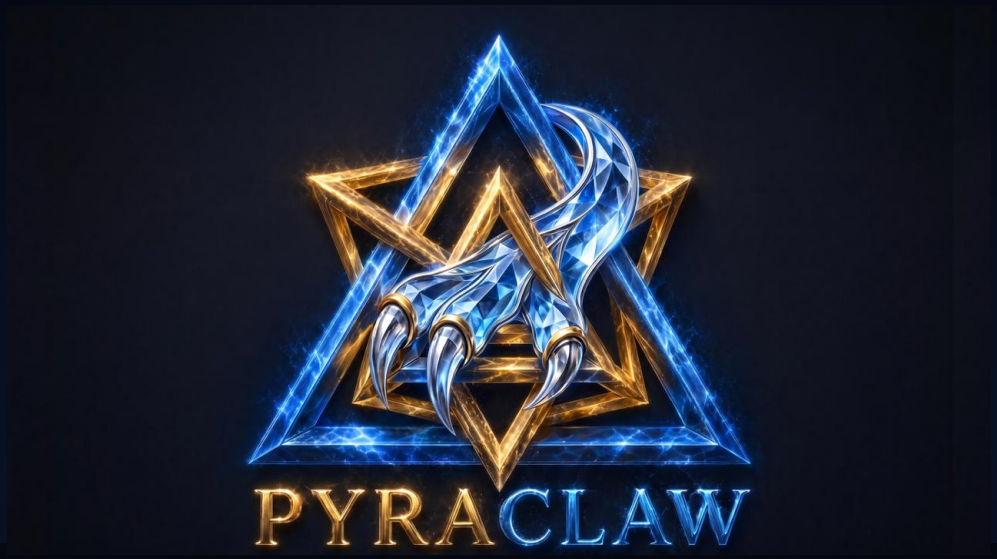
CONFIDENTIAL
DD7 INTERNATIONAL GMBH · HAMBURG
MAY 2026 · PROSPECTIVE INVESTORS & PARTNERS



FORGED · SEALED · ATTESTED

Operator-controlled orchestration with evidence-grade outputs.
Built for the EU AI Act. Anchored on attestation, not assertion.

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PATENTS
PCT/EP2025/080977
US 19/541,276
EUIPO TM 019354207

PYRACLAW.COM · .AI · .ORG

§ 01 Enterprises must *prove* what their AI did, when, and why — by 2 August 2026.

THE PROBLEM

The EU AI Act turns **compliance into a default operating cost** for every enterprise that deploys generative or agentic AI. Article 26 obligations apply across all 27 member states from *2 August 2026* — and there is, today, no production-ready evidence stack.

01 · FORCING FUNCTION

€35M / 7% revenue penalty exposure

Articles 9, 11, 12, 13, 14, 15, 26, 50, 72, 73 require human oversight, traceability, transparency, post-market monitoring, and incident reporting. Penalties are tiered, but the upper band is existential for any operator at scale.

02 · COVERAGE GAP

~200,000 deployers, no compliant stack

The market is shipping LLM features faster than it is shipping evidence. Existing observability, logging, and AI-gateway tools satisfy none of the Act's evidentiary requirements end-to-end.

03 · TRUST DEFICIT

Logs are not evidence

Application logs can be edited, replayed, or quietly dropped. Regulators, auditors, and counterparties need cryptographic attestation: artefacts that cannot be denied — issued at the moment of decision.

The market does not wait for the technology. *Enterprise procurement cycles are already opening for AI-Act-ready operators. The window to lead this category is approximately thirteen months wide, and it is closing.*

SOURCES. EU AI Act, Regulation (EU) 2024/1689 · OJEU L of 12 July 2024 · entry into force 1 Aug 2024 · staged application through 2 Aug 2027 · Articles 26 and 73 effective 2 Aug 2026. Penalty bands per Article 99. Deployer estimate: European Commission impact assessment, 2024. DD7 position. Evidence-first orchestration; no synthetic claims; no overclaiming compliance until artefacts are anchored.

