

Case study

Transforming government data into business opportunities

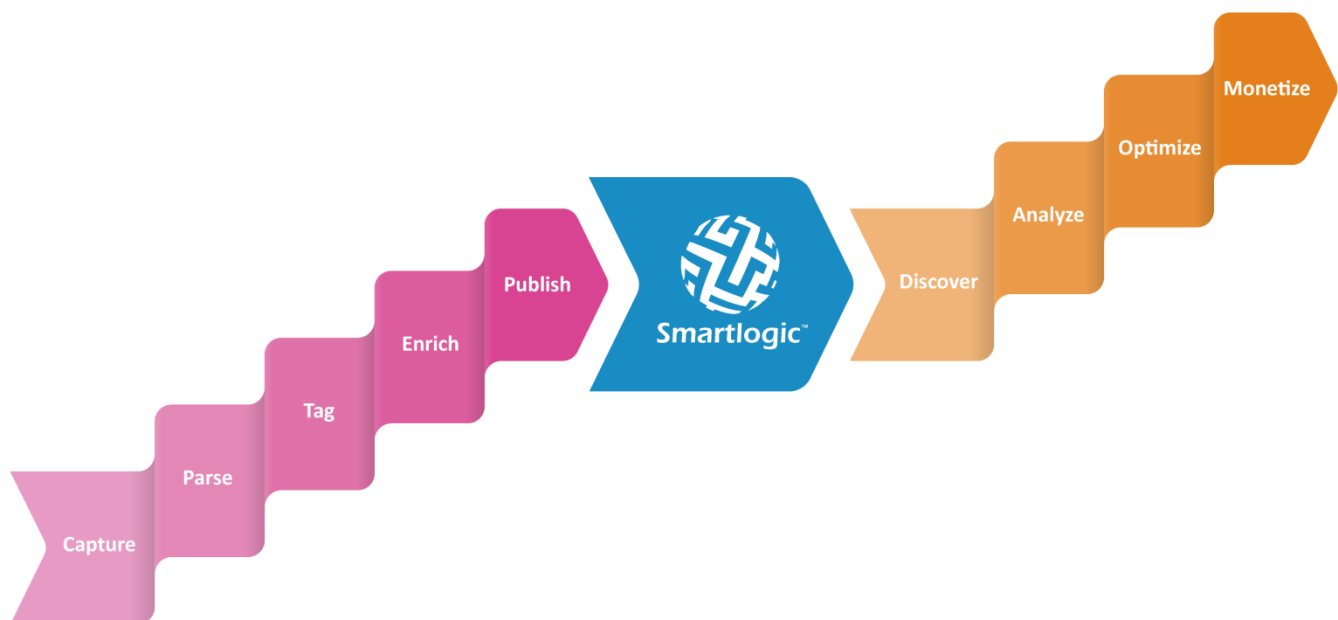
The problem

Doing business with the US government - the largest purchaser of goods and services in the world (more than \$2 trillion each year) - isn't easy. One of the biggest challenges that organizations face is finding 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 and vendors search for leads using their products, services and industry terminology. Simple keyword search cannot resolve this diversity of language and often opportunities associated with a vendor's industry, products and services are missed.

The solution

One organization applies sophisticated data science and semantic search technologies to transform fragmented government contracting information into actionable intelligence for buyers and sellers. 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.

The data value chain engages state-of-the-art technologies for high-volume data capture, normalization algorithms, proprietary ontology, machine tagging, natural language searches, and system integration.



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.

How they did it

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.

Smartlogic's Semantic AI platform Semaphore is a key component in this solution. Knowledge Model Management (KMM), Smartlogic's semantic modelling tool, 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 allows the company to provide an up-to-date search experience that keeps pace with constantly changing trends.

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

These sophisticated strategies combined with Semaphore's Semantic Integration Services (SIS), which leverage the model and tags in the search process, ensure clients can immediately discover qualified opportunities for their industry and start the application process right away.

The Smartlogic Advantage

Semaphore's sophisticated Semantic AI platform provides the context and meaning to government solicitations in the system. Semaphore enriches each asset with precise and complete metadata, extracts pertinent entities, facts and relationships and leverages the model and metadata to drive targeted and relevant search results. Today, customers can identify a large volume of quality contract leads, which help them make strategic business decisions that support growth of their public sector business.

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