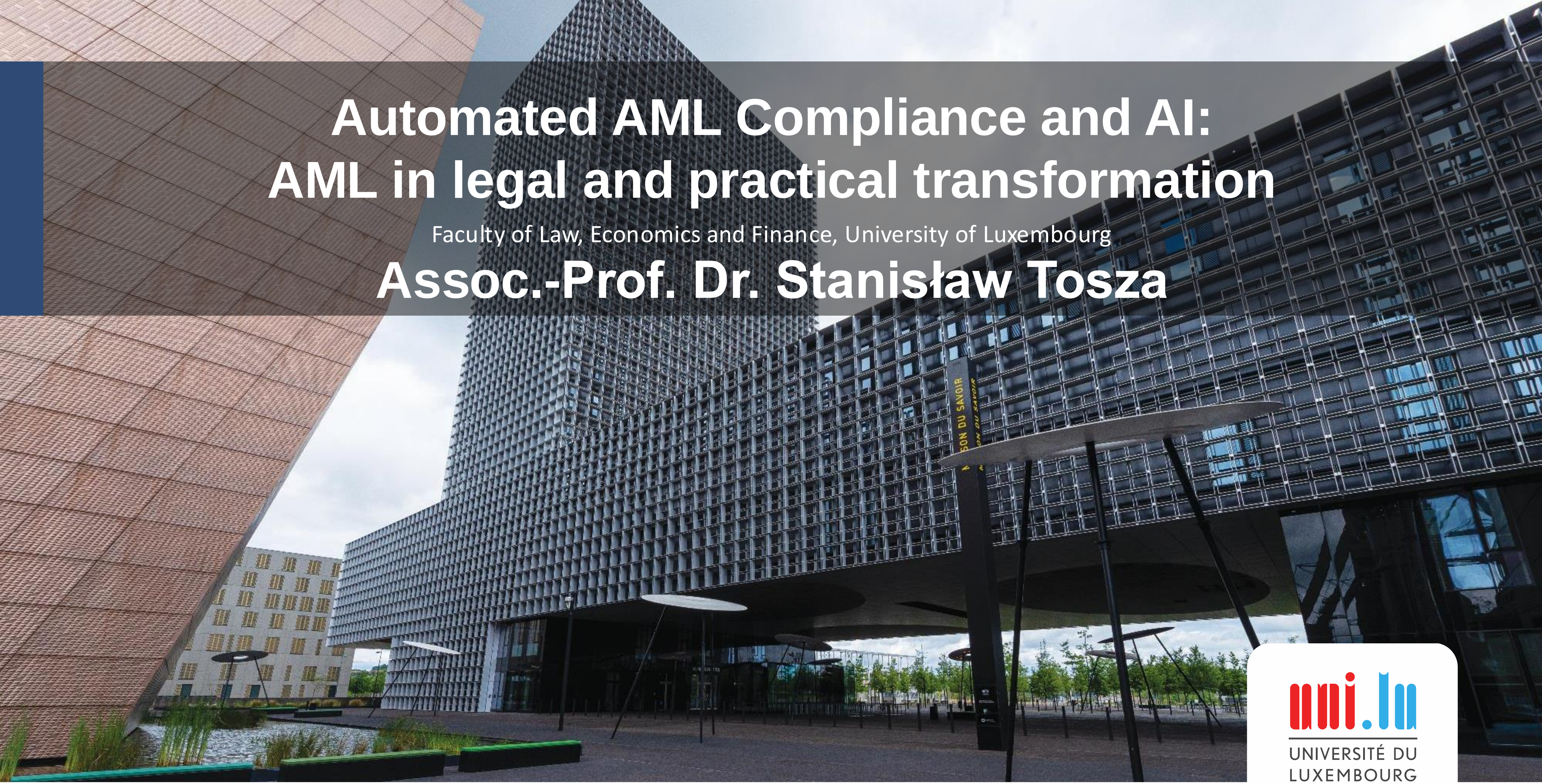

Automated AML Compliance and AI:
AML in legal and practical transformation

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ROBOCOMP project

- **Background**: Adoption of a risk-based approach to AML → financial institutions resort to automation to deal with the additional burdens → opportunities for more efficient AML assessments, but significant legal challenges

