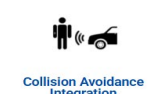


Sibanye Missing Person Locator Project

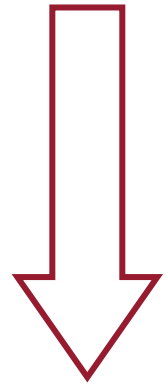
Minerals Council: Workshop

08 May 2026

Missing Person Locating: Sibanye SA Region Solution



K6: LOM discussion
Siphu – Bambani: Change Booyco to A&R



Trackless



RPM



Marikana



Au

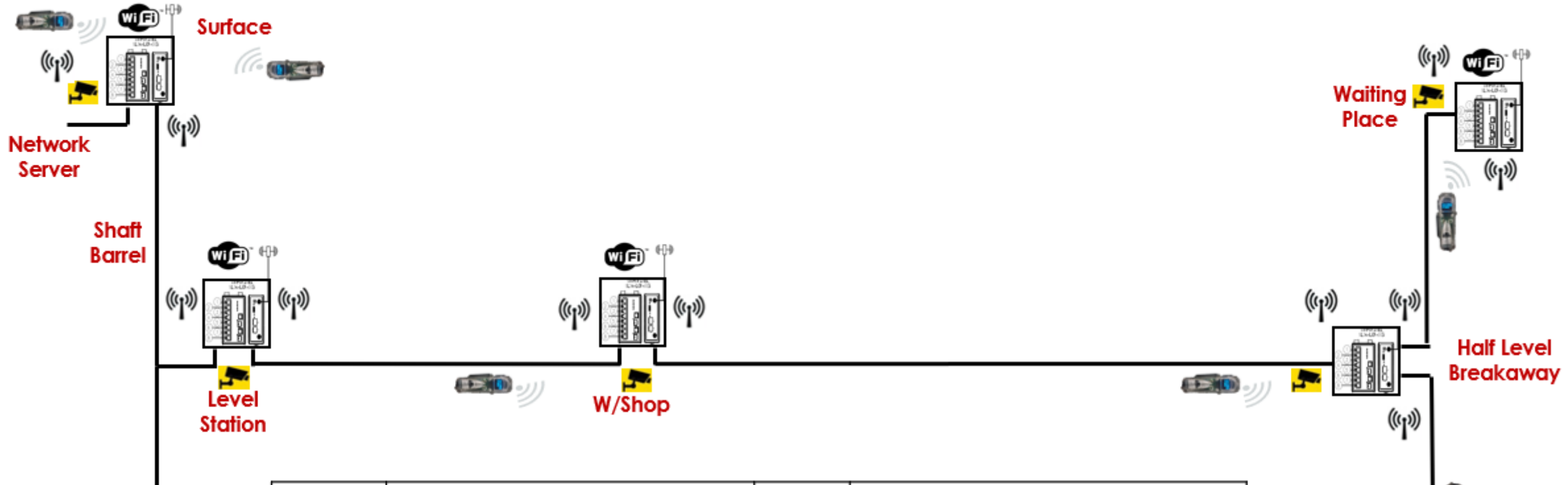



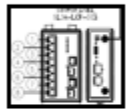



