

REACTORE: MODULAR TECHNICAL SALES TRAINING

Company and product training presentation

Prepared by

reactore

One Platform. Multiple Mining Solutions.

 **MODULE 1:** Company Overview

 **MODULE 2:** General Product information and ecosystem

- Optional Break: 15 Minutes-

 **MODULE 3:** Operational Planning and scheduling

 **MODULE 4:** Processing, Production and operations management

- Optional Break: 15 Minutes-

 **MODULE 5:** Underground Solutions

 **MODULE 6:** Asset Tracking and Collision Avoidance

 **MODULE 7:** Asset Maintenance and management

 **MODULE 8:** Sales and distribution

- Optional Break: 15 Minutes-

 **MODULE 9:** Human Resource Management

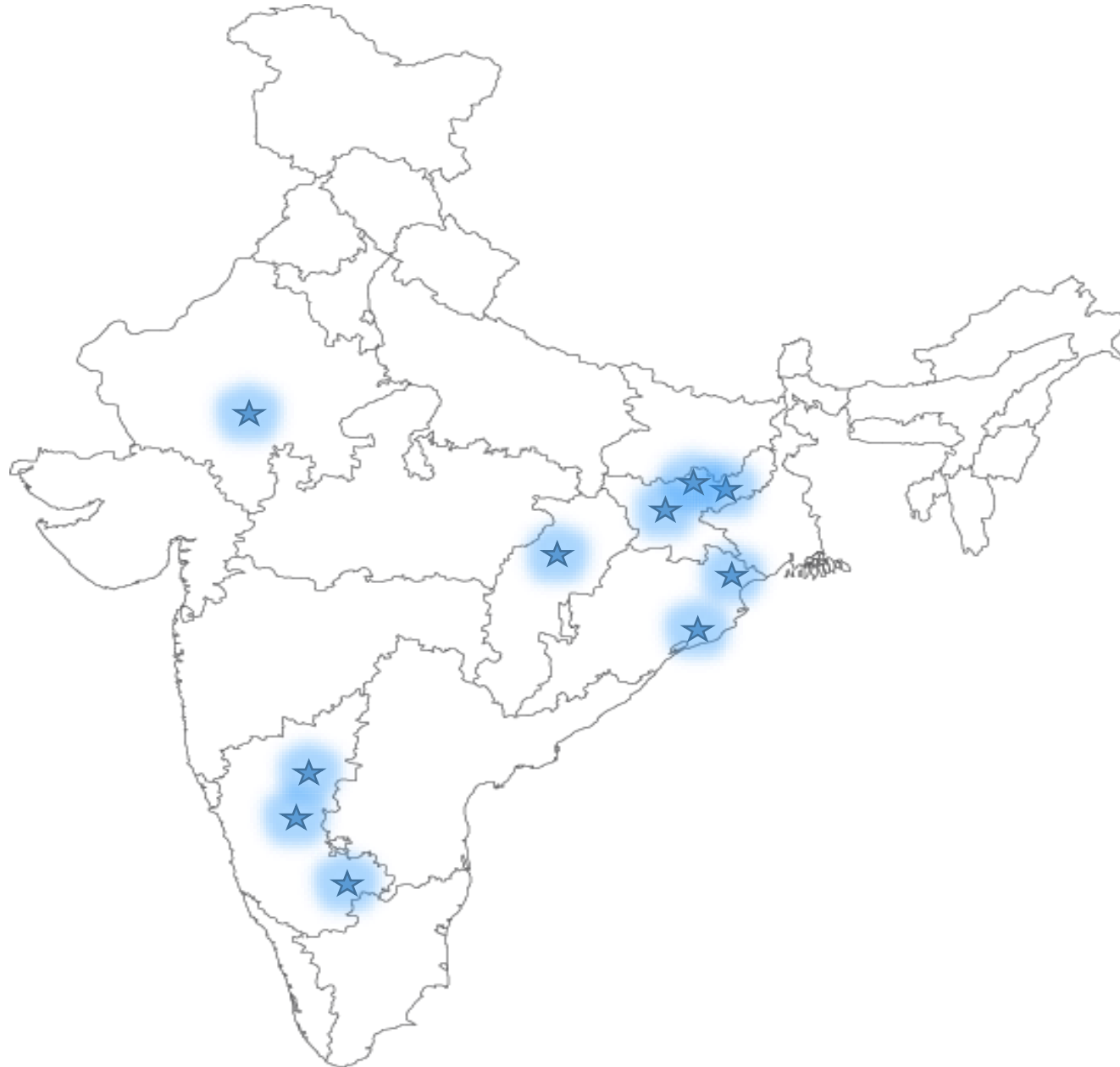
 **MODULE 10:** HSE and Legal Compliance

 Questions and Answers

MODULE 1: COMPANY OVERVIEW



MARKET EXPOSURE INDIA



Foyer Group



ADITYA BIRLA GROUP



MARKET EXPOSURE (SOUTH AFRICA)



IMPLEMENTATION METHODOLOGY

Reactore is a service orientated, technology based solution provider.

At Reactore, we recognise that each mining operation has unique constraints and challenges and that the success of a software solution lies in the execution of an effective implementation strategy.

Instead of just providing off the shelf applications we envision ourselves as solution providers and actively collaborate with our clients to ensure fit-for-purpose solutions that really make a difference and bring a tangible return on investment.

Reactore personnel actively consult with our clientele to optimise business processes and achieve maximum gains by leveraging the power of the technology we provide. This results in solution optimisation and efficiencies that translate into effective management of economic, operational and risk management concerns.

Constant Evolution

Our product is constantly improving and evolving to incorporate the latest technology to ensure our clients can benefit from a solution that is both future-proof and ready to address the escalating demands of the industry.

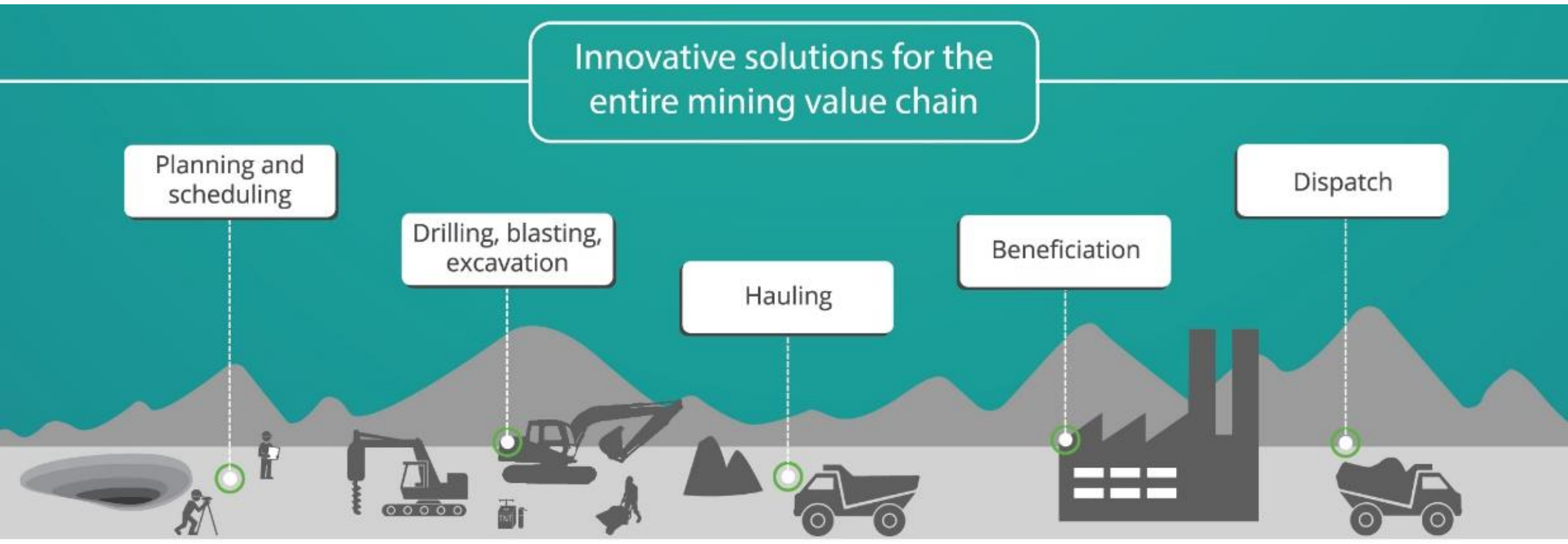
Our service level agreements ensure that clients are provided with ongoing after-sales support and training with access to new features and enhancements as they are developed.



MODULE 2: PRODUCT OVERVIEW & ECOSYSTEM

ONE PLATFORM, MULTIPLE MINING SOLUTIONS

- Solutions for planning, real-time operations management through to sales and distribution.
- Support modules include asset management/maintenance and mining specific HR solution.
- Suitable for above and underground mining operations.



SOLUTION ARCHITECTURE AND ECOSYSTEM

PEOPLE

- Personnel Tracking & Safety
- Trainings & Interventions
- Performance Management

Mineral Resources

- Operational Planning
- Production Management
- Beneficiation & Distribution

Assets

- Asset tracking & Management
- Optimal Utilisation
- Preventive / Predictive Maintenance

CONNECT EVERYTHING

Connect to existing hardware and software systems

IMPROVE EFFICIENCY

Manage operations using core, cutting edge productivity tools



COEXISTENCE

Dynamic coexistence with 3rd party systems

INCLUSIVENESS

Various apps, interactive systems for maximum personnel participation

Mines use the various Reactore modules to budget, plan, schedule, effect and track all operations across the mine, in real time, through to end sales and distribution.

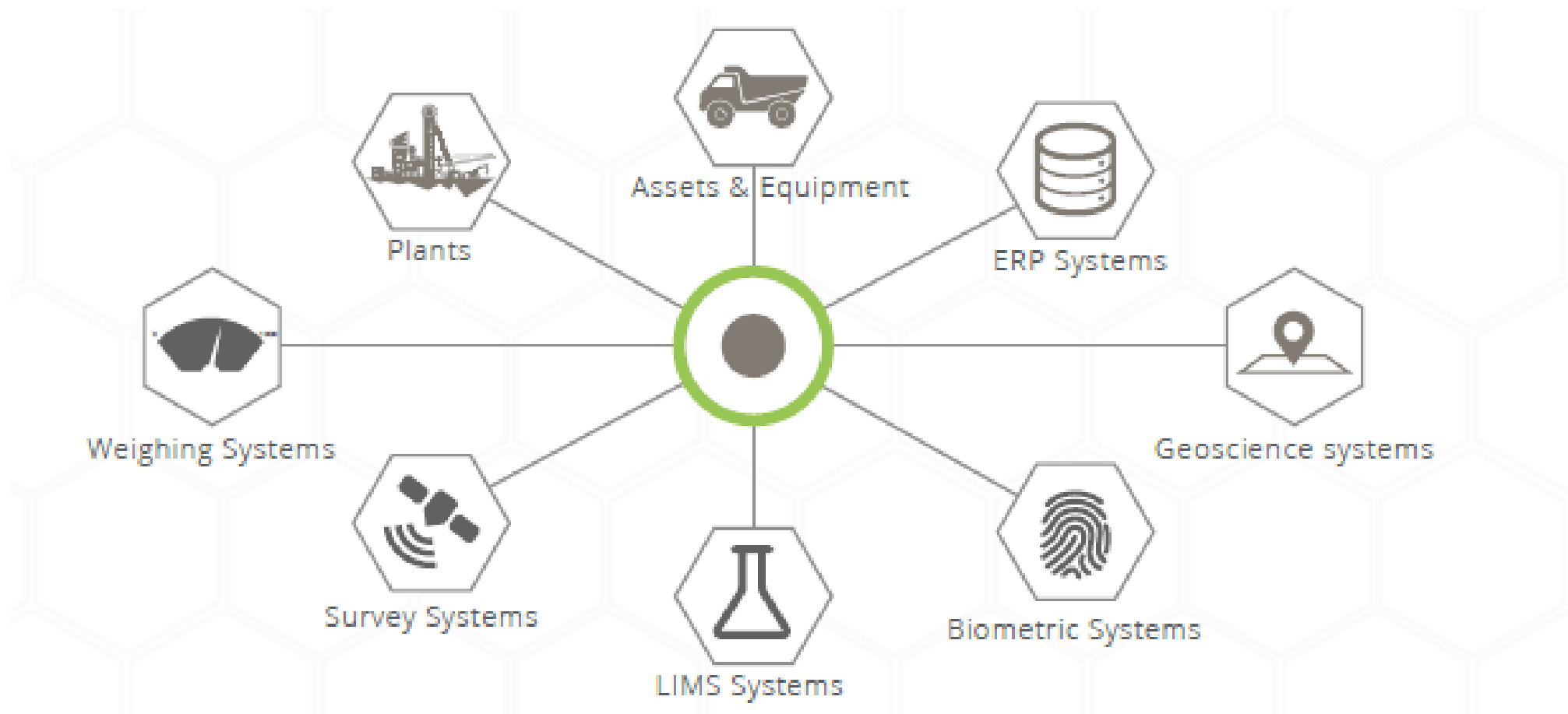
Modules include:

- Operational Planning
- Production
- Beneficiation
- Asset Tracker
- Sales and Distribution
- Underground Mining
- Asset Management
- Human Resources Management
- HSE Legislative Compliance
- Mobile Applications
- Reactore Ecosystem

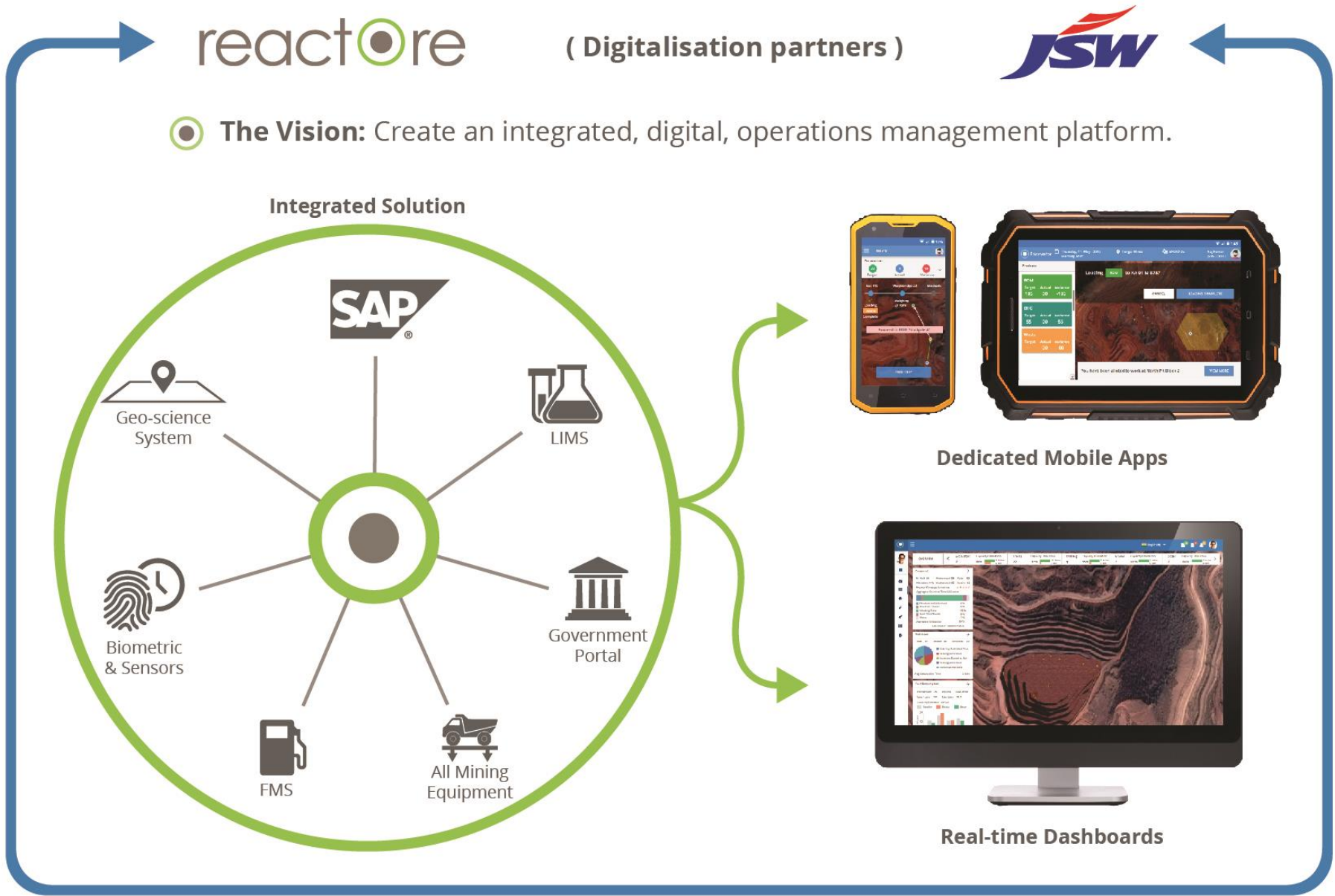




Reactore typically integrates with 8 or more systems per implementation.



