

RISK & COMPLIANCE

2023

J A A R C O N G R E S

INNOVATIE & TOEZICHT:

Is RegTech het juiste antwoord?

Donderdag **15 juni 2023** - Landgoed Groot Kievitsdal, Baarn



JS & Complidata experience

AI/ML solutions for Anti Financial Crime



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JS ITALY



Risk & Compliance Jaarcongres - Donderdag 15 juni 2023



JS ITALY



JS BELGIUM

AI/ML solutions for Anti Financial Crime

JS & Complidata experience

Commercial in Confidence

COMPLIDATA 

AGENDA

About JS and Complidata

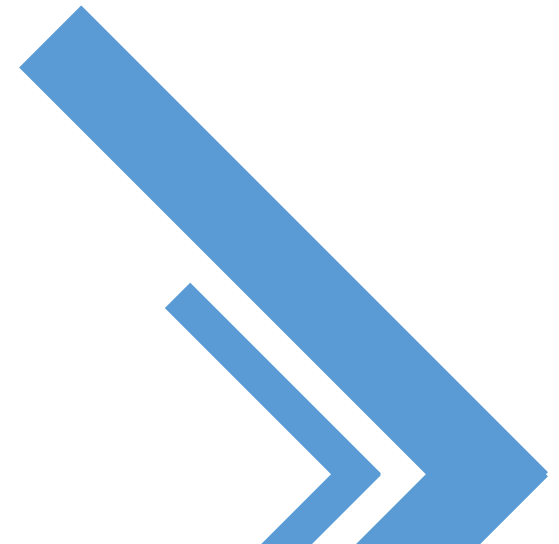
- Company Overview and joint value proposition for AI/ML projects in AFC

Project Methodology and Scope

- Customer Needs: Overview
- Main challenges to the Optimisation road
- Project Approach for AI/ML to AFC optimisation

Project Use Cases

About JS and Complidata



JS and Complidata: company overview and joint value proposition



- Certified knowledge on many best-of-breed market solutions for AML/Sanctions (Netreveal, Oracle FCCM, Siron, Fenergo, ...)
- +40 consultants with broad expertise in IT transformation projects and programs
- Deep knowledge with many customers configurations

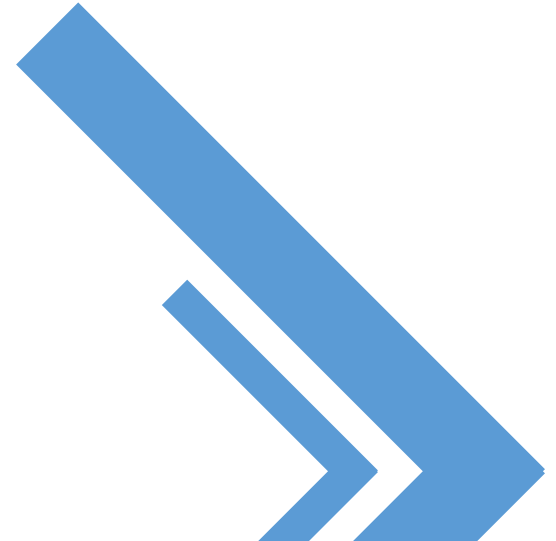
- Deep understanding of business challenges (+25 years in AFC) including specialistic topics like Trade Based Money Laundering
- Sound experience in applying AI techniques to AFC challenges such as:
 - AML Screening optimizations
 - Customers risk scoring
 - Transaction Filtering triage scoring

JOINT VALUE PROPOSITION

JS and Complidata work together at applying AI/ML techniques and tools for AFC

Our synergy **speeds up the adoption of AI/ML tools in AFC processes and procedures**, allowing Financial Institutions to reduce the **«time to value»**, improve the **explainability** and **perception of benefits** in AML / Sanctions daily operations.

Project Methodology and Scope



Customer Needs: Overview

Financial Institutions strive to design and improve traditional Anti Money Laundering tools by calibrating, over time, thresholds and scenarios rules in order to tackle the evolution of:

- AML/CFT Regulations
- Risks deriving from brand new products/payment channels (e.g. Crypto/Virtual Channels)
- Customer base segmentation and geography

EXPECTED BENEFITS FROM AML TOOLS OPTIMIZATION

**Reduce false
positive** in
alert
generation

**Improve
detection
capabilities**

Reduce costs
in daily
investigations

**Prioritize
Investigators**
to high value
activities

Speed up
**knowledge
transfer**

**Keeping up
to date with
Regulatory
and Audit**

Main challenges to the Optimisation road

Machine Learning and Artificial Intelligence technologies are key to drive **the optimization of AML/Sacntions Risk Models**. Nevertheless a **structured approach** helps Financial Institutions to **overcome the main challenges** that may arise over the project and **provide effective results**.

