

VENDOR PROPOSAL · JUNE 2026

# One platform. Two applications.

PDAOAI™ is Oncotelic's Knowledge Discovery platform— the totality of human biomedical knowledge, about **28 million papers on PubMed**, put to work. The same engine drives discovery and runs the manufacturing floor, in partnership with **TechForce Robotics**.

PDAOAI runs on **Qdrant**, the popular enterprise-class vector database — with advanced capabilities like hybrid search, payload filtering, and quantization at production scale.

## 01 · DRUG DISCOVERY

### Knowledge Discovery

Structural Intelligence folds 28 million PubMed papers into structure and finds the driver — the upstream gene, mechanism, or theme everything else moves around — not the nearest match. Vector search returns the consensus; we return the signal.

**Proof:** PDAOAI named YAP1 as a cancer's root driver, held up against patient data it had never seen. The same engine compressed two Sapu Bioscience drugs from concept to first-in-human in **24 months**.

## 02 · GMP MANUFACTURING

### PDAOAI Robotics — with LIM-E and PUR-E

Voice-guided electronic batch records. AI-assisted manufacturing documentation. Intelligent robotics integrated with PDAOAI's 28-million-paper knowledge layer — purpose-built for GMP-regulated environments.

**Partner:** TechForce Robotics (OTCQB: NGTF). Phase 1 LIM-E deployment complete at Oncotelic.

**Not an LLM. Not vector search alone.** A long context window holds more text, not more understanding — the signal drowns in the noise. Vector search, the default behind RAG, returns closest proximity — the consensus, not the cause. PDAOAI folds the hyperdimensional space, clusters it through manifold sampling, and returns the driver. Search finds the needle; we find the magnet — the thing every needle points to.

● See it live at BIO 2026 — Booth #1525, California Life Sciences Pavilion, San Diego · June 22–25

PDAOAI™ powered by  Qdrant



**Must-have**

**UNIT 01 · CLEANROOM & EBR**

**PUR-E™**

**Purity In Motion — with Kebbi**

The batch record is the heart of GMP — PDAOAI runs it. PUR-E pulls the room's particle and sterility-monitor readings straight into the eBR, and lets gowned operators dictate batch parameters hands-free through the Kebbi conversational interface — PDAOAI writing the record as the work happens, right the first time.

**BENCHMARK LEVERS (CONSERVATIVE)**

- ✓ Batch-record review **-40-50%** (review-by-exception)
- ✓ Manual data entry **-60%** · documentation errors
- ✓ **-50%** Batch-release cycle **-40-50%**

**OUTCOME — MODELED MID-SIZE STERILE SUITE (~60 BATCHES/YR)**

LINE	\$/YR
Dedicated records-QA role retired	+\$125,000
Fewer documentation-deviation investigations	+\$64,000
PUR-E subscription (\$3K/mo)	-\$36,000
<b>Net</b>	<b>≈ +\$153,000/yr</b>

The QA role is retired by the levers combined, not any single one. Faster release also frees working capital and adds capacity — counted as upside, not in the total. One- time cost: eBR/MES validation (21 CFR Part 11).

**UPSIDE — NOT IN THE TOTAL**

One avoided failed batch can outweigh a full year of the savings above. What a batch is worth tracks what you make — a pill (oral solid-dose) batch, **ten thousand dollars and up**; a sterile injectable, **well into six figures**; a biologics batch, **hundreds of thousands to over a million**. PUR-E's annual cost is a fraction of any single one — before a single avoided FDA 483.

Both robots are tested in operating sterile cleanrooms and built for GMP — low- particulate, fully wipe-down construction.



**Efficiency layer**

**UNIT 02 · LOGISTICS**

**LIM-E™**

**Logistics In Motion – Everywhere**

Autonomous transport of materials and equipment through the facility — trays, consumables, kits, bulk solvent drums, and waste — running 18-20 hours a day in the non-classified corridors, handing off at the cleanroom pass-through. Built for heavy loads, so qualified staff don't carry them.

**WHAT IT DOES**

- ✓ Carries **up to 600 lb** per load — heavy drums, bulk materials, equipment
- ✓ Offsets **~1-1.5 porter / material-handler FTE** per unit
- ✓ Runs **18-20 hrs/day** — one robot covers more than one human shift
- ✓ Fewer human trips in classified space — lower contamination risk
- ✓ Keeps qualified staff in-suite on value-added work

**OUTCOME — PER UNIT, VS ~\$36K/YR COST (\$3K/MO)**

LINE	EFFECT
<b>Displaced porter labor</b>	≈ 125-210% of annual cost
<b>Net return on cost</b>	<b>+25-110%/yr</b>

Net is thin by design — this is an **efficiency add-on**, not a must-have. Payback is porter-shift coverage: +25% where movement is light, +110% where corridors are long or logistics staff are short. 36-month agreement, cancel on 30-day notice.

HOW IT WORKS · STRUCTURAL INTELLIGENCE

# We fold the space, then find the signal

We fold the information space and manipulate it across many dimensions so related concepts cluster and unrelated ones pull apart. Then we sample those folds to separate signal from noise — surfacing the driver, not the closest match.

## 01 Ingest

Index ~28M PubMed abstracts and your proprietary corpora — SOPs, methods, batch records — on Qdrant Cloud.

## 02 Fold

Manifold folding reshapes the embedding space so concepts cluster tightly and separably.

## 03 Sample

Shell sampling returns the structure around a concept — signal, not just nearest matches.

## 04 Apply

Feed discovery decisions — or write the eBR on the regulated floor through PUR-E.



**Powered by Qdrant.** Hybrid search, payload filtering, HNSW indexing, and quantization run tens of millions of vectors in production — the layer that makes folding and shell sampling work at 28-million-paper scale.

## Request a pilot

Scope a deployment for your facility — PUR-E, LIM-E, or both.

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**Oncotelic · PDAOAI™** — joint development partner  
Designed, developed & supported in the USA