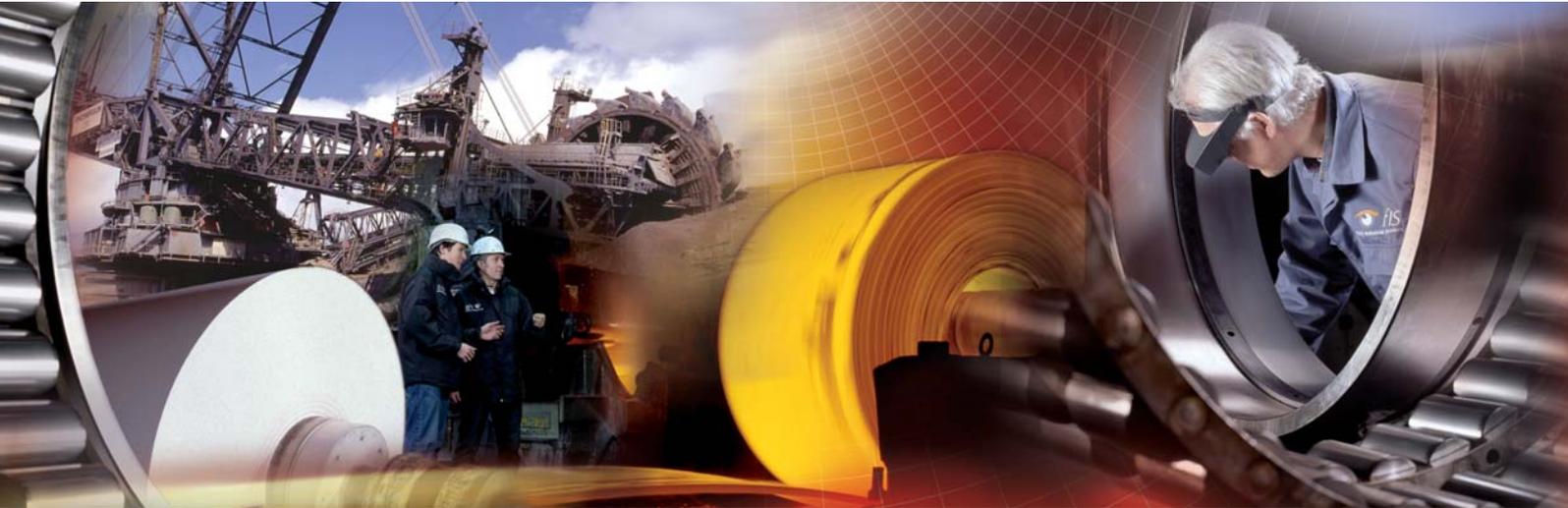


# Smart Performance Program



## Higher Reliability and Optimised Maintenance Cost for Railway Companies

**Industry: Railway and Transport**

### Customer

The customer is a globally operating service provider which produces rail vehicles and infrastructure systems for rail traffic and provides services to the railway industry. In Thailand, the company is currently realizing various turnkey projects, including maintenance contracts with two local railway companies.

### Challenge for Schaeffler

Railway company 1 was repeatedly experiencing problems with its traction motor bearings. So, in order to reduce the risk of unscheduled shutdowns, the service provider planned to introduce condition-related maintenance.

For this demanding task, the customer was looking for a partner with ample experience in condition monitoring. So they awarded the contract to Schaeffler as they had already cooperated successfully with each other in the past.



### Technical Information about the Customer's Clients

**Railway company 1:** 480 trips or 1,100 km per day with 35 electric multiple units (EMU).

**Railway company 2:** Total track length: 20 km, which are serviced by 19 EMUs.

Each EMU consists of three passenger cars, i.e. two A cars and one C car, with four traction motors per A car and a total of 24 TAROL bearings in the whole EMU.

## Schaeffler Solution

A team of Schaeffler Group experts checked a total of 152 traction motors for railway company 1. To this end, they carried out a number of offline vibration measurements on them with an FAG Detector III. In this way, they identified damaged bearings quickly and reliably. In view of this positive experience, not only railway company 1 decided to acquire an FAG Detector III but railway company 2 as well. Ever since, both customers have been carrying out the measurements themselves, enlisting the Schaeffler experts' support in analysing data if the necessity arises. Moreover, Schaeffler has supplied railway company 1 with 50 sets of new FAG bearings as replacement for the damaged bearings.

## Customer Benefit

### Time saved by condition monitoring at the two local transport companies:

Time required for checking one installed motor incl. vibration analysis:	2 h
Time required for dismounting one motor from the train, checking and mounting it again:	8 h
Replacement of 280 traction motors without condition monitoring:	2240 h
Estimated replacement with condition monitoring: only 40%: 112 motors x 10 h + 168 motors x 2 h	1456 h

**Time saved: 784 h**

## What's special

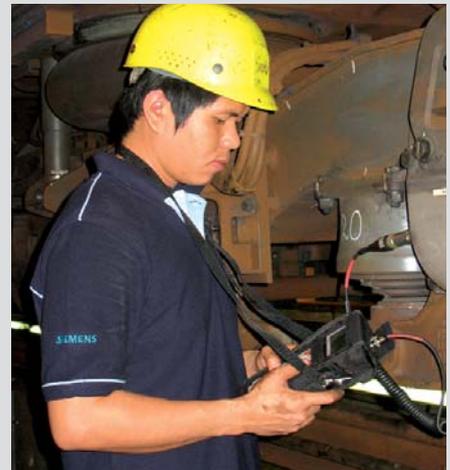
As the customer is very satisfied with the service provided by the Schaeffler Group experts, he would also like to have the reconditioning of axle box roller bearings for railway company 1 – which is scheduled for next year – carried out by Schaeffler.

### Technical Information about the Solution

**Condition monitoring devices:**  
2 FAG Detector III

**50 sets of traction motor bearings, each consisting of:**

- 1 FAG ball bearing  
6016M.P6R85.105.J20AA
- 1 FAG cylindrical roller bearing  
NU210E.M1.R65.80NA.F1.J20AA



Contact details for worldwide contact persons as well as further

**Smart Performance Solutions** can be found on our homepage

[www.smartperformanceprogram.com](http://www.smartperformanceprogram.com)