CASE STUDY: END TO END DIGITALISATION OF MINING OPERATIONS



- Report engine allows for user defined reporting.



PRODUCTION: Mining production management, in your pocket.

Dedicated mobile apps for operators, ranging from material handling, drilling, and blasting, to apps for management and supervisors to access real-time operational data and take action on it, all in the palm of their hands.

Key features include resource status summary, logging of incidents, receiving exception alerts, communicating and receiving instructions and viewing the latest production progress.



ASSETS: Maintenance Management

A feature for technicians, mechanics and artisans to view, manage and close work orders in the field, removing the requirement of paper based record keeping. In the field real time updates will facilitate Reactore Asset Management module to utilise the data captured meaningfully to update maintenance records and align maintenance strategy trajectories accordingly.



HR:Employee Leave Management

View leave balances for both yourself or subordinates, apply for leave or track the progress of current leave applications. Reactore's mobile app bridges the gap between HR Management and employees by providing key information to personnel thus reducing lengthy administrative cycle times.



ADMINISTRATION: Manage tasks while on the move

Reactore's mobile Task Management App facilitates viewing and managing tasks assigned to you. Provide inputs for the required tasks and sync with the enterprise App in real time. View data and audit trails for historical tasks when required.

Leveraging the power of geo-location using geo-fencing, tracking and user defined business rules.

The dashboard displays an aerial view of a mining site with several colored zones: a green rectangular area, a yellow rectangular area, a blue L-shaped area, a green rectangular area, and a large orange irregular area. A red alert icon with the number '1' is positioned near the orange area. A legend on the right side of the map identifies the zones: Office Building (yellow), Canteen (green), Mine Entrance (green), Power Supply (orange), Workshop (blue), and Crushing Plant (orange). A data table for the 'CRUSHING PLANT' is shown below the map.

CRUSHING PLANT	
Status	: Active
Personnel	: 46
Alerts	: 03

An alert notification is displayed in the top right corner:

ALERT 1

Name : Santosh Kumar
Has entered restricted area

Area : Power Supply
At 13H46

DISMISS NOTIFY

CONTROL ROOM MONITORING

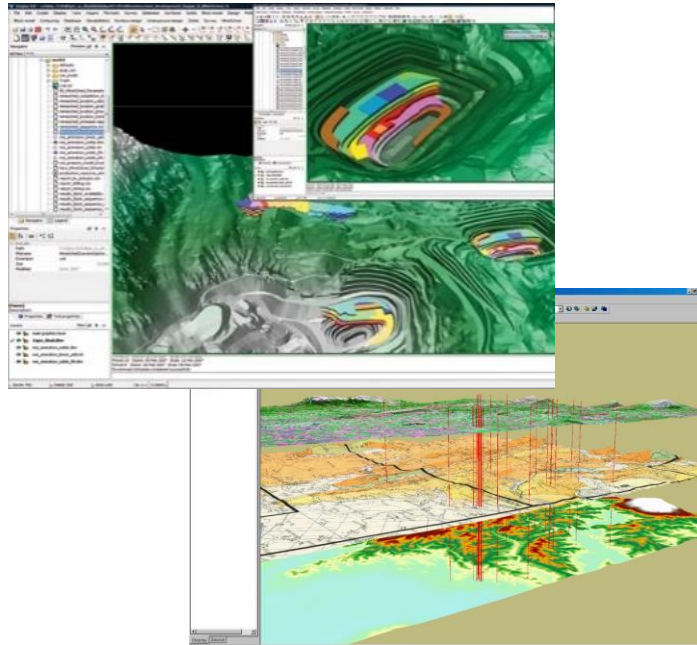
- Real-time dashboard tracking of operational data.



MODULE 3: OPERATIONAL PLANNING

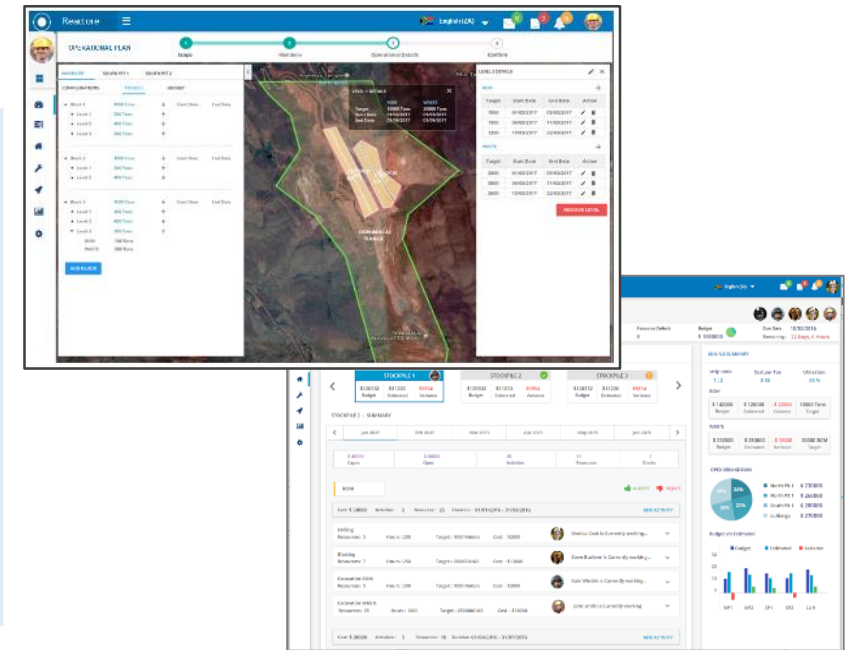
Optimised planning, maximum value with an advanced collaborative planning solution for the entire mining value chain.

- Integrate with geo-science systems and combine with Reactore data to facilitate a broad based planning / project management solution.



3RD party commercial
Geo-science
systems.

Complements GIS
data with additional
mine planning
parameters
reactore



Collaboration - a single workspace environment where multiple users can apply their expertise

English (SA) 8 9 6

Dashboard / Mine Planning / Work Space

WORK SPACE

Progress 40% Resource Utilisation 85% Total Cost Breakdown Cost Per Ton \$ 92 Resource Defect 8 Budget \$ 9350000 Due Date 10/02/2016 Remaining: 22 Days, 6 Hours [PUBLISH](#)

MINING BENEFICIATION **STOCKPILES** REVENUE GENERAL EXCEPTIONS (22)

STOCKPILE 1			STOCKPILE 2			STOCKPILE 3		
\$120332	\$11220	\$9854	\$120332	\$11220	\$9854	\$120332	\$11220	\$9854
Budget	Estimated	Variance	Budget	Estimated	Variance	Budget	Estimated	Variance

STOCKPILE 2 - SUMMARY

Jan 2015	Feb 2015	Mar 2015	Apr 2015	May 2015	Jun 2015
\$ 45000 Capex	\$ 56000 Opex	05 Activities	10 Resources	1 Blocks	

ROM ACCEPT REJECT

Cost: \$ 50000 Activities: 5 Resources: 25 Duration: 01/01/2016 - 31/03/2016 [ADD ACTIVITY](#)

Drilling Resources: 5 Hours: 200 Target: 1000 Meters Cost: \$2000	Monica Cook is Currently working...
Blasting Resources: 7 Hours: 250 Target: 2500000 M3 Cost: \$13000	Steve Buckenr is Currently working...
Excavation ROM Resources: 5 Hours: 200 Target: 1000 Meters Cost: \$2000	Kate Winslet is Currently working...
Excavation WASTE Resources: 35 Hours: 1200 Target: 2500000 M3 Cost: \$16000	John smith is Currently working

Cost: \$ 20000 Activities: 5 Resources: 18 Duration: 01/04/2016 - 31/07/2016 [ADD ACTIVITY](#)

MINING SUMMARY

Strip Ratio 1 : 2	Cost per Ton \$ 56	Utilisation 85 %
----------------------	-----------------------	---------------------

ROM

\$ 142000 Budget	\$ 120000 Estimated	-\$ 22000 Variance	10000 Tons Target
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WASTE

\$ 232000 Budget	\$ 250000 Estimated	-\$ 18000 Variance	20000 BCM Target
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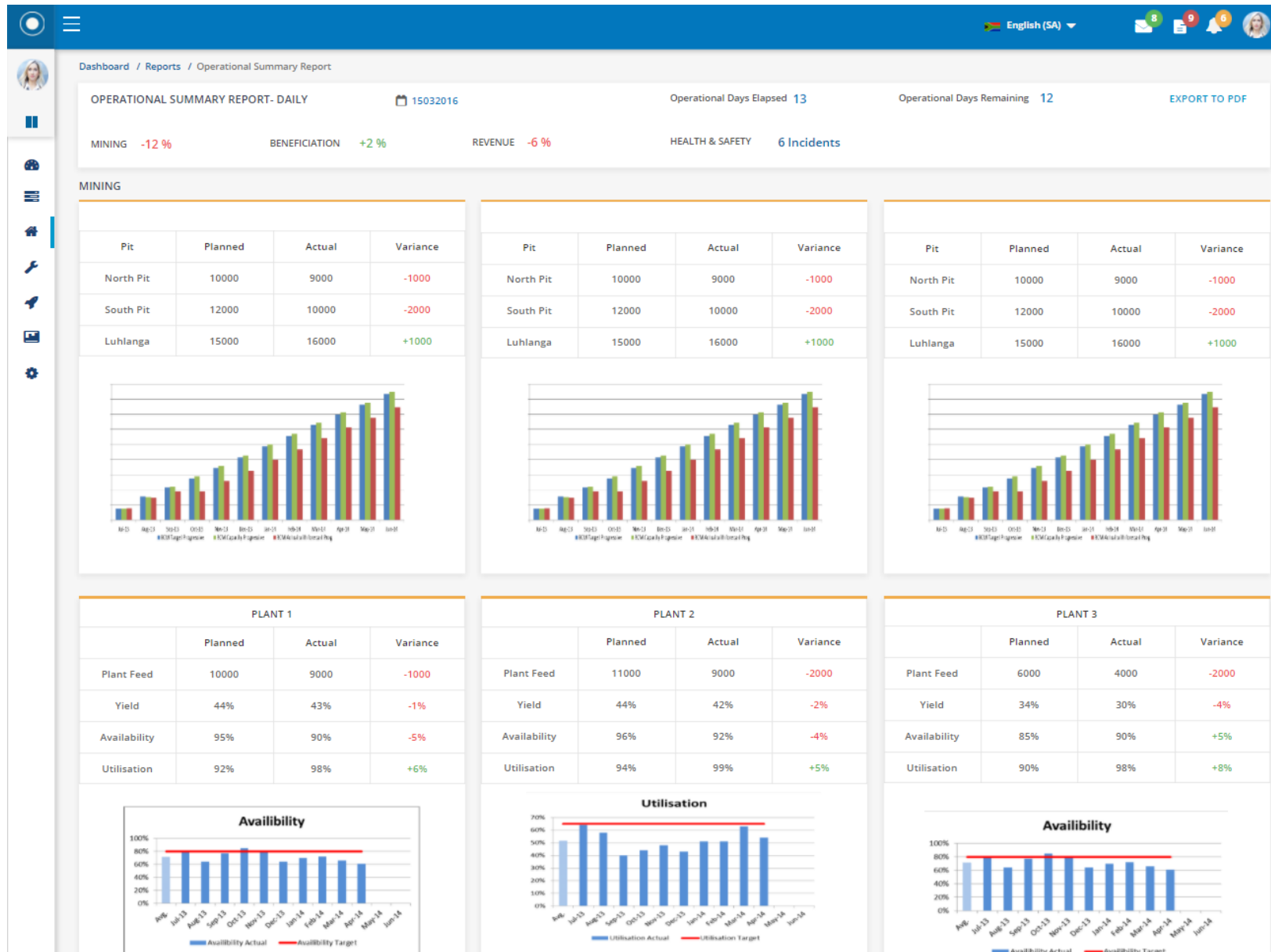
OPEX BREAKDOWN

North Pit 1	\$ 230000
North Pit 1	\$ 260000
South Pit 1	\$ 280000
Luhlanga	\$ 270000

Budget v/s Estimated


Category	Budget	Estimated	Variance
NP1	10	15	-5
NP2	18	12	6
SP1	15	10	5
SP2	10	15	-5
LUH	18	12	6

Beyond Mine Planning – Take planning beyond the mine itself and incorporate the entire value chain



● **Status of mine** – Operational data for the entire value chain including safety and environmental parameters.

English
🔔
👤



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- High earthquake resistance owing to a superb combination of strength, bendability, ductility and fatigue resistance
- High corrosion resistance due to the use of HYQST technology that gives it a unique and uniform microstructure
- High grade steel leads to reduced costs on total amount of steel required

JSW Steel Limited, JSW Center, Bandra Kurla Complex, Bandra (East), Mumbai - 400 051.
Tel.: 022-42661000, E-mail: jswnosteel@jsw.in, Website: www.jsw.in

[500D | 550D]

Welcome to Tunga Mines
Friday, 7th July 2017 / 3:24 pm

Current Operating Shifts

A Shift 09:00:00 to 22:00:00 0 Personnel

Next Holiday : 15th August 2017

Health & Safety

Total Incidents : 0

Last Accident : 0

LTIFR : 0

Environmental

Dust Count SPM

110

(µg/m3)

Personnel working at mine: 0

On Roll: 0 Outsourced: 0

Blasting Details

Last Blast On : NA

Next Blast Date : NA

Production

DAY		MONTH		YEAR	
WASTE	0	WASTE	451	WASTE	451
ROM	151	ROM	151	ROM	151

Dispatch

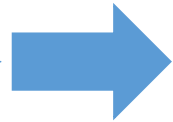
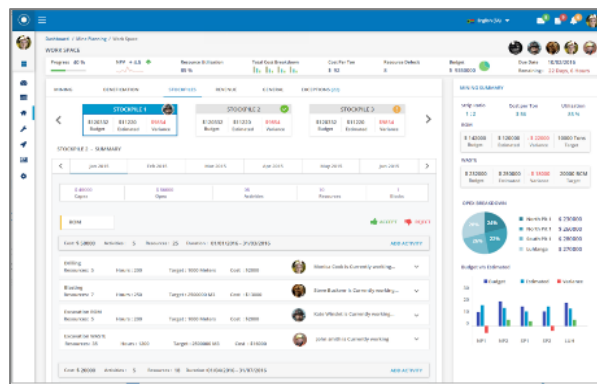
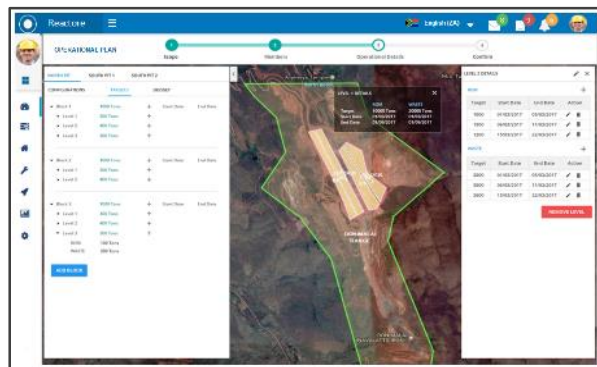
DAY			MONTH			YEAR		
FINES	TRIPS	TONS	FINES	TRIPS	TONS	FINES	TRIPS	TONS
	0	0		0	0		0	0
LUMPS	TRIPS	TONS	LUMPS	TRIPS	TONS	LUMPS	TRIPS	TONS
	0	0		0	0		0	0

Official Inauguration: 10th June 2017.
No safety, Know Pain: Kn
Powered by reactore

MODULE 4: PRODUCTION AND BENEFICIATION

Schedule | Execute | Monitor | Optimise

- Seamlessly create day to day work schedules, down to the resource level via direct operational planning integration.



This screenshot shows a detailed Gantt chart view of a production schedule. The interface includes a top navigation bar with a user profile and a 'Logout' button. The main area displays a Gantt chart with activity bars and resource allocation. A 'Haul Truck 005' popup window shows details for 'J.Smith Emp556 Terex Operator', including 'Current Payload', 'Total Tonnage', and 'Ave Payload'. Another 'Excavator 003' popup window shows details for 'Manju Gowda - Emp545 Excavator Operator', including 'Current Payload', 'ROM', and 'Total Tonnage'. The interface also includes a 'DRILLING' section with a table of drilling activities and their progress. The bottom right section shows 'ACTIVITY DETAILS' with a table of activities and their status.

EXCAVATION	75%	
Output	Target (tons)	Actual (Tons)
ROM	1200	650 +2.5%
WASTE	2500	1000 -3.5%
Resources	Availability	Utilisation
25	90%	95%

DRILLING	10%	
Output	Target (Mtr)	Actual (Mtr)
Drill	150	65 +2.5%
Resources	Availability	Utilisation
3	100%	90%

BLASTING	65%	
Output	Target (Sqmr)	Actual (Sqmr)
Area	12500	8025 -3.5%
Resources	Availability	Utilisation
10	98%	96%

Crusher to Stockpile			
Input	Target	Actual	Forecast
ROM	124548	12430	212300 +3.1%
BHQ	124548	12430	212300 -0.5%

Streamline resource management and allocation and optimise resource utilisation

The dashboard provides a comprehensive view of resource management for a specific production activity. It includes a navigation sidebar, a main header with filters, and several data-rich panels.