- **Objective**: Develop machine learning tools for AML compliance, while critically analysing the existing legal framework

- **Outputs**:
  - AML & beneficial ownership
    - Early prototype to retrieve, visualize and highlight relations between beneficial owners and their involvement in businesses
    - Methodology to analyse business register data and detect suspicious constructs
  - AML & transaction monitoring
    - State-of-art on machine-learning AML systems using transaction data
    - Methodology for AI-based analysis of transaction as a solution for AML
    - Early prototype of AI system designed for AML analysis of transaction data
  - Legal implications
    - Report on the use of automation of AML by the financial sector in Luxembourg and legal challenges
    - Article on the legal challenges of automation of AML compliance

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AML/CFT in transition

Legal changes

Reform of the legal framework

Practical changes

Automation

EU Preventive Legal Framework on AML/CTF

Origins & Evolution

- Developed over 30 years, influenced by Financial Action Task Force (FATF) recommendations.
- First Anti-Money Laundering Directive (AMLD) adopted in 1991 to prevent financial system misuse for laundering drug crime proceeds.

Subsequent amendments:

- 2001 (AMLD2) – Expanded scope.
- 2005 (AMLD3) – Broadened criminal offenses, extended obliged entities, introduced counter-terrorism financing (CTF) rules.

Current legal framework (since 2015)

- **AMLD4 (2015)** – Core AML/CTF rules and supervisory framework.
- **AMLD5 (2018)** – Expanded AMLD4 to include virtual currency exchanges & wallet providers.
- **Transfers of Funds Regulation (2015/2023)** – Requires payment service providers to include payer/payee information in transactions.
- **European Banking Authority (EBA) Role (2019)** – Supervisory coordination and monitoring of national supervisory authorities (NSAs).
- **Criminal Law Directive**: Directive 2018/1673 of 23 October 2018 on combating money laundering by criminal law

Risk-Based Approach (Since AMLD3)

- Obliged entities must conduct ML/FT risk assessments at both business and customer levels.
- NSAs allocate resources based on ML/FT risk exposure.

Challenges & Need for Reform

- AMLD4 provides harmonisation, leaving supervision largely to national authorities.
- Variations in regulatory standards, supervisory practices, and resources lead to inconsistent and ineffective AML/CTF enforcement.
- Cross-border ML/FT cases suffer from weak cooperation.

2020 EU Action Plan:

- Legislative proposals for:
  - A single AML/CTF rulebook for full harmonisation.
  - Revised AMLD4, focusing on organisational & supervisory aspects.
  - New EU AML authority for oversight and enforcement.

New legal framework

Three new legislative acts adopted to replace the fragmented system of past AML directives:

- **First-ever EU AML Regulation (AMLR) for maximum harmonisation and a unified rulebook:**
  - **Regulation** 2024/1624
  - Applies from 10 July 2027
- **Sixth AML Directive (AMLD6) focuses on organisational and supervisory requirements**
  - **Directive** 2024/1640
  - Transposition before 10 July 2027
- **Creation of the Anti-Money Laundering Authority (AMLA) for EU-wide AML supervision**
  - Regulation 2024/1620
  - Assume most of its tasks and powers by mid-2025
  - Direct supervision of selected obliged entities from 2028

New legal framework – main features

The legal instrument is now a **regulation**:

- **direct applicability** across the EU, avoiding differing national interpretations;
- enables **direct EU-wide supervision by AMLA**, preventing inconsistencies from 27 national legislations.

Content of AML Regulation :

- **no revolutionary changes** compared to the 4th and 5th AML Directives;
- existing rules on **due diligence, reporting duties, and penalties remain;**
- **some rules** are now **more detailed**, e.g.:
  - expanded identity verification requirements, stricter definitions for beneficial ownership, mandatory minimum lists for collected customer information.

New legal framework – main features

AML Directive :

- focuses on AML supervision,
- strengthens supervisory powers and cross-border cooperation,
- enhances FIUs cooperation and joint analysis of suspicious activities.

Role of **AMLA (Anti-Money Laundering Authority)**

- **coordinates and oversees** national supervisors and FIUs,
- **direct supervisory authority** over high-risk, cross-border financial institutions.

