
datacentrix
indaba 2021
mining
HUAWEI
THE CONNECTED MINE
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ROYAL BAFOKENG
PLATINUM
MORE THAN MINING

MODERNISATION IN MINING

WHAT

Adopting innovative practices, leveraging new and emerging technologies

WHY

For increased synergy across the entire value chain to alter the fundamentals of transitional mining

OBJECTIVE

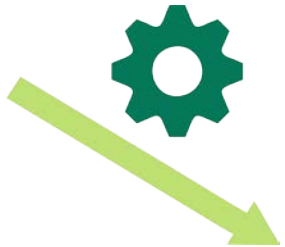
To improve operational efficiencies and effectiveness

MODERNISATION IN MINING

- 4IR
- Digitalisation
- Internet of Things (IoT)
- Artificial Intelligence (AI)
- Digital twin
- 3D printing
- Robotics
- Cloud computing

EVOLUTION IN THE MINING SECTOR

Why does the mining industry need to evolve?



Global mining production has decreased by 30%

Commodity price fluctuations are squeezing profit margins

Costs continue to rise

Deposits are increasingly difficult and expensive to access

Safety
Fewer injuries & less downtime

Need to reduce environmental footprint

EVOLUTION IN THE MINING SECTOR (CONT.)

What drives evolution?

- Remain competitive
- Improve productivity of assets
- Reduce operational risk
- Increase the efficiency of deposit discovery
- Strengthen mineral recovery rates
- Recover metals and minerals of higher quality
- Drive own growth (Grow organically)

EVOLUTION IN THE MINING SECTOR (CONT.)

What are the barriers to evolution?

Largely conservative industry.

Mining inherently risky.

Investing in innovation & its uncertain outcomes adds to this risk.

Focused on short-term bottom-line improvements, rather than longer-term gain.

Resource allocation to innovation research is difficult.

Particularly during periods of depressed prices (operational budgets)

Innovation thrives in a climate of collaboration.

Due to competitiveness of the industry this inhibits breakthroughs.

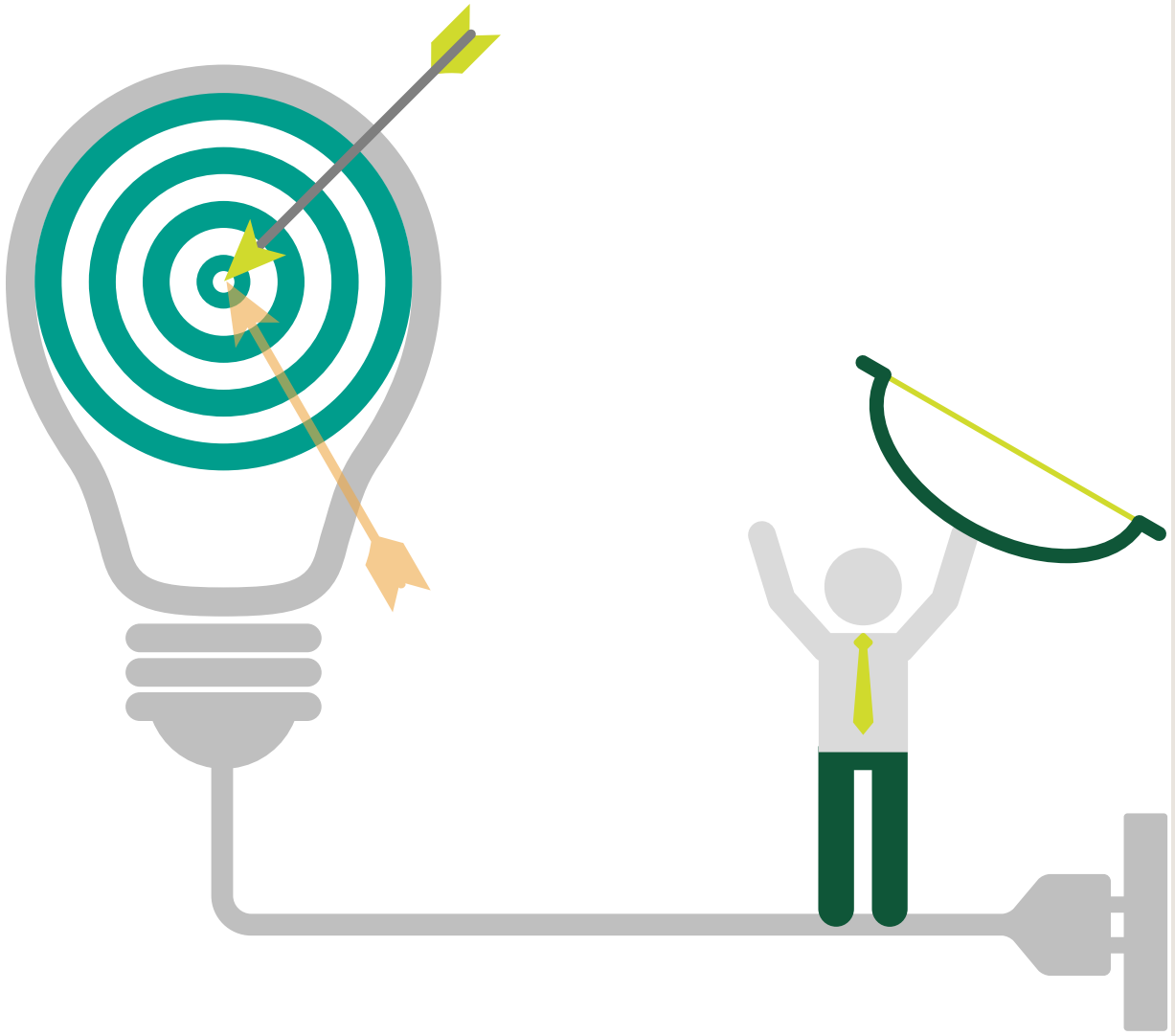
The industry has a poor reputation for innovation.

The culture adopts slowly to change.