Activity Overview

SCHEDULE NAME: South Pit | **Period:** 01/07/2017 to 31/07/2017 | **Shift:** Day Shift | **Status:** Published

Activity	Date	Shift	Progress	Resources
EXCAVATION (3)	19/07/2017	SHIFT A (06:00 - 14:00)	55%	3 Workers, 38 Assets, 5 Alerts
DRILLING (2)			43.3%	
BLASTING (1)			66%	
CRUSHING & SCREENING (3)			44.5%	

Excavation Activity Details

Output	Target (MT)	Actual (MT)	Variance
ROM	1200	650	550 ↓ 2.5%
WASTE	2500	1000	1500 ↓ 4.6%
TOTAL	3700	1650	

Resource Allocation Summary

Manage resources - Excavation Bench 10, Section 1

- Target: 600 Tons | Remaining: 360 Tons | Overall Resource Allocation: 50%
- Resource Allotment: 35%

Category	Planned	Allotted
Assets	11	5
Operators	15	6
Other Personnel	3	1

Personnel & Assets

Personnel (Total: 126)

Name	Shift	Employment Type	Status
Vijay Kumar, FEL Loader	Shift A	On Roll	Not Allotted
Jayanth, Driver	Shift A	On Roll	Allotted
Vijay Kumar, FEL Loader	Shift A	On Roll	Not Allotted
Gururaj Patil, Truck Driver	Shift A	On Roll	Unavailable
Manjunath, Drill Operator	Shift A	Outsourced	Allotted

Assets (Total: 47)

Asset Name	Availability	Status
Excavator 9900, Excavator	Available: 08H30	Working
Excavator 332, SKU372	Available: in 4H30	Not Working
Truck 12, SKU 1152	Available: 08H45	Working
Truck 34, SKU 2272	Available: 08H22	Idle
Truck 212, SKU 1254	Available: 08H30	Working

Resource Allotment Details

Excavators (1 of 3): Excavator 112 Komatsu (Allotted) | Operator: Arjun Janya (Allotted) | Capacity: 200 MT / Target: 1000 MT

Tipplers (2 of 5): Tipper 34 TATA (Allotted) | Operator: Sanju Gowda (Allotted) | Capacity: 250 MT / Target: 500 MT

Other Resources: Chandru MK, Helper (Allotted)

Activity Supervisor: Mariyappa, Supervisor (Allotted)

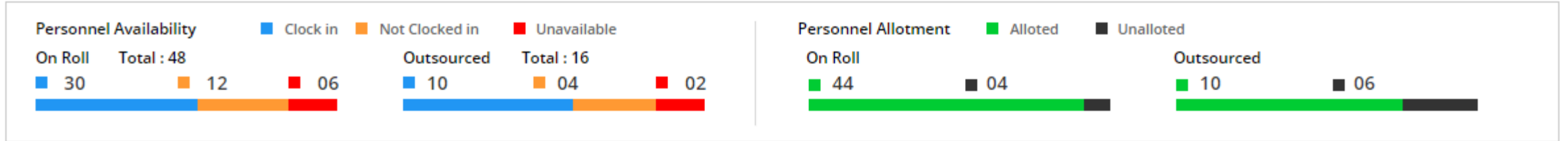
Maintenance Support: Ravi Kumar (Allotted)

Material Allocation

Material	Operator
ROM	
WASTE	
BHQ	
Weighbridge	Operator: Manjunata (Allotted)

Complete oversight over resource utilisation and performance.

Resource Management






Filters

Designation: |
 Employment Type: |
 Availability: |
 Activity: |
 Location: |
 Asset Type:

Work Status: |
 Search by Asset/Personnel: |
 Clock in Status: |
 Work Start: |
 Allotment Status:

3 Filters Applied, Displaying 3 Results

Details & Machine Allocation	Availability	Location and Activity Status	Time Analysis					EXPORT TO PDF
 Raj Kumar, Tipper Operator On Roll, Tipper 01	Available	Excavation, Bench 10, Section 5 In-Progress	Clock In - 08H45	Allotment - 08H55	Pre Start- 08H55	Work Starts - 08H55	Onsite Time	
			Work End - -----	Post Stop - ----	Over time - ----	Clock Out - -----	2 H 30	
 Manjunatha, Drill Operator Outsourced, No Machine Allocation	Available	Not Alloted -----	Clock In - 08H55	Allotment - -----	Pre Start- -----	Work Starts - -----	Onsite Time	
			Work End - ----	Post Stop - -----	Over time - -----	Clock Out - -----	2 H 20	
 Suresh Gowda, Foreman On Roll, No Machine Allocation	Available	Excavation, Bench 11, Section 6 Stopped	Clock In - 08H50	Allotment - 08H42	Pre Start- NA	Work Starts - 08H55	Onsite Time	
			Work End - ----	Post Stop - -----	Over time - -----	Clock Out - -----	2 H 25	

PRODUCTION – REAL-TIME ACTIVITY MONITORING AND MANAGEMENT

Real-time tracking of all activities –planned versus actual.

JULY SCHEDULE South West 2017-07-19 to 2017-07-28 A Shift Julian Nagel

EXCAVATION AND HAULING 0%

Output Target	Actual	Variance	
Waste	9,000	163	-8,837
ROM	9,000	224	-8,776
BHQ	0	147	147
TOTAL	18,000	534	

ACTIVITY DETAILS
Excavation and Hauling
Duration: 2017-07-20 08:00 To 2017-07-20 23:00

SEC02 SEC01

Waste ROM BHQ
Actual 92 T 9,000 A 148 F 464 Actual 72

Actual Production

Production Rate
Current : 31 TPH
Required : -

TRIPS(23) TRIP FLOW(3) ASSETS(2) PERSONNEL(1) INVENTORY(0) EVENTS(0)

Tipper02

24-2_4_1500526556639	ROM	23.50 Tons	Completed
31-2_4_1500527118188	Waste	22.22 Tons	Completed

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PRODUCTION – SCOPE TO INCORPORATE ALL MINING ACTIVITIES

Drilling; Blasting; Mine Development and any user defined activity can be incorporated and monitored.

The dashboard displays a Gantt Chart View for a schedule named 'South Pit' from 01/07/2017 to 31/07/2017, on a Day Shift. The schedule is published and managed by John Smith and Steven Phillips. The overview shows progress for five shifts: SHIFT A (55%), SHIFT B (0%), SHIFT C (0%), SHIFT D (0%), and SHIFT E (0%).

ADD ACTIVITY

EXCAVATION (3) 44.5%

Output	Target (MT)	Actual (MT)	Variance
ROM	1200	650	550 ↓ 2.5%
WASTE	2500	1000	1500 ↓ 4.6%
TOTAL	3700	1650	

Personnel: 25 (22 on, 02 off), 90% A, 95% U

20 / 106 (10 / 10) 01 / 10

DRILLING (2) 43.3%

Output	Target (Mtr)	Actual (Mtr)	Variance
Drill	150	65	85 ↓ 4.6%

Personnel: 06 (11 on, 01 off), 88% A, 90% U

06 / 10 (03 / 02) 01 / 03

BLASTING (1) 66%

Output	Estimated (MT)
Blasted Material	12500

Personnel: 06 (00 on, 00 off), 100% A, 100% U

CRUSHING & SCREENING (3) 44.5%

Feed	Target (MT)	Actual (MT)	Variance
ROM	1200	650	550 ↓ 2.5%
RHQ	2500	1000	1500 ↓ 4.6%

Activity Details: Blasting

Pit 1 B1 Section 1

Blast No 02558 Schedule Progress 06:00 - 14:00

Blast In Charge: R.Kumar 31% 20157 MT Req **POST BLAST**

Blast Details

Time of Blast	14:30
Volume Blasted	950060 M3/ 85421 MT
Powder Factor	0.88
Charge Factor	1.5
Tons / Meter	9504
Material Type	BHQ; ROM; WASTE
Strata Condition	Medium
Density	11.5 Kg/M3
Fragmentation	Medium

Observations

Blast in charge observations go here. The comments come from his post-blast input via the web or field app.

PRE BLAST **POST BLAST** PERSONNEL (3) INVENTORY (11) EVENTS (0)

Post-Blast Observations

Presence of Misfire? Yes No **SPECIFY HOLES**

Misfires resolved?

Blown-out Holes? Yes No **SPECIFY HOLES**

Blown-out Holes resolved?

Ground Vibration Severe Not Severe

Fragmentation Good Moderate Poor

Hole No 2 Complete

Planned	10 Mtr
Actual	10 Mtr
Redrill Meters	2 Mtr
Start Time	09:30 AM
End Time	09:50 AM
Drill Rig	Drill Rig 3
Operator	Manoj G

PRODUCTION – RESOURCE AND ACTIVITY PERFORMANCE MANAGEMENT

Analytics and data on demand for mining activities and resources.

Gantt Chart View

NAME

VIEW

ACTIVITY

Target (tons)

1200

2500

Availability

90%

Target (Mtr)

150

Availability

100%

Target (Sqmt)

12500

Availability

98%

Stockpile

Target Actual

4548 12430


4548 12430

Low M

12430 25

6587 32

Excavator CAT 793
Bench 10 - Section 55
LOADING
✕



Kumarappa, JWS-0234, Excavator Operator
★★★★★

Checkin Time : 08H58
Precheck Time : 09H13
Activity Start Time : 09H23
Activity End Time : -----

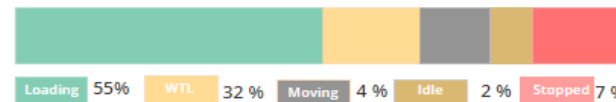
Current payload : ROM

Output	Planned	Actual	Variance	Forecast
ROM	1120	1180	+60	1380
WASTE	2600	2450	-150	2750
BHQ	220	140	-80	310

Total Working Time
7.38 Hrs

Total Excavation (MT)
1350 -4.5%

Load Cycle Analysis



Loading 55% WTL 32% Moving 4% Idle 2% Stopped 7%

Total Shift Time 8.2 Hrs Available: 7.6 Hrs Utilised: 7.4 Hrs

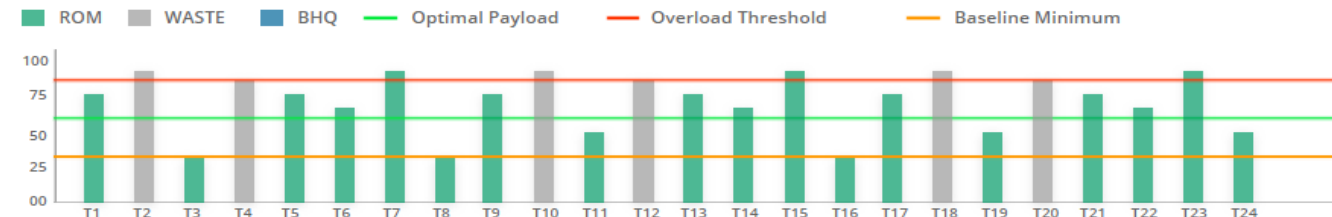
Availability: 92% UOA: 95% UOS: 88%

Equipment Performance

OEE 88% MTBF 85 Hrs PS Abnormalities 00

Last Failure 110 Hrs Last MH 525487 Ave Fuel Cons 3.6L/MH

Payload Summary



Legend: ROM (Green), WASTE (Grey), BHQ (Blue), Optimal Payload (Green line), Overload Threshold (Red line), Baseline Minimum (Yellow line)

Below Benchmark 03 Overload Threshold 06 Ave Payload 72 Tons

Detailed Trip Summary

Load	Output	Payload	Tipper ID	Load Start	Load End	Loading Time	Waiting Time	Events	Downtime
01	ROM	77	T006	09H31	09H34	3.2 Minutes	2.3 Min	No	-----
02	Waste	81	T002	09H36	09H39	3.6 Minutes	1.0 Min	No	-----
03	ROM	62	T004	09H40	09H44	4.1 Minutes	2.1 Min	Yes	7.5 Min
04	ROM	75	T003	09H49	09H53	3.5 Minutes	1.7 Min	No	-----
05	ROM	77	T005	09H56	09H59	3.2 Minutes	4.1 Min	No	-----
06	Waste	90	T001	10H04	10H05	4.8 Minutes	2.2 Min	No	-----
07	ROM	71	T006	10H07	10H11	4.1 Minutes	3.1 Min	No	-----
08	BHQ	68	T004	10H13	10H16	2.9 Minutes	2.3 Min	No	-----
09	BHQ	66	T005	10H19	10H22	3.1 Minutes	3.4 Min	Yes	11.5 Min
10	BHQ	72	T003	10H24	10H28	3.4 Minutes	1.9 Min	No	-----
11	ROM	78	T001	10H30	10H34	3.6 Minutes	2.2 Min	No	-----

Ave Load Time 3.7 Min Loadtime Benchmark 4.0 Min Ave Waiting Time 2.1 Min Total Waiting Time 33.5 Min Total Events 02 Tot DT 19 Min

05/12/2016 - 10/12/2016

GENERAL SHIFT

02/12/2016

MANAGE RESOURCES

01/12/2016 05/12/2016

10032017- 15032017

OUTPUT

WEIGHBRIDGE DUMPING

Weighbridge 1 X Dumping site

PERSONNEL

1 (25 Trips) Asset ID Operator

2 (15 Trips) Asset ID Operator

3 (10 Trips) Asset ID Operator

01/12/2016 05/12/2016 800

01/12/2016 05/12/2016 900

Customised reporting for operations and costs.

Reactore
8 9 6

Welcome
Kalpana Gsat

Module Name ⊞

- Dashboard
- Employees
- Facilities
- Activities
- Resources
- Reports
- Settings

Dashboard / Production Schedule / Operational Cost Report

Daily Operations Summary Report

SUBMIT
RESET
EXPORT TO PDF

Mine Name **Tunga** Date Selected **01/11/2017**

Attendance Summary

On Roll **18** Outsourced **31**

Production Performance Summary

Nett Performance **+13 %** Forecast Nett Performance **-6.5%**

Activity	TODAY			MTD			Forecast		
	Target	Actual	Variance	Target	Actual	Variance	Target	Actual	Variance
Drilling (Mtrs)	100	80	-20	450	480	+30	1600	1500	-100
Blasting (MT)	1000	1100	+100	2500	2200	-300	8500	8000	-500
Ex & Haul ROM (MT)	800	850	+50	2300	2200	-300	7500	7700	+200
Ex & Haul BHQ (MT)	600	700	+100	2000	2120	+120	6900	6650	-250
Ex & Haul WASTE (MT)	500	450	-50	1900	2000	+100	6500	6850	+350
Crushing & Screening(MT)	700	750	+50	2050	1980	-70	7000	7154	+154
Dispatch (MT)	650	600	-50	1850	1900	+50	6000	6089	+89
Rehandling (MT)	450	455	+5	1250	1200	-50	4500	4625	+125

Material Balances

Type	Opening Balance	Added	Removed	Closing Balance
ROM (MT)	12000	800	600	12200
WASTE (MT)	16500	500	----	17000
BHQ (MT)	8500	600	200	8900
C-ORE (MT)	4850	300	400	4750
FINES (MT)	5560	450	250	5760

Customised reporting for operations and costs.

