INTO THE DEEP

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DeepOcean in pictures
The quarters roll along, seemingly quicker every year. While Q3 has held its share of exciting new developments and a number of significant projects for the company, the market outlook is also changing in the near term. To cap Q3 off the Scots voted not to secede from the UK giving a thumbs-up toward a unified, integrated approach to a stable geopolitical and economic future. Positive announcements for business-spending, stronger currency and stock prices followed.

A great turnout of DeepOcean staff, clients, vessel owner still-walkers and the inevitable bottle of champagne on a well-secured rope, combined to kick off the formal christening on the Deep Helder in IJmuiden. After further mobilisation, the Deep Helder went to work with GdF Suez and then onto air-diving IMR work on the Dutch Shelf – all while attracting enquiries for onward works. Directly out from the 17.4m hull extension and modification works, the Havila Phoenix launched into a trifecta of successful projects: BP Mungo; BP Valhall seismic array and onto Snorre PRM with no gaps between. At one point in May, we had 5 (!) vessels working for BP at the same time. Statoil’s Snorre permanent reservoir monitoring (PRM) system – comprised a large seismic array with more than 500km of cable, 8 subsea structures and flying leads – the installation of which was completed 8 days early due to productivity of the vessel and crew. The Northern Wave then joined the Phoenix to jointly attack the trenching scope. This is the first and very successful use of the new T-1000 trencher on board the Phoenix.

In world news the Costa Concordia has been righted and towed away for ‘decommissioning’ – throughout the process, the ADUS-DeepOcean team providing a virtual image and model of the hull and structure to guide key decisions in the uprighting process. The same team has commenced work to evaluate iceberg damage to gravity based platforms off Russia.

In August, ADUS-DeepOcean completed a detailed survey of the entire Gabbard Windfarm for Scottish and Southern Energy (SSE), giving us the first exposure to showing real windfarm IMR potential. Visualisations of the facilities are shortly to be sent to SSE. The whole of DeepOcean took an hour time-out for safety on June 12th to enthusiastically conduct a major Hazard Hunt. 1250 Cards were submitted to raise awareness and reinforce the ‘Attitude, Courage and Teamwork’ of ACT.

In people-news, as Karl-Magnus Minge takes up the lead role in Brazil, the baton in Aberdeen passed to Merv New, who took over Karl-Magnus’ Aberdeen-remit as well as continuing with his prior role. Merv now represents all business lines of DeepOcean to clients in the local area. This is a good further step in integrating the sales effort across all service lines.

DeepOcean has been in Aberdeen since late 2013, but in a serviced office originally housing 5 DeepOcean employees. In Q3 the numbers increased with the Interconnector-vessel delivery team and as of the end of September, a 7-member team of Integrity Management personnel are all starting with DeepOcean. That team, headed up by John Massie and Stuart Waugh is connected back to the IMR group in Haugesund and brings strong client relationships with oil & gas asset owners in Aberdeen.

To house the increase, we have taken a lease on a new 35-40 space office building located in the midst of Westhill, home to a great number of clients. A formal office opening will follow shortly.

Through an opportunity that presented itself with pressing timing, DeepOcean has acquired its first AUVs which roll directly into a contract with Petrobras in Brazil for autonomous survey work in water depths exceeding 2000 metres. The mother-ship for the first AUV is another addition to the fleet, the Tau.

Client cost-focus is tightening, some of which is reflected in the project activity level in the year ahead. The Brent crude oil price has dropped below $100 per barrel despite various geo-political issues. All this leads to a more competitive landscape for 2015. The approach we need to take is to match our own focus on spending, to keep looking for innovation and smarter ways to do the projects we pursue and to strive to bring all the group’s people together to make the most of all our ideas, our resources and our fleet in pursuing opportunities to help solve client’s problems.

Wishing everyone a successful and productive Q4.

Yours truly

Tony Inglis
Managing Director
DeepOcean UK Ltd.
BICYCLE WORKPLACE OF THE YEAR 2014

Bicycle City - Haugesund - Karmøy, has awarded DeepOcean the price as “The Bicycle Workplace of the year - 2014”

“Sykkelbyen Haugesund-Karmøy” is a cooperation between Statens vegvesen, Rogaland County, Haugesund, and Karmøy whose primary aim is to increase cycling in Haugesund and mainland Karmøy. In this connection “Sykkelbyen Haugesund-Karmøy” has started a cycle campaign, where one company will be selected as “The Bicycle Workplace of the year”. The winner will be the company that in their opinion has introduced the best measures to increase cycling to work.

