



NIR WATCHDOG

The intelligence layer for physical material verification.

NIR WatchDog turns portable spectrometers into intelligent inspection points:

verify more materials, more often, in seconds.

Active 3-year \$155K design-partner contract



02 · A DAY IN THE FIELD

Michelle inspects suspicious shops every day. Today the lab answers days later.

Counterfeit supplements, chocolate bars and medicines must be checked before they are sold.

TODAY · LAB WORKFLOW



Limited lab budget + capacity

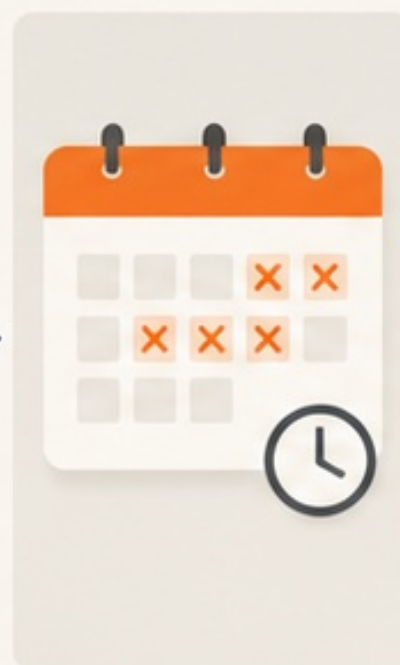
1 Buy sample



2 Send to lab



3 Wait days



4 Too late

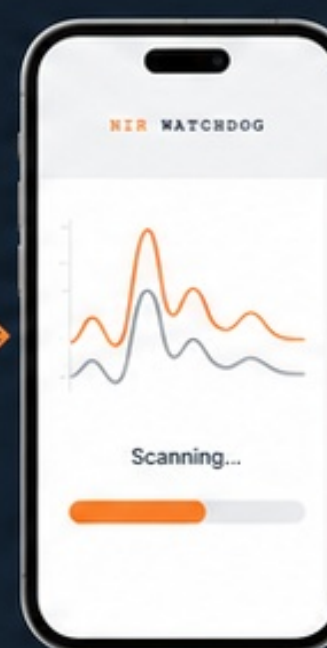


WITH NIR WATCHDOG

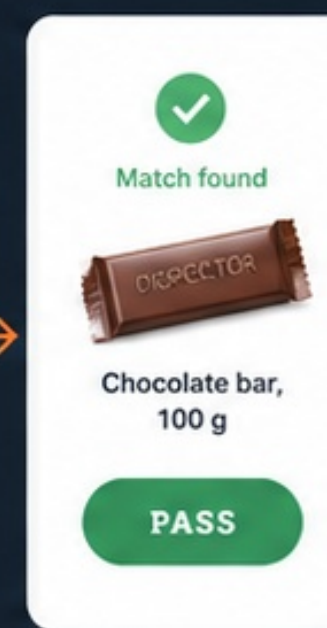
1 Scan in store



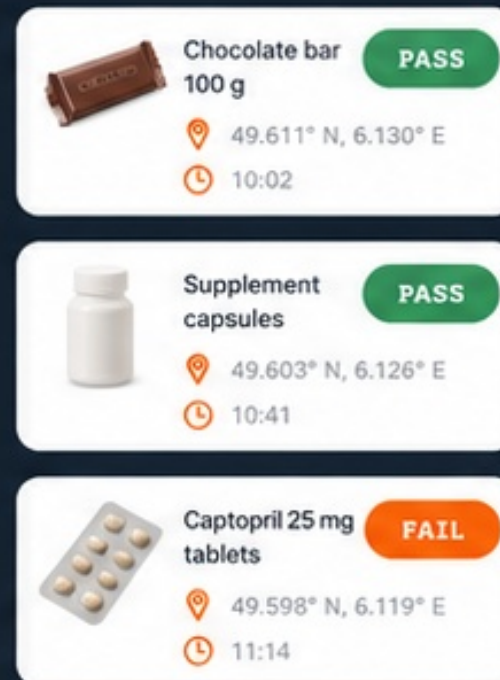
2 Match NIR fingerprint



3 Instant verdict



4 Product + PASS/FAIL + location



NIR WatchDog turns days of waiting into an on-the-spot decision.