RBPLAT IT VISION AND PRINCIPLES

Vision

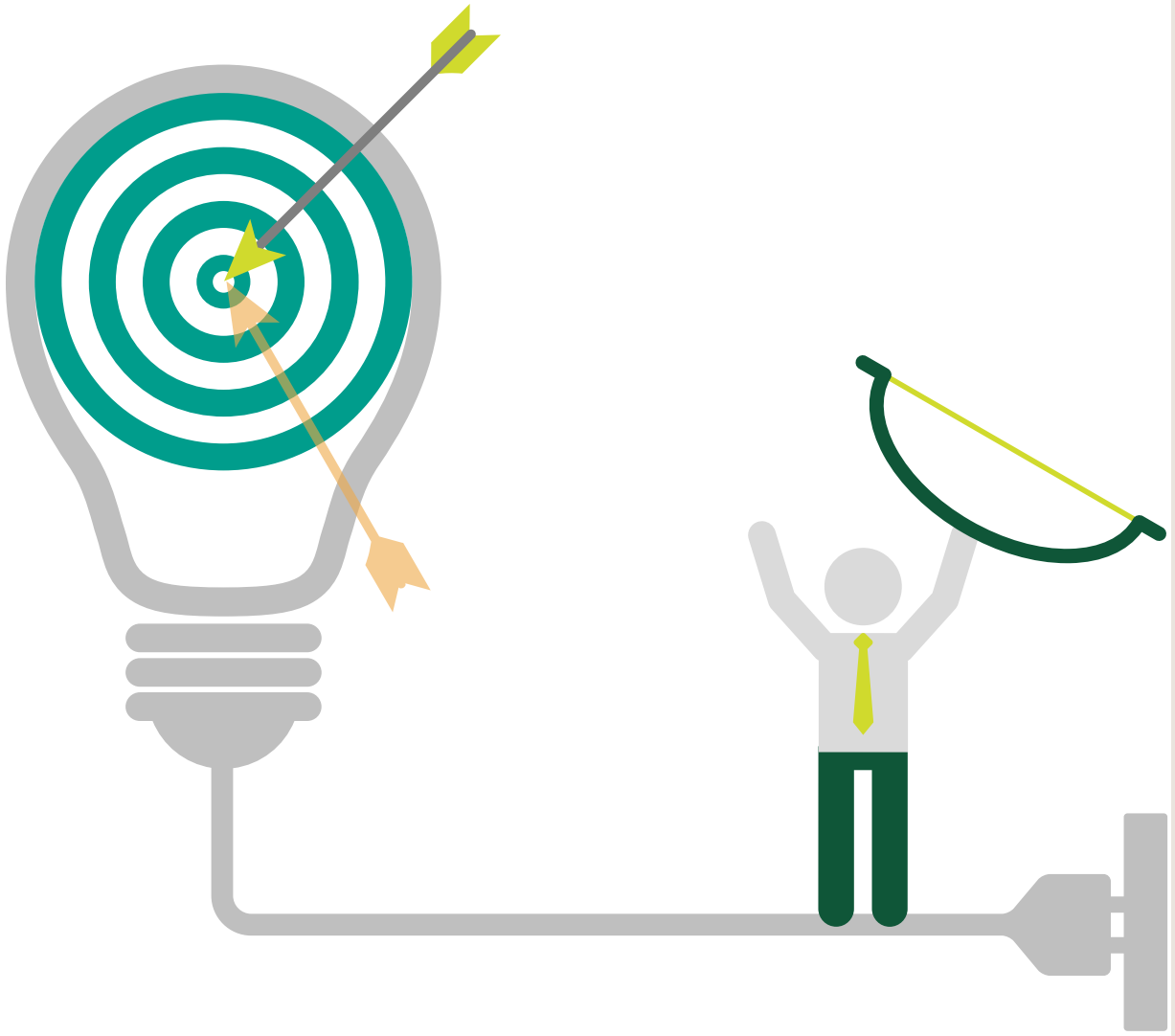
Leverage available technology to transform the way we do business through digital solutions, process re-engineering and automation to improve operational efficiency & effectiveness.



RBPLAT IT VISION AND PRINCIPLES (CONT.)

