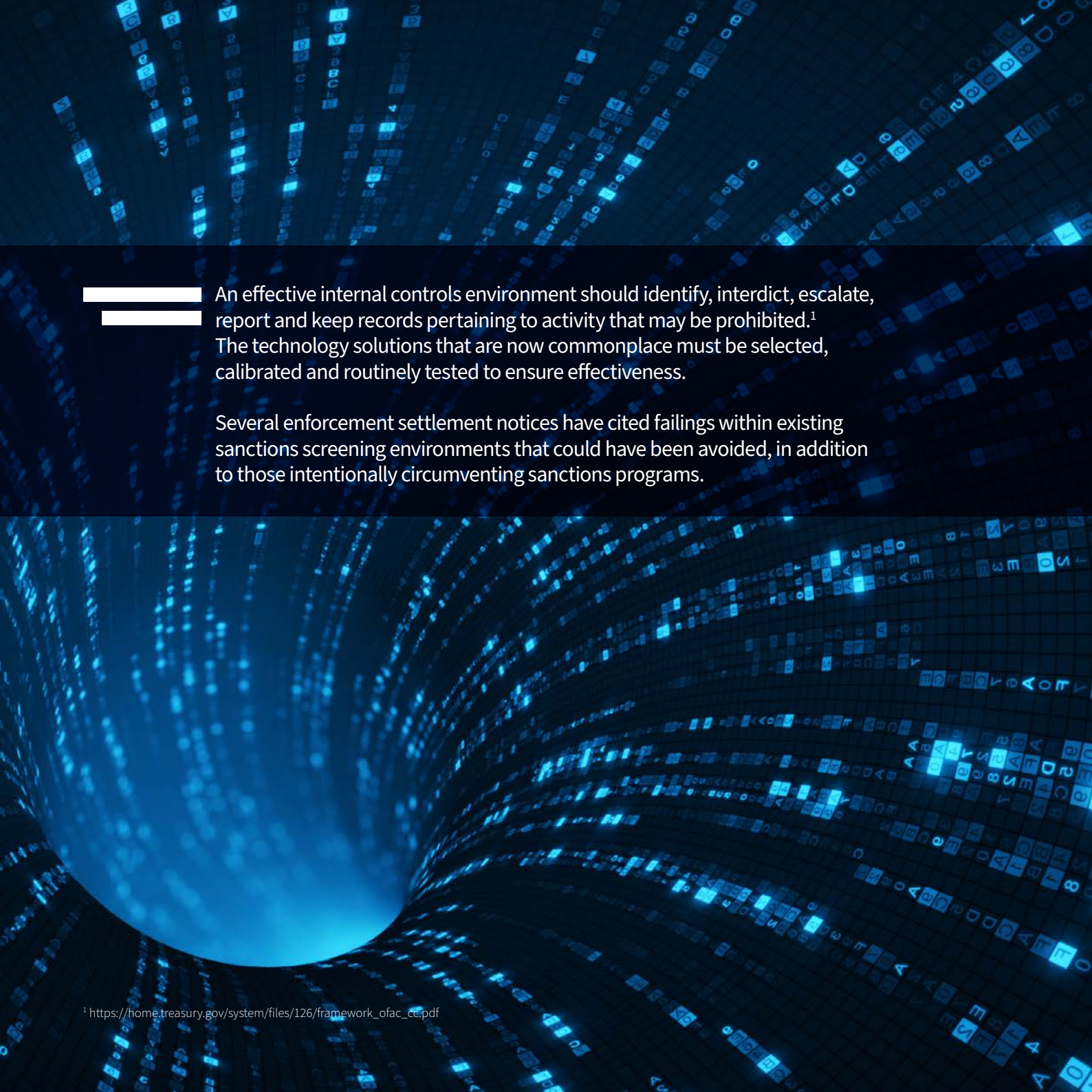




# Data & Analytics Sanctions Solutions



■ An effective internal controls environment should identify, interdict, escalate, report and keep records pertaining to activity that may be prohibited.<sup>1</sup>  
■ The technology solutions that are now commonplace must be selected, calibrated and routinely tested to ensure effectiveness.

