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## WHY CHOOSE THE SPE?

The nights are drawing in, the boots and heavier coats are being pulled out and the decorations are going up in a few places. Christmas is almost already upon us. Maersk Oil will see us into the festive period with their presentations on Maersk Drilling service delivery model and looks to be an interesting event.

There will be no event in December and then Hess will greet us after the festive period with an insight into Ocean Bottom Seismic.

While at the ATCE in Amsterdam I was asked a question that had me totally stumped for an answer. The more I thought about it the more I was amazed that I had never asked the same question before. The question put to me was very simple, "Why did you choose to join the SPE?"

My initial thought was that it was eight free dinners a year, a summer party, networking and access to SPE papers. But I soon realized that you get so much more. We have access to a worldwide network of individuals at all levels and in all areas of the industry as well as a vast network of local and international technical experts. Students can talk with managers and young professionals can meet CEOs and retirees and

all of the interactions are at the same equal level. The SPE as a professional investment in your career and a place where you can begin to, or continue to develop your leadership and soft skills. This also applies to technical skills in a way that brings value not just to your career development but also to your employer. SPE offers an avenue to mentorship and access to continued education regardless of the size or policies of your employer. And finally there is what we all like a bit of, a pat on the back and a chance to achieve recognition from your peers outside of your own organisation.

The list is indeed much longer but the epiphany for me was that I had taken my SPE membership for granted and never really got the full value from it. The SPE has so much to offer you and your development at every stage of your career and I hope, that like me you will find out what is on offer and take full advantage of it. I realise now that it is probably the best ninety dollars I spend every year and perhaps a good time to mention that the SPE dues are soon to be paid.

It may be a little early for some of you but as this is the last newsletter before the festive season I would like to wish you all a merry Christmas and a happy new year on behalf of the SPE board in Copenhagen. See you in November and then again in January.

**Anders Krag Norman,  
SPE Copenhagen  
Section Chairman**

## FUTURE MEETINGS

FOR MORE INFORMATION REGARDING  
THE PROGRAMME SEE PAGE 6

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**JOHAN SVERDRUP****ADDING VALUE TO  
ASSETS OPERATED  
BY OTHERS**

The development of Johan Sverdrup will be big. Its field centre will comprise four bridge linked platforms, including living quarters for up to 450 people, a well-head platform with between 40 and 50 slots for production and injection wells, a production platform with a design capacity for 315,000 barrels of oil equivalent per day (boepd) and an export/utility platform. This was mapped out in the recent concept decision for the first phase. The investment for this phase alone is expected to be between NOK 100 -120 billion (USD 16.5 - 19.5 billion).

*By Charlotte Holst*

“We believe that this concept is a good foundation for realising the full potential of the field. This is Maersk Oil’s primary focus, as it will bring most value to all partners involved in the project and Norwegian society more broadly,” said Morten Jeppesen, Managing Director of Maersk Oil Norway.

First oil from Johan Sverdrup is expected in late 2019, with a capacity for the first phase of 315,000 boepd. Forecast of full-field plateau production of between 550,000 and 650,000 boepd is expected.

PHOTO: STATOIL



Maersk Oil has a project team of some 20 full-time staff based both in Stavanger and Copenhagen, working on the best way to unlock the potential from the full field both now and in the future. This is a large team considering that Maersk Oil is not operating the field.

“In addition to working towards an optimum development solution, part of this team is dedicated to unitisation and commercial decisions. This is the process by which the field is unified across the different production licences it straddles. Given that Johan Sverdrup covers an area similar to Danish Underground Consortium’s contiguous area in Denmark, securing an equitable share is very important to Maersk Oil,” says Jeppesen.

