

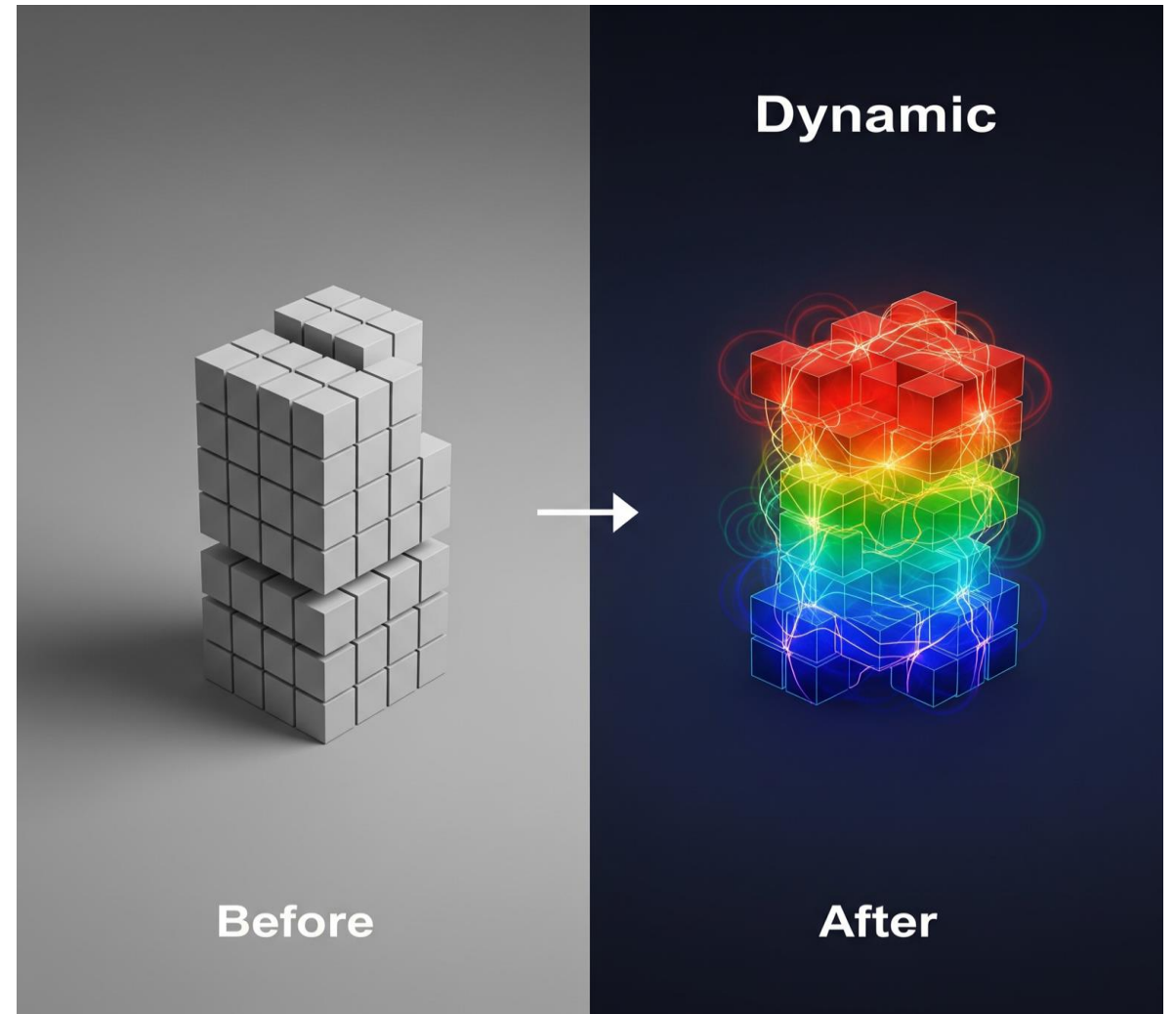


How cloud-based modelling solutions empower mining businesses to thrive amidst increasing deposit complexity.

*Henry Dillon, Global Customer Success Manager for Geoscience, Maptek
AusIMM New Zealand Branch Conference 2025*

What If Your Block Model Updated Itself In Real Time?