Emphasis: Leverage

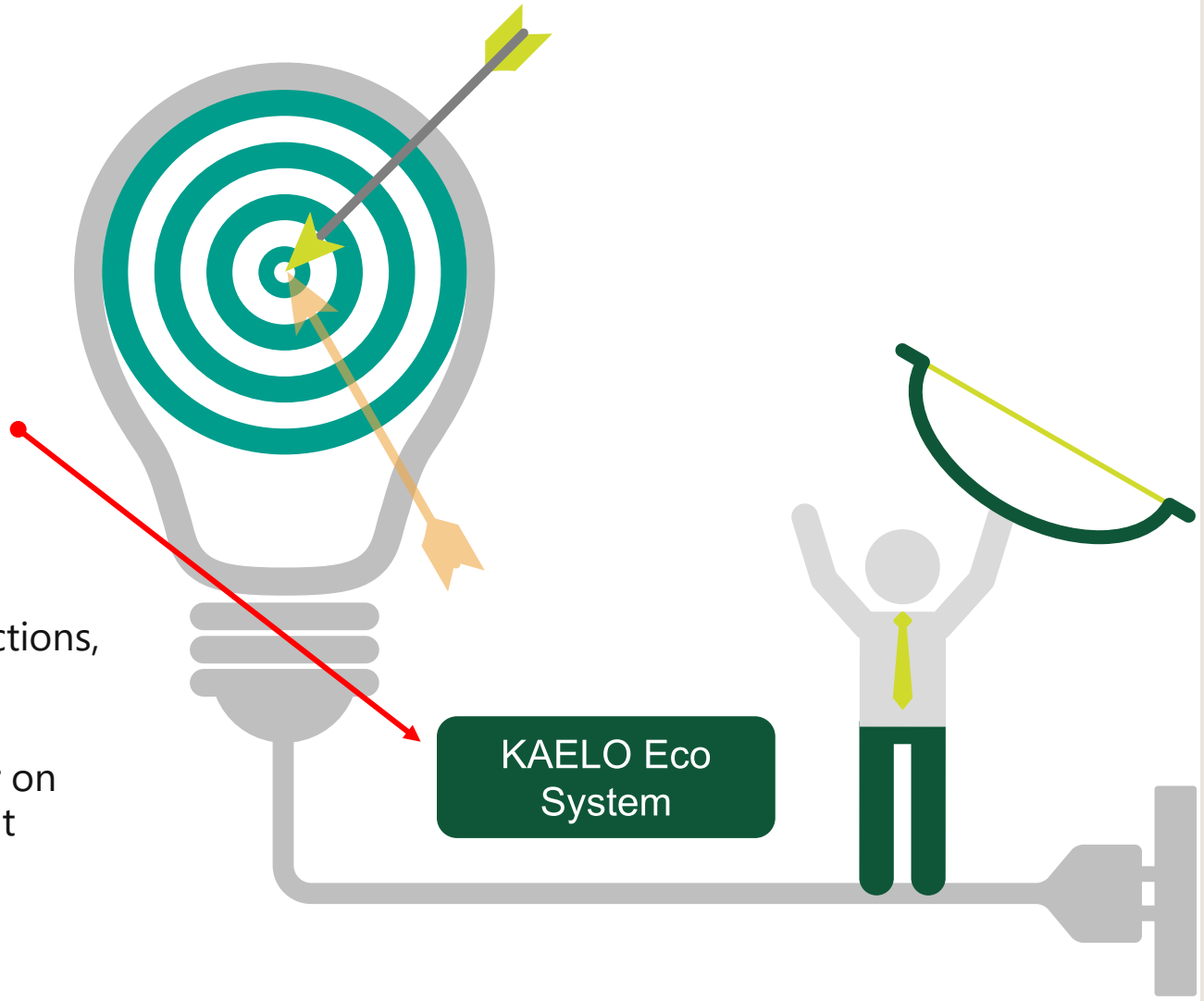
- RBPlat has the latest technological enablement.
- RBPlat IT – through collaboration with business – must critically analyse, upgrade or substitute solutions, if existing solutions are not fit for purpose.



RBPLAT IT VISION AND PRINCIPLES (CONT.)

Guiding Principles

- Foster key stakeholder engagement to drive change.
- Provide fit-for-purpose solutions and services in terms of function, cost and quality.
- Manage by information and insight to expose, measure and continuously improve operations.
- Evaluate cloud-based solutions in terms of functions, cost, availability, performance and security.
- Harness the power of 4IR technology to deliver on our ethos of being an organisation that is about more than mining.



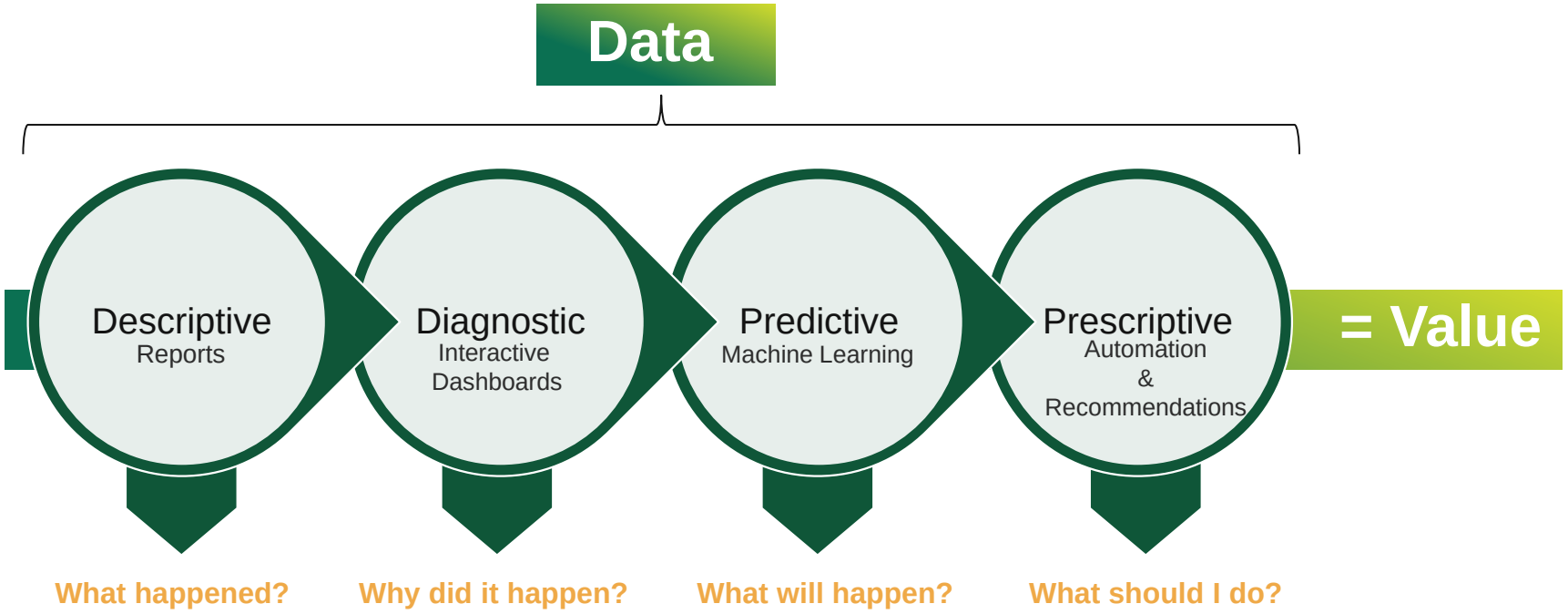
CHALLENGE – FINDING AND MAKING SENSE OF DATA

Challenges

- Infrastructure to acquire data
- Integration limitations
- Unstructured data
- Disparate systems
- Empowering non-technical people

- Analytics is not just about the availability of data, it's about useful data
- Increasing TCO and decreasing ROI
- Data security
- Change management
- Organisational maturity

Transforming Data to VALUE



CHALLENGE – FINDING AND MAKING SENSE OF DATA (CONT.)

