CAT® ASSET INTELLIGENCE OPTIMIZES HULL CLEANING FREQUENCY

What Happened?

Cat Asset Intelligence uses advanced analytics to qualify raw fuel consumption data into actionable information to optimize hull cleanings. The vessel of interest had one hull cleaning over the span of two years, scheduled solely on calendar days and not condition. Fuel consumption data for this vessel was available before and after the hull cleaning and was explored to determine if condition-based hull cleanings provided a better value than calendar-based hull cleanings.
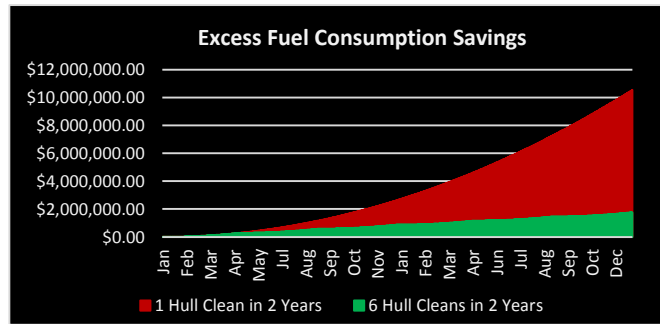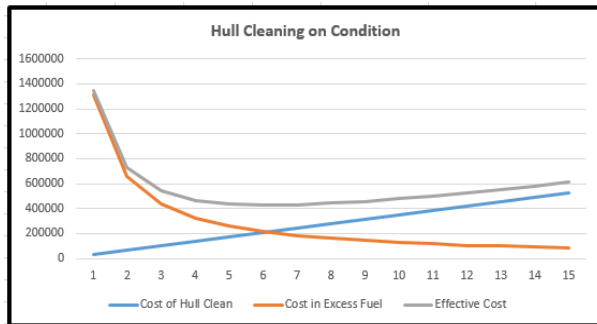

Excess Fuel Consumption 1 Hull Cleaning in 2 Years

Fuel Consumption vs Speed for Clean & Dirty Hull
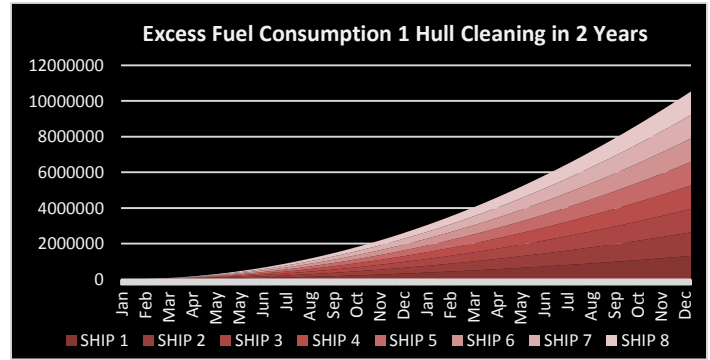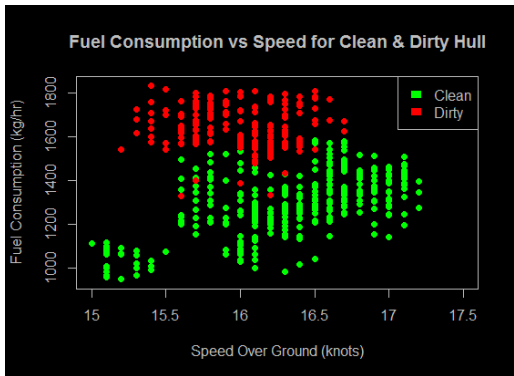
What Was the Underlying Cause?

Using highly comparable data (same geographic location and direction) before and after the hull cleaning, Asset Intelligence calculated an approximate difference of *350 kg per hour* in fuel consumption between a clean and fouled hull. Assuming a conservative linear increase in fuel consumption over time, Cat Asset intelligence estimated that excess fuel consumption would cost upwards of $1.3M on a single vessel that cleans its hull once every two years. This equates to upwards of $10M for a fleet of 8 vessels.

What Was the Value to the Customer?

The average hull cleaning for a roll-on/roll-off ship costs approximately $40,000. Using Cost-Benefit Analysis, Cat Asset Intelligence determined that the optimal number of hull cleanings that will minimize both the total cost of excess fuel consumption and cost of cleaning is six every two years. Abiding by a recommended schedule based on the ship's own fuel consumption data could save upwards of $1M on a single vessel in two years in fuel consumption alone. That is a savings of upwards of $8M in two years for a fleet of 8 vessels (more than $10K savings per day).

Hull Cleaning on Condition

Excess Fuel Consumption Savings

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