

COP21 and the Yorkshireman

Neil McNaughton contrasts the 'success' of the 21st Conference of the Parties with pontifications captured during the 'sustainability' session of the SPE ATCE. Will carbon capture and storage save the fossil fuels business? Will it be oil, or electricity, that saves the African villagers? Has COP21 reset the 'frack baby frack' zeitgeist?

I left you last month with a recommendation to read what Kevin Anderson wrote in [Nature](#) about the outcome of the COP21* international conference on global warming (GW) held last month in Paris. For those of you who have not done their homework, Anderson seems to have looked more assiduously at the COP21 deliverables than most. Where others report on COP21's universally acclaimed 'success' it is hard to see exactly what has been achieved apart from kicking the CO2 can down the road. Participants agreed to 'ask all countries to review their contributions to global warming every five years from 2020 on.'

Anderson dug deeper and has found some actual strategy (as opposed to the top level entreaties) for lowering the world's CO2 output. One significant outcome of COP21 was that 'Governments, prompted by their advisers, have plumped for Beccs (biomass energy carbon capture and storage) as the most promising negative-emissions technology.'

The idea here is that at some time in the second half of the century, the world will be producing 'green' energy from biomass. Of course this has the downside that biomass when burned produces CO2 just like fossil fuels. No matter. This will simply be pumped away into underground storage.

You may find this 'solution' somewhat unlikely. Anderson certainly does. He reported on briefings from senior figures 'desperate to maintain order' against those who dared to speak out against the 'consensus' and concluded that it is 'pantomime season' and the world has just gambled its future on the appearance 'carbon-sucking fairy godmother.'

One of the less savory aspects of the energy debate is the way that all of a sudden, the fate of the poor African villager has become a prime concern for all, or at least, good fodder for a debating point. Speaking at a post COP21 briefing at the IEA this month, UK special representative for climate change, David King lamented the fact that African villagers are 'burning kerosene and shortening their lives.' Wait a minute, I have heard this one before. At last year's SPE ATCE in fact where SPE president

Hove Haldorsen, arguing the 'moral case' for fossil fuels lamented the fact that African villagers are dying because they are cooking with dung! The implication presumably being that they should upgrade to kerosene asap!

In fact Haldorsen's warm up to the SPE opening plenary session on 'sustainability' was a masterpiece of sophistry, providing something for all. Along with the 'moral case,' skeptics went away happy with the thought that 'we don't want to shut down the world. Without oil and gas we will go back to the stone age.' Believers in global warming were reassured that 'if we are not sustainable we will go belly up.' Cynics were advised to 'get a great reputational profile and your stock price will follow.' And for practical folks, 'Replace coal with gas, sequester the CO2 and co-generate along with wind and solar.' Haldorsen just might have over-egged his case in claiming that 'migrants are moving to a place where they have access to energy.' Some of you may be wondering what I think of the GW debate. This is when my instinct for flight kicks in. I would much rather report on what other folks are saying and, even better on what is happening, than face this issue head on. What can a 40 year plus oil and gas veteran possibly think of this existential threat to our industry but a gut reaction of denial?

With regard to COP21 and GW in general I would say two things. First, as the bumper sticker has it, '*you can always tell a Yorkshireman, but you cannot tell 'im much.*' Which being translated means that my background and training has made me an inveterate skeptic to the extent that rooms full of scientists bearing consensus or politicians claiming success have little effect on me. Having said that, I realize that denial is a strong psychological phenomenon that, I guess, helps people fight and win battles as they think 'no I'm not the one who will catch the bullet.' But that also propels lemmings over the cliff.

Despite my natural leanings towards denial, when I hear industry folks with no relevant qualifications railing against global warming I think, as a famous British lady of leisure said a long time ago, 'He would say that, wouldn't he.' Geoscientists pitching in to the debate with


their personal take on climate science is just a bit too obvious somehow.

My other observation is just that, observation. Look out of the window, what do you see? Folks still drive around in diesel or gasoline powered cars and airplanes crisscross the skies burning kerosene. Even hybrids, perceived as 'green,' get 100% of their energy from gasoline. And, as I learned at last year's CATO2 symposium, CCS is having a very hard time achieving even a demonstrator these days let alone any at-scale deployment.

But not all observations support the skeptical view. I was surprised to learn that Denmark produced 42% of its electricity from wind in 2015. This is a rather different picture to that which was being presented quite recently which had renewables making an insignificant contribution for decades ahead.

Some small comfort for the industry if not for the world comes from the fact that today's low prices are putting the breaks on investment, in both oil and gas projects and in renewables. The industry likes to believe that this means a return to normal in the mid term. But somehow COP21 has reset the zeitgeist and it seems hard to imagine a return to 'frack baby frack.'

* COP21 - *the 21st conference of the parties to the united nations framework convention on climate change.*

 @neilmcn

Oil IT Journal ISSN 1632-9120 (formerly Petroleum Data Manager) is a confidential newsletter produced by The Data Room for paid-up subscribers. All material is

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Interview - Pat Ryan, Noah Consulting

Pat Ryan discusses her presentation to the Calgary geoscience data managers society on improving management of well location data. She also satisfies our curiosity as to why Calgary has two upstream data management associations.

Isn't it curious that Calgary now has two upstream data management organizations, Ppdm, the professional petroleum data managers association and Cgdms, the Calgary geoscience data managers society?

No. Many companies have two distinct data management functions with geotechs in the subsurface group likely to find Cgdms most valuable to them while Ppdm serves the broader brief of corporate, cross functional data management. Most companies use vendor-supplied public data from IHS or GeoLogic Systems that are built on Ppdm data models and the data gets brought into internal data stores. Ppdm is about professionalizing petroleum data management as well as developing best practices and standards so the talks tend to be general and high level. Cgdms is all about fostering the exchange of ideas, resources and expertise and most of the talks seem to be specific and detailed about acquiring, processing and managing seismic data, downhole well data and land or spatial data for the Geotechs who have to deal with applications like Petrel or DecisionSpace.

Your presentation focused on the leverage of Ppdm's 'what is a well' (Wiaw) in the context of shale and heavy oil work and you made it clear that with the complexity of these new types of activity the first question to ask is 'whose problem are you trying to solve?' But it might seem like the Wiaw approach seeks to solve all past and future problems at once. Likewise for the possible 'what is a well location' effort you mention and/ maybe 'what is a frac?'

Not really. We need to approach it from both angles. One serious 'problem we are trying to solve' involves regulatory reporting. Both shale and heavy oil involve complex well geometries and relationships. One of particular concern to Canadian operators is the fact that Sagd wells are drilled and exploited as well pairs from well pads. This leads to new reporting requirements. The Wiaw materials were a foundation for the [Canadian well identification system](#) (Cwis) group which was joined by the regulators from Alberta, Saskatchewan, BC and Manitoba to work towards a consensus in terminology and usage for well identification and reporting. Saskatchewan has

already leveraged Wiaw and the Cwis standard in its systems and regulations and Alberta will be following suite in the near future.