Several enforcement settlement notices have cited failings within existing sanctions screening environments that could have been avoided, in addition to those intentionally circumventing sanctions programs.

<sup>1</sup> [https://home.treasury.gov/system/files/126/framework\\_ofac\\_cc.pdf](https://home.treasury.gov/system/files/126/framework_ofac_cc.pdf)

# How Can We Help?

FTI Consulting has a long history of helping our clients develop, improve, test and validate sanctions compliance programs, in addition to supporting the quantification of historical failings during internal or enforcement-driven reviews. Our award-winning Data & Analytics team leverage internally curated reference data and matter-proven proprietary technology solutions, ranging from data review platforms to machine learning-powered optimisation models. Clients and regulators alike recognise the integrity of our independent analyses. Our experts are equipped to deliver on key components of sanctions compliance and investigations, using a wide range of data and analytical skills to:



**Ensure data-driven controls reduce inherent risk and minimise exposure to avoidable sanctions violations.**



**Back representations to regulators and enforcement agencies with forensically robust analytics.**



**Inform corporate due diligence around deals and transactions, assessing potential sanctions risk exposure.**

[Click here](#) to understand our firm-wide sanctions and export controls capabilities.

# Sanctions and Name-Screening Monitoring Landscape

FTI Consulting works with a wide range of clients across multiple industries and therefore understands that sanctions compliance programs are never one size fits all.

The diagram below illustrates key data, analytical and technological pillars supporting the screening and monitoring landscape.

## List and Reference Data Management

- Sanctions lists
- Geographical data
- Internet protocol (“IP”) and telephony geofencing
- Third-party Know Your Client data

## Data Provenance and Lineage

- Data capture, completeness and digitisation
- Data transformation and enrichment processes
- Data validation

## Screening Integration and Configuration

- Identifying and addressing data nuances
- Mapping and monitoring appropriate geographies, customers, products and services



## Rule Tuning, Risk Scoring and Alert Disposition

- Automated false positive reduction
- Machine learning supporting risk-based reductions and alert prioritisation

## Case Management

- Structured alert and case workflows
- Auto-population and recommended responses
- Natural language-generated draft case reports and decisioning

## Management Information and Reporting

- Emerging and historical alert and case trends
- Data-driven intelligence around sanctions regimes
- Reporting, management and disclosure of blocked or violative activity

## CASE STUDY

# Name-Screening Solutions Comparison and Assessment

An international banking group undertook an initiative to review and assess the feasibility of consolidating their financial crime compliance framework across different European geographies. The client identified three different name-screening solutions operating across their European jurisdictions. FTI Consulting was asked to conduct an independent assessment of the systems in place to establish a comparative analysis that could be used to support the decision-making process.

- Assessed the effectiveness of three name-screening solutions already in use by the client.
- Produced a system comparison analysis highlighting the benefits and limitations of each solution.

- Conducted a performance analysis, identifying gaps and suggesting improvements.
- Deployed our sanctions screening workflow solution to evaluate different algorithms against the client's data.
- Sampled data was processed through our solution to evaluate which algorithms performed better and under what circumstances. Results were compared to historical screening results obtained from the three name-screening solutions to identify gaps, advise on better tuning and address gaps in each solution.

## OUR IMPACT



## EXPERTISE

Expert-driven and technology-enabled methodology for name-screening assessment.

### Best-in-class technology

Deployed our own solution for name screening, enabling an independent, objective evaluation of the client's system.

### Insight

Drafted a comprehensive report documenting the system analysis for the solutions in scope: gaps, enhancement opportunities and a clear actionable plan.

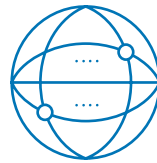
# Our Data & Analytics Sanctions and Name-Screening Capability

We bring an established set of data-driven processes, deep expertise in name matching methodologies and algorithms reference data and technology solutions to enable wider sanctions expertise across FTI Consulting, our clients and their counsel.



