



# KOYO INSIDE Q3 - 2019

## Koyo is introducing more environmentally friendly “NK” long life bearing

### Introduction

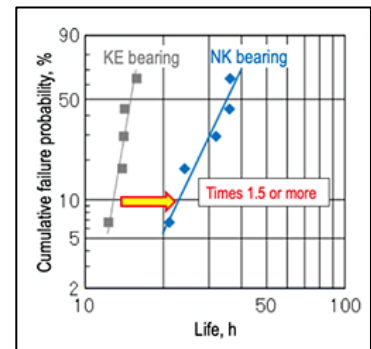
Koyo, JTEKT’s bearing division, is constantly developing new technologies to improve the properties of its bearings to contribute to longer bearing life, leading to reduced maintenance requirements and improved reliability. These improved properties especially contribute to the needs required when operating under the harsh conditions in which agricultural- and construction machines are used. Considering the new trend of autonomous driving, even in professional environments like in unmanned dump trucks and tractors, increased reliability of components is becoming more relevant than ever before. Another Koyo ambition is to move away from bearing steels that contain rare metals for which mining and production are considerably environmentally unfriendly.

### New NK (New advanced Knowledge) bearings

Roller bearings used in Agricultural and Construction machines need to be highly robust and therefore Koyo has put strong effort on developing long-life bearings leading to the “KE” and “SH” types in recent years. The latest



generation “NK” ball and roller bearing (not to be confused with the NK-type needle roller bearing) has been further improved by using an optimized bearing steel alloy and a carefully adapted heat treatment process leading to improved “structural toughness”, increased hardness of raceways and increased fatigue strength. Using this



new medium carbon bearing steel material and the new manufacturing process, both typical failure modes described as “subsurface-initiated flaking” and “peeling initiated by small indentations due to contaminated oil” are counteracted strongly, leading to bearing life increase of 50% above the previous “KE” type bearings. Notably the newly develop bearing steel alloy also contains more than 20% less rare metals, thereby also making a positive contribution to improving global environmental sustainability.

### Availability

The new NK range of bearings will be gradually introduced into the market starting in 2019 and actual availability will need to be confirmed case-by-case depending on total demand and installed capacity at the time of inquiry.

For further information on Koyo bearings, please consult your local distributor or one of our Sales offices, which you can find on: [www.koyo.eu](http://www.koyo.eu)