A jury has now evaluated the feedback, and DeepOcean has been selected as “The Bicycle Workplace of the year”. Congratulations!

“The winner is the workplace that to the jury’s opinion has introduced the best measures to increase cycling to work. The companies that have participated in this year’s cycle campaign have sent in measures that they have implemented to increase cycling. The jury has reviewed the contributions and has concluded that DeepOcean has introduced the best measures to increase cycling. The jury notes that the workplace has put the bike in focus as means of transport to and from work, and also as means of transport for employees during workhours, by purchasing bikes available for employees to use to and from meetings. The jury also finds it very positive that the workplace has a designated person responsible for the “Cycle to Work Campaign”. Measures like discount agreements with bicycle shops, maintenance agreement with the Church City Mission, safety vest and bike light to all employees, and cycle parking available for the employees are emphasized by the jury to select DeepOcean to be “The Bicycle Workplace of the year”.

Read more about Sykkelbyen Haugesund - Karmøy here: http://sykkelbyenhaugesundkarmoy.no/aktuelt/
ADUS DeepOcean is headquartered in Scotland and provides high-resolution interactive 3D visualisation tools for use in the oil & gas, renewables, decommissioning and marine salvage markets.
The company was originally founded by archaeologists Mark Lawrence and Martin Dean at the University of St Andrews, and digital 3D animation expert Chris Rowland at the University of Dundee. The company was ‘spun out’ from the Universities in 2008 and subsequently joined by businessman Aubrey Thompson. In 2013 DeepOcean UK, the subsidiary of DeepOcean Group Holding BV, acquired a 50% interest in ADUS to form ADUS DeepOcean Ltd. The team now includes Stuart Leather, Gabriel Walton, Aart Van Kerkwijk, John Anderson and Dylan Gauld, with Dylan and John working in the 3D visualisation laboratory run by Chris Rowland at the University of Dundee. Bart Heijermans, Nolan Gray and Tony Inglis sit on the company’s board along with Mark & Aubrey.

ADUS DeepOcean has established itself as the world leader in shipwreck survey and visualisation, working for international salvage companies and government agencies, on large-scale wreck removal and monitoring projects since 2006. Such wrecks often present significant environmental hazards or are a danger to shipping. More recently ADUS DeepOcean’s work has expanded to include the visualisation of a variety of other manmade structures subsea, which require detailed investigation and monitoring, such as oil & gas seabed infrastructure, and offshore renewables assets; in fact ADUS DeepOcean have recently won a contract to survey all in field assets for SSE’s Greater Gabbard Offshore Wind Farm.

Previous high profile surveys have included that of the sunken Deepwater Horizon oil rig in the Gulf of Mexico, which lies at a depth of 5000ft, and was the cause of the largest oil spill in US history, and the Costa Concordia in Italy using both laser and sonar (subsea) and mobile laser (in air) in support of the ongoing wreck removal operation by joint venture Titan Micoperi.

Of interest to those engaged in subsea operations is that unprecedented levels of detail can now be obtained on structures almost regardless of depth, utilising recent advances in high frequency multi-beam sonar technology and also subsea laser, combined with improved positioning capabilities and the unique methodologies and visualisations developed by ADUS DeepOcean.

A precise assessment of the damage sustained on the starboard side of the Costa Concordia was possible as a result of the ADUS DeepOcean survey conducted immediately after the ship was pulled upright in September 2013, an event which was covered by the world’s media. The survey comprised three data sets from the three different pieces of survey equipment deployed from a ‘multicat’ survey vessel. Surface (topo) laser was used to collect data from the water line to the top of the wreck, subsea (blue) laser was used to collect data on the starboard side from the waterline down to a depth of 11m and sonar was used to collect data from 7m below the surface up to and including the seabed.

More in line with the current direction of the company in the oil & gas sector, ADUS DeepOcean have recently been in discussion with an energy company about the assessment of ice-induced abrasion on concrete legs of gravity-base production platforms. The engineering requirement was to measure abrasion scars to a tolerance of 20mm. A survey methodology was required that meets this tolerance, both above and below the water line to ensure that all abrasion effects are identified throughout the ice impact range.

In consideration of these requirements, and growing demand for ultra high resolution (sub-centimetre) more generally amongst existing clients for inspection maintenance and repair protocols, ADUS DeepOcean have recently undertaken a series of trials in order to quantify the resolution achievable.
for dynamic surveys (i.e. from a moving vessel or ROV) using terrestrial and subsea lasers.

