IOTA
Intra-European Organisation of Tax Administrations

IOTA Digital Workshop
"Using AI Solutions to Detect Tax Evasion"

3-4 December 2025
Digital Event via Microsoft Teams

GROUP DISCUSSION SESSION 2 – Challenges and future developments in using AI solutions to detect tax evasion

Thursday, 4 December 2025, 11:20 – 12:20 (CET)

GROUP 1 - SUMMARY

1. Main Operational and Strategic Challenges in Deploying AI for Tax Evasion Detection & How to Reduce Them

Key Challenges:

- **Talent Shortage & Skills Gap:** Difficulty attracting AI and data science experts due to uncompetitive public sector salaries compared to private companies.
- **Data Quality & Fragmentation:** Tax data is dispersed across legacy systems (some from the 1980s–1990s), poorly documented, and designed for operational purposes rather than analytics.
- **Integration Issues:** Even when AI models are developed, outputs often fail to integrate into casework workflows, limiting practical impact.
- **Funding & Long-Term Investment:** AI requires sustained investment, which is often subject to high-level decisions and budget constraints.
- **Bias & Black Box Risks:** Concerns about unintended harms, lack of explainability, and fairness in AI-driven decisions.

Suggested Solutions:

- **Leadership Commitment:** Senior management must prioritise data governance, ethics, and competitive recruitment strategies.
- **Robust Data Platforms:** Invest in data standardisation, documentation, and governance frameworks to ensure quality and interoperability.
- **Capacity Building:** Upskill existing staff and leverage AI tools (e.g., generative AI) to assist with documentation and development.
- **Monitoring & Validation:** Implement production monitoring, performance metrics, drift detection, and rollback procedures.
- **Human Oversight:** Maintain human-in-the-loop processes for validation and accountability.

2. How Emerging Technologies Could Transform Tax Evasion Detection

Potential Transformations:

- **Generative AI for Assistance:** Use LLMs for taxpayer support (chatbots) and auditor assistance (retrieving insights from internal data).
- **Enhanced Risk Analysis:** Combine predictive models with traditional risk scoring to improve fraud detection accuracy.
- **Data Fusion & Network Analysis:** Link multiple data sources (internal registers, transactions, external datasets like EUROFISC) to uncover complex fraud networks.
- **Automation & Efficiency:** Automate document processing, reporting, and even customs checks (e.g., container scans).
- **Accelerated Development:** Use AI to reduce coding needs and speed up model development.
- **Taxpayer Use of AI:** Recognise that taxpayers may also use AI for evasion, requiring proactive countermeasures.

---

3. Governance, Ethical, and Trust Considerations

Key Principles:

- **Transparency & Explainability:** Models must be interpretable and legally defensible; provide clear reasons for actions and accessible channels for appeals.
- **Bias Mitigation:** Address inherent data biases and ensure fairness across taxpayer groups.
- **Public Communication:** Inform taxpayers about AI use, emphasising efficiency and fairness to avoid perceptions of oppression.
- **Human Accountability:** Ensure humans make final enforcement decisions; avoid over-reliance on automated systems.
- **Regulatory Frameworks:** Examples include the Netherlands' mandatory **Algorithm Registry** for all government agencies, disclosing model purpose, risks, and mitigation strategies.
- **Ethical Governance:** Establish checklists, governance processes, and privacy compliance to prevent misuse and maintain trust.

IOTA
Intra-European Organisation of Tax Administrations

IOTA Digital Workshop
"Using AI Solutions to Detect Tax Evasion"

3-4 December 2025
Digital Event via Microsoft Teams

GROUP DISCUSSION SESSION 2 – Challenges and future developments in using AI solutions to detect tax evasion

Thursday, 4 December 2025, 11:20 – 12:20 (CET)

GROUP 2 - SUMMARY

1. Main Operational and Strategic Challenges & How to Reduce Them

Challenges Identified:

- **Skills Gap:** Difficulty recruiting staff with combined expertise in tax law and IT/data science; competition with private sector salaries.
- **Data Quality & Integration:** Poorly structured, fragmented, or corrupted data; lack of harmonisation across national and EU systems; challenges in linking internal and external datasets.
- **Confidentiality & GDPR Compliance:** Sensitive taxpayer data cannot be exposed to public AI tools; uncertainty about cloud solutions meeting privacy/security requirements.
- **Infrastructure & Cost:** High expenses for software, hardware, and training; management expectations for quick results despite long implementation timelines.
- **Model Maintenance:** AI models require frequent updates due to legislative changes and evolving data inputs.
- **Change Management:** Need for cultural shift and leadership awareness of long-term benefits versus short-term costs.

Proposed Solutions:

- Develop **in-house AI tools** or secure platforms to maintain confidentiality.
- Invest in **data governance and cleansing** to ensure quality and interoperability.
- Implement **clear GDPR-compliant procedures** and robust security measures.
- Communicate strategic benefits to management and the public to justify costs.
- Create **cross-disciplinary teams** and training programs to bridge skill gaps.
- Establish **continuous monitoring and retraining** processes for AI models.

---

2. How Emerging Technologies Could Transform Tax Evasion Detection

Potential Transformations:

- **Proactive Detection:** Shift from reactive audits to predictive and real-time risk identification.

