



CYEST SIMS (Short Interval Management System)

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Pre-Start Checks

Date	2023-08-20T11:48:33.846+02:00
Machine	L4D732
Operator	Operator: Steen
Operator ID#	80178958
Shift	2023-08-20T04:00:00+02:00

LUBES & OILS	Passed Check	Passing
Hydroil: Time for Service Change	0	Yes
Hydroil: Oil Level in Order	0	Yes
Hydroil: Oil Level in Order	0	Yes
Hydroil: Oil Level in Order	0	Yes
Hydroil: Oil Level in Order	0	Yes
Hydroil: Oil Level in Order	0	Yes
Hydroil: Oil Level in Order	0	Yes
Hydroil: Oil Level in Order	0	Yes

OIL & FUEL (GENERAL)	Passed Check	Passing
Capful: Oil Level in Order	0	Yes
Capful: Oil Level in Order	0	Yes
Capful: Oil Level in Order	0	Yes
Capful: Oil Level in Order	0	Yes
Capful: Oil Level in Order	0	Yes
Capful: Oil Level in Order	0	Yes
Capful: Oil Level in Order	0	Yes
Capful: Oil Level in Order	0	Yes

GAUGES & SAFETY LIGHTS	Passed Check	Passing
Oil at Fuel Injection error off	0	Yes
All Oil Gauges in Working Order	0	Yes

LIGHTS & GUARDS	Passed Check	Passing
BACK Lights (Green & Red Lights) On	0	Yes
FRONT Lights (Green & Red Lights) On	0	Yes
Working Lights On	0	Yes
DRIVING Lights On	0	Yes
General Condition of Guard Covers	0	Yes

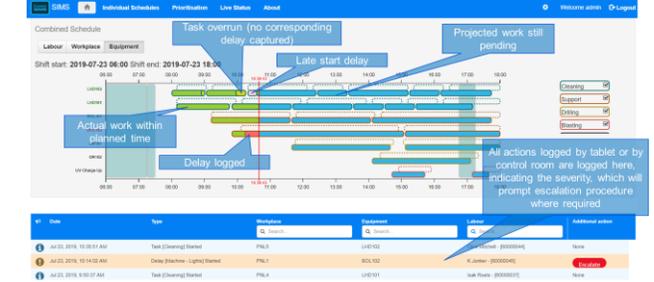
POW VIS System	Passed Check	Passing
POW VIS System Operational	0	Yes

GENERAL	Passed Check	Passing
In Good in Good Condition	0	Yes

Operator Name: Operator ID#

Operator Name: Operator ID#

Operator Name: Operator ID#



SIMS Tablet View

STATUS BAR TURNS RED, SHOWING TASK IN DELAY

A red bar indicates the duration of the delay

Button now provides an option to continue activity, i.e. stopping delay

Short Interval Management System - SIMS

Underground mechanised mining automated “**Dispatch System**”

- **Rules based** schedule logic
- Shift schedule **synchronised** to all tablets
- Integrated **pre-start check lists**, synchronised to control room and all tablets

Operators update work packages

- Log tasks: **start** and **end**
- **Delays** logged by Operators, acknowledged by Control room
- Delays / Incidents **escalated** appropriately
- Machine delays , where applicable converted to **Breakdowns**
- Breakdowns logged to **Time Usage Model** Codes

Chat function to enhance communication with the operators and control room

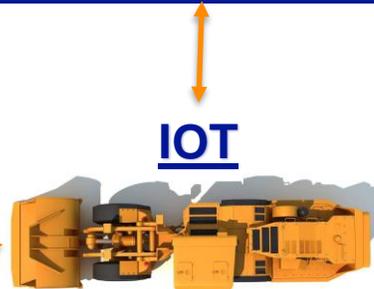
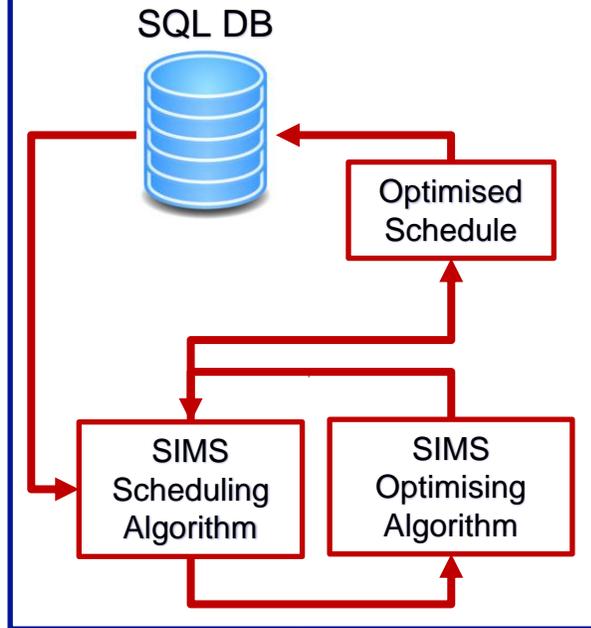
Short Interval Management System - SIMS

- Digitises your mine
- Creates real time information - **Status** on Mining activities, and breakdowns
- Optimises short term plans, that is it plans the best of what you have got at the time – **Next Best Plan**
- All work synchronised on PC's and tablets - **One Plan**
- Improves **communication** between operation , control room and management
- Digital pre-start checklists - improved **compliance** and rapid response to any defects logged.
- In essence, SIMS improves **productivity** and more importantly improves **safety** through compliance of controls and communication.