Lasers were used to image and measure a concrete target (in air and then subsequently underwater) with calibrated indentations and deformities of known dimensions designed to simulate ice scarring. Orkney was chosen as a venue for the trial because of its facilities and the underwater visibility, which is a requirement for the subsea laser ranging system used.

The aim of the trial was to quantify the minimum size of indentation on a concrete surface that could be imaged and measured using the most advanced technology that is available to the industry, and utilizing different high end positioning solutions to ensure data integrity within the vicinity of platforms.

The results of the trials in Orkney showed that sub-centimeter resolution can be achieved dynamically using subsea laser systems (i.e. deployed from a moving survey vessel in this instance). Scarring and surface defects of less than 20mm could be identified, which although were achieved under favourable trial conditions, bode very well for future applications in various sectors, especially inspection requirements in the oil & gas sector.

The results were repeatable using alternative positioning systems geared for surface oriented survey. The next phase of trials will be transferring the subsea lasers to ROVs and utilising metrology level positioning systems to achieve similar results at much greater water depths.

Although the company originally grew its business surveying shipwrecks for the marine salvage market, the methodology and technology developed is directly applicable to other subsea industry sectors where effective management of subsea assets has a valuable role.

Information derived from standard hydrographic surveys or video footage is readily available to those engaged in asset management but often lacks detail or is not metrical in nature. So, in ‘asset management’ terms the value of high resolution metrical data subsea is significant, allowing a precise and measurable ‘snapshot’ of the asset to be created at a point in time, with an ability to easily derive accurate measurements directly from the data. This can then provide an effective means by which change over time can be assessed - a fundamental in terms of successful asset management, and essential for the purposes of informing subsequent intervention strategy in the renewables and oil & gas sectors in particular.
The value of high resolution data subsea is also apparent in the creation of ‘As Built’ plans where none exist, of particular interest for oil & gas ‘extension of life’ or modification projects. Recently ADUS DeepOcean was presented with some 3rd party sonar data acquired on an older oil & gas asset for which no detailed 3D design drawings or plans were available to the client. ADUS DeepOcean re-processed the data and created an interactive visualisation to allow the detail of the structure to be clearly understood by the viewer. Utilising this and also ROV footage of the structure, a precise 3D surface model, created in industry standard format, was made to fit the point cloud dataset exactly and even printed out in 3D. Such models were valuable in the subsequent modification procedures, reducing the risks associated with having little, no or inaccurate data.

ADUS DeepOcean have an ongoing R&D programme based at Dundee University and are continuing to exploit advances in visualisation technologies specifically for the benefit of oil & gas and renewables sectors. Further information can be found at www.adusdeepocean.com.

Author: Mark Lawrence MPhi Managing Director ADUS DeepOcean
OUR CURRENT OPERATIONS

A DEEP HELDER
C GDF SUEZ NL / DONG DENMARK / NO / DK
P SURVEY

A MAERSK RECORDER
C BIBBY
P MAERSK TYEASE VALDEMAR BA
- INSTALLATION & TRENCHING / DK

A NORTHERN WAVE
C STATOIL
P SNORRE CABLE TRENCHING (2014 SCOPE) NO

A NORTHERN SUPPORTER
C PETERSON UNTIL 1ST OF OCT.
P IDLE IN ABERDEEN

A NORTHERN COMMANDER
C STATOIL
P OFFSHORE SUPPORT / NO

A DEEP VISION
C NORDSTREAM
P SURVEY & INSPECTION

A REM FORZA
C TALISMAN
P TALISMAN 2014 INSPECTION & SURVEY CAMPAIGN / NO

A EDDA FLORA
C SHELL
P SHELL GREENLAND / ARTIC

A EDDA FAUNA
C STATOIL
P IRM / NO

A EDDA FONN
C STATOIL
P IRM / NO

A VOLSTAD SURVEYOR
C STATOIL
P SURVEY

A REM OCEAN
C STATOIL
P IRM

A HAVILA PHOENIX
C STATOIL
P SNORRE - CABLE INSTALLATION 2014

A ARBOL GRANDE
C DIAVAZ/PEMEX
P IRM

A ATLANTIC CHALLENGER
C DIAVAZ/PEMEX
P IRM

A DEEP ENDEAVOR
C PETROBRAS
P IRM

A CBS ISABELLA
C PETROBRAS
P IRM
DeepOcean operations continue around the world, with projects since the last newsletter performed in the Gulf of Mexico, Brazil, the Greater North Sea, Africa, Middle East and the Far East. Operations included IRM, Survey, Subsea Installation, Construction and Trenching for a range of customers, including a number of long term contracts.