Ideal Solutions

- Data framework
- Self-help environments
- Workflow capabilities
- Digitalisation of manual forms
- Seamless integration
- Planning and forecasting
- Add intelligence to data
- One version of the truth
- One workspace
- Trustworthy data at the right time

Desired Outcomes

- Real-time production management system
- Improve productivity of our assets
- Reduce operational risk
- Increase the efficiency of deposit recovery
- Strengthen mineral recovery rates
- Recover metals and minerals of higher grade
- Reduce costs
- Innovate faster
- Save time
- Manage proactively (foresight)
- Fully managed cloud services inclusive of monitoring, security, updates and upgrades

CHALLENGE – FINDING AND MAKING SENSE OF DATA (CONT.)

~~Integration~~

- Database
- Legacy Systems
- Business Processes
- CRM
- ERP
- Device Data

~~One Input Form~~

- Security
- Support
- Realtime Data
- Version Control
- Audit Trail
- Backups

~~Operational Contextualized Data~~

- Analytics
- Modelling
- Incident Management
- Event Frameworks
- Roll-Ups
- Real-Time Streaming of Data

DIGITAL ECO-SYSTEM – OUR DIGITAL ROADMAP

PILOT AZURE DEVELOPMENT
- Edge Containers
- IoT HUB
- Realtime Streaming
- Batch Data
- Data Lake Storage
- Orchestration

GOVERNANCE
- Application
- Data
- Change Control

SECURITY
- AD Integration
- AD Group Control
- Cloud Security

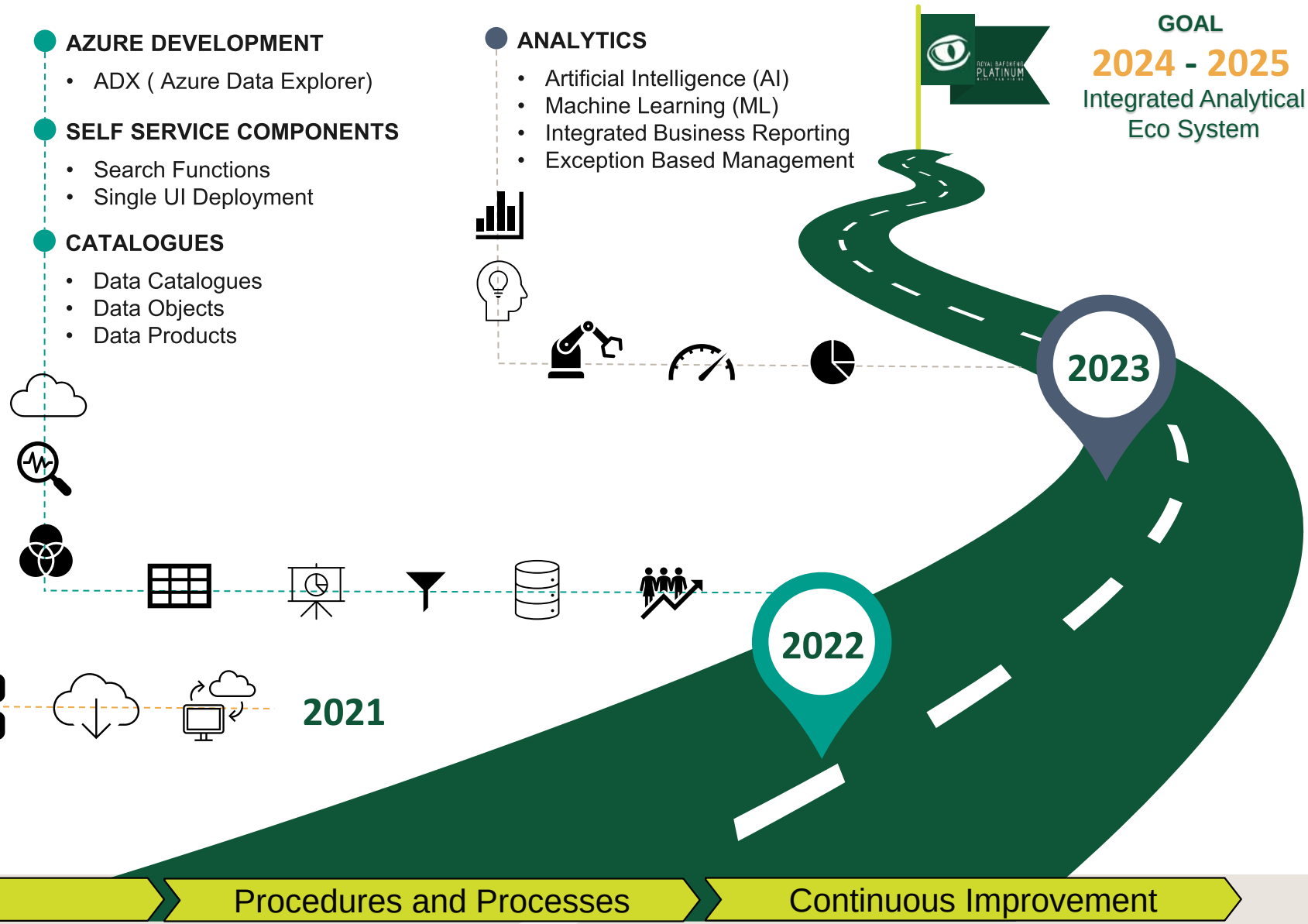
AZURE DEVELOPMENT
- ADX (Azure Data Explorer)

SELF SERVICE COMPONENTS
- Search Functions
- Single UI Deployment

CATALOGUES
- Data Catalogues
- Data Objects
- Data Products

ANALYTICS
- Artificial Intelligence (AI)
- Machine Learning (ML)
- Integrated Business Reporting
- Exception Based Management

