IOTA
Intra-European Organisation of Tax Administrations

Administrata Tatimore

IOTA WORKSHOP · PLENARY SESSION 2 · SOFIA, 11 NOVEMBER 2026

Building an AI Toolbox Against Organised VAT Fraud

From real-time fiscal data to expert-built AI tools — the Albanian Tax Administration experience



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Our AI Story in One Slide

AI

Real-time

fiscalization of every transaction

5

pillars in one AI risk score

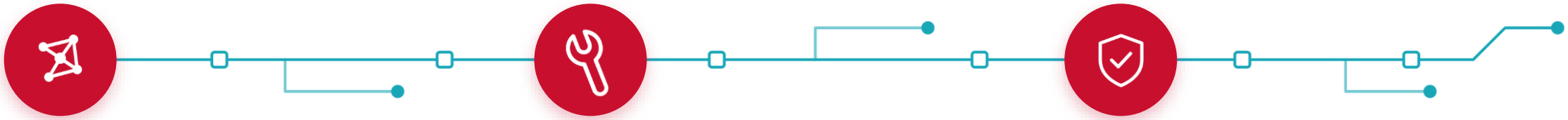
14

Regional Tax Directorates on one dashboard

0 bytes

of taxpayer data sent to external AI AI

Three Questions — Our Agenda



01

How do we combine real-time fiscal fiscal data to detect carousel schemes and anomalous supplier supplier chains?

02

Why build AI tools in-house — and and what does it take?

03

How can tax administrations use use LLMs without risking taxpayer taxpayer confidentiality?

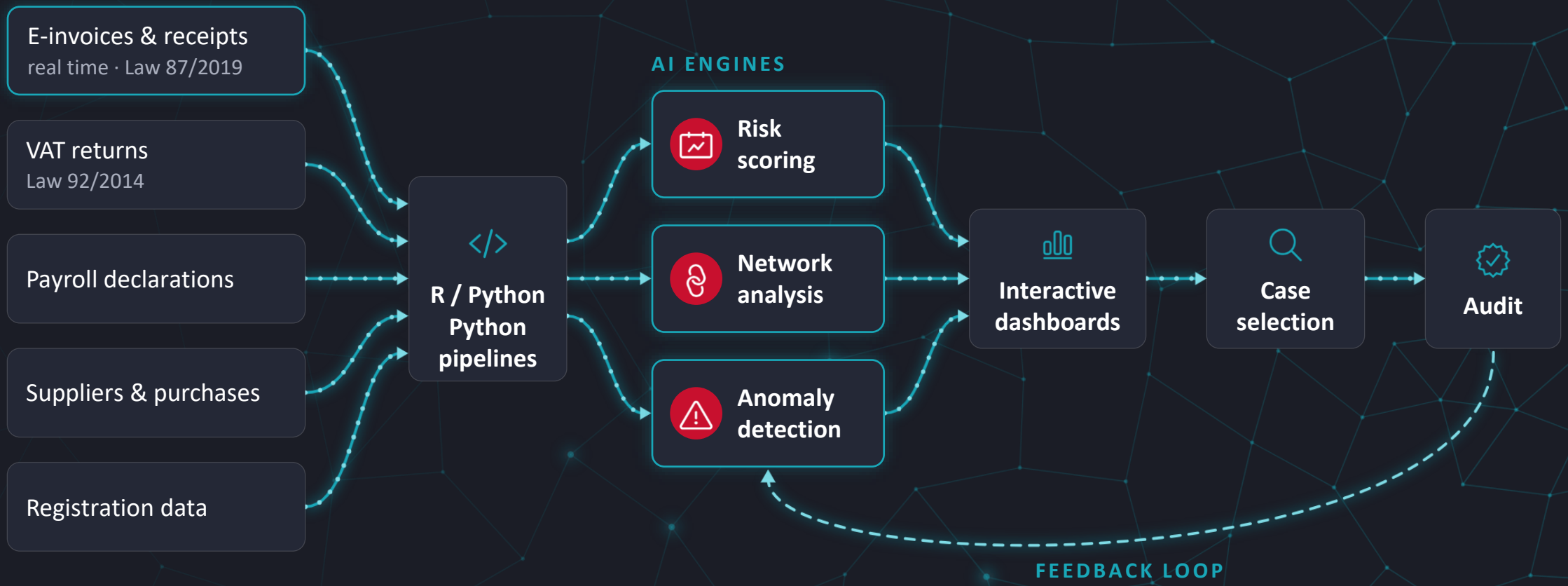
PART 1 · DATA FUSION & FRAUD DETECTION

How do we combine real-time fiscal data to detect carousel schemes and anomalous supplier chains?