But in North America zillions of shale wells have been drilled, fracked and are in production before there are definitive answers to these top level questions. So what is the actual state of play of all this data?

I think it's fair to say that this is work in progress. Lots of the data already exists. Drilling multiple multilateral wells from a single surface pad is complex. Positioning long reach horizontal wells needs accuracy and involves gathering data from multiple sources – the interpretation tools mentioned above, surface location surveys and drillers applications like Compass. Wiaw is providing consensus-based definitions for the well components in these complex activities. The existing data can be organized more effectively with a solid understanding of the Wiaw concepts.

Who is implementing the resulting data stores – vendors or operators?

The major data vendors were involved in the Wiaw and Cwis* Standard work and in Canada are working closely with regulators. They are continually improving their databases and data management practices. You can view multilateral well paths and paired wells in the vendors' data. But not all of the use cases or reporting challenges have been resolved. While most users can get by with industry-standard data bases, larger operators struggle with these and require a combined public and proprietary blended well master. Shale and Sagd are the current norm and both complex dense drilling plays. It is unlikely that Wiaw and the Cwis standards will be able to fix everything. A detailed and integrated description of the surface and subsurface in these plays is required and is difficult to achieve.

What sort of things are operators trying to do with shale data?

Some operators are doing very sophisticated stuff involving multiple data sources. For instance tying micro-seismic observations from frac stages along wellbore paths to well tests, production, operational activity, financial, etc. and feeding this into a data warehouse and leveraging tools

like Spotfire for analysis. Others have gone on to Big Data tools and automatically integrating and comparing data from every functional group. It all involves the same principles of data modeling, it's just that the volumes have gone up a lot!

Our impression of Ppdm implementations is that they are more often used in house as a top-level master/meta data store. These uses seem to make more of Ppdm as a deeper model.

Sure. Ppdm is used as much more than a top level master database. Both IHS and GeoLogic have all well related data in their data models which are Ppdm-based. Ppdm can provide a holistic model of all relational organizational data. That's how the vendors use it as do many operators. Ppdm can address the Wiaw and Cwis issues, along with many other data areas – environmental, land, subsurface and production and so on.

But is all this being done by vendors or do companies build their own large-scale Ppdm stores in-house?

In the last five to ten years more companies have moved to their own in-house database to address internal reporting and data complexity and integrity issues. For example Nexen developed an internal database that housed a blend of proprietary data and IHS's public data with a map-based data browser displaying integrated detailed well data direct from the IHS data hub. Talisman on the other hand worked jointly with IHS on an integrated public and proprietary master housed within the IHS data hub. Various configurations are possible. Also the Ppdm model has hooks for linkage to other systems like ERP.

In the end, the Ppdm and Cgdms groups are alternate forums where folks can talk and share successes and problems and do a better job handling these complex data. These efforts mean that vendors, regulators, operators and partners have an opportunity to be all on the same wavelength.

Read our brief summary of Ryan's presentation on page 4 of this issue and download the slides from the [Cgdms website](#).

Geovariances tracks Repsol's reservoir connectivity

Exploratory data analysis with Isatis adds dynamic data to geological models.

Repsol's researchers have leveraged technology from French geostatistics boutique [Geovariances](#) to develop new ways of incorporating dynamic data in its geological reservoir models. The novel workflows investigate hydraulic connections between wells and help characterize flow pathways. The technique uses 'border effects' and 'transition probabilities' to QC and validate the sedimentological model of carbonates.

Border effect/contact analysis is an exploratory data analysis technique that seeks to determine how a dataset should be divided up into facies. Transition analysis performs a similar function using Markov chains.

The techniques were developed using Geovariances' Isatis geostatistics package and will be incorporated into future Repsol workflows. The approach is said to improve model quality by integrating

multiple data sources in a consistent manner. The methods have also now been packaged in semi-automatic procedures to facilitate their use by non specialists. Repsol's Laurent Fontanelli said, 'This cooperation with Geovariances has improved our team's knowledge of stochastic modeling and connectivity issues.'

OpendTect V6.0

dGB takes the gloves off, positions OpendTect as 'competitive' interpretation system.

dGB has officially launched [OpendTect Pro](#) claiming it as the seismic interpretation platform with the 'highest return on investment and the perfect answer to cost saving in the low price environment.'

dGB President and co-founder Paul de Groot said, 'OpendTect, our open source flagship, is used by thousands of academic and commercial users for data visualization, attribute analysis and as a platform for special workflows. Although basic interpretation tools have been available for

some time, we have not as yet positioned OpendTect as a competitive interpretation system. With the launch of OpendTect Pro all this will change. Pro targets all interpreters. Generalists will enjoy the much improved conventional workflows while specialists will continue to enjoy the sophisticated tools available in the commercial plugins.'

OpendTect Pro is delivered as a commercial layer on top of the free OpendTect base software. The tool

provides data interaction with Petrel, PDF-3D file sharing, base mapping and ray-tracing for AVO analysis. One new commercial plugin from dGB provides faults and fractures attributes and edge preserving smoothing filters, as well as tools for extracting fault planes and 'un-faulting' seismic volumes. The base Pro package costs €1,600 and can be extended by renting or purchasing additional commercial plugins.

Step-up your data management game

Pat Ryan advises shale and Sagd operators to improve long reach well location data management.

Speaking at a recent lunch and learn session of the [Calgary geoscience data managers society](#), Pat Ryan (Noah Consulting) offered advice on 'stepping up your game' in the management of well location data. Prior to retirement from Nexen in 2013, Ryan was involved with corporate well data management and remains an active player in Ppdm.

Today's unconventional well geometries (Sagd* and shale) are 'catalysts for change' and are forcing companies look

more closely at their surface location and wellbore positioning data management. Complex, dense pad drilling, well pairs and horizontal wells are the new normal. Accurate 3D well positioning is needed for collision avoidance and reservoir optimization. Data is used more sophisticatedly with cross discipline demands for real-time data, data integration visualization and analytics. Regulatory, HS&E requirements are increasing and all of the above needs to be achieved in the economic downturn with the need to do more with less.

Location data sets are rather intimidating. Managing them across the business is equally fraught. Ryan proposes a set of data management best practices including developing a skilled well data management team and a data governance organization, a balance of people, process and technology. Read our interview with Pat Ryan on page 3 of this issue and visit the Ppdm [Wiaw initiative](#).