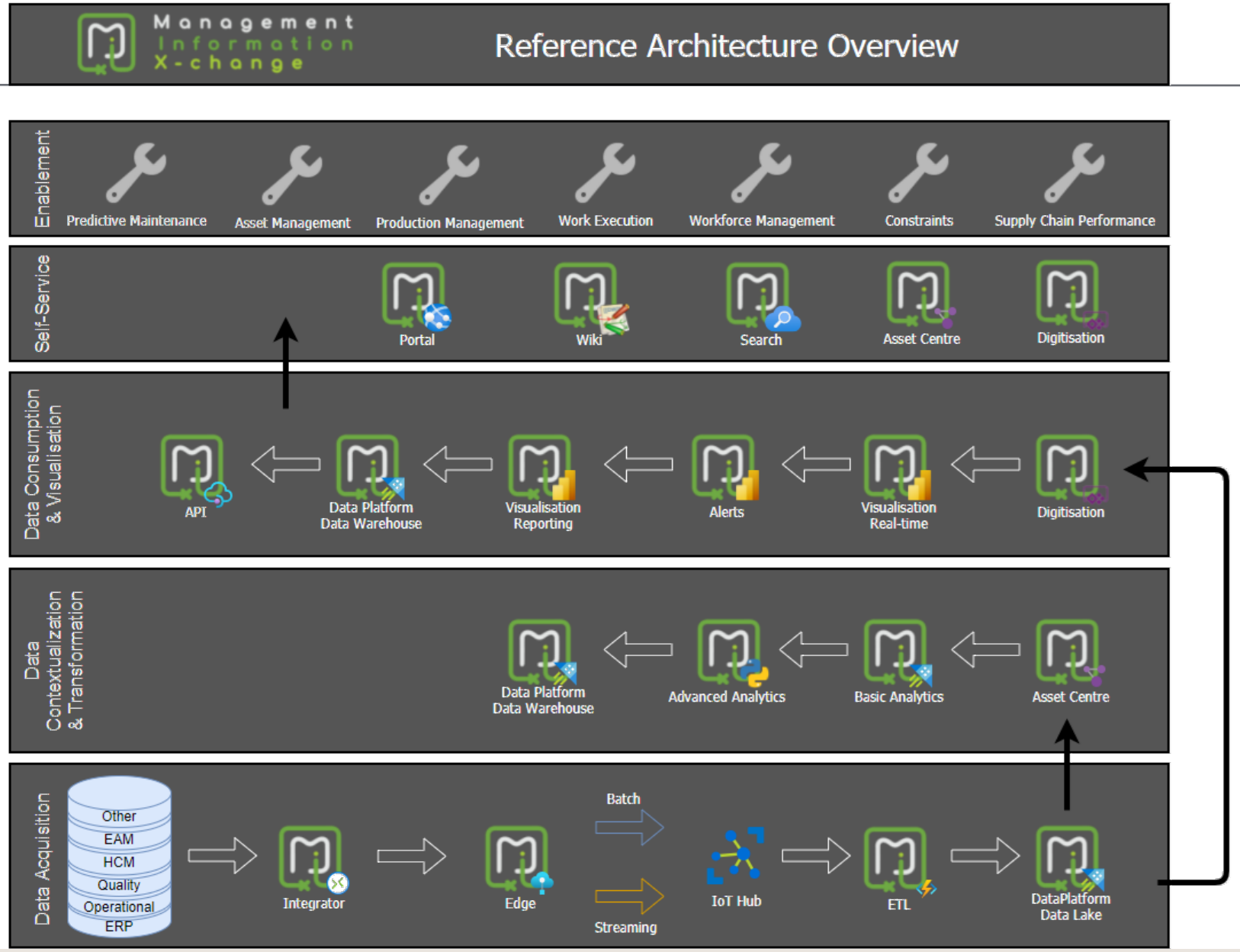
GOAL
2024 - 2025
Integrated Analytical Eco System



