carbohydrate 37g	**12%**
Dietary Fiber 4g	**16%**
Sugars 1g	
Protein 3g	
Vitamin A	10%
Vitamin C	8%
Calcium	20%
Iron	45%

* Percent Daily Values are based on a 2,000 calorie diet. Your daily value may be higher or lower depending on your calorie needs.

	Calories:	2,000	2,500
Total Fat	Less than	65g	80g

Inspection mark on raw beef, pork, lamb and goat

Inspection mark on processed beef, pork, lamb and goat

Inspection mark on raw and processed poultry

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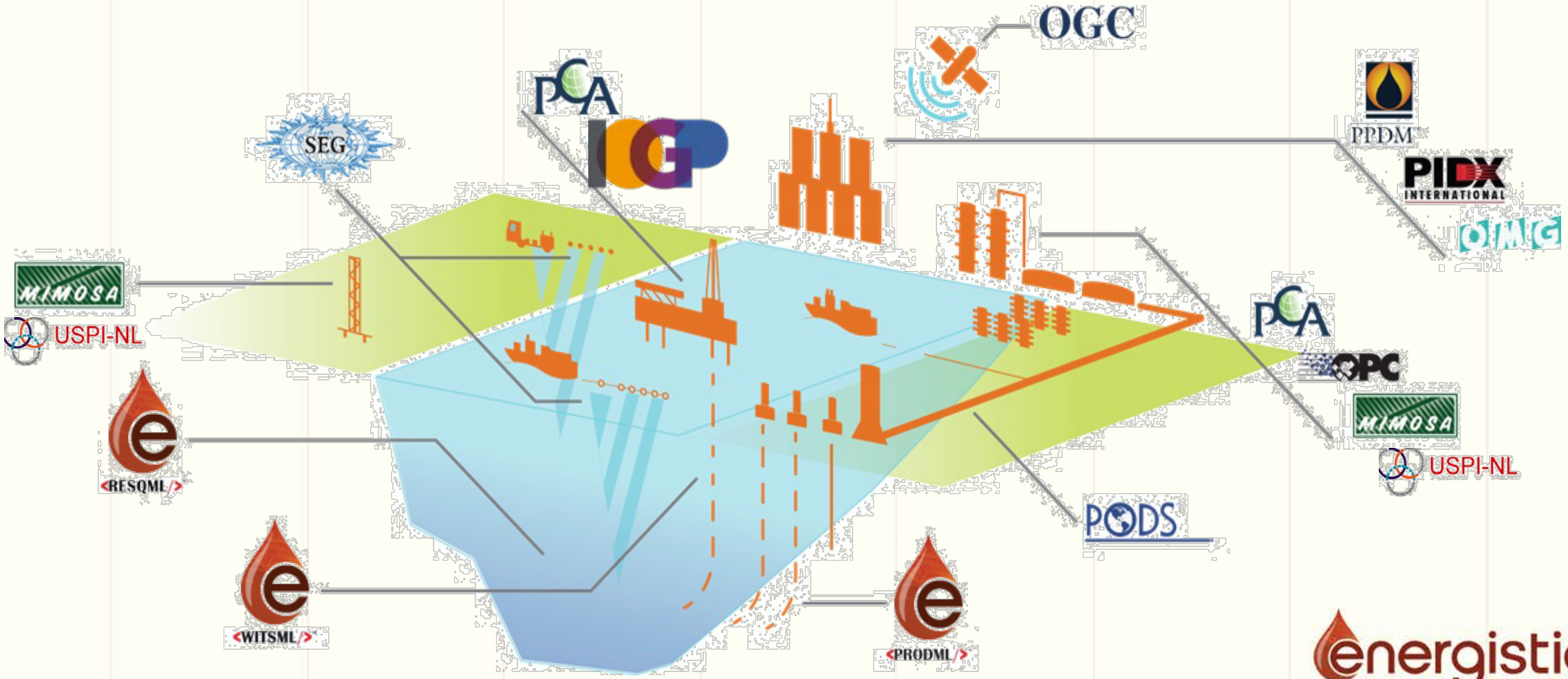
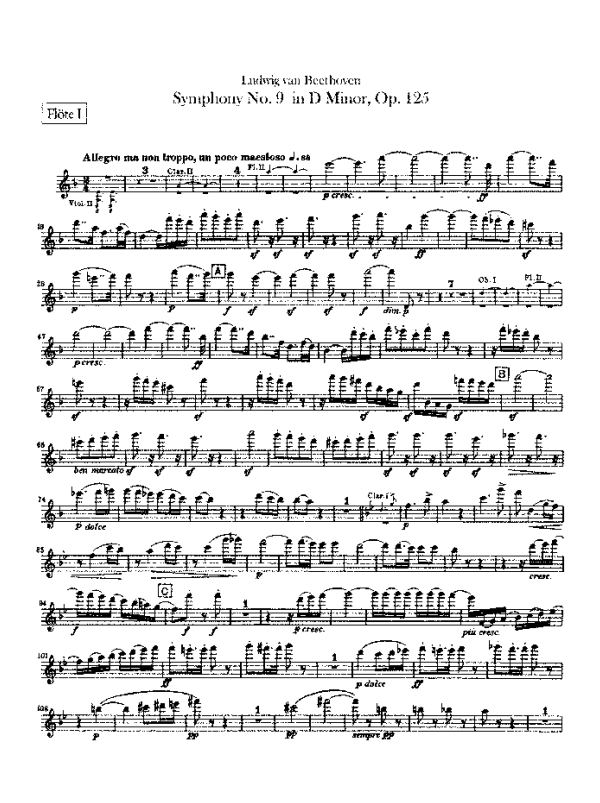
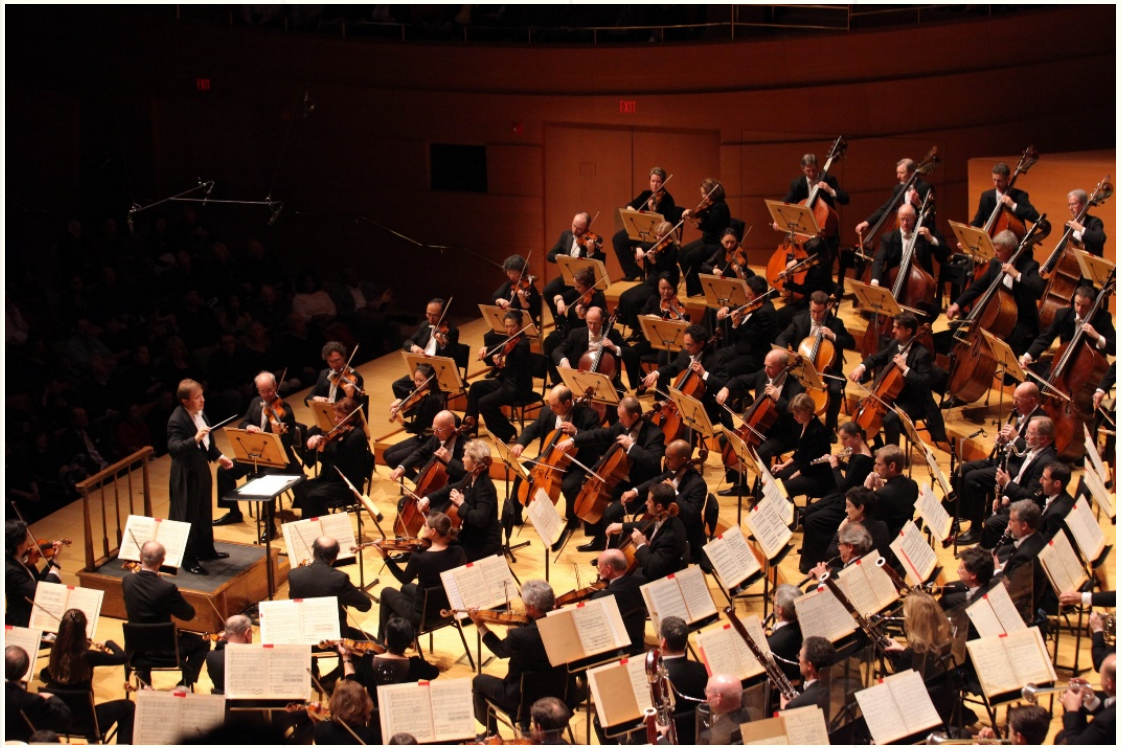
Oilfield Standards Landscape



