

# Enhance construction equipment reliability

How next-generation lubrication improves productivity and uptime

Pressure is building in the construction industry. Budgets and schedules are tight, competition is growing, and the market is unpredictable. Even short periods of downtime can cause delays in projects and have a significant impact on your bottom line. As a result, OEMs, end users, and equipment rental companies are all seeking ways to improve machine availability and extend service life.

Bearings are one of the most critical components in construction equipment. If you do not protect them sufficiently, they are much more likely to fail prematurely. The knock-on effects

include unplanned downtime, unexpected costs, and disruption to projects. To prevent these issues and maintain performance, bearings should be properly lubricated and protected by a suitable seal. However, many common lubrication practices are inefficient – which means that reliability issues still persist.

This paper explores a new approach and considers the potential of automated lubrication systems in the construction sector.



50%

Poor lubrication accounts for more than 36% of all premature bearing failures. If you include contamination, this figure rises above 50%.



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# Is it time to change your approach to lubrication?

In many regions of the world, manual lubrication is still prevalent. But numerous factors mean that manual methods are not as effective as they should be. For example, as bearings are often in hard-to-reach areas of construction equipment, some lubrication points may be overlooked. Your maintenance personnel will also have to climb onto and under machinery, which can pose a risk to your workers' safety.

Moreover, manual lubrication requires you to stop your vehicles and usually takes over one hour to complete. Even with training and a lubrication schedule, it is extremely difficult to provide the right amount of lubricant to the right point at the right time. Components are often either underlubricated, leading to excessive wear, or overlubricated, which wastes lubricant and can pollute the environment. In both cases, improper lubrication quickly cuts into your maintenance budget.

40–90  
MINUTES OF  
DOWNTIME  
EVERY  
8–10 HOURS

## Automatic lubrication keeps machines running smoothly

Increased automation is one of the ways in which the construction sector is responding to challenges. For example, autonomous construction vehicles could help contractors overcome labour shortages. While it may be some time before fully self-driving vehicles are prevalent, you can already boost productivity through automatic lubrication systems.

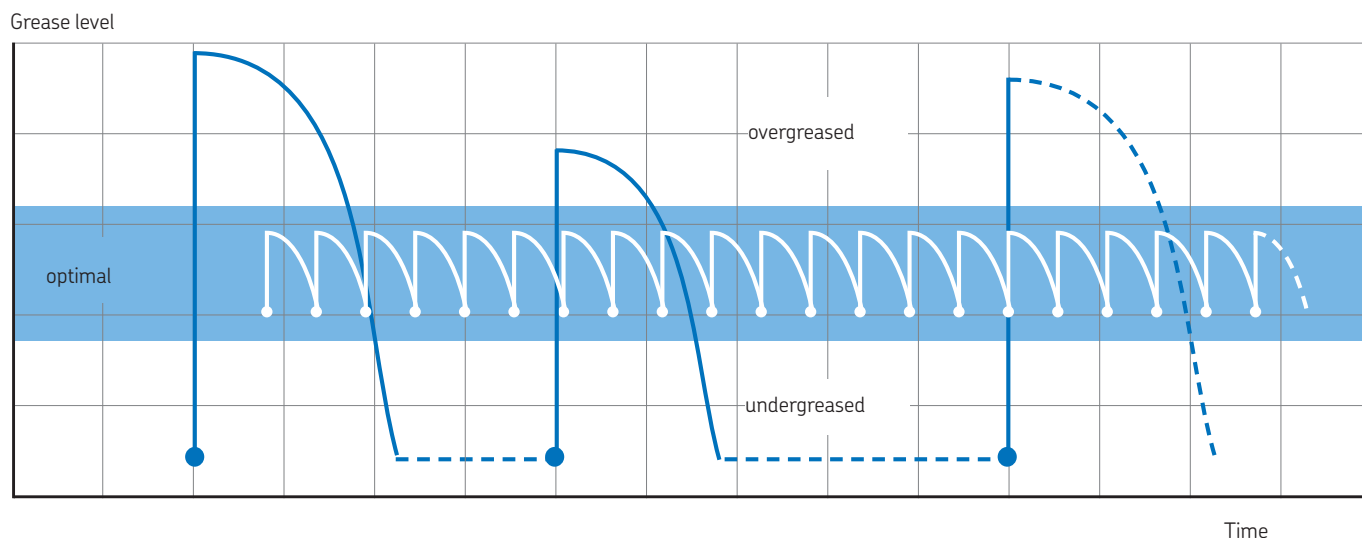
Installing automatic lubrication systems on your construction vehicles relieves your maintenance crew of manual lubrication duties. Not only does this free up your personnel for other tasks, it also improves worker safety as they no longer have to climb onto or under machinery to perform maintenance.