- > Mining is evolving, and so must our models.
- > Static models can't keep up.
- > Dynamic models offer speed, accuracy, and real-time adaptation.
- > Real-time, adaptive models are critical for operational success and strategic decision-making.
- > Real-time here means minutes, not overnight.



The Growing Complexity Of Modern Mining

- > Deposits are becoming smaller, deeper, and more complex.
- > Economic viability depends on precision.
- > Small margins can make a big difference.
- > Traditional static modelling methods are slow, siloed, and error-prone.
- > Dynamic models provide real-time, connected solutions.

Static methods can't meet modern demands

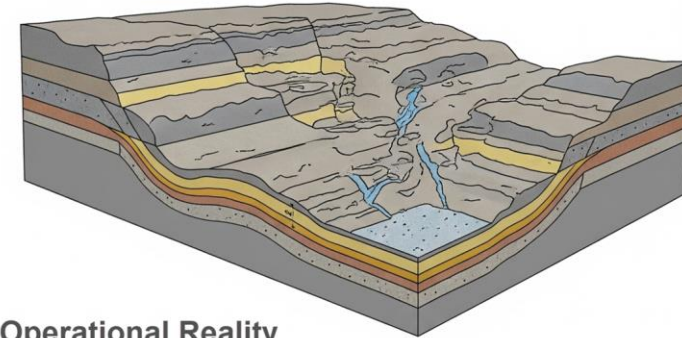


Why Static Models Fail Us

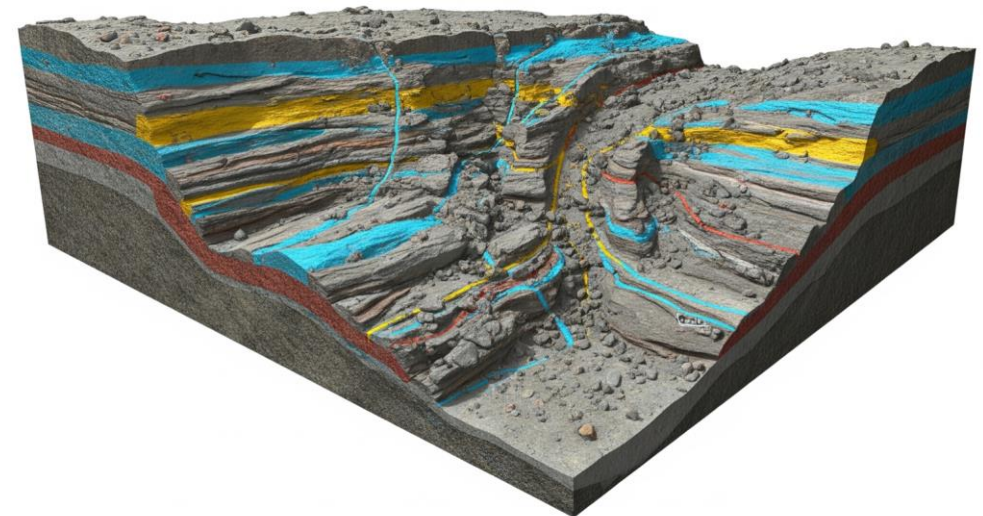
- > Lag in updates → Reconciliation errors and missed opportunities.
- > Manual processes → Inefficiency, human bias, and inconsistency.
- > Data silos → Lack of collaboration and transparency across teams.

Errors aren't just technical
– they're strategic

(A) Model



(B) Operational Reality



AI + Cloud = Dynamic Modelling Paradigm

- > AI: Recognises hidden, non-linear geological patterns that traditional methods miss.
- > Cloud Compute: Enables scalable, real-time computation for faster updates and decision-making.
- > ML: Refines and updates models continuously with new data.
- > Human-in-the-loop: ML proposes; geologists dispose. Competent persons can validate/override with full traceability.