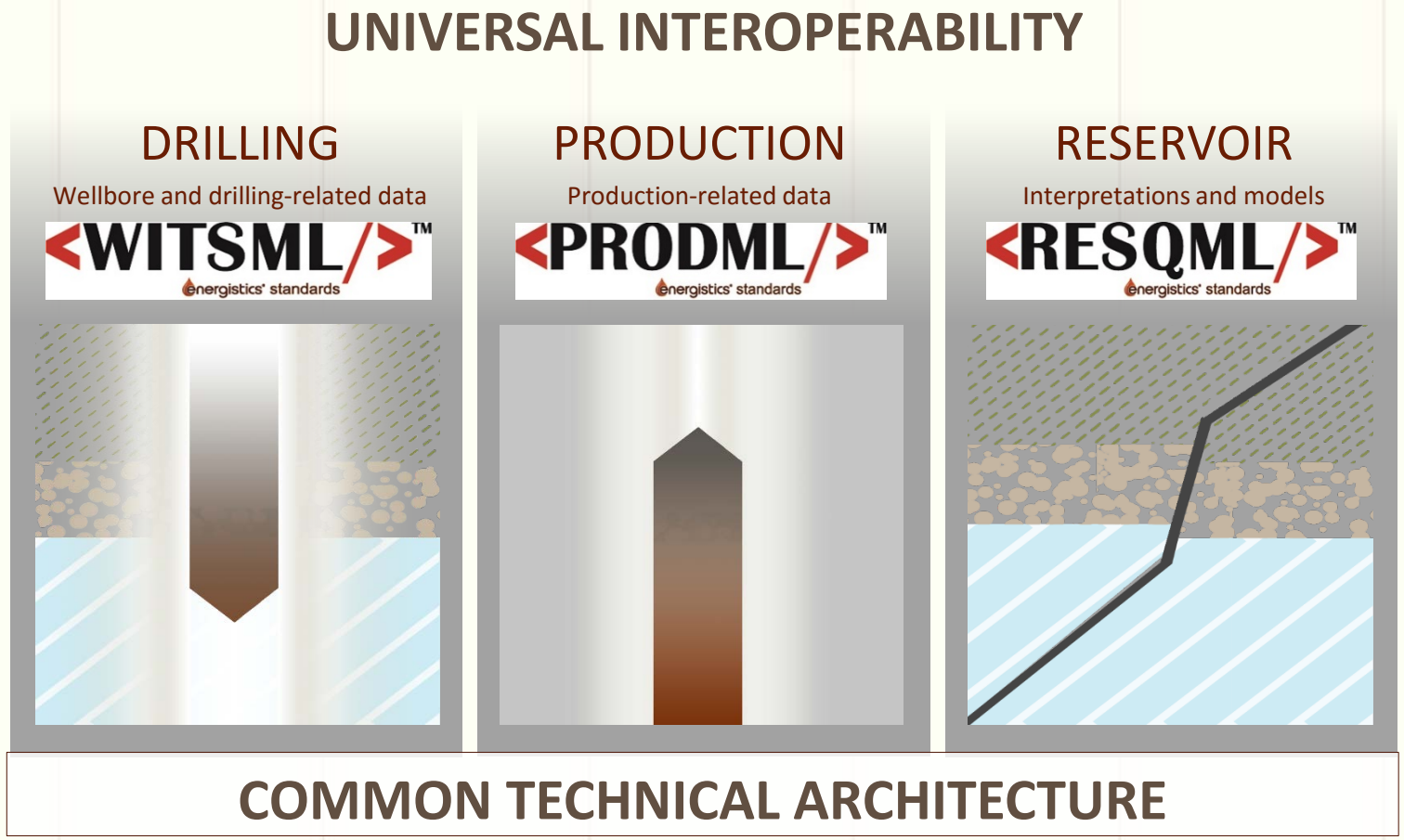
Think of Standards Like Sheet Music…

- Standards allow people & companies to play together easily - sharing data, eliminating wasted time, reducing cost and complexity