## Financial Crime Assets

- Multiple historical sanctions lists including all additions and deletions, allowing point-in-time analysis associated with quantifying historic violations
- Enriched geographical data to identify cities, ports and countries associated with or subject to sanctions and export controls restrictions
- IP and telephonic geolocation data to detect access or provision of services to sanctioned or embargoed countries
- Banking and product/service code data transformation using global standards (e.g. SWIFT BIC references)
- Keyword and phrase library to detect message stripping and circumvention techniques
- Payment and messaging parsers and entity extractors to support multiple formats and databases (e.g. SWIFT/SEPA/SIX/FedWire)



## Name-Matching Platform

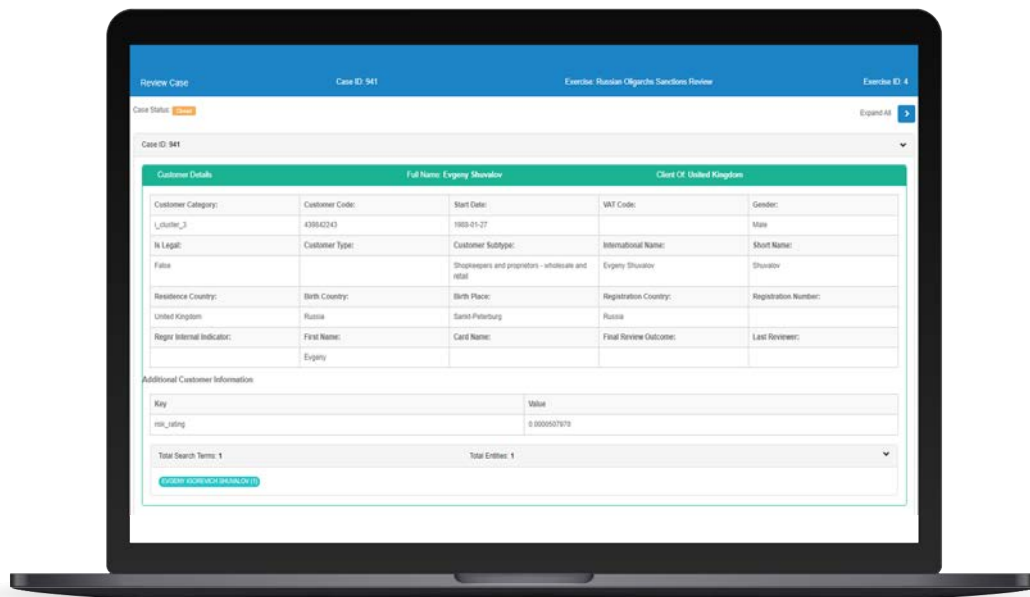
- Screening names and sanctions references requires the deployment of multiple transformation, encoding and string distance algorithms in order to achieve robust results while minimising false positives.
- Geographical and country nexus extraction and normalisation
  - Phonetics/nicknames/semantic transformation
  - Multiple string- and token-weighted comparison algorithms
  - Defensible post-screening filtering and optimisation
  - Scalable solution for performing sizable sanctions lookbacks and customer book reviews
  - Full forensic audit trail from ingestion and screening through to human review



## Case Management and Review Solutions

Our teams are experienced in selecting the solution that ensures the most effective and efficient exchange between computer and human expert review. Getting this balance right can have significant cost and time to completion impacts.

- FTI Consulting's financial crime data review platform, FC DataRev, enables sanctions alert and case review, supporting customer and transactional lookbacks and controls testing.
- Technology-enabled case management when integrated as part of a wider communications and document review exercise within Relativity.



## CASE STUDIES

# Sanctions Matters Enabled by Our Data & Analytics Capabilities

### **Nordic Bank with Baltic Exposure**

Deployed FTI Consulting intellectual property and artificial intelligence (“AI”) including FTI Consulting’s financial crime data review platform (FC DataRev), graph analytics, and name-matching technology and algorithms, supporting a customer and SWIFT message sanctions review. Streamlined review of tens of millions of customers and over a hundred billion transactions through scaling rigorous human-machine review processes.