* *Steam-assisted gravity drainage.*

Petroweb moves to cloud

Enterprise DB Log Cloud edition provides easy data upload and map-based download of projects.

Petroweb has announced a cloud edition of its log data management system, Enterprise DB. The system aims to streamline and simplify log data loading to an instance of EDB in the cloud and to improve subsurface data access and management with targeted workflows. EDB Log Cloud edition is a central, secure, repository of all digital and raster

log data. A web browser interface provides access to an 'end-to-end' log management workflow comprising load, search, view, and export to project.

Most raster and vector log formats are supported and can be uploaded from a local drive or from Dropbox. The system reads the header and assigns a log to the relevant well, performing data cleanup and

curve mnemonic standardization *en route*. Logs can subsequently be found and downloaded into projects using an asset tree search or through an area of interest on a map. The managed service requires no hardware, software or IT and is available for 'a low monthly subscription.' Watch the [video](#) and visit [Petroweb](#).

Software, hardware short takes

Tecplot, FieldSavvy, EnergyIQ, IT Vizion, Petrosys, Ikon Science, BOP Technologies, Assai Software Services, Paradigm, Aveva, Calsep, EMC, Energy Solutions, IFS, Caesar Systems, GeoTeric, Geovariances, INT.

The 2015 R2 release of **Tecplot RS** reservoir simulation post processor adds one-click sum and averaging of variables along grid columns and rapid multi variable cross plots of the time history of grid variables at user-selected cells.

Oklahoma-based **FieldSavvy** has announced an eponymous IOS and Android app to streamline communications between operators and oilfield service companies.

A new release of **EnergyIQ's Trusted data manager** adds session management of data load and batch processing of directional survey data. Tweaks to the log dictionary and classification schema allows logs to be grouped under a parent log class. Performance has been enhanced 'across the board.'

IT Vizion has announced **VizionOE**, a metric management system that consolidates, centralizes and simplifies business and operational indicators. VizionOE provides impact-weighted monitoring of target deviations and limit excursions across a wide variety of inputs and data at different volumes and velocities.

Intelligent data caching in V 17.7 of **Petrosys'** eponymous mapping package delivers an up to 10x performance hike. The new release adds on-the-fly contouring, improvements to depth conversion and velocity grid data management and an enhanced 3D GUI.

Ikon Science's RokDoc 6.3 now provides a complete 1D-3D environment to integrate log and seismic data for reservoir

characterization and rock physics. The release adds new 3D visualization, 3D tools, inversions and geomechanics for 'safe and efficient' well planning, including assessing the potential for fault reactivation.

BOP Technologies has announced 'CirBop' a next generation 'super-shear' blowout preventer that will 'shear, seal and control anything in a wellbore' even if the rig loses power or hydraulics.

Assai Software Services has announced **AssaiMobile**, providing access to engineering documents and drawings from any mobile device.

The 7.4 release of **Paradigm's Geolog** formation evaluation suite calculates reservoir flow properties from log data and extends third-party connectivity with a link to Petrel 2015. A new geomechanical module supports wellbore integrity assessment. Geolog's pore pressure prediction functionality is now available in a single integrated workflow.

The latest (2.1) release of **Aveva Everything3D** brings enhanced functionality for PointCloud data with management and display of laser data directly on drawings, facilitating interaction with 3D models.

Calsep has announced **PVTsim Nova 2.0**, now available in 32 and 64 bit editions with new flash models and multiple simulation additions and enhancements.

In a move to 'accelerate a shift to open source,' **EMC Corp.** has announced **RackHD**, a 'platform-agnostic' technology

stack for managing and orchestrating server and network resources at scale.

Energy Solutions has announced **PipelineStudio R 4.0** with a new parametric study management tool. The 'long awaited' user-defined logic function is now available for complex simulation control in Python or PowerShell scripts.

A new version of **IFS Field Service Management** includes a mobile client for Windows 10, options for deployment in the IFS Managed Cloud on Microsoft Azure and several predefined 'lobbies,' tailored interfaces for service managers, logistics, financials and other specializations.

V 12.2 of **Caesar Systems PetroVR** speeds Monte Carlo runs with multi-core operations and adds user-defined graphs of simulations. Probability distributions can now be used as Oracle FML functions or Excel inputs.

From July 2016 **GeoTeric** will no longer support its OpenSpirit link. The links to Petrel and DecisionSpace stay.

Geovariances has announced an **Isatis plug in** for Landmark's DecisionSpace.

Release 4.4 of **INT's GeoToolkit C++** library of cross platform visualization components includes support for Qt 5, VisualStudio .NET 2013, LAS 3.0 and DLIS log format support and other enhancements.

Consortium corner

DNV GL, Geovariances, Mines Paris Tech., MIT Energy Initiative.

DNV GL has kicked off several new joint industry projects. One looks into the use of computational fluid dynamics to assess risks of offshore helideck turbulence. The other investigates the placement of gas detectors across offshore oil and gas facilities. The third involves an explosion risk analysis of congested offshore structures. Other DNV-sponsored JIPs include the development of a decision support tool for the retrieval of a BOP and the development of end-of-life/

decommissioning guidance for offshore installations – the latter in partnership with Decom North Sea.

Geovariances and **Mines ParisTech** are proposing a consortium to research depth conversion and associated uncertainty, a 2-year program that will develop new software, 'UncertainTZ' for probabilistic seismic time to depth conversion, volumetrics and reserves estimates.

Shell and Ferrovial recently renewed their agreements under the **MIT Energy Initiative (Mitei)** consortium to 'drive critical R&D and innovation projects in the energy domain.' Mitei gives its members access to 'new and emerging technologies and to nontraditional external collaboration partners.'

Rock Flow Dynamics 2015 user group

Halliburton, OMV, Occidental, E.On, Wintershall, Pioneer, KNOC, Golder, California Natural Resources benchmark Rock Flow Dynamics' T-Navigator. Nice Software hits a speedbump running the simulator in the Amazon cloud. Golder combines T-Nav and FracMan to model complex shale well behavior.

Visitors to the 2015 SPE Annual conference and exhibition in Houston were greeted with a large *trompe l'oeil* ad for Rock Flow Dynamics' T-Navigator reservoir simulator even before they had left baggage control. A prelude to the first international RFDyn/T-Nav user meet, held following the ATCE. T-Navigator is positioned as a head-on competitor to Schlumberger's Eclipse market leader with the plus point that it is tuned for cluster-based use and is cheaper than Eclipse.

Halliburton's Gustavo Carvajal reported on the use of T-Nav on fine-scale, high definition/high resolution reservoir models of 100 million cells or more. These are now in regular use on large Middle East fields with hundreds of wells and decades of production history. Halliburton benchmarked T-Nav against Eclipse, Nexus and VIP and finally went for T-Nav running on an IBM cluster.