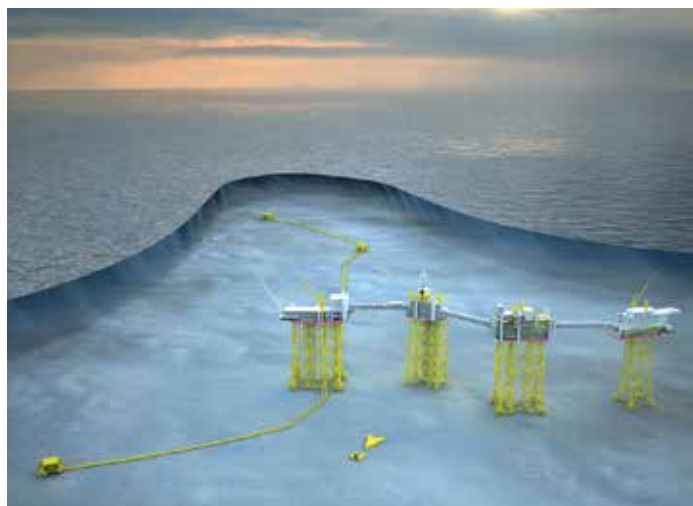


### A SCANDINAVIAN PARTNERSHIP

The five Johan Sverdrup partner companies represent the three Nordic countries; Lundin from Sweden; Peto, Statoil and Det Norske from Norway; and Maersk Oil from Denmark. The companies have all contributed to the field concept in different ways.

“Maersk Oil is a strong technical company and many of our past successes have been built on our ability to apply technical solutions to unlock the potential of challenging fields. The challenge of Johan Sverdrup is not so much its reservoir complexities, but its sheer size,” says Mark Seger, Maersk Oil’s Project Manager for the Johan Sverdrup Project.

Phase 1 production will be equivalent to Maersk Oil’s total production in Denmark when it peaked at 310,000 boepd in 2005. It will be potentially double that when the full field plateau is reached.



All production will be processed at a single field centre, an idea that originates from Maersk Oil and illustrates how abilities we’ve learned in the past are helping us to optimise development now.

“It is of course amazing to be part of such a giant project and we feel a large responsibility to choose the best possible concept for the full field. Aside from the working operator, Statoil, Maersk Oil is the only partner company that has experience with operating large, phased field developments. We have contributed to the concept with our experience and capabilities from full-field developments in Denmark, Qatar and the UK,” Seger says.

### OTHER PARTS OF THE WORLD

Today around 10% of Maersk Oil’s production comes from assets operated by others (OBO). An example is the Algerian fields, including the newest field on stream, El Merk, contributed with 28,000 boepd of Maersk Oil’s overall daily production.

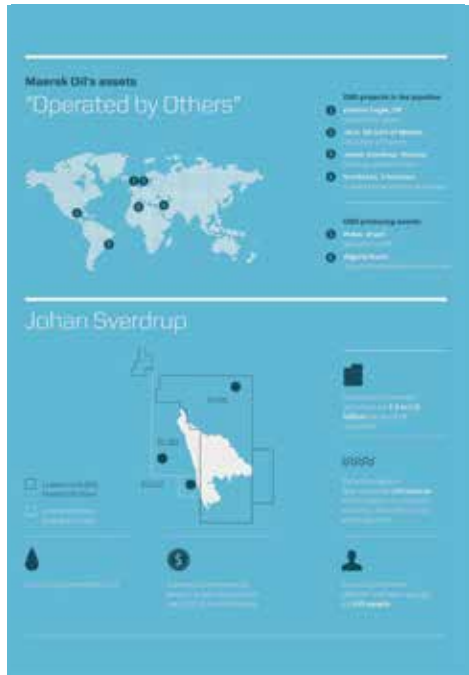
With several significant OBO projects in the portfolio including Johan Sverdrup, the share of OBO production is expected to increase. Already by the end of 2014, Maersk Oil expects to have two additional OBO fields boosting the daily production in 2014, Jack in the Gulf of Mexico and Golden Eagle in the UK.

“OBO assets are a key part of our project portfolio and just as important as our operated assets. The barrels contribute equally to the value generated for Maersk Oil and the Group,” says Head of Corporate Technology and Projects, Troels Albrechtsen.

“Being in an OBO joint venture doesn’t mean that you should just observe what the operator is doing. You too have a responsibility to contribute where you can add value. You must act if you see anything that compromises safety or other relevant aspects of a development, not least in Norway, where this is an explicit obligation of any joint venture company,” he says.