Product · NIR fingerprint · PASS/FAIL · geolocation



03 · THE PROBLEM

Companies can identify any material. They cannot afford to check every batch.

Labs are accurate, but central, slow and expensive, so most goods are never tested

COUNTERFEIT IMPORTS · EU

€99B**4.7% of all EU imports**

Global trade in fakes: \$467B, 2.3% of world imports (OECD / EUIPO, 2025)

FAKES STOPPED AT THE US BORDER · FY2025

\$7.3B**79M items seized**

and that is only what gets caught. US brands are the world's most counterfeited (CBP; OECD / EUIPO)

When the material is a medicine, the cost is lives: 267,000 deaths a year are linked to falsified anti-malarials in sub-Saharan Africa alone (UNODC, 2023).

NIR WatchDog brings verification to the point of decision:
portable scanners plus AI, deviations flagged on the spot
ANY solid or liquid material



Researchers who ship, builders who scale

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Eddie Berkovitch, MBA
CEO



Dr. Jorge Meira
COO



Dr. Hui Huang
Chief Scientist



Prof. Radu State
Scientific co-founder · SnT, Uni.lu



Dr. Wazen Shbair
Blockchain & XRPL



Ilias Sviatko
Software Architect



Leonard Perry
SW Partner · ex-Head of R&D, Viber



Nino Chaganava
Projects Coordination



From scan to trusted verdict in seconds.

1 SCAN

Any portable NIR device and our app; our own phone-sized device with an embedded NIR sensor follows in the next round. Line, warehouse, border.

2 SCORE

Our engine compares it with **validated reference models**.

- Trained once per material
- device-agnostic.

3 DECIDE

PASS or FAIL in seconds: authentic, deviating or anomalous.

4 PROVE

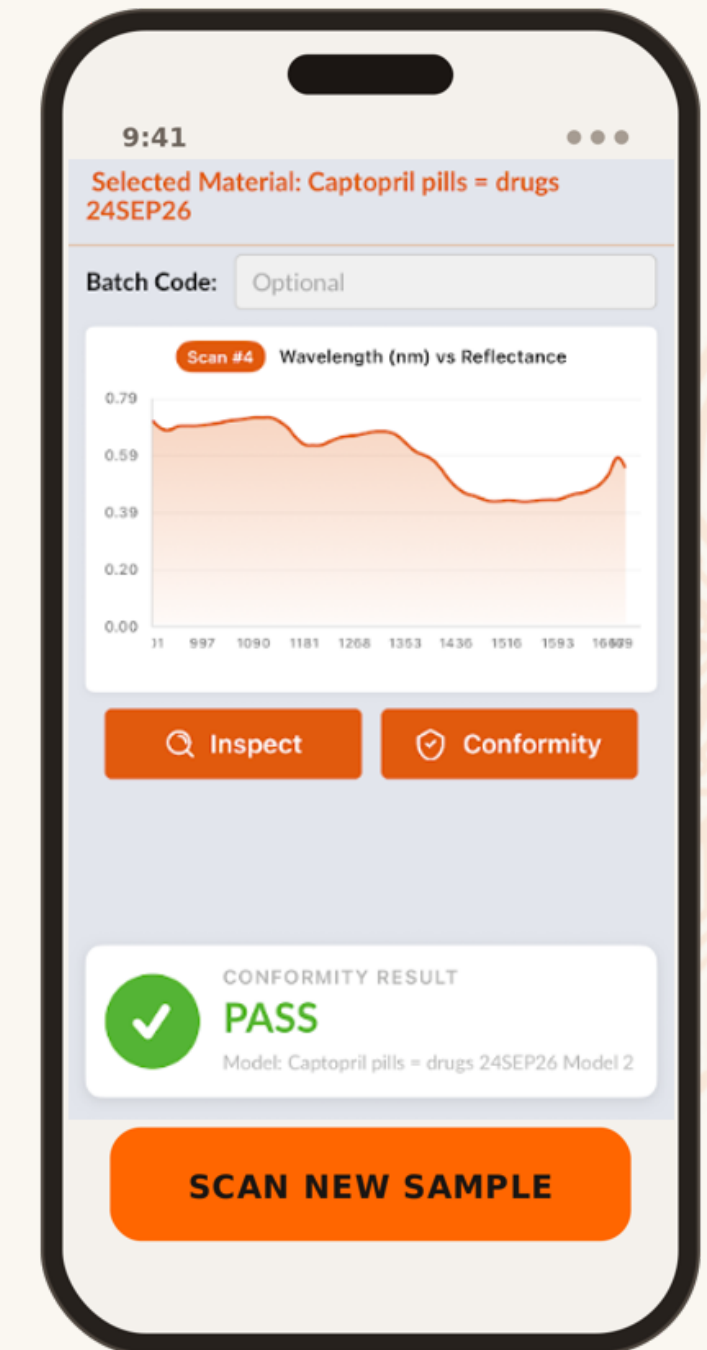
Every scan and model version can be hashed, signed and timestamped on the XRP Ledger: an audit trail regulators can check.

