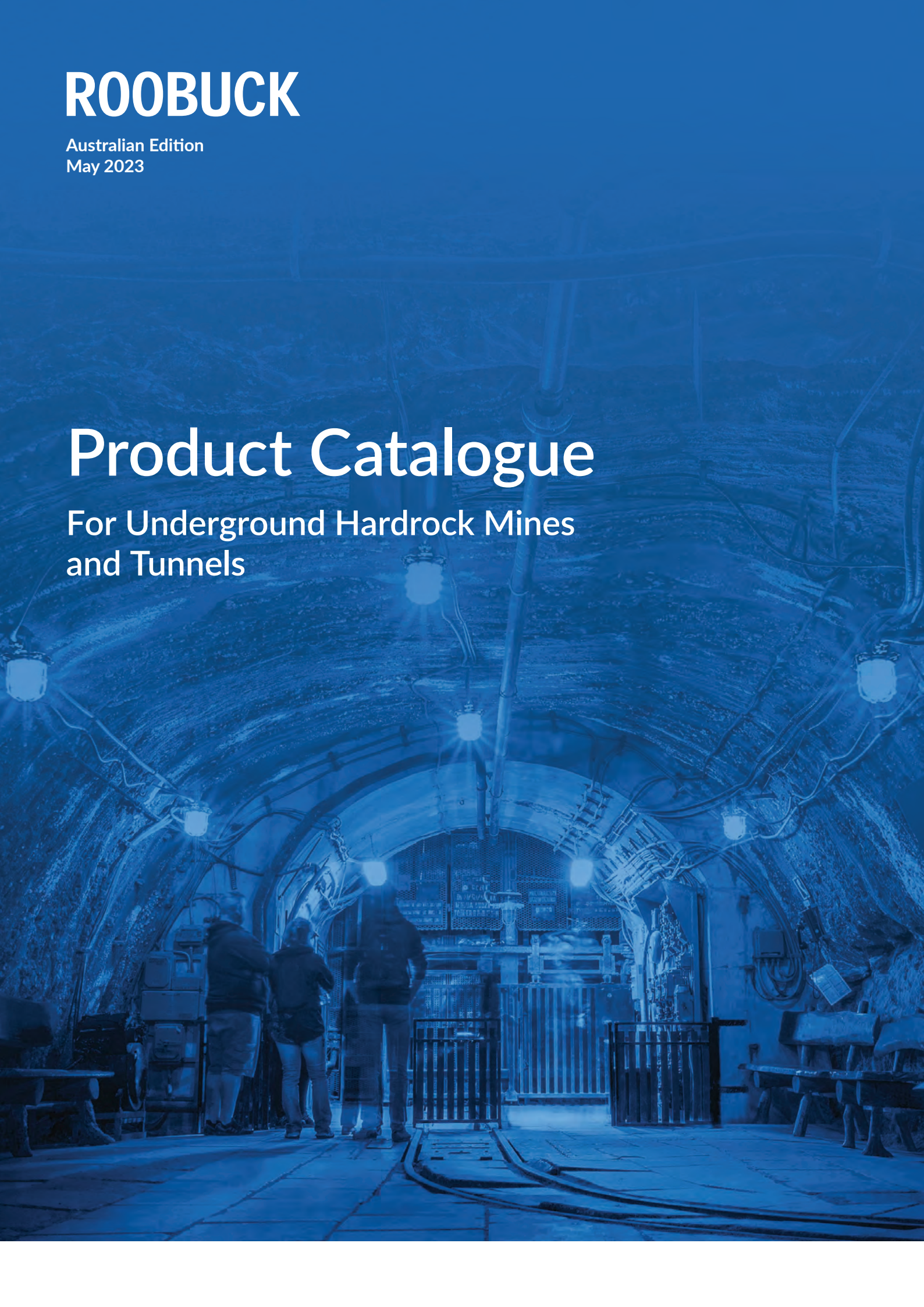


# ROOBUCK

Australian Edition  
May 2023

## Product Catalogue

For Underground Hardrock Mines  
and Tunnels



Roobuck is a leading provider of MineIoT Solutions, Mine Communication Equipment, Cap Lamps, Belt Tags, Safety Signal Lights, and other Explosion-proof Products.

## Accreditations

- Ex Certificates/Approvals: IECEx, MSHA, IA, CNEx
- Ex Quality Standards: ISO/IEC80079-34

## Key Offerings

### Cap Lamps

- Wide range of Intrinsically Safe cordless cap lamps
- Non-Ex cordless cap lamps
- IoT Cap Lamps for tracking and proximity, collision avoidance systems and other safety applications
- Non-Ex corded cap lamp

### Personal Safety Products

- Helmet beacons
- Hi-Vis LED vest
- LED Shoulder Brace

### Industrial Lights

- Runway lights for underground emergency/evacuation
- Intrinsically Safe Strip Lights

### System Products

Together with Technology Partners Roobuck supply:

- WiFi system for tracking, emergency, zone management and communications
- V2P Collision Avoidance System
- Digital Kiosk and Tag Board



## R&D Projects

Digital mine projects supported by Australian Federal Government and NSW State Government, universities and industries, including CRC-P, PSF and ARC Hub