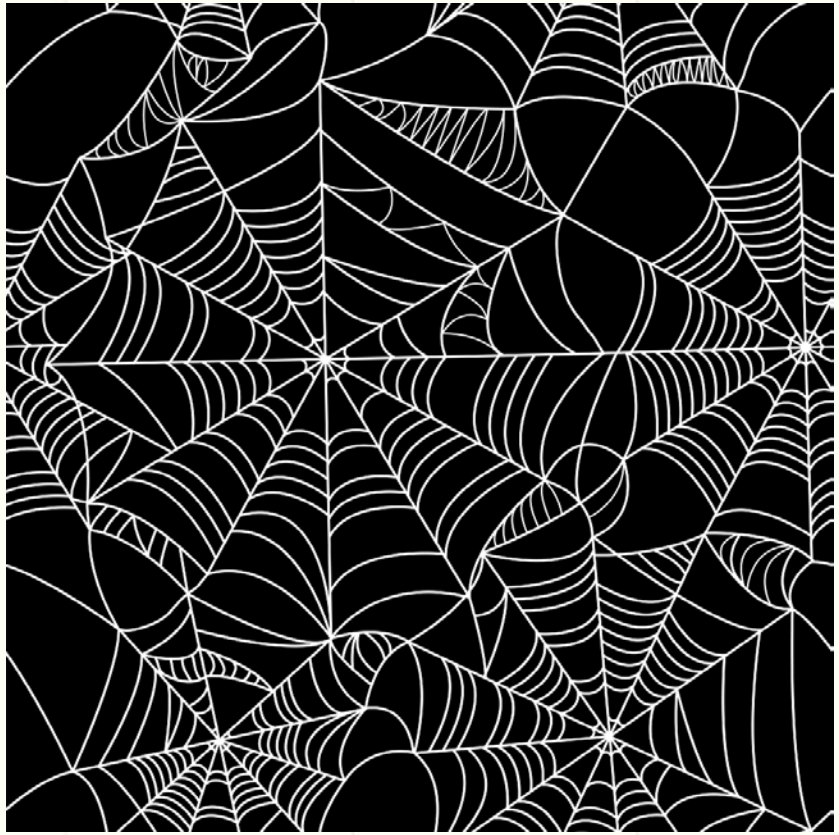


Energistics Family of Standards



Lower Cost, Better Efficiency, Safer

- Reducing ‘data friction’
- Reducing complexity
- Reducing errors
- Reducing NPT
- Informing data quality
- Enabling innovation
- Ensuring safety



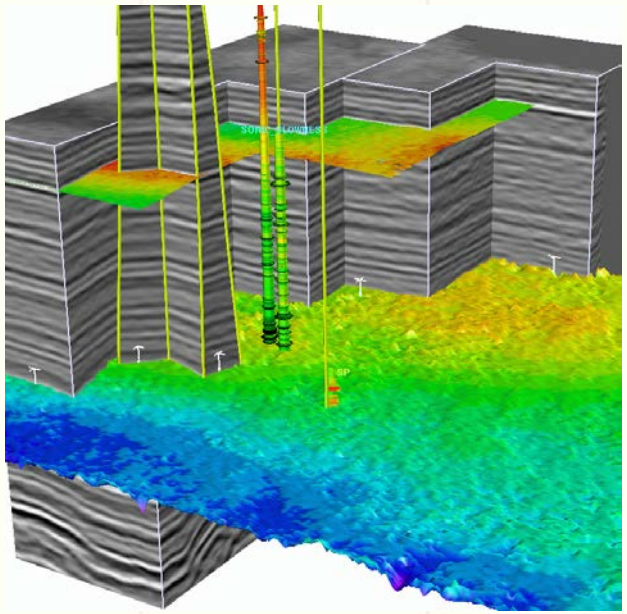
Reducing Data Friction

- Typical operations involve a broad range of services and technical solutions
- Operators and Partners need consistent view
- Regulators require consistent reporting
- Energistics standards allow you to seamlessly and consistently share data among
  - Applications
  - Employees
  - Locations
  - Partners
  - Regulators
- Standards facilitate re-use of legacy data

