

## Objective

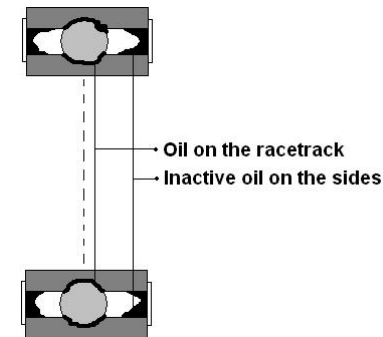
Oil is necessary for friction reduction in bearings. However, only a small fraction of the oil fills the race track where it enhances friction reduction. A major fraction of the oil sticks to the sides and to the sealing of the bearing.

This project is about the synthesis of a smart oleophobic coating on the non contact parts of the ball bearing, to increase oil circulation throughout the ball bearing system: guiding fresh oil continuously back to the racetrack.



## Research topics

- Application of oleophobic coatings on surfaces with varying roughness.
- Measurement of contact angles, surface tension and work of adhesion.
- SKF centrifuge experiments.



## Industrial benefits

- The lifetime of ball bearings could be increased significantly if oil circulation throughout the bearing would be improved. In this project the key parameters were identified that determine whether oil flows well over a substrate or not.
- TNO and SKF will continue this development in a strategic co-operation and financing scheme of TNO.

