Opportunities and Challenges on the NCS – A Service Industry Perspective

ONS 2016, August 30, 2016 | Luis Araujo, CEO, Aker Solutions

Slide 1

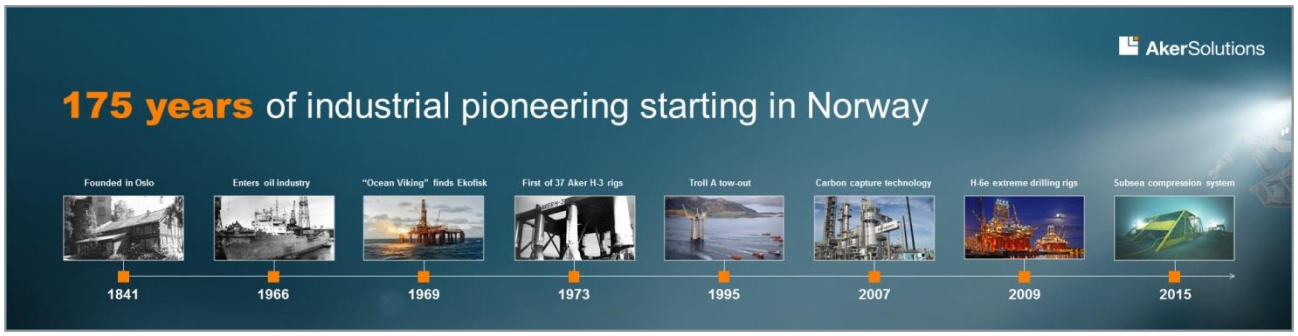
Ladies and gentlemen. Good morning. Thank you for the opportunity to speak here today at this pivotal time for our industry.

The video you just saw is part of the new vision we have introduced for Aker Solutions.

- We aim to be a leader in forging a sustainable future.
- We will find the best solutions to bring down costs, boost efficiency and create value, always putting safety first.
- We will develop technology to minimize the environmental footprint while helping to meet global energy needs.
- And we will contribute to a positive development of the communities where we operate.

Now, more than ever, we need to take these steps, individually as companies and collectively as an industry.

Slide 2



So why am I, a Brazilian, here today to represent the Norwegian supplier industry?

Aker Solutions has charted 175 years of Norwegian industrial history.

We were here at the start of the oil age and we expect to be here at the end, many years from now.

In fact:

- We built the rig that discovered Norway's first oil field in 1969.
- And we've been involved in about 80 percent of field developments on the NCS.

Norway is a crucial market, not only for its resources, but as the cradle of our creativity and innovations. While we are a global company, key technology we are advancing is being developed right here in Stavanger – well, also in Bergen, Trondheim and Oslo.

Much of Norway's success as an oil nation is due to its predictable and stable regulatory framework and incentives.

There has also always been a spirit of collaboration within the industry and with the authorities.

This has helped make Norway a leader in setting industry standards with the newest technology and the highest focus on HSE and the environment.

The NCS has long been a testing ground for technology for floating production, subsea systems and drilling to mention some key areas.

We are now exporting this technology all over the world.

Our experience in developing offshore fields in demanding geology and harsh conditions is all the more valuable as the global industry moves into an era of declining production at maturing fields, increasingly complex reservoirs and deeper waters.

We must now build on these advantages to make sure Norway remains competitive and a global reference point for safe and sustainable oil and gas production.

Today we are acting individually as companies to tackle the challenges: cutting costs, working leaner and even forming new alliances.

But we at Aker Solutions argue, and I know many agree, that this is not enough.

We need much stronger industrywide cooperation and leadership on a wide range of issues to cope with an uncertainty that will be with us for the foreseeable future and to ensure a sustainable development of our industry.

Slide 3

So what can we do?

Despite the challenges, I am optimistic, for Aker Solutions and the industry.

Data we have compiled shows we can achieve significant improvements in three main areas:

- **One:** Operational excellence and leaner processes
- **Two**: Standardization, industrialization and predictable volumes
- **And three:** New technology and innovation

Slide 4

At Aker Solutions improvement starts at home.

