# Success Story

## Industry: Food and Beverage

## Application: Germination Vessel - Stirrer Units

## Cost Savings: 53,807 euros

### Introduction

A supplier for a major UK Brewery was experiencing regular failure of bearings for their grain stirrer application which is used in the germination vessels. Bearings needed to be replaced regularly resulting in high costs and loss of production. NSK reviewed the application and advised that a Spherical Roller Bearing would be better suited to the application. This bearing change resulted in longer bearing life and reduced unplanned downtime.

### Key Facts

- 4 Germination Vessels
- 22 Stirrer Units per Vessel
- Vertical Application
- Competitor Self Aligning Ball Bearing failing regularly due to application conditions
- NSK solution: To replace Self Aligning Ball Bearing with SWR series Spherical Roller Bearing
- Bearing life extended by 3 to 4 times

↑ Germination Vessel - Stirrer Unit

### Value Proposals

- NSK Engineers performed an Application Review together with a Failed Bearing Analysis
- A recommendation of NSK Spherical Roller Bearings was made which have a larger load capacity
- A trial of NSK SWR series Spherical Roller Bearings resulted in 3 to 4 times longer bearing life

## 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 flaking 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 series Spherical Roller Bearing

## Cost Saving Breakdown

| Before | Cost p.a. | NSK Solution | Cost p.a. |
|---|---|---|---|
| Bearing costs x 4 vessels | € 15.270 | Bearing costs x 4 vessels | € 14.625 |
| Initial labour costs 50/hr x 13hr x 4 vessels | € 49.769 | Initial labour costs 50/hr x 22 Units x 8hr x 4 vessels | € 49.769 |
| Downtime costs 50/hr x 13hr x 4 vessels | € 7.352 | No downtime costs | € 0 |
| Replace damage parts x 4 vessels | € 45.810 | No replacement of damage parts | € 0 |
| **Total Costs** | **€ 118.201** | | **€ 64.394** |