

Progress Semaphore Speeds Safety Search for Automobile Manufacturer, Breaking Down Data Silos

CASE STUDY

COMPANY

Multinational Automobile Manufacturer

PRODUCT

Progress® Semaphore™

COUNTRY

United States

SUMMARY

To better control vehicle costs and understand, manage and prevent defects, a major multinational U.S.-based automobile manufacturer embarked on a project to harmonize the many disparate data sources from which safety information is generated. Using the Progress® Semaphore™ Semantic AI platform, the company is able to leverage all of its structured and unstructured data so that key decisions are made with a full set of information.

Challenge

The auto industry is always in transition, yet few periods in history match the current rate of change. The challenges shaping the auto industry today include the ongoing car chip shortage, shifts in labor dynamics, inflationary pressures, supply chain issues, elevated interest rates and the changing landscape of vehicle ownership.

One American multinational corporation has played a pivotal role in the global auto industry for more than 100 years. With a production output of 9,600,000 vehicles manufactured in 35 countries, they're driven to maintain the highest quality standards and provide safe vehicles to the customers they serve.

To control vehicle costs, understanding, managing and preventing vehicle defects is key. They embarked on a project to understand hazards/symptoms that are reported as defects for vehicle models from a variety of customer and field technician touchpoints (e.g. social media, call center information, community forums, etc.) so they could proactively manage the production pipeline and make course-corrections as required.

Their problem was a semantic one; the safety information was stored in textual documents, housed in multiple systems and lacked a formal, consistent vocabulary. They built a taxonomy, but the product/application they used was unable to apply it in a way that could harmonize the disparate information sources to support their safety search initiative.

Solution

The company required an innovative solution to support their initiative so they conducted their due diligence and selected the Progress® Semaphore™ Semantic AI platform. Semaphore allowed them to easily build their knowledge and fact extraction models using a graphical user interface, and supported the ability to define multiple custom relationships, which was the key to safety search.

They began by building a safety knowledge model using Semaphore Knowledge Model

Management (KMM), which contains the relevant domain concepts, subjects and topics associated with hazards and defects. They created relationships between these concepts (e.g. Component, Symptom and Location – “Brake” “went to” “floor”) to provide context and meaning to the results.

The use of Semaphore’s Knowledge Review Tool (KRT) in the process allows stakeholders and subject matter experts to provide feedback and participate in knowledge model development. This results in a fit-for-purpose knowledge model, which incorporates the latest and widest thinking throughout the organization without the need for expensive methodologies and processes.

To incorporate hazards and defects from all touchpoints, they leveraged the knowledge models to extract the relevant information using the Semaphore FACTS framework. Semaphore’s FACTS framework performs model-driven information extraction by fingerprinting the relevant documents and extracting information by looking for structured groups of information, which can be taken as facts. The FACTS model enables them to extract all the relevant facts from textual content to precisely and consistently find the information they need.

Semaphore’s information extraction leverages the rules, AI, NLP and semantic strategies to describe the semantic variations across structured and raw text and uncover “unknown” items that are outside the encoded

domain knowledge. Semaphore Semantic Integration Services publishes the model and creates an index, which is integrated into downstream search applications to enhance the user and customer search and navigation experience.

Results

Today, the company is leveraging all enterprise information – structured and unstructured – so that key decisions are made with a full set of information. Business users and subject matter experts are empowered to create, govern and maintain a sophisticated safety knowledge model that accurately reflects the business and use case. The Semaphore FACTS framework uncovers the valuable information, once out of reach of their business intelligence applications, and is now identified, tagged and used to proactively improve vehicle safety.

The integration of Semaphore into the enterprise has positioned them to precisely and quickly identify safety issues, and proactively make course corrections in key processes to improve outcomes and drive positive results.








Learn more about Semaphore If you want to transform your data into actionable intelligence to achieve growth.

About Progress

Progress (Nasdaq: PRGS) empowers organizations to achieve transformational success in the face of disruptive change. Our software enables our customers to develop, deploy and manage responsible AI-powered applications and experiences with agility and ease. Customers get a trusted provider in Progress, with the products, expertise and vision they need to succeed. Over 4 million developers and technologists at hundreds of thousands of enterprises depend on Progress. Learn more at www.progress.com

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