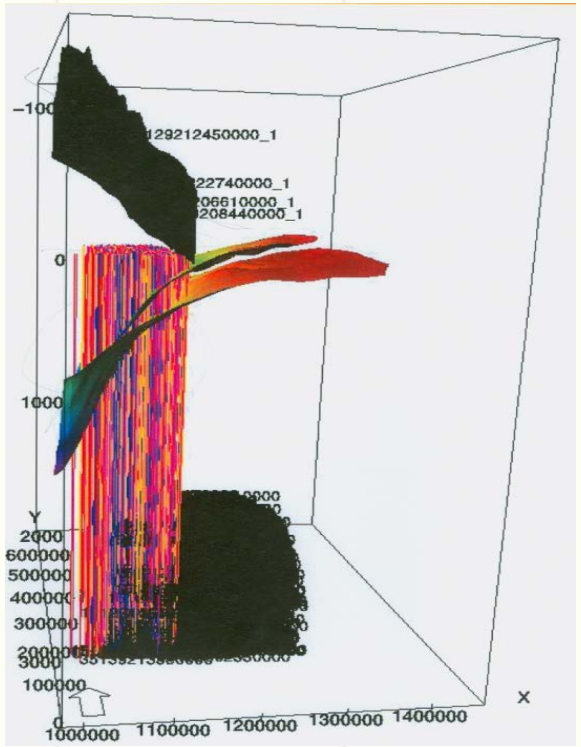
Reducing Errors & Lost Time

» Data errors can produce dramatically wrong results, as in the example below (in center), requiring significant time and effort to validate and correct the data before the interpretation can continue

Example using good data



Result of data errors



» In this example, horizon data OK
» Other data damaged in transfer:
- Horizon/well/grid positioning
- Windows/Linux binary formats
- Trajectories lost depth reference
  - 200+ onshore wells
- 3D Grid depth/elevation inverted

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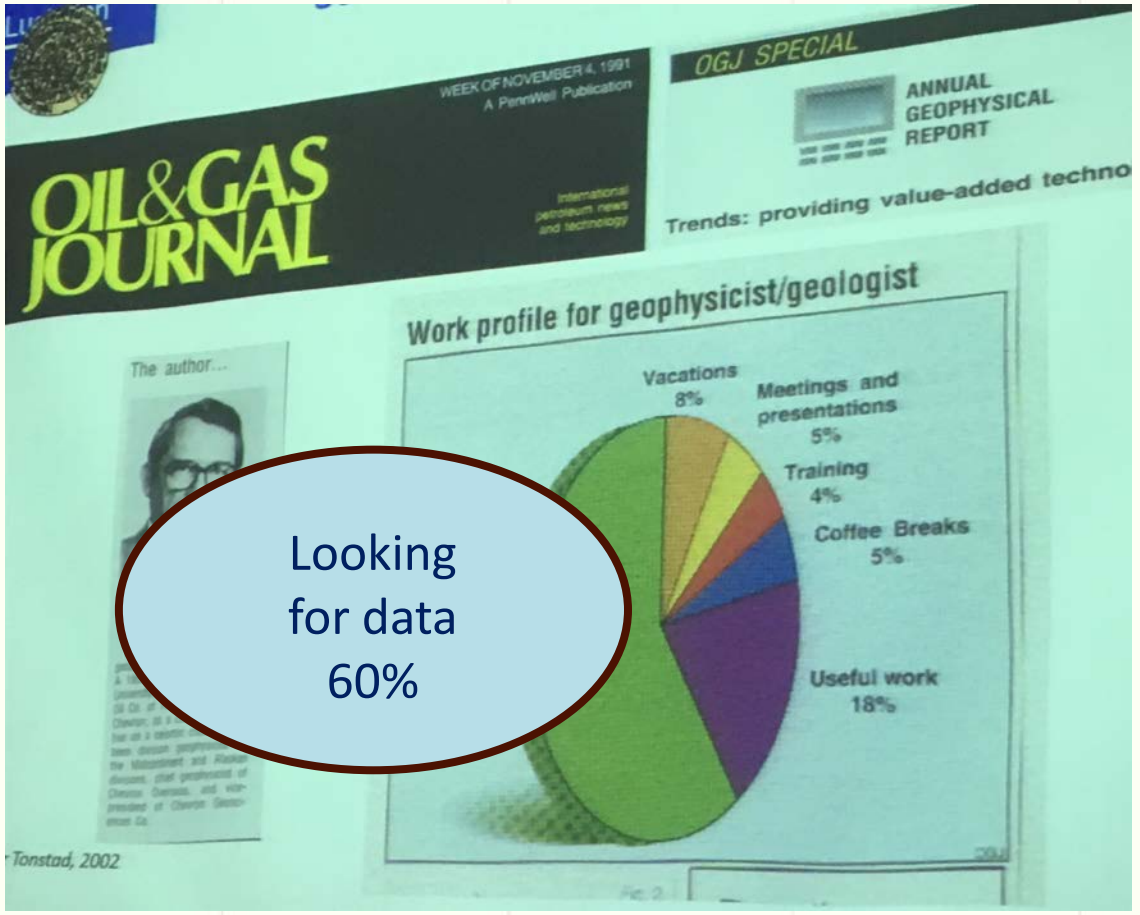
Do Coordinate Errors Matter?