Network

- Server room
- Fibre
- Switch
- UPS
- Network cable
- Xtend



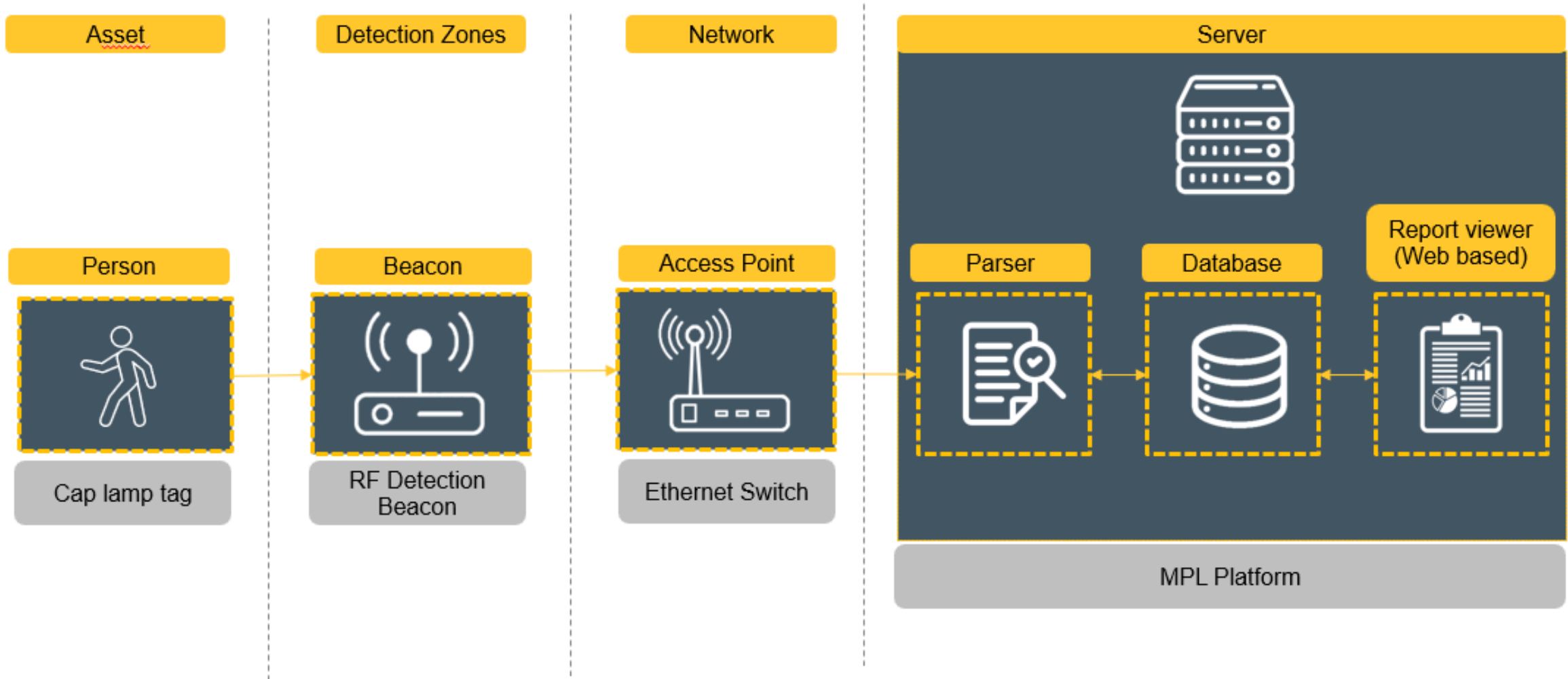
Network Requirements



	Cap lamp with RF device		Fiber optic Network Distribution Panel c/w UPS & Ethernet Network Switch
	RF receiver to determine last known location and direction of travel	—	Single Mode Fiber Network
	Wi-Fi Access Point		Surveillance Camera (Optional)