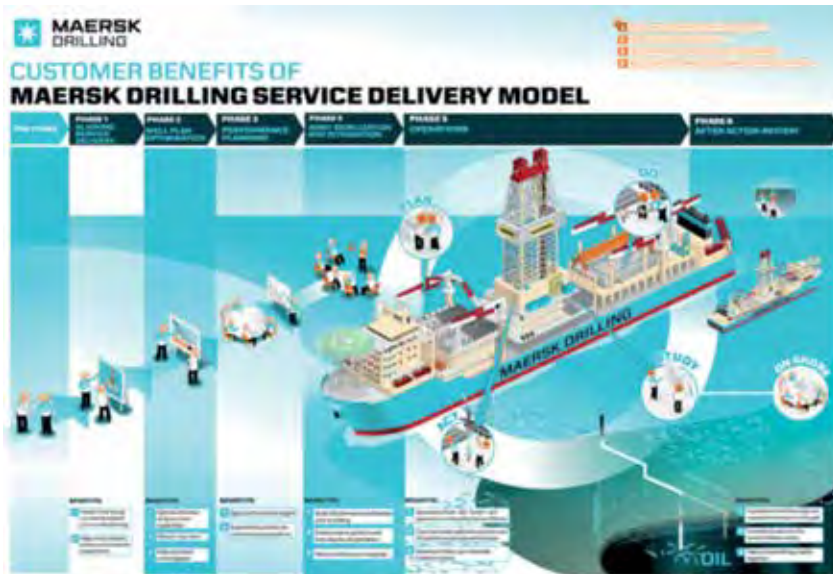
Being a partner is valuable for Maersk Oil, particularly when it can learn from the operator.

“We can see that the Johan Sverdrup project has benefited both from our subsurface expertise and from our expertise in previous large-field development plans; we can learn from operators with experience elsewhere in the world. An example of this is in the Gulf of Mexico, where Maersk Oil has gained knowledge from Chevron, one of the most experienced deep-water operators. This is a natural and important part of knowledge sharing in the oil industry,” says Albrechtsen. ◀



## PARTNERING FOR PERFORMANCE – MAERSK DRILLING SERVICE DELIVERY MODEL

The Maersk Drilling Service Delivery Model is a structured approach to how drilling contractor and operator can partner early and collaborate on planning, utilising knowledge and best practises from both companies to execute wells as safely and efficiently as possible, with the overall purpose of driving down well NPT (Non-Productive Time), ILT (Invisible Lost Time) and drilling the well closer to planned time. This approach has been operationalised over the past 2 years in Maersk Drilling, and the presentation will provide insights and examples of how this works and benefits derived. ◀



## BIOGRAPHY

**Kristian Coff-Petersen, Senior General Manager, Maersk Drilling**



Kristian Coff-Petersen started his career in Maersk as a trainee in 2005 and has since supplemented his education with an HD (B.Sc.) from Copenhagen Business School. After an expatriation to West Africa, Kristian returned to Denmark in 2008 and

started in Maersk Drilling as a Process Consultant and later Project Manager. The last 4 years Kristian has worked in the Operations department and been part of the team that designed, developed and executed the Service Delivery Model where he is currently leading a team of 8 professionals that primarily work offshore. ◀

### SPE Student Chapter Annual Welcoming BBQ



On September 19, 2014, more than 40 members of SPE Student Chapter at DTU participated in the Annual Welcoming BBQ event, where the 26 new members had the chance to meet and network with other members of SPE Student Chapter. They were introduced into the DTU SPE Student Chapter activities and upcoming practical and social events while they were enjoying themselves with a barbecue.

### Student Poster Competition



On September 23, 2014, DTU SPE Student Chapter organized a poster contest during the first SPE Copenhagen section monthly meeting held at the DTU. The winners of the poster contest have been awarded by an opportunity to participate at the annual SPE student conference “East meets West” taking place every year in Poland.

The posters were evaluated by three volunteers from industry, Hans Horikx (Maersk Oil), Jonathan Hasting (Maersk Oil), and Anders Norman (Hess). Three Master students, Thomas Bruun Bertelsen, Finlay Bertram and Hadise Baghooee were selected as first, second, and third place in the poster contest.

### Visit to Welltec Company

On October 23, 2014, 14 students of the DTU SPE Student Chapter attended a company visit to Welltec in Allerød. The event



started with a presentation by Hans Plessing, Department Manager in Development & Engineering section where he presented an introduction to Welltec Company and Welltec intervention technologies. After the presentation, the students had a tour of workshop and manufacturing facilities where they became more familiar with different tools and their applications. The event ended around noon with a group photo in the quality control section where they test each product and its functionality before sending to the field.