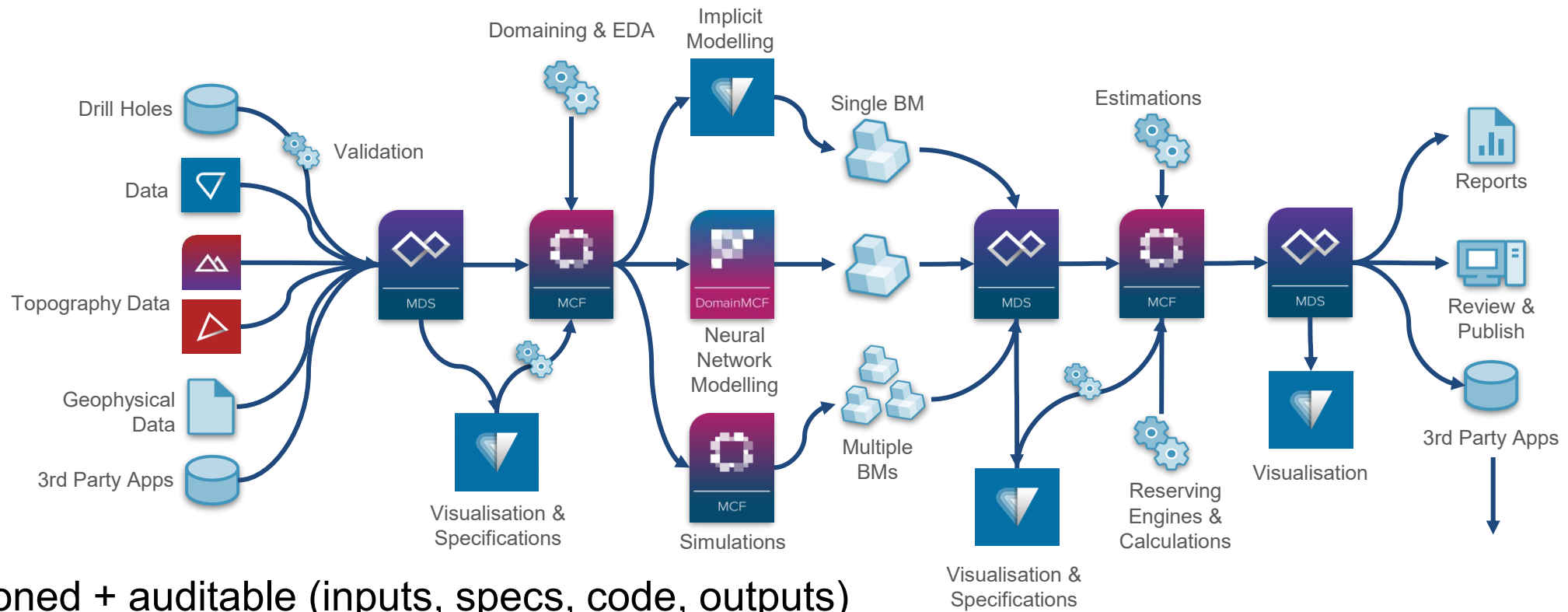
This is not incremental;
this is exponential change



How Dynamic Modelling Works

- > Data ingestion from validated data sources.
- > Cloud-based triggers automatically update models with new data.
- > Results sync back to desktop applications for seamless workflows.

A seamless bridge between geoscientist and cloud compute

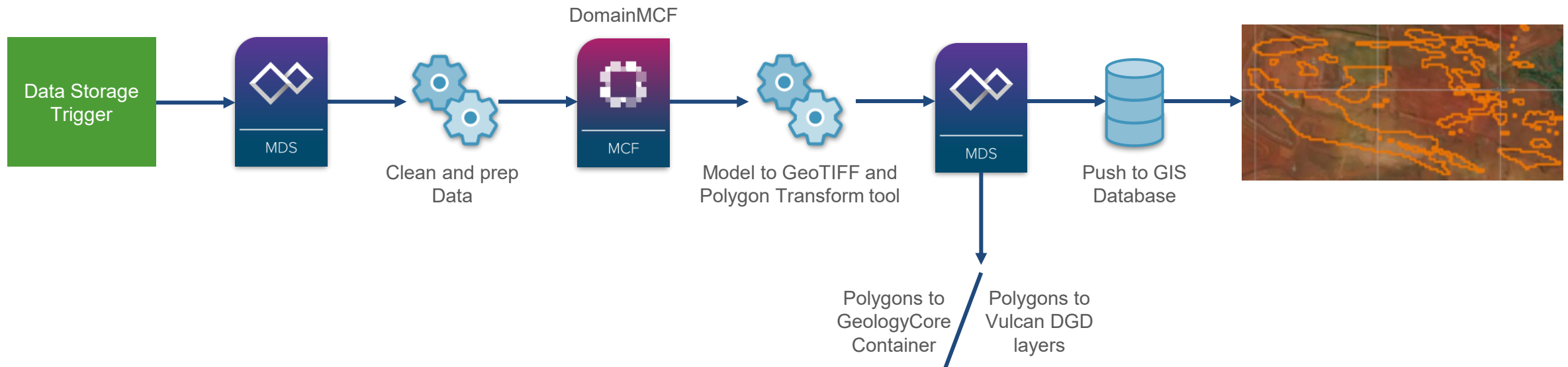


Every run is versioned + auditable (inputs, specs, code, outputs)

Case Study: Voids Project

- > DomainMCF identified underground void risks in minutes (vs days)
- > Real-time updates with every data input.
- > Enhanced safety and optimised production flow.