§ 02 PyraClaw™: *agentic orchestration* with cryptographic evidence sealed at every decision.

THE SOLUTION

A **compliance-first platform** that intercepts every AI interaction, gates the response through Guardian-class verification, and emits a tamper-evident *evidence capsule* the operator — and any regulator — can verify in seconds.

01 · AGENTIC RAG FABRIC

PyraRAG — 7-layer retrieval, swarm-reranked

BGE-M3 dense retrieval with k7Swarm 7-objective reranking across the operator's sealed knowledge perimeter. Every retrieval cited; every citation hash-anchored; every answer footnoted by provenance.

02 · SANDBOXED ADVERSARIAL

OpenClaw + PyraWash containment

Adversarial reasoning runs inside an isolated OpenClaw cell; outputs are passed through the PyraWash 5-dip seal chain before any artefact crosses the operator boundary. Nothing escapes un-attested.

03 · TRIPLE-ANCHOR EVIDENCE

DOI · Merkle · blockchain

Every capsule is anchored to a Zenodo DOI, a Q-EJMF Merkle root, and a public-chain transaction. Operators export forensic-grade artefacts on demand — re-emission is refused; the original is the source of truth.

The platform is designed so that **compliance is not a feature** *— compliance is the artefact. Every output PyraClaw emits is, by construction, the evidence its operator needs to defend it.*

POSITIONING. Operator-controlled orchestration with evidence-grade outputs. Premium tier: a forged intelligence substrate for trusted branded deployment. **BRAND DISCIPLINE.** PyraClaw refuses to overclaim what its instruments cannot prove; every external claim is anchored to a verifiable DOI, Merkle root, or live system telemetry.

§ 03 A *five-stage* operational pipeline. Every stage observable, gated, and sealed.

ARCHITECTURE

PyraClaw is not a model and not a wrapper. It is a **governance perimeter** that any LLM, agent, or RAG fabric plugs into — and out of which only sealed, attested artefacts are permitted to leave.

STAGE 01
Intercept
Every prompt, retrieval, and tool call is hashed at the operator boundary before it touches a model. Provenance starts here.

→

STAGE 02
Reason
PyraRAG agentic swarm runs inside the sandbox. OpenClaw isolates adversarial branches. Reasoning trace recorded in full.

→

STAGE 03
Gate
Guardian verifies against operator policy, EU AI Act articles, and Φ-threshold Tesla-cascade gates before release.

→

STAGE 04
Seal
PyraWash applies the 5-dip cascade — SHA-256, SHA-512, SHA3-256, SHA3-512, SHAKE-256 — building the capsule's seal chain.

→

STAGE 05
Anchor
Capsule registered to Zenodo (DOI), Q-EJMF Merkle fabric (hash), and a public-chain transaction (block + tx).

CONCEALMENT ARCHITECTURE

The orchestrator the operator owns; the substrate they don't see

Customers integrate via **AskOrchestrate**, the licensed operator surface. The DD7 sovereign substrate — internal constants, agent topology, swarm parameters — remains concealed by contract. Operators receive evidence; they do not receive internals.

DEPLOYMENT POSTURE

Air-gapped · on-prem · private cloud

The reference deployment runs on operator-controlled compute (Brev, Cloudflare Workers, sovereign-cloud, or air-gapped). No telemetry leaves the operator perimeter without explicit policy. Hamburg/EU jurisdictional anchor by default.

PROTECTION. PCT/EP2025/080977 + US 19/541,276 cover the RSFS swarm and QEDO seal-cascade methods. Source code is licensed only — never transferred — under the standard DD7 commercial agreement. Counsel: Meissner Bolte Hamburg (legal@uksc.uk).

§ 04 The PyraWash *5-dip cascade*: independent algorithm families, layered defence, no single point of trust.

SEAL CHAIN

Every evidence capsule passes through five hash layers drawn from **two distinct algorithm families** — SHA-2 and SHA-3 — finalised by the SHAKE-256 extensible-output function. A break in one family leaves the other layers intact.

