

## Case study

Big 4 Accounting Firm Delivers Automated Digital Labor to Eliminate the Pain of Regulatory Compliance with Semaphore

Highly regulated industries like Financial Services, Aerospace, High Tech, Energy, Healthcare and Life Sciences are under increasing pressure to minimize organizational and reputational risk. As the number of new laws and regulations continue to proliferate, global organizations must develop transparent, consistent and reliable systems and processes to ensure the enterprise is compliant.

Compliance is often managed with operations domiciled in low-cost, offshore locations with some technology support. Compliance professionals spend their day performing “stare and compare”; examining hundreds of thousands of information assets searching for the relevant information associated with each regulation. This process is tedious, error prone and increases the organization’s risk. Getting it wrong results in expensive fines and damaged reputations.

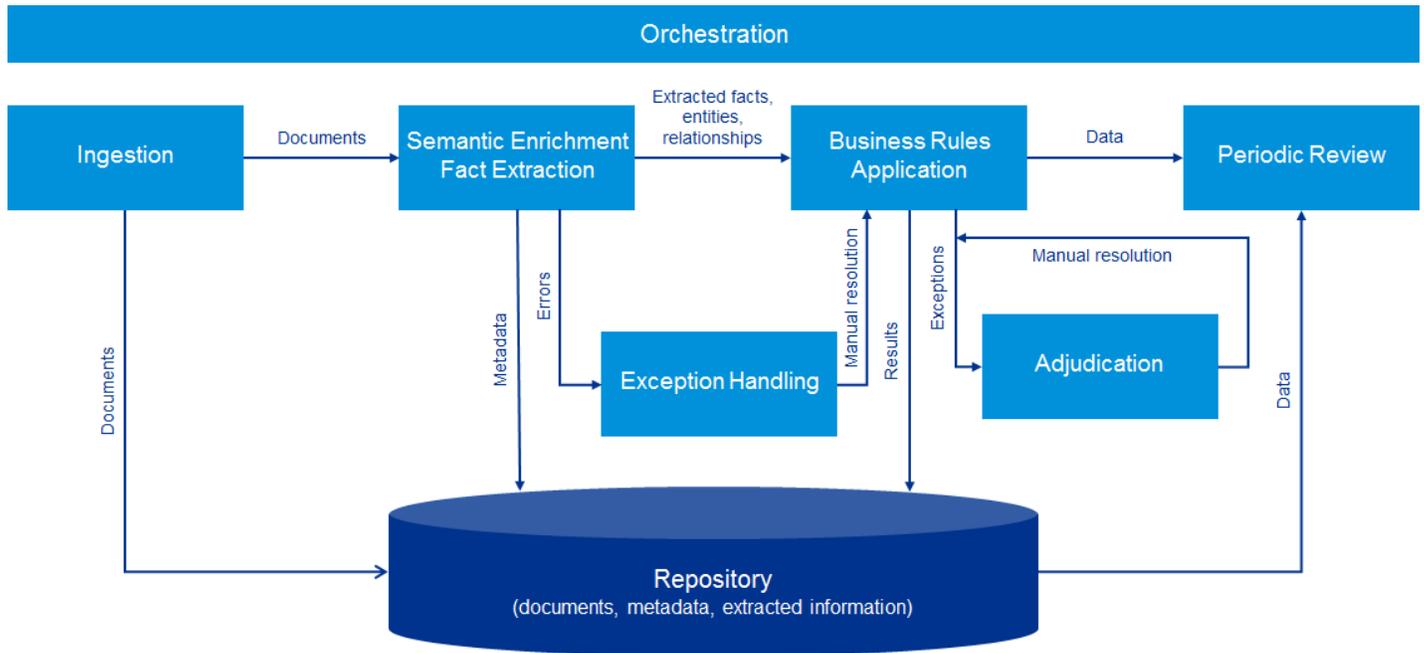
Today, compliance costs are estimated to be 15 to 20 percent of the total “run the bank” cost. Regulatory demands drive roughly 40% of “change the bank” projects (source: Bain & Co.). Regulatory costs are expected to increase and are associated with:

- An ever-changing and increasingly costly regulatory landscape
- Inexperienced personnel performing boring manual processes that are expensive and error prone
- Ineffective workflow management
- Business areas across the enterprise store the same information in disparate systems and use it to perform the same analysis multiple times
- Incomplete and obscure audit trails
- Insufficient and inaccurate management reporting

The organization, an audit, tax, and advisory firm, works with their clients to address challenges in regulatory compliance and reporting programs. They have developed a managed service that changes the paradigm for satisfying regulatory compliance requirements. The platform leverages comprehensive domain knowledge and leading edge technologies to enable straight-through-processing where intelligent machines process more than 80% of the information and escalate exceptions to a small team of human operators for exception handling.

Smartlogic’s Semantic AI platform Semaphore, is a key component of the digital labor platform where client information is ingested into the system once, validated and stored centrally so that it can be shared across departmental boundaries.

Semaphore uses a semantic model to analyze the information from “unstructured” sources, automatically generate metadata to enrich the documents, and extract the critical facts, entities and relationships. The extracted information is analyzed by the policy engine, which applies more than 6,000 business rules that represent the relevant regulations. The enriched source documents and results are stored in a NoSQL database. An orchestration engine executes workflow processes that route exceptions to the appropriate work queue.



The firm started the process by using Semaphore’s platform to build models that represent the critical concepts associated with various regulatory domains. The models drive the creation of semantic rules that create metadata and extract facts, entities and relationships for review by the regulatory rules engine. Semaphore combines natural language processing techniques, part of speech sequencing and other statistical approaches and graph traversal techniques to gather the evidence, which activate the semantic rules. The results are precise, consistent, and complete. The accuracy and consistency of this extraction matches or exceeds human handling of the same documents.

**Effectively leverage digital labor to comply with KYC, FATCA and CCAR regulations**

**Anti-money Laundering (AML) and Know Your Customer (KYC)**

**80% reduction in manual labor out-of-the-box**

**90% reduction in manual labor in steady state**

The objective of KYC regulation is to prevent identity theft, financial fraud, money laundering, and terrorist financing. The KYC process verifies the identity of a customer using reliable information like 10K filings, corporate resolutions, and copies of passport pages. KYC requires banks to collect documentation to identify and verify each customer to demonstrate it has performed KYC procedures.

KYC compliance is a time-consuming manual process and often takes weeks or months to complete. The abandonment rate in setting up accounts in wealth management, prime brokering, and investment management can be as much as 25%. The client

becomes frustrated and leaves; so the accounts are never provisioned. Incomplete, inconsistent and inaccurate information increases exposure and risk.

Without automation, the only way to solve this problem is to increase the number of people reading and validating documents. Because the work is tedious and repetitive, some banks report employee attrition rates up to 10% per month.

At one client, an out-of-the-box implementation of the digital labor platform leveraged the Semaphore model and extraction processes to result in a greater than 77% reduction in manual effort. Time spent by staff transcribing and validating documentation is spent on managing exceptions.

Benefits of this automation go beyond productivity gains. The real value of automation comes from:

- Large scale consistency and repeatability – all information is processed in a consistent manner. Information is evaluated, all rules are applied every time to ensure all information is valid.
- Reduced risk – the quality of output is high, reducing sanctions and maintaining reputation.
- Transparent and auditable results – decisions and outcomes are reviewed and explained based on facts not human judgment.

The platform ensures that clients can respond to regulatory inquiries with consistent, transparent, and auditable results.

#### **Foreign Account Tax Compliance Act (FATCA)**

**Greater than 80% improvement in W8-BEN-E processing,  
validation and due diligence.**

**Automated, transparent and increased precision in results.**

FATCA is a U.S. federal law that requires a foreign financial institution to ascertain whether their client is a US resident for tax purposes so that they can withhold U.S. taxes. IRS form W8-BEN-E is complex and requires significant validation. Manually processing a W8-BEN-E can require more than an hour of a human's time. Digital Labor can extract information, validate data, perform due diligence, and report the results in a fraction of the time.

