

## Success Story

Industry: Quarrying, Mining and Construction

Application: Vibrating Drum

**Cost Savings: € 2 970**

### Introduction

A company related to the Quarry & Mining industry was having frequent reliability problems with the bearing units assembled in a vibrating drum. These bearings worked under severe environments and were exposed to large amounts of sand, which often covered the units completely. Due to the nature of the application and its difficult access, the regularity and increasing cost of maintenance was an issue.

### Key Facts

- Vibrating Drum
- Harsh environment, exposed to sand
- Regular failures with difficult replacement led to high cost of maintenance
- NSK Solution: Self-Lube housings with Triple Lip Seal Supports - ideal for remote applications
- Increased life-time by 10 times
- Cost Saving generated



↑ Vibrating Drum

### Value Proposals

- NSK Engineers visited the site to assess the application
- Failed Bearing Analysis showed that fine sand particles were entering the bearing causing early failure
- A trial of Self-Lube triple lip sealed bearings resulted in life improvements 10 times than before




## Product Features

- Three high integrity nitrile seal lips with lubrication traps to stop ingress of contaminants
- High strength steel outer case resists impact to seal and provides a primary dust trap
- Available for both setscrew and eccentric locking collar inserts options
- Large size range offered, including imperial options
- Inserts interchangeable with standard items
- Longer bearing life through superior seal performance
- Extended re-lubrication intervals, greatly reducing maintenance costs and increased productivity of machinery
- Simple implementation; ready replacement for existing bearing units
- Mounting on the shaft with balled setscrews, providing much greater resistance to loosening



↑ Self-Lube

## Cost Saving Breakdown

Before	Cost p.a.	NSK Solution	Cost p.a.
 Replacement per year × No. of engineers × €30/hr	€360	Less than 1 replacement per year × No engineers × hours × €30/hr	€36
 Downtime costs: 70ton/hr × 7€/ton × hours × No. of replacement per year	€2,940	Downtime costs: 70ton/hr × 7€/ton × hours × No. replacements per year	€294
 Bearing Life: 2 months approximately (440hrs)	€0	Bearing Life: 19 months approximately (4,400hrs)	€0
<b>Total Costs</b>	<b>€ 3 300</b>		<b>€ 330</b>