Infrastructure | Procedures and Processes | Continuous Improvement

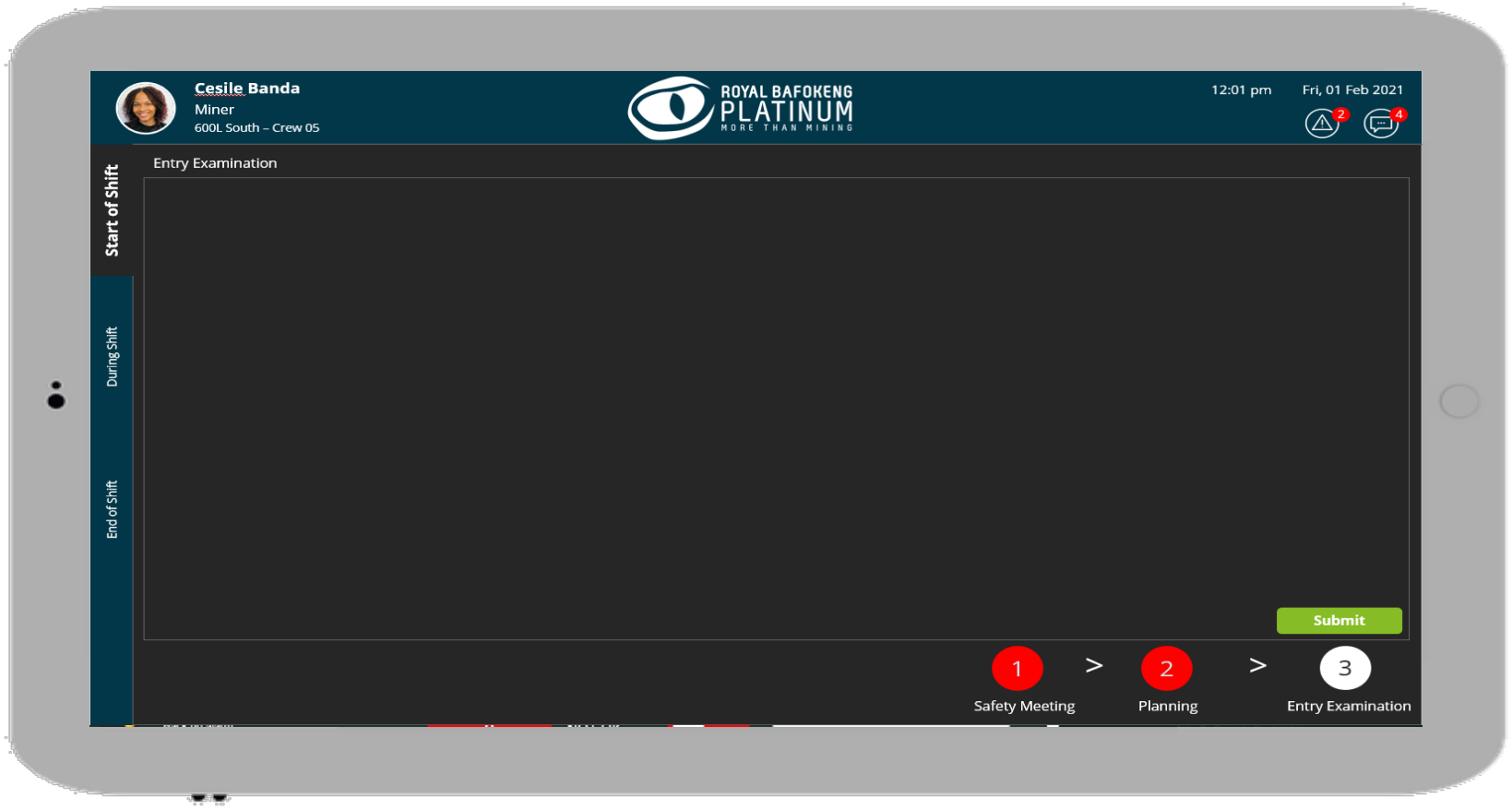
ARCHITECTURE

Making data work for **you**, not the other way around.