Occidental is a worldwide RFDyn client. Patricia Carreras described the use of T-Nav on a CO2 injection project in West Texas which included a head-for-head comparison with Eclipse. A 60k cell model with equations of state for five fluid components (including CO2) was developed and tested in various production/injection scenarios. The test concluded that 'T-Nav provided results similar to Eclipse for all development strategies analyzed in this study.'

Martin Sieberer presented **OMV's** use of T-Nav to perform multiple simulation runs on a large, mature field for uncertainty analysis. Here a 250k cell model with 315 wells and 60 years of production history was studied at various scales on RFDyn's Moscow-based cluster. A 9x speed-up was obtained using 8 cluster nodes (320 cores) over the single node, 16 core reference machine. Sieberer concluded that T-Nav offers good compatibility with Eclipse keywords and is easy to use – especially with the Petrel plug-in. T-Nav is also compatible with Emerson/Roxar's Enable history match tool and provides great scalability. RFDyn's policy allows a 10x speed up on a 16 core workstation with a single license.

Nice Software's Francesco Ruffino reported from trials of T-Nav in the cloud, running real time simulation in interactive

mode on remote hardware using Amazon's 3D graphics virtual workstation for remote interaction. The solution worked well from the remote visualization standpoint but Amazon's clusters only deploy 10 Gig Ethernet, not the faster InfiniBand interconnect. This effectively limits the use for the cloud history match type runs on one or two nodes. Amazon says that if there is enough interest it will the faster hardware in place.

E.On's Jonathan Carter used T-Nav to perform a large number of simulations (34,000 over a three week period) on a 31 node x 16 core cluster. The statistically-derived final solution was only slightly better than the engineer-designed case but was achieved with much less effort. It is easier to set up 31 models to cover the uncertainty, rather than hold endless meetings to discuss the reference case. Let the computer take the strain! Carter figured that by using Eclipse, the three week project 'would have needed almost a whole year.'

Wintershall's Tibor Toth provided another T-Nav/Eclipse head-to-head, investigating T-Nav's 'alleged advantages' of speed-up, cost reduction, intuitive GUI, conversion of Eclipse and CMG data decks and the provision of results comparable to Eclipse. The test was performed by Wintershall's outsourcing partner ESS on a dual CPU workstation with 20 cores. The result showed that import and export of Eclipse/CMG decks was seamless – although not all keywords are supported as yet. The GUI is 'excellent and intuitive.' Black oil and compositional models gave similar or almost identical results to Eclipse. On the downside, a dual phase/dual porosity model failed to run as did a Stars model – probably due to unsupported keywords. Again, speed-up in the 5-7x range was obtained by going from single to 20 cores and significant acceleration was noted over Eclipse.

Denis Zubarev from consultant **Amni International Petroleum Resources** provided more evidence of the ease of deployment of T-Nav. A 750k cell model with 11 wells and 10 years of history ran in under an hour with 'no clusters and no license issues.' Amni's 'amalgamated integrated modeling' approach is claimed to bring an optimal combination of speed,

accuracy and resource utilization but, 'there is no simple and flexible alternative to faster simulation software.' Use of T-Nav has shown a 4-14x speedup over Eclipse.

Another happy user is **Pioneer Natural Resources'** Anthony Quinn who used T-Nav to investigate imbibition processes in fracture systems in the Permian Basin's Spraberry formation. Pioneer's high resolution simulations running on a single workstation with dual Xeon X5 processors are as follows: Eclipse (1 core) 7 days, T-Nav (1 core) 13 hours, T-Nav (16 cores) 2 hours – i.e. 84x faster! Quinn concluded that 'without T-Nav's hyper-threading this study would have been impractical to complete.'

Tayeb Ayat from **California Resources Corp.** has used T-Nav to perform an assisted history match for a mature field redevelopment. The project set out to identify new drilling locations, estimate recovery from workover candidates – all in a short, one month time frame. A combination of Schlumberger's Petrel and T-Nav was used. Ayat reported that Petrel file import to T-Nav was seamless and the assisted history match feature allowed consideration of wide variety of parameters including Corey coefficients. The software was stable and there were no convergence issues. T-Nav proved significantly faster than Eclipse.

While most of the above presentations compare T-Nav with Eclipse, a representative from **Petro China** unit Xinjiang Oil Co. offered a comparison of T-Nav with Schlumberger's high-end Intersect simulator. Xinjiang has been using T-Nav for several years and drilled six successful infill wells in 2013 based on the simulator results. But the most interesting trial involved a ten million active cell reservoir model running on a single workstation in Petro China SouthWest. 'Before we used T-Navigator, it was impossible to run the simulation for the ten million cell models on a workstation. Upscaling was always applied, or we had to run the simulation on clusters. Now we believe that T-Navigator is a much better solution at much less cost.' T-Nav run time for one model was 3 hours 37 minutes. The model could not run on Eclipse. Intersect, running on a two node 16 core cluster, took 4 hours. Petro

China also cited T-Nav's 'powerful functionality' for hydraulic fracturing simulation and concluded that the software was capable of running models with tens of millions of active cells without upscaling and at very low cost in both hardware and software.

KNOC's Kelly Edwards was also keen on T-Nav's frac modeling capability particularly as it is completion-centric and does not require special local grid refinement. Also fracs don't have to align with the grid. Edwards' study has 'proved the effectiveness of T-Nav's frac model.

Tomas Bym introduced **Golder Software's** FracMan's discreet fracture network

(DFN) modeling capability which captures seismic and sub-seismic faults. Golder's workflow was developed for a fractured basement reservoir that proved recalcitrant to simulation. By using FracMan alongside T-Nav it was possible to reproduce the complex observed well behavior.

On the commercial front, **Rock Flow Dynamics'** Houston rep Tom Robinson told Oil IT Journal 'A lot has happened in the past three years. We now have 70 commercial users in fifteen countries including BG Group, Repsol, PDO, YPF and Oxy. Growth has been spectacular - around 50% last year. In PDO, T-Nav has displaced Eclipse and Shell's in-house developed Modular Reservoir Simulation

package MoReS. Elsewhere our price difference is a winner especially when compared with Intersect. We expect 2016 to be another banner year as you can buy a T-Nav license for the cost of maintenance of the current market leader.' More from [Rock Flow Dynamics](#).

More from the Esri EU petroleum user group

Peter Veenstra demystifies ArcGIS location referencing for pipelines, seen as a game changer for operators. Exprodat presents common oil spill operating picture developed for Iogp and Ipieca.