- **Generative AI Applications:** Summarising audit reports, creating fraud risk scenarios, and supporting internal knowledge sharing.
- **Advanced Analytics & Network Analysis:** Detecting complex corporate structures, fund flows, and agent-based fraud schemes; leveraging EU-wide data for cross-border cases.
- **Automation & Efficiency:** Faster anomaly detection, automated case prioritisation, and improved investigative support.
- **Cloud & High-Performance Computing:** Enabling large-scale data processing for complex fraud patterns.
- **Training & Education:** AI-driven tools to disseminate best practices and fraud typologies internally.
- **Emerging Risks:** Anticipating challenges from AI-driven taxpayers or autonomous agents engaging in tax evasion.

---

3. Governance, Ethical, and Trust Considerations

Key Principles:

- **Transparency & Explainability:** Taxpayers and auditors must understand why cases are flagged; models should be interpretable and legally defensible.
- **Human Oversight:** Maintain human-in-the-loop for decision-making; avoid full automation.
- **Fairness & Bias Control:** Ensure models do not disproportionately target certain groups; validate outputs regularly.
- **Security & Accountability:** Prevent misuse of AI models by criminals; safeguard sensitive data.
- **Public Communication:** Clearly explain objectives and benefits to taxpayers to maintain trust.
- **Validation & Monitoring:** Implement checks for model performance and outlier detection on both taxpayer data and AI outputs.
- **Ethical Frameworks:** Align with GDPR and national laws; consider registries or disclosure mechanisms for algorithms (similar to practices in some EU countries).

IOTA
Intra-European Organisation of Tax Administrations

IOTA Digital Workshop
"Using AI Solutions to Detect Tax Evasion"

3-4 December 2025
Digital Event via Microsoft Teams

GROUP DISCUSSION SESSION 2 – Challenges and future developments in using AI solutions to detect tax evasion

Thursday, 4 December 2025, 11:20 – 12:20 (CET)

GROUP 3 - SUMMARY

1. Main Operational and Strategic Challenges & How to Reduce Them

Key Challenges:

- **Trust in AI Outputs:** End-users (auditors) often distrust AI-generated results, requiring strong validation and explainability.
- **Data Quality & Reliability:** Incomplete tax returns, delayed reporting, and inconsistent data transmission undermine model accuracy.
- **Imbalanced Data:** Fraud cases represent a small proportion of taxpayers, making it difficult to build models without high false positives.
- **Integration with Legacy Systems:** Existing IT platforms were designed for tax assessment, not predictive analytics, creating deployment hurdles.
- **Human Resource Shortage:** Limited availability of skilled data scientists and auditors to validate AI outputs; competition with private sector salaries.
- **Governance & Monitoring:** Need for frameworks for continuous model monitoring, retraining, and performance measurement.
- **Compatibility & Flexibility:** AI tools must integrate with diverse national IT systems and allow easy fine-tuning as tax rules evolve.
- **Cost & Infrastructure:** High expenses for software, hardware (e.g., GPUs), and training; management expectations for quick results despite long implementation timelines.

Suggested Solutions:

- **Leadership Buy-In:** Secure commitment from senior management to prioritise AI adoption and allocate resources.
- **Data Governance:** Improve data quality, harmonisation, and documentation; implement robust cleansing processes.
- **Explainability & Training:** Develop interpretable models and train staff (both IT and business experts) to use AI effectively.
- **Internal Development & Secure Hosting:** Build or host AI models internally to ensure data confidentiality and GDPR compliance.
- **Continuous Monitoring:** Automate performance checks, drift detection, and retraining cycles.
- **Cross-Functional Teams:** Combine tax expertise with technical skills; invest in capacity building.

2. How Emerging Technologies Could Transform Tax Evasion Detection

Potential Transformations:

- **Generative AI Applications:** Summarising audit reports, converting unstructured data (emails, rulings) into structured formats, and assisting in documentation.
- **Advanced Analytics for Network Detection:** Identifying complex relationships among taxpayers, intermediaries, and companies to uncover organised fraud schemes.
- **Predictive & Proactive Compliance:** Moving from reactive audits to predictive risk scoring and early intervention.
- **Offline Large Language Models (LLMs):** Using secure, internally hosted LLMs for sensitive data processing to avoid cloud-related risks.
- **Enhanced Investigative Support:** AI-driven tools for anomaly detection, case prioritisation, and cross-border fraud analysis.
- **Knowledge Sharing:** AI to disseminate patterns and typologies internally, improving auditor expertise.
- **Integration of External Data:** Leveraging open-source models cautiously, combined with internal structured data for richer insights.

3. Governance, Ethical, and Trust Considerations

Key Principles:

- **Transparency:** Disclose sources of data used in risk models (e.g., property registers, foreign income reports) without revealing algorithmic details.
- **Explainability:** Provide auditors and taxpayers with understandable reasons for case selection; avoid “black box” decisions.
- **Human Oversight:** Maintain human-in-the-loop for enforcement decisions; avoid full automation.
- **Bias Mitigation:** Ensure models do not discriminate based on demographic or social factors; validate fairness post-training.
- **Data Privacy & Security:** Comply with GDPR; prevent sensitive data leaks; avoid reliance on public cloud-based AI for confidential data.
- **Ethical Frameworks:** Embed safeguards against unintended harm; ensure accountability and auditability of AI systems.
- **Public Communication:** Inform taxpayers about AI use to build trust and encourage voluntary compliance.