

CASE STUDY

ENHANCING EQUIPMENT EFFICIENCY - ISDN OEE

BACKGROUND

Our client is an industrial hub for fertilizer production. Their Final Formulation process is a cornerstone in the production line, bringing together components to create the finished product. In this intricate phase, precision is paramount, and the facility boasts five tanks across two production lines to ensure consistent output. Each tank, armed with state-of-the-art equipment such as mixers, dissolvers, and weight sensors, undergoes a rigorous operational regimen to deliver quality.

KEY CHALLENGES

- **Monitoring Productivity:** Close and accurate monitoring of the productivity in the Final Formulation process is a significant challenge, given its critical role in the overall production efficiency.
- **Optimizing Equipment Usage:** Each of the five tanks must be used to its full potential to ensure high OEE, demanding precise coordination and maintenance.
- **Phase Efficiency:** Within the segmented phases of material intake, formulation, discharge, idle, and end times, identifying and reducing inefficiencies is challenging.
- **Minimizing Idle Time:** The tanks experience non-productive intervals that need to be minimized to improve the facility's operational efficiency.
- **Quality Control:** Maintaining consistent quality throughout the production process, especially during the Addition and Formulation phases, requires stringent control measures.
- **Resource Coordination:** Efficiently managing the introduction and discharge of materials within the vessel tanks while coordinating resources and schedules presents a logistical challenge.

AT A GLANCE

CHALLENGES

- Monitoring Productivity
- Optimizing Equipment Usage
- Phase Efficiency
- Minimizing Idle Time
- Quality Control
- Resource Coordination

GOALS

- Maximize Overall Equipment Effectiveness (OEE): Achieve a high OEE for each of the five tanks by optimizing Availability, Performance, and Quality.





SOLUTION OFFERED:

- **Comprehensive OEE Software Implementation:** Deploy ISDN's advanced OEE software to track and analyze Availability, Performance, and Quality in real-time for all five tanks.
- **Data Integration and Visualization:** Integrate data from mixers, dissolvers, and weight sensors to a centralized system for better visibility and control.
- **Efficiency:** Optimize the efficiency of each piece of equipment.



RESULTS

- **Increase production by at least 1 tonne per hour**
- **Increase revenue and profits**

Factory Targeted Output	50Tonne/hour
Factory Current production	30Tonne/hour
OEE	60%
Increased Production	70% 35Tonne/hour
Extra Revenue with increased production of at least 1 tonne/hour: 365 days x 1 tonne/hour x 24 hours x \$600/tonne	\$5.26million / year

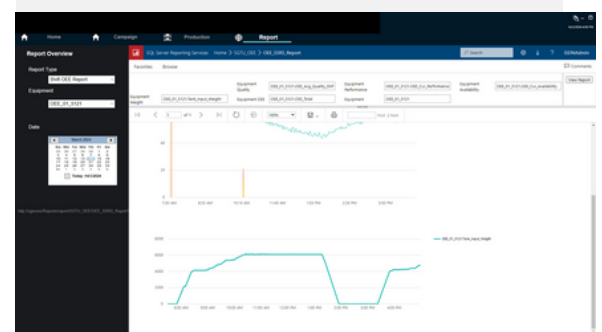
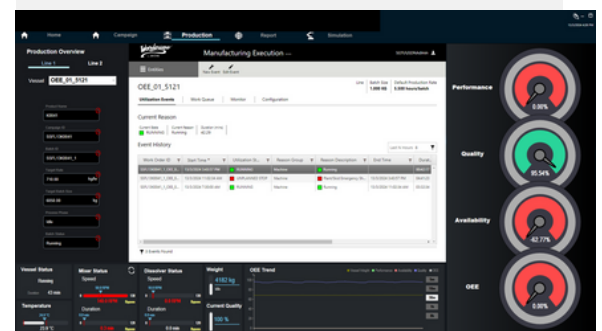
AT A GLANCE

RESULTS

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- Increase revenue and profits

CONCLUSION

Implementing ISDN's comprehensive OEE Solution empowered Client A to realize their goal of maximizing efficiency in the Final Formulation process. This strategic move not only streamlined operations but also significantly bolstered their productivity, marking a triumphant success story in the fertilizer industry.



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