Peter Veenstra (**TRC Solutions**) kicked off the ArcGIS location referencing for pipelines (Alrp) workshop held during last year's Esri EU petroleum user group with a slide showing Edward Munch's 'The Scream.' But no, this was not to be yet another pipeline data model 'conversation,' which we took as a reference to past data model scraps and also to the overlap between Esri's utilities pipeline data model (Updm) and that of the Pipeline open data standards organization Pods (OITJ March Vol 20 N° 3).

A pipeline data model goes beyond traditional GIS. The starting point is the route/centerline but this can change with time as equipment is added or removed. Changes need to be tracked in what will be the system of record for operations, HSE and incident reporting. Veenstra enumerated some available pipeline data models [Isat](#), [Pods](#) and Esri's [Apdm](#).

Which one should you use? The first answer is, use one! Traditionally pipeline data models were relational with all route information in tables. Later technology (Json, XML, SDE, PostGIS) brought ways to store spatial information and attributes in tables - combining the data model and spatial technology in one. Various solutions are now on offer, from in-house developed, vendor supplied and out-of-the-box solutions notably from Esri. All have their merits.

More recently Esri has extended its solution for gathering, midstream and distribution companies with Alrp which will be marketed along with a data review and workflow management capability. Full

functionality, including linear referencing as a web service and a Microsoft ribbon GUI will require ArcGIS Pro. The data model implements four key tables - of calibration points, route definitions, centerline and centerline sequence (derived from Esri's roads and highways work.) Alrp can be implemented against pretty well any extant event-based system, you do not need the full data model. Alrp is scheduled for commercial release in 2016. Alrp's role as a data integration tool stems from the fact that it is not a closed data model. The linear reference paradigm means that it can be used to tie different systems together with a pointer to say, asset data in SAP, or equipment tags in a Scada system.

Alrp is seen as a game changer as it 'moves our core stuff to where it belongs - inside the geodatabase.' The solution will preserve a company's investment in centerline data and help with the migration to a true GIS-based risk management system.

With regard to the relationship with Pods, an Esri-backed work group is to combine the Alrp core and wrap a Pods business case around it to create an 'Alrp version of Pods.' The idea is to keep the GIS core standardized and get closer to the holy grail of interoperability (we take this to mean intra-Esri interoperability).

The Alrp will likely be perceived as something of a threat to existing pipeline software vendors. Esri's position is that no single vendor solution covers all bases and that the adoption of Alrp will make internal development easier or avoidable -

there will be less heavy lifting. Veenstra concluded that Alrp will help operators and vendors focus on high value-add and on governance, where, 'In some ways we are still where we were 20 years ago.' One caveat though, when it is released by Esri, Alrp will probably come out under a different name.

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Dhowal Dalal showed the results of a two year long collaboration between **Exprodat** and **Esri** on the development of a common operating picture (COP) for oil spill response. The work was commissioned by Iogp and Ipieca in the aftermath of the Macondo incident as '[work package N° 5](#).' Crisis response teams can be inundated with huge data volumes. The COP provides a source of information during cleanup operations that is accessible from any device. The COP provides a bundle of apps covering incident map, situation map, spill trajectory, public map and operations. The system includes weather data and ship tracks from AIS feeds to figure a spill's trajectory and calculate evacuation paths. Data can be provided for shoreline cleanup and assessment. The ArcGIS StoryMap is used to summarize the sequence of events. Download the EU PUG presentations from the [Esri website](#).

Folks, facts, orgs ...

API, Badger Explorer, Cheniere Energy, Drillinginfo, ECCMA, EMC, EnSCO, ExxonMobil, GE Oil & Gas, GSE Systems, IO Oil & Gas, IOGP, KKR, Lloyd's Register, New Century Software, OIS, OPC Foundation, OpenIT, Occidental, PIDX, Precision Drilling, Ryder Scott, Scientific Drilling, Sigma3, Tudor, Pickering, Holt & Co., Voith, WellDog, Westwood, Williams, Glassbeam, Houlihan Lokey.

Lisa Salley is VP global industry services at the **American Petroleum Institute**.

Øystein Larsen is CEO of **Badger Explorer** following Steinar Bakke's retirement. Bjørge Gretland has resigned from the Badger board.

Cheniere Energy has appointed Neal Shear as interim president and CEO and Andrea Botta as chairman. The moves follow the eviction of Charif Souki.

BP retiree Phiroz Darukhanavala has joined **Drillinginfo**'s board of Directors.

Daniela Cullari-Hill and Norman Daoust have joined the **ECCMA** team.

Chad Sakac is president at VCE, **EMC**'s 'converged platforms' division.

Carey Lowe is **EnSCO**'s COO following Mark Burns' retirement.

Darren Woods is now president of **ExxonMobil**. Rex Tillerson continues as chairman and CEO.

Uwem Ukpong is president and CEO of **GE Oil & Gas**' surface product company. He was previously with Schlumberger.

Bahram Meyssami joins **GSE Systems** as CTO.

IO Oil & Gas Consulting has named Jeff Measamer as general manager

Americas, Ed Hernandez as VP operations and Jerry Toth as director of business development.

Statoil's Christian Slinning has been elected vice chair of the **IOGP** security committee. Gordon Ballard succeeds retiree Michael Engell-Jensen as executive director. Ballard hails from Schlumberger.

Deepak Munganahalli is to lead **KKR**'s newly created oil and gas services platform in Dubai.

John Wishart is to step down as **Lloyd's Register**'s energy director.

New Century Software has opened a new 'Integrity Plus' unit in Houston's Energy Corridor.

Acteon unit **OIS** has named Colin Shellard as MD Aberdeen.

Jim Luth is now the **OPC Foundation**'s CTO. He is with Schneider-Electric.

Terje Mathisen is now CTO at **OpenIT**. He was previously with Evry.

Vicki Hollub is now president and COO of **Occidental**. She will be CEO in 2016.

ConocoPhillips' James Thompson is new Chair of the **PIDX** business processes work group.

Douglas Strong is to retire from **Precision Drilling**. Senior VP Kenneth Haddad is

also leaving to pursue other interests.

Shell retiree, Kimberly Corley is now executive director of the **Railroad Commission of Texas**.

Olga Logvinova has joined **Ryder Scott** as senior geologist. She hails from FDP Engineering.

Chip Abrant is SVP global operations and sales at **Scientific Drilling**.

Apache retiree, Mike Bahorich has joined **Sigma3**'s newly formed advisory board.

Travis Nichols and Scott Simmons are now managing directors at **Tudor, Pickering, Holt & Co.**

Roland Münch is CEO of **Voith**'s new digital solutions division.

WellDog has launched a new carbon services division to target CCS accounting.

Adrian Reyes is to lead the surveying operations of **Westwood** in San Antonio.

John Seldenrust is senior VP engineering and construction at **Williams**.

