Product vs REP: a split approach to managing bearings

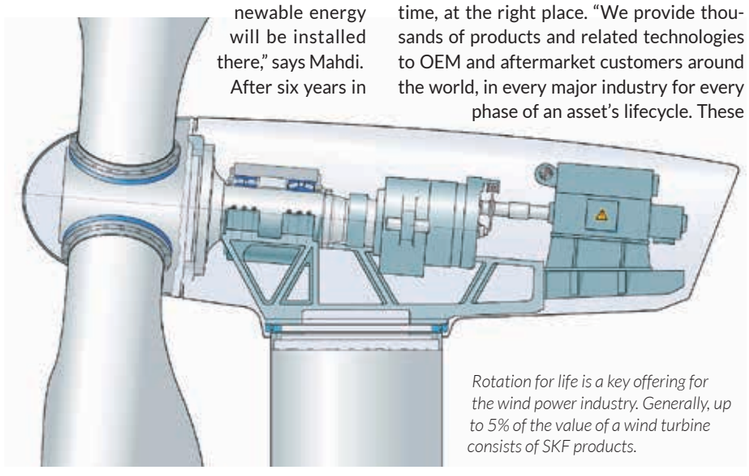
MechChem Africa introduces SKF South Africa's MD, Mahdi Sebti, who talks about the company's new split approach to bringing its bearing and related product offering to the industrial market.

Born in Morocco, Sebti moved to the US when he was 12 years old where, after completing high school, he enrolled at Michigan State University to study mechanical engineering.

"I joined SKF in 2001. I was 19 at the time and started out as an applications engineer in the automotive sector. Then SKF landed a $500-million project with GM and I went over to project management, launching the wheel hub manufacturing lines for GM's SUVs," Mahdi tells *MechChem Africa*.

"When my boss was moved to Europe to run the automotive global engineering department, I moved with him to manage the Renault and Nissan accounts, first to Turin and then to Paris for three years," he adds. By then, the renewable energy sector was beginning to boom, so Sebti returned to the US to start developing SKF's emerging renewable energy product lines and market – wind, wave, tidal and solar.

"I then came to manage the North, West, and Central Africa region alongside the French territories and Indian Ocean, initially from Paris but I soon moved back to Morocco, where we have established a local platform to service the region. Morocco has a 180 MW solar trough concentrated solar power (CSP) plant and it is also currently installing a 200 MW plant, which both have solar tracking systems. By 2022, up to 2 000 MW of renewable energy will be installed there," says Mahdi.



Rotation for life is a key offering for the wind power industry. Generally, up to 5% of the value of a wind turbine consists of SKF products.

After six years in Morocco managing SKF's business North, West, and Central Africa region alongside the French territories and Indian Ocean, Mahdi Sebti was additionally appointed managing director of SKF in South Africa.

Two value propositions

"SKF has long found itself being pinched between two easily distinguished but uniquely different customers. On the one hand, we see a discerning set of customers who seek to maximise the performance of their critical equipment. These customers understand the importance of reliability, high availability, efficiency and extended service life. They demand tailored engineering solutions that use the best possible components available.

"On the other hand, though, we have customers who simply want a bearing or component at the lowest possible price to solve an immediate problem," Sebti explains. "These customers simply want a correctly specified, cost-effective product delivered to the right place, at the right time," he says.

In response to this "reality" SKF has come up with two different value propositions to enable its customers to be served in the most appropriate way.

For those looking to meet component specific needs, SKF has introduced its 'Products value proposition', which focuses on supplying the right product at the right cost at the right time, at the right place. "We provide thousands of products and related technologies to OEM and aftermarket customers around the world, in every major industry for every phase of an asset's lifecycle. These

SKF's Rotation for Life service involves the installation of permanent 24/7 monitoring systems such at its IMX Multilog On-line.

products have all been developed using a thorough understanding of rotating equipment and they are readily available, competitively priced and, typically, interchangeable with components that have been in operation for many years," Sebti points out.

SKF has long been known, however, for its unquestionable quality and high-reliability solutions that are purposely selected, designed and combined to ensure that critical machines perform at their optimal level. "When choosing such an equipment-specific solution, the price and the brand are of secondary importance to maximising reliability. This is where our second value proposition comes in, which we call REP: Rotating Equipment Performance," he continues.