## DAN BRAVO RATIONALIZATION PROJECT [DABRAT]

The Dan Bravo structures were some of the first offshore platforms installed in the North Sea.

The three oldest platforms - Dan A "wellhead", Dan B "accommodation and process" and Dan C "flare" platform, were originally fabricated for service in the Gulf of Mexico but were later redirected for installation in the North Sea to meet an early production start date.

The structures in the Dan Bravo Field were installed in the early to mid-1970's and are thus more than 40 years old. The strategy is to extend the service period to the year 2042 thus giving a total platform lifetime of 70 years. This compares with the service period for DUC platforms is normally 25 years.

The objective of the presentation is to explain the background of Dan Bravo Rationalization, the scope of the project, its challenges and its aims of field life extension and structural integrity. Furthermore to guide the audience a video of an offshore diving operation in action will be shown to increase awareness of the Danish offshore oil infrastructure below sea level. ◀

## ●● BIOGRAPHY ●●●●●●●●●●



**Jakob Knudsen, MÆRSK OIL**

Senior Project Manager for the Dan Bravo Rationalization Project [DABRAT]. Jakob studied Civil Engineering at Aalborg University Esbjerg and later Business Administration at the University of Southern Denmark. He started working offshore as Piping and Structural Designer for minor platform modifications. In 1998 he transferred to Qatar working as Piping Engineer, thereafter returning to Denmark to join a process extension project of a pharmaceutical plant as a Site Engineer. In 2000 he joined MÆRSK OIL where he served a brief term in the maintenance department before moving onto the Construction Department alternating between onshore and offshore positions, as a Construction Engineer for numerous hook ups during the Halfdan Field development.

In 2011 he transferred to the Project Department as Project Manager for the Dan Bravo Rationalization project. Jakob is married has two young children and he enjoys triathlon and football. ◀

### PROGRAMME

17:00 - 18:00  
Drinks

18:00 - 19:00  
Presentation and SPE News

19:00 - 21:00  
Dinner

### LOCATION

Mærsk Oil  
Esplanaden 50  
1263 København K

### SPEAKERS

Kristian Coff-Petersen,  
Maersk Drilling

### TOPIC

Maersk Drilling Service  
Delivery Model

### DINNER SPEAKER

Jakob Knudsen, Maersk Oil

### TOPIC

Dan Bravo Rationalisation

### ENTRANCE FEE

None

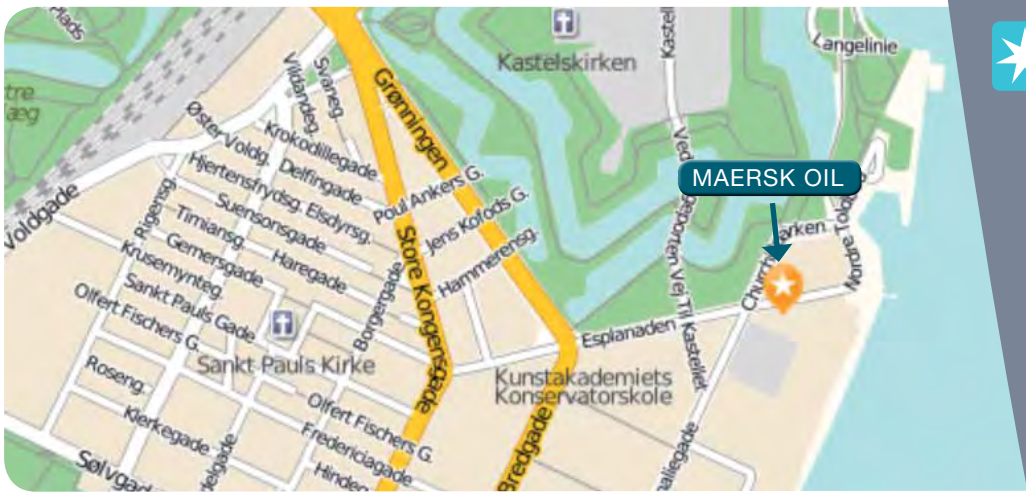
### REGISTRATION

Please indicate your attendance by Friday 14 November 2014 by signing up on the internet [www.spe-cph.cere.dk](http://www.spe-cph.cere.dk)

