

# Tribology and lubrication engineering for improved asset reliability

Tribology, the study of interaction between moving surfaces, most notably, friction reduction and increase, has applications in engineering, medicine and daily life, whether it's related to a hip replacement or a gearbox. For Lubrication Engineers (LE) South Africa, it is a subject dealt with every day.

**L**E South Africa MD, Colin Ford, says that 90% of his company's work involves reducing friction, rather than increasing it, and that a good understanding of tribology is key to this. "It is a very interesting subject," he says. "The South African Institute of Tribology offers courses that relate mainly to the mechanical and machinery aspects. Internationally, there's the Society of Tribologists and Lubrication Engineers (STLE), a professional technical society that offers a range of technical research, education and professional development resources."

## Science and innovation in lubrication

Ford says that much of LE South Africa's work involves assisting customers with asset reliability solutions. Rather than merely supply an oil or grease, LE works to help customers protect their equipment, optimise its efficiency and extend its lifespan.

"Lubrication has come along in leaps and bounds over the past decades with the development of new and specialist additives," he says. "We can now drastically reduce friction in everything from motor vehicle gearboxes to wire ropes. We work with a lot of old-school engineers who really know their way around machinery, but it's our job to keep up with the latest science and innovations in lubrication, and to assist them by demonstrating what next generation products can do."

This is why training and development is a key focus at LE South Africa – both for

its workforce and for customers. "We train our sales staff and technicians, and we offer in-house customer training. In fact, we're busy upgrading our training facilities so we can physically demonstrate things such as the latest wire rope lubrication technology. For example, we have a portable steel-wire-rope inspection solution that enables 100% accurate non-destructive inspection of wire ropes, something that's fairly new in the local market."

## Asset reliability life cycle

While many lubrication manufacturers and resellers focus on selling products to match applications, Ford says it's important to take the full asset reliability life cycle into account. This incorporates lubrication methodology, storage, application, monitoring and analysis.

"I liken it to taking care of yourself," says Ford. "It's basically the difference between putting good habits (that keep you healthy) into practice – such as eating well, exercising, and doing preventative check-ups – versus having to go to the emergency room when something goes wrong. If you look after machinery by selecting the best lubricant, paying attention to keeping it free of contaminants and ensuring the lubrication application schedules and methods are correct, you're likely to have much healthier equipment that lasts much longer. And you experience less downtime and costly repairs."

Thankfully, Ford says, young engineers entering the workplace tend to understand the



LE South Africa MD, Colin Ford.

importance of leveraging expert suppliers and taking a holistic approach, which he believes is due to education institutions working to impart communication skills and an appreciation of technical innovation.

"Of course, we've also developed long-standing relationships with customers who have been in business for many years, where we've been able to show that not only do we stock high-quality products that will outperform their competitors, but we're willing to go the extra mile to ensure the best possible outcome," he concludes.

Lubrication Engineers (LE) South Africa represents the global LE brand in South Africa, Botswana, Namibia, Mozambique, Zimbabwe and Zambia, providing high performance, heavy-duty, quality lubricants for virtually every industry and application, as well as expert technical back-up and support.

[www.lubricationengineers.co.za](http://www.lubricationengineers.co.za)



**Left:** Tribology is the study of interacting surfaces in relative motion. This causes friction and wear, which can both be substantially reduced using advanced lubrication formulations. **Right:** Rather than merely supply an oil or grease, LE works to help customers protect their equipment, optimise its efficiency and extend its lifespan.