Sebti tells the story of how the REP idea came about: "SKF was called in to look at issues on a mine's conveyor systems. The discussions took two distinct directions, price and technical merit. In response, our CEO decided not to sell the bearings at all. Instead, he decided to sell rotation to the mine.

"He offered to install SKF bearings into the conveyor systems at no cost, maintain them for free and then charge a fee directly linked to material output at the end of the conveyor line.

"If a competitor bearing lasts 1 000 hours and we are confident ours will last 4 000 hours then, instead of trying to convince the operator of the true value of our solutions, we break the payment down based on output rotation and/or uptime. If we deliver, SKF gets paid the true value, but if we don't, the operator pays less, so he will not have paid a premium for no reason.

"That was the starting point for REP and we are now offering these performance services for conveyor systems, mills, wind turbines, and much more," Sebti reveals.

As well as incorporating the best possible component solutions into critical equipment, REP also involves maintenance and service packages. "Within SKF's REP offering are two service programmes: SKF Premium and Rotation for Life. For a bearing to reach its intended life and to perform as anticipated, it must be properly maintained – fitted, aligned, sealed, lubricated, monitored, etc. With this comes the need and knowledge to measure, collect data and analyse it.

"We at SKF have been working on monitoring for several decades now, first through our hand-held data logger, which is a suitcase-like solution that can be taken to a machine, connected to up to four vibration sensors and the data collected and taken back to the office for analysis. But to use these vibration instruments, the operator really needs training – in Level 1, 2 or 3 vibration monitoring and analysis, for example.

"Today, we have our QuickCollect sensor, which is a vibration sensor, acceleration and temperature sensing unit with connectivity. Instead of having to have a suitcase, QuickCollect sensor connects to IOS- or Android-based smartphones or tablets. The data is uploaded to the operator's device, typically via Bluetooth, and from there via wireless networks directly to on- or offsite analysis centres," says Sebti.

In addition, software on the device supplies immediate information and alerts (based on analytics completed in the device) to the operator, based on simple inputs as to the machine's power, size and rotational speed. "This was launched locally in South Africa in February this year and its intention is to make condition monitoring far more accessible," he explains.

In addition, SKF offers a DataCollect service, in which SKF technicians or trained customer operators develop a condition-monitoring route for their plant equipment. By placing QuickCollect sensors on each machine en route, the data is collected and uploaded directly to the Cloud for download and analysis anywhere in the world," he says.

Using services such as these, the SKF Premium programme helps SKF bearing

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customers to identify maintenance and operational needs, leading to cost reductions. "SKF Premium helps customers to adopt best maintenance practices for assets fitted with SKF bearings and components, resulting in significant machine reliability and uptime improvements," notes Sebti.

At the highest REP level of service is SKF's Rotation For Life programme, which guarantees the reliability and availability of selected critical rotating machinery assets, reducing risks and ownership costs for customers over an agreed contract period.

"Whatever might be going wrong on a machine – gearing issues, misalignment, under – or over-lubrication, overloading or imminent bearing failure – will be picked up by 'listening' to and analysing acceleration over the frequency spectrum of the bearing.

"On critical equipment such as turbines or mills, it is vital that the machine is protected and shut down automatically should any problem be detected. At this level of criticality, SKF's Rotation for Life service involves the installation of permanent 24/7 monitoring systems such at its IMX Multilog On-line or SKF Insight," Sebti explains.

These permanent installations enable imminent failure, reliability and remaining life analysis to be determined. SKF Insight, for example, was first used on the axle boxes of trains. A small sensor mounted on each axle box logs, tracks and communicates the condition of each wheel bearing. That way, any problem can be dealt with conveniently and safely.

Rotation for life is also a key offering for wind turbines. "Generally, up to 5% of the value of a wind turbine consists of SKF products: three slewing bearings for the blades, one for the nacelle, the main shaft bearing and housing, the couplings, the dozens of bearings in the gearbox and the generator, along with our automatic lubrication system, WindLube.

"We also incorporate our monitoring solution, WindCon, which monitors every critical point of the turbine and sends the information to our dedicated diagnostic centre in Germany.

"The rotating equipment performance (REP) market is growing all over the world, with customers increasingly focused on harnessing the IoT to improve productivity and competiveness. We also know, however, that many customers simply want to use our cost-effective, quality components in their new designs or as end-of-life replacements.

"By splitting our value propositions into two, we can better service both of these market needs," Sebti concludes. ❑