

## Success Story

Industry: Steel and Metals

Application: Continuous Casting Machine

**Cost Savings: € 140 000**

### Introduction

An international steel manufacturer experienced regular failures on bearings in a continuous casting machine. This machine is used in the production of shaped sections and due to that, the bearings have to handle heavy loads. The problem was a short bearing life of the standard bearings due to wear and fatigue. The average bearing life was 124 weeks and they had experienced 3 failures to date. After an investigation, NSK suggested to apply a durability test with NSK's SWR Spherical Roller Bearings. These bearings are made of specially developed bearing steel, which has a much better wear resistance and resistance against fatigue. With the NSK solution, the customer could achieve a significant cost saving.

### Key Facts

- Steel & Metals
- Continuous Casting Machine
- Short bearing life because of wear and fatigue
- Heavy operation conditions
- Longer bearing lifetime & reduced maintenance costs requested
- Special Spherical Roller Bearings (SWR Steel)
- Bearing reached 60% longer life time



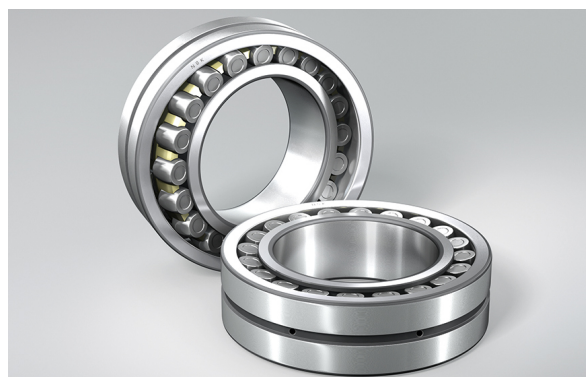
↑ SWR Roller Bearing and Housing

### Value Proposals

- NSK engineers conducted an Application Review including a Bearing Condition Report
- This resulted in SWR Spherical Roller Bearing recommendation.
- Recommended test with SWR Spherical Roller Bearing
- Bearing reached 60% longer life time

## Product Features

- Improved material strength of outer ring
- Ability to use with or without seals
- Improved wear resistance - three times compared to AISI 52100 bearing steel
- Minimized outer-ring friction to extend bearing life
- Improved flaking life property - five times compared to AISI 52100 bearing steel
- Material strength improved to prevent breakage of the outer ring after the occurrence of flaking - five times compared to AISI 52100 bearing steel
- SWR can replace standard SRB without modifying the axle boxes



↑ SWR Spherical Roller Bearings

## Cost Saving Breakdown

Before	Cost p.a.	NSK Solution	Cost p.a.
 Production loss due to bearing failures	€ 100.000	No production loss	€ 0
 Manpower costs for replacing the bearings	€ 40.000	No manpower costs	€ 0
<b>Total Costs</b>	<b>€ 140 000</b>		<b>€ 0</b>