

Bunge Improves Efficiency, Decreases Costs with Maintenance and Reliability Readiness Initiative

RESULTS

- Advantage of over 2 years in projected payback and savings projections.
- Maintenance costs dropped by 10 %
- Plants running at full capacity for months without unexpected downtime or loss in production
- Shift in Harvester availability due to improved reliability and the use of Predictive Maintenance, Condition Monitoring tools



APPLICATION

- Originating oilseeds and grains. Crushing oilseeds to make meal for the livestock industry and oil for the food processing, food service, and bio-fuel industries
- Producing bottled oils, mayonnaise, margarines, and other food products
- Crushing sugarcane to make sugar, ethanol, and electricity
- Milling wheat and corn for food processors, bakeries, brewers, and other commercial customers

CUSTOMER

Bunge Ltd is a leading agribusiness and food company with integrated operations that circle the globe. The organization employs over 35,000 in their workforce in 40 countries with annual revenues of \$50 billion.

CHALLENGE

Three years ago, the senior leadership within Bunge had decided to undertake a Maintenance and Reliability Readiness initiative that would transform their program from a reactive state to a proactive culture. Maintenance and Reliability Readiness is a strategic initiative that is a key component of operational excellence.

The senior leadership team was looking to implement this program in 88 of their plants, encompassing 17 countries and 13 languages. It would touch thousands of people at all levels of the organization. The company included a complex matrix-based organizational structure. This meant that navigating a wide range of reporting and ownership structures to successfully implement a sustainable broad improvement effort was required to capture the benefits identified in the business case.

After just three years, the initiative has generated significant positive results ranging from financial benefits to practice and behavioral changes, enthusiasm, and energy for improvement.



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SOLUTION

A “wave” roll-out approach was designed by Emerson’s reliability consulting team in order to tackle this large initiative in a way that would create the momentum and sustainability required to make this program successful. Groups of five plants were established, with one plant in each group chosen as the “Accelerated Plant” (AP). The implementation sequence was a six month process in which reliability leaders and planners at other plants would participate in the implementation at the AP’s with the intention of carrying that broad knowledge back to their plants, the Non-Accelerated Plants. The goal of the AP implementation was to get the program up and running at a significant number of plants, so the organization had multiple reference points for seeing improvement. This process quickly created a core network of M&R experts who worked together to achieve results.

The level of effort placed on the planning and preparation period was a key factor in the success of this initiative. Over the span of three months several primary goals were developed:

- The core Maintenance and Reliability Readiness Standards and Master Data Standards that would be established at each of the 88 plant sites were developed.
- The wave groupings were first selected and AP sites identified, followed by defining the AP and Non-AP implementation sequence.
- The GPRT (Global Plant Reliability Team) were trained and educated as internal experts for their region, i.e. North America, Europe, Brazil, etc., that would help lead the implementation efforts.
- Plant personnel and leadership were socialized, educated and prepared for implementation.

During the planning phase, the foundational implementation practices and deliverables were designed and selected, and the implementation activities and training required to execute and support the foundational practices were developed utilizing

the playbook, standards of practice and training content as a foundation. The implementation sequence was based on Emerson’s Optimal Implementation Sequence (OIS) with proper standards and content providing an advanced starting point for roll-out tools and training. Implementation activities included The Reliability Game, Reliability Best Practices Training, Master Equipment List Development, Criticality Ranking, Bill of Material Development, Work Management Process Implementation, Reliability Training, Planner Training, Planning & Scheduling Process Implementation, Storeroom Review and Improvement, Reliability Strategy Development, RCM, FMEA, PM Optimization and PM Development.

Results: After just three years, the initiative has generated significant positive results ranging from financial benefits to practice and behavioral changes, enthusiasm, and energy for improvement.

- In general, the organization is 2-1/2 years ahead of their projected payback and savings projections.
- Plants are beginning to run at full capacity for several months at a time without any loss in production (apart from optimized scheduled maintenance).
- Overall maintenance costs have dropped by 10% due to higher visibility that has led to excess being trimmed and cost reduction.
- In one particular success case, one region celebrated a \$500,000 avoidance of a significant failure specifically attributable to new practices!
- Other stories show an improvement in workflow processes with significantly increased efficiencies.
- The biggest financial impact has been in Sugar Harvesting due to a shift in Harvester availability due to improved reliability provided by the application of lubrication and hydraulic management practices and the utilization of Predictive Maintenance (PdM) and Condition Monitoring tools.

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Emerson Process Management Reliability Consulting

27 Glen Rd
Sandy Hook, CT 06482
(203) 264-0500

www.EmersonProcess.com/ReliabilityConsulting