Reactor

8
9
6

Dashboard / Production Schedule / Operational Cost Report

Daily Cost Report

📅
SUBMIT
RESET
EXPORT TO PDF

Daily Cost Report

ML2366 - Tunga Mine

Saturday, Nov 11, 2017

Activity Based Cost Analysis

Activity Name	Equipment Cost	Employee Cost	Consumable Cost	Fuel Cost	Total Cost	Per Unti Cost	Contribution
Drilling	90000	18000	6000	11000	125000	150	28%
Blasting	50000	10000	40000	5000	105000	120	23.5%
Excavation & hauling	100000	20000	5000	10000	135000	110	30%
Crushing & Screening	60000	20000	5000	5000	90000	90	18.5%
Total	300000	68000	56000	31000	445000	—	100%

Excavation

Output Name	Total Cost	Tonnage	Cost Per Ton
ROM	80000	530	150
Waste	40000	333	120
BHQ	15000	136	110
Total	135000	999	—

Cost Centre Breakdown

Admin Overhead

15200

Fuel

12000

Job Charges

16000

Maintenance

14500

Depreciation

15200

Consumables

14000

Total Cost

71700

Cost Per Ton

1120

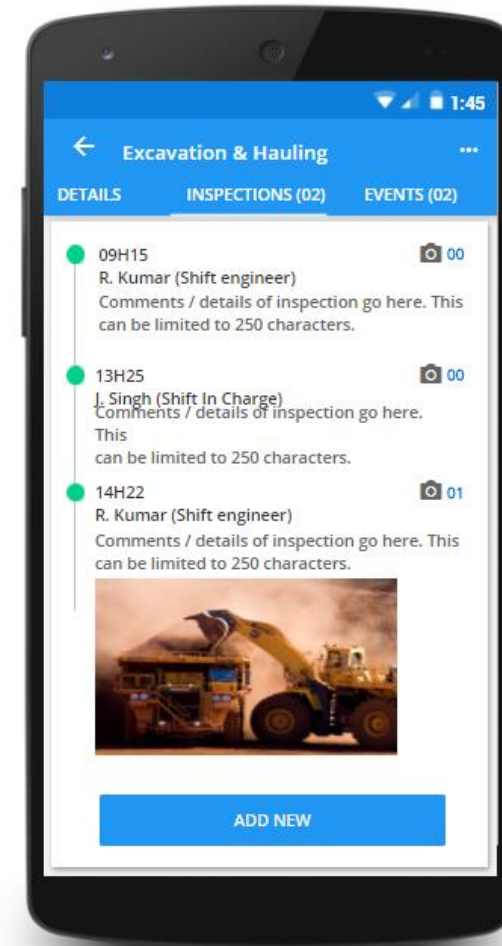
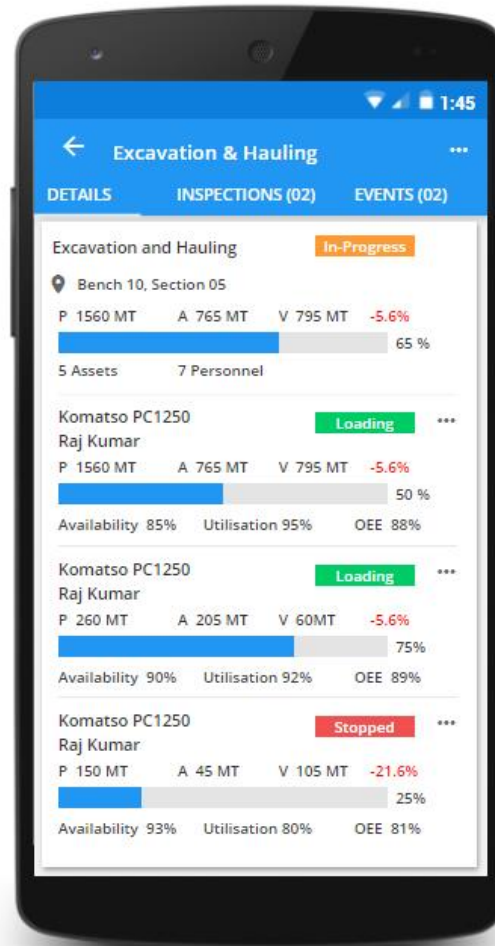
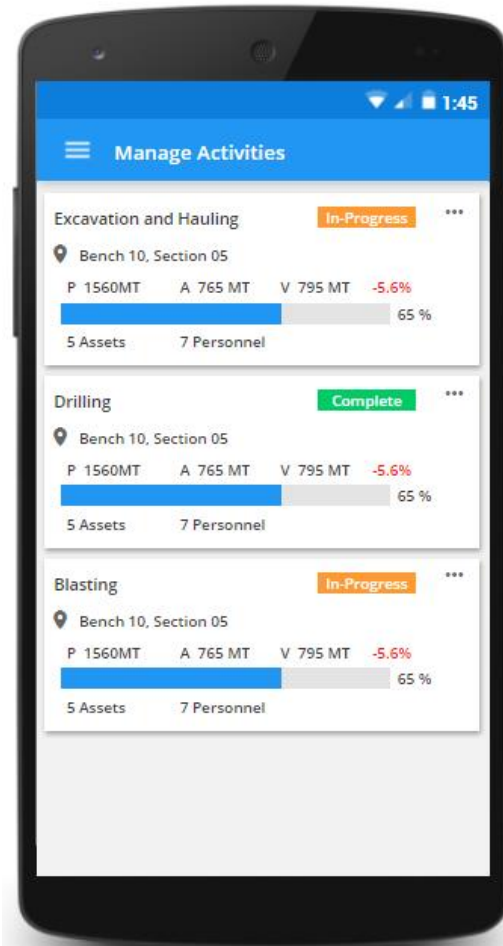
PRODUCTION – DEDICATED MOBILE APPLICATIONS

- ➊ Dedicated apps for various roles including management, Shift in charge, blast technicians and machinery operators.



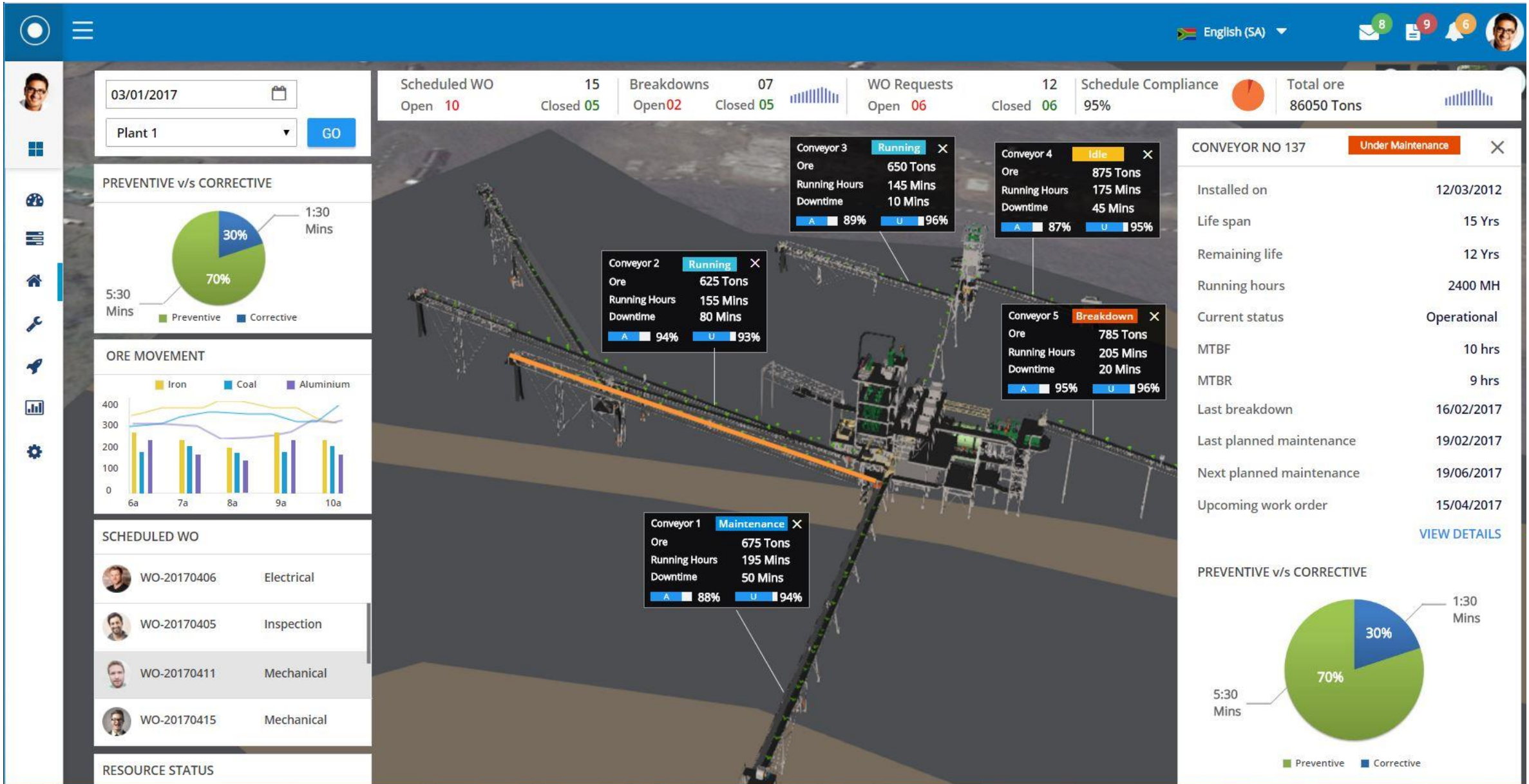
PRODUCTION – DEDICATED MOBILE APPLICATIONS

- Dedicated apps for various roles including management, Shift in charge, blast technicians and machinery operators.



BENEFICIATION

- Integration with PLC/SCADA/Sensors and equipment. 3D Dashboards with real-time data.



MODULE 5: UNDERGROUND SOLUTIONS

UNDERGROUND MINING SOLUTIONS

Two-way communication.



Surface control room monitoring in real-time.



Underground Wireless Network.



Asset Tracking and Production Management.



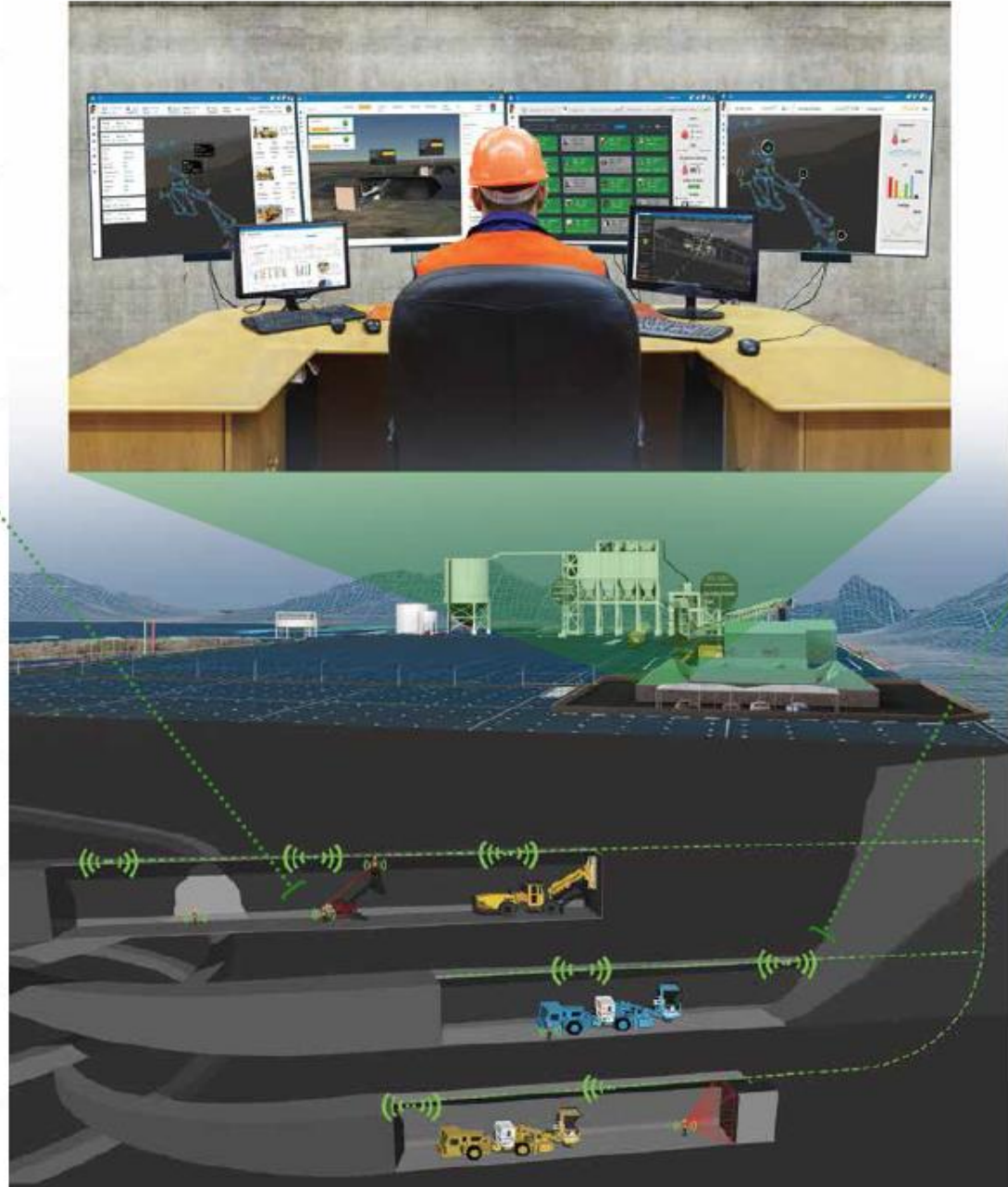
Remote utility monitoring and control.



Personnel Tracking and virtual tag board.

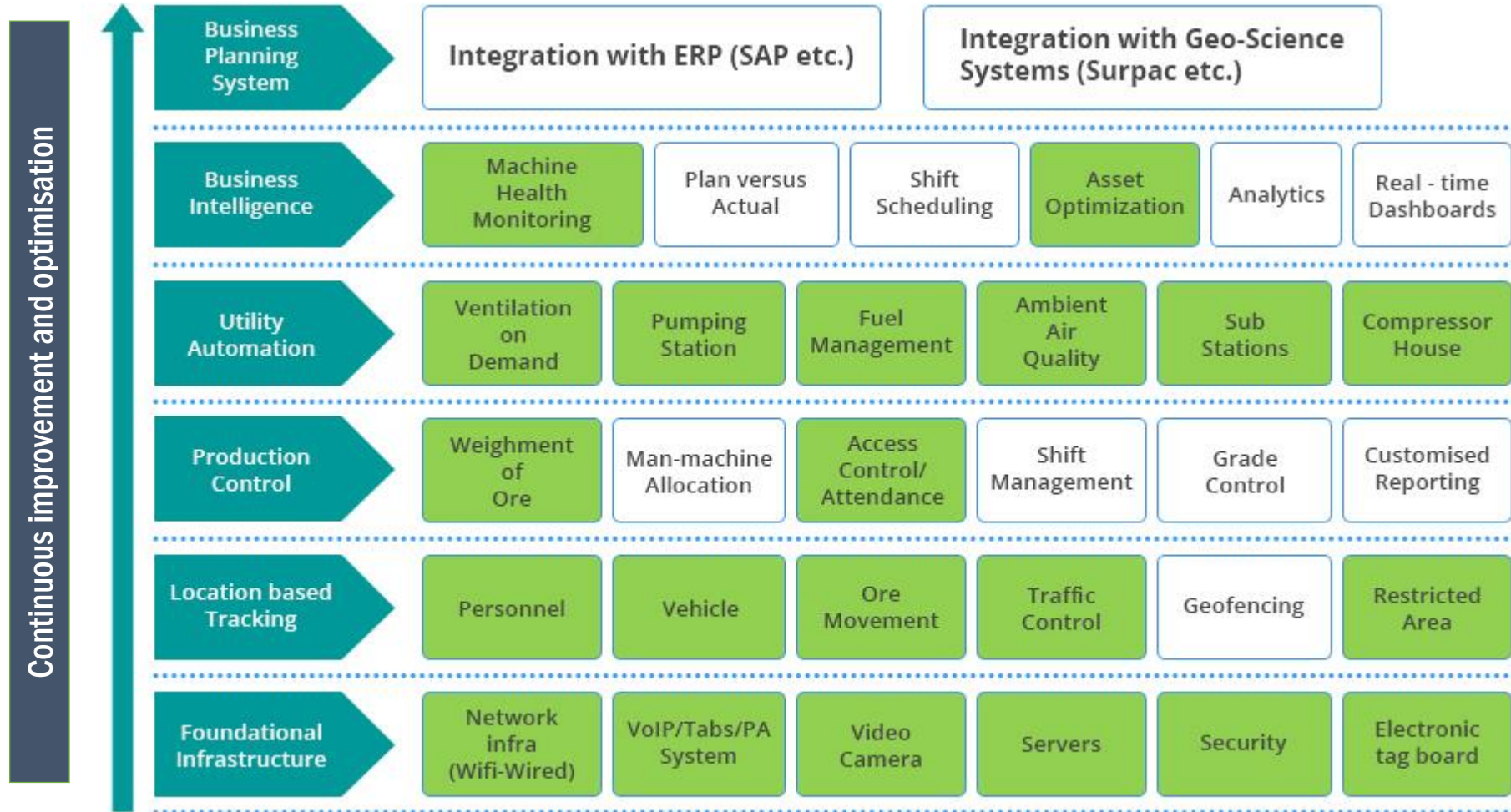



Real-time environmental monitoring.