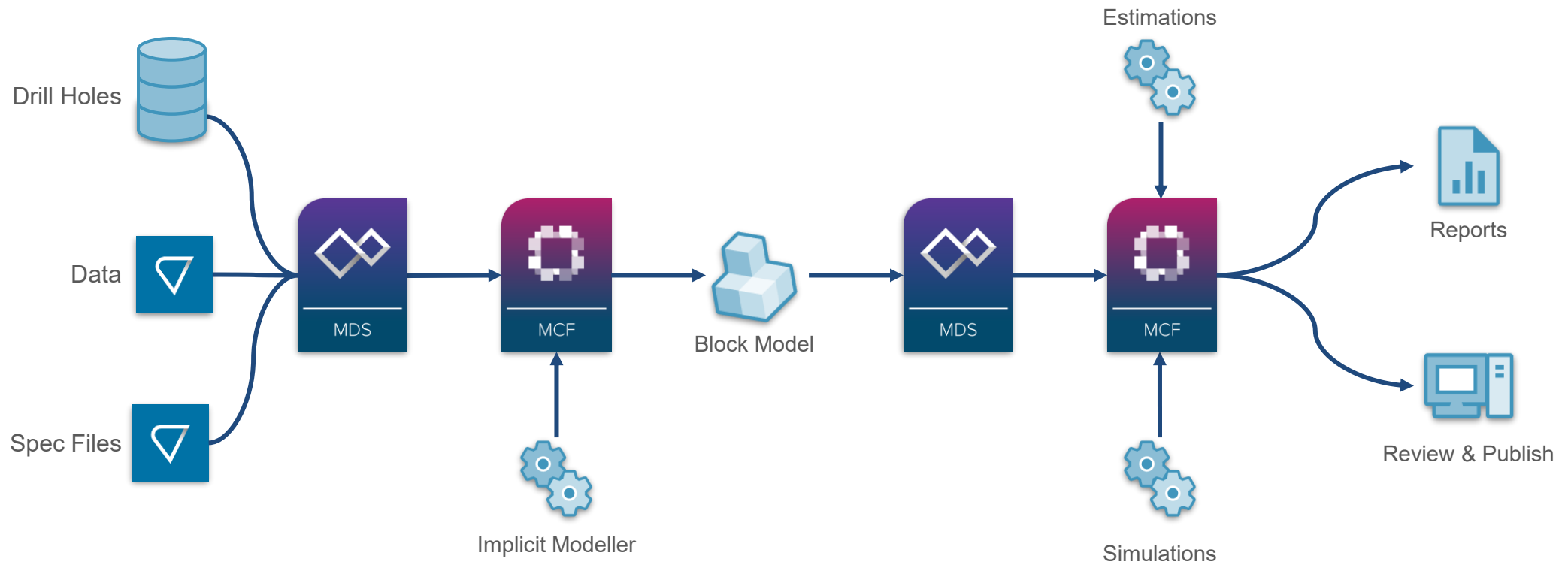
What was invisible is now instantly visual and actionable



Case Study: Block Model Automation

- > Drill data is auto-ingested and processed in real-time from the customer's production drilling database.
- > Reduced modelling cycle from 1 hr 52 minutes to 42 minutes.
- > Automated updates with each new data input.

Faster modelling = faster decisions



Why Dynamic Models Win

- > Continuous updates ensure the model is always current.
- > Centralised collaboration across teams.
- > Automatic data ingestion eliminates manual errors.
- > Dynamic adaptability to real-time changes.

Dynamic models outperform static across every dimension

- > Transparent & auditable (versioned, CP-ready).

