Tailor-Made Environmentally Acceptable Lubrication Solutions for the Oil & Gas Industry

Patrick Kostelijk, Sales Engineer Marine & Offshore at Van Meeuwen Lubrication, has more than 30 years of experience in this sector and holds a Bachelor of Science degree in Oil & Gas Maintenance Engineering. For him, trust is one of the most important principles in doing business.

"The world of lubrication is undergoing major changes. That makes it more important than ever for companies to have access to a technical knowledge centre like Van Meeuwen Lubrication. A partner they can trust to provide the right answers and expert lubrication advice."

Growing demand for environmentally acceptable lubricants

"Mineral oils have traditionally been widely used throughout the Oil & Gas industry. However, there is an increasing demand, and in many cases a requirement, to use environmentally acceptable lubricants in applications where there is a risk of environmental contamination," Kostelijk explains.

"Environmentally acceptable lubricants have been available for more than 25 years. In the early days, many of these products were based on vegetable oils, which were often less suitable for high-performance and heavy-duty applications. As a result, some misconceptions still exist today. For example, some people assume that biodegradable lubricants start breaking down immediately. In reality, biodegradation occurs when the lubricant is exposed to suitable environmental conditions, such as soil or water containing micro-organisms."

The rise of high-performance EALs

Kostelijk prefers the term high performance Environmentally Acceptable Lubricants (EALs). According to him, the performance of these products has improved dramatically over the years.

"Today, we work with fully synthetic lubricants whose formulations can be tailored to specific operating conditions and applications. In many cases, modern EALs can match or even outperform conventional mineral oils. Because the formulation can be adapted to the exact requirements of an application, you know exactly what you are putting into your equipment."

"The main perceived drawback of environmentally acceptable lubricants is their purchase price. At least in the short term."





High-performance greases help protect heavily loaded gears while reducing wear and lubricant consumption.

Looking at the bigger picture

That is why one of Van Meeuwen's daily challenges is helping customers look beyond initial costs.

"We encourage customers to focus on the total cost of ownership and the bigger picture," says Kostelijk. "EALs are designed for applications where environmental regulations or environmental performance requirements play an important role, while also providing benefits for the equipment itself.

"Maintenance costs are generally high, and finding qualified maintenance personnel is becoming increasingly difficult. The longer a lubricant continues to perform effectively, the longer maintenance intervals can be. Ultimately, that also

contributes to a healthier bottom line."

More performance with less lubricant

Van Meeuwen aims to make a real difference in this area.

"We always look at the added value we can provide. We do not want to offer a product that is simply as good as a traditional lubricant. We constantly challenge ourselves to find out how we can do better."

"Creating more impact with fewer resources is our goal. We aim to minimise lubricant consumption by focusing on high-quality oils and greases that deliver reliable performance over longer periods of time."

Proven performance

That approach is delivering tangible results. During his more than seven years at Van Meeuwen, Kostelijk has seen a significant increase in the adoption of EALs.

"When I started, it was still very much pioneering work. Today, EALs are becoming mainstream and, in many applications, have already become the standard."

"When it comes to generating clean energy, the technologies that support it should be clean as well. The entire value chain is increasingly focused on reducing environmental impact and meeting stricter environmental standards."

According to Kostelijk, practical experience plays a key role in that transition.

"It also helps that we can now demonstrate proven performance. We can confidently present business cases where the same environmentally acceptable oil has been operating successfully for more than ten years. The systems remain in excellent condition and oil analyses continue to show outstanding results."

"These real-world examples help remove doubts companies may have when considering a transition to EALs."

Independent expertise and leading brands

Kostelijk advises organisations considering the transition to EALs to seek specialist guidance.

"We excel in technical advice and operate as an independent supplier. Our portfolio includes leading brands such as Shell PANOLIN, BIOMAX™, LUBCON and Bel-Ray. This allows us to select the solution that best matches both the application and the customer's specific requirements."

"Our own Green Point® lubricants are also part of our environmentally acceptable product portfolio. They have been developed with a focus on performance and applications where environmental requirements are important.

"In my seven years at Van Meeuwen, we have never encountered an application for which we could not find a suitable solution. I am confident that the same applies to our Technical Director, Taco Mets, who has more than 35 years of experience in this field. There are simply so many possibilities."

A bio-based solution for jack-up vessels

No two applications are identical. Every situation requires a careful assessment of operating conditions, equipment design and lubrication requirements.

Jack-up vessels are a good example.

"These vessels require enormous quantities of grease. In the past, consumption levels of tens of thousands of kilograms per year were not uncommon. Naturally, you want to prevent as much of that lubricant as possible from entering the marine environment."

"That is why we developed a high-performance grease that meets the relevant industry requirements and is certified according to recognised



Tailored lubrication systems support reliable performance and longer maintenance intervals.

environmental standards. At the same time, it delivers a significant reduction in maintenance costs."

"Compared with conventional products, customers have reported grease consumption reductions of 30% or more, while also experiencing lower wear rates. We have now been successfully applying this solution in the market for around eight years."

Heavy loads and challenging weather conditions

Machinery and equipment used in the Oil & Gas industry operate under extremely demanding conditions. Lubricants and lubrication systems must withstand exposure to both fresh and salt water, while also coping with rapidly changing weather conditions, from heavy rainfall and extreme summer temperatures to freezing winter conditions.

At the same time, lubricants must be able to withstand heavy mechanical loads, provide strong adhesion to bearing raceways and open gears, and preferably be suitable for environmentally regulated applications where lubricant leakage cannot be completely avoided.

To put this into perspective, a single litre of oil can potentially affect up to one million litres of water.

Finding the right balance between minimizing wear, extending equipment life, reducing maintenance costs and limiting environmental impact therefore remains one of the industry's major lubrication challenges.

Supporting innovation from the start

Van Meeuwen also partners with customers in the development of new technologies and applications.

One example is Seaqualize, a company developing innovative offshore lifting solutions. Van Meeuwen has been involved from the earliest stages in the development of a specialised hook designed to compensate for vessel and crane movements, allowing it to remain stable even under challenging offshore conditions.

"We have been involved in defining the lubrication requirements of the system from the outset. We supply both the hydraulic oil and the lubricant used for the external components."



Offshore lifting equipment demands reliable lubrication under heavy loads and changing marine conditions.

"These are exactly the types of projects we enjoy. We analyse every aspect of the application, assess operating conditions and performance requirements, develop an initial concept and test it extensively. We continue refining the solution until we arrive at a final product that performs exactly as intended."

The right lubricant starts with the right expertise

From jack-up vessels to innovative offshore lifting systems, the demands placed on lubricants in the Oil & Gas industry continue to evolve.

For Van Meeuwen, meeting those demands means more than simply supplying a lubricant. It requires combining technical expertise, application knowledge and high-performance products to develop solutions that help customers improve reliability, extend service life and meet environmental performance requirements.

The result is clear: higher performance, longer service life and lubrication solutions that support customers in meeting increasingly stringent technical and environmental requirements.

If you would like to know more about the topics discussed in this article, use the contact information below:

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