SUCCESS STORY | IIOT TECHNOLOGIES

Don’t Trash Talk Cost Savings

Recycling industry

Synopsis

- Application: Debris roll screen® (DRS)
- Problem: Repeated bearing failure causing lost production
- Solution: OPTIFY™ Sensor

The problem

As a subsidiary of the third largest solid waste services company in North America, a south-central Pennsylvania facility has served its community for over 20 years by recycling more than 180,000 tons of material annually.

The state-of-the-art facility can process over 40 tons of material per hour. Upon receipt and loading into the metering bin, the recyclable material is carried through an infeed conveyor to ensure a steady flow of product into the pre-sort station for the removal of contaminants. The material is then conveyed through a series of machines to be sorted by size, weight, color, and type before undergoing quality control. Critical to the recycling process, the DRS filters product by size to direct it to the appropriate next phase. Once processed, the material is condensed, bound into 1,500 pound bales, and shipped globally for remanufacturing.

The plant traditionally relied on manual inspection and scheduled maintenance of mechanical equipment. Mounted bearing failure often occured at the DRS due to stray material wrapping around the shaft, increasing radial load and destroying the bearing backside seal. Without insight into resulting spikes in temperature, bearing failure occured without warning and led to machine downtime for repair—causing significant production loss.

The success

The plant’s implementation of OPTIFY Sensors and the OPTIFY platform empowered them with predictive maintenance, eliminating unplanned downtime due to mounted bearing failure and resulting in an

average annual savings of

$186,355

Technology to work smarter, not harder

Remotely monitor the condition of your equipment for optimized operations

A DRS is a separation device featuring rotating steel discs that break and remove glass as well as other small debris.

Steel discs are mounted to shafts secured on either side of the DRS deck with mounted spherical roller bearings—critical to keeping the DRS in smooth operation.

The test

The long-standing relationship between the plant and Dodge® led management to outfit the entire DRS application—a high-risk area for bearings—with OPTIFY Sensors paired the OPTIFY condition-monitoring platform.

The results

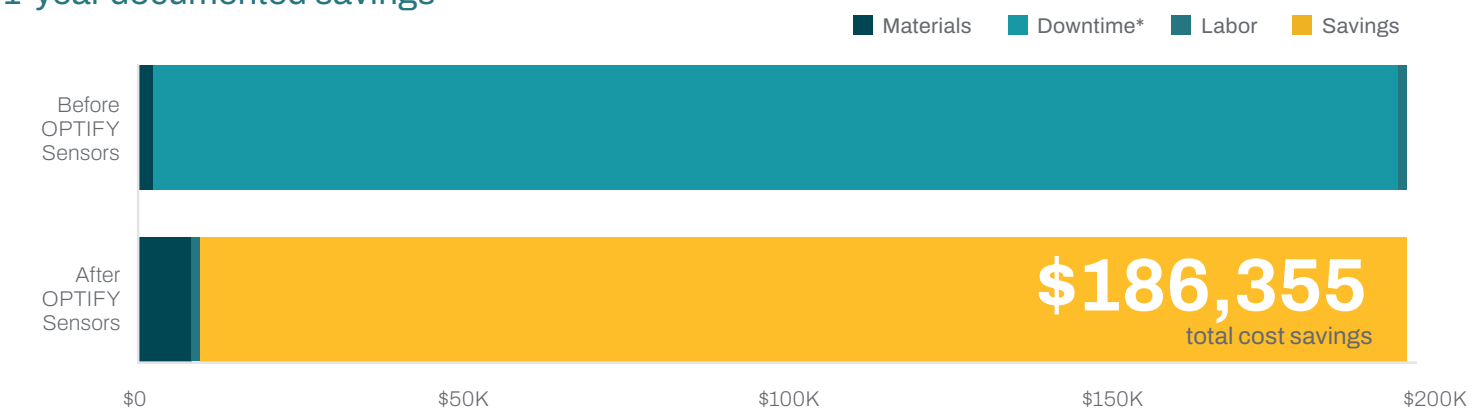
Previously averaging eight bearing failures per year resulting in costly unplanned downtime, the plant soon realized significant savings due to the condition monitoring solution. Notification of temperature and vibration spikes alerted the team of potential failures, allowing them to pinpoint problems and schedule maintenance in advance to avoid lost production.

The why

Easily installed, OPTIFY Sensors continually capture bearing temperature and vibration data. The OPTIFY platform harnesses the power of this data to provide in-depth insight to alert users of changes in current status of connected assets. Sensor technology combined with the OPTIFY platform provides complete powertrain condition monitoring that allows you to take a predictive approach to maintenance—saving time and enhancing on-site safety for optimized operations.

“Since installing the sensors, we have not had one second of downtime that we didn’t know about ahead of time and schedule for planned maintenance,” reported the maintenance manager.

1-year documented savings



*Downtime after integrating OPTIFY and OPTIFY Sensors was planned, not impacting production.