### SPONSOR



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SPE MEETING SCHEDULE

# 2014-2015

<b>September 23</b>	<b>MAIN SPEAKER</b>	<b>AFTER DINNER</b>
TOPIC	<b>DTU Research Projects</b>	Hydrocarbon Research & Technology Centre
SPEAKER	Dr Teresa Regueira Muniz; Konstantina Katika, Dr John Jørgensen	Bo Cerup-Simonsen
LOCATION	DTU	
SPONSOR	DTU	
<b>October 22</b>	<b>MAIN SPEAKER</b>	<b>AFTER DINNER</b>
TOPIC	<b>Safety in Operations - A Leadership Journey</b>	Process Safety in Wells
SPEAKER	Ben Ring, Shell	David Roberts, Shell
LOCATION	Shell	
SPONSOR	Shell	
<b>November 19</b>	<b>MAIN SPEAKER</b>	<b>AFTER DINNER</b>
TOPIC	<b>Maersk Drilling Service Delivery Model</b>	Dan Bravo Rationalisation
SPEAKER	Kristian Coff-Petersen, Maersk Drilling	Jakob Knudsen, Maersk
LOCATION	Maersk	
SPONSOR	Maersk	
<b>January 21</b>	<b>MAIN SPEAKER</b>	<b>AFTER DINNER</b>
TOPIC	<b>Obtaining a high quality Ocean Bottom Seismic (OBS) survey on the South Arne Field</b>	Downhole Scale Mitigation Trial on South Arne Using High Frequency Electromagnetic AC Signals
SPEAKER	Marianne Rosengreen and Erik Jakobsen, Hess	Anders Krag Norman, Hess
LOCATION	Moltkes Palae	
SPONSOR	Hess	
<b>February 17</b>	<b>MAIN SPEAKER</b>	<b>AFTER DINNER</b>
TOPIC	<b>Holistic Diagnostic Approach: The Key to Successful Conformance Engineering</b>	
SPEAKER	Julio Vasquez, Halliburton	
LOCATION	Charlottehaven	
SPONSOR	Chevron	
<b>March 10</b>	<b>MAIN SPEAKER</b>	<b>AFTER DINNER</b>
TOPIC	<b>The Siri platform repair project - reviewing 5 years of challenges</b>	
SPEAKER	Jørgen Rentler Næumann, DONG	
LOCATION	DONG	
SPONSOR	DONG	
<b>April 16</b>	<b>MAIN SPEAKER</b>	<b>AFTER DINNER</b>
TOPIC	<b>Lessons Learned in Technology Development... ...and Perforating 'Smart' Wells</b>	
SPEAKER	Curtis G. Blount, ConocoPhillips	
LOCATION	Admiral Hotel	
SPONSOR	Welltec	
<b>May 20</b>	<b>MAIN SPEAKER</b>	<b>AFTER DINNER</b>
TOPIC	<b>Comparing Formation Evaluation Measurements Made Through Casing with Openhole Logging Measurements</b>	Annual General Meeting
SPEAKER	James Hemingway, Schlumberger	
LOCATION	GEUS	
SPONSOR	GEUS	
<b>June</b>	<b>MAIN SPEAKER</b>	<b>AFTER DINNER</b>
TOPIC	<b>SPE Summer party</b>	
SPEAKER		
LOCATION		
SPONSOR	Schlumberger	

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## SPE YP NEWS

The Young Professional Section of SPE will be holding an event on the 14th of January 17:30 at a location to be decided, with the main theme dedicated to career guidance. The meeting, which will be held in an informal setting, will have Bill Ginty speaking about his career in the oil industry. Bill held a variety of positions within the industry. Bill is a University of Texas graduate, starting his career as a roustabout with Marathon Oil in 1982, later a wireline engineer in Schlumberger in the Middle East, and eventually settling down in Denmark with various roles in Maersk, Hess and DONG. Throughout his career Bill has written and co-authored a number of SPE papers. If you would like to participate in the event, please sign up by writing to [jedrzej.bryla@maerskoil.com](mailto:jedrzej.bryla@maerskoil.com) or going to the SPE Copenhagen website at [spe-cph.dk](http://spe-cph.dk)

## STUDENT NEWS

Workshop Day at DONG Energy, November 21st 2014

This day will provide insight into our technical projects, life as a young engineer, our graduate programme and much more.

Do not miss this opportunity to learn more about your possible future as an engineer with DONG E&P.