Configuration Inputs

- Labour**
 - Employees
 - Team groupings
 - Valid Licenses
 - Leave & Training roster
- Production Area Design**
 - Workplace names
 - Workplace work sequence
 - Interdependencies rules
 - Distances between or time between workplaces
- Mining Rules**
 - Face shape
 - Proximity allowances of work
 - Electrical layout limitations
 - Workplace conditions A, B, S
 - Start & end shift rules / activities
- Machines / Sub-teams**
 - Machine names
 - Machine groupings & task allocations
 - Machine Production Rates
 - Planned maintenance schedule
 - Preferred operator priorities

Generate Schedules



Management Portal (Any Device)



Application (Mobile Device)



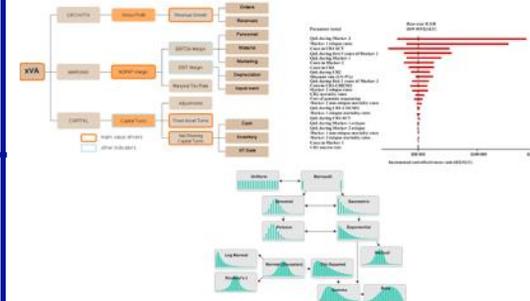
Reporting



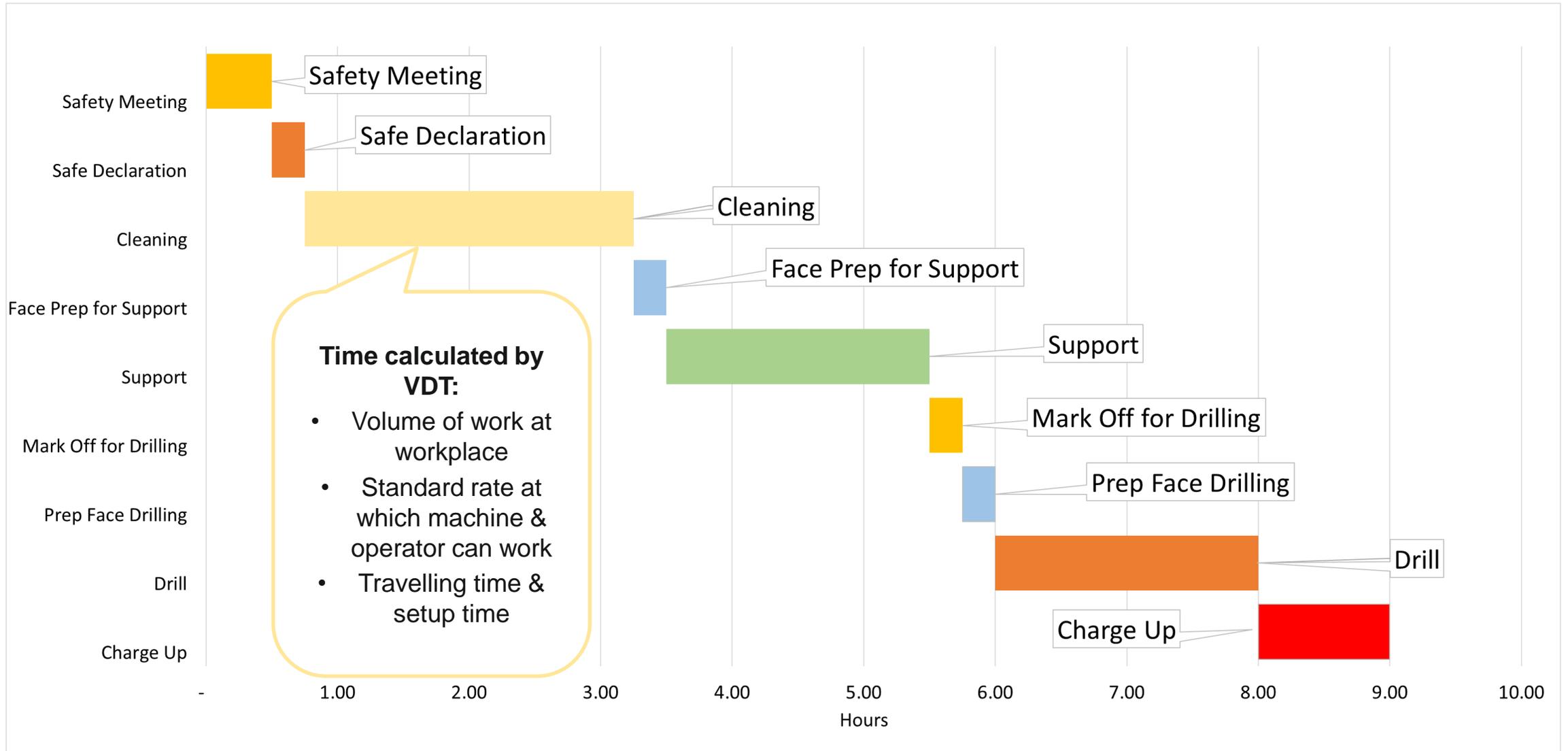
Standard Reporting

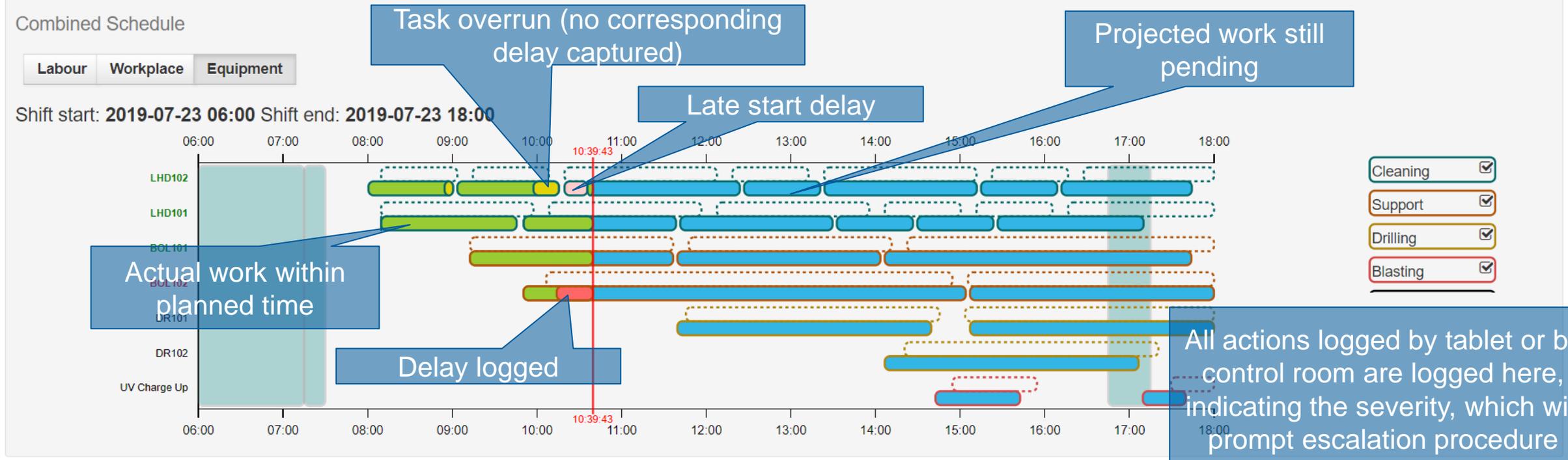


User interface Reporting



In Depth Analysis





All actions logged by tablet or by control room are logged here, indicating the severity, which will prompt escalation procedure where required

Date	Type	Workplace	Equipment	Labour	Additional action
Jul 23, 2019, 10:35:51 AM	Task [Cleaning] Started	PNL5	LHD102	Clive Mitchell - [60000044]	None
Jul 23, 2019, 10:14:02 AM	Delay [Machine - Lights] Started	PNL1	BOL102	K Jonker - [60000045]	Escalate
Jul 23, 2019, 9:50:37 AM	Task [Cleaning] Started	PNL4	LHD101	Isak Roets - [60000037]	None

SIMS App Pre-Start check list



09:54 Wed 12 Jul 100%

Capture Pre Start Checklist | LHD 104 Next

Machine Component Readings

	24/05/2023	31/05/2023	06/06/2023	Current
LHD 104 Engine Hour	6430.4	6431.5	6433.2	LHD 104 Engine Hour Hour Meter Reading
LHD 104 Transmission Hour	6340.03	6341.65	6342.5	LHD 104 Transmission Hour Hour Meter Reading

LICENSE & SEAT BELT

	24/05/2023	31/05/2023	06/06/2023	Hazard Class	No	Yes	Comments