### **Southeast Asian Bank**

Performed an end-to-end data validation and assessment of client’s money remittance product. This consisted of testing and reviewing data integrity, data flows, processes involving the remittance core banking system, customers, transactions and Office of Foreign Assets Control (“OFAC”) sanctions screening and transaction monitoring platforms.

### **UK Bank**

Leveraged FTI Consulting’s historical sanctions lists, combined with geographic keywords, IP and telephony geofencing, to target high-risk geographies. Screened millions of customers and applied risk-based filtering on more than a billion transactions before screening the highest-risk subset. Enriched billions of IP records to determine geolocation. Conducted false positive elimination to significantly reduce human review.

### **Online Retailer**

Performed a model validation of the client’s sanction screening and transaction monitoring algorithms associated with four financial technology platforms including processing to payments, foreign exchange, gift cards and other unique money services for a Fortune 50 company.

### **Global Italian Bank**

Collected data from 10 countries and performed name screening and a forensic transaction review in our secure, isolated review environment to detect potential instances of sanctions violations. Deployed FTI Consulting’s proprietary web-based review tool, allowing for a fully auditable record of all review activities and an efficient alert escalations channel between FTI Consulting and the bank.

### **Digital Bank**

Performed a model validation for a cryptocurrency bank associated with their digital asset and wallet screening platform per Office of the Comptroller of the Currency (“OCC”) standards and Model Risk Management framework. Provided compliance advisory services, supporting them with an OCC consent order, helping to remediate and enhance their BSA/AML program.



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### **South Asian Bank – NY Branch**

Collected data from 15+ countries/locations into a central data repository to facilitate efficient data analysis and review. Analysed SWIFT, CHIPS, FedWire and trade finance data as part of a bank monitorship. Combined structured and unstructured data science techniques as part of a trade base money laundering review to discover over-/under pricing of assets and commodities.

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### **US Investment Bank**

Validated data lineage throughout the core banking and compliance systems in relation to sanctions screening. Reviewed, analysed and reported deficiencies in the sanctions-related system. Issued a report directly to US regulators detailing the current sanctions landscape with weaknesses/gaps identified.

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### **Global Dutch Bank**

Extracted, reconstructed and processed more than 100 million archived SWIFT messages, across 14 countries, as part of a sanctions lookback. Designed and implemented processes to reconstitute financial transactions by linking related messages through a series of embedded references and data points. Automated case creation and routing specific to sanctions regimes.

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### **Global Cross-Border Payment Provider**

Conducted an independent assessment of an OFAC sanctions compliance program including a technical assessment and testing of the in-house screening platform. Performed a lookback transaction review of the client's data using FTI Consulting's sanctions screening solutions.

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### **Global Shipping Company**

Collated data from nearly 100 countries into regional data centres. Analysed billions of records evidencing the client's global shipping-related operations and associated money flows to identify a financial system or geographic nexus indicative of potential OFAC violations and circumvention. A global team supported in-country reviews where required by local data protection laws.