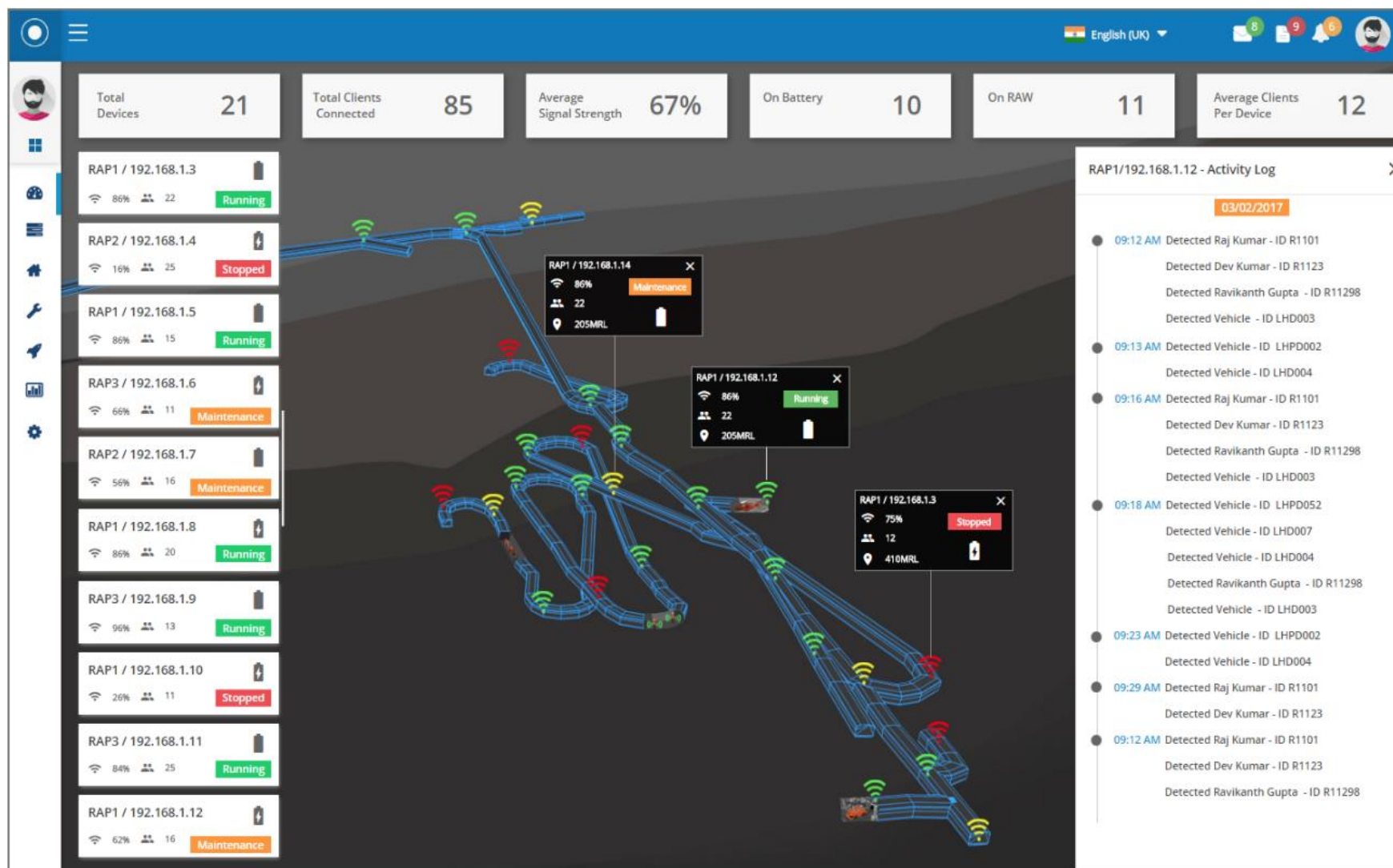
UNDERGROUND MINING SOLUTIONS

Objective: Streamlining operations, improving safety and maximising productivity



 Requires hardware and / or hardware / system integration

UNDERGROUND MINING SOLUTIONS: NETWORK INFRASTRUCTURE



- Establish wireless hop-based underground RF / Wi-Fi Network.
- Wireless access points do not require direct line of site.
- Seamless plug and play for access point replacement or network extension
- Central DHCP Server & management console deployed in a surface based control room




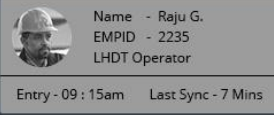




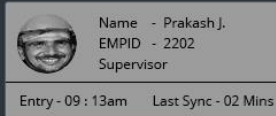
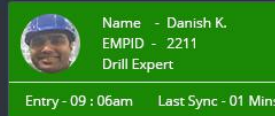

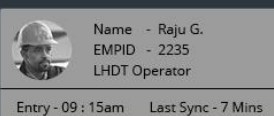





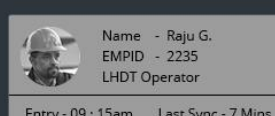


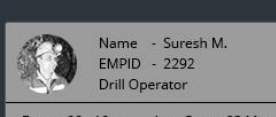

- 2-Way voice communication using rugged and compact Wi-Fi Radio device
- Conference Call function for multiple simultaneous communication
- PA/ Voice Broadcasting options available.
- Dock-able hands free mouthpiece and microphone for equipment operators
- Feasibility to use existing android smartphones or tablets as a hardware alternative.

UNDERGROUND MINING SOLUTIONS: ELECTRONIC TAG BOARD / PERSONNEL TRACKING


Current Shift 08 Hrs - 16Hrs Total Tass 640 Active / Issued 350 Idle / Not Issuea 290 Average Sync Interval 12 Mins

Personnel tag allocation & tracking

Name Status Level Apply Active Inactive


 Name - Suresh M. EMPID - 2292 Drill Operator Entry - 09 : 10am Last Sync - 02 Mins	 Name - Raju G. EMPID - 2235 LHDT Operator Entry - 09 : 15am Last Sync - 7 Mins	 Name - Jayedv P. EMPID - 2292 Drill Operator Entry - 09 : 22am Last Sync - 12 Mins	 Name - Chandrakant D. EMPID - 2245 Drill Operator Entry - 09 : 15am Last Sync - 20 Mins
 Name - Kishor D. EMPID - 2248 Drill Operator Entry - 09 : 40am Last Sync - 8 Mins	 Name - Kishor H. EMPID - 2229 Drill Operator Entry - 09 : 25am Last Sync - 11 Mins	 Name - Prakash J. EMPID - 2202 Supervisor Entry - 09 : 13am Last Sync - 02 Mins	 Name - Danish K. EMPID - 2211 Drill Expert Entry - 09 : 06am Last Sync - 01 Mins
 Name - Suresh M. EMPID - 2292 Drill Operator Entry - 09 : 10am Last Sync - 2 Mins	 Name - Raju G. EMPID - 2235 LHDT Operator Entry - 09 : 15am Last Sync - 7 Mins	 Name - Jayedv P. EMPID - 2292 Drill Operator Entry - 09 : 22am Last Sync - 12 Mins	 Name - Kishan P. EMPID - 2256 Drill Operator Entry - 09 : 22am Last Sync - 12 Mins
 Name - Danish K. EMPID - 2211 Drill Expert Entry - 09 : 06am Last Sync - 01 Mins	 Name - Kishan P. EMPID - 2256 Drill Operator Entry - 09 : 22am Last Sync - 12 Mins	 Name - Kishor H. EMPID - 2229 Drill Operator Entry - 09 : 25am Last Sync - 11 Mins	 Name - Raju G. EMPID - 2235 LHDT Operator Entry - 09 : 15am Last Sync - 7 Mins
 Name - Chandrakant D. EMPID - 2245 Drill Operator Entry - 09 : 15am Last Sync - 20 Mins	 Name - Jayedv P. EMPID - 2292 Drill Operator Entry - 09 : 22am Last Sync - 12 Mins	 Name - Suresh M. EMPID - 2292 Drill Operator Entry - 09 : 10am Last Sync - 02 Mins	 Name - Kishor D. EMPID - 2248 Drill Operator Entry - 09 : 40am Last Sync - 8 Mins

Alerts

Next Blast in
 02 : 12 Mns
Level 6

SOS
No Issues Reported


Environmental Monitoring


Temperature
 36°C

Ambient Air Quality

Good

Timeline

09 : 02 am
 Name : Suresh M.
LHDT Operator
Issued Tag - 1192
Duration underground : 3H 20Min.
Current Location : Level 02

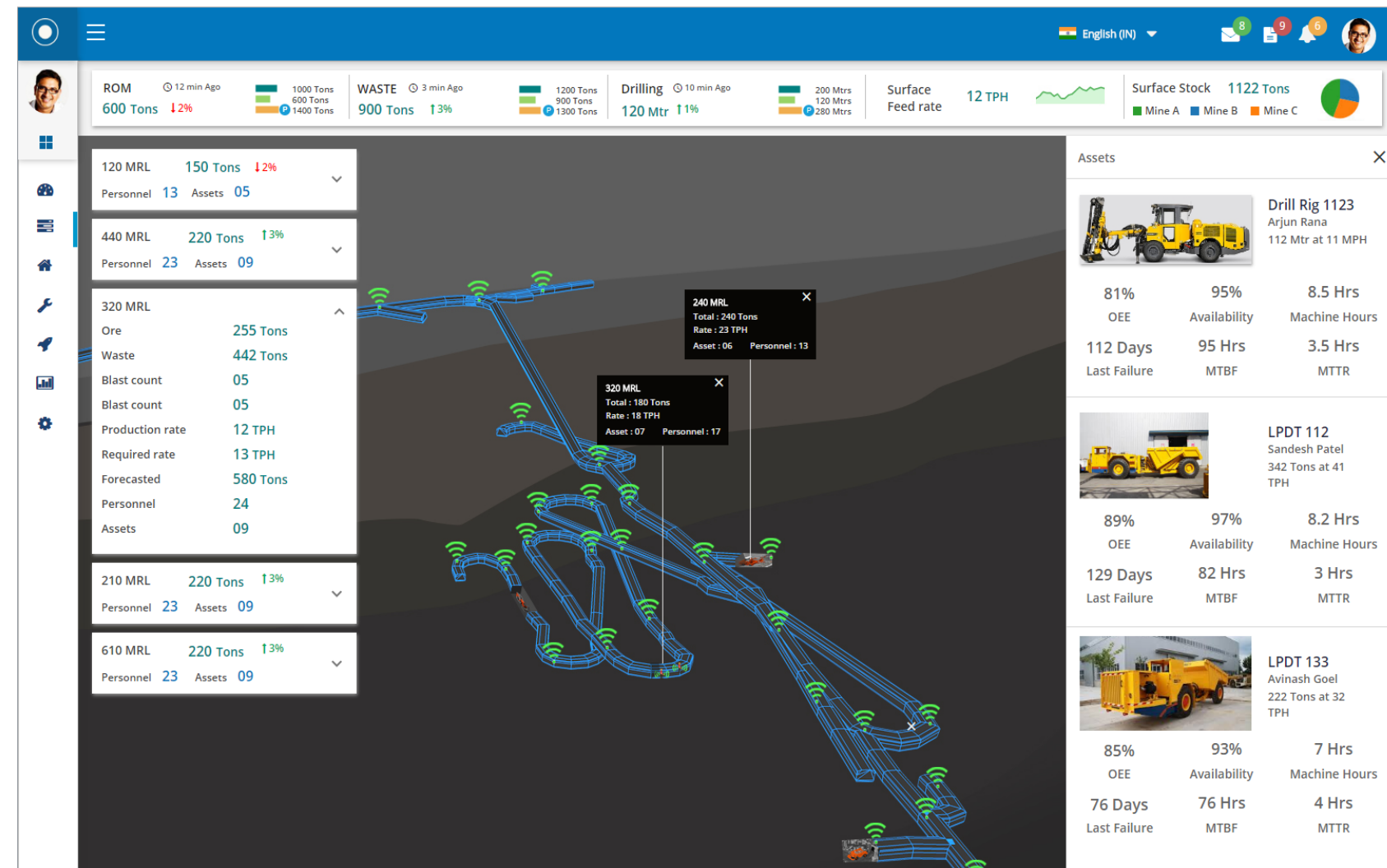
09 : 05 am
 Name : Kishor D.
Drill Operator
Issued Tag - 548
Duration underground : 5H 12Min.
Current Location : Level 05

- System based process for allocation of tracking device, access tags, cap lamps etc.
- Supplement existing physical tag board processes with a public display/ management console to dynamically track tag allocation.
- Once tracking device is issued personnel can be tracked by utilising the wireless network infrastructure.



- **Video Surveillance:** IP Cameras deployed at required locations with direct feed to surface.
- **Dashboard cameras** for underground equipment and machinery.
- **IT Security:** Custom IP range for DHCP servers, MAC address based access list. Wireless network secured using WPA2 / WEP and AES / TKIP encryption.
- **Physical Security:** Biometric personnel access control. Hard and soft barriers. Zone wise tracking.

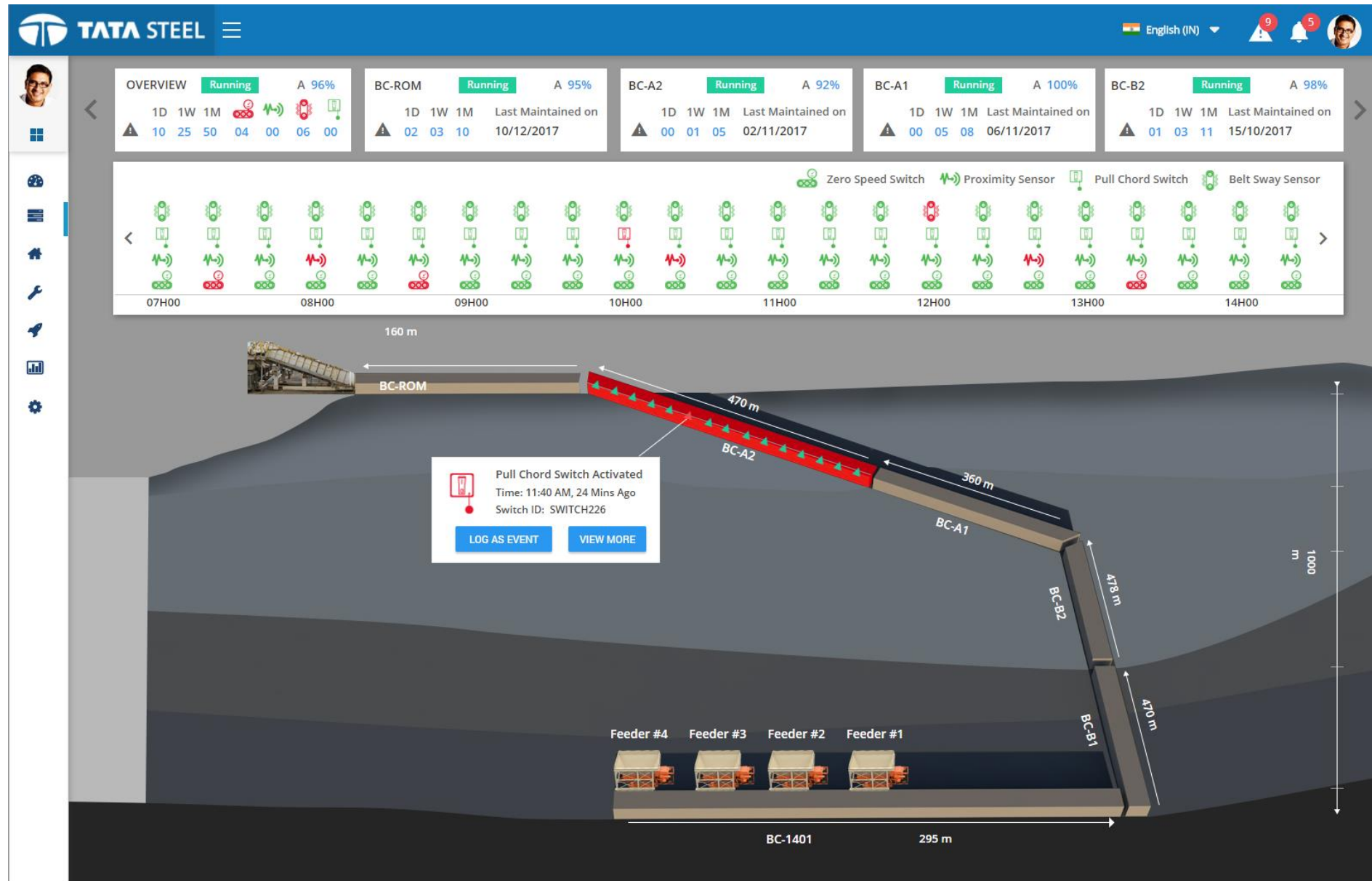
UNDERGROUND MINING SOLUTIONS: EQUIPMENT TRACKING



- **Surface:** Real-time tracking of vehicles, stockpile levels and plant feed.
- **Underground:** Real-time tracking of vehicles, monitor total ore extracted for each level.
- **Ore Movement** managed and tracked on a trip by trip basis.
- **Ore movement and volumes displayed** on a real-time dashboard for complete oversight.

UNDERGROUND MINING SOLUTIONS: PRODUCTION MONITORING

- Real-time tracking of conveyor and tram systems for production and equipment monitoring.