Valid License & License on You				A			...
Seat Belt Condition				A			...
Inspect Tyres for Severe Damage	✓	✓	✓	B			...
Inspect Exhaust, No Smoke, No Rattle	✓	✓	✓	B			...

OIL & FUEL (DIESEL) LEVEL

	24/05/2023	31/05/2023	06/06/2023	Hazard Class	No	Yes	Comments
Engine oil Level in Order	✓	✓	✓	A			...



09:55 Wed 12 Jul
100%

← Back
Capture Pre Start Checklist | LHD 104
Next

Machine Component Readings

	24/05/2023	31/05/2023	06/06/2023	Current
LHD 104 Engine Hour	6430.4	6431.5	6433.2	6456.2
LHD 104 Transmission Hour	6340.03	6341.65	6342.5	6348.9

LICENSE & SEAT BELT	24/05/2023	31/05/2023	06/06/2023	Hazard Class	No	Yes	Comments
Valid License & License on You	✓	✓	✓	A		✓	💬
Seat Belt Condition	✓	✓	✓	A		✓	💬
Inspect Tyres for Severe Damage	✓	✓	✓	B		✓	💬
Inspect Exhaust, No Smoke, No Rattle	✓	✓	✓	B		✓	💬

OIL & FUEL (DIESEL) LEVEL	24/05/2023	31/05/2023	06/06/2023	Hazard Class	No	Yes	Comments
Engine oil Level in Order	✓	✓	✓	A		✓	💬

SIMS Portal Pre-Start check list



Pre Start Checklist 00000470
Tumela 15E Project PLATINUM

Date	7/12/2023 9:57:32 AM
Machine	LHD 104
Operator	Fanny Lesufi
Operatory COY Number	80104469
Shift	12-07-2023

LICENSE & SEAT BELT	Hazard Class	Passing
Inspect Tyres for Severe Damage	B	Yes
Inspect Exhaust, No Smoke, No Rattle	B	Yes
Valid License & License on You	A	Yes
Seat Belt Condition	A	Yes

OIL & FUEL (DIESEL) LEVEL	Hazard Class	Passing
Engine oil Level in Order	A	Yes
Hydraulic Oil Level in Order	A	Yes
Transmission Oil Level in Order	A	Yes
Fuel (Diesel)Level in Order	A	Yes

STEERING & HOOTER	Hazard Class	Passing
Overall Condition of Steering	A	Yes
Warning Hooter, Sound	A	Yes
Reverse Hooter, Sound	A	Yes

ARTICULATION	Hazard Class	Passing
Articulation Stoppers Available	A	Yes
Articulation Pin & Sling Present	A	Yes
Articulation Lock Pin Available	A	Yes