Sign up by sending an email to [spechairman@kt.dtu.dk](mailto:spechairman@kt.dtu.dk)

# Hess Corporation

## is Getting Significant Results from Lean Practices

By Noreen Seebacher

The Hess Corporation's Offshore Americas and West Africa (OAWA) team is getting results from the application of lean principles — and, just as important, successfully changing habits and behaviours that will help the company advance toward its strategic vision.

"We're still very early in our lean journey, but the OAWA team has made significant progress since we started," said Gregg Stocker, Advisor for Global Lean Deployment. Stocker was transferred to the OAWA team last July after working on lean deployment in the Bakken and Permian. "I've tried to apply what I learned in those areas to more quickly spread the process."

Lean is the constant pursuit of perfection. It uses a systematic approach to continuous improvement, ultimately empowering all employees to eliminate waste and solve problems they face every day.

As Rob Fast, Vice President, Offshore, OAWA, noted, "Lean is rooted in the concept of continuous improvement. It's simply about learning and getting better. The key principles are aligned with the Hess Leadership Competencies and are a way of working that will enable us to become the best."

The lean strategy at Hess aims to change culture through the use of A3 business plans (to clarify

targets and major improvement areas), dashboards (to measure progress toward the targets), effective operating rhythm (to understand the gaps between the targets and actual performance, and kaizen (to close the gaps). These four elements are used to improve leadership and develop people to address problems to improve in the areas of safety, production and cost.

To gain deeper insight about the application of lean and the ways it can be applied in the energy industry, team members from OAWA have participated in two visits to the Toyota plant in San Antonio, Texas. Toyota is credited with developing and successfully applying the lean manufacturing concept.

The OAWA team has already adopted lean thinking in a wide range of offshore processes relating to people, material and equipment. "Lean applications range from better data flow and forecasting processes to refinements to our integrity improvement plans. In one case, we simply eliminated unnecessary trips to the bank. All of these help us to reduce waste, while simultaneously improving efficiency and job satisfaction," Fast continued.

While all of the OAWA assets are at varying points in their lean journey, they are all making improvements. A total of 20 individual kaizens have been initiated recently by the OAWA team, including nine related to the supply chain, and are in various stages of completion, Stocker said.

"We introduced the lean business planning A3 process to focus our efforts on meeting annual safety, production and cost targets, while prioritizing the critical few breakthroughs that need to be addressed for the future," he continued. The term "A3" refers to the European standard size of a large sheet of paper (11.7 x 16.5 inches). The A3 approach puts the entire business plan on one side of a single sheet of similar size paper, making it simple to see and understand quickly.

#### IN ADDITION:

- Teams in Equatorial Guinea applied lean principles to complete a first-of-its-kind maintenance turnaround of the Sendje Ceiba FPSO in seven days — 13 days fewer than originally estimated — and deliver parts and equipment faster and more efficiently. The specific lean concepts used included shifting as much work as possible from internal (performed when production is shut-







in) to external (can be done safely while production is running), and the use of a twice-daily operating rhythm meeting to identify and address potential problems as quickly as possible, explained Dave Blackburn, Director of the Equatorial Guinea Asset at Hess.

- The OAWA leadership team (LT) revised the operating rhythm of its weekly meetings to improve results and save time. It initiated standing-only meetings, focused completely on dashboards to drive discussion toward closing the gaps between budget and performance. The average duration of each meeting has declined from 90 minutes to less than 60 minutes.
- The OAWA LT also established a key performance indicator (KPI) room, which the team calls the “KPI Bullpen,” to openly display performance against targets for the most critical areas of the business. Similar displays have been developed for the Gulf of Mexico (GOM) and are currently being developed for other assets.
- The GOM team is fine-tuning the operating rhythm of its meetings, too, as well as using lean processes and principles — including a greater use of data — to successfully manage production targets. It’s initiated a data-driven report-by-exception weekly asset meeting and a monthly business review that uses a KPI corral to walk through A3 business plans. The goal is to flag “hotspots” and develop countermeasures to get back on track.
- OAWA Production Engineering is using kaizens to improve its production reporting systems.
- And OAWA drilling is applying the plan–do–check–act cycle (PDCA) — a four-step model for carrying out change — on Tubular Bells with excellent results.