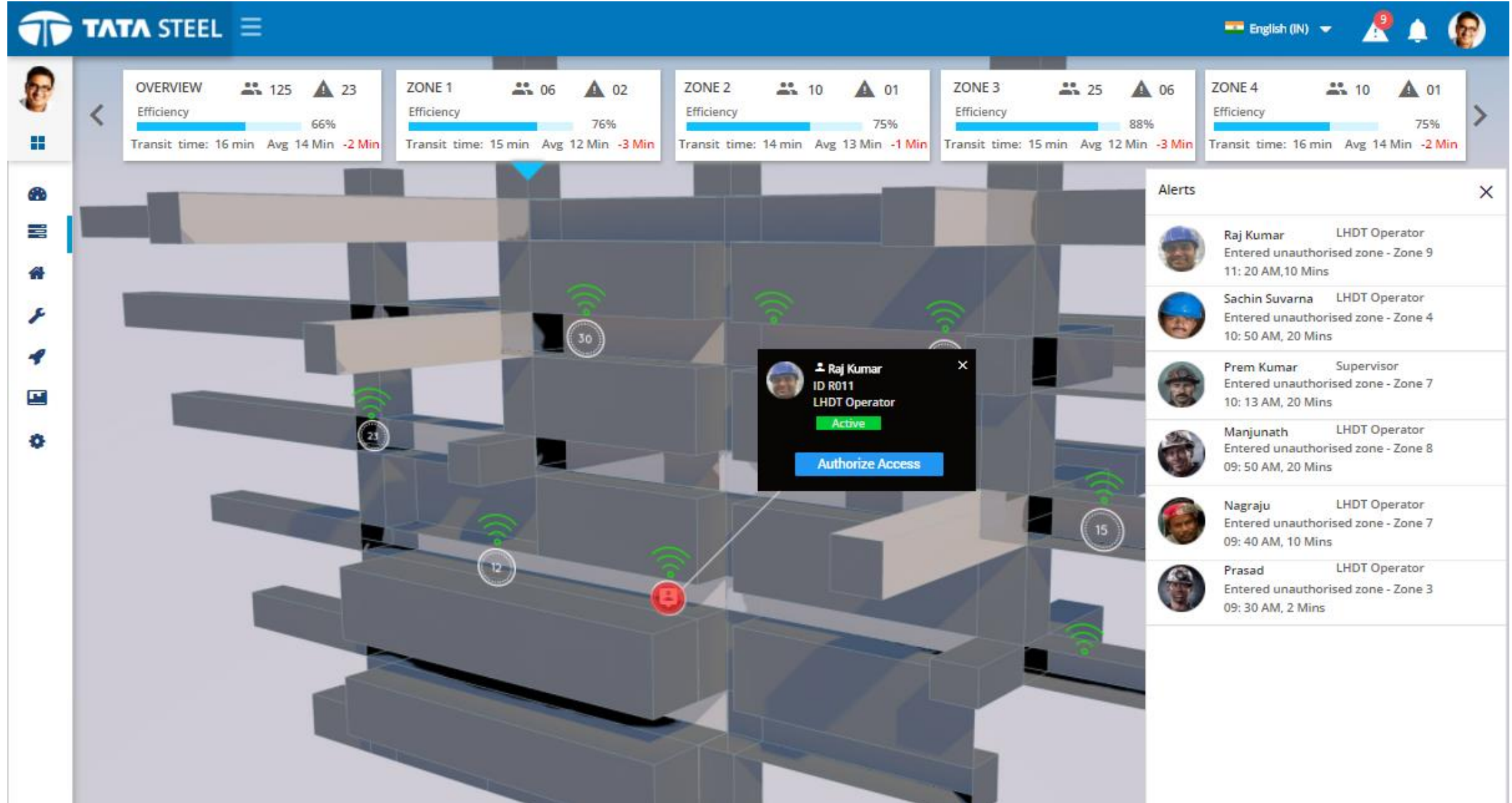
UNDERGROUND MINING SOLUTIONS: TRAFFIC MANAGEMENT



- Dynamic traffic control using signal lights to ensure optimal vehicle movement and safety.
- Intelligent decision making algorithms ensure priority is given to loaded vehicles on the ramp.
- Traffic movement and operator behavior can be remotely monitored from a management console.

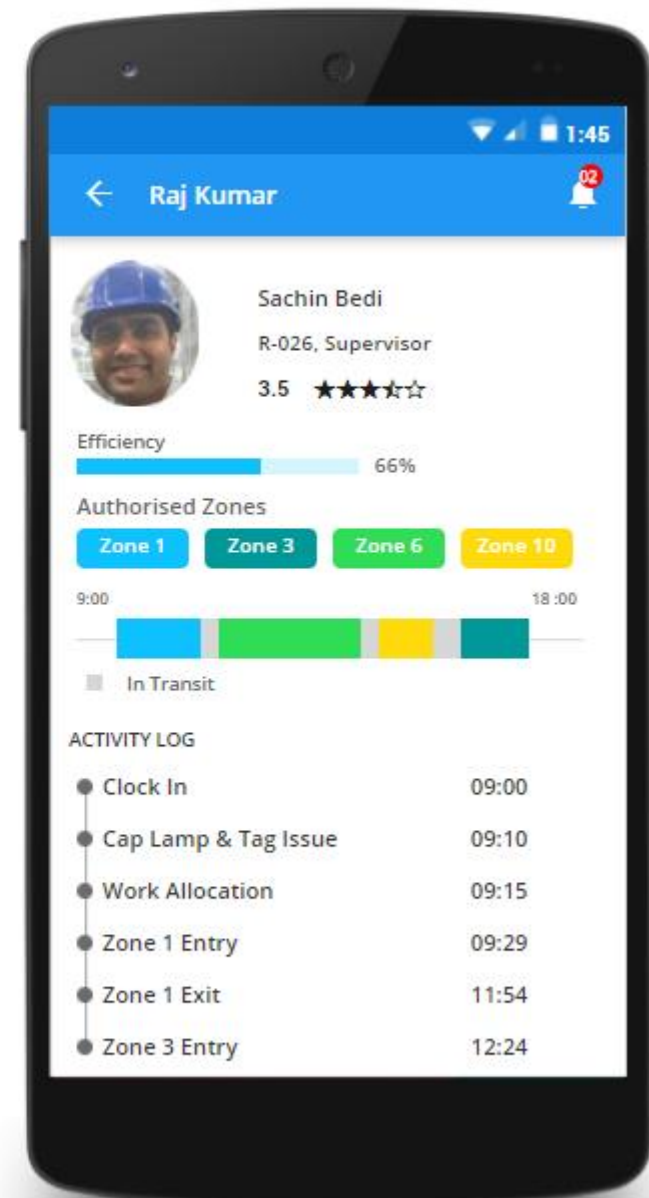
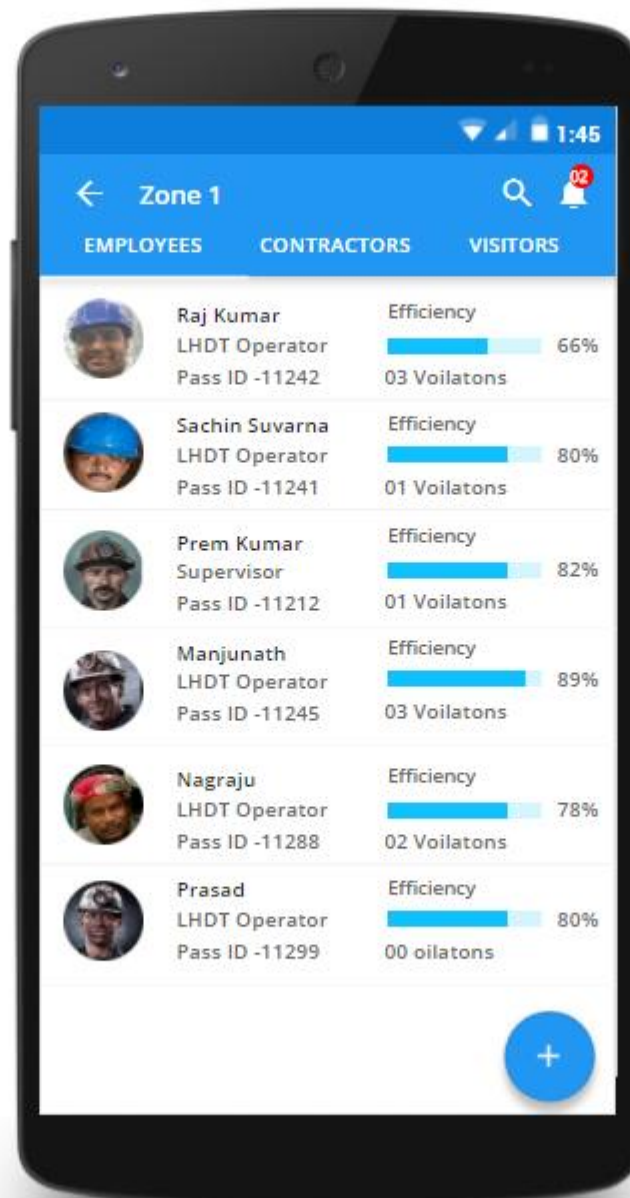
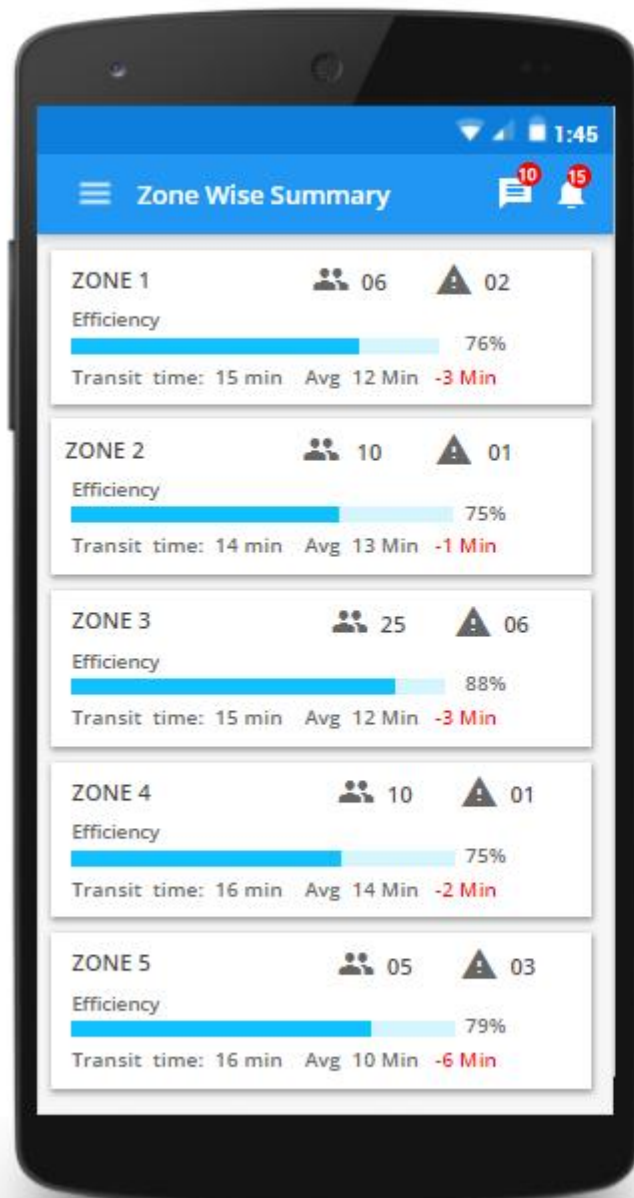
UNDERGROUND MINING SOLUTIONS: 3D DASHBOARDS

- Customisable 3D dashboards depicting tunnels, networks and galleries combined with required real-time data.



UNDERGROUND MINING SOLUTIONS: MOBILE APPLICATIONS

- Customisable 3D mobile applications dealing with tracking, production, safety and/or utility management.



UNDERGROUND MINING SOLUTIONS: REMOTE UTILITY MANAGEMENT

- Remote utility management for pumps, conveyors, ventilation as well as environmental and gas monitoring.

Overall Availability 92% ↓ Overall Utilisation 99% ↑ Total Waterflow 72500 KLtrs Total Downtime 2Hrs Total Uptime 96.5%

MOTOR 165 **RUNNING** 4.2 Hrs
A 93%, U 91% Last Maintained on 22/12/2016

MOTOR 185 **STOPPED** 1.5 Hrs
A 90%, U 93% Last Maintained on 12/09/2016

MOTOR 215 **MAINTENANCE** 2.3 Hrs ↓
A 94%, U 97% Last Maintained on 02/05/2016

MOTOR 114 **RUNNING** 5.5 Hrs
A 96%, U 99% Last Maintained on 02/12/2016

Motor 356 **Running**
25 Min
12/01/2017
More Details

Motor 215 **MAINTENANCE**
25 Min
12/01/2017
More Details

MOTOR 185 **Start** **STOP**

EQUIPMENT PERFORMANCE

	OEE	Availability	Machine Hours
	81%	95%	5.5 Hrs
Last Failure	112 Days	95 Hrs	3.5 Hrs

EQUIPMENT SPECIFICATIONS

Voltage	12 Volt DC
Max Speed	89 rpm
No load free speed	146rpm
No load current	0.17 amp
Stall torque	20 kg-cm
Stall current	4.55 amp
Max output power	10.7 Watts
Gear Ratio	1 : 52

ACTIVITY LOG

- 21/01/2017 09:00 AM
Switched on
- 21/01/2017 10:20 AM
Stopped for maintenance , 1 hr 20 min Down time
- 21/01/2017 11:40 AM
Switched on
- 21/01/2017 06:00 PM
Switched off

MODULE 6: ASSET TRACKING & COLLISION AVOIDANCE

ASSET TRACKING AND FLEET MANAGEMENT

Asset and operator performance management

Real-time asset location and movement tracking

Monitor operator behaviour and use of equipment

Real-time condition based monitoring data, with exception alerts

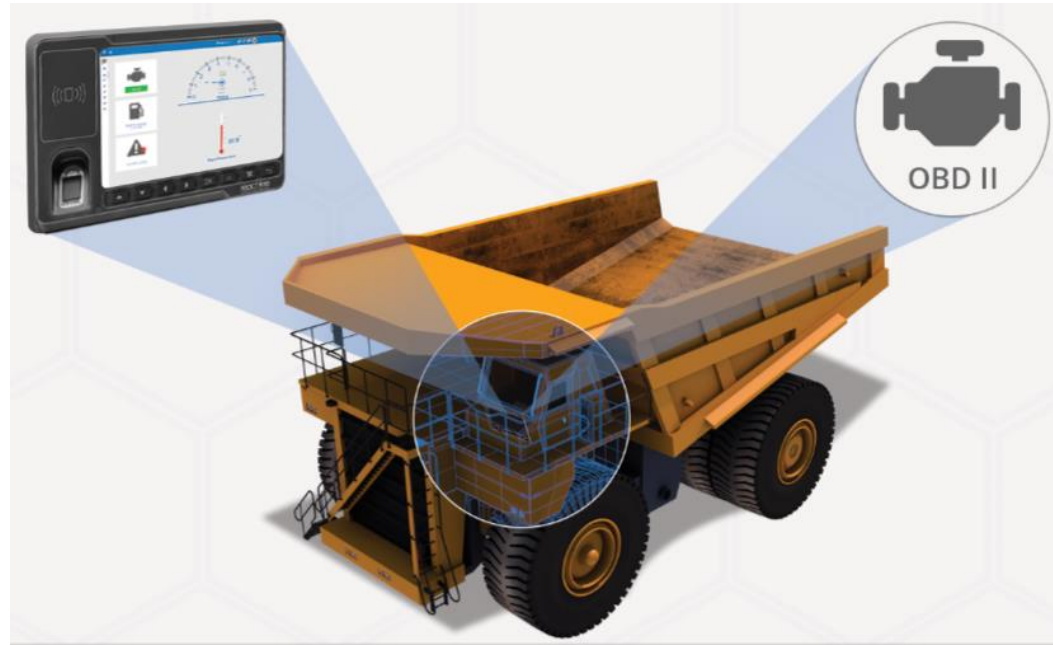


- Track and monitor all assets in real-time from a customisable web based dashboard.
- Monitor operator utilisation of equipment and behaviour.