BRAKE TESTING	Hazard Class	Passing

Test Door Brake Interlock (Open Door)	A	Yes
Test Neutral Brakes	A	Yes
Test Park Brake	A	Yes
Test Service (Foot) Brake	A	Yes
Test Emergency Brakes (Emergency Stop)	A	Yes

FIRE EXTINGUISHER	Hazard Class	Passing
Fire Extinguisher in Good Condition	A	Yes
Pressure Reading in Order	A	Yes
Expiry Date Valid	A	Yes
Is The Monthly Inspection Signed	A	Yes
Is ANSUL Fire System in Good Condition	A	Yes

GAUGES & DASH LIGHTS	Hazard Class	Passing
Did all Fault indicators stay off	B	Yes
Are All Gauges in Working Order	B	Yes

LIGHTS & GUARDS	Hazard Class	Passing
BACK Lights (Green & Red Lights) On	B	Yes
FRONT Lights (Green & Red Lights) On	B	Yes
Flashing Lights On	B	Yes
DRIVING Lights On	B	Yes
General Condition of Guard Covers	B	Yes

PDS/VDS SYSTEM	Hazard Class	Passing
Is PDS/VDS System Operational	A	Yes

GENERAL	Hazard Class	Passing
Is Seat in Good Condition	A	Yes

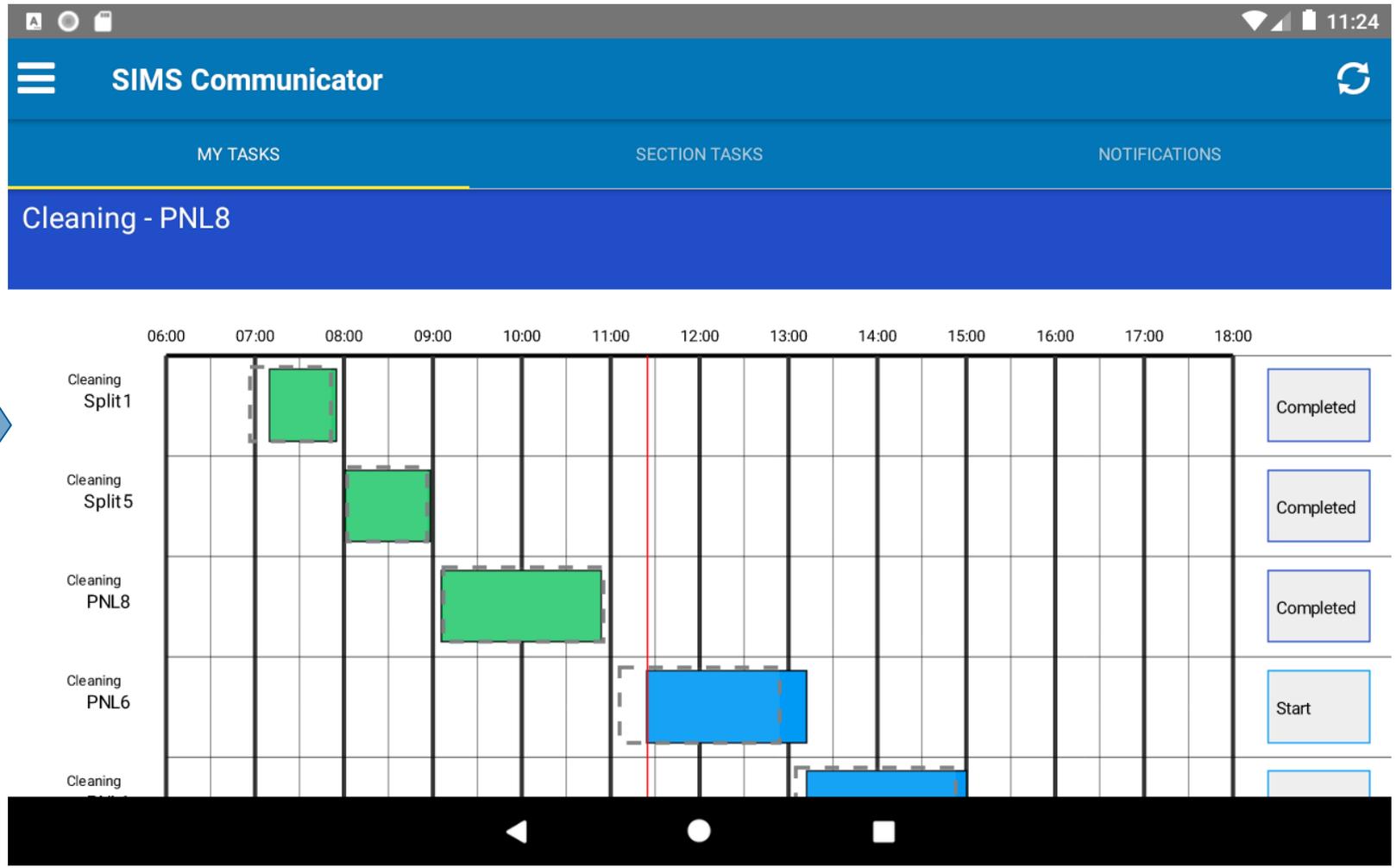
Signature	Name	COY No.	Designation
Overall Comment : Fuel 70%			

	Fanny Lesufi	80104469	Not specified
Overall Comment : Fuel 70%			

Signature	Name	COY No.	Designation
	Joe Blogs	80101234	Diesel Mech
Overall Comment :			

