NSK CASE STUDY

INDUSTRY

QUARRY, MINING & CONSTRUCTION

APPLICATION

JAW CRUSHER

COST SAVINGS: $2,114,491

A customer in United Arab Emirates appealed to NSK experts to improve the operating life of main crusher bearings, failing every 12 months with intolerable downtime costs. Investigation revealed that poor installation and lubrication practices were contributing factors, but that ultimately the competitor bearings were under-designed for the punishing, high-heat application.

NSK experts replaced the bearings with NSK high-capacity spherical roller bearings with machined brass cage (CAM), extending bearing life 5-fold with costing savings in excess of $2 million annually.

KEY FACTS

- Bearings were failing after 12 months in service
- Frequent and extended replacement downtime came at a significant cost to productivity
- Current bearing selection was inadequately designed to contend with the application
- Deficiency in bearing mounting and maintenance proficiencies compounded the problem

VALUE PROPOSALS

- NSK engineers recommended high-capacity spherical roller bearings with machined brass cage (CAM)
- Training and supervision was provided for replacement bearing installation
- NSK bearings ran for 5 years without any signs of degradation

STAY IN MOTION. STAY IN CONTROL.

CONTACT NSK

PRODUCT HIGHLIGHTS

NSKHPS spherical roller bearings with machined brass cage are optimized by design to outperform and outlast, delivering higher load carrying capacity, operating at higher limiting speeds, and performing with reliability for a longer operating life. In conventional applications, their high-performance capacity can also enable downsizing the design envelope for machinery and equipment.

- Manufactured with high purity steel for superior fatigue strength
- Optimized, high-capacity internal design
- Advanced raceway surface finishing for durability and wear resistance
- CAM type: with heavy-duty one-piece machined brass cage and center guide ring
- High temperature dimensional stability: up to 200° C
- With cylindrical and tapered bores
- Radial internal clearances C2, C-normal, C3, C4 and C5

ANNUAL COST SAVING BREAKDOWN

BEFORE	COST	NSK SOLUTION	COST
Bearing Costs	$3,596	Bearing Costs	$12,840
Loss of Production	$2,619,360	Loss of Production	$523,872
Engineering / Maintenance	$42,372	Engineering / Maintenance	$14,124
Total	**$2,665,327**	**Total**	**$550,836**
		TOTAL COST SAVING	**$2,114,491**

YOUR PARTNER FOR MACHINE OPTIMIZATION

Our AIP Added Value Program is based around a simple proposition: 'improvement pays'.
By working with you throughout the AIP Value Cycle, we will help you achieve improvements in machine reliability, productivity and performance, all of which carry a tangible and measurable cost benefit – and we have the tools to prove it! That's what we mean by **improvement pays**.

aip NSK experts