VEHICLE MOUNTED COMPUTER

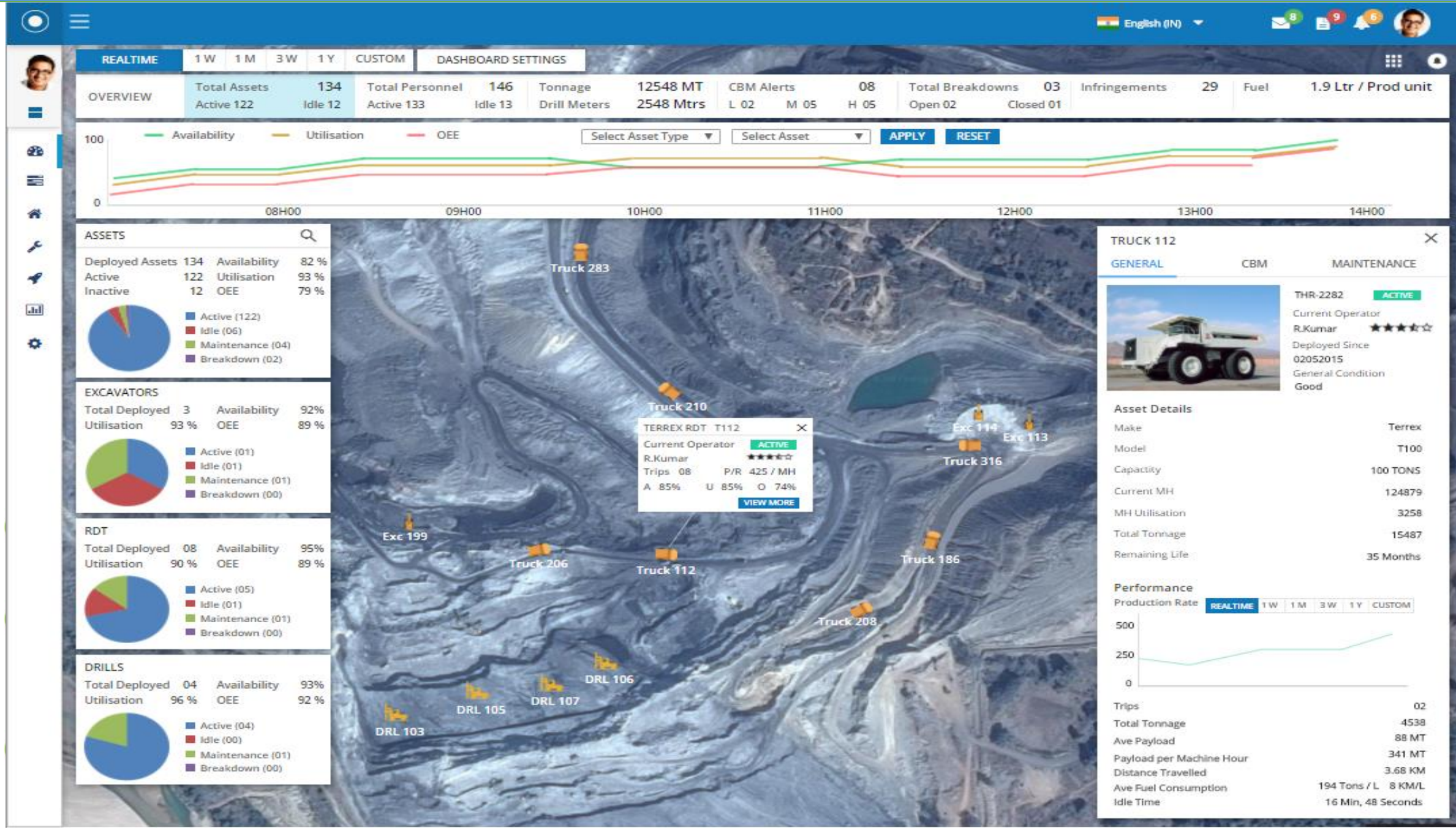


- **Input** – GPS & BDS; Finger print; HF RFID; OBD Data Collection; Hi-Resolution Camera; Android OS; High Power Quad Core Processor
- **Output** – 720P TFT-LCD screen to relay key information to the operator with full audio capability.
- **Performance** – Biometric scanner, 4G LTE; HF RFID; OBD Data Collection; Hi-Resolution Camera; Android OS; High Power Quad Core Processor, 4GB RAM



- **OBD II** – Gather equipment diagnostic data directly from the vehicle and transmit to a central monitoring dashboard and the operator display device.
- **Intelligence** – Analytics and historical trend analysis on OBD diagnostic data to provide insight and early warning signs of potential equipment failure.
- **Alerts** – Alerts sent to both operator and central server in the event of negative diagnostic parameters.

ASSET TRACKING



PERFORMANCE MANAGEMENT



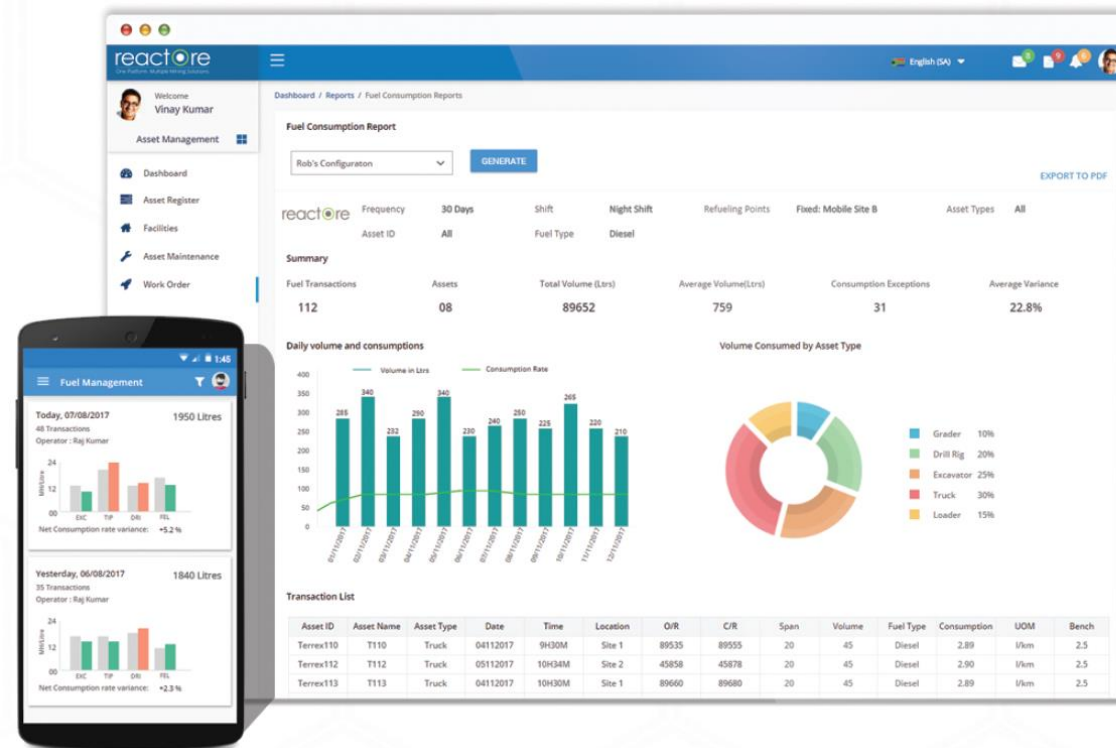
REALTIME	1 W	1 M	3 W	1 Y	CUSTOM	DASHBOARD SETTINGS				
OVERVIEW	Total Assets: 134 Active: 122 Idle: 12	Total Personnel: 146 Active: 133 Idle: 13	Tonnage: 12548 MT Drill Meters: 2548 Mtrs	CBM Alerts: L 02 M 05 H 05	08	Total Breakdowns: 03 Open: 02 Closed: 01	Infringements: 29	Fuel: 1.9 Ltr / Prod unit		



Personnel		
	Raj Kumar Terrex Operator RDT 112	★★★★☆ Rank 21
	Sachin Suvarna Terrex Operator RDT 116	★★★★☆ Rank 33
	Prem Kumar Terrex Operator RDT 115	★★★★★ Rank 3
	Manjunath Terrex Operator RDT 122	★★★★☆ Rank 44
	Nagraju Terrex Operator RDT 123	★★★★☆ Rank 23
	Prasad Terrex Operator RDT 133	★★★★☆ Rank 30
	Shankar Terrex Operator RDT 143	★★★★★ Rank 5
	Subramanya Terrex Operator RDT 140	★★★★☆ Rank 34
	Suresh Reddy Terrex Operator RDT 120	★★★★★ Rank 2
	Prakash Terrex Operator RDT 121	★★★★☆ Rank 36

[Load 10 More...](#)





- **Consumption**– Tracking equipment fuel consumption by using existing OEM sensors or specialised 3rd party sensors.
- **Reporting and alerts**– Consumption reports and exception based alerts according to customisable user parameters available on web or mobile application.
- **Expanded Solution** – Option to integrate with a specialized fuel transaction management (FMS) solution for a comprehensive solution.



- **Legal Compliance**– Administration of all operator and vehicle statutory and regulatory requirements.
- **Warranties**– Manage and track vehicle and component warranties with ease.
- **Insurance and Licensing** – Streamline the administration of insurance and licensing requirements.

Collaborative or Stand-alone solution options



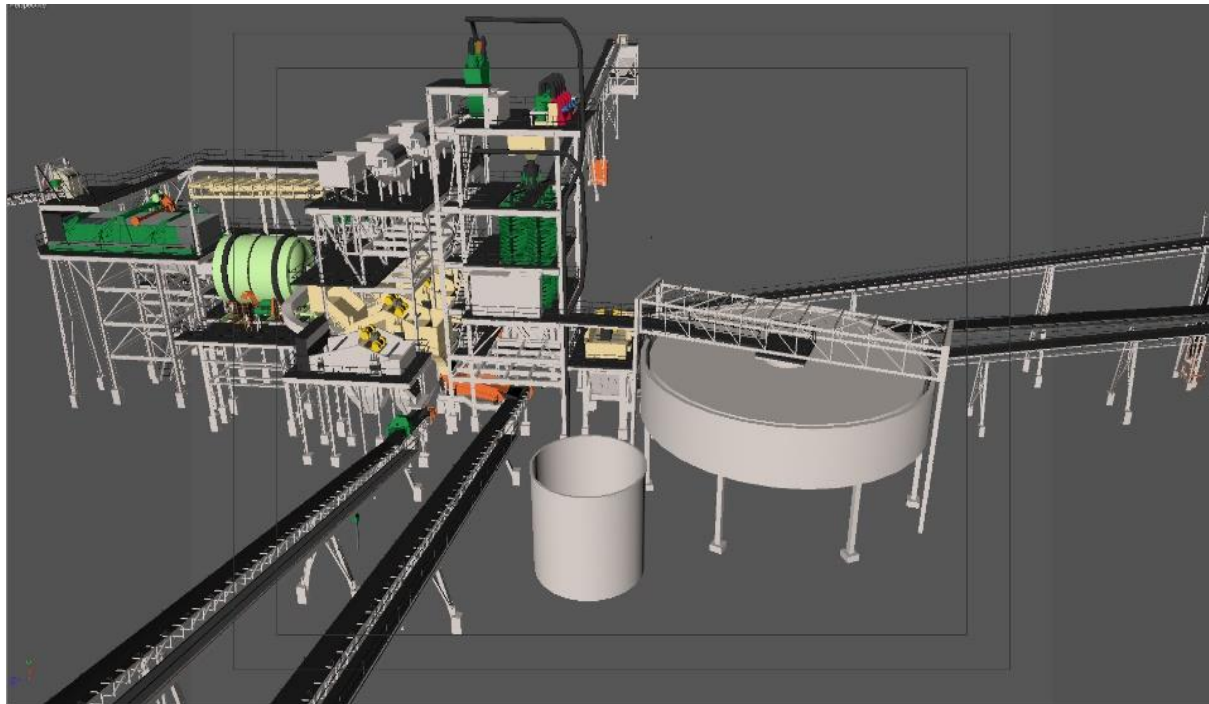
Reactor: Intelligent Application of sensor technology for Collision avoidance risk management

- **Intelligent threat evaluation**– Track multiple simultaneous proximate vehicles and personnel and using algorithms that take parameters such as location, speed, trajectory into account assess the greatest threat.
- **Early anticipation of collisions**– Advanced collision prediction with early audio and visual alerts to operators to prevent last minute panic situations from arising.

MODULE 7: ASSET MANAGEMENT

ENTERPRISE ASSET MANAGEMENT SOLUTION

- Asset maintenance and management solutions for equipment, GET, vehicles and entire facilities.
- Detailed, customisable asset register with administrative tools.
- 3D modelling of facilities and equipment with component level maintenance.



ASSET MAINTENANCE PROFILE

Detailed health record of each asset and its performance.

Reactore English (SA) 8 9 6

Welcome **Vinay Kumar**

Asset Management

- Dashboard
- Asset Register
- Facilities
- Asset Maintenance
- Work Order
- Reports
- Settings

Dashboard / Asset Maintenance / AMP

ASSET MAINTENANCE PROFILE

MAINTENANCE PROFILE | MAINTENANCE HISTORY | CONDITION BASED MONITORING

GOOD
General Condition

Asset Life Span	12 Months / 50000 Machine Hours
Current Age	10 Months, 12 Days
Remaining Age	29 Month, 353 Days
Maintained By	ACC

Primary Custodian	Sundar nayak	PRIMARY CUSTODIAN		
Secondary Custodian	Leon Steyn	Name of the custodian	Thangamani Naidoo	Edit
Latest Usage Metrics	12545 KM	Employee Number	ACC-524	
Service Interval	12 Weeks	Job Profile	Primary Custodian	
Insurance	Valid	Department	Engineering	
Vendor	Pheonix	Click Here to add Custodian		
Warranty	NA			

PERFORMANCE INDICATORS MTD 3M YTD ALL CUSTOM TO

MTBF	96 Hours	AVAILABILITY	85 %	LAST FAILURE	04032017	Belt Tear
MTTR	0.6 Hours	UTILISATION	78 %	OEE	72 %	

KOMOTSU 60T [3D VIEW](#)

SKU Code: 4175A0140
Category: Truck
Make: Komatsu
Model: K60T
Location: BF
Current Age: 10 Months, 12 Days

TECHNICAL SPECIFICATIONS +

GROSS HORSEPOWER
551 kW 739 HP
NET HORSEPOWER
533 kW 715 HP
MAXIMUM GVW
110180 kg 242,900 lb

DETAILED MAINTENANCE HISTORY

Complete audit trail of all maintenance, inspections and repairs undertaken.

Reactore English (SA) 8 9 6

Welcome Vinay Kumar

Asset Management

- Dashboard
- Asset Register
- Facilities
- Asset Maintenance
- Work Order
- Reports
- Settings

Dashboard / Asset Maintenance / AMP

ASSET MAINTENANCE PROFILE

MAINTENANCE PROFILE | **MAINTENANCE HISTORY** | CONDITION BASED MONITORING

Legend: PM History (Green), CM History (Grey)

PREVENTIVE MAINTENANCE | **CORRECTIVE MAINTENANCE**

HISTORY

ddmmyy TO ddmmyyy

- Planned Maintenance (Green)
- Work Order Request (Grey)
- Equipment Failure (Red)
- AD Hoc Work Order (Blue)
- CBM Abnormality (Orange)

Item ID	Requested By	Priority	Description	Time
WO-10112017-002	J.Smith	Urgent	Over inflation thin treas in center of tyre	10112017 09:36
FAIL-05092017-008			Alignment problem exaggerated outer edge	05092017 11:30
PM-1147-TYRE		Mechanical	Routine Maintenance	04072017 16:40
ADHOC-02062017-005	J.Smith	Mechanical	out of balance patchy tread wear or flat spots	02062017 12:25

REQUEST WO

KOMOTSU 60T [3D VIEW](#)

SKU Code: 4175A0140
Category: Truck
Make: Komatsu
Model: K60T
Location: BF
Current Age: 10 Months, 12 Days

TECHNICAL SPECIFICATIONS

- GROSS HORSEPOWER: 551 kW 739 HP
- NET HORSEPOWER: 533 kW 715 HP
- MAXIMUM GVW: 110180 kg 242,900 lb

CONDITION BASED MONITORING

Analytics based monitoring of equipment via direct sensor integration or via scheduled inspections.

The screenshot displays the Reactore Asset Maintenance dashboard. The main content area is titled "ASSET MAINTENANCE PROFILE" and is divided into three tabs: "MAINTENANCE PROFILE", "MAINTENANCE HISTORY", and "CONDITION BASED MONITORING". The "CONDITION BASED MONITORING" tab is active, showing three monitoring parameters:

- TEMPERATURE:** Component: Equipment Level, Lower Threshold: 125 RPM, Upper Threshold: 750 RPM, Status: GOOD, Last Update: 07052017 10:15.
- OUTBOARD MOTOR VIBRATION AXIAL:** Component: Outboard Motor, Lower Threshold: 125 RPM, Upper Threshold: 750 RPM, Status: GOOD, Last Update: 01052017 08H15.
- INBOARD MOTOR VIBRATION AXIAL:** Component: Inboard Motor, Lower Threshold: 125 RPM, Upper Threshold: 750 RPM, Status: ALERT, Last Update: 04052017 13H45.

The "INBOARD MOTOR VIBRATION AXIAL" parameter includes a line graph showing RPM over time. The graph has a y-axis from 0 to 400 and an x-axis with time intervals from 06H00-07H00 to 14H00-15H00. A red horizontal line is drawn at approximately 350 RPM. The data points show a significant spike at 12H00-13H00, reaching nearly 400 RPM, which is above the upper threshold.

Below the graph, there are controls for "From Date" and "To Date", and buttons for "CUSTOM", "DAY", "WEEK", "MONTH", "YEAR", and "REMOVE".

At the bottom of the monitoring section, there is a "PARAMETER NAME" section with the same details as the "TEMPERATURE" parameter, and an "ADD" button.

On the right side of the dashboard, there is a section for "CONVEYOR CFC03" with a "3D VIEW" link. Below this is a photograph of the conveyor belt. To the right of the photo are technical specifications:

- SKU Code: 4175A0140
- Category: CFC03
- Make: 650 NN/1000
- Model: Troughed Belt
- Location: BF
- Current Age: 4 Months, 4 Days

Below the specifications is a "TECHNICAL SPECIFICATIONS" section with a plus sign, showing "Width: 650 MM".