S. Tosza, O. Voordeckers, An anti-money laundering authority for the European Union: a new center of gravity in AML enforcement, Era Forum (2024)

New legal framework
Enforcement of international sanctions as the third pillar

- **Sanctions Directive**, Directive 2024/1226 of 24 April 2024 on the definition of criminal offences and penalties for the violation of Union restrictive measures
  - Art. 18. New predicate offence '(w) violation of Union restrictive measures' = Art. 2 of the Criminal Law Directive

- **AMLR**:
  - Change of the definition of "criminal activity' (AMLR, art 2 (1) (1))
  - Additional duties

Significant compliance duties

S. Tosza, Enforcement of international sanctions as the third pillar of the anti-money laundering framework. An unannounced effect of the AML reform and the Sanctions Directive, New Journal of European Criminal Law (2024) 15(3), 336-356

Practical Changes – Automation

3rd AML Directive introduced a **risk-based approach**, reinforced by the 4th and 5th AML Directives:

- **Risk assessment** is conducted ***in concreto*** (based on guidance)
- Obliged entities must design **AML models to prevent ML and TF**
- **Increased** organizational, financial, and compliance **burden**
- **Risk of sanctions** for non-compliance

Automation in AML Compliance:

- **Automation and the use of AI** helps automate due diligence
- **Advantages**:
  - Reduces costs and improves effectiveness
  - Eliminates monotonous tasks, allowing employees to focus on high-value activities
- **Challenges**:
  - Lack of transparency in decision-making
  - Risks to fundamental rights posed by AI monitoring
  - More complex review processes for customers flagged as suspicious
  - Legal safeguards in the regulatory framework?

Automated Decision-Making & AI in AML Compliance

- AMLR explicitly authorises AI-driven decision-making, including profiling (GDPR-defined).
- AI systems are defined under the AI Act as adaptable, autonomous decision-making tools.
- Legality of AI-based AML compliance is confirmed but with limited guidance.

Conditions for AI Use in AML Compliance:

- Data limitations – Only customer due diligence (CDD) data can be used.
- Human oversight – Significant decisions (e.g., accepting/refusing customers, adjusting CDD measures) must involve human intervention

Class Mislabelling in Supervised Machine Learning (ML)

- **Supervised ML** relies on **labelled training data**, unlike **unsupervised ML**, which detects patterns without predefined categories.
- AML models struggle because **financial institutions lack "ground-truth" data** on suspicious activity reports (SARs).
- **FIUs do not provide confirmation** on whether reported transactions actually involve money laundering.
- Training on mislabelled data leads to **erroneous models** and reduces accuracy.

Legal Challenges Behind Class Mislabelling

- **FIUs are not required to provide case-specific feedback** on SAR outcomes.
- Instead, FIUs must provide general feedback **at least once per year**, often in aggregated form.
- Feedback restrictions exist to:
  - **Protect investigations** and data confidentiality.
  - **Preserve the presumption of innocence**, preventing undue consequences (e.g., account closures) before a court ruling.
- **Impact on AI-Based AML Compliance**
  - **Lack of labelled data hinders supervised ML effectiveness** in detecting money laundering.
  - Legal restrictions on FIU feedback **remain a major obstacle** to improving AI accuracy for AML.

Supervised vs. Unsupervised ML in AML

- **Unsupervised ML** is better suited for detecting suspicious patterns but faces challenges in **explainability**.
- **Explainability** refers to the ability of ML models to provide **interpretable** outcomes for human stakeholders.
- ML models can be:
  - **Transparent (interpretable by design)** – e.g., decision trees.
  - **Opaque (“black box” models)** – e.g., deep learning with millions of parameters, making outputs difficult to interpret.

Explainability as a Barrier to AI Adoption in AML

- **Lack of transparency undermines trust** in AI-based transaction monitoring.
- Financial institutions must be able to **justify algorithmic decisions** to regulators.
- **Opaque models create risks**, including:
  - Compliance challenges.
  - Customer complaints & service disruptions.
  - Increased costs due to required manual analysis.