The platform quickly evaluates the KYC information on file to validate W8-BEN-E information. It leverages the same Semaphore models, extracts relevant facts and applies thousands of validation rules – on every document for every client– gaining an order a magnitude improvement. The platform produces a comprehensive audit trail of all data examined, all checks performed, and any exceptions handled. Due diligence to support FATCA regulations can now be more than ten times more productive.

**Comprehensive Capital Analysis and Review (CCAR)**

**Greater than 75% improvement in processing 10-year history of credit portfolio.**

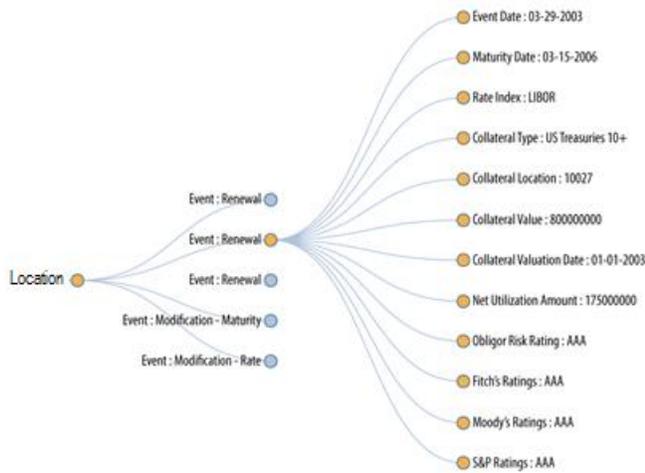
**Automated, traceable and transparent, increased precision in output.**

**Eliminated expensive external labor.**

CCAR is a regulatory framework introduced by the Federal Reserve in order to assess, regulate, and supervise large banks and financial institutions. Banks are required to run their portfolios through a series of scenarios such as, interest rate spikes, U.S. dollar movements and Britain leaving the EU, and report effects on their portfolios and holdings.

The solution provides transparency and traceability to clients in the CCAR process. Documents throughout the enterprise are ingested and stored in a single repository. Using the Semaphore model, the relevant facts are extracted from the assets, stored in the NoSQL database, and then used to analyze and report on the results of each scenario.

One client reported a 75% end-to-end process improvement when processing a 10-year history of their real estate investment portfolio, which allowed them to release 300 contractors who had been working for 18 months with results of questionable accuracy. The precise, repeatable, auditable, and transparent results allow the bank to report their results with confidence.


**Semaphore’s technology and organizational domain knowledge make digital labor possible**

Semaphore’s Semantic AI platform is at the heart of the digital labor solution. Global organizations in the Energy, Healthcare, Life Sciences, Financial Services, Government & Intelligence, Media and Publishing and High Tech Manufacturing industries use Semaphore every day to enrich enterprise information assets with context and meaning. Semaphore extracts critical facts, entities and relationships to power case management, workflows and advanced analytics. It harmonizes different data types from disparate sources to create logical data warehouses with a true semantic layer.

Innovation is at the core of the organization. This platform is one of many manifestations of their commitment to innovation; yet, innovation must be coupled with an unwavering commitment to knowing its clients' industries to deliver transformative change and drive value creation. This combination of innovation and domain knowledge permeates across all enterprise functions and industry verticals.

The platform brings together a set of best-of-breed enterprise-grade technologies that streamline reporting, improve accuracy, and reduce the cost of regulatory compliance for their clients. In addition to their KYC, FATCA and CCAR applications, the platform can be extended into other related financial activities like mortgage processing and to other vertical markets like Life Sciences – where regulatory problems such as Adverse Event Reporting, Clinical Trial Management, and IDMP can benefit from this type of automation.

**Whether you are interested in regulatory compliance, streamlining workflow, mining information assets for investigative analytics or harmonizing your data to gain market insight, Smartlogic can help.**

To learn more about Smartlogic visit us at: [www.smartlogic.com/industries](http://www.smartlogic.com/industries)  
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