Main Challenges



- Current **AML/Sanction Model review** in order to pinpoint main inefficiencies



- Technical and functional **knowledge of AML/Sanction Scoring Engine**



- Technical and **Statistical knowledge needed to drive the Risk Model optimization** through AI/ML technologies, develop simulation and **provide reliable results**



- Set-up of **test/simulation environment**



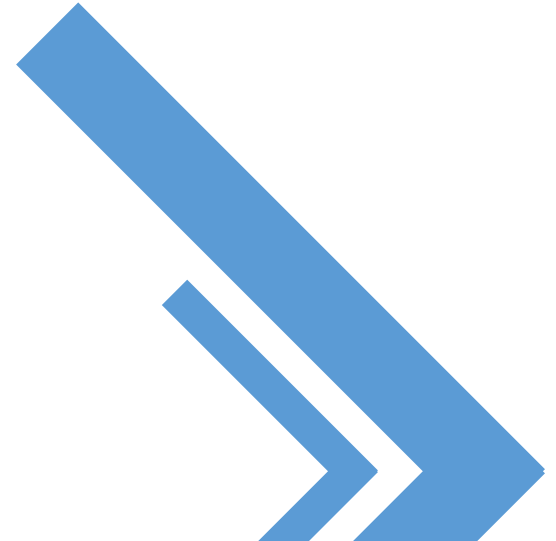
- Ensure **Continuous Risk Model Improvement**

Project Approach for AI/ML to AFC optimisation

Project approach: a mix of business consulting and domain expertise organised in different streams of activities, to support AFC in different stage: from AI/ML model set-up to periodic review.

Project stream	Goals	Deliverables
AML/Sanctions risk model review	<p>Gap analysis and review of the existing Risk Models (scenarios, thresholds, etc).</p> <p>Tuning and impact analysis of the new model.</p>	<ul style="list-style-type: none"> - Performance analysis of alerts by scenario, segment, closure status/reasons - Tuning of the existing scenarios to improve thresholds (Above the Line – ATL, Below the Line – BTL) - Simulation of the tuned model (how many and which alerts) - Risk scoring of alerts (priority / False Positive likelihood) - Definition of “Remediation Plan” for the AML/Sanctions detection engine tool
Set-up "AML Lab"	<p>Set-up of a test/simulation environment to host and run the new models (periodic review)</p>	<ul style="list-style-type: none"> - Define and set-up tools (e.g. Python simulator, SAS, Oracle Studio, etc.) - Data feeding policies: feeding the simulator “one shot” and “on demand/periodically” - Data preparation (i.e. synthetic data vs. real data, based on model needs) - Data purge/storage policy definitions
Knowledge Transfer - Train the trainer	<p>Provide training and support to selected group of Customer experts on how current risk model tuning/setting</p>	<ul style="list-style-type: none"> - Skill identification and support to staffing - Training plan - On-the job training.
Periodic Model Review	<p>Ensure training and support to selected group of Customer experts on how the current risk model might be implemented/reviewed</p>	<ul style="list-style-type: none"> - Assistance/support to design and implement Change Requests (e.g. In response to regulatory updates, Audit recommendations).

Project Use Cases



Project Scope and Objectives of a Complidata project

Customer risk scoring on a NetReveal platform

Project

“Large retail bank embarked on a customer risk scoring project”

- Develop a customer risk scoring model to add to the AML Transaction Monitoring system
- Optimise the Machine Learning model and harmonise the outcome with the alerting results
- Reduce the number of features to facilitate understanding
- Develop an above and below the lien tuning approach
- Identify potential efficiency gains



Optimisation and automation of existing FinCrime processes & systems

Complidata contribution

Complementing the bank's data science and AML team



- ✓ Provision of a senior data scientist and data engineer
- ✓ Provision of specific domain experts
- ✓ Provision of a senior AML domain expert

Deliverables / Tasks performed

- 1 Up-training of the Machine Learning model
- 2 Feature engineering optimisation
- 3 Scenario threshold optimisation and simulation
- 4 ABL & BTL testing methodology revision
- 5 Multi-lingual Narrative Generation for investigation and alert factors explainability



Project Scope and Objectives of a Complidata project

Alert & Scenario optimisation on a NetReveal platform

Project

” *Medium-size retail bank NetReveal optimisation project* ”