Data Fusion Architecture

AI



The 5-Pillar AI Risk Score

AI

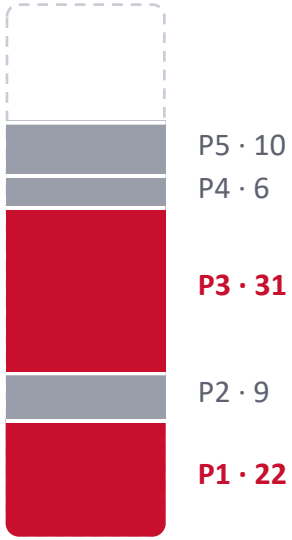
Composite risk score — High · Medium · Low

1. **Fiscalization gap**
2. **VAT credit anomalies**
3. **Supplier chain risk**
4. **Zero filings & spikes**
5. **Wage & staff anomalies**

Explainable by design

ILLUSTRATIVE TAXPAYER

78 /100 High



Illustrative data

Supplier Chains as a Graph

AI

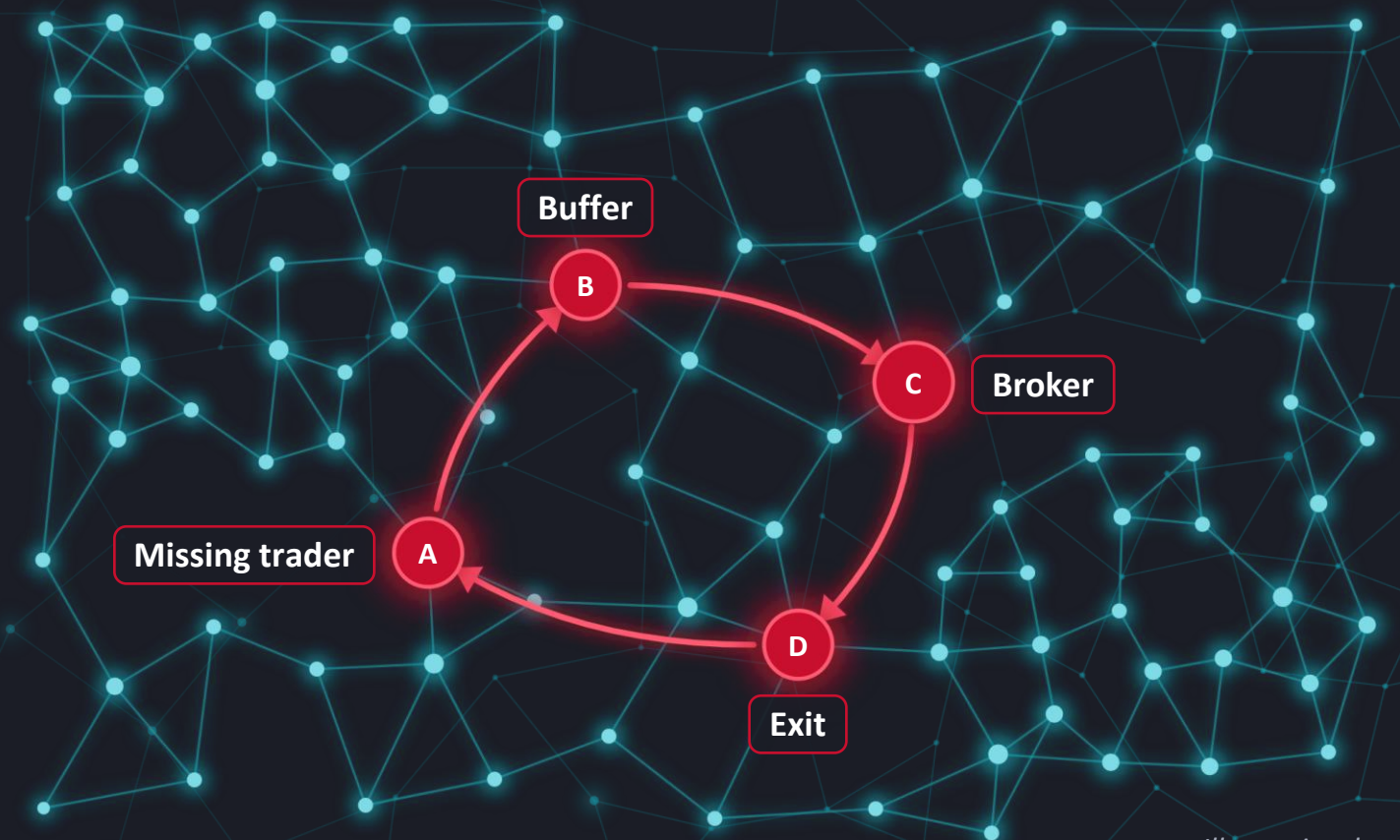
Nodes = taxpayers

Edges = e-invoice flows, weighted by value & frequency