Potential Solutions: Explainable AI (XAI)

- **XAI aims to make AI decisions interpretable**, often by using a second model to explain the first.
- Key challenges of XAI:
  - **Reliability** – Explanations may be flawed if the underlying model is flawed.
  - **User-centric design** – Explanations must align with the **needs, expertise, and objectives** of different stakeholders.
  - **Potential negative impacts** – AI decisions may cause **discrimination, privacy concerns, or harm to specific groups**.
  - **Interdisciplinary approach needed** – Combining **computer science with behavioral and social sciences** for better AI governance.

Risks to Fundamental Rights

- Balancing Security & Fundamental Rights
- Data Protection & Privacy Concerns
- Discrimination & Financial Exclusion
- Property Rights & Business Impact
- Right to Fair Trial & Presumption of Innocence
- Legal Uncertainty & AI’s Role in Fundamental Rights Violations

Searching for Safeguards in AI-Based Transaction Monitoring

- Assessment of bank customer protections against AI risks in transaction monitoring
- Analysis of relevant legal frameworks:
  - Payment services legislation (PSD2 & PAD)
  - AML legislation (AMLD6 & AMLR)
  - GDPR protections
  - AI Act provisions

Key Takeaways

- Some protections exist in PSD2 & PAD, but they are secondary to AML rules
- AML laws focus on compliance over fundamental rights protections
- AI-driven monitoring decisions lack human oversight, explainability, and appeal rights
- GDPR protections are overridden by AML rules
- The AI Act does not impose strong safeguards on transaction monitoring systems

Conclusion: AI-based transaction monitoring prioritizes AML compliance over fundamental rights protections, with minimal safeguards against automated decision-making risks.

Thank you!

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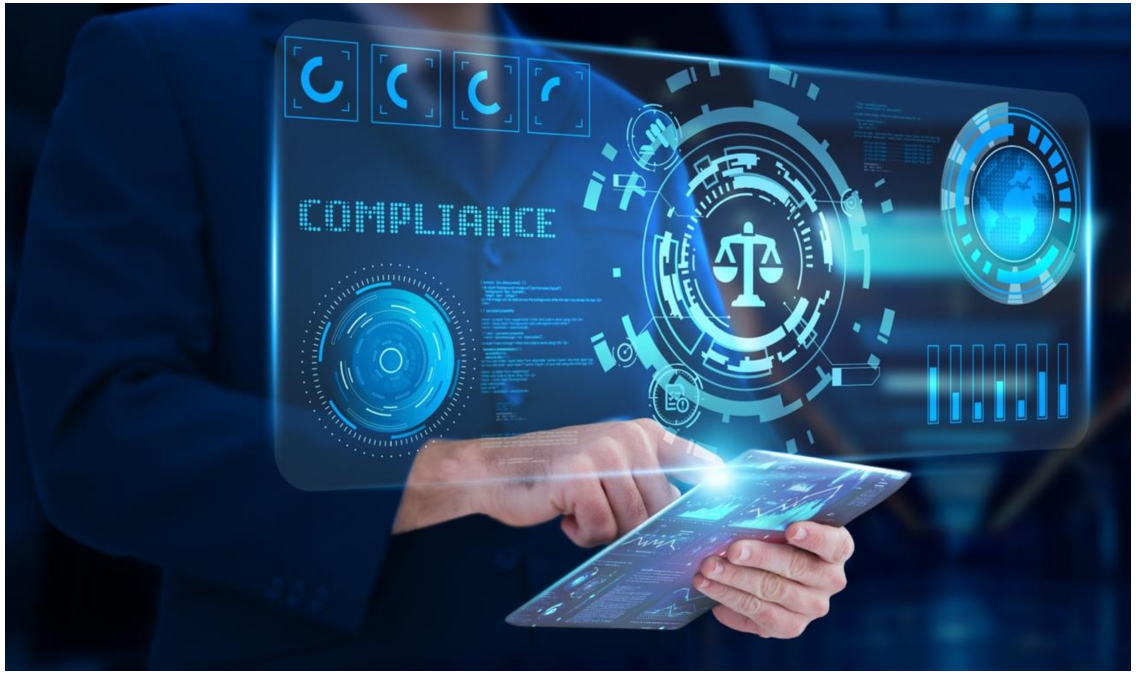

Additional reading:

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