MACHINEMAX

MachineMax Streamlines Shell Sarnia Refinery

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Introduction

The Shell Sarnia Manufacturing Centre is a chemical manufacturing facility located in Sarnia, Ontario, Canada. It produces a range of products including fuels, lubricants, and petrochemicals, and is operated by Shell Canada Limited, a subsidiary of Shell plc. The Sarnia Manufacturing Centre is a key part of Shell's integrated chemicals business, and is home to a number of research and development projects focused on improving the efficiency and sustainability of chemical production processes.

Challenges

The Sarnia Manufacturing Centre has a significant number of contractors working on site each year, and over 100 pieces of machinery on its 540-acre site. The main challenge faced by the refinery was a lack of visibility into the ways in which the machinery was being utilized and the impact this was having on the facility's operations. The team at Shell Sarnia had no understanding of where the machines were, their utilization, the CO2 impact, or hours worked. This lack of data made it difficult for the refinery to streamline its operations and identify opportunities for improvement.

Solution

To address these challenges, Shell Sarnia decided to trial the MachineMax system, which provides real-time tracking and analytics for heavy machinery. Initially, the team connected four machines to the system to see the value it could bring to their operations.

Once they received the data from these four machines, they were surprised to find that none of them were meeting their expectations. This led the team to expand the MachineMax system across the entire 540-acre site by connecting over 100 pieces of machinery.

> The amount of vehicle idling, underutilization and emissions was a lot more than anyone expected, but we never had the visibility of that so there was no data to implement changes on site, but now we have irrefutable proof with MachineMax to make those changes.

Jason Kimball - Maintenance, Construction and Turnaround Manager at Shell

Results

The implementation of the MachineMax system brought incredible insight into the opportunities for improvement at the Sarnia Manufacturing Centre. By analyzing the data provided by the system, the team at Shell Sarnia were able to identify a number of inefficiencies in their operations, including the fact that the utilization of several of their machines was below one hour per month. This led to the decision to remove the first five vehicles from the fleet altogether and to reassign other Shell vehicles to other sites in order to streamline operations and reduce maintenance costs.

When Jason was asked about the impact this had on the overall business he stated:

> By taking the first five vehicles out of the fleet and reallocating around ten others the MachineMax platform has already paid for itself for the next five years, and it has only been four months.

In addition to identifying inefficiencies, the MachineMax system also helped the team at Shell Sarnia to reduce idling on-site by providing visibility into the amount of idling that was occurring. This led to the implementation of toolbox talks for operators and the use of data provided by MachineMax to praise good practices and identify areas for improvement.

Conclusion

Overall, the implementation of the MachineMax system at the Shell Sarnia Manufacturing Centre has brought significant benefits to the facility's operations. By providing real-time tracking and analytics for heavy machinery, the system has helped the team at Shell Sarnia to streamline their operations, identify inefficiencies, and reduce idling on site. As a result, the refinery has been able to improve the efficiency and sustainability of its operations, and is well positioned to continue building on these successes in the future.

Jason stated that:

> "This is still a process, we are trying to erase many years of inefficient behaviour and this is not the operator's fault, but it will take continuous follow-up and at least we now have complete visibility on the situation, the progress and we can actually measure the change and impact."

About MachineMax

MachineMax is an award winning equipment management platform and universal telematics sensors for off-highway fleet, that work with customers to measure key metrics. The metrics providing the biggest initial impact include: utilisation, idling time, fuel consumption, emissions, location, and operating hours. This ensures that sites maximize their productivity, efficiency and profitability.

Our customers, across all industries, have used these metrics to identify patterns in operational inefficiencies including: too many equipment onsite resulting in under-utilisation, incorrect equipment used for the job resulting in lower productivity, ineffective site layout resulting in idling and excessive travelling, suboptimal operator behaviour resulting in dangerous, and inefficient utilisation.

The MachineMax approach ensures data collected by heavy equipment can be communicated in real-time to technical teams and management. Focused on learning-based outcomes; we specialise in building secure and cutting-edge products that solve daily challenges and improve industry practice.

Find out how MachineMax can help you at **MachineMax.com**

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