## Progress Semaphore

# Progress Semaphore Semantic AI Platform Helps Transform Government Data to Uncover New Business Opportunities

CASE STUDY

COMPANY US Government Contractor

INDUSTRY Government

PRODUCT Progress® Semaphore™

COUNTRY United States

#### SUMMARY

With each government agency using its own vocabulary to describe solicitations such as bids and REP's. government contractors often miss opportunities because they typically search for leads using their products, services and industry terminology. What's needed is a solution to get more value from data by addressing vocabulary gaps and language ambiguity to find relevant information faster to drive new initiatives. Contractors are now deploying the Progress Semaphore semantic AI platform to cut through the confusion.

#### Challenge

The US government is the largest purchaser of goods and services in the world, accounting for more than \$2 trillion each year. But cashing in on these opportunities isn't easy. One of the biggest challenges that organizations face is uncovering opportunities that match their capabilities and corporate objectives.

The core problem is that each government agency describes solicitations such as bids, RFP's, amendments, advance notices, awards, etc., using their own vocabulary while vendors search for leads using their products, services and industry terminology. The result: missed opportunities as simple keyword searches cannot resolve this diversity of language.

What's needed is a solution to get more value from data by addressing vocabulary gaps and language ambiguity to find relevant information faster to drive new initiatives.

## Solution

One government organization applied sophisticated data science and semantic search technologies to transform fragmented government contracting information into actionable intelligence for buyers and sellers using the Progress® Semaphore<sup>™</sup> semantic AI platform.

The data value chain provided by Semaphore engages state-of-the-art technologies for high-volume data capture, normalization algorithms, proprietary ontology, machine tagging, natural language searches and system integration. Today, customers have a higher volume of quality solicitation leads targeted to the products and services they provide and can leverage this information to improve their position and market share.



On a daily basis the system searches through information from 70,000 agencies and ingests more than 7,000 solicitations. As new solicitations are brought into the system, each asset is normalized, reviewed, analyzed and enriched with precise, complete and consistent metadata so that clients quickly discover relevant opportunities that match their products and services. Customers can search for solicitations using familiar language and receive qualified results without the need for multiple, restrictive keyword searches.

#### **Results**

The system employs a well-tested set of technologies and processes that bring the information their customers need to compete in the government sector. At the heart of the solution is a semantic model of more than 4,000 concepts, which describe the goods and services across more than 250 industry segments that governments buy on a regular basis. Supporting these concepts are a rich set of more than 65,000 synonyms, alternate spellings and multiple representations of the products and services their customers are searching for. The model is updated constantly as information scientists discover new purchasing categories and product and service offerings.

The Semaphore semantic AI platform is a key component in this solution. The Semaphore semantic modeling tool, Knowledge Model Management (KMM), provides a collaborative environment for information scientists to build and maintain their unique vocabulary. More than 250 new concepts - terms associated with the new technologies, services and products - are added to the model each month. This provides customers with an up-to-date search experience that keeps pace with constantly changing trends.

Additionally, Semaphore Classification and Language Services (CLS) leverage the model and use natural language processing and sophisticated semantic strategies

to apply precise, complete and consistent tags. It leverages complex strategies such as article splitting, filtering and exclusionary rules in the Semaphore platform to achieve precise results.



Much of the content in a solicitation is boiler plate and not relevant to the purpose of the request. Semaphore employs an article splitting process to remove irrelevant sections from each asset prior to classification, which provides document focus.



Semaphore examines the text surrounding key concepts, so that the true context of a solicitation can be identified. For example, is the solicitation request seeking contractors to install a software package or build a bespoke solution that will meet the government's requirements?



Semaphore uses exclusionary rules to remove irrelevant projects, so that the system does not send food processing vendors a contract for "iPads" when the word "Apple" is mentioned in a project description.



Semaphore's filtering process identifies relevant related services that are associated with the main topic of the solicitation.

These sophisticated strategies combined with Semaphore's Semantic Integration Services (SIS), which leverage the model and tags in the search process, help clients to immediately discover qualified opportunities for their industry and start the application process ahead of the competition.



Grow your business through better insights into your data. Learn more about Progress Semaphore.

#### **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 <u>www.progress.com</u>

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