The intelligence layer above scanners, any scanner.

ANY NIR DEVICE

96-99% ACCURACY IN PILOTS

LIVE ON iOS & ANDROID



96–99% accuracy on food and pharma. Commercial since 2023.

New models, new materials, one platform.

96–99%

accuracy across six materials

\$155K

PM International 3-year R&D contract (€132K)

2023

incorporated in Luxembourg

iOS + Android

app live in the stores

VALIDATED MATERIALS

Chocolate packaging 2019–21	96%	Oyster provenance 2024	98%
Paracetamol 2021–22	98%	Water quality 2024	99%
Powders & molasses 2022–23	98%	Food supplements 2025–26	ongoing

COMMERCIAL · SINCE INCORPORATION 2023

2023

Kerry Group research · Ripple XRPL accelerator award

2024

Oyster provenance and water-quality models delivered

2025–26

PM International 3-year R&D contract, ongoing

2026

App live on iOS & Android · US roadshow

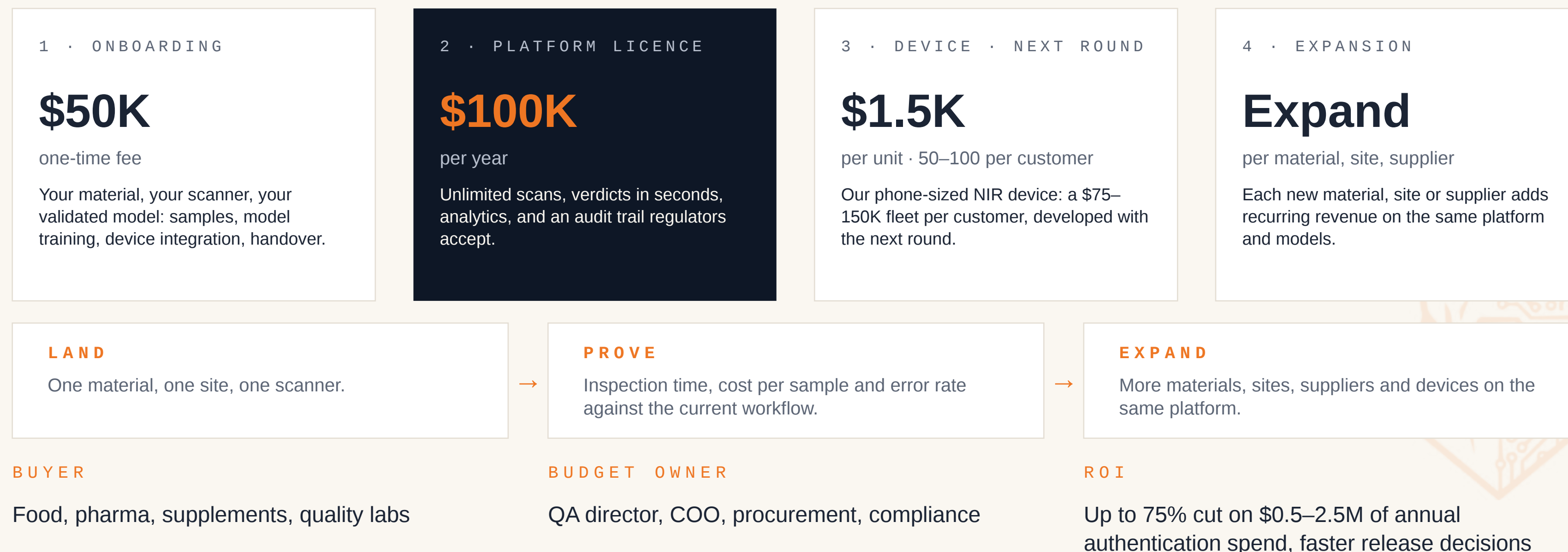
FNR JUMP GRANT · UNI.LU INCUBATOR · IP REGISTRATION IN PROGRESS

WORKED WITH

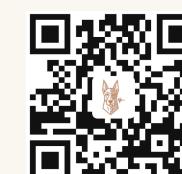


07 · BUSINESS MODEL

\$50K to onboard, \$100K a year, then expand.



Software stays device-agnostic: the app runs on iOS and Android and connects to any NIR spectrometer; our own device is a next-round programme.



08 · THE ASK

Seeking **\$3M for 15%**: the software plan, funded through break-even.

\$17M pre, \$20M post. Break-even in 2029 on this round; the device programme is the next round. 150 customers is 0.5% of a \$3.1–3.9B market (A5).

\$3M

Private capital, 15% equity
\$20M post-money. Covers the US build-out and the platform through break-even.

Next round

Own NIR device
10-month programme, \$1.5K per unit, 50–100 per customer, funded once US customers are live.

MILESTONES · NEXT THREE YEARS

	2027	2028	2029
CUSTOMERS	10	22	45
SOFTWARE ARR	\$1.0M	\$2.2M	\$4.5M
PROOF	Platform v1 · US entity and commercial lead · first US pilots	3+ US customers · first expansion deals · device programme scoped for the next round	Operating break-even · three verticals live

Verification as infrastructure: any material, any point in the chain, seconds not days.



09 · WHY THE US, WHY NOW