PDCA is based on scientific thinking. Everything we do is a hypothesis that our actions will result in success. When things don’t go as planned, our hypothesis failed and we need to change our approach. A new approach is a new hypothesis that, when it fails, drives further change. The result is continual learning and improvement in performance, Stocker said.

Jeff Wirth, Director of the Gulf of Mexico asset at Hess, said continuous improvement efforts have focused on getting “visibility with data” and performing kaizens on processes to improve efficiency. That is generating notable results on things including production reporting and production loss accounting, he said.

“Production data for the Gulf of Mexico comes from a variety of sources, both internal and external. Historically, it has been difficult to aggregate the data and our process lacked reliable automation, resulting in constant firefighting to fix problems. What we’re doing now is using lean principles to get the data into a well-structured database, reduce the number of spreadsheets and eliminate manual handling of data,” Wirth said.

He expects similar benefits from applying lean to production loss accounting. “Estimates of lost or deferred production are not consistent. The data is not visual, so problems and trends have not been as evident as we would like them. In addition, accounting for deferred production can take several hours per week because the process is very manual and requires multiple data entry. Our goal is to use lean to accurately categorize downtime in less than five minutes a day, piggybacking on an improvement made in Equatorial Guinea earlier this year. Besides improved efficiency in the reporting process, we now have better data to clearly see and attack our problems.”

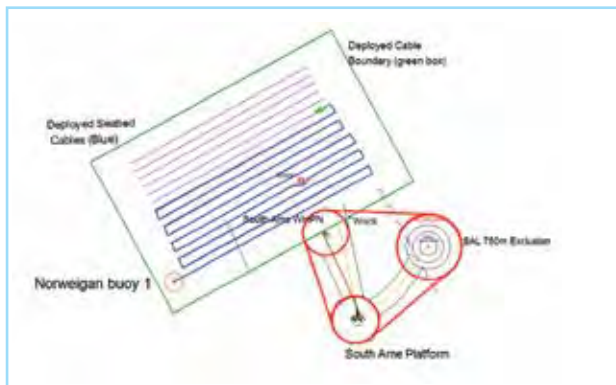
Stocker said he is proud of the success the OAWA team has made to date and enthusiastic about embedding lean principles even further.

“Lean thinking is a business imperative — an investment that will really pay off in safer operations and better performance.” ◀



# ●● ABSTRACT .....

## South Arne – Ocean Bottom Seismic acquisition



Hess DK operations on the South Arne field has a long history of using 3D and 4D streamer seismic data (1995, 2005, 2011) to support reservoir modelling, well planning and well interventions. However, field development is challenged in large parts of the field due to an area where gas in the overburden obscures seismic imaging. Ocean Bottom Seismic has been on the wish list of the South Arne team for many years, in order to obtain a seismic image of the reservoir beneath the gas cloud. Additionally the recent Phase III development, where two new platforms

were added to the existing infrastructure in 2013, has rendered conventional streamer seismic surveying impeded by surface obstructions.

Ocean bottom seismic was budgeted by Hess and Partners to be acquired in 2014. The execution of the OBS started in September and is planned to end late November. The current execution is challenged by many pre-planned simultaneous operations on South Arne in addition to the autumn weather conditions. ◀

# ●● BIOGRAPHY .....



**Erik Jakobsen, Operations Engineering Advisor, Production Planning and Optimization, Hess DK**

Erik Jakobsen has 13 years of oil field operator experience with both Hess and Maersk Oil. Began work in offshore drilling, moved on to production technology working mainly with offshore well stimulation operations and from there on to well interventions, production optimization, well stimulations and currently also managing the offshore seismic operations. ◀



**Marianne Rosengreen, Senior Geophysicist, Subsurface, Hess DK**

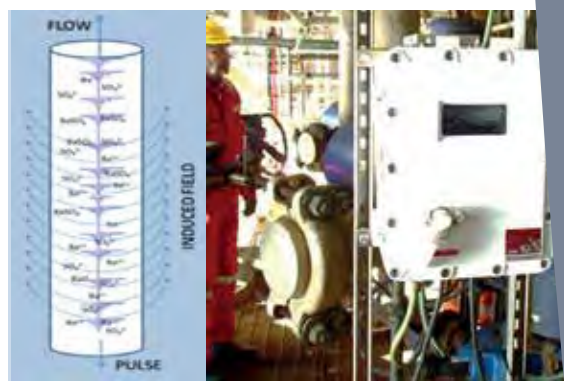
Marianne Rosengreen has 16 years of experience working with seismic data and reservoir characterization. She has been working for Hess since spring 2012 and was previously working for Schlumberger and Ødegaard. ◀