- Develop a Transaction Monitoring Risk and Coverage Assessment methodology
- Optimise the NetReveal Transaction Monitoring
- Provide full traceability, transparency and documentation
- Manage the impact of better detection without increasing the overall workload
- Ensure productisation and knowledge transfer
- Deliver results within the remediation timeframe agreed with the regulators

Enhancement and automation of existing FinCrime processes & systems



Complidata contribution



Providing AML domain experts and optimisation knowledge

- ✓ Provision of a senior data scientist and data engineer
- ✓ Provision of specific domain experts
- ✓ Provision of a senior AML domain experts

Deliverables / Tasks performed



- 1 Build a Transaction Monitoring Risk Assessment model
- 2 Provide a coverage assessment and highlight gaps
- 3 Test and tune all scenarios, execute ABL/BTL threshold setting
- 4 Build a machine learning model to improve alert triage
- 5 Provide a roadmap for industrialisation

Complidata AI/ML solutions generate improvements consistently

Our pre-packaged models embed our deep domain knowledge, ensuring repeatability of the expected outcomes



The results we generate will depend on how most compliance departments operate

We disrupt traditional assumptions on compliance effectiveness

Excellent results cannot be ignored

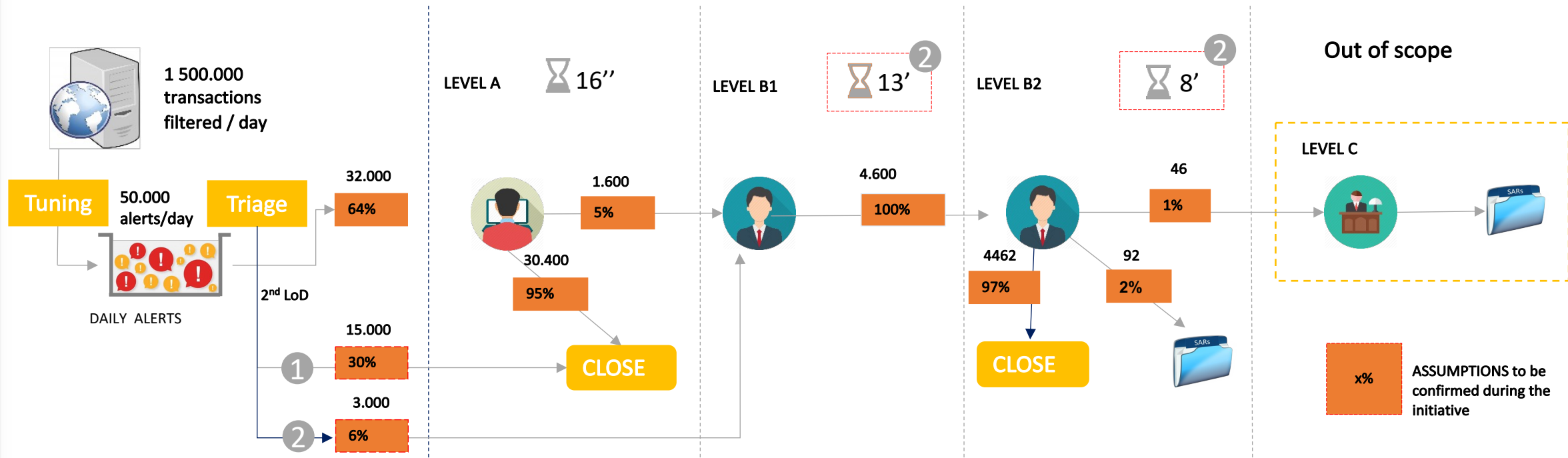


Proven & Robust results

- We have successfully delivered more than 25 projects across different FinCrime use cases.
- All our AI/ML projects have consistently generated ROI in excess of 40%.
- We can confidently state that we reduce alert levels by minimum 30% with no loss of true positives to achieve a strong business case
- We help you ensuring full coverage of your AML risk by detecting two to three times more true cases with the same number of investigators
- Actual project results range from 43% to 77%