The US window is open: enforcement is live, budgets exist.

MARKET READY

Enforcement is live

Drug Supply Chain Security Act (DSCSA) is in force for manufacturers, wholesalers and large pharmacies since 2025. Detecting and removing suspect product is a legal duty, and the FDA is enforcing it.

Small pharmacies: exempt to Nov 2027.

A FOCUSED FIRST BUYER

QA leaders

At supplement and pharma manufacturers with an incoming-material inspection workflow. They buy from the quality budget that already exists; no new budget line needed.

A MEASURABLE PILOT

One material, one site

Agreed validation criteria, inspection time, cost per sample and error rate, and a clear path to a licence. The product is live: we demo it on the spot.

Roadshow goal: pilot partners, and investors who want to back the physical-verification layer the US market needs.



10 · VISION AND ASK

Every deployment makes the platform **smarter and harder to copy.**

More customers, more labelled spectra, better models, faster onboarding. First, high-value inspection in food and pharma; then material verification wherever goods are produced, stored or transferred.

WHAT WE ARE LOOKING FOR IN THE US

Introductions to supplement and pharma QA leaders

\$3M private investment for 15%

Nothing gets past it.



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Interdisciplinary Centre
for Security, Reliability
and Trust



Luxembourg
National
Research Fund



Appendix

- A1 Competition
- A2 Financial projections
- A3 Cost discipline
- A4 Team plan
- A5 Market, bottom-up
- A6 Product demo
- A7 Luxembourg state funding
- A8 How training works



A1 · COMPETITION

Everyone else sells a scanner.
We sell the intelligence layer.

COMPANY · PRODUCT	AI INTEGRATION	MOBILE	NIR DEVICE
Tellspec Food Sensor	● Full	● App + cloud	○ Native only
Consumer Physics SCiO	● Partial	● Native mobile	○ Native only
Si-Ware Systems NeoSpectra	● Full	● Via scan app	○ Native only
Spectral Engines NIROne Scanner	● Partial	● SDK options	○ Native only
B&W Tek (Metrohm) NanoRam	● Limited	● Limited	○ Native only
NIR WatchDog Analytics platform	● Trainable	● Native app	● Any device