EARLY SUCCESS AT STYLDRIFT

- **Safety Inspections – Digitisation**

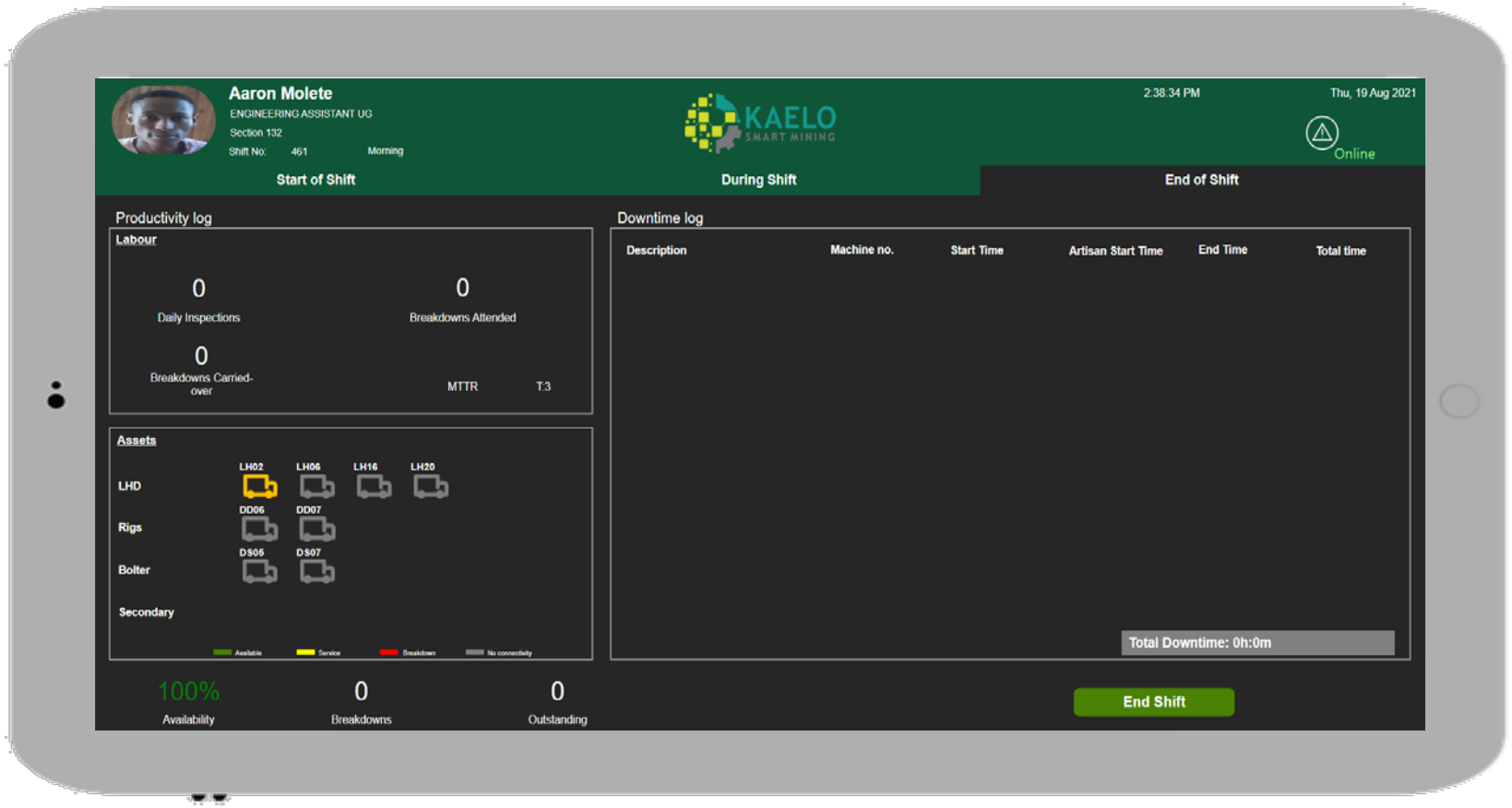


EARLY SUCCESS AT STYLDRIFT

- **Production Tracking – Digitisation**

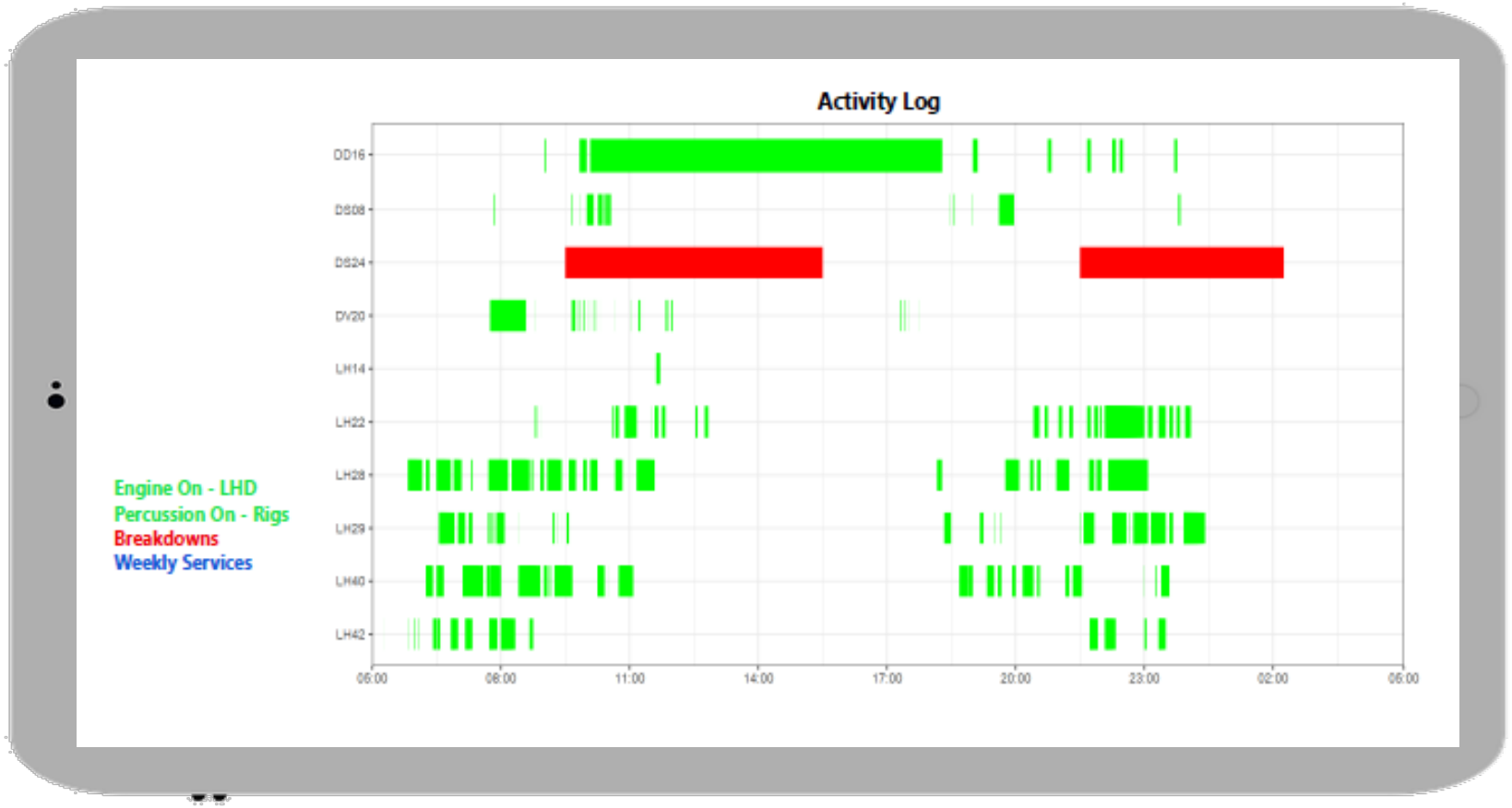
EARLY SUCCESS AT STYLDRIFT

- **Section Performance Metrics**