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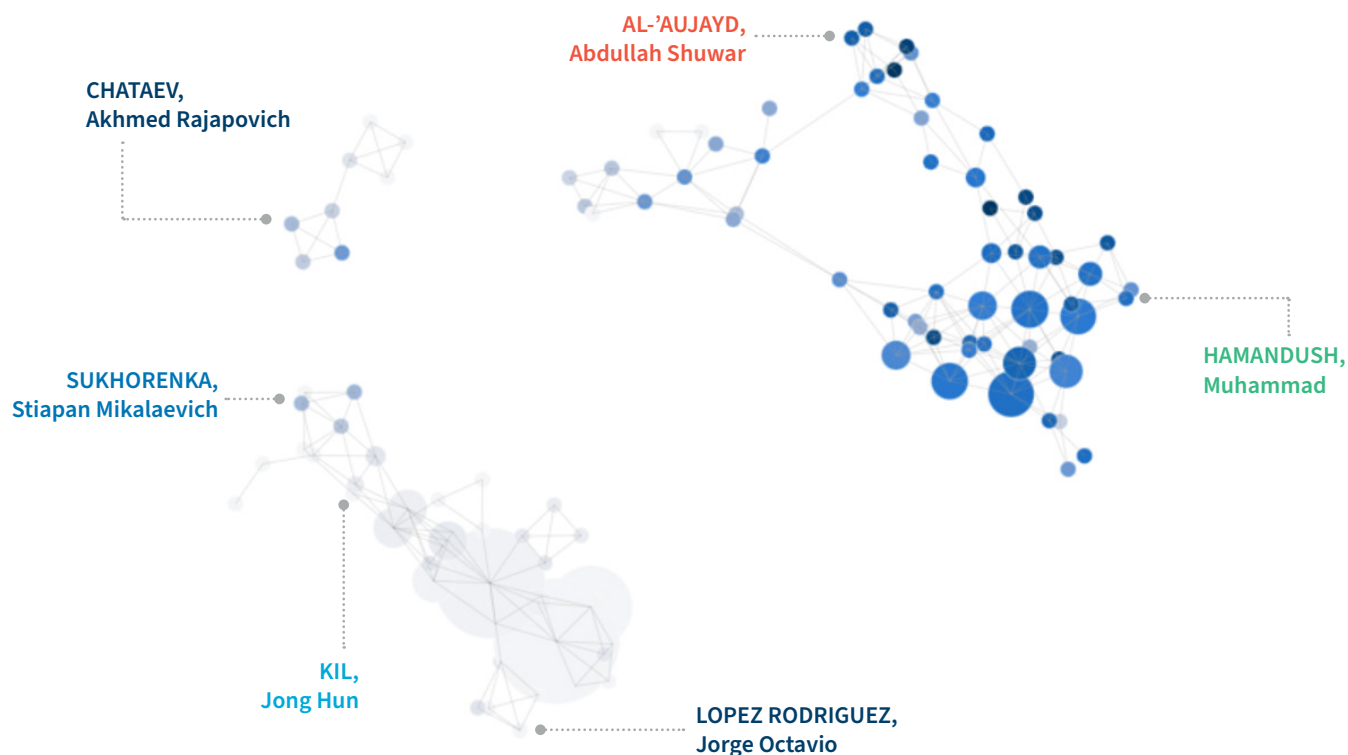
### **Chinese Telecommunications Company**

Developed and implemented innovative forensic and data analysis methodologies to apply requirements of complex US trade sanctions laws to the company's systems. A multidisciplinary global team supported all aspects of the review.