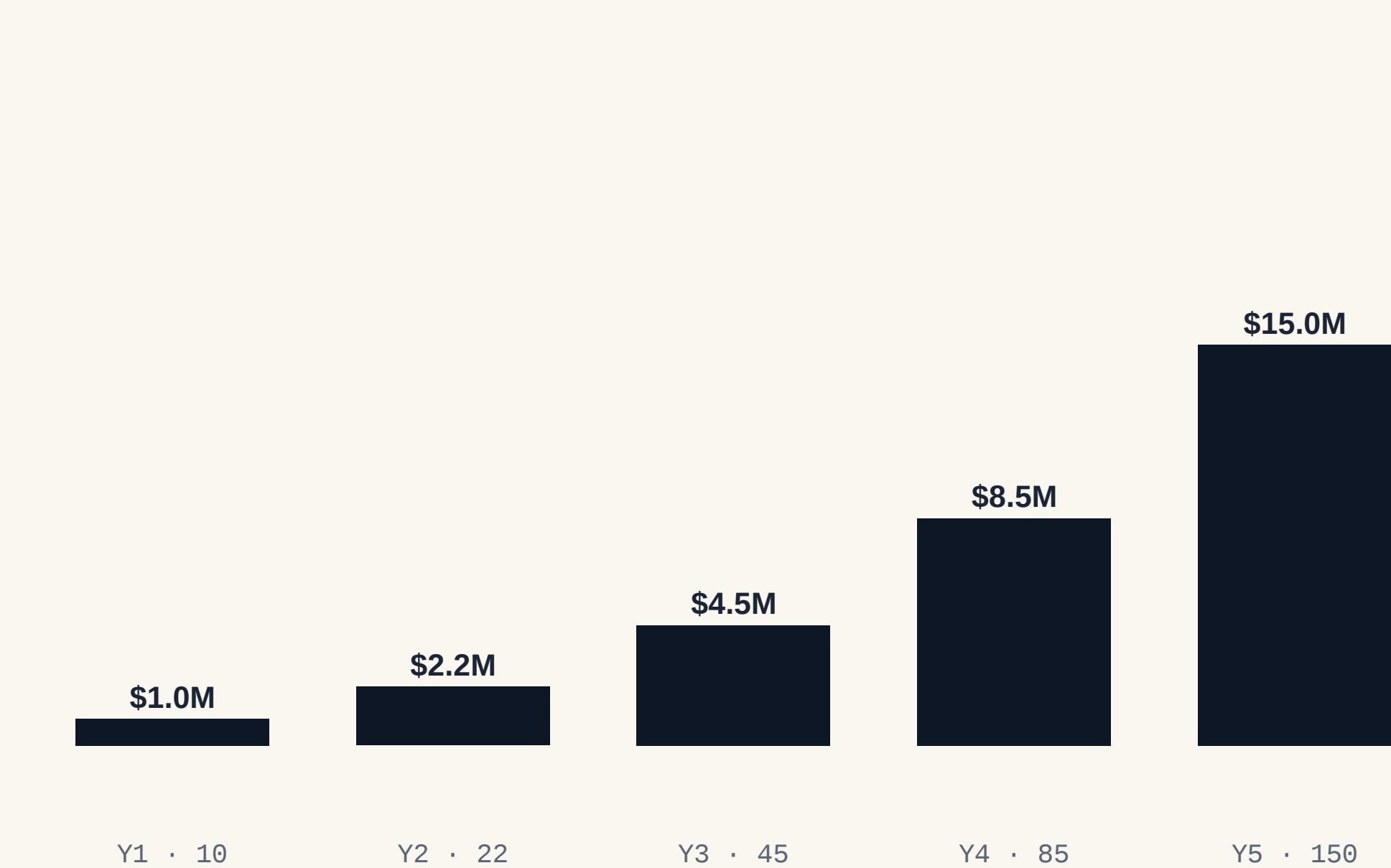
● FULL ● PARTIAL / LIMITED ○ TIED TO OWN HARDWARE



A2 · FINANCIAL PROJECTIONS

\$15M revenue in year 5, all software; break-even in year 3

\$50K set-up + \$100K licence per customer. Customers 10 / 22 / 45 / 85 / 150. Device revenue excluded: next round.