# ●● ABSTRACT ●●●●●●●●●●

## Downhole Scale Mitigation Trial on South Arne Using High Frequency Electromagnetic AC Signals

Anders will talk briefly about the extended nine month trial of the Weatherford ClearWELL technology on one of the South Arne wells. The technology requires no intervention work and is simple to install and is designed to keep the well or surface facilities targeted free from scale deposition.

The talk is based upon an SPE paper recently presented at the ATCE and focuses on the design, monitoring and analysis of the trial as well as the lessons learned in trialling and introducing new technologies into a field. ◀



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JANUARY

### PROGRAMME

- 17:00 - 18:00  
Drinks
- 18:00 - 19:00  
Presentation and SPE News
- 19:00 - 21:00  
Dinner

### LOCATION

Moltkes Palæ  
Dronningens Tværgade 2A  
1302 København K

### SPEAKER

Marianne Rosengreen and Erik Jakobsen, HESS

### TOPIC

Obtaining a high quality Ocean Bottom Seismic (OBS) survey on the South Arne Field

### DINNER SPEAKER

Anders Krag Norman, HESS

### TOPIC

Downhole Scale Mitigation Trial on South Arne Using High Frequency Electromagnetic AC Signals

### ENTRANCE FEE

None

### REGISTRATION

Please indicate your attendance by Friday 16 January 2015 by signing up on the internet [www.spe-cph.cere.dk](http://www.spe-cph.cere.dk)

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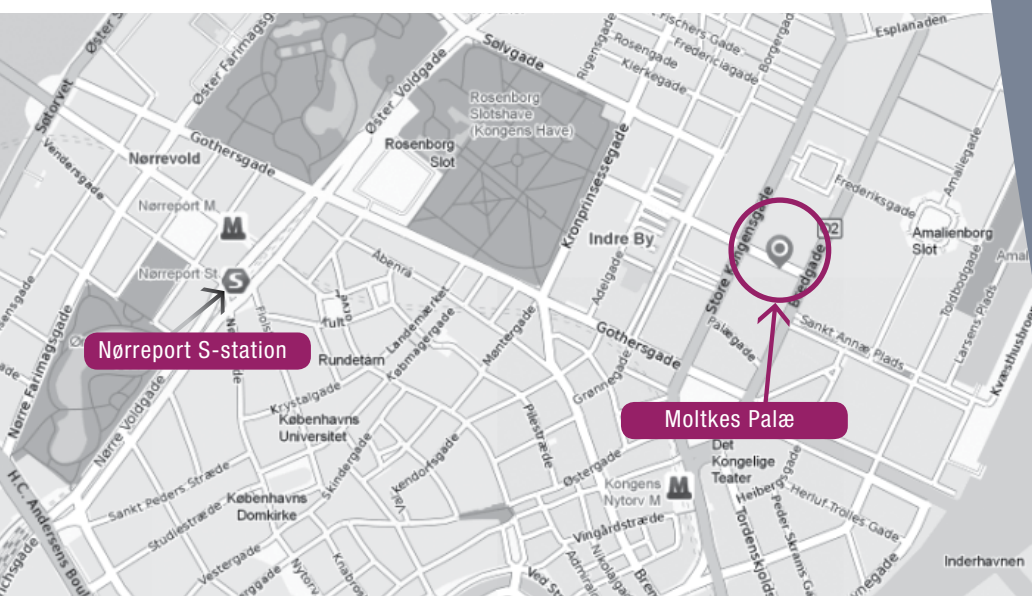
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# ●● BIOGRAPHY ●●●●●●●●●●



Anders Krag Norman, Hess Corp.

Anders Krag Norman has four years field experience as a stimulation engineer with Schlumberger in Western Siberia and seven years experience with Operating companies Maersk Oil, Maersk Oil Kazakhstan and currently Hess Denmark where he is a senior operations engineer. Currently he is mainly focused on well interventions, artificial lift and supervising stimulation jobs as well as being the chairman for the SPE Copenhagen section. ◀





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