Feature	Traditional Static Models	Dynamic Models
Update frequency	Periodic with manual interpretation	Continuous, real-time updates
Collaboration	Localised, often siloed	Centralised, accessible from multiple locations
Computational power	Limited to desktop/laptop capabilities	Scalable cloud computing
Data integration	Requires manual import/export	Automatic, real-time data ingestion
Model adaptability	Predefined assumptions, static structure	Adjusts dynamically based on new data
Auditability	Manual version tracking	Automated version control and traceability

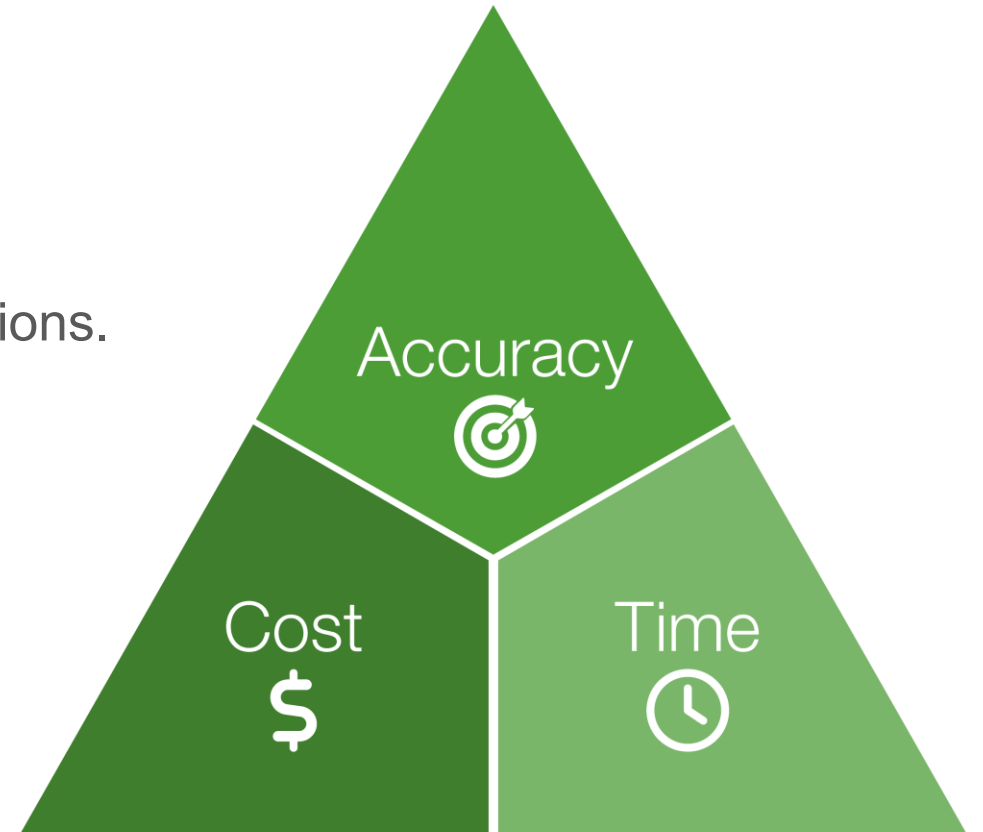
Real-time ingestion and orchestration connect decentralised drilling, survey and production data into one decision-ready environment

ROI, Agility and Confidence

- > Increased confidence in resource classification and estimation.
- > Reduced downtime through faster decision-making.
- > Agility in responding to geological surprises.

The gains go beyond geoscience; they ripple through operations.

By shifting compute to the cloud and embedding intelligence into workflows, we unlock scalable innovation that grows with complexity, not against it.



Consider the value of avoiding 1 misclassified dig block/month.

Building The Dynamic Future

- > Invest in cloud infrastructure + ensure interoperability with existing tools.
- > Upskill teams in AI/ML workflows and real-time decision-making.
- > Pilot projects in high-uncertainty zones.

This transformation is achievable – and modular



Vestrex

The Maptek Vestrex Platform



Will Your Next Model Be Static... Or Smart?

- > Where are you still waiting for models to catch up?
- > What would real-time insights change in your decision-making?
- > Who do you need to bring on board to start the shift?

It's time to lead the shift, not wait for it.

Empower cross-functional teams to collaborate beyond traditional operational boundaries; Geology, engineering, and planning all work from the same evolving truth.

Let's Talk Resource Modelling Of The Future



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learn more





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