SOFTWARE REVENUE PER YEAR · YEAR-END CLIENT COUNT

OCT 2026 SCENARIO · LICENCE REVENUE FROM MID-YEAR OF SIGNING · NO CHURN

150

customers by year 5, from 10 in year 1

Year 3

operating break-even, including the US build-out

\$31M

cumulative 5-year revenue; \$15M ARR by year 5



A3 · COST DISCIPLINE

Lean start, controlled ramp, scaling with the base

Milestone-gated spend

Costs rise in discrete waves aligned to capability milestones: build → operate → scale. No front-loading.

Predictable overheads

Legal, accounting and certification on constant retainers; rent and hosting step up only with capacity.

Scales with the base

From 2029, sales and support headcount grows with the client base; core R&D and overheads stay lean.

Year-one cost base of **~\$1.8M** including the US build-out, against the \$3M raise. Costs rise to ~\$4.6M by Y5 as sales and support scale; break-even lands in Y3; cash never drops below ~\$1.2M before any public funding.

OCT 2026 PLAN



A 4 · TEAM PLAN

The team, year by year

THE TEAM	FY27	FY28	FY29	FY30	FY31
Leadership & Ops	3	4	4	4	3
Engineering	4	4	4	4	4
Data Science / ML	1	1	1	1	1
Product	1	1	1	1	1
QA / Testing	1	2	2	2	2
Support & Ops	1	4	4	6	8
Sales & Marketing	2	3	3	4	5
Customer Success	0	1	4	4	4
Total FTE (year-end)	13	20	23	26	28
People cost / yr	\$1.2M	\$1.75M	\$2.2M	\$2.6M	\$2.9M

Team grows to 28 FTE by 2031 as sales and support scale with the client base. People cost grows \$1.2M to \$2.9M (Y1 to Y5) while revenue scales ~15×. Euro plan converted at 1.17 USD/EUR. Excludes US pods, costed separately in A3.



A 5 · MARKET, BOTTOM-UP

Sites times contract value: a \$3.1–3.9B serviceable market

Counted from the buyer up: manufacturing sites with a QC lab or incoming-material inspection, US and EU. The €99B and \$467B counterfeit figures are context, not the market.

SEGMENT · US + EU	TARGET SITES	ACV AT MATURITY	MARKET
Pharmaceutical manufacturers (US ~2.9K establishments, EU ~4K enterprises)	~7K	\$125K	\$0.9B
Dietary-supplement manufacturers (US 3–5K, EU 2–3K; industry estimates)	5–8K	\$125K	\$0.6–1.0B
Food and beverage manufacturers, 100+ employees (US ~5.5K of 42.7K sites, EU ~4.5K)	~10K	\$125K	\$1.25B
Distribution, customs and regulated trade (estimate)	3–6K	\$125K	\$0.4–0.75B
Total serviceable market	25–31K		\$3.1–3.9B

ACV at maturity: \$100K platform licence plus expansion; the \$50K set-up is one-time and excluded. **Device fleets:** 50–100 devices at \$1.5K per site adds \$75–150K one-time per customer, a further \$2–4B of hardware demand across the sites counted, addressed from the next round. **Plan coverage:** 150 customers in 2031 is 0.5% of the sites counted.

SOURCES: USDA ERS / US Census County Business Patterns 2022 (42,708 food and beverage manufacturing establishments; ~13% with 100+ employees); US Census SUSB, NAICS 3254 (~2,900 pharmaceutical establishments); Eurostat SBS, NACE C10–C11 and C21 (EU food manufacturing ~264K enterprises, ~4% with 50+ employees; ~35K drinks enterprises); supplement and distribution counts are industry estimates.