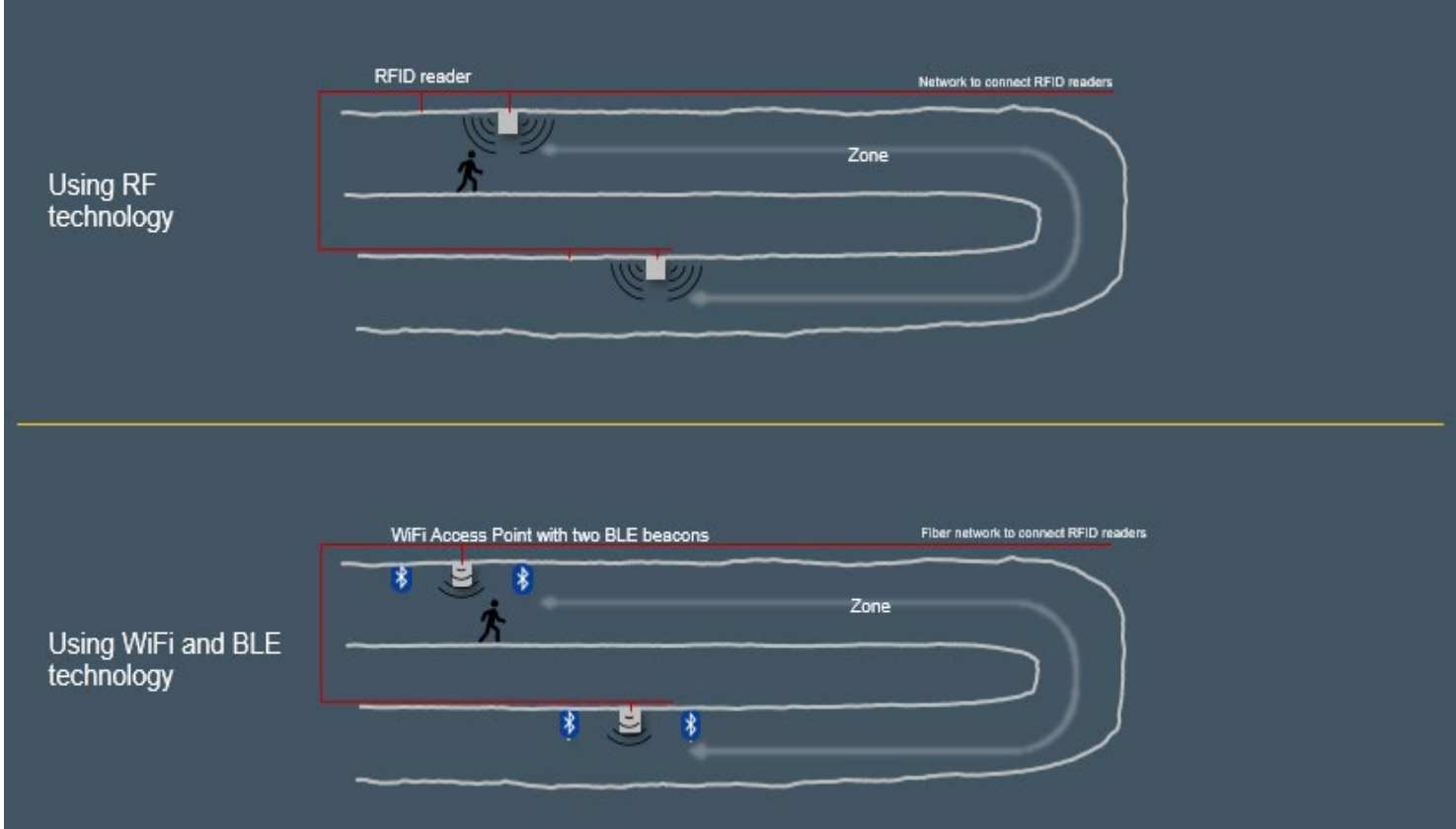
Recommended Technology on PGM Conventional Operations

