



# Machine Learning for a Robust Anti Financial Crime

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## Outline

- A. Figures about the Global AFC Penalties.
  - B. The Traditional AFC Process and System.
  - C. Inefficiencies of the Traditional AFC.
  - D. Machine Learning for an Efficient AFC.
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## A. Figures about the Global AFC Penalties

- 58 AML penalties globally in 2019, totaling US\$ 8.14bn.
- Double of penalties in 2018, when 29 fines of \$ 4.27bn were imposed.
- Regulators in the USA handed out 25 penalties totaling \$ 2.29bn.
- UK followed with 12 fines totaling \$ 388.4m.
- Largest monetary fine was \$5.1bn from France.
- Average monetary fine for 2019 was \$ 145.33m.
- 2019 was record year, penalties (58), ahead of 2016 (47).
- half of penalties in 2019 were to banks (28 of 58), two thirds in 2018 (20 of 29).



Penalties by regulators  
across multiple  
jurisdictions beyond the  
USA and UK:



country*	1 January to 31 December 2019	
	total value of penalties (US\$)	number of penalties
Belgium	\$ 336,779,000	3
Bermuda	\$ 500,000	1
France	\$ 5,100,000,000	1
Germany	\$ 16,500,000	1
Hong Kong	\$ 1,600,000	1
India	\$ 455,000	5
Ireland	\$ 310,000	1
Latvia	\$ 4,810,000	3
Lithuania	\$ 1,000,000	1
Netherlands	\$ 0	1
Norway	\$ 1,003,532	2
Tanzania	\$ 435,000	1
United Kingdom	\$ 388,396,000	12
USA	\$ 2,286,531,383	25



## B. The Traditional AFC Process and System





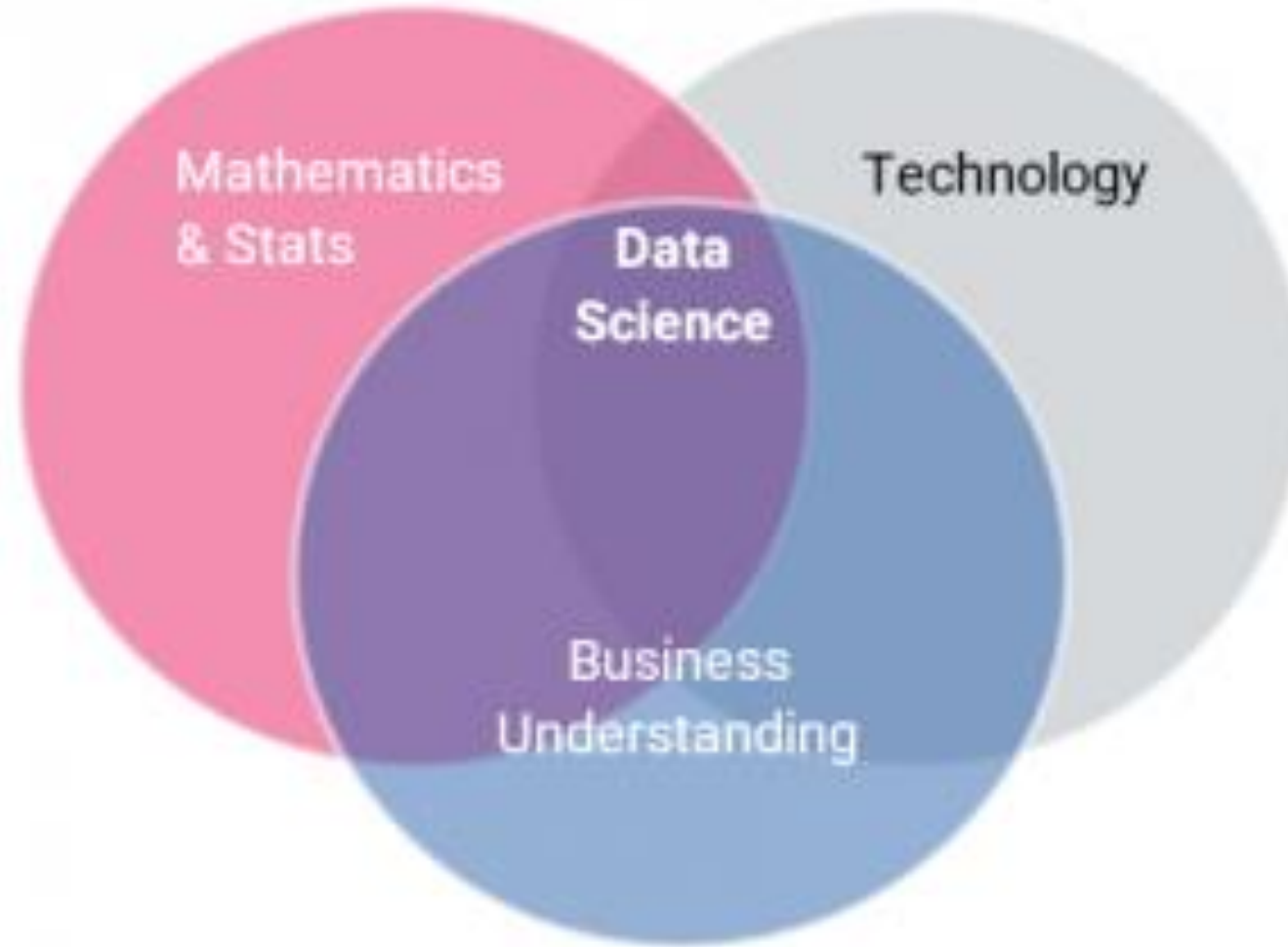
## C. Inefficiencies of the Traditional AFC



- Rigid and cannot adapt to continuously changing data.
- A great number of false positives are included in alerts.
- The identification of suspicious transactions is binary (True/False classification).
- High number of false positives is time consuming and costly.
- A great number of false negatives are included in alerts.
- Budget a lot of money, manpower and infrastructure, without getting fruitful results.
- Survey published by LexisNexis Risk - Major European Banks:
  - ✓ More than 2 days to process 50% of the alerts generated per one day.
  - ✓ Around 90-95 % of these alerts are false positive.



## D. Machine Learning for an Efficient AFC



Combination of Three



Data Science is able to exponentially improve current AML systems



## **Beyond the traditional AML systems, Machine Learning and Data Science can:**

- Combine available data to create a better picture of the overall transaction.
- Combine multiple data sources to realize patterns and find suspicious activity.
- Perform pattern recognition and money launder detection. Example: Structuring.
- Create suspicion scores (rather than True/False) to reduce false positives:
  - manual investigation will be concentrated only on high risk alerts – less time and money costs.
- Correct processing rules and reprocess previous data with ease.
- Identify and eliminate any normal aspect of the triggering event.
- Robotic Process Automation RPA, Auto close eligible alerts. Example: alerts in homogeneous risk buckets.
- Analyze social media profiles and links to understand customer behavior.
- Many others ...





For Compliance/AFC/AML/CFT

Technology



Data Science  
Machine Learning  
Artificial Intelligence



Necessity  
Not an Option



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# Thank You!

## Q&A