A 6 · PRODUCT DEMO

We are on iOS and Android

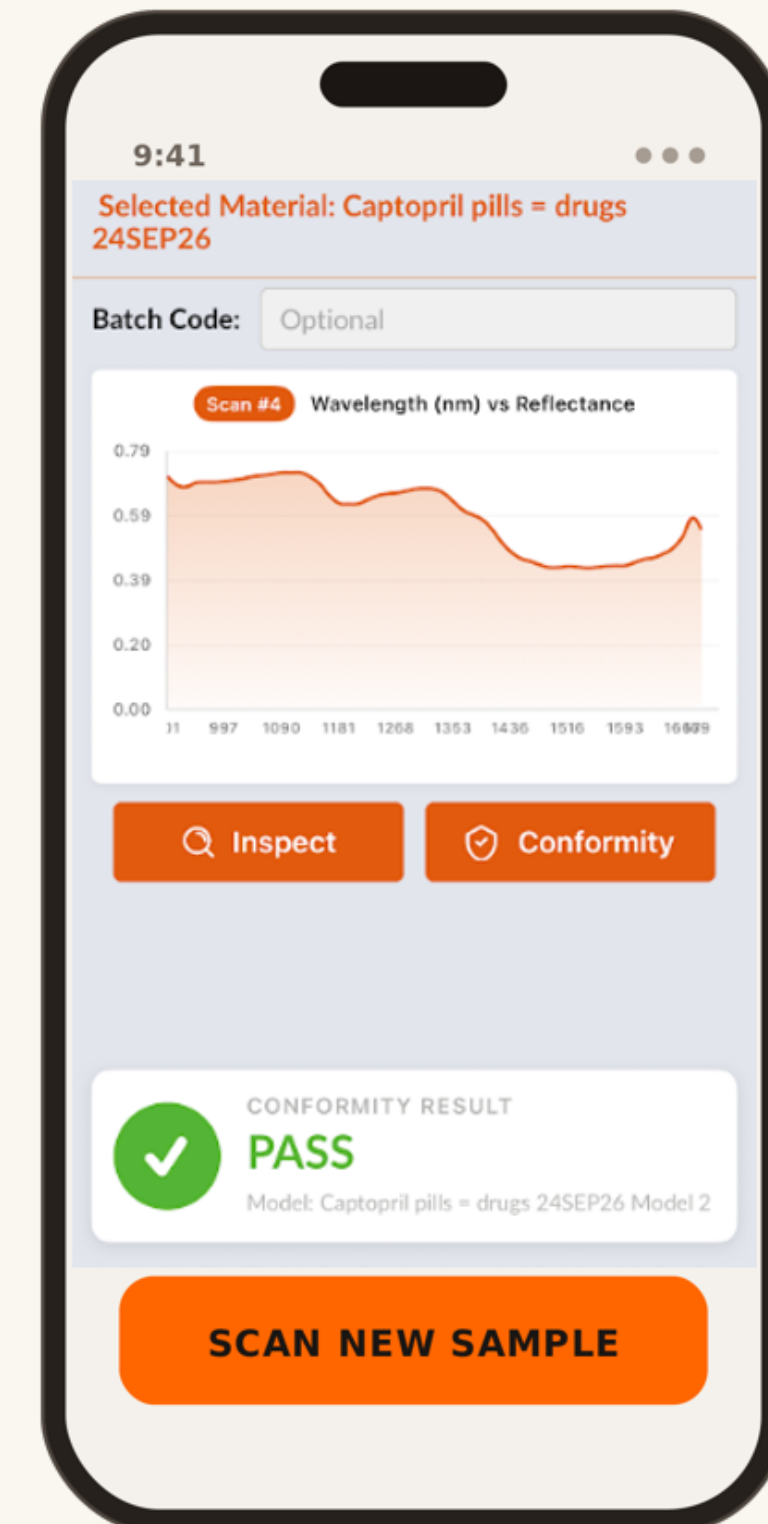
NIR WatchDog is in the app stores. Scan, authenticate and review results from a phone. No lab, no training course.

▶ Watch the demo video

youtu.be/ULUV4nAbAE0

↓ Download on the App Store

NIR WATCHDOG · iOS & ANDROID



A7 · LUXEMBOURG STATE FUNDING

How the state's €1.5M (≈ \$1.75M) is built: YIE plus RDI

Luxembourg co-funds startups that have just raised private money. Planning scenario, not approved funding.