LAYER 01
cCode
SHA-256
Content hash · prompt + retrieval set fingerprint

LAYER 02
aaCode
SHA-512
Agent-action hash · reasoning trace + tool-call sequence

LAYER 03
acCode
SHA3-256
Audit chain · gate decisions + Guardian verdicts

LAYER 04
caCode
SHA3-512
Capsule attestation · operator policy compliance proof

LAYER 05
ioCode
SHAKE-256
Final seal · variable-length XOF binding the chain

TRIPLE ANCHORING

ANCHOR · I
Zenodo DOI
Permanent, citable, peer-reviewable scientific record. CERN-operated, CC-BY licensed where appropriate.

ANCHOR · II
Q-EJMF Merkle root
Jellyfish Merkle Fabric hash — sparse, append-only, cryptographically linkable across capsules.

ANCHOR · III
Public-chain transaction
Live block + transaction hash on a public, EU-jurisdictionally compatible chain. Unforgeable timestamp.

POST-QUANTUM ROADMAP. Q-Gate 4 introduces CRYSTALS-Dilithium co-signing alongside the SHA-3 layer — surface-code error correction baseline ≥97% (NIST SP 800-208 reference). Forward-secrecy of the seal chain is an active research line, not a present claim.

§ 05 Performance figures. *Anchored.* Not asserted.

VERIFIED PERFORMANCE

Every figure on this page is anchored to a public DOI on Zenodo. We publish the methodology, the baselines, and the data — and we do not *quote a number we cannot defend.*

PYRANINJITSU · PEN-TEST

17,847×

Acceleration vs. manual baseline. Time-to-vulnerability-class on calibrated CTF corpus.

RSFS · SWARM CONVERGENCE

13,607×

Convergence speed-up vs. classical baseline. RSFS v0.3 simulation, NODE-002.

COMPLIANCE FRAMEWORKS · MAPPED

10

EU AI Act · GDPR · SOC 2 · ISO 27001 · NIST CSF 2.0 · PCI-DSS v4.0 · HIPAA · FedRAMP · CIS v8 · BSI C5.

CITE-READY DOI CORPUS

PRIMARY · **10.5281/zenodo.18910246** DOI Trust Pack v1
RSFS swarm · **10.5281/zenodo.18842569** · IntelliEquation · **10.5281/zenodo.18842575**
Q-EJMF fabric · **10.5281/zenodo.18827411** · QNSB · **10.5281/zenodo.18203648**
mcNFT pipeline · **10.5281/zenodo.18383623** · Diamond corpus · **10.5281/zenodo.19324599**

Attribution discipline. *The 13,607× figure is a classical swarm-baseline simulation result — not a quantum-advantage claim. Quantum results, when published, will carry an explicit Q-Gate gate number, a separate DOI, and the specific surface-code regime used.*

METHODOLOGY. Pen-test result: PyraNinjitsu v0.4 vs. expert manual baseline on calibrated CTF corpus, n = 312 vulnerability classes. Swarm result: RSFS v0.3 vs. random-restart swarm baseline, NODE-002 evidence node. Full methodology, datasets, and reproduction instructions on Zenodo.

§ 06 A regulatory forcing function turns *compliance* into a default budget line.

MARKET

PyraClaw enters at the intersection of **AI governance, evidence infrastructure, and regulated-enterprise procurement** — three markets with separate budget lines that converge on 2 Aug 2026.

$72B
TAM · 2030

Global AI governance & trust infrastructure. AI observability, model-risk management, AI gateways, evidence/audit tooling, regulated-enterprise compliance platforms — combined.

$8.4B
SAM · 2028

EU + UK + Nordics regulated-enterprise. Roughly 12% of TAM by jurisdiction filter; AI-Act-mandated deployers in finance, legal, healthcare, defence, and public sector.

$148M
SOM · 2027

Realistic 36-month wedge. Bottom-up: 200 reference operators × $740K mean ARR. Excludes premium tier and licensing IP fees.