Enriched with shared administrators, addresses, accountants & employees

KEY METRICS

Degree | Betweenness | Communities | Cycles | New-entity speed



Illustrative data

Which Indicators Work Best

AI

1. Fiscalized sales, no matching VAT return
2. Short-period circular invoice flows
3. Young firms, high turnover, no staff
4. Persistent or fast-growing VAT credit credit
5. Risk from non-filing suppliers



Illustrative data

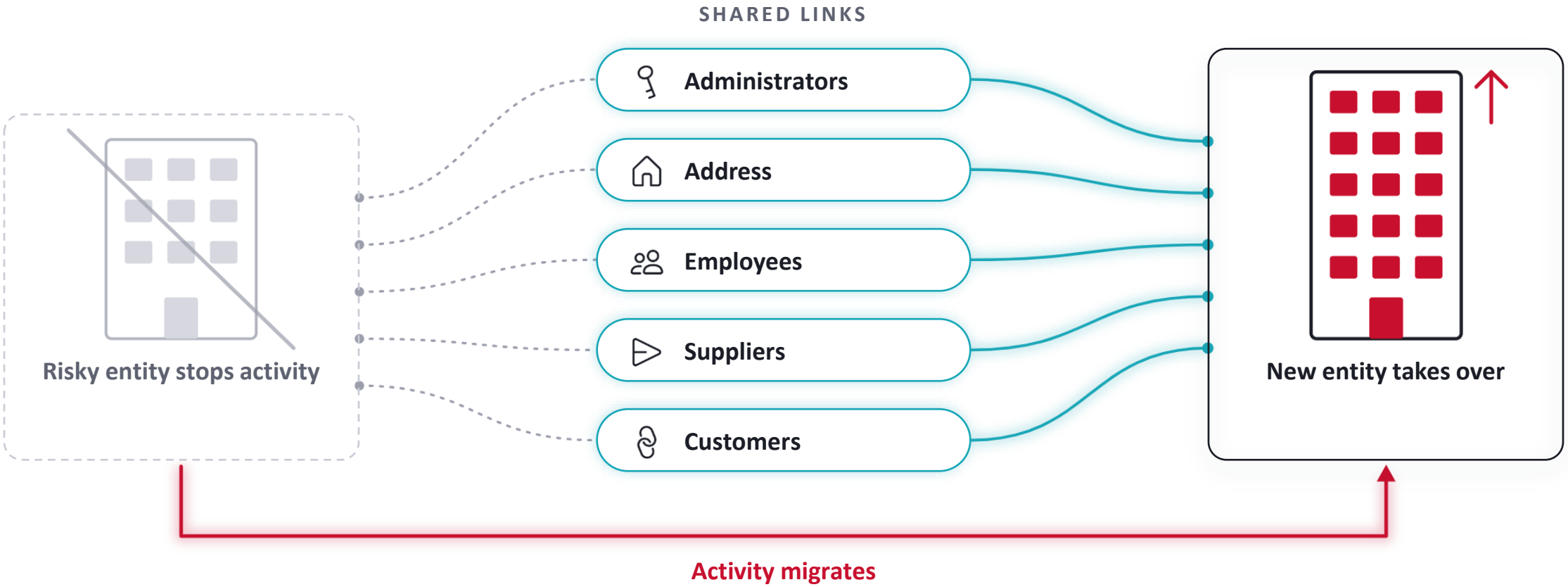
[X%]

of top-decile cases confirmed on audit

[Y×]