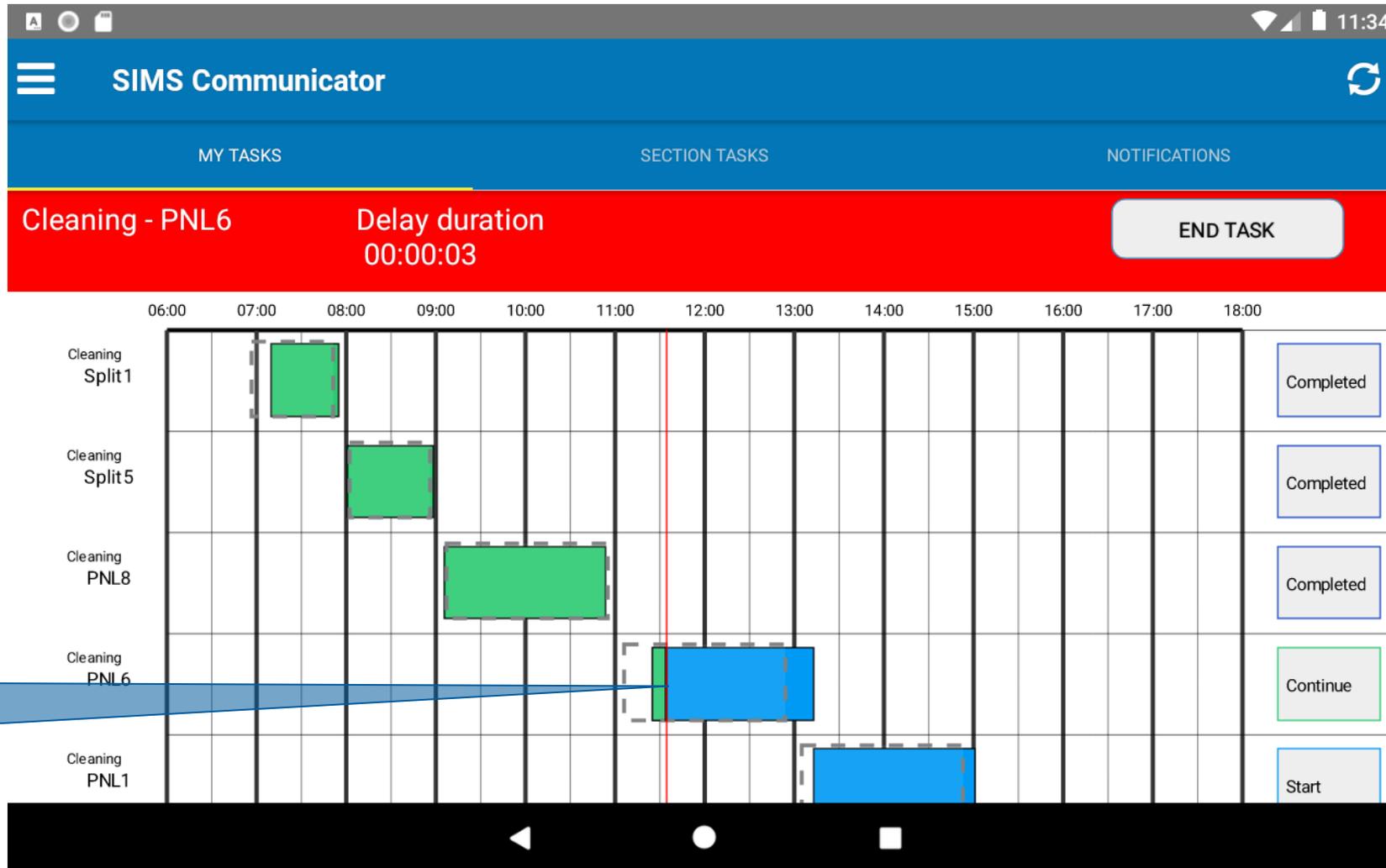
Comments

Inspect Exhaust, No Smoke, No Rattle		
12-07-2023 09:55	80104469 Fanny Lesufi	Test



The name & workplace of scheduled activities filtered by operator

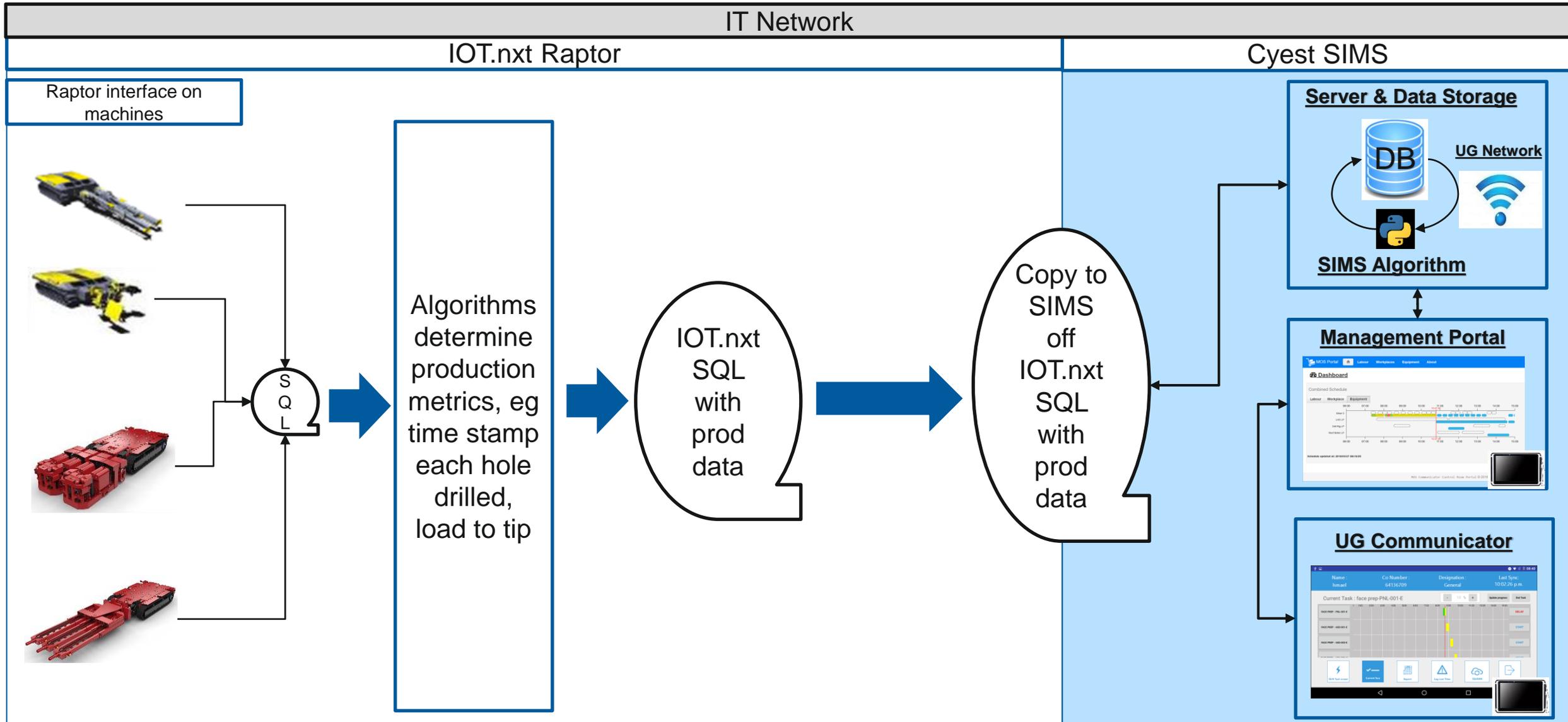
Button shows action that can be performed on an activity based on its status