Siki Giunta has joined **Glassbeam**'s Board of Advisors. She was previously SVP of Verizon's global cloud ecosystem and M2M connectivity platform.

Kirk Tholen has joined **Houlihan Lokey** as MD head of A&D in Houston.

Done deals

IHS, OPIS, AspenTech, GeoCenter, Seismic Ventures, SEI, GeoCenter, Summit Geophysical, Seimax Technologies, TRC, Willbros, PrismTech, Adlink Technology, IGT Holding, IFS, Piper Jaffray, Simmons & Co., Wood Group, Kelchner.

IHS has acquired **OPIS**, the Oil price information service for \$650 million. OPIS provides 'rack price' discovery for wholesalers and maintains a web-based 'TimeSeries' database of US oil prices.

AspenTech is to acquire **KBC Advanced Technologies** in an approx. £158 million deal. KBC provides strategic consulting and software to the oil and gas industry including refinery and production simulation software that is said to complement AspenTech's solutions.

GeoCenter, Seismic Ventures, ProSeis (SEI's internal 2D processing entity),

Wave Imaging Technology (a division of

GeoCenter) and the processing staff of Summit Geophysical have 'joined together' to create **Seimax Technologies**.

TRC has completed its acquisition of **Willbros Professional Services**. The \$130 million all-cash transaction sees Willbros PS integrate TRC as a new Pipeline Services operating segment.

PrismTech has been acquired by **Adlink Technology**. Adlink plans to fully exploit the potential of PrismTech's Vortex platform in industrial internet of things markets and will release a new IIoT system in 2016 combining PrismTech's software and Adlinks' hardware.

At the last count, **IGT Holding** closed its offer for **Industrial and Financial Systems** (IFS) with 87% of votes. The IFS board recommended the public offer which values IFS at SEK 9 billion.

Piper Jaffray is acquiring **Simmons & Co.** in a \$139 million deal consisting of \$91 million in cash and \$48 million in stock. Piper Jaffray has earmarked an additional \$21 million in cash and stock for 'retention purposes.'

Wood Group has acquired construction and energy field services provider **Kelchner**.

IoT hype wave hits oil and gas

Internet of things announcements from Rockwell, Microsoft, Total, Kepware, OPC Foundation.

The December 2015 issue of the **Rockwell Journal** covers the Internet of things (IoT) with a chapter on how it will 'fuel' the oil and gas industry. Rockwell reports use of **Microsoft's** 'IoT services' to deliver 'collaboration and visibility unheard of in the oil and gas industry' as 'sensors, software and the cloud connect disparate assets, powered by a rich flow of data.' One poster child for Rockwell/Microsoft's IoT is Hilcorp Energy whose pumps stream data into the Azure cloud and on into engineers' digital dashboards.

Total has launched '**Plant 4.0**,' a corporate incubator for deployment of digital technologies (sensors, automation, big data, IoT and cloud computing) in its industrial activities. The 'open innovation' initiative aims to attract groundbreaking start-ups to help them test their technology in Total's operations.

Kepware Technologies has teamed with Informatica, Splunk, and PTC unit ThingWorx to launch an '**IoT Alliance**' program. The partners plan to grow the IoT market and shape its direction through

'smart technology, thought leadership and marketing initiatives,' leveraging Kepware's platform.

OPC Foundation president and blogger-in-chief Tom Burke **reports** with pride that the official German Industrie 4.0 consortium has recommended OPC UA as the communication protocol of choice. The OPC UA work group is extending its architecture to support an IoT publish/subscribe capability and OPC is to evangelize its solution to other IoT/II bailiwicks.

Back to school

IFP School, ENSG to offer petroleum data management MSc. PPDM's CPDA certification.

IFP School has teamed with France's **Ecole Nationale des Sciences Géographiques** to offer a one year **Masters degree** in Petroleum Data Management. The program has backing from Engie, Statoil, Total, CGG, Schlumberger, Teradata and CVA Engineering. The degree sets out to train graduates in the 'emerging jobs' of petroleum data management and to equip them with the transverse skills required to 'act as leaders in major subsurface data

management projects. Teaching will be in English and the one year program, which includes a four month internship, costs €16,000 for self-financed students and €28,000 for professional on study leave.

PPDM, the professional petroleum data management association, is inviting applicants for its new Certified **petroleum data analyst (sic)** exam, the first offering in what will be a series of petroleum-specific data management professional

certifications, including geospatial analyst, business analyst and records analyst. PPDM has also published a list of **competency indicators and definitions**. The next scheduled CPDA exam is March 16, 2016.

Petroleum SkyBox

Technical Toolboxes rolls-out secure, cloud-based platform for production engineers.

Technical Toolboxes (TT) has announced the **Petroleum SkyBox**, a secure cloud-based platform for the integrated engineering analysis of oil and gas production systems. The SkyBox provides tools for engineering analyses 'at a fraction of the cost's of the competition. SkyBox tools can be operated collaboratively from

any location, allowing users to share data, models and files in the cloud. TT positions its SkyBox as 'foundational software for the digital oilfield.'

The tools are standalone applications that share data, algorithms and workflows. Tools can be assembled into composite workflows. All tools expose a common

GUI. So far there are tools for PVT analysis, well work, pipe and network analysis. A tool for electrical submerged pump configuration will be available 'real soon now.'

PetroNerds touts Tight oil tallies

Monthly report on top fifty US shale producers.

Washington-based PetroNerds has announced **Tight oil tallies (TOT)**, a monthly report on production from the top fifty US shale and tight oil producers. PetroNerds co-founder Ben Montalbano said, 'TOT is the perfect resource for analysts, private equity investors, midstream companies, policymakers, and energy market analysts. Subscribers can catch up on the activity of companies whose combined production amounts to

nearly 5 million bopd of crude oil and condensate, including associated gas production figures, well counts, well additions, IP rates, decline rates and more.' TOT provides data on some 200,000 wells in the Bakken, Eagle Ford, Permian, Denver-Julesburg, Anadarko Basin and Powder basins. Subscriptions cost \$2,388 per year. The November 2015 issue is available as a free **download**.

Oil Information Technology Journal

ISSN 1632-9120

(formerly Petroleum Data Manager)

is published by The Data Room

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Sales, deployments, partnerships ...

GE, Aveva, Blackline, CMG, IFS, TomTom, Hyundai Engineering, Intergraph, ITC Global, Liaison Technologies, HCL Technologies, Purple Land Management, Esri, Quorum, Rock Flow Dynamics, Seatronics, Inuktun Services, Wood Group, Ziebel, Zycus.

GDS International has implemented **GE's** Equipment Insight solution at drilling rigs located in the Marcellus region of Pennsylvania. EI will be used to improve data collection, analytics and management capabilities.