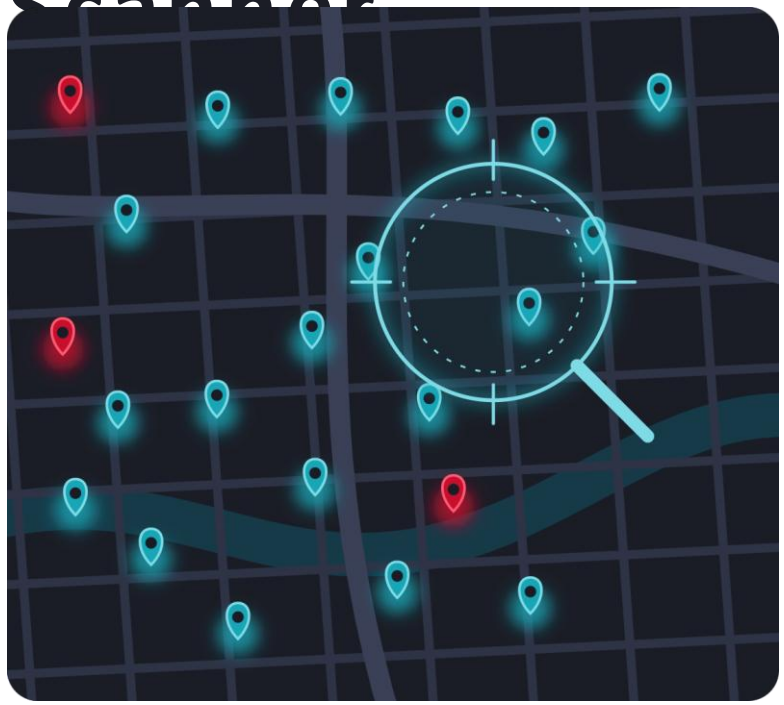
better than random selection

Phoenix Companies — AI Detection Pipeline



AI in the Field: Google Maps Receipt Scanner

AI





NIVF — Verified

NSLF — Verified

QR code — Missing

FLAGGED

Potential non-fiscalization

PHASE 1

Map businesses in a target area

PHASE 2

AI vision reads each receipt

Illustrative data

PART 2 · BUILDING AI IN-HOUSE

Why build AI tools in-house — and what does it take?



Our In-House AI Toolbox

AI

Plan-Fakt control-plan dashboard

Formulari 4 consolidation & error checks

AI

5-pillar VAT risk scoring

AI

Google Maps receipt scanner

AI

MNE/SaaS VAT campaign campaign tracker

AI

Phoenix scheme detection

AI

Wage under-declaration analysis

4,221 job titles mapped to market data

AI

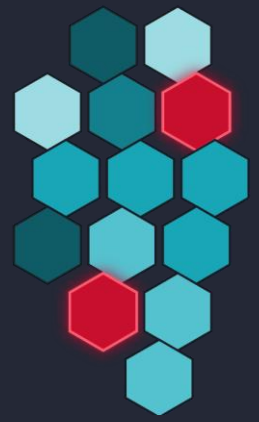
Offline LLM platform

Case: Plan-Fakt Interactive Dashboard

Plan-Fakt monitor — Illustrative data

Planned	Completed	Completion	Red flags
1,240	1,018	82%	37

Completion by directorate



No results entered

Directorate	Planned	Results
RTD-03	18	0
RTD-09	12	0
RTD-11	9	0
RTD-06	7	0

- Plan vs results, 14 directorates
- Inspector-level performance view
- Red flags: no results entered
- **Next:** monthly cloud upload + automatic alerts

