vector**mind**
your data, our AI

VectorMind AI for Oil & Gas

Operational intelligence for safer, faster, compliant decisions.

Secure, auditable Gen-AI that turns documents, systems and sensor streams into timely commercial and operational insight without exposing IP or customer data.

The oil & gas industry runs on complex contracts, continuous sensor streams, high-volume trading records and stringent regulatory demands. Fragmented systems, manual extraction and slow workflows raise cost, delay decisions and increase risk. CohesionX's VectorMind applies enterprise-grade Gen-AI across the oil & gas value chain to extract authoritative data, link provenance, automate rules and surface explainable recommendations. All with tenant isolation, full audit trails and policy controls suitable for global regulators.

OIL & GAS

Contracts, Leases & Royalty Management

Complex contracts and dispersed amendments create hidden obligations and revenue leakage; VectorMind centralises clause extraction, links precedent and automates royalty workflows so you never miss a payment trigger.

How it works:

- **Ingest:** Iris ingests contract PDFs, scanned amendments, exhibits & emails via secure connectors or portal uploads.
- **Extract:** Iris applies schema-driven extraction to pull clause text, effective dates, payment terms, royalty formulas, geolocations & contract parties.
- **Link & Contextualise:** Atlas links the primary agreement to amendments, SORs, exhibits & historical precedents; creates an evidentiary graph of obligations & dependencies.
- **Normalise & Validate:** Neuroflow cross-references extracted fields with ERP billing records, production allocations and land/lease registries to validate payee IDs and amounts.
- **Reason & Recommend:** Business GPT generates an explainable obligations summary (key dates, payment triggers, conflict flags) and proposes remediation or redline language where clauses conflict.
- **Orchestrate Actions:** Neuroflow auto-generates templated notices, schedules approvals (RBAC via Entra ID), triggers payment holds or releases, & routes exceptions to legal/finance with a prefilled dossier including extraction confidence and provenance links.
- **Search & Audit:** Synaptic Search surfaces similar clause precedents; Atlas & Knowledge Nodes provide auditors with a time-stamped evidence pack for each royalty decision.

Gains

- **Faster legal and commercial review cycles** (contract summarisation in hours, not days).

- **Reduced missed triggers** and royalty under-payments through automated payment orchestration.

- **Consistent, auditable royalty calculations** with source-linked evidence for auditors and partners.

- **Lower dispute volume** and faster dispute resolution using prefilled dossiers and precedent retrieval.

- **Improved compliance** with lease obligations and contractual SLAs.

Trading, Risk & Position Management

What it does:

Trading combines rapid market moves with complex physical logistics; VectorMind reconciles paper & physical records, surfaces exposures & provides explainable recommendations so traders and risk managers act with confidence.

How it works:

Iris ingests trade blotters, confirmations and market feeds, normalises attributes and maps trades to internal positions. Neuroflow reconciles paper trades with physical deliveries and custody receipts, assembles evidence via Atlas, and opens exception workflows; Business GPT then generates explainable P&L/exposure summaries and hedge recommendations, with Synaptic Search enabling rapid forensic queries.

Faster reconciliation cycles | Lower settlement & operational risk I Clear, auditable P&L and reports

More Oil & Gas Use Cases

Production Reporting & Allocation
Manual reconciliation of SCADA, meter tickets & custody transfers creates allocation errors & delayed month-end reporting. Iris normalises telemetry & meter tickets.

Regulatory Reporting & Compliance
Diverse regulator formats & audit evidence demands make filings time-consuming & risky. Iris ingests filings & permits, while Atlas assembles source-linked evidence graphs.

Asset Integrity & Maintenance Optimisation
Inspection records & OEM manuals are fragmented, leading to reactive maintenance and spare-parts uncertainty. Iris extracts inspection & NDT reports, Atlas correlates asset histories & OEM guidance, Business GPT prioritises maintenance & spare lists with evidence, while Neuroflow schedules work orders and procurement.

Supply Chain, Logistics & Terminal Operations
Bills of lading, manifests & terminal receipts are processed manually across siloed systems, increasing demurrage risk and slowing claims. Iris extracts shipment & weighbridge data, Neuroflow matches shipments to POs/receipts & triggers demurrage claims

HSE & Incident Investigation
Incident records, photos & sensor spikes are scattered, slowing root-cause analysis & corrective action. Iris ingests incident forms, logs & media, Atlas correlates incidents with work orders and permits, Business GPT generates initial RCA.

Joint Venture Accounting & Revenue
Complex JV participation factors & partner invoicing cause slow, error-prone reconciliations & disputes. Iris captures invoices & JV statements, Atlas maps agreements and participation factors, Neuroflow executes reconciliation rules.

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VectorMind provides an affordable, easy-to-integrate Gen-AI solution, giving your employees access to the magic of all the top global commercial Gen-AI platforms, without exposing IP and sensitive data.

Get rid of tedious tasks & human error

Automate actions & set alerts

Always ensure factual AI answers

Homegrown affordable South African software

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