High Level MPL System overview

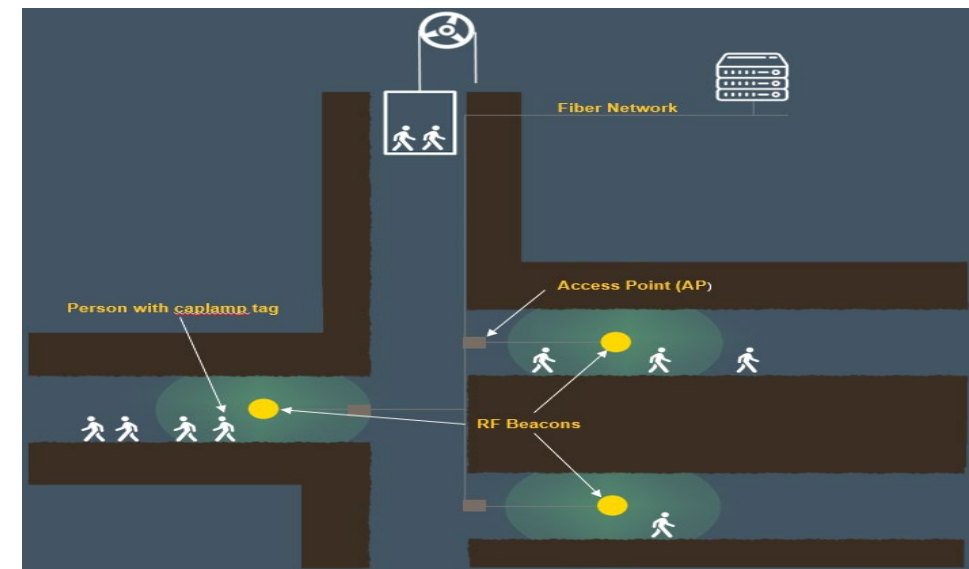
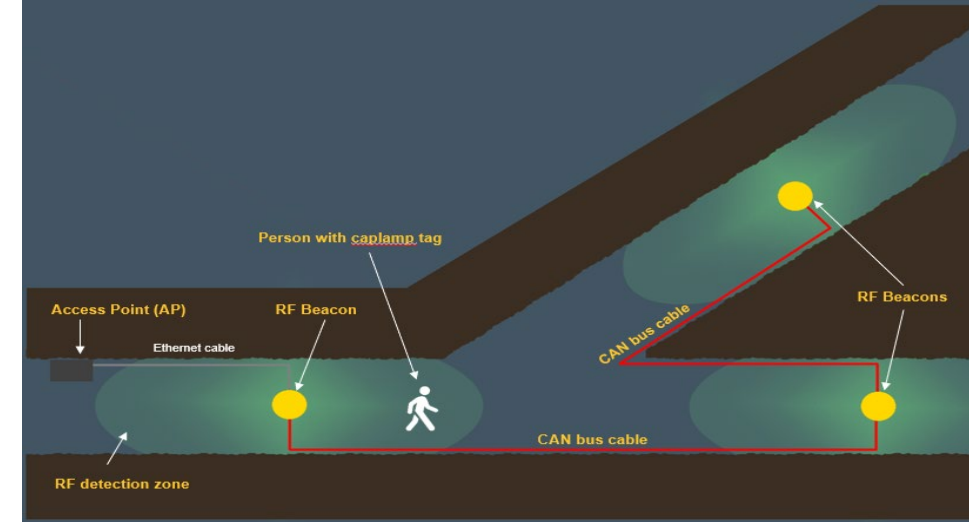


Recommended Technology on PGM Conventional Operations

High Level Network Lay-out Overview



- Fibre Optic Network To Be Installed From Surface To The Underground Workings.
- Network Panels To Be Installed At Strategic Way-points Underground Connected To The Fibre Optic Network.
- Rf Beacons To Be Connected To Ethernet Switches Inside The Network Panels.
- The Cap Lamp Tags Send A Signal To The Rf Beacons When Persons Pass The Way-points.
- The Rf Beacons Relay The Last Known Location Of Persons To The Surface Mine Map Platform Via The Fibre Network.





Zone Demarcation



Mine Preparedness Enhancement



Asset Tracking for Productivity & Safety



Vehicle Awareness
Operational Efficiency



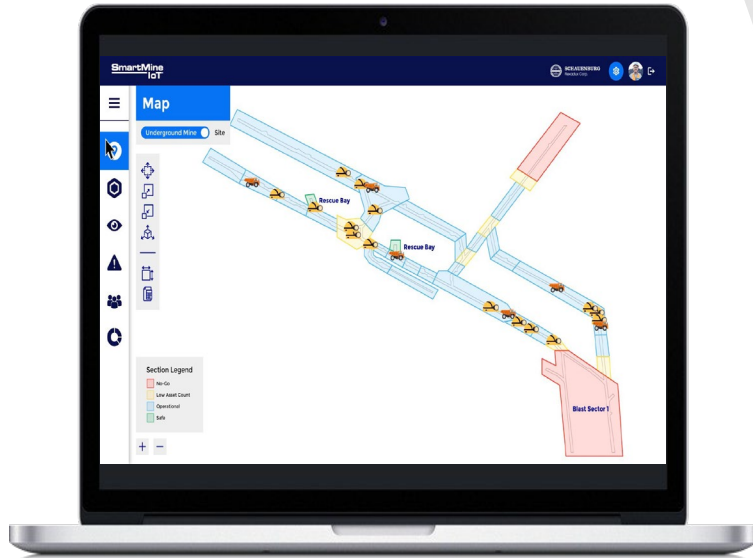
Traffic Management
Optimization



Record and Report



<Tracking anchors max 100m LOS>



RTWL Anchor



Accuracy: 1-4 m
(depending on LOS)

