# New Technologies in Anti-Money Laundering and Counter Terrorist Financing (AML/CFT)

CFATF RESEARCH DESK

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# New Technologies in AML/CFT

The Financial Action Task Force (FATF) defines "new technologies" as:

➢ Innovative skills, methods, and processes that are used to achieve goals relating to the effective implementation of AMLCFT requirements or;

➢ Innovative ways to use established technology-based processes to comply with AML/CFT obligations.

*Source:*

FATF (2021), Opportunities and Challenges of New Technologies for AML/CFT, FATF, Paris, France, p. 6

# Benefits of New Technologies in AML/CFT

- Can improve the speed, quality, or efficiency of AML/CFT measures for e.g., by strengthening and increasing accuracy of customer analysis, identification and authentication.

- Reduces the costs of implementing AML/CFT frameworks more widely in comparison to traditional methods and processes.

- Allows analyses of ML/TF risks to be more dynamic, real-time and operate at customer, institutional, jurisdictional and cross-border levels.

- Provides partial or fully automated means to analyse large volumes of data.

*Source:*

FATF (2021), Opportunities and Challenges of New Technologies for AML/CFT, FATF, Paris, France, p. 11

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# Benefits of New Technologies in AML/CFT

- Assists regulators and supervisors conduct more timely, precise and relevant assessments of sectors and entities through data collection and analysis tools that are in line with the risk-based approach (RBA).
  - ➢ Requires innovation and adoption of new technologies by supervisors.

- Promotes financial inclusion by assisting entities to implement risk-based approaches to AML/CFT, particularly CDD requirements.
  - ➢ Facilitates more cost-effective, accurate and up-to-date assessments of customers
  - ➢ Improves customer experience by reducing the need for multiple documents to carry out transactions.

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## Opportunities of New Technologies for AML/CFT: Findings from FATF Digital Transformation Questionnaire [1]

- *What AML/CFT functions were new technologies being used for?*

  ➢ AML/CFT effectiveness in general (speed, flexibility, capability and better governance) – 85%
  ➢ Better risk management – 70%
  ➢ Cost savings – 55%
  ➢ Accuracy of results – 45%

- *Advantages of new technologies for supervisors*

  ➢ Supervise a larger number of entities.
  ➢ Better identify and understand the risks associated to the different sectors/individual entities.
  ➢ Live monitor compliance with AML/CFT standards and act in cases of non-compliance.
  ➢ Store, process and report on larger sets of supervisory data.
  ➢ Exchange information with other competent authorities.

**Source:**
[1] The FATF's Digital Transformation questionnaire sought information about how new technologies are being developed and deployed for AML CFT and the associated challenges. Data was collected from 188 responses, including case-studies and examples of digital solutions.

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# Opportunities of New Technologies for AML/CFT: Findings from FATF Digital Transformation Questionnaire

- *Advantages for the private sector*

  ➢ Better identification, understanding and management of ML/TF risks.
  ➢ The ability to process and analyse larger sets of data in a quicker, speedier and more accurate manner.
  ➢ More efficient onboarding practices (digital).
  ➢ Achieve greater auditability, accountability and overall good governance.
  ➢ Reduce costs and maximise human resources to more complex areas of AML/CFT.
  ➢ Improve the quality of suspicious activity report (SAR) submissions.

# Types of New Technologies for AML/CFT

- Respondents to the FATF Digital Transformation questionnaire stated that **Artificial Intelligence (AI), Application Programming Interfaces (APIs), and tools used for the purpose of CDD** have the most potential for AML/CFT effectiveness.

- *Artificial Intelligence (AI)*

  ➢ Uses advanced computational techniques to obtain insights from different types, sources, and quality (structured and unstructured) of data intelligence to "autonomously" solve problems and perform tasks.

  ➢ Machine learning: a type of AI that "trains" computer systems to learn from data, identify patterns and make decisions with little human input.

Source:
 FATF (2021), Opportunities and Challenges of New Technologies for AML/CFT, FATF, Paris, France, ps. 21-22

# Types of New Technologies for AML/CFT
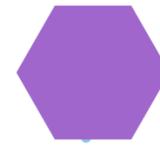
## Artificial Intelligence (AI)

- Its main benefits are:
  - ➢ Ability to learn from existing systems.
  - ➢ Reduced need for manual input into monitoring.
  - ➢ Reducing false positives.
  - ➢ Identifying complex cases.
  - ➢ Facilitating risk management.