- Coordinate system errors could lead to a well being drilled 500-700m from its desired location – with obvious consequences
- One member reports a case where effectively the same well was drilled 3 times – each at a cost of approx $18M – simply due to coord errors. No-one spotted the errors ahead of time.
- In one of the most famous historical examples, a Texaco drill rig penetrated an underground salt mine, resulting in the complete draining of Lake Peigneur, LA, due to errors in coordinates
- EPSG standards (which Energistics complies with) avoid such errors by enforcing consistent coordinate systems and units of measure

The ‘Mythical’ 60%…

» From OGJ, November 1991



Is the Mythical 60% Still True?

- A recent paper at the PNEC conference in Houston presented the results of a benchmarking study on behalf of Repsol which included comparative data from ten other major E&P companies
- Depending on the level of data management maturity, time lost BEFORE any interpretation can be started ranged from 35%-70%, and some tasks 90%
- It appears that the 60% rule is alive & well!
- That's an average of 3 days per week, or almost 5 hrs per day
- Assume you could save just 2 of those hours per day…
  - 2hrs * $100 * 5 days * 48 weeks = $48,000 per person
  - In a company with 500 geoscientists and data analysts, that's $24M/yr
  - While the potential savings are significant, in a downturn it's also about leveraging your talent
- Data standards allow your staff to focus on value-add activities

Informed Data Quality

- Once data is standardized, comparison is easier
  - e.g. multiple data sources from same sensor
  - Quality issues easier to identify and correct
  - Scaling issues, offsets, incorrect indices, etc.
- Energistics Data Transfer standards do not validate quality per se
  - A Data Assurance object allows the sender to rate the quality of the information being sent
  - Data is checked against pre-determined or contractual business rules
- Energistics Data Assurance helps users judge trustworthiness of data

Standards & Safety

- Safety is paramount to the industry
- When an incident occurs, you need
  - Accurate information
  - Timely information
  - Trusted information
- Monitor > Detect > Predict > React
- Data Standards ensure you have the right information at the right time – to be safe

Photo cred: Oilpro | Gene Bland

Quantifying the Value

- Hard numbers on savings are just that – hard to get!
- …but anecdotal evidence is very strong
  - Members report 2-4% reduction in NPT since adopting WITSML (as one example)
  - Saving 2-4% of NPT per year could easily amount to the cost of a well, or two…
  - Other members report $millions saved through operational efficiency, avoided software development, etc.
  - In another example, Energistics' standards allowed a fresh look at legacy data – leading another company to identify a new reservoir
- E&P companies spend billions of dollars acquiring and processing data
  - Standards maximize the value of that data by ensuring it can be used and re-used
  - Better informed decisions, greater knowledge retention

The Value of Energistics Standards

- Standards deliver cost savings for individual companies and for the industry as a whole
- Data can be exchanged seamlessly between users, partners, service companies, operators & regulators
- Trusted data leads to increased productivity, better business decisions & enables faster innovation
- Standards eliminate time lost resolving data quality issues related to incompatible formats and manual entry
- Standards allow legacy data to be re-used and re-analyzed using more recent tools and models
- Standards ensure that accurate information is available for a rapid response to any safety incident

Our Message to the Industry

- Standards…

  …save time, increase efficiency, reduce lost time, reduce complexity – and potentially help save lives

- Their business value is clear and compelling

- They may not be particularly ‘sexy’ as a topic…

- …but they are exactly what the industry needs in a downturn!

Thank you