**Havila Phoenix**
- Preparing for Valhall LoFS (BP) which commences end of May and moving onto Snorre (Statoil) end of June. (North Sea)

**Northern Wave**
- Preparing for offshore wind farm related trenching project which commences in May and moving onto Snorre (Statoil) in July. (North Sea)

**NEW VESSEL JOINING THE DEEPOCEAN FLEET IN 2014:**
- **DEEP HELDER** - Survey, IRM & Trenching.

**KEY**
- A = ASSET
- C = CLIENT
- P = PROJECT
CHRISTENING OF DEEPHELDER
The Deep Helder is the latest addition to the DeepOcean 19-strong fleet of vessels. Small, compared to her sister vessels, but versatile as we understood from our customers. One client described her as being like a ‘Swiss pocket knife’.

The 65m long dynamically positioned vessel is designed for low fuel consumption, clean ship/green passport/SPS2008 and high comfort class notation (Comf1). The vessel is equipped with an offshore crane, Survey and ROV systems. A total of 50 personnel can be accommodated on the vessel. The vessel will be operated from the DeepOcean Den Helder office, as our Dutch clients were pleased to hear. DeepOcean Den Helder employs an experienced group of people, which has almost doubled in size over the past 18 months. One of our Dutch clients said: “It is good to understand that the vessel operations, data processing, charting and reporting will be run from Den Helder, it is good to have your data close with experienced personnel”

A fantastic day was had by all, there was sunshine, a little bit of rain, an excellent entrance, guided tours, speeches, the famous bottle of champagne, more speeches and a “behouden vaart” to name but a few highlights. Almost 200 guests arrived in IJmuiden, including many clients from Holland, the UK, Switzerland, Russia, Norway, Germany, Denmark, Ireland, Belgium and Italy.

Employees, relatives, shipbuilders, engineers, captains, crew, sub contractors, owners, surveyors and colleagues from Haugesund, Darlington, Amsterdam and Paris completed the party. Following on, thanks were extended, we had a bite to eat, some drinks, some dancing, excellent music, and we celebrated until the small hours of the morning.

We are very proud to welcome the Deep Helder to DeepOcean. By the time this article is published in our newsletter she will have sailed form port working on a project. We wish her many safe voyages and projects.
With attendance of the Mayor of Stavanger (and Randaberg) who gave a welcome and nice touch of ceremony an otherwise informal gathering of key clients residing in the Stavanger area. I was surprised by the strong level of attendance and interest in the speeches from Bart describing our achievements and aspirations; this is a direct reflection on the value our clients see in us. Mads in his usual style was able to make a concise definition of our intent with the new office: A) Closer to our clients B) tapping in to the Competence and expertise that is found in the Stavanger area and C) adding further Capacity to DeepOcean for our ambitions for growth. We had more than 35 clients joining us for refreshments and food in town later, and it is testimony to the relaxed and friendly culture of DeepOcean that they were still present and wanting to party with us when the bar was closing!! The office location is centrally located and with very modern facilities will make for a great working environment. The intention is to grow the office to a staff of approximately 30 but with only 3 there for now there is more than adequate space. We welcome any and all visitors to bring our new office to life.

Author: John Baxter SURF Director
DeepOcean will be present at various exhibitions and conferences in 2014.
We are planning stands at the following events:

**Offshore Energy**
Amsterdam 28th to 29th October

**Offshore Power Cable Engineering and Reliability Forum**
Hamburg, 2nd -3rd December
Andy Readyhough, Senior Business Development Manager will be presenting on cable installation practices and the challenges within the Optimal Cable Installation Strategies section, naturally focussing on the innovative features of our interconnector vessel.
NOR-OCEAN SAILCUP

On Thursday 4th of September 10 representatives from various departments in DeepOcean were present in Oslo for a day of seminars and sailing in the Oslofjord.

The day started off with an “Offshore Mexico” seminar with speakers ranging from Rystad Energy with their thorough analysis of the oil & gas markets in the coming years in Mexico, to the Mexican Ambassador in Norway giving a presentation on the new legislations for the industry.

After the seminars, the time had come for the Nor-Ocean Sailcup, with 16 boats competing for the trophy. Other teams were from the likes of Island Offshore, Solstad Offshore, Arctic Securities, Kongsberg, Ulstein, Rolls-Royce and Aker Solutions.

A racecourse was set, and 4 “heats” were carried through in unseasonally summerly 20 degrees, sun and 20 knot winds. DeepOcean also had one representative onboard the all-girl yacht, skippered by Olympic Sailing Champion, 2-times World Sailing Champion and European Sailing Champion; Ms Siren Sundby.

