



# 2016 EVENTS

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## 2016 Perth Data Management Symposium *Speakers Abstracts*

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**A Master Database with a difference – it's used!**

**Christopher Hudson, Inpex**

The subsurface well database implemented by the INPEX Australia's Ichthys Development is postulated as an industry leading example of a subsurface well database from usage, relevance, and completeness standpoints. The database is to be the well data system-of-record for the forty year life of the Ichthys Project. This case study presents the first five. How the well database fits into the broader Subsurface Data Management Plan, the implementation phases, disciplines, data classes and data types covered are discussed. The database's integration into the subsurface workflow ensures frequency of use by the Geoscience, Petrophysics and Reservoir Engineering disciplines, which in turn drives the Subsurface vested interest in good data management practices and maintaining the database itself. The database is seen as a complete, trustworthy source, destination and reference for Ichthys Project well data relevant to all development subsurface disciplines.

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**The Ichthys Drilling Historian - a step change in Capability and Efficiency**

**Gao Bin, Schlumberger & Chris Hudson, Inpex**

Time based drilling and G&G data has traditionally been one of the most under QCd and difficult to manipulate well datatypes acquired for subsurface uses. The Ichthys Project will drill 50 development wells in the coming years, so the opportunity to benefit from a "Drilling Historian" for Subsurface use was easily recognizable. The goal of creating a single database that integrates high frequency time data (drilling mechanics and LWD logs), low frequency time data (daily drilling & daily geological reports) and master depth data (borehole schematic & geological markers) has been achieved. The foundation data and metadata richness needed to allow meaningful QC from the data management perspective and natural context search-ability for Operations Geology, Well Planning and Petrophysics is now in place. A by-product of this is the ability to perform real-time analytics on drilling performance by rig, by section or by geology, providing the opportunity for real cost savings!

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**2015 Exploration Information Management Survey Findings**

**Nick Parker, Geosoft**

According to Geosoft's 2015 Exploration Information Management Survey, 85% of respondents rank data management as a critical or a top five issue. Exploration data quality is improving, however organizations continue to grapple with historical and duplicate information, collaboration in real time and the cost and complexity of data management solutions. Garnering almost 2,000 responses from 1328 organizations globally, the survey identifies ongoing challenges with respect to handling exploration data and how organizations are working to solve these issues.



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**Are geological and geophysical data, Big Data? How big they are in an integrated upstream project?  
Does the Size Matter in Data and Business Analytics?**

**Shastri Nimmagadda and Amit Rudra, Curtin University**

The North West Shelf (NWS) in the Western Australia (WA) state has varied geographies, complex geomorphologies and geological environments with productive petroleum systems. Understanding the connectivity among multiple reservoirs of these systems is challenging keeping in view the heterogeneity and multidimensionality of the data sources, complicating the data integration process. The geological and geophysical data are key assets of an upstream business, often used to explore the connectivity and quality of elements and processes of the multiple petroleum systems. The data sources are voluminous with variety of anomalous features, associated with varied spatial-temporal dimension attributes and instances. Based on the size of sedimentary basins and volumes of their heterogeneous and multidimensional data sources, a new direction is needed in the database organization, storage and data processing. In recent years, Big Data has taken a different hype in petroleum industries, in particular when data sources are integrated and logically stored in a warehouse repository. The principal objective of the research is to investigate the influence of geological and geophysical data sources on Big Data technologies and how big that impact is in an integrated data interpretation project. In this context, the Big Data tools and technology are emphasized in the oil and gas exploration business. For this purpose, an integrated framework with various ontology constructs and models, is articulated with data mining, visualization and interpretation artefacts. Petroleum management information systems (PMIS) and petroleum digital ecosystems (PDE) are developed with the power of Big Data technology to assess the data and business analytics strengths with the size of Big Data. The multidimensional warehouse repository is implemented and evaluated for its effectiveness in the integrated upstream business, further exploring new opportunities of Big Data.

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**1 Million Seismic Lines - 1 PPDM Database**

**Guy Holmes, Katalyst Data Management**

Not many companies have over 1 million seismic lines to deal with. For those that have anything larger than a few thousand lines, there is always some inconsistency that needs to be dealt with, or the line details are spread across many different databases that simply won't correlate, have duplicates, or contain inaccurate metadata.

This is the story of PPDM at its best, and in many ways the reasons that PPDM was created and has grown in its use across the globe. A massive PPDM implementation of over 1 million lines, catalogued and indexed from hundreds of sources, now residing in a single database. Is it fiction or fantasy?



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**Swimming or Drowning in Data? Data Management for Asset Management Capability Maturity Models**

**Kerry Brown, Curtin University**

Asset data management requires a suite of new competencies from asset procurement to management and disposal under a capability maturity model approach. The focus of the research is to establish critical understandings of data, information and knowledge for asset management and offers that benchmarking these attributes may aid a strategic approach to asset management. Suggestions to improve sharing, integration and creation of asset-related knowledge through the application of codification and personalization approaches in a maturity model framework are offered.

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**Data Custody Transfer Points**

**Jess Kozman, PPDM Association**

Key metadata such as well classification can change over the lifecycle of the asset. This makes it important to have not only standard definitions, but to understand, define, and enforce when and where data custody is transferred as part of the data governance process. This presentation will give examples of data custody transfer point definitions