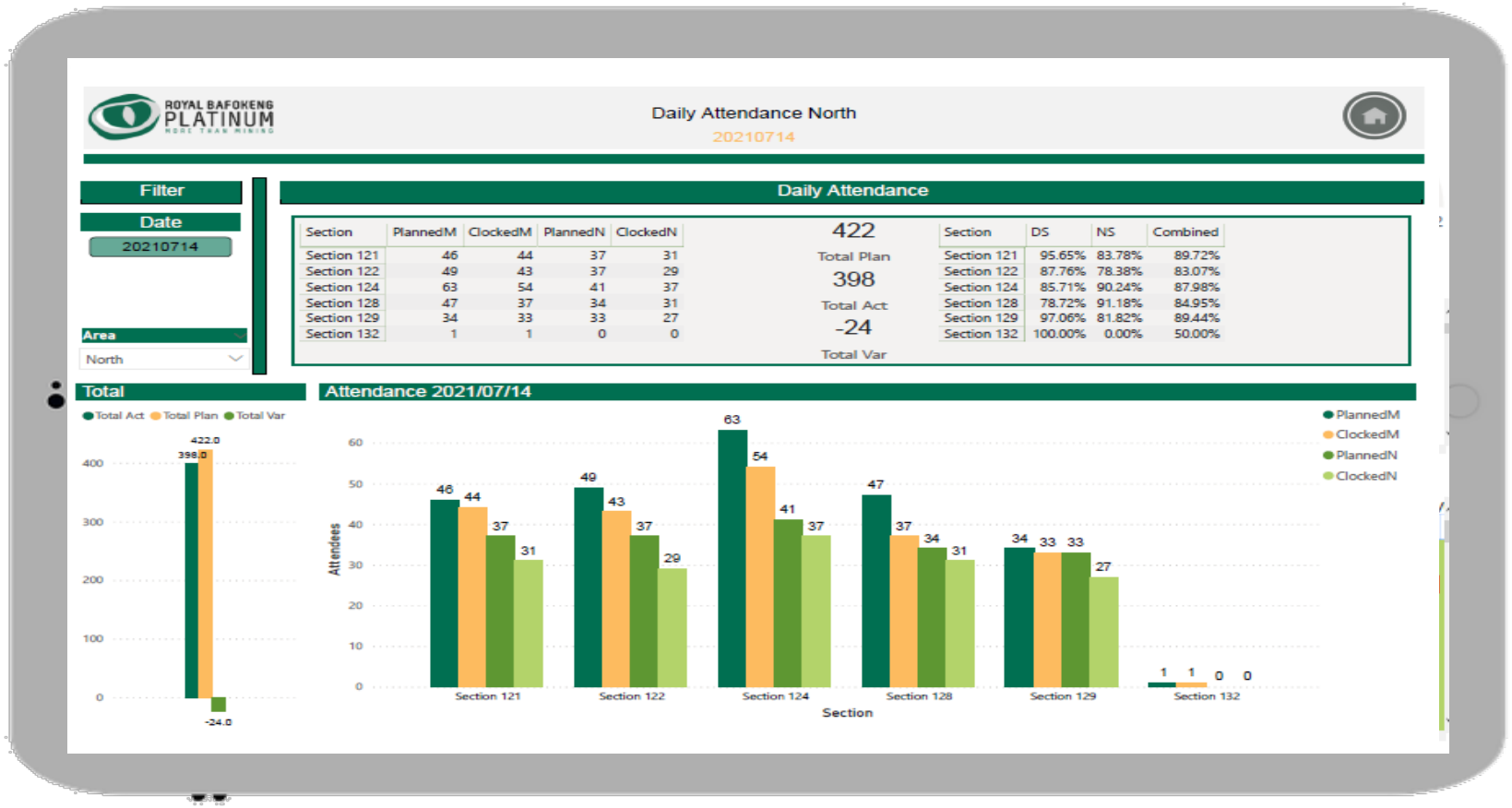
EARLY SUCCESS AT STYLDRIFT

- **Fleet Performance Management**



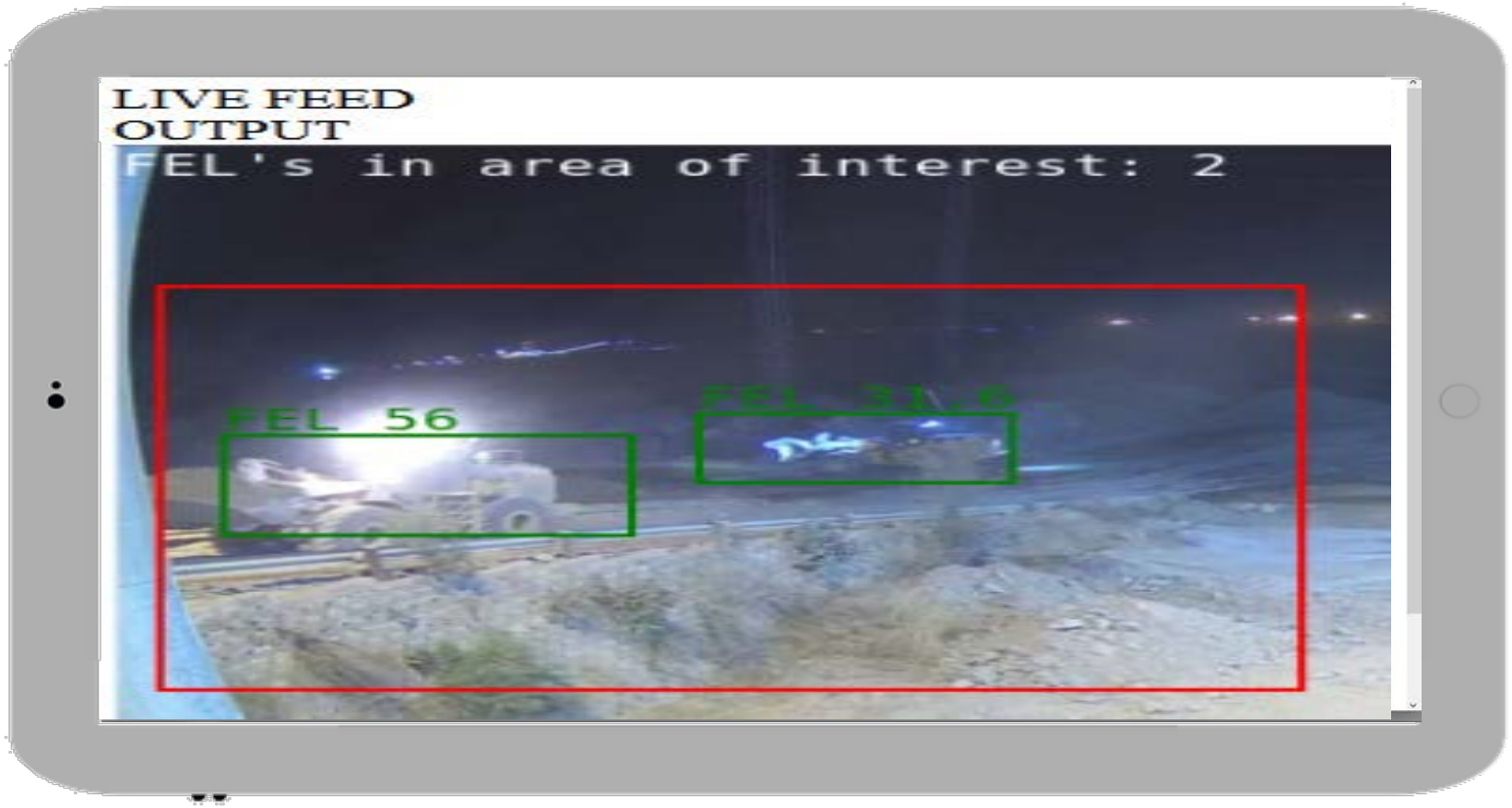
EARLY SUCCESS AT STYLDRIFT

- **Workforce Engagement and Breakdown Management**



EARLY SUCCESS AT STYLDRIFT

- **Live Video Analytics**




THANK YOU