Name Screening 1							% Reduction by Model
Data/Bank	Cutoff	Initial Alerts	False Positives	True Hits	% Reduction by Model	% Loss of True Hits	
Bank1	0,24	24654	13917	10737	56,4%	0%	56,4%
Name Screening 2							% Reduction by Model
Data/Bank	Cutoff	Initial Alerts	False Positives	True Hits	% Reduction by Model	% Loss of True Hits	
Bank 2	0,2	19,8k	12,8k	7k	65%	0%	65 %
Name Screening 3							% Reduction by Model
Data/Bank	Cutoff	Initial Alerts	False Positives	True Hits	% Reduction by Model	% Loss of True Hits	
Bank 3	0,0005	7k	4k	3k	40%	0%	40 %
Transaction Monitoring 1							% Reduction by Model
Data/Bank	Cutoff	Initial Alerts	False Positives	True Hits	% Reduction by Model	% Loss of True Hits	
Bank1	0,39	8k	6235	1779	77%	0%	77 %
Transaction Monitoring 2							% Reduction by Model
Data/Bank	Cutoff	Initial Alerts	False Positives	True Hits	% Reduction by Model	% Loss of True Hits	
Bank 2	0,37	57k	32765	24708	57%	0%	57 %
Transaction Monitoring 3							% Reduction by Model
Data/Bank	Cutoff	Initial Alerts	False Positives	True Hits	% Reduction by Model	% Loss of True Hits	
Bank3	0,07	231k	17k	12k	62%	0%	62 %
Payment Screening 1							% Reduction by Model
Data/Bank	Cutoff	Initial Alerts	False Positives	True Hits	% Reduction by Model	% Loss of True Hits	
Bank1	0,2	2,7 m	1,16 m	1,54 m	43%	0,24%	43 %
Payment Screening 2							% Reduction by Model
Data/Bank	Cutoff	Initial Alerts	False Positives	True Hits	% Reduction by Model	% Loss of True Hits	
Bank 2	0,15	120,593	55472	65121	46,7%	0,03%	46,7 %

Project Scope and Objectives of a Complidata project



OBJECTIVES

- ### 1 False positive reduction

 - Disqualification of **30%** of daily level A false positives
 - Correct identification of **95%** of true positives
- ### 2 Process optimization

 - Analysis facilitation through narratives => **reduction of alert processing time**
 - Improvement of operational efficiency
 - Allocate alerts to the appropriate level based on scoring
- ### 3 Increase Value for FSI

 - By allocating **people** from level A to level B thanks to false positive reduction and process optimization
 - By **reducing** dreary/tedious level A work

Customer success

Machine learning Modelling and Narratives Definitions outputs



We have out performed the initial success criteria, demonstrated value and achieved substantial ROI

OSINT



Model Performance

- Training on 13M hits
- Technical Optimization & new features led to better screening performance
- The success criteria defined in the project objectives have been met: identification of 99,36% of escalated hits and 43,52% of OFH hits with fewer true positives missed (0,01%)



Model Stability

- Blind test Execution
- Performance is consistent
- Stable & Robust model



Narratives

- Narratives Definitions set through workshops
- 16 narratives identified by GFS Paris & US teams to help the analyst



On top of the project

- Identification of further operational benefits
- Computation of a first projection of the data science phase results was tested over a day of production to have a first view on the potential savings



Efficiency gains level A
Alert reductions

- 18.000 alerts not processed by level A
- 20% productivity gain
- Additional staff moved from basic triage to knowledge-driven investigation
- Employee satisfaction improved



ROI for single use case >4M€

- Another S uses cases being implemented in 2022
- Potential gains exceed 20 M€ in one sub-vertical alone
- Global gains could exceed 100M € on an annual basis

Results & benefits generated

We build a roadmap with our clients starting from immediate concerns, expanding towards full Digital Compliance

PEP screening

Automate and optimise the backlog of PEP screening alerts

- Improve detection logic based on an expert-based score card
- Engineer name screening features and build ML model
- Alert cleansing and names distribution analytics
- Reduce alerts to investigate from 100,000 to 11,000 89% reduction

Sanctions Screening

Identify Obvious false positives and optimise detection

- Enrich counterparty data with Company/Individual recognition
- Add and re-fit features based on Complidata pre-packaged model
- Improve the lift curve of the model considerably
- Classify 46% of alerts identify obvious false positives

Explainability

Facilitate the investigation process and build trust in M.L

- Generate Machine Learning-generated explainability per alert
- Provide reliable audit trail for each score
- Natural Language Generated text at case investigation level in collaboration with investigators

Productisation

Enable the industrialisation of the Machine Learning Model and build trust

- Reduce time and effort for backlog remediation by 50%
- Go to production roadmap for sanctions screening optimisation
- Provide end-to-end model management for ML and scenario-based models



The Complidata embedded AML domain knowledge coupled with learnings harvested over more than 20 AML A.I. optimisation projects reduces time to industrialisation and accelerates ROI



Joint Services Italy

V.le SS. Pietro e Paolo, 50 00144 – Rome
www.jsitaly.it

Joint Services Belgium

Square Charles Maurice Wiser, 19 – Bruxelles
www.jsbelgium.com

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DE WWFT:

Wat kunnen en wat doen we ermee?

Risk & Compliance Jaarcongres - Donderdag **13 juni** 2024

www.riskcompliancejaarcongres.nl