INHP RB, an oil and gas EPC cluster of Russia's Bashkortostan Republic, has selected **Aveva's** integrated engineering and design software solution for use on all its projects.

Blackline reports the sale to a Calgary-based pipeline operator of over \$444,000 worth Loner Bridge software systems and services to monitor its lone workers.

CMG along with partners Shell and Petrobras 'remain committed' to the development of CoFlow, a next generation dynamic reservoir modelling system.

Under a contractual service agreement, worth €102 million, **GE** is to provide a full package of services to Indonesia's PT Donggi Senoro LNG plant. In what is said to be a world first, GE will maintain and monitor non-GE equipment supplied by other manufacturers.

IFS is to launch a new and enhanced version of the IFS Mobile Workforce Management solution leveraging **TomTom's** advanced mapping and real time traffic data information.

Hyundai Engineering and **Intergraph** have launched Intelligent design basis verification, a customization for Smart 3D that automates the process of verifying and confirming engineering design work.

Several major European-based oil and gas companies including Saipem and Eni have awarded **ITC Global** a three year multi-million dollar contract to provide remote offshore communications to five FPSO vessels based in Western Africa.

Liaison Technologies has partnered with outsourcing specialist **HCL Technologies** to deploy Liaison's Alloy data platform as a service, a 'unified cloud platform' that offers integration, managed services and full access and control at the data layer.

Purple Land Management has partnered with **Esri** to develop Overdrive, a data management platform for the oil and gas industry. Overdrive is a map-based

tool that enables clients to manage and access their land data on any device.

Enable Midstream is to implement **Quorum's** 'TIPS' gas gathering and processing solution.

Salym Petroleum Development, a joint venture between Gazprom Neft and Royal Dutch Shell has selected **Rock Flow Dynamics'** tNavigator for water flood management studies.

Seatronics is to collaborate with **Inuktun Services** on the development of its Predator ROV Elite System.

Wood Group has secured a three year contract with Shell to provide specialist consultancy services for flexible riser integrity management of Prelude FLNG project located in north east of Broome in Western Australia.

Ziebel has completed its 100th Z-Rod distributed fiber optic sensing job, performed for ConocoPhillips.

AmeriGas is to implement **Zycus'** spend analysis solution.

Standards stuff

WEF, IOGP, BP launch JIP33. EPSG new release. Open Interconnect Consortium bags UPnP Forum. OGC's new grid. W3C semantic GIS. Oasis' universal business language. HueSpace disses SEG-Y.

The **IOGP** has just kicked off JIP 33, a joint industry standardization project with backing from ten major operators. JIP 33 seeks to standardize equipment specifications for procurement and is headed up by BP's head of upstream engineering, Ian Cummins. The JIP also has the backing of the World Economic Forum and will initially focus on a proof of concept involving specs for ball valves, subsea trees and wellhead equipment and low voltage switchgear.

The **European petroleum survey group** (another IOGP unit) has released version 8.8 of the EPSG **geodetic dataset** with several updates and 'significant' revisions to data for Chile, Iraq, Israel and United States. Units of measure nomenclature has been aligned with Energistics' UoM Standard v1.0 where appropriate.

The **Open Interconnect Consortium** has acquired 'substantially all' of the assets of the UPnP Forum, consolidating the

organizations' efforts around Internet of Things standardization.

The **Open Geospatial Consortium** (OGC) is seeking public comment on a new candidate discrete global grid systems (DGGS) core standard. The DGGS promises 'rapid integration of spatial data without the difficulties of working with legacy coordinate systems.' Despite the unlikely claim, the representation of the earth as a sequence of **hexagonal cell tessellations** is worth a look.

OGC has also been working with the **W3C** on best practices publishing spatial data on the web, a concerted attempt to align GIS technology with the linked data/semantic web approach. A **working draft** document is available but, the authors warn, 'clearly a lot remains to be done.'

Oasis has floated a **new framework** for electronic commerce. Currently widespread use of XML has led to the development of multiple industry-specific

XML versions of such basic documents as purchase orders, shipping notices, and invoices. The OASIS universal business language (UBL) will define a generic XML interchange format for business documents that can be restricted or extended to meet the requirements of particular industries. UBL includes reusable data components such as 'Address,' 'Item' and 'Payment' along with XML schemas for common business documents such as order, dispatch advice and Invoice.

In a passionate **blog posting**, **HueSpace's** Diderich Buch castigates the 'error-prone, inefficient and bastardized' seismic data recording format that is SEG-Y. The ancient standard has resisted a decades of improvements in storage, retrieval and indexing. Buch argues that a new standard is needed of container and meta-data, along with Hue's specialty, data compression.

Logi Analytics best practices for oil and gas BI

Self service business intelligence dashboard deployed by Engie, Nexen.

A whitepaper from Logi Analytics proposes best practices for oil and gas business intelligence (BI) dashboard development. As we reported last month, Logi's [Info tool](#) was deployed by Engie (formerly GDF Suez) to add 'self-service' business analytics to its 'LinkToAsset' operations dashboard.

Logi argues that although traditional BI take-up is low, such dashboards are now the go-to access point for operational data. Dashboards empower a wide variety of users, not just power analysts. Users can

see if targets are being met, understand performance discrepancies, identify opportunities and threats and drill-down on issues that require further investigation.

Logi's cookbook for BI involves the following steps. First, understand your data sources and business rules. Next build a repository for historical and real-time data. Then define metrics and performance goals. Finally stick an interactive UI on to and you are set.

Logi observes that focus of BI is shifting from pre-defined queries and reporting to

user-defined analysis based on interactive real-time data visualization.

Logi poster child, China National Oil Company unit Nexen has used the BI/dashboard to obtain insights into its financial and operational metrics, replacing manual data entry and reporting. Coverage includes health and safety, production, staff retention and asset integration. Logi provides Nexen's users with simple tools for data drill-down into a central data resource. More, but not very much more, in the [whitepaper](#).

Cyber security round-up

GlobalSign's identity management system. Radiflow detects intruders, Quantum detects gunshots.

GlobalSign and the **US National Cybersecurity Center of Excellence** (NCCoE) have published a step-by-step guide to help energy companies implement identity and access management and achieve secure access and authentication, reducing cybersecurity risk. The guide describes a demonstrator centralized identity and access management (IdAM) platform that provides a comprehensive view of users across IT networks, physical location and operational systems. The draft guide can be downloaded from the [NCCoE website](#).

Radiflow has released [Isid](#), a new intrusion detection system (IDS) for ICS/Scada networks. Radiflow CTO Yehonatan Kfir observed 'ICS networks expose a large attack surface and are vulnerable to hacking. Operators' ability to detect and react to cyber incidents are poor and this gap between attacker and defender, poses a significant risk.' Isid software runs both at the control center and at remote sites providing detection of changes in network topology, malware and spotting sensitive Scada commands. Model-based anomaly detection of network

traffic is claimed to assure network security 'so that operators no longer need to be experts.'