We work diligently every day to become more efficient and continuously improve our performance.

We last year introduced a companywide program called #thejourney.

It targets an improvement in cost-efficiency of at least 30 percent across our business.

Yet #thejourney is more than a cost-savings goal. It is about changing how we work to be more competitive as we build a culture of continuous improvement.

We are simplifying our methods, our organizational set-up and our geographic footprint**.** We are also standardizing our products and services.

This is giving us leaner processes, reducing the costs of our projects and products while boosting quality and safety.

These efforts are progressing well, supporting our margins and also showing in the work we do with customers on projects.

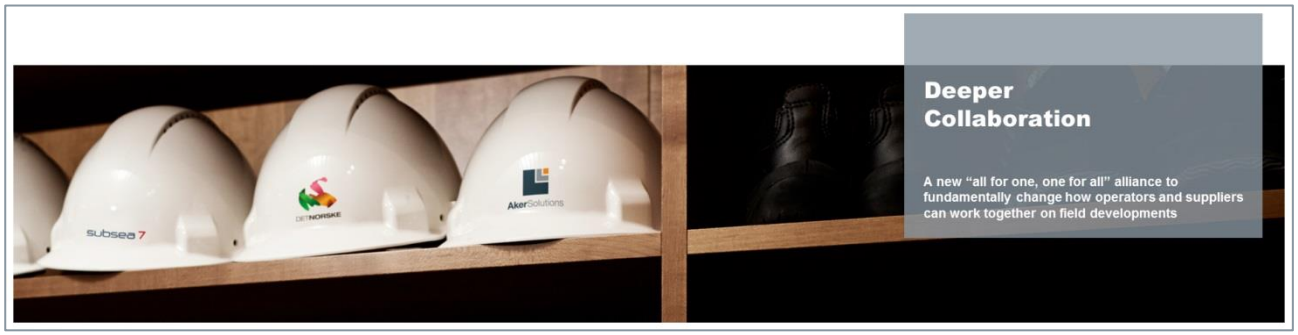
Slide 5

As an example, here in Norway I would point to our involvement in concept studies at the two Johans: Sverdrup and Castberg.

Our efforts and close cooperation with the customer Statoil have been instrumental in lowering the fields' development costs by as much as 50 percent in some cases.

This approach will be key to getting new projects sanctioned on the NCS.

Slide 6



We are also exploring even deeper collaboration with another client, Det norske, and with our peer Subsea 7.

Together we are forming a new alliance with an "all for one, one for all" mindset – though we are only three musketeers.

This will introduce a new way of working on Det norske's Norwegian subsea developments to find the most effective solutions.

It will combine Aker Solutions' experience in front end engineering, modifications and subsea systems with Subsea 7's SURF capabilities and Det norske's E&P know-how.

We see this as fundamentally different because:

- Project management is fully integrated with experts from each company.
- They will work together on different projects ensuring continuity and continuous improvement.
- This will drive reuse of solutions and technology.
- We also avoid duplication of resources between the operator and contractors.
- And each party shares both risks and rewards.

We see this as a new and exciting way of working together, as operator and suppliers, with many potential benefits.

Slide 7

We must also get better at learning from other industries and the key takeaway here is: standardization.

There are many cases right now of improvement efforts at individual companies and projects across our industry.

But there are far fewer examples of applying experience from one company or project to many.

We see standardization as key to bringing down costs industrywide.

It can be done through scale, repetition and industrywide standards.

Scale puts us in a position to achieve lower unit costs through the entire value chain from supply to manufacturing.

The bigger the project the more solutions can be repeated. And we can deliver large volumes at lower prices.

A good example is the 14-billion krone contract we have with Total for the subsea production system for Angola's giant Kaombo development. The subsea tree we're making for Kaombo here in Norway basically replicates one we developed for Moho Nord, another field operated by Total.

At the UK North Sea Kraken development we are reusing solutions put in place for another client on a previous project.

