

## Case study

Sematic AI Transforms User Search  
in Biopharma Organization

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### Introduction

As data-driven technologies produce massive amounts of information and automation begins to take over day-to-day mundane tasks, new talent models based on purpose and meaning will emerge. To prepare for the future and remain relevant in a constantly changing marketplace, organizations must find new ways to create value and devise new metrics to make sense of enterprise data.

From laboratory-based research and development, clinical trials, regulatory affairs, manufacturing, engineering, and quality assurance and control, etc. the knowledge, skills, abilities, and training for each role is critical to enterprise success.

One global biopharmaceutical organization with more than 30K employees located in 70 countries leveraged the power of Semantic AI and Semaphore to create a robust and extensible system that enables individuals to rapidly identify the appropriate standards, procedures, and responsibilities associated with their role to comply with organization and legal requirements.

### The Opportunity

To improve the identification and awareness of standards, procedures, and responsibilities associated with a role, the organization uses a **hub and spoke** architecture where centralized knowledge models manage multiple business functions and extract the critical facts from documents to support R&D quality objectives.

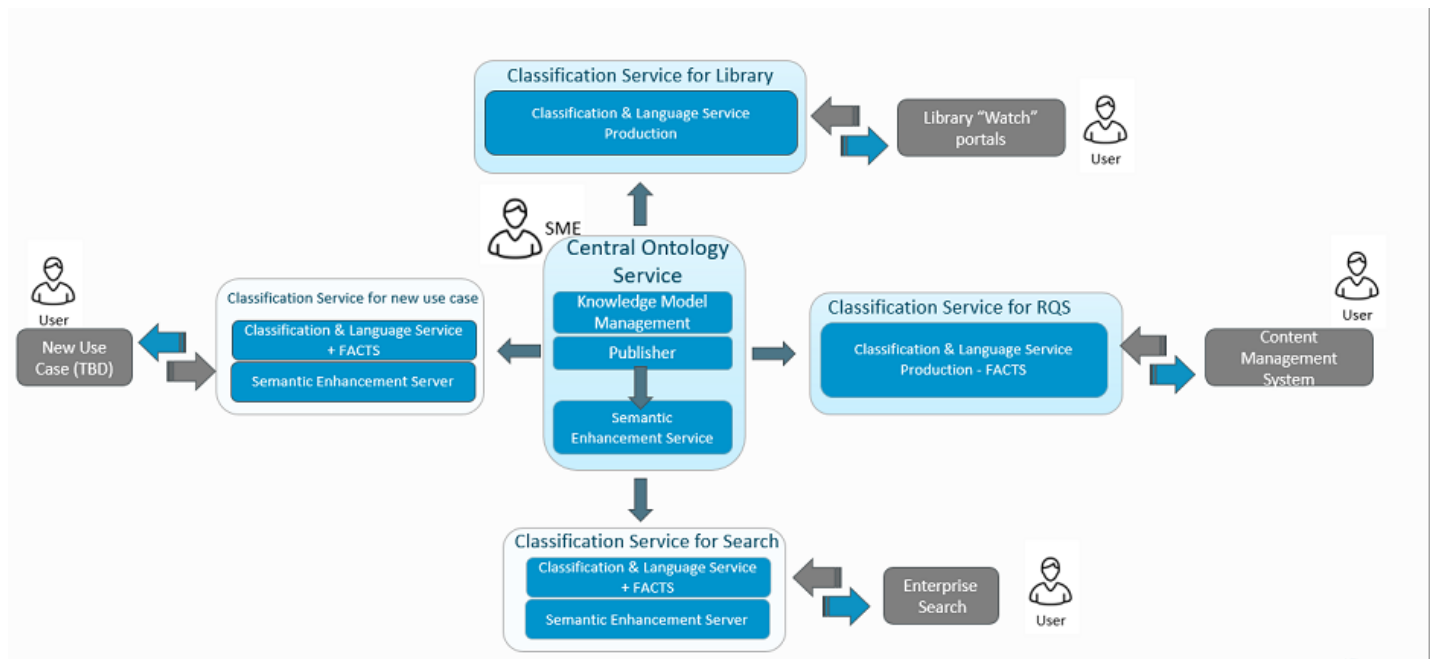


Figure 1. Semaphore Hub and Spoke Implementation

Within the enterprise, the management of systems and business processes are highly regulated and subject to precise and specific guidelines. As new employees are hired and individuals assume new roles, the process of identifying the required knowledge, skills, and training requirements from a corpus of more than 500K documents, is long and complicated.

Requirements, which are managed in a repository, contain long standard operating procedure (SOP) documents that support new hires and new roles required skills/training. The systems contain sensitive information and the process to identify the appropriate training requirements requires a manual **stare and compare** process of locating each document, opening it, and reading it to determine if it is relevant.

Already deployed within the enterprise, Semaphore was used for central ontology management and the classification of public documents for current awareness. By extending the use of Semaphore and creating a unique and innovative classification strategy, the necessary metadata was created and the user experience transformed.

### How They Did It

Using Semaphore's Knowledge Model Management (KMM) capabilities they extended existing R & D models to include the relevant concepts, topics and relationships associated with role standards, procedures, and responsibilities.

The model is published and used by Semaphore Classification and Language Services (CLS) to automatically examine each document, identify and extract the facts necessary to populate key fields such as roles, responsibilities, scope and purpose.

The classification process uses sophisticated table handling techniques that push classification to the next level - to identify important parts of each document, model them, and use rule-based classification to apply precise and consistent metadata. The metadata is used to create filters that employees use to quickly identify the skills and training that are relevant to their role.

Semaphore FACTS modeling and CLS refine extraction rules to run against the full set of documents, identify additional relevant facts, and develop appropriate fact extraction strategies. Smartlogic worked closely with the client to transfer knowledge that supports existing and future classification and fact extraction outcomes.

### The Results

Today the organization has a robust and extensible system that enables individuals to rapidly identify the appropriate standards, procedures and responsibilities associated with their role. The powerful fact extraction and classification capabilities of Semaphore make this possible. By leveraging their existing investment in Semaphore they have a solid technical framework with knowledgeable staff to support and manage existing and future requirements.

Their employees who are scientists, researchers, communicators, manufacturing specialists and regulatory experts across the globe can focus on creating solutions that go beyond treating illness to have a positive impact on their patients, society, and science.

To learn how you can take Classification and Fact Extraction to the next level, email us at [info@smartlogic.com](mailto:info@smartlogic.com) or contact your Smartlogic Account Manager

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