Intrusion detection specialist **Quantum Technology Sciences** has added real-time [gunshot detection](#) and classification capability to its Vector series seismic-acoustic technology platform. The concealed solution provides real-time notification of gunshots from up to 500 meters. The classifier is available on the Vector series QM-100 and QS-100 products which also detect intrusion by pedestrians, vehicles and digging.

Anadarko early adopter of IHS engineering workbench

Knowledge platform gives access to standards, eBooks, patents, journal articles and other content.

IHS has announced the [IHS Engineering Workbench](#) (EWB) a 'knowledge discovery platform for the technical enterprise.' The EWB provides information, content analytics and problem-solving tools via a common, intuitive interface enabling engineers and technical professionals to 'accelerate research and problem-solving.' Early adopter Mike Harris of Anadarko Petroleum added,

'Today companies must address the complexity and volume of technical information with enterprise platforms. IHS is making great strides toward meeting these challenges with Engineering Workbench.'

The initial EWB release provides access to standards, eBooks, patents, journal articles and other content. 'Next-generation'

search technology and content analytics leverage this federated information to quickly find answers in disparate data. Subsequent releases of will overlay this information with analytical and problem-solving capabilities and will extend the platform's search and analytical capabilities to internal resources such as project files, field reports and other corporate information.

MapAnything adds oil and gas smarts to Salesforce

Partnership with NavPort adds analytics to North American well data.

Geo-analytics and location intelligence solution provider for Salesforce users [MapAnything](#) has partnered with data analytics provider [NavPort](#) to deliver 'cutting-edge' analytic solutions to the oil and gas industry. The 'premium' data packages cover NavPort's US and Canada

data bundle of detailed well and basin field data, completion summaries and basin shape layers. MapAnything CEO John Stewart explained, 'Leveraging premium information alongside a company's existing Salesforce data leads to better decision making and new revenue-making

opportunities.' MapAnything is a native application that adds schedule planning, route optimization, real time geo-location, territory management, analytics and a map centric interface to Salesforce data.

ISSN 1632—9120

Sintef revamps Matlab reservoir simulation toolbox

Open source Matlab code library includes large scale CO2 injection and storage functionality.

The computational geosciences group at Norway's Sintef ICT R&D organization has released a new version of its [Matlab reservoir simulation toolbox](#) (MRST).

MRST is an open-source framework for rapid prototyping of reservoir models and computational methods written in Matlab. MRST provides support for grids, petrophysical data and incompressible fluid models. The tool provides routines for manipulating boundary conditions,

sources/sinks, well models and reservoir state and unit conversion. MRST includes scripts and utilities for reading Eclipse input decks.

New functions in the release include interactive tools for defining and analyzing large-scale CO2 injection scenarios and estimating storage capacities, new features for optimizing well rates in aquifer-wide, multi-well CO2 storage scenarios.

MRST is released under the open source GNU general public license but requires a commercial edition of Matlab. Sintef is also releasing results and code from its open (source) [porous media project](#) with backing from Statoil. Concomitant with the new MRST release is an updated edition of the [MRST user guide](#), an extraordinarily detailed publication which we will be reviewing in a future issue of Oil IT Journal.

Software gives Greenlight to BOPs

OTC and Hecate Software team on new pressure testing, compliance and reporting solution.

Offshore Technical Compliance (OTC) and Hecate Software have released [Greenlight](#), a new equipment pressure testing and compliance/reporting package. Greenlight supports a wide variety of pressure tests on blow out preventers (BOP) and other units with user-friendly interface that allows for annotation and analysis. Founded in 2007, OTC provides compliance-related services including inspections, competency assessments and training. [Hecate](#) has been developing

predictive digital BOP pressure test routines along with a range of oil and gas applications since 1984.

OTC CEO Mike Bethea said, 'Greenlight removes the subjectivity associated with charting and the test results are backed by our staff of registered petroleum engineers and compliance experts, creating a unique resource for our clients and operators.'

Greenlight produces an uninterrupted, secure and transparent digital record of

testing activity from start to finish. For BOP testing, a set of low and high pressure analytical routines provide real time high definition digital output. The tool received BSEE* approval in October 2015 for low and high pressure BOP tests. OTC provides demonstrations, end user training and 24/7 support.

* [Bureau of safety and environmental enforcement](#).

Aptomar's BlueDeal for environmental monitoring

New service monitors operations for accidental spills, audits and tracks 'errant' vessels.

Trondheim, Norway-headquartered Aptomar has announced a new environmental monitoring service, [BlueDeal](#), for offshore operations. The service is delivered from an 'Aptomarin' control center and is claimed to detect accidental spills within a couple of hours. Aptomarin analyzes and trends operations data. When a spill is detected a report is generated with the location of the spill, the identity of the

probable polluter and an audit trail of the events leading up to the accident. At year end or end of well a summary report is generated for internal use, regulatory reporting or public information. Ten years of R&D and real-world testing have produced a new method for mitigating false alarms. The system runs on a PC connected to existing radar antenna and linked to the Aptomarin center.

Aptomar's Kristin Collier Valle said, 'Users now have a robust monitoring service that meets governmental requirements and is simple to set up and inexpensive.' Aptomar reports that its service has shown that spills are not always produced by its clients' operations. Aptomar can also provide surveillance and detection of 'errant vessels' as part of the service.

LR surveys big data in oil and gas

Survey finds data of 'limited' importance to oils. 'Execs need to think again!'

UK-based Lloyds Register reports the results of its 2015 Oil and gas technology radar survey. Apparently, the oil and gas industry is 'no stranger to data collection tools'. The report is hard on some of its own respondent. Some 41% stated that data will be only 'somewhat' or of 'limited' importance to their innovation efforts. Go to the bottom of the class! 'These executives should think again.' Companies surveyed that were 'excellent' or 'very good' at analyzing data 'tend to be

better at conceptualizing, developing and deploying new technologies.' 'Excellent' data performers are 'substantially more successful than the others.'

LR cites BP in this category, quoting at length from group head of technology David Eyton who castigates disparate data formats. Companies which specialize in data analytics are 'format-agnostic.' At BP, 'Once we make our data accessible to our data analysts, they will use what we've got and see what they can do with it.'

In a callout in the report titled 'The joy of data at BP' Eyton opines that the digital oilfield is only now becoming a reality thanks to advanced data analytics and collection. LR concludes that 'a sustained period of low oil prices can help to erode the conservative attitudes toward innovation that have long been evident in the upstream oil and gas industry.' More, but not very much more, from [LR](#).