When **Data** Works Together, So Does the **Mine.**

From months of manual reporting to hours of automated insight.

Even with mature operational systems, many mining organisations face a fundamental issue — **information trapped in silos.**

THE CHALLENGE

Operational, maintenance, safety, finance, and environmental datasets are often managed independently across different applications, formats, and timeframes. This fragmentation slows visibility and prevents leaders from acting in a timely manner when decisions matter most.

Batch uploads and spreadsheet-based reconciliations introduce **delays of hours or even days,** while inconsistent KPIs across departments can lead to conflicting reports and **reduced confidence in operational datasets.**

Engineers and analysts spend valuable time reconciling numbers and responding to issues as they arise, instead of improving mine performance

Executives, meanwhile, lack a single trusted view of operational performance. Reporting depends on manual effort under tight deadlines, making it difficult to act with confidence and agility.

As a result, daily or shift planning meetings often start with debates about whose report is correct — rather than taking timely action to drive production, safety and sustainability.
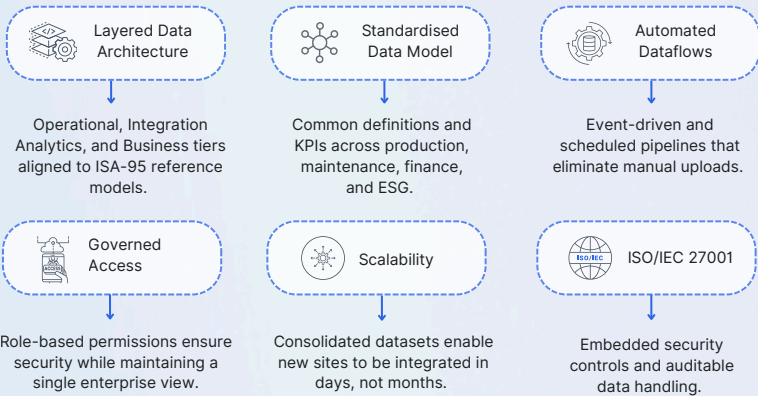
THE SOLUTION

—Building a Unified Data Fabric

The client recognised that meaningful change required more than technology **– it needed alignment, governance, and a clear trusted vision.**

Working closely together, the teams designed a unified data fabric that connected operational, maintenance, and corporate systems into a single, structured foundation for timely insight.
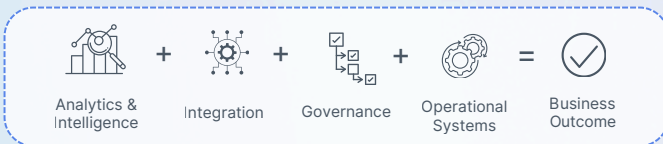
KEY DESIGN PRINICPALS

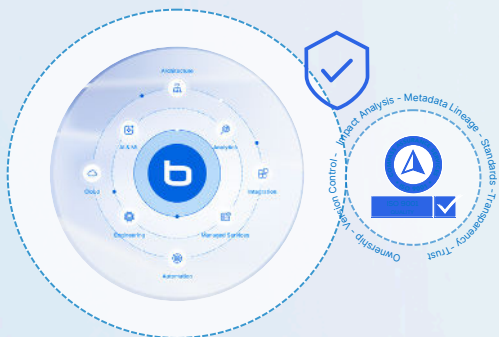| Layered Data Architecture	Standardised Data Model	Automated Dataflows
Operational, Integration Analytics, and Business tiers aligned to ISA-95 reference models.	Common definitions and KPIs across production, maintenance, finance, and ESG.	Event-driven and scheduled pipelines that eliminate manual uploads.
Governed Access	Scalability	ISO/IEC 27001
Role-based permissions ensure security while maintaining a single enterprise view.	Consolidated datasets enable new sites to be integrated in days, not months.	Embedded security controls and auditable data handling.

THE RESULT

—A Modern Data Environment

Which enables the organisation to shift from reactive reporting to proactive intelligence – unifying mine site systems with corporate **decision-making in near-real-time.**

Analytics & Intelligence + Integration + Governance + Operational Systems = Business Outcome

FRAMEWORK & GOVERNANCE

—The Backbone of Data Trust

The structure became **the backbone of data trust,** ensuring every dashboard and model reflected a consistent, validated operational view – a single version of the truth.

Framework Included:

- **Clearly defined data ownership** and stewardship.
- **Data Lineage** to understand downstream impact such as schema or table changes.
- **Version control and naming conventions** for all datasets.
- **A central glossary** for metric definitions.

The organisation was prompted to **establish a Data Governance Framework** defining the standards, tools, and processes for *future planning/looking forwards* of the data analytics platform.

THE OUTCOME

Smarter, Timelier, and **Financially Aligned** Decisions

Through **structured data governance, automation, and collaboration,** the client gained the ability to make faster, evidence-based investment and operational decisions.

What once required manual reconciliation now delivers near-real-time clarity — **enabling leadership to prioritise resources, optimise spend, and protect margins across every site.**

THE BUSINESS IMPACT

Capital Allocation Confidence → Executives can now see where funds deliver the highest operational return — aligning investment planning with real performance, not estimates.

Operational Efficiency & Cost Control → Near-real-time data highlights inefficiencies, allowing leaders to target maintenance, labour, and production costs precisely where savings matter most.

Timely Insight → Scheduled updates provide immediate visibility into site performance, empowering leaders to act before issues escalate.

Faster Decisions → Morning planning meetings start with one aligned version of the truth and end with clear, data-driven actions.

Lower Operational Cost → Automated data integration has reduced manual reconciliation and IT maintenance, freeing resources for higher-value analysis.

Scalable Framework → New sites and acquisitions can be onboarded seamlessly, maintaining group-wide governance and accelerating time-to-insight.

Governed Analytics → Group and user level security ensure dashboards uphold compliance and control while maintaining secure access to sensitive financial and ESG datasets.

AI Readiness → A trusted, unified dataset more easily supports forecasting, predictive maintenance, and ESG performance modelling.

*"**In mining, every decision counts.**"*

"We bring structure to complex data so leadership teams can move from discussion to action — with clarity and confidence."

Boon Law, Boon Solutions

LONG TERM IMPACT

—A Modern Data Environment

The new data foundation has modernised how the mining organisation operates.

- Monetary value at the core: Continuous planning increases operational profitability through smarter, real-time decisions.
- Predictive maintenance reduces downtime and enhances workforce safety.
- Near-real-time ESG reporting delivers transparency for investors and regulators.
- Unified governance strengthens auditability and trust across global operations.
- Technology-agnostic design supports flexibility, scalability and AI ecosystems.

Fragmented data was transformed into a strategic enterprise asset, empowering leaders to act on current, accurate information with confidence.

Manual reporting that took months to do, reduced to automated insight.

IN CONCLUSION

By listening, planning, and co-designing with the client, the project delivered a lasting transformation **— a shift from isolated data systems to a governed, near-real-time reporting framework that unifies global datasets.**

The project delivered:

- **A unified, governed data fabric** connecting every site
- **Reporting latency reduced** from weeks to hours
- **Self Service analytics**, eliminating the need for ad-hoc static reports
- **A scalable, ISO-aligned foundation** for AI and predictive analytics

boon
SOLUTIONS

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