

# CASE STUDY

## TIMKEN SPLIT BEARINGS



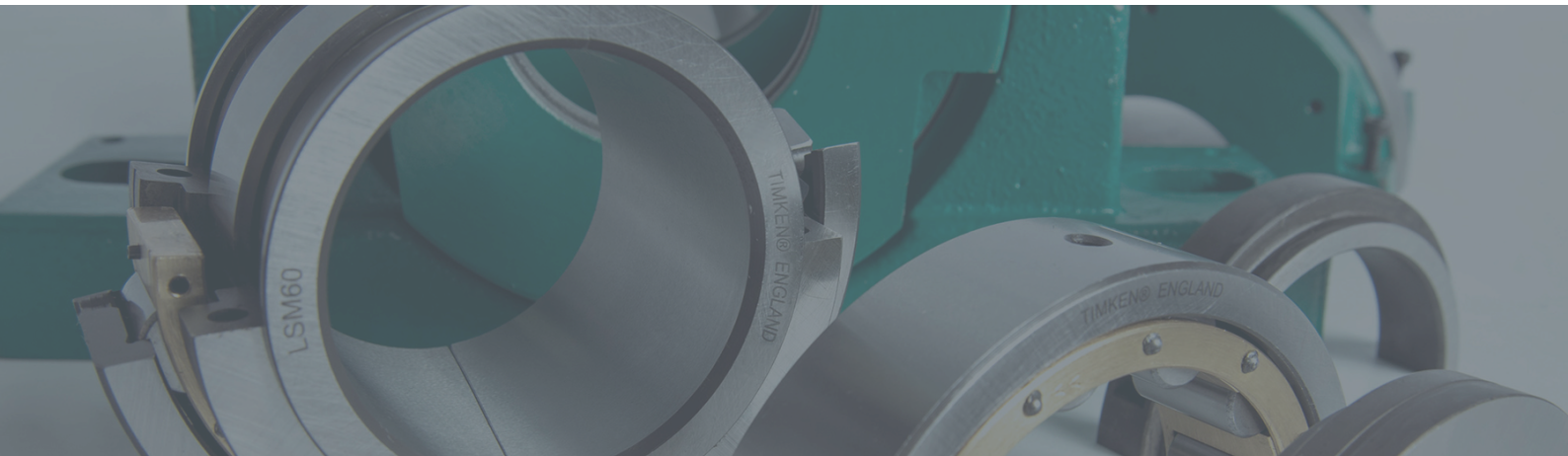
**ORBIC**  
ENGINEERING SOLUTIONS



OES202

# OVERVIEW

Our customer a large UK-based aggregates processing facility supplying crushed stone, sand, and graded materials to the construction and infrastructure sectors. Operating on a continuous production basis, the site runs multiple heavy-duty conveyor lines responsible for transporting raw and processed materials between crushers, screens, and storage areas.



## THE CHALLENGE

The customer was experiencing repeated bearing failures on a critical conveyor drive pulley supporting a large diameter shaft. The conveyor operated continuously in a harsh environment, exposed to dust, vibration, and heavy radial loads.

Replacing the existing solid spherical roller bearing presented significant operational challenges:

- Complete removal of drive coupling and gearbox required
- Use of heavy lifting equipment and crane hire
- Conveyor downtime of 2–3 days per bearing replacement
- Lost production estimated at £25,000–£40,000 per day
- Increased safety risks during disassembly

In trapped applications such as conveyor pulleys, traditional solid bearings require full shaft disassembly for replacement, significantly increasing downtime and maintenance costs.

The customer required a solution that would:

- Reduce downtime during maintenance
- Improve bearing reliability in harsh aggregates conditions
- Eliminate the need for major disassembly
- Lower total cost of ownership

# OUR SOLUTION

Orbic Engineering recommended and supplied TIMKEN® Split Cylindrical Roller Bearings, designed specifically for heavy industrial and trapped applications such as conveyor systems.

Unlike conventional bearings, TIMKEN split bearings are engineered in two halves, allowing installation directly onto the shaft without removing adjacent components.

Key features included:

- Fully split inner and outer races for easy installation
- Heavy-duty cylindrical roller design for high radial loads
- Sealing options suitable for aggressive aggregates environments
- Precision engineered brass cages for strength and reduced friction

Installation was completed during a scheduled maintenance window without removal of the drive assembly.

Why TIMKEN Split Bearings for Conveyor Applications?

Ideal for:

- Quarry conveyors
- Aggregate transfer conveyors
- Cement plants
- Bulk material handling systems
- Mining conveyors

As an authorised TIMKEN distributor, Orbic Engineering ensured full manufacturer backed product authenticity, technical support, and application-specific bearing selection.

## OUTCOME

- ✓ Downtime Reduced by 80%
- ✓ Significant Cost Savings
- ✓ Improved Reliability
- ✓ Improved Service Life
- ✓ Improved Maintenance Safety