Everybody got to test their sealegs, and some had firmer legs than others (the all-girls boat even encountered a “woman-over-board-incident”), but it was all smiles when the racing was over, and the after-sails seafood buffet kept everybody’s smiles on until late into the night.
FIRST-PLACE TEAM: The Kongsberg Maritime boat
- Gunnar Thorsen, Kongsberg Maritime vice-president offshore
- Halvard Foss, Kongsberg Maritime regional manager
- Leif Kristian Weum, Kongsberg Maritime vice-president sales
- Bjørn Johan Trothoel, Kongsberg Maritime regional manager
- Finn Amund Norbye, Deep Sea Supply chief executive
- Johannes Eldey, Salt Design project development director
- Peter Sutherland, Daya Offshore project manager
- Terje Wang, GranSail chief designer

SECOND-PLACE TEAM: the Vard/Huisman boat
- Roy Reite, Vard Group chief executive & executive director
- Bjørnar Almestad, Vard Group senior-vice president
- Rolf Normann, Fred Olsen Ocean chief executive
- Mads Malting, Days Offshore project manager
- Joop Roodenburg, Huisman chief executive
- Jan Atle Andresen, Huisman business development manager, drilling
- Geir Bjørkeli, Huisman regional director, Norway
- Eivind Wiik, Arise Drilling chief executive
- Johan Boer, BigRoll Shipping commercial director

THIRD-PLACE TEAM: the Arctic Capital boat
- Lars van Geuns, Maersk Capital offshore investment analyst
- Koen Munniksmá, Maersk Capital investment manager
- Johan Nilsen, Buksér og Berging (B&B) managing director
- Vetle Sverdrup, Buksér og Berging (B&B) chief operating officer
- Nicolai Loretzen, Lorentzen Skibs owner
- Lars Lydahl, Rystad Energy project manager
- Stig Edwardsen, Arctic Capital senior partner
- Martin Solem, Arctic Capital senior partner

PLACEMENT RESULTS BY BOAT:
1 Kongsberg
2 Vard/Huisman
3 Arctic Capital
4 Ulstein Verft
5 Nor-Ocean 1
6 Arctic Bonds
7 Nor-Ocean 2
8 Deep Ocean
9 Nor-Ocean LLC
10 BA-HR lawfirm
11 Island Offshore
12 “Girls” team
13 Rolls Royce
14 Reach Subsea
15 Arctic Corp.
INTO THE DEEP

PEOPLE

ASTRID BEATHE NOSS, Payroll Responsible Marine.

REIDUN NORGENES, Accountant

ELIN EIKEVIK NESHEIM, Accountant

BERIT HAGLAND, Project Manager

HEGE HELLEBERG ROVIK, Purchasing Manager

HILDE SOLBERG, Commercial Co-ordinator
RUNNING

- and having DeepOcean FUN at Bislett Stadion in Oslo!

In the beginning of 2014 a small group of women in DeepOcean AS, Haugesund started talking about joining KKMILA in Oslo in September.

In our daily work we tried to plan to have as many as possible to join in on the event for a weekend in Oslo and KKMILA.

We would like to join to make it a win / win situation both for our own health and keeping up a positive attitude at work!

The KKMILA race has been arranged the last 3 years and you can choose to run 5KM or 10KM. The race is for women in all ages, and both for professional runners and people keeping their running on track, and to keep in shape!

Finally, first weekend in September and Saturday 6th of September our race day was finally here and we were all exited to travel and all looking forward to run!

Approximately 6500 woman started the race, they were absolutely all over when we entered Bislett Stadion! The weather was just amazing with around 24 degrees and sun, and luckily before we started running, some clouds appeared. Some of us ran 5KM and some ran 10KM, and after entering finish line you got champagne and good bag, well done!

Woman from all over Norway joined in for the warm up before the race, and a woman from United Kingdom was interviewed on stage, she had been travelling from UK just to join this race in Oslo, Norway!

We talked about this event being a positive and social activity across the organization and spending time off work in a sporty atmosphere was perfect in every way!

Some of us are already planning our next running race and some have already participated in a running race after returning to Haugesund.

It’s all about attitude- to keep it up and keep moving!

For those of you that would like to have more details please check out this event for 2015 http://events.allerno/kk-mila/

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THANK YOU TO ALL DEEPOCEAN EMPLOYEES WHO CONTRIBUTED TO THIS EDITION

Please send input for consideration to your local HR/Communications team or directly to Hilde Solberg.

www.deepoceangroup.com