Status bar turns red, showing task in delay

A red bar indicates the duration of the delay

Button now provides an option to continue activity, i.e. stopping delay

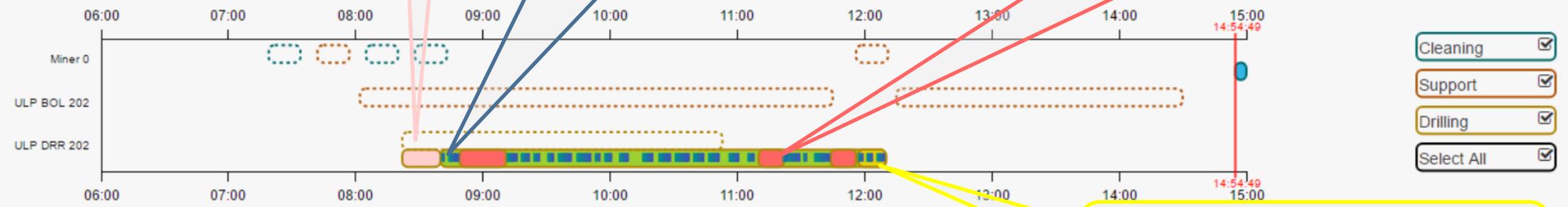


Dashboard

Combined Schedule

Labour Workplace **Equipment**

Shift start: 2019-03-01 06:00 Shift end: 2019-03-01 15:00



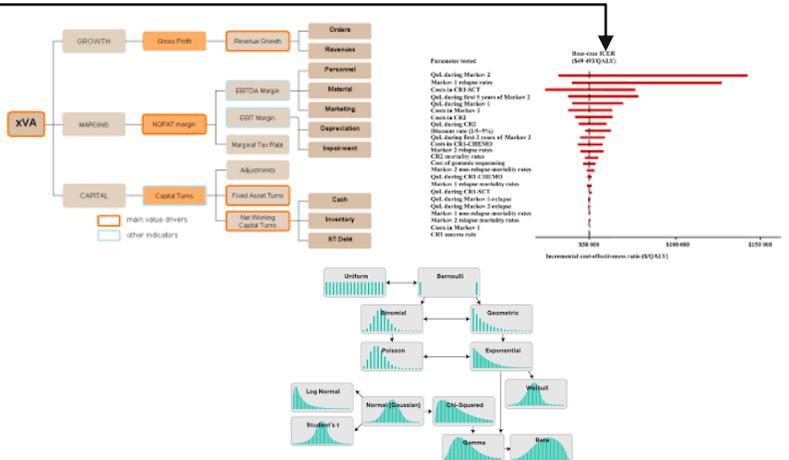
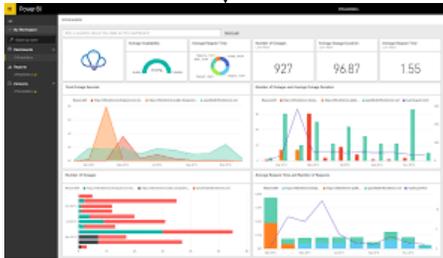
Schedule updated at: 2019/03/01 06:08:35

Please select the plan to variance against (P0)

Date	Workplace	Equipment	Labour	Activity	Action
12:10 PM on the 1st March 2019	PNL 4N	ULP DRR 202	Dalibor Benkovic	drilling	Task ended
11:56 AM on the 1st March 2019	PNL 4N	ULP DRR 202	Dalibor Benkovic	Minor Machine [ULP DRR 202] - Other	Delay ended



All data gets store in a central database



Standard Reporting

Standard reports are static reports that will be created at certain time intervals. Some of the information included in these reports are:

- Availability
- Utilization
- Production Run Charts
- Delays
- Mean Time To Failure
- Mean Time To Repair

User interface Reporting

User Interface reports are reports set up for user to do analysis while filtering out certain criteria . Some of the information included in these reports are:

- Distribution of work completed for a period
- Breakdowns of specific equipment over selected periods
- Earn squares analysis (calculation of how much your work contributed to a blast)

In Depth Analysis

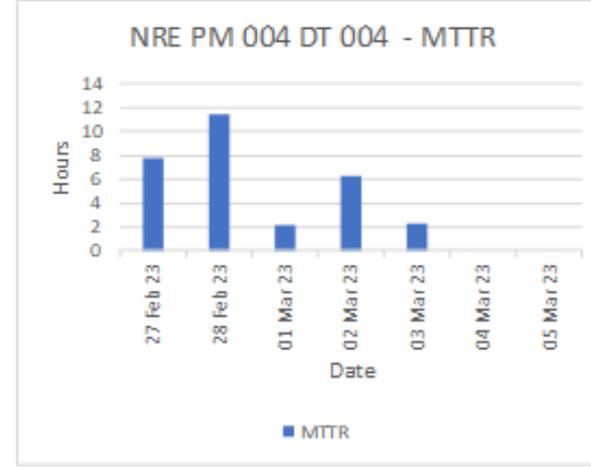
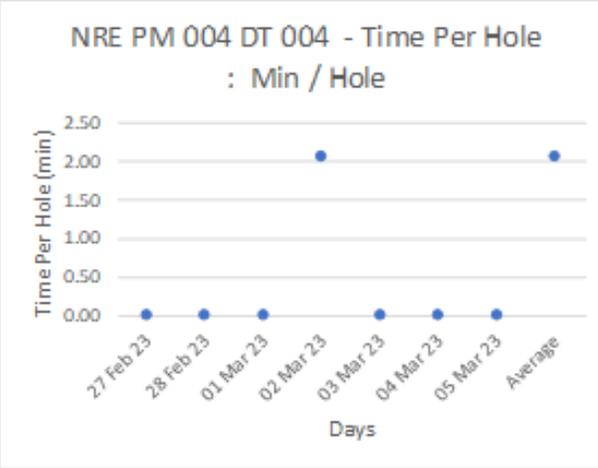
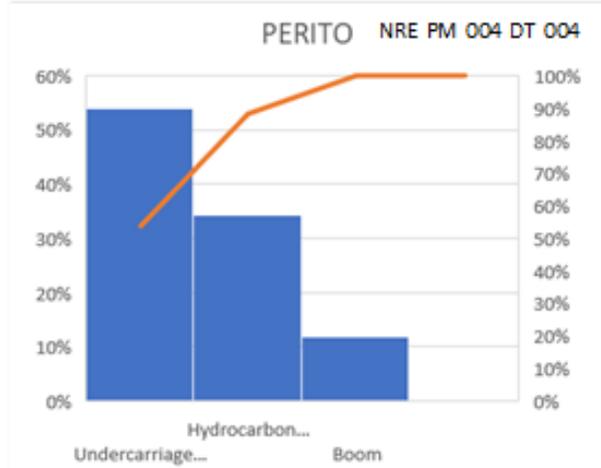
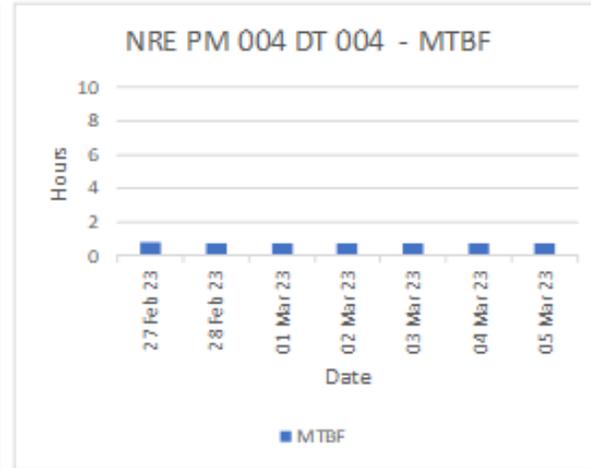
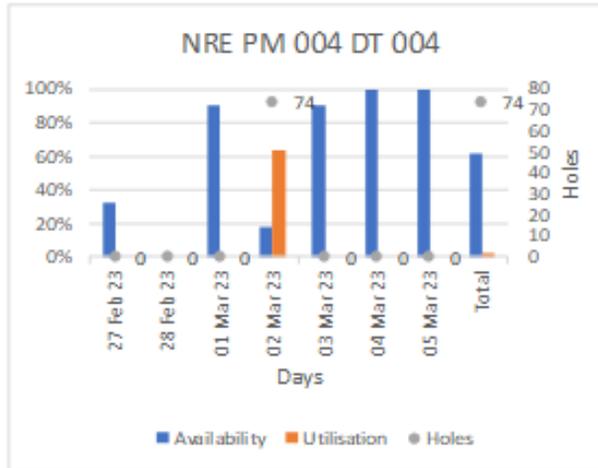
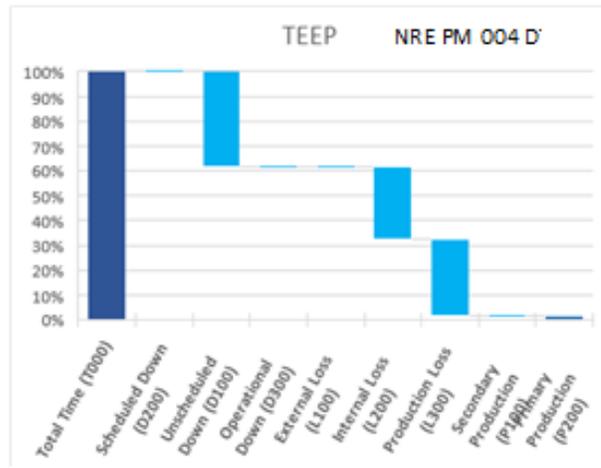
In dept analysis is where in depth analysis of data is done to provide you with the optimum solution for performance. Some of these analysis includes:

- Attribute Analysis
- Sensitivity Analysis
- Material Engineering
- Value Driver Analysis
- Distribution Analysis

NRE PM 004 DT 004
27 Feb

Tumela 15E, Machine Report Machine :NRE PM 004 DT 004 for Week Starting :27 Feb 2023

SIMS



End of Shift Report



EOS Report



Date
19/07/2019

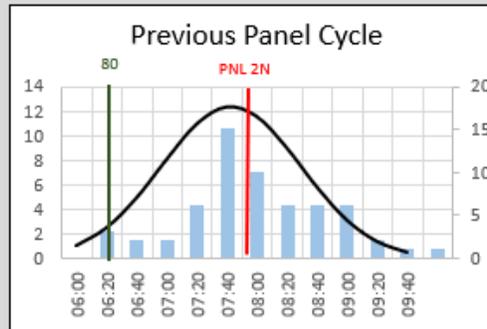
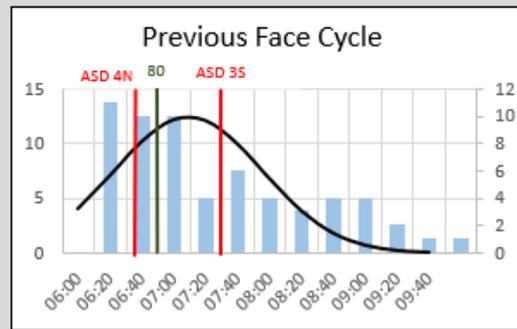
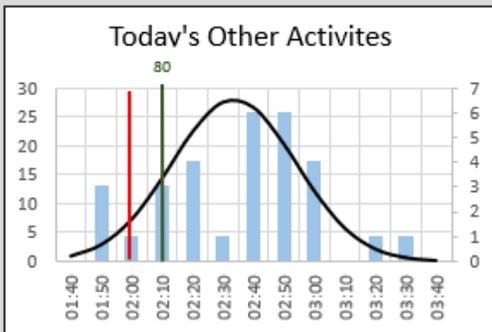
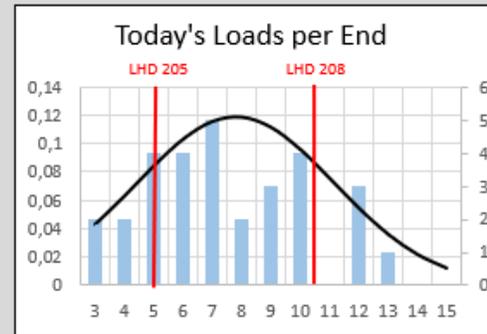
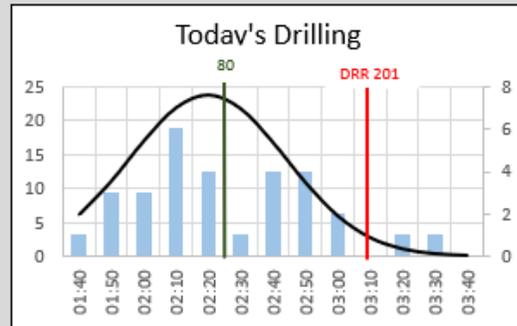
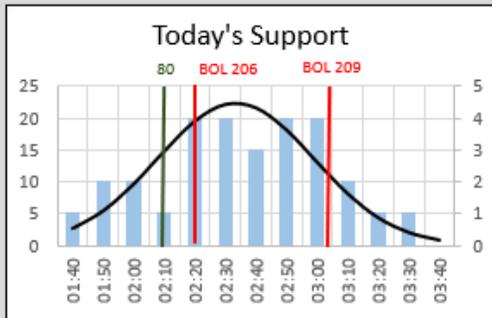
SAFETY
ACTION
TOPIC

Heavy lifting Equipment

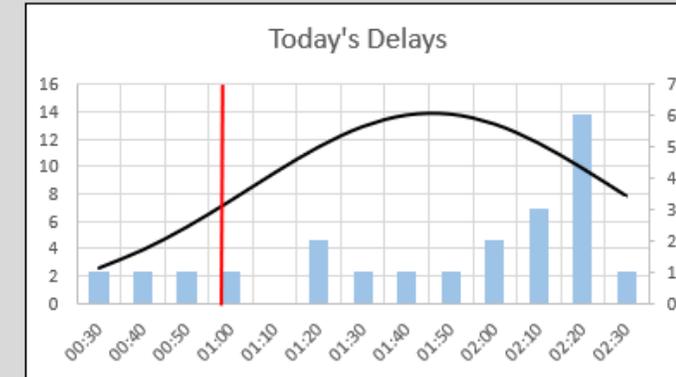


Today's Performance

Production



Delays



MAJOR DELAYS

Caused By	Severity	Equipment	Workplace	Description	Duration
Machine	Minor	LHD 209	Panel 4S	Engine	00:39
Operator	Minor	LHD 211	Panel 2S	Break	00:10
Operator	Minor	LHD 211	Panel 2S	Break	00:10
Total					00:59

* ALL Without Lost Time

To use data to improve productivity you need to have all the following **constantly optimally synchronised**

- Mining Layout
- Resources, (Workplace, Machines & Operators)
- Maintenance
- Services
- Valid Planning
- Communication

Loose the Least

Constantly Create an optimal plan “Next Best Plan”

Rapidly **communicate** new plan