Automatic lubrication brings significant benefits for your machines too. As lubrication is more precise and grease flows constantly, your bearings receive lubricant exactly when and where it is needed. This keeps them running reliably for longer, reducing the risk of failures and downtime. You also prevent lubricant wastage and replace bearings less frequently, which helps conserve the

environment as well as your maintenance budget.

Despite the initial investment for an automatic lubrication system, the resulting savings pay off sooner than you might think. In addition to lower labour costs for relubrication and repairs, you also extend component life and reduce grease consumption.

Depending on the cost of labour in your region, automatic lubrication systems pay for themselves in less than four years.<sup>1</sup>



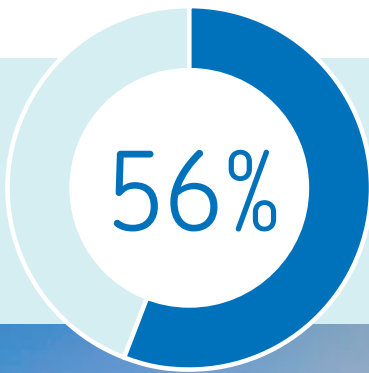
Automatic lubrication systems help ensure that the right amount of lubricant is applied in the right place at the right time.

# Untapped potential in construction equipment

All around the world, digitalisation is well underway in virtually every industrial sector. Yet the construction industry is lagging behind and has been slow to adopt new technology. This is partially due to the lack of standards in the sector. While the number of available digital solutions is rising, interoperability, a key element of Industry 4.0, still remains a challenge.

Many construction firms rely on visual maintenance inspections. Not only do these demand considerable time and effort from your service technicians, they

are also prone to inconsistencies. Furthermore, as the construction industry suffers from a global skills shortage, it can be difficult to find skilled personnel to maintain your equipment correctly and efficiently. With manual processes, it is a challenge to verify that maintenance was performed in the right way. Consequently, you could run into unexpected complications in maintenance planning and spare parts supply.



of global markets are suffering from a skills shortage in construction.<sup>3</sup>



“ Construction is one of the least digitised sectors in the world, ranking last in Europe and second to last in the United States.<sup>2</sup> ”



# Transition to a smart, connected lubrication system

Smart lubrication is a new approach that expands on automatic systems with digital technology. Thanks to sensors integrated into an automatic lubrication system, you can see more information about the lubrication cycle, fault indicators, and performance attributes. The systems are fully configurable, so you can adapt lubrication intervals to meet your performance needs.

Visualisation and alerts simplify operation for your maintenance personnel.

## Tailored to your performance requirements

To help the construction industry overcome skills shortages and productivity issues, SKF has developed a wide range of solutions for smart lubrication. As every company's situation is different, we tailor solutions to your specific requirements. The modular design of our systems means they are easier to implement and can be customised to fit virtually any construction vehicle. We can also integrate Ethernet or wireless connectivity to provide you with access to data-logging content and help you resolve warranty claims and maintenance issues more quickly and easily.

You can see at a glance when grease needs to be refilled and when maintenance is required, allowing you to plan maintenance and resources more efficiently. In addition, integrated data loggers monitor and store data related to the machine, making it easier to identify recurring issues and verify that maintenance was performed correctly. And thanks to simplified design and intuitive dashboards, the systems are easy to operate and require little additional training.

If you are interested in changing your approach to lubrication and improving machine reliability, speak to our lubrication experts. By integrating your machines with SKF Cloud Services, you can plan and organise fleet management and maintenance tasks more quickly and easily. Whether you are ready to transition to a smart, automated system or want to change your lubrication management practices, we can provide you with everything you need to make your machines run longer, cleaner, and more reliably.

## Smart lubrication systems enable you to:



Boost productivity and reduce downtime



Improve maintenance and spare parts planning



Gain greater visibility over maintenance and performance



Save time and reduce costs



Improve worker safety



Reduce environmental impact



Monitor and analyse machine condition and prevent unplanned downtime.



Identify and resolve recurring issues.



Provide maintenance personnel with recommendations and guidance.



Boost the efficiency of maintenance planning and spare parts management.



Gain a more complete view of your entire fleet.



For more information and to find distributors near you, visit



[SKF.com/lubrication](https://www.skf.com/lubrication)

- <sup>1</sup> Return on investment calculation based on SKF experience
- <sup>2</sup> McKinsey Global Institute, Feb 2017: Reinventing Construction: A Route to Higher Productivity, p.56
- <sup>3</sup> Turner & Townsend, May 2017: International construction market survey 2017

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