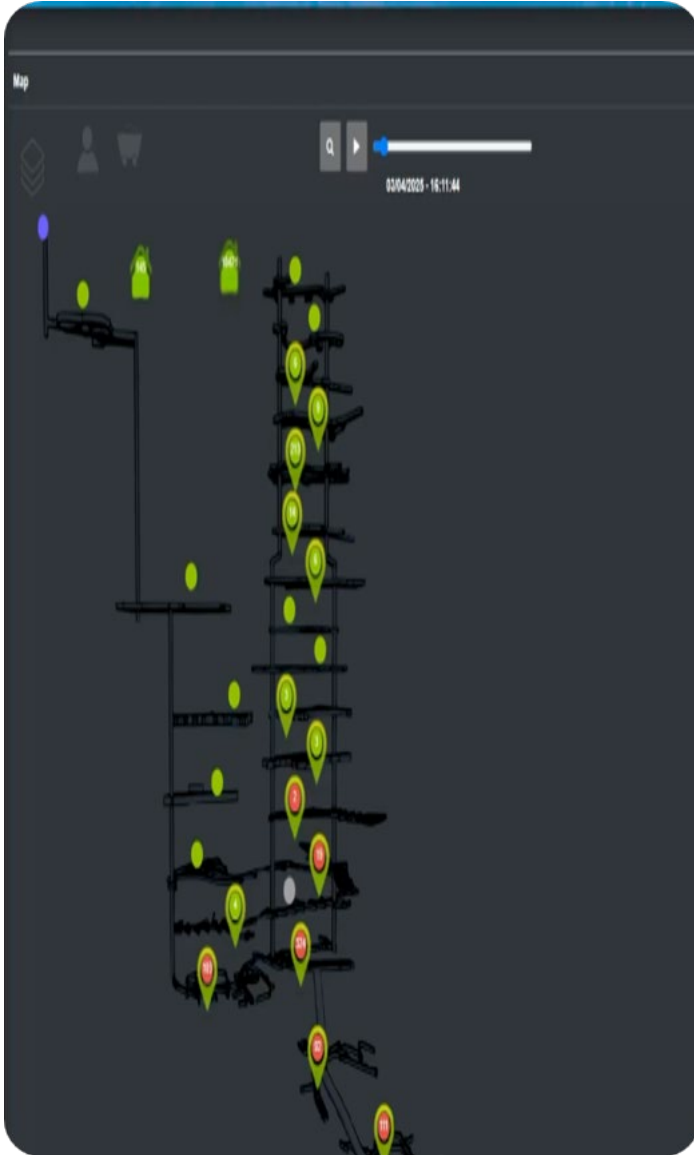
Recommended Technology on PGM Trackless Operations