BEACHHEAD SEGMENTS — RANKED

SEGMENT 01 · CYBERSECURITY

Pen-test & SOC operators

17,847× pen-test acceleration is a direct revenue lever, not a slide claim. Buyers already procure on speed-and-evidence basis. Pilot pipeline includes weiconet GmbH (Carsten Weisner).

SEGMENT 02 · LEGAL TECH

Discovery & counsel-grade RAG

Citation-anchored retrieval directly addresses hallucination risk in litigation-grade workflows. Evidence capsules are admissible-shaped.

SEGMENT 03 · MEDICAL-DEVICE

Clinical-grade deployment

UKE Hamburg KFO research cooperation (DD7-UKE-KFO-2026-001) — orthodontics imaging. Clinical AI requires every byte of evidence the Act demands; we ship it natively.

SIZING METHOD. TAM aggregated from Gartner AI TRiSM 2025, IDC AI governance 2024, IBM AI Act compliance impact 2024. SAM applies EU AI Act jurisdictional filter and regulated-vertical screen. SOM is bottom-up from a verified pilot pipeline; excludes IP licensing and premium tier. Full SOM build available under NDA.

§ 07 Article-level mapping. *Eleven obligations.* Eleven artefacts. Native, not retrofitted.

EU AI ACT COVERAGE

Each row maps a specific EU AI Act obligation to the **native PyraClaw artefact** that satisfies it. Auditors receive a hash; investigators receive a capsule; regulators receive a DOI.

ARTICLE	OBLIGATION	PYRACLAW ARTEFACT	EVIDENCE FORM
Art. 9	**Risk-management system**	Continuous Guardian-class risk register	Sealed, append-only, DOI-anchored
Art. 11	**Technical documentation**	Auto-generated DD-pack from telemetry	SHA-anchored release dossier
Art. 12	**Record-keeping & logs**	Capsule chain — every interaction, every gate	Immutable, replayable, exportable
Art. 13	**Transparency to deployers**	Operator-facing reasoning trace + provenance	Cite-anchored, machine-readable
Art. 14	**Human oversight**	Operator-controlled gate & veto interface	Logged operator decision capsules
Art. 15	**Accuracy, robustness, cybersecurity**	PyraNinjitsu adversarial test runs	17,847× attested benchmark corpus
Art. 26	**Deployer obligations**	Default operator perimeter + policy templates	Per-tenant compliance evidence pack
Art. 50	**Transparency to users**	Embedded user-facing AI-disclosure tokens	UI-rendered + capsule-attested
Art. 57	**Regulatory sandbox readiness**	Sandbox-ready deployment template (ES, NL, DE)	Member-state-mapped configurations
Art. 72	**Post-market monitoring**	Live capsule stream + drift telemetry	Continuous, signed, time-anchored
Art. 73	**Serious-incident reporting**	One-click incident package, regulator-shaped	Forensic capsule bundle, DOI-cited

COVERAGE NOTE. PyraClaw provides the artefacts; the legal sufficiency of any specific compliance posture remains a question for the deployer's counsel, in concert with the deployer's notified body where applicable. We do not represent regulatory approval; we represent defensible evidence.

§ 08 Stage gates: *POC* → *Prototype* → *MVP* → *MCP* → *CVP.* Capital follows evidence.

TRACTION & ROADMAP

Every milestone below is gated by an **evidence node** — a Zenodo DOI, a verified deployment, or a signed pilot agreement — before progressing. Capital tranches release on milestone, not calendar.