Case: Formulari 4

From manual consolidation to automated quality control

BEFORE

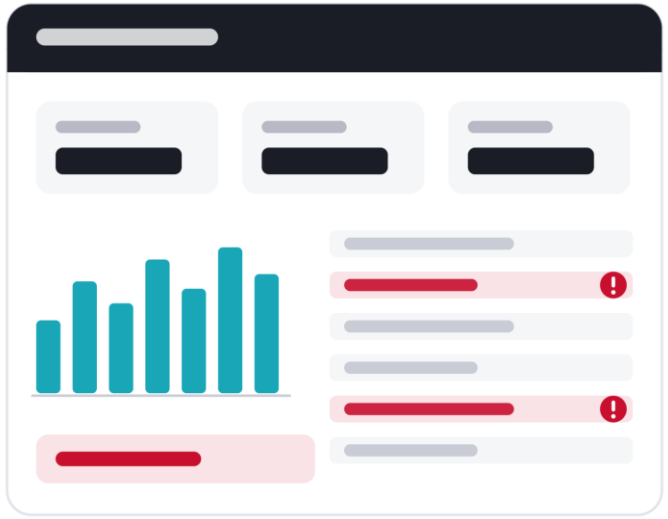


14 regional reports, 14 formats

One click

AFTER

Illustrative data

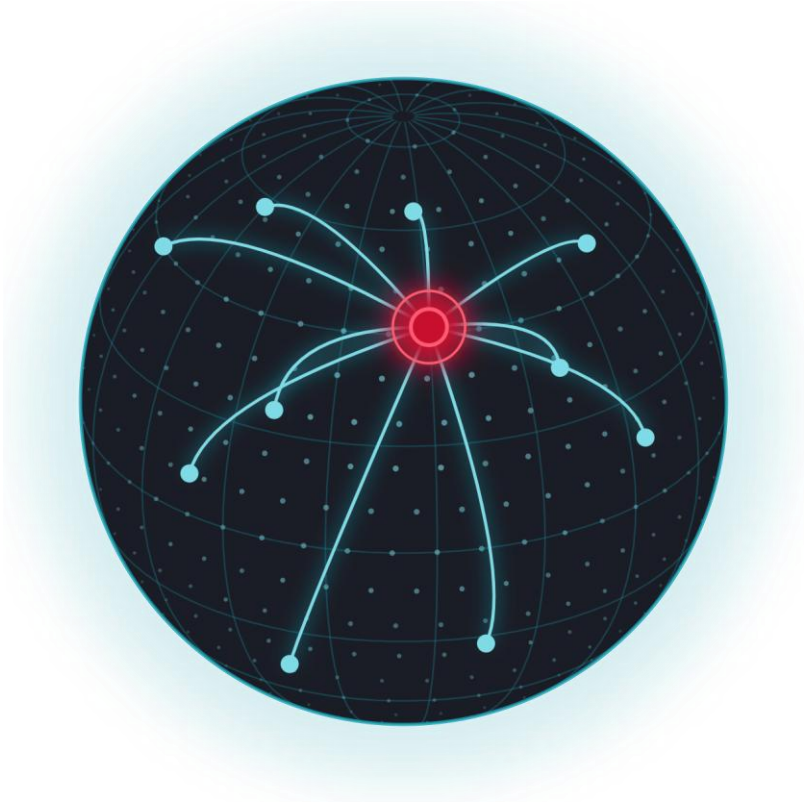


One unified summary + error dashboard

Totals mismatch **Missing month** **Duplicate row**

Case: MNE/SaaS VAT Campaign

AI



Illustrative data

[~290] non-resident digital service providers mapped

CLASSIFIED BY THE VALUE OF DATA THEY CAN SHARE

M1 **M2** **M3**

- Turnover tracking
- AI-assisted bilingual correspondence
- **Next:** DAC7-type platform data exchange

In-House vs Vendor — The Honest Balance

AI

Advantages

- **Speed:** days, not months
- Built-in domain knowledge
- Data control
- Direct integration
- Low cost

Challenges

- Maintainability
- Code review & testing
- Few-expert dependency
- IT integration & scaling

OUR ANSWER Experts code with AI → IT reviews before production → Documentation & manuals

PART 3 · LLMS & GOVERNANCE

How can tax administrations use LLMs without risking taxpayer confidentiality?



Offline LLM Platform

AI

AI that never leaves the building



- Open-source models — **Llama 3.1**, **Qwen 2.5** — run locally via **Ollama**
- Internal servers only — no external API calls for confidential data

USE CASES

- Bilingual letters
- Legal & directive research
- Document summaries
- Analytical reports

Governance Before Operational Use

AI



1. **Data classification** — confidential data stays offline
2. **Validation** — checked against sources & test cases
3. **Human in the loop** — AI proposes, inspectors decide
4. **Audit trail** — prompts, outputs & decisions logged
5. **Explainability** — every score traceable to its drivers

Results & Lessons Learned

[N]
high-risk taxpayers flagged

[X%]
confirmed on audit

[amount]
additional assessments

[time]
saved in reporting

LESSONS LEARNED

- **Data quality first**
- **Explainability builds auditor trust**
- **Small expert teams with AI move fast**
- **Governance from day one**

Takeaways for IOTA Members

- Treat e-invoices as a graph, not as rows
- Start with explainable scores, then add ML
- Put AI in the hands of tax experts — with IT review
- Keep confidential data on offline models
- Close the loop with audit outcomes

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Thank you — let’ s discuss

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