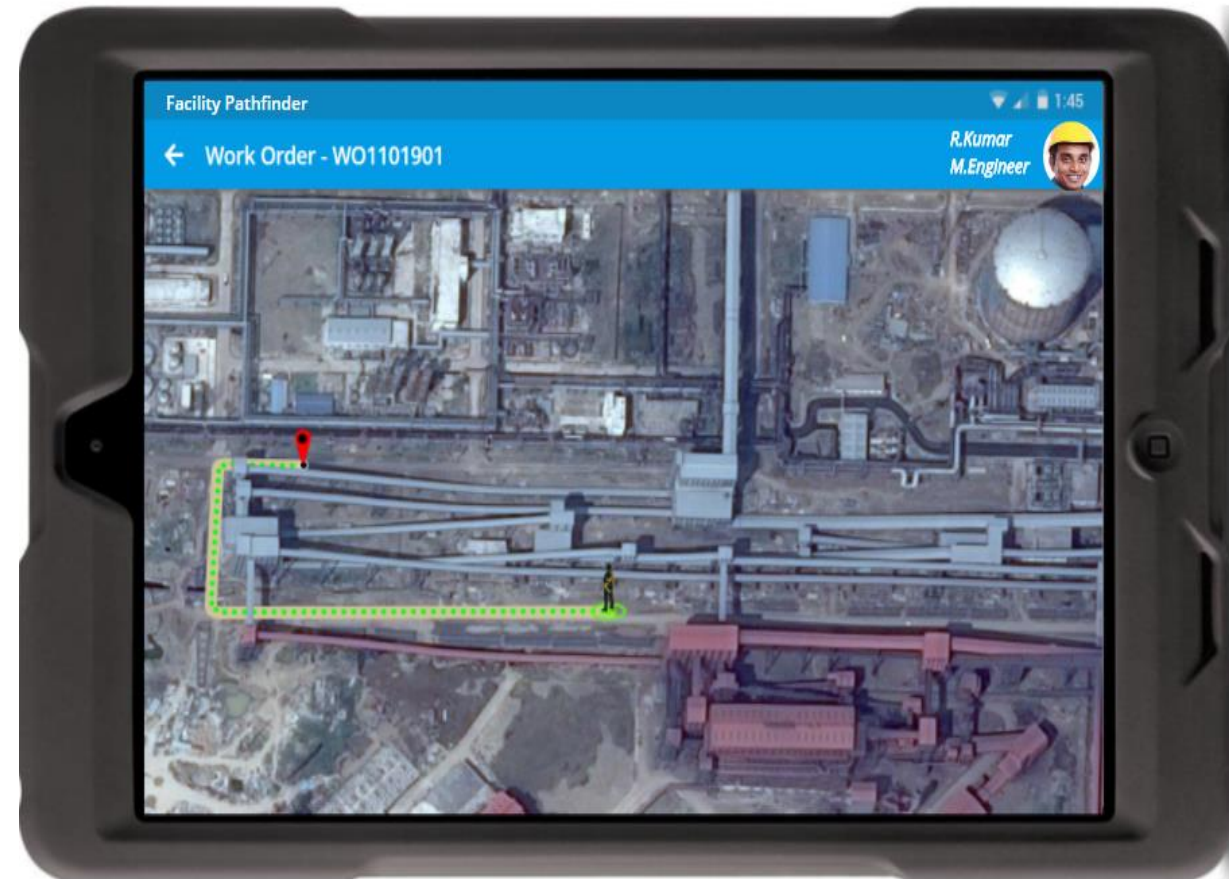
MAINTENANCE SCHEDULING

🕒 An intelligent business rules driven auto-scheduling feature that plots out an optimised maintenance schedule.

The screenshot displays a comprehensive maintenance scheduling dashboard. At the top, a navigation bar includes a language dropdown set to 'English (SA)', notification icons for 8 messages, 9 documents, and 6 alerts, and a user profile picture. Below this, a performance summary row shows: Schedule Compliance (87%), Schedule Completion (42%), Maintenance Rework (0.9%), Work Orders Requests (11), and Today's Work Orders (03). A central horizontal bar features a search input and a row of worker avatars with counts: 1, 5, 4, 3, 2, 7, 4, 6, 4. The main area is dominated by a satellite map of an industrial site with labels for 'Company Rd', 'ICICI BANK ATM', and 'SMS Canteen'. On the left, a sidebar contains several panels: 'Interval Based Maintenance For the next 30 days' with 22 items, listing 'Belt Replacement GSBC #3' (HIGH, Due: 12052017), 'Belt Lubrication GSBC #5' (LOW, Due: 13052017), and 'Power switch inspection GSBC #6' (LOW, Due: 16052017); 'Backlog Work Order Unresolved requests' with 13 items, listing 'Belt Replacement GSBC #3' (HIGH, Due: 08052017) with trade skill 'Mechanical' and asset status 'Operational', and 'Belt Lubrication GSBC #5' (LOW, Due: 06052017); and 'Inventory optimisation' with a bar chart. On the right, a 'Current Schedule' panel shows a summary for 'End Date: 19032017': Scheduled (58), Completed (16), Pending (42), Overdue (12), In-Progress (7), Scheduling Capacity Available (22%), and 38 Hrs for the next 30 Days.

WORK ORDER MANAGEMENT

- Mobile apps for technicians and mechanics providing maintenance and inspection instructions for real-time monitoring.



MODULE 8: SALES AND DISTRIBUTION

END TO END MANAGEMENT OF SALES AND DISTRIBUTION CYCLE



Integrated solution - A solution that seamlessly links stock availability, client demand, dispatch logistics and 3rd party accounting and ERP systems.



Logistics Scheduling - Intelligent system guided logistics scheduling features for optimised product distribution for both internal and visiting vehicles.



Administration - Administrative and financial back office features that seamlessly link with each step of the dispatch process.



Real-Time Dashboard

● **Plant integration** - Integrate with plant data to track grade and output produced.



● **Material Balances** - Real-time stock balances for clients, agents and back office.



● **Centralised control and monitoring** - All steps of the process can be scheduled and monitored through a real-time dashboard and dedicated mobile app.



Access Control Technology

● **Security** - Validated, automated entry and exit procedures for internal and visiting vehicles.



Driver Mobile App

● **Dispatch** - Track vehicles and delivery status in real-time. Driver's are assisted with a mobile app which relays all required information including real-time route suggestions.



Invoice Generation

● **Weighbridge integration** - Integration with weighbridge hardware/systems ensures validated accurate information with instant invoicing and order updates.



FEL Operator App

● **Product dispensation** - FEL Operators automatically receive product dispensation requirements as per order requirements, ensuring that the correct product and quantity is issued to the correct vehicle.



- Client and agent access portal for order placement and tracking.



- Back office administration features for client and order management.



Powerful Back Office Features

- **Client Management** - Manage client accounts and/or interface with agents. View up to date commercial transactions.
- **Sales Order Processing** - Streamline sales order processing with workflow automation.
- **Reporting and Dashboards** - Customised Dashboards and Reporting of sales and distribution.
- **Logistics and Scheduling** - Optimise the logistics and dispatch of product for both internal and visiting vehicles.

- Integration with payment gateways, ERP's and accounting packages.

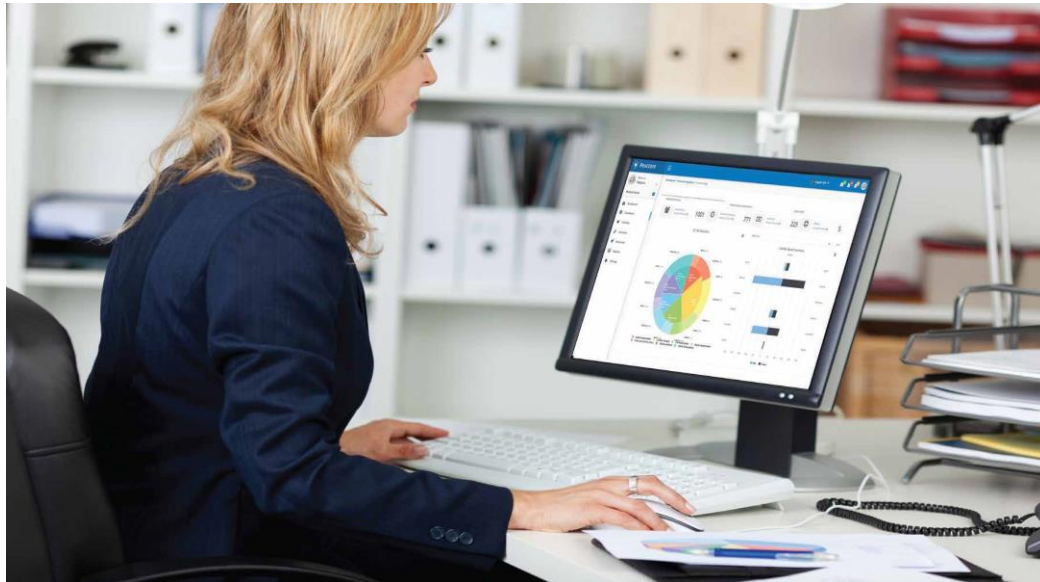


MODULE 9: HUMAN RESOURCE MANAGEMENT

A Human Resource management solution designed specifically for the mining industry.

Can serve as a stand alone or work in conjunction with existing HR packages.

Employee services and contractor management features.



Training Administration - Manage employee skills development programs and internal training interventions with ease including SOP's, PTO's and safety induction requirements.

Time and Attendance – direct integration with biometric hardware or software systems.

- Performance Management
- Customised Leave management
- Recruitment administration.
- Public information kiosk features available for workers to interact with their HR department digitally.
- Seamless integration with 3rd party systems and other Reactore modules.

Administration of training and statutory safety interventions

The screenshot displays the Reactore system interface. The top navigation bar includes the Reactore logo, a hamburger menu, and the language setting 'English (SA)'. The left sidebar shows the 'Production Module' and a list of navigation options: Dashboard, Schedules, Shift Management, Tally Sheet, Production Events, Reports, and Settings. The main content area is titled 'Interventions Mapping and Status' and features a search bar for 'Enter First Name'. Below the search bar is an 'Export to Excel' button and a legend for intervention status: 'About to Expire' (orange), 'Expired' (red), 'Open' (green), and 'Unmapped' (grey). The main area contains a grid of 12 staff member cards, each with a profile picture, name, ID, last performed date, and expiration status. At the bottom, there is a pagination control showing 'Showing 1-10 of 868 records' and 'Records per page: 10'.

Name	ID	Last Performed	Expire Status
Susan	845768236912	2015-06-01	Expires in 9 months 4 days
Nkosingphile	7308105785083	2015-06-01	Expires in 9 months 4 days
Peter	845768236945	2015-06-15	Expired for 2 weeks 3days
Audrey	7803155790082	2015-06-08	Expires in 9 months 11 days
Mfanawenkosi	845768236832	2015-06-01	Expires in 9 months 4 days
John	8905235504083	2015-06-01	Expires in 1 week
Sandile	845768236832	2015-06-08	Expires in 1 week
Sihle	7810235674087	2015-06-01	Expired for 2 weeks 3days
Ethel	845768236912	2015-06-08	Expires in 9 months 11 days
Nicho	8307256143083	2015-06-08	Expires in 9 months 11 days

MODULE 10: HSE AND LEGAL COMPLIANCE

A solution designed in close collaboration with legal and safety experts to systematically manage risk and adherence to legislative requirements.

- Custom Legal Register
- Auditing and Verification
- Legal advice and Support
- Dashboard and Reporting
- Legal Appointments
- Contractor Management
- Document Management



HSE AND LEGAL COMPLIANCE FEATURES

Reactore LCS

Welcome Shift Engineer

English (SA)

Dashboard

Incident Name

Training Type Intervention Provider Type Internal Training Date 03/05/2016

Name ABET 1 Provider Name Sasol Nitro Attendees 22/30

Lerner Type Employee Location Class Room2 Cost 15220 R

Map Attendees Manual Capture Biometric Upload

Employee Name

John Smith X Steve Jobs X Bill Gates X ADD

EMPLOYEE	EMPLOYEE ID	JOB PROFILE	DEPARTMENT
	SM8383	Terrex Operator	Mining
	SM8383	Terrex Operator	Mining
	SM8383	Terrex Operator	Mining
	SM8383	Terrex Operator	Mining
	SM8383	Terrex Operator	Mining

OPEN EVENTS (77) CLOSED EVENTS FLAGGED EVENTS

- B** Event name
Event Location ddmmyyyy 3 min ago
- P** Event name
Event Location ddmmyyyy 3 min ago
- U** Event name
Event Location ddmmyyyy 3 min ago
- M** Event name
Event Location ddmmyyyy 3 min ago
- A** Event name
Event Location ddmmyyyy 3 min ago
- D** Event name
Event Location ddmmyyyy 3 min ago
- S** Event name
Event Location ddmmyyyy 3 min ago
- C** Event name
Event Location ddmmyyyy 3 min ago
- U** Event name
Event Location ddmmyyyy 3 min ago
- M** Event name
Event Location ddmmyyyy 3 min ago

Load more... VIEW FULL LIST

Reactore

Welcome Koos Jansse van Vuuren

HSE Legal Compliance

English (SA)

Brandspuit

Global Compliance 82%

Outstanding Legal Requirements 25

Legal Register Questionnaire Progress 86% 46 questions remaining

Next Questionnaire Review 02/04/2017, in 45 Days

COMPLIANCE ASSESSMENT

Legislation Based Compliance

MHSA 100%
MHSA PIR 100%
NEMA 100%

Topic Based Compliance

Mining 100%
Assessment 100%
Training 100%
Equipment 100%
Safety 100%
Reporting 100%
HSE 100%

HEALTH & SAFETY INCIDENTS

AFIR	LTIFR	MTI	MTC
3.1	0.2	4	9

Location	Incidents	LTIFR
Engineering	9	0.6
Mining	3	0.7
Processing	0	0.0
Services	5	0.3

HSE INCIDENTS LOCATION BASED

Reactore LCS

Welcome GARR Sigma

English (SA)

Dashboard / Legal Database / Legislation

LEGAL DATABASE

Repository of Legislation and Regulations

PRIMARY LEGISLATION

MHSA

Updates pending Last update ddmmyyyy

REGULATIONS (2)

MHSA Regulations

Updates pending Last update ddmmyyyy

SECONDARY LEGISLATION

Constitution of RSA

Updates pending Last update ddmmyyyy

Updates pending Last update ddmmyyyy

Updates pending Last update ddmmyyyy

Updates pending Last update ddmmyyyy

NOTIFICATION CENTER

Alerts 2 Newsletters 29 Reminders 3

Name

Updated guideline for MCOP relating to Prevention of Fires at Mines Moderate

Topic

Fires DUE DATE 28/02/2017

Description

Please note that the Chief Inspector of the Department of Mineral Resources has published a new Guideline for a **Mandatory Code of Practice (MCOP)** in terms of Section 9 of the **Mine Health and Safety Act**. By publishing the Guideline on the Prevention of Fires at Mines, an obligation in terms of Section 9(2) is placed on Employers to draft the corresponding Code of Practice. The MCOP should be seen as the latest in a line of MCOP's dealing with emergencies, the prevention thereof as well as the responses thereto, including the MCOP on Risk Based Emergency Response. The MCOP applies to both surface and underground operations.

Details

Legal Ref **MHSA Section 9** Reference Number **DMR 13/3/24 - B3**

Last Revision **First Edition** Date First Issued **First Edition**

Date of alert **03/10/2016** Applicable Date **28/02/2017**

New Screening Questions **2** Percentage of Completion **50% (1 out of 2)**

Available Actions

View Gazette Document

VIEW QUESTIONNAIRE GO TO ACTION MANAGER RAISE SUPPORT TICKET SET REMINDER

Reactore LCS

Search

English (US)

Dashboard / Action Manager / Create Action

Prepare Mining Charter DMR Report

Action Details

Action Name Prepare Score card Action Required Collect data from Davie, Nicho and Sandy, prepare DMR report-26. Target Date 12 June 2015 Status In-Progress

Discipline Health and Safety Priority High Department Health and Safety Hazard Category A

Source of Action Meeting Source Description Meeting Source Date 19 May 2015

Assignee Details

Sean Hayes Please inspect Pit 2 By Riana Minny Reassign

Documents

No documents uploaded yet Click here to upload

Sub Actions

Comments

Submit

Sean Hayes 2015-06-06 11:24:25 Please inspect thoroughly

Riana Minny 2015-05-08 14:27:55 Inspection started with contractors

History

2015-06-09 11:36:53 Action Inspect pit 2 is assigned to Sean Hayes

2015-06-09 11:38:03 Sean Hayes Accepted the action Inspect pit 2

2015-06-09 11:38:03 Sean Hayes Accepted the action Inspect pit 2

2015-06-09 11:39:21 Sean Hayes changed the status of action Inspect pit 2 to In-Progress

2015-06-09 11:39:57 Sean Hayes changed the status of action Inspect pit 2 to Completed



A system that can serve as a stand alone solution or integrate with existing systems for a 360 degree view of operations

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One Platform, Multiple Mining Solutions.
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