NOW · Q2 2026

Prototype → MVP

- TRL 4–5 with eight DOI-anchored evidence nodes published
- Brev sovereign compute fleet — 12 nodes operational, audit-pending
- Q-Gates 1–2 complete; Gate 3 (NODE-006/007/008) active
- UKE KFO research cooperation drafted; weiconet pilot in pre-ink
- Cloudflare Workers EU edge live (Hamburg/Frankfurt jurisdiction)

Q4 2026

MVP → MCP

- 10 cybersecurity / legal-tech pilots delivered
- Zenodo evidence corpus to 1,000 capsules
- SOC 2 Type I · Hamburg + London — 8–10 FTE
- AskOrchestrate licensed surface released to first 3 partners

Q2 2027

MCP → CVP

- PyraRAG Enterprise & Legal Tech tier — general availability
- DACH + UK + Nordics multi-jurisdiction deployment
- Brev fleet 50+ instances; SOC 2 Type II + ISO 27001 mid-flight
- 30+ paying customers across regulated verticals

Q3 2027

CVP → Series A

- Q-Gate 4 live · CRYSTALS-Dilithium post-quantum co-signing
- Air-gapped enterprise tier shipped to first defence operator
- 50+ customers · break-even tracked · Series A on terms
- Healthcare & finance vertical depth + US sandbox entry prep

EVIDENCE-FIRST DOCTRINE. Each stage gate must clear three filters: a published DOI, an independently reproducible artefact, and an external counter-signature (pilot operator, counsel, or notified body where applicable). The Owl Brain launch sequence — observe, weigh, lock, launch with proof, guard at runtime — is enforced at every transition.

§ 09 · § 10 Three milestone-gated tranches. *SAFE structure.* Clear use of funds.

THE RAISE & THE ENGAGEMENT

Capital arrives *when evidence justifies it*, not before. SAFE primary instrument with milestone-gated tranche release. No exclusive finder economics in place; engagement terms negotiable directly with DD7 / Meissner Bolte.

TRANCHE 01 · NOW

$1M

Prove & validate — spine to first ten pilots

- 10 cybersecurity / legal-tech pilots delivered
- Zenodo evidence corpus to 1,000 capsules
- Q-Gate 3 advancement (NODE-006/007/008)
- SOC 2 Type I · Hamburg/London 8–10 FTE

TRANCHE 02 · POST-MILESTONE

$2M

Expand — MVP to MCP, 30+ customers

- PyraRAG Enterprise & Legal Tech GA
- DACH + UK + Nordics multi-jurisdiction
- Brev compute fleet to 50+ instances
- SOC 2 Type II + ISO 27001 · vertical packs

TRANCHE 03 · POST-CVP

$5M

Scale — Series A · 50+ customers · break-even

- Post-quantum hardening live (Q-Gate 4)
- Air-gapped enterprise tier shipped
- Healthcare & finance vertical penetration
- EU Art. 57 sandbox · US market-entry prep

ENGAGEMENT STRUCTURE ON OFFER

Capital + advisory hybrid welcomed

Primary. SAFE with milestone-gated tranche release; no partner or finder economics in place; no exclusive fundraising commitments.

Optional advisory equity for partners contributing regulatory access, enterprise procurement, or strategic deployment relationships. Terms negotiable directly with DD7 / Meissner Bolte (legal@uksc.uk).

Downside protection. Patent-pending IP (PCT + US) plus eight DOI-anchored evidence nodes; licensing-only posture preserves enterprise value irrespective of operating outcome.

WHY THIS TEAM · WHY NOW

Three founders. One forcing function.

Byron Callaghan — Creator, Lead Architect, CTO. Designer of the PyraClaw triad, RSFS swarm, and PyraWash seal cascade. Patent inventor of record. ORCID 0009-0003-5559-8185.

Malcolm Carter — Co-Founder, Visionary & Storyteller. Brand voice, narrative architecture, and category positioning. ORCID 0009-0003-6808-9697.

Jan Esderts — Co-Founder, CCO. Commercial, partnerships, regulatory access. ORCID 0009-0000-7626-8677. Counsel: Meissner Bolte Hamburg.

NEXT STEP. Sandboxed walkthrough of OpenClaw + PyraWash · live evidence-capsule generation · Zenodo corpus review. Hamburg / London / video, 90 minutes. NDA pack: SOM build, financial model, technical due-diligence, Investor Q&A v1.0. **FORCING FUNCTION.** EU AI Act Articles 26 / 73 apply 2 August 2026 — the technology arrives just-in-time for the market.