- Transaction monitoring using AI and machine learning tools may allow regulated entities to carry out traditional functions with greater speed, accuracy and efficiency.

*Source*:

FATF (2021), Opportunities and Challenges of New Technologies for AML/CFT, FATF, Paris, France, p. 22.

# Where can Machine Learning be used?

- *Identification and Verification of customers:* In the context of remote onboarding and authentication AI, including biometrics, machine learning and liveness detection techniques can be used to perform: micro expression analysis, anti-spoofing checks, fake image detection, and human face attributes analysis.

- *Monitoring of the business relationship and behavioural and transactional analysis:*

  o *Unsupervised machine learning algorithms:* to group customers into cohesive groupings based on their behaviour, which will then create controls that can be set more adequately based on a risk-based approach (ex: transaction threshold settings), allowing a tailored and efficient monitoring of the business relationship.

  o *Supervised machine learning algorithms:* Allow for a quicker and real time analysis of data according to the relevant AML/CFT requirements in place.

  o *Alert Scoring:* Alert scoring helps to focus on a patterns of activity and issue notifications or need for enhanced due diligence.

- *Identification and implementation of regulatory updates:* Machine Learning techniques with Natural language processing (NLP), cognitive computing capability, and robotic process automation (RPA) can scan and interpret big volumes of unstructured regulatory data sources on an ongoing basis to automatically identify, analyse and then shortlist applicable requirements for the institution; or implement (to a certain extent) the new or revised regulatory requirements (via codification and generation of implementation workflows) so regulated entities can comply with the relevant regulatory products.

- *Automated data reporting (ADR):* the use of standardised reporting templates using automated digital applications (data pooling tools) making the regulated entities underlying granular data available in bulks to supervisors.

Source:
FATF (2021), Opportunities and Challenges of New Technologies for AML/CFT, FATF, Paris, France, p. 22.

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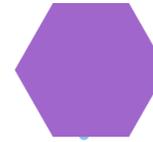
**Natural language processing (NLP)** is a subset of AI that enables computers to understand, interpret and manipulate human language.

- Fuzzy logic is a logical technique used in NLP that takes imprecise or approximate data and processes it using multiple values, in a way that produces a useable (but imprecise) output.

- It can produce useful output from incomplete, ambiguous, distorted, or inaccurate input, which resembles human decision making.

- Useful information is extracted from data that cannot be analysed using binary or classical logic.

- Helps address data quality problems as programs become better at linking elements of information.

  ➢ For e.g., connecting search engine results with PEP lists, identifying fraud attempts, monitoring sanctions lists and so on.

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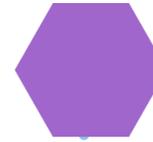
## *Application Programming Interfaces (APIs)*

- Allows different applications to connect and communicate.

- Enhances the interoperability between traditional banking data, moving away from siloed systems with fragmented frameworks.

- Increases automation which can make optimal use of resources and enhance output accuracy.

- Supplies an aggregated and normalized data feed, helping to build a more complete risk profile for new customers, for instance during the customer onboarding process.
  - ➢ For e.g., connecting search engine results with PEP lists, identifying fraud attempts, monitoring sanctions lists and so on.

- Increases the efficiency of mandated reporting practices and the quality of the risk-based supervision.

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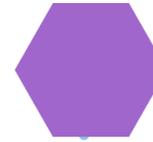
**Digital Solutions for Customer Due Diligence (CDD)**

- Provides more streamlined onboarding processes adapted to the risk, context and individual without compromising the integrity of the entity providing the service or the financial system.

- Improve compliance processes by allowing distinctions between elements of identification that appear similar (e.g., names), different languages and so on.

- Allows cross-referencing with adverse media information and different databases.

- Allows quick CDD and client traits analysis results in a more accurate understanding of the nature of the business relationship, as well as its impact to the institutions.

- Improves the customer experiences and services with FIs and other entities.

# Challenges to Implementing New Technologies for AML/CFT
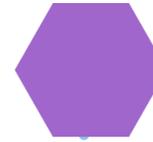
## *Regulatory Challenges*

- Supervisors may not have the expertise or resources that would allow them to understand and adequately supervise new technologies used by regulated entities.

- Limited acceptance/adoption of new technology by supervisors.

- Poor data harmonisation and data quality.