# Powered by Advanced Analytical Techniques

## Clustering

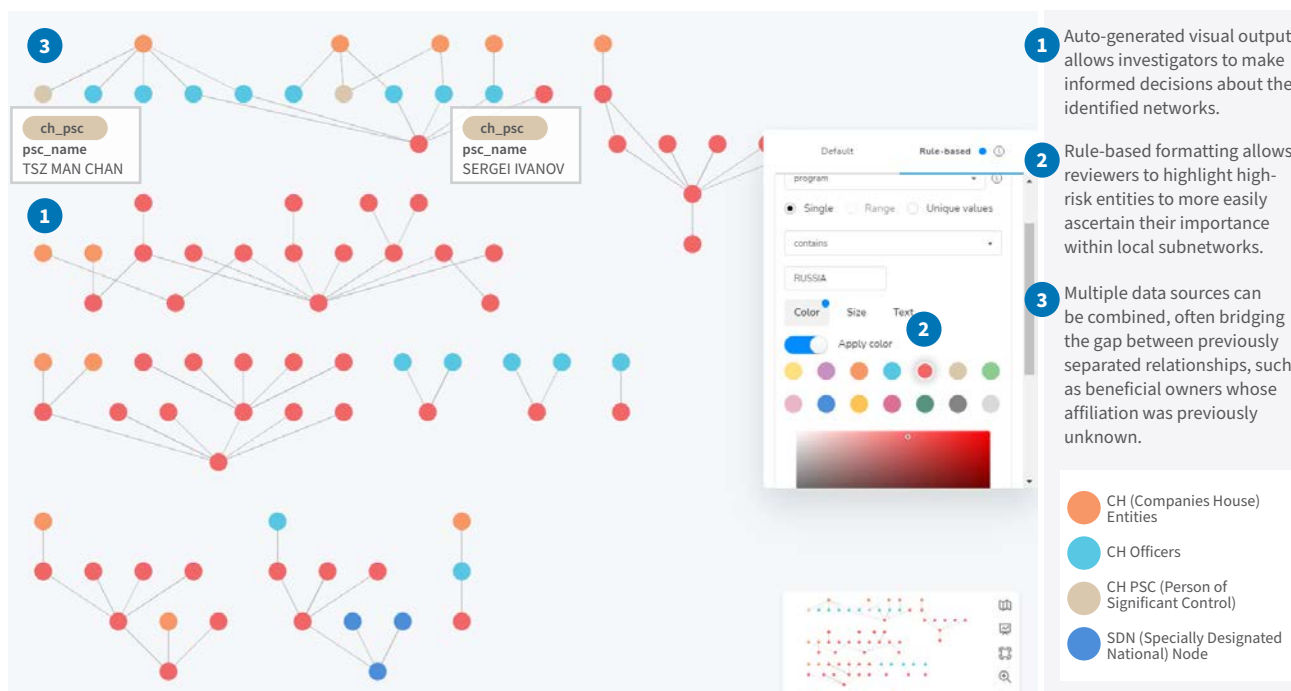
Name etymology is one of the several dimensions that can help identify similarities and patterns, enhancing name-matching capabilities. A clustering approach that leverages these complexities can help improve the performance and robustness of the process.



This example shows geographically comparable cluster communities, with darker clusters towards the upper right representing individuals from countries in the Middle East based on a secondary labelling process. By leveraging a combination of visualisation and clustering techniques, it is possible to segment the analysis or review and direct to teams with regional and language specialisms.

## Network Analytics

Relationships between connected parties are more effectively analysed using graph database technology than in traditional relational (e.g. SQL) databases. Centralising the data into a single graph and mapping out the connections between relevant entities results in a clear understanding of real-world relationships. Node/edge metrics enable deeper understanding of relationships and data structures. These include ownership and transactional networks, which are often at the heart of sanctions evasion typologies.