YOUNG INNOVATIVE ENTERPRISE (YIE)

Up to \$1.15M

non-dilutive, €1M cap, up to 70% of the need

- Small company registered < 5 years: window closes Mar 2028
- ≥ €40K turnover in the last 12 months
- Recent private investment, 3-year financing plan, apply before the work starts
- Luxinnovation certificate: R&D ≥ 15% of opex in one of the last 3 years

RDI PROJECT FUNDING

40–60%

of eligible R&D costs for a small enterprise

- 40% experimental development, 60% industrial research
- Fits: ML models, device interoperability, spectral databases, validation
- Project-based, separate from YIE: the same costs cannot be funded twice

LUXEMBOURG FUTURE FUND 3

€270M

Sep 2026 · SNCI €180M + EIF €90M

- Invests through VC, PE and private-debt funds, deep tech included
- A route to investors, not a grant or guaranteed co-investment

ILLUSTRATIVE \$4.75M PLAN · \$3M PRIVATE + PLANNED PUBLIC FUNDING (≈ \$1.75M) · NOT APPROVED FUNDING

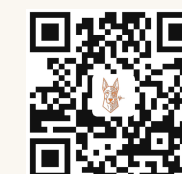
\$3.0M private investment

\$1.15M YIE (€1.0M)

\$0.6M RDI (€0.5M)

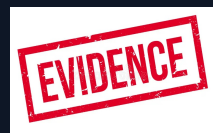
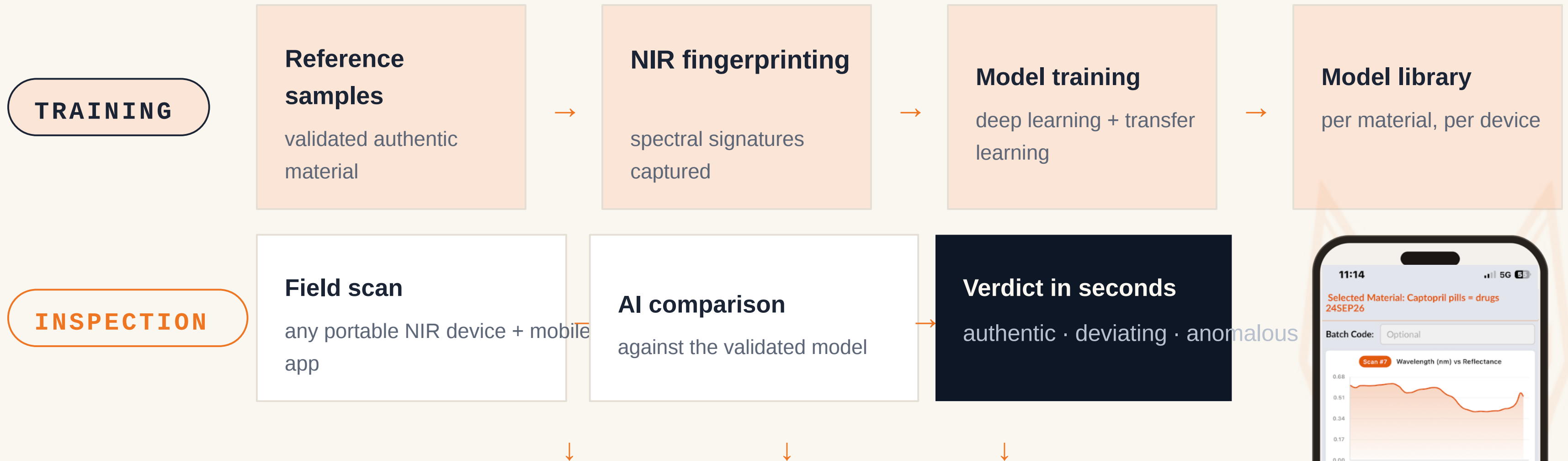
To verify: €40K turnover threshold (treatment of research-contract revenue) · YIE "new capital" test for the private round · split of commercialisation vs R&D budgets · cumulation rules. **File YIE at least 4 months before the 5-year window closes: by Nov 2027.**

Sources: guichet.lu and Luxinnovation, aid for young innovative enterprises (Law of 6 June 2025); RDI aid scheme; Luxembourg Future Fund 3 announcement, Sep 2026. Confirm the YIE ceiling with Luxinnovation.



A8 · HOW TRAINING WORKS

Train once, inspect continuously, prove everything



EVIDENCE ON BLOCKCHAIN

Both flows feed one data-analysis core. Every scan and model version is hashed, signed and timestamped on the XRP Ledger: spectra, device ID, **location**, **result**, an immutable audit trail for regulators and customers.