This type of reuse enables us to significantly cut engineering hours and lead times while strengthening processes and quality.

But it can only happen on a wider scale when the industry stops customizing projects and focuses on solutions that can be modularized and repeated.

Of course we won't see the full benefits of standardization until we all agree on industrywide standards.

Let's look at Norway:

- While we are hard at work to reduce this, a new offshore production platform today requires about 10 times more documentation than it would in the 90s. And they aren't that different.
- We currently use 15,000 different fasteners in our products because each customer has its own specifications. Standardization could reduce this to 1,500.

The examples are many and all-too familiar. But the bottom line is: this lack of harmonization drives up costs and prevents us from fully standardizing our products and services and making the changes we need.

Slide 8

But the greatest potential for improvement will come through new technology and innovation.

While I am proud of my company's ability to innovate, we know that collaboration will be crucial also in this area going forward.

We have formed a number of key partnerships recently to build on technological advancements and fill in gaps to create the next generations of subsea systems.

Slide 9

One of these partnerships – with MAN Diesel – is building on the technology developed for the world's first subsea compression system which went on stream last year at Statoil's Åsgard field.

This was truly revolutionary. It will help recover another 306 million barrels of oil equivalents more cheaply, safely and with a smaller environmental footprint than a traditional platform.

Now, with MAN, we are developing the next generation in these systems. We expect to cut their size and weight by at least 50 percent**,** enabling us to place one compressor train into a standard North Sea template instead of the much larger structure used at Åsgard. This will greatly reduce capex and installation costs.

And in another collaboration – with ABB – which also worked with us on Åsgard, we are enhancing how subsea production is powered and controlled from the shore or from platforms. We expect this to lower costs and enable development of reservoirs farther offshore from existing infrastructure. This includes the Barents Sea, which is estimated to hold about half of Norway's undiscovered oil and gas reserves.

Slide 10

Of course we also look for potential outside the subsea area.

Together with Det norske we are developing new digital capabilities to help with field developments.

A key objective is to model, simulate and evaluate solutions at a very early stage to generate and optimize development concepts more efficiently, quickly and accurately.

The goal is a fully automated process that carries the concept through all phases of a development, a continuous digital thread that cuts time.

We also target greater information sharing. This will enable previous solutions to be used on new projects, promote leaner workflows, strengthen collaboration and reduce the risk of mistakes.

Just imagine if we were to establish a similar system for sharing field development solutions and experiences on the NCS?

Slide 11

Technology will also be key to tackling climate challenges and fulfilling Norway's goal to become the world's most environmentally friendly petroleum region.

We have developed carbon capture technology to limit emissions from our industry and help us reach global climate targets set in Paris last year.

Our technology has been successfully tested, most recently at Norway's largest waste-to-energy plant, and is generating major interest internationally.

So many exciting developments that make me optimistic for our industry.

Slide 12

Finally let me emphasize that the improvements I've outlined today can be achieved on an even greater scale and this is where the real opportunity lies.

But this won't happen as long as our main focus is on how each company can bring down its own procurement costs.

It also won't happen through only minor changes in the interaction between customers and suppliers.
To make a difference we need a major leap forward in how we work together as an industry.

One: We need an open and constructive dialogue between customers and suppliers so that we understand each other's drivers and the cost benefits.

Two: We need innovation that fits our needs and a focus on developing the breakthrough technology that will change how we work for the better.

Three: Standardization is a must wherever possible. We need to stop reinventing the wheel.

Four: We need to move toward industrialization so that we can develop sustainably.

And five: We need to ensure there's a diverse and competitive environment on the NCS with a continued stable framework and good workflow that attracts investments, cultivates innovation and safeguards the value chain.

Right now it's critical to sanction new projects, find more resources and boost profitability on the NCS. Achieving this rests on our ability to collaborate as suppliers, operators and authorities. With the opportunities and challenges we face it has become even more important that we work together to find the right solutions to make our industry stronger and sustainable.

Thank you for your attention. I'm happy to take questions.

ENDS