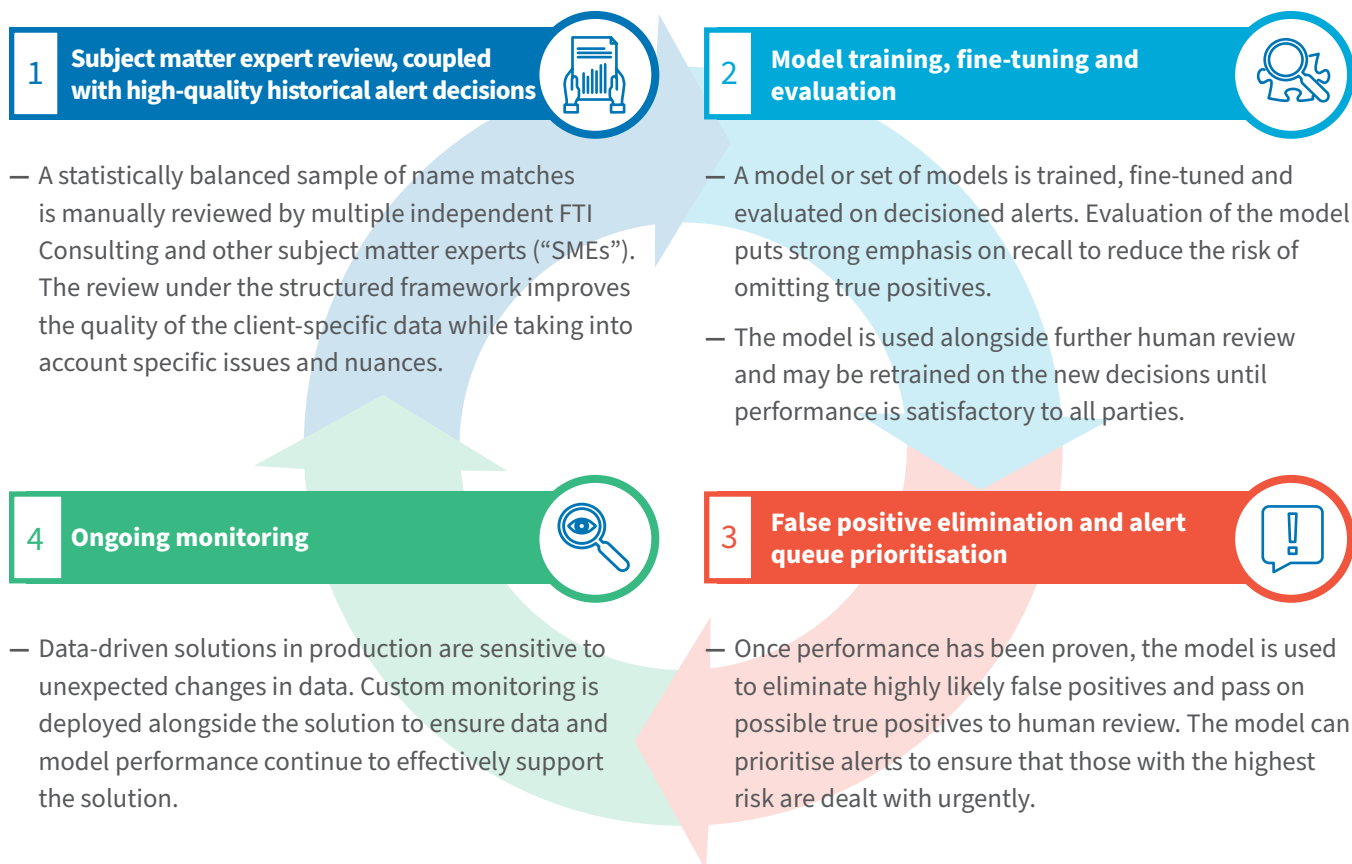
**This example shows the links between UK Companies House reference data and specific US OFAC sanctions programs.** Our proprietary tool searched UK Companies House for the companies and associated directors, networking through the data and generating a dataset that can be further used by algorithms or human investigators.

# Powered by Advanced Analytical Techniques

## Machine Learning

Machine learning methods can speed up the alert review process and help prioritise which alerts to review while reducing the risk of error-prone human-led activities. Machine learning models can be designed to learn to emulate the alert review process, identifying highly likely false positives and eliminating or deprioritising them before human review. A machine learning approach can leverage the outputs from multiple data points instead of using a single threshold cutoff.

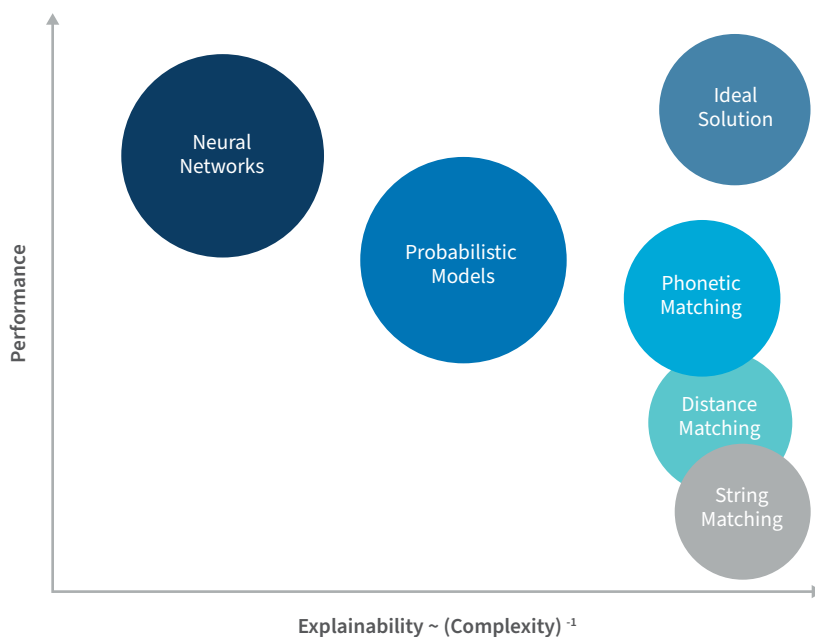
The process involves the following steps:



## Explainability

Models used for machine learning vary widely with respect to the ability to explain on how the machine makes its decision.

- A single threshold on a particular string distance metric will give a very simple alert boundary. An explainable model will make accessible what particular set of characteristics, such as different distance metrics or token lengths, contribute to the model's decision on a particular pair of names.
- On the other hand, some black box models, such as deep neural networks, lack inherent explainability, but there are methodologies that shed light on models' decision-making. However, these come with their own challenges and limitations.
- Our machine learning capabilities test and assess different models and methodologies that can be combined for an approach that is tailored to the explainability needed for the client's use case. This builds confidence and finds the right level of detail based on the role of the stakeholders, both internal and external to our clients.



## CASE STUDY

# Sanctions Screening Effectiveness Testing

A global financial institution needed support to assess its policies and procedures, test transaction and customer monitoring systems, and perform an independent assessment of the alert review process.

In response to regulatory scrutiny, our teams were retained to work closely with counsel to perform an independent review of the bank's entire sanctions compliance ecosystem. The aim was to identify any gaps or weaknesses in the bank's policies, procedures, technical systems or alert review processes which could lead to OFAC violations. A report issued directly to US regulators detailed the current sanctions landscape and all weaknesses and gaps identified.

- Conducted 100+ interviews with the bank's Anti-Financial Crime and IT SMEs to understand the bank's full operation and technologies as well as to raise questions around findings.

- Collated transaction and customer screening data from multiple sources to enable independent alert generation and alert review exercises.
- Designed and implemented a robust independent alert generation exercise, leveraging FTI Consulting's own payment and name-screening methodologies and technology, to uncover potential underlying weaknesses in the bank's screening processes.
- Worked closely with investigative experts to design a testing methodology to assess the bank's alert review and escalation processes.
- Deployed FTI Consulting's proprietary review platform with a bespoke configuration to allow for effective review of both transaction and customer sanctions alerts.

### OUR IMPACT



### INSIGHT

More than 60 observations made, from improvement opportunities to functionality gaps in critical bank systems.



### ASSURANCE

Bridged the gap between client and regulator, leading to a revised sanctions strategy and remediation plan.



# A Leader Among Leaders

With more than 7,000 employees and offices in 30 countries on six continents, FTI Consulting's breadth and depth extend across every major social, political and economic hub around the globe.

\*Number of total shares outstanding as of October 20, 2022, by the closing price per share on October 27, 2022.

**NYSE:FCN**

Publicly traded

**59**

59 of Fortune Global 100 corporations are clients

**\$4.9 B**

Equity market capitalisation\*

**9/10**

Advisor to 9 of the world's top 10 bank holding companies

**1982**

Year founded

**98/100**

Advisor to 98 of the world's top 100 law firms



Contact our global team of Data & Analytics experts:  
**da@fticonsulting.com**

## **EXPERTS WITH IMPACT™**

**FTI Consulting** is an independent global business advisory firm dedicated to helping organisations manage change, mitigate risk and resolve disputes: financial, legal, operational, political & regulatory, reputational and transactional. FTI Consulting professionals, located in all major business centres throughout the world, work closely with clients to anticipate, illuminate and overcome complex business challenges and opportunities.

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