avathon.

Customer Success Story

IDENTIFYING NON-PRODUCTIVE TIME ON OIL RIGS

PROBLEM

An E&P operator needed to better categorize and analyze platform activities to track and eliminate non-productive time and invisible lost time.

PROJECT

Avathon Industrial platform automatically analyzed platform activity logs, categorizing activities for increased insight into platform work time.

RESULTS

The project was able to demonstrate automation of a full-time human job, with accuracy on par with that achieved through two rounds of human QA.

THE PROBLEM

Non-productive time (NPT) is the great enemy of all oil and gas operators. Despite all efforts by the best and brightest of the industry, non-productive time continues to comprise as much as 20-25% of all platform operating time each year. For offshore platforms, this can add up to a loss in revenue of billions of dollars.

A similar but more insidious issue is that of invisible lost time. Invisible lost time refers to short but frequent tasks that cannot be effectively tracked by standard 15- or 30-minute reporting blocks, allowing them to steadily eat up undetected but significant amounts of operational time.

A better understanding of when, where, and why NPT and invisible lost time occur is necessary for operators looking to reduce inefficiencies and maximize production, but that's easier said than done. The defining attribute of invisible lost time is its difficulty to track. Non-productive time is more visible, but recording, categorizing, and analyzing it is a thorny problem as well. These processes require large amounts of human labor and time, and the end result is often imprecise. Different operators entering data into the same system may not define NPT the same way—and with any task so massive, human error is bound to be an issue as well. There is simply more data than any human can handle.

For one major upstream E&P operator, the labor required to analyze platform activity logs is equivalent to one full-time job. And since the categorization is both a lengthy and subjective process, QA resources are then required to check over and validate all categorization. The E&P operator wanted to find a better way to record and analyze their platform activity data, and so turned to natural language processing (NLP).

THE SOLUTION

To reduce operating costs and errors associated with platform activity logs, the E&P operator partnered with Avathon, a leading industrial artificial intelligence (AI) company. Their goal was to create an autonomous system capable of analyzing the information contained within platform activity logs and presenting that information in a digestible format for human users.

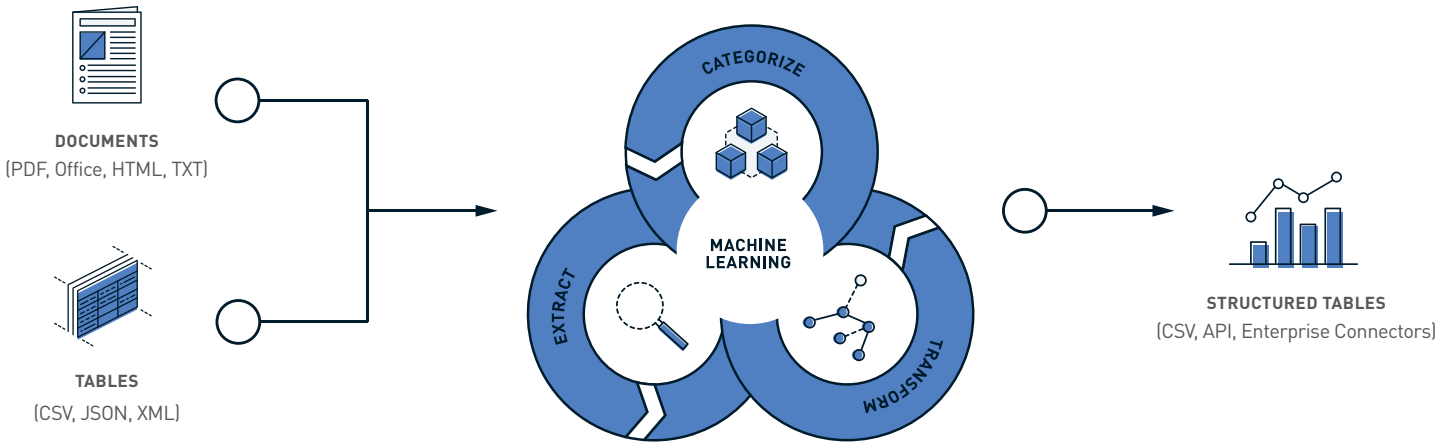
This was accomplished using Avathon Industrial AI platform, a machine learning-powered platform that automates the retrieval of information, classification of documents, and content analytics. Its core functionality is to pull from unstructured, natural language content, such as written documents or images, and transform the information contained in that content into structured data, such as tables or categories.

THE RESULTS

Industrial AI platform successfully categorized platform activity, labeling each activity with a code and sub-code for ease of analysis. In doing so, it provided new insights into the most frequently occuring activities on the platform with high accuracy, such as identifying the 46 most frequently occuring code and sub-code combinations. This enabled operators to understand normal operating behavior and anomalies. Where previously the compiling of this information would have been labor-intensive and subject to biases and errors, Industrial AI platform accomplished this with no human effort or input.

Using this information, the E&P operator has been able to more effectively pinpoint non-productive time and invisible lost time, as well as their causes.

[1] *http://www.drillingcontractor.org/automated-rig-activity-analysis-offers-more-precise-method-for-reducing-npt-invisible-lost-time-27033*



HOW THE AVATHON INDUSTRIAL AI PLATFORM WORKS

Industrial AI platform technology enables organizations to automate workflows of unstructured natural language data through advanced natural language processing and machine learning techniques. It transforms natural language content into structured data, which can then be used for process automation, decision support and analytics, and predictive modeling when paired with automated model building software.

ABOUT AVATHON

Avathon, a leader in Industrial AI, extends the life of critical infrastructure while advancing the journey toward full autonomy. Avathon's Industrial AI platform empowers commercial and government customers with scalable, secure, and value-driven solutions that enhance efficiency and resilience across heavy industry.

To learn more about how Avathon's AI solutions can unlock the power in your data, visit www.avathon.com.