- Availability of ML/TF cases to train machine learning systems to better identify cases.

- Security and protection from criminal interference.
  - ➢ Increases in the number of criminal cases using new technologies, such as fraud.

# Challenges to Implementing New Technologies for AML/CFT
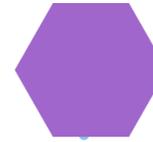
## *Operational Challenges*

- Costs of updating/replacing legacy systems and new technology tools/systems.
  - ➢ Complex procurement processes.
  - ➢ Technology is out if date or over-prescriptive by the time it reaches procurement.

- May be difficult to integrate with legacy systems and/or beyond entity's technical capacity to use appropriately and effectively.

- Smaller FIs may lack internal capacity to evaluate the effectiveness of new technology among different vendors/products.

  - ➢ These may have difficulty assessing appropriateness for their operations.

- Lack of data harmonisation can limit using technology at scale.

# Challenges to Implementing New Technologies for AML/CFT

## *Unintended Consequences*

- Lack of explainability and transparency can undermine the ability to assess the accuracy in identifying suspicious transactions and other illicit activity.

- Inadequate use of RBA can lead the exclusion of underserved communities due to the high level of assurance about the real identity of the individual.

- Abuse of technology or disclosure of personal information and privacy breaches.

## *Assessing Effectiveness*

- Continuous monitoring of new technologies to detect ML/TF needed by entities.

  ➤ Use of effective measurements.

- Effectiveness measurements is a feedback loop to re-calibrate technology use.

# Measures to Support New Technology for AML/CFT
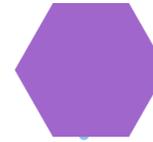
## Creating an enabling environment for the use of new technologies in AML/CFT

- Innovative solutions that facilitate the implementation of AML/CFT measures, including risk assessments, CDD and other requirements, and strengthen their supervision and examination.

  ➢ Good practices for updating internal legacy systems or replacing them with new technologies.

  ➢ Appropriate safeguards and features for new AML/CFT solutions should include:

  ➢ Explainability and transparency of processes and outcomes.

  ➢ Oversight by humans; respect for privacy and data protection; strong cybersecurity.

  ➢ Alignment with global, national, and technical standards and best practices.

# Measures to Support New Technology for AML/CFT
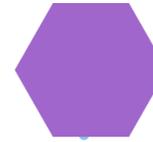
**Ensure Privacy and Data Protection when Implementing New Technologies**

- Ensure there is a valid legal basis for the processing of personal data when deploying new technologies.

- Protect personal information in line with national and international legal frameworks.

- Process data for an explicit, specified and legitimate purposes, consistent with national and international rules.

- Support the responsible development and adoption of innovative privacy preserving technologies to enable robust AML/CFT information sharing and analysis, while preserving privacy.

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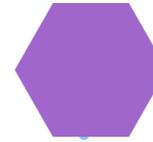
## Promote and Facilitate Cooperation

- Co-operate and co-ordinate with all relevant authorities to facilitate a comprehensive, coordinated approach to understanding and addressing risks and benefits in the use of new technologies, including data protection and privacy authorities.

- Consider developing collaborative environments to facilitate cross-government and/or public private research and development of new technologies and innovative solutions.

- Participate in international efforts to develop global principles governing the use of new technologies

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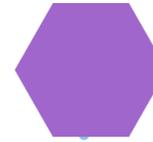
*Develop and Communicate on Policies and Regulatory Approaches to Innovation*

- Issue and/or update clear policy statements, guidance, use cases, best practices or regulations, as necessary to inform and encourage the responsible use of new technologies for AML/CFT.

- Consult with counterparts and regulated entities to inform relevant policy and decision-making processes.

- Consider the impact of new technologies holistically:
  - ➢ Structural and organizational changes.
  - ➢ Unintended consequences.
  - ➢ Overall impact on AML/CFT effectiveness, and financial inclusion.

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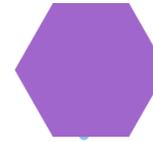
*Exercise Informed Oversight*

- Build expertise in new technologies, to enable informed regulation and supervision of their use, including for specific AML/CFT compliance purposes.

- Identify explicit, well-defined uses of new technologies for AML/CFT supervision and examination.

- Understand the risks and benefits associated with new technologies, and appropriate risk-mitigation measures that preserve their benefits.

- Use technology to enhance AML/CFT supervision

Thank you!