

INFIELD SYSTEMS REVIEW NORTH SEA WELL INTERVENTION MARKET

Infield Systems' **Bent Mathisen** speaks with
Tommy Angell of Offshore Network



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Introduction:

Well intervention projects remain a top fiscal and operational priority for operators in the North Sea. To borrow a well-used phrase, “the days of easy oil are over.” Well intervention has become a critical feature of the future profitability of brownfield assets as operators seek to extend economic production for as long as possible.

Operators are developing programmes to ensure that mature wells retain economic recovery rates and maintenance work is executed to ensure integrity. This activity is driving growth and the global intervention and work-over market is set to increase from an estimated value of \$9.97bn to \$17.48bn in 2018.

However, to realise this market potential, new innovative, cost effective technologies and processes must be developed to compliantly increase recovery rates and extend the life of aging wells. With an efficient well life plan which includes intervention activity, recovery rates can be dramatically improved.

In particular, there is a strong need for new intervention vessels. With over 1400 vessel days being booked in Europe this year, the demand for purpose built vessels, including semi-submersibles, which offer a more cost effective option than the traditional drilling rigs is high.

To address some of these issues Offshore Network spoke with Infield Systems’ Senior Advisor for Strategy Bent Mathisen. Together we detailed several of the main topics, themes and considerations that are critical to the North Sea well intervention industry.

I hope this report aids your North Sea well intervention strategy.

Tommy Angell

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Offshore Network: *What do you consider to be the key drivers for increasing levels of well intervention in the North Sea?*

Bent Mathisen : As the North Sea is a mature basin, there are a number of specific elements that compile to increase the levels of offshore well intervention in Europe.

The first area to draw attention to would be the subsea wells as the recovery rates from these assets are low, especially in comparison to dry trees. Statoil has a specific strategy to approach this challenge and are devising ways to increase subsea recovery, however this is not common place and wider use of subsea intervention techniques are key to secure higher rates of recovery.

In conjunction with this the aging subsea infrastructure in the North Sea will require more intervention to carry out light works such as removing sand, scale or wax precipitates as well as heavy duties such as re-drilling of side tracks and Christmas tree change-outs. Statoil have stated that they plan their programmes based on an intervention every four years per well.

Secondly, the general growth of deepwater is a key driver. As operators push into deeper environments, and/or look towards satellite wells and tiebacks there is a natural need for well intervention services.

Finally, the cost of well intervention has been reduced over the past year mainly due to decreased utilisation rate for rigs. Under a period of uncertainty it is preferable to maintain or increase production of existing wells instead of exploring Capex-intensive new discoveries.

Offshore Network: *What do you believe are the key challenges facing North Sea well intervention?*

Bent Mathisen: Operators generally prefer to run subsea well projects from a rig. A rig offers a broader set of capabilities than, for example, an LWI vessel. Although these vessels are great at what they do, they may not offer the flexibility to perform side-track work or remedial jobs. Due to this, although the cost is higher for a rig, often there is not a suitable alternative for the range of work needed by the operator.

INFIELD SYSTEMS REVIEW NORTH SEA WELL INTERVENTION MARKET

Also in the current market environment rig rates are dropping at a fast pace, which makes rig based intervention more cost competitive in comparison to vessels - although it must be noted that the LWI vessel rate is falling as well.

Currently the diving oil price is probably the main challenge for North Sea well intervention as it limits the amount of new developments and makes oil companies look everywhere to cut cost. On the other side, repair and maintenance is usually an economical way to increase production.

Offshore Network: *Infield Systems recently conducted a subsea well intervention vessel study – can you advise the findings of this report and what this means for the industry?*

Bent Mathisen: The vessel demand for subsea well intervention is certainly a critical issue for the North Sea industry. Currently there is a mix of drilling units, LWI specific vessels and other DP vessels in use - however the increasing deepwater trend and the need for lower cost options has developed some interesting patterns.

Without being difficult, I would like to save the findings for my presentation at OWI 2015 on April 15th. I will detail the above and show the relevant supporting information from Infield Systems.

(For more information on the Offshore Well Intervention Conference Europe, [click here](#))

Offshore Network: *The rising demand for well P&A will increase intervention activity over the next two years – could you share your thoughts on how the well P&A market will impact the North Sea industry?*

Bent Mathisen: P&A is not the only discipline which is growing. Late life production, life extension and other integrity lead work is also on the rise and should be given fair attention. Extending the life of an asset can be relatively cheap in comparison with new drilling projects and the cost per barrel can be justified in place of new field developments, but oil companies seem reluctant to spend money on this unless there is a high enough oil price.

INFIELD SYSTEMS REVIEW NORTH SEA WELL INTERVENTION MARKET

Offshore Network: *Are there any specific knowledge or technology gaps that you believe are necessary to address in order to increase offshore well intervention efficiency?*

Bent Mathisen: My understanding is that the industry needs to develop low cost methods for well intervention/sidetracks, subsea and sub-ice drilling as the developments move further North. Drilling and completion in salt formations will also be an important development to increase well intervention efficiency globally.

I think it is important that the industry identifies and prioritize intervention technology gaps through analysis and discussions. We all know that subsea wells are less efficient than sub-surface wells, as such, the key for the industry is to find ways where these wells can be as efficient as sub-surface wells. Not only will that lead to more oil production per well, which is obvious, but it will also lead to more subsea wells being drilled, because as utilisation grows, more subsea fields (and wells) will become economical.

If we are able to improve intervention technology such that we can improve recovery and enable for reliable low cost intervention, more focus will be put on development of intervention technology.

At the moment however, the industry needs to ensure that young people continue to educate themselves towards a career in the oil and gas industry. With numerous companies laying off people, the prospect for the industry does not look good. I remember when I started in the industry in 2006 there was a lot of talk about having lost a generation because the downsizing and lay-offs in the late 90's, which then again was indirectly responsible for the spiralling costs we saw from 2004 to 2008, we risk this happening again.

INFIELD SYSTEMS REVIEW NORTH SEA WELL INTERVENTION MARKET

Offshore Network: *In conclusion, would you like to share any additional thoughts about the North Sea industry in general?*

Bent Mathisen: I have been concerned about the cost escalation in the North Sea market for a few years now; unfortunately the focus just came about last year, slightly ahead of the huge drop in the oil price. When service companies act more and more like oil companies in their internal spending that is a bad sign in my view, and I think we have seen some of this over the last few years.

Still I believe that there is a role for the North Sea market, not the least because of its implications on the rest of the world, and then I am talking about the safety and environmental culture we have in the North Sea, which seems to set precedent for other regions.

My experience is that there is a good communication between oil service and oil companies and this should lay the foundation for a continued strong North Sea market, we just have to keep focus on cost and avoid being extravagant.

If the industry addresses cost and focuses on spend, rather than profit, there is every chance more work and higher recover can be achieved.

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Bent Mathisen : Bent Mathisen is a Sr. Advisor for Strategy within Infield. Before Bent joined Infield Systems he worked eight years for Subsea 7. The first five and a half as a Senior Market Analyst and Specialist. The last two and a half years were spent working on strategy.

For a period while working in Subsea 7, Bent published a monthly column on the development in the Oil & Gas industry worldwide for Petro Media. Bent have held numerous internal, and some external, presentations on the Macro economy and its effects on the Oil & Gas industry, as well as writing several internal reports. Before Bent joined the Oil & Gas industry he held roles such as Editor in Chief, Morningstar Norway, Finance Manager in Aal county and Financial Advisor.

Bent holds a MSc. in Finance from the University of Wyoming and a CFA from the Norwegian School of Economics.

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