Recommended Technology on Au



Missing Person Locating: Infrastructure and Capital

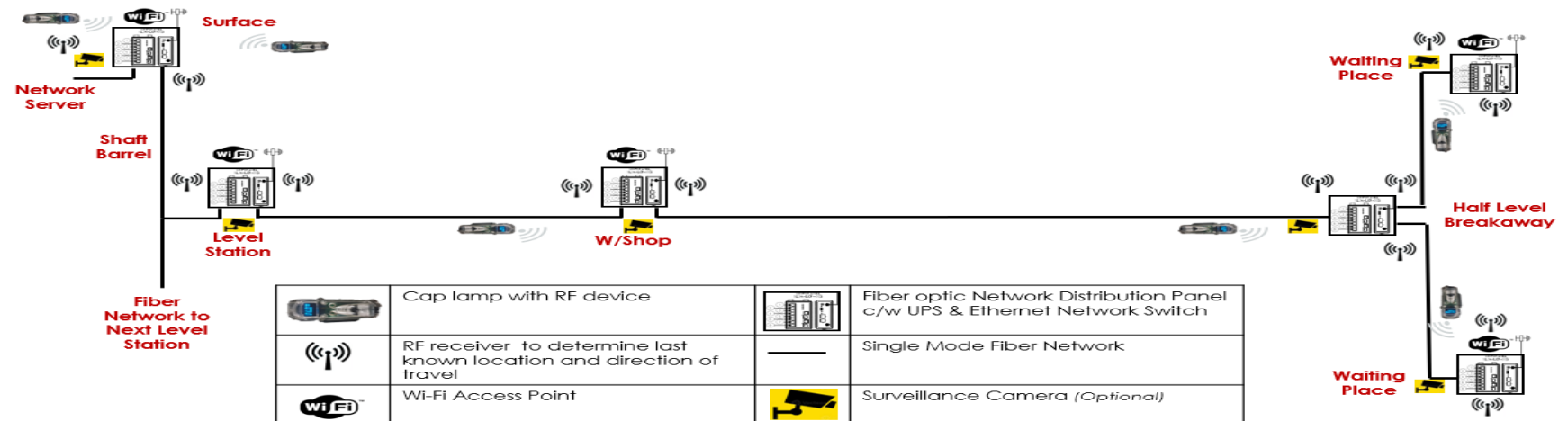


Hardware Requirements

Hardware	Units	Quantity
Fiber	Meters	818,223
Beacons	Units	2682
Lamps and Tags	Units	25578
Handheld devices	Units	26

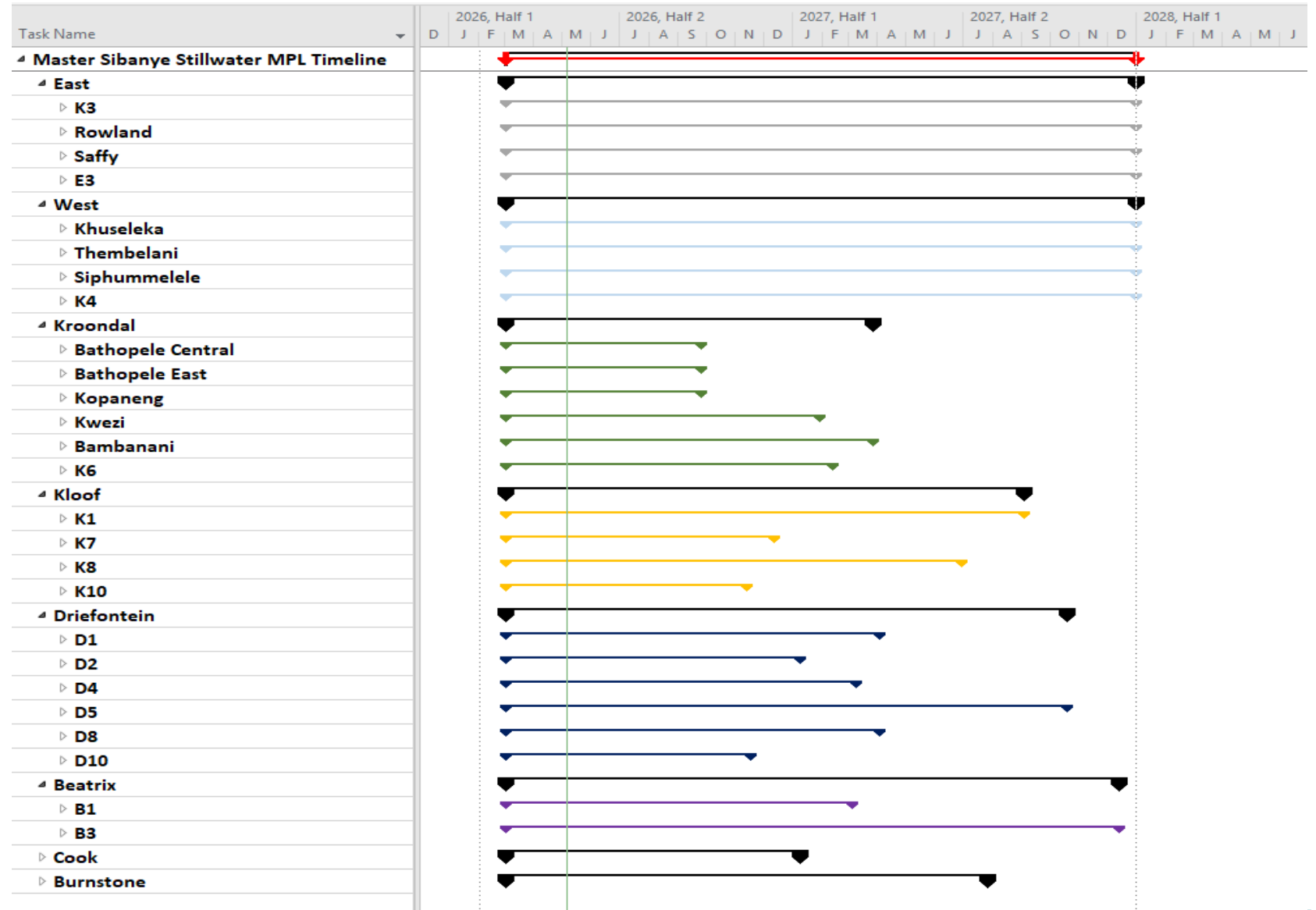
Costing Requirements

Operation	Cost R'm
Marikana	R220m
Rustenburg	R137m
Trackless	R268m



Preliminary Schedule (Lamps and Tags)

SSW LAMPROOM TAGS				
Operation	Shaft	Total lamps in use in Lamproom	Lamps recommended replacement	% replacement
Driefontein	Hlanganani	3 203	630	20%
	Khomanane	1 265	1 157	91%
	Masakhane	2 441	508	21%
	Pitseng	405	185	46%
	Yarona	2 663	2 348	88%
	SHAFT TOTAL		9 977	4 828
Kloof	Manyano	750	600	80%
	Masemthembe	1 666	820	49%
	Thuthukane	3 654	583	16%
	SHAFT TOTAL		6 070	2 003
Beatrix	Beatrix South	800	75	9%
	Beatrix North	5 200	350	7%
	SHAFT TOTAL		6 000	425
Marikana	K3	4 733	-	0%
	Rowland	3 624	-	0%
	Saffy	4 009	-	0%
	E3	1 533	-	0%
	SHAFT TOTAL		13 899	-
RPM	Khusaleka	3 764	-	0%
	Thembelani	3 589	-	0%
	Siphumulele	1 452	-	0%
	k4	2 107	-	0%
	SHAFT TOTAL		10 912	-
KDL	Kwezi	1 149	-	0%
	Bambanani	1 500	-	0%
	Kopaneng	1 482	-	0%
	Bathopele	2 170	-	0%
	K6	1 410	-	0%
	SHAFT TOTAL		7 711	-
MINE GROUP TOTAL		54 569	7 256	13%



1. Phase 1 (2026) :

1. Administrative controls (Gang cards, Registers)
2. All Lamps to be fitted with MPL tags
3. All Operations to have Handheld Devices on Shaft
4. Trained Personnel

2. Phase 2 (2028) :

1. Establishment of network throughout the mine
 - Network Cabling (Fibre, Copper, Coax etc.)
 - Power supplies
 - Switches
 - Surface Servers and Control

3. Guidance from DMPR

1. Operations with short LOM <1yr to 5 yrs
2. In the event of a system that goes off line or partial off
3. The is areas that is left open of interpretation

Potential Challenges

1. Installation

- Due the volume of hardware required to equip the footprint of the mine during operations will have two major effects risk and time

2. Availability and Price Sensitivity

- Availability of the required hardware due to industry pull
- As of May 2026, memory availability is critically constrained by an ongoing global shortage driven by AI infrastructure demand, causing high prices for DRAM and SSDs.

3. Financial Strain

- Appreciation that the systems comes at a high cost to the business and can hurt the operating cashflow
- Increased opex maintenance and upkeep conjunction of skill and resources

4. Reliability:

- It is still technology that will be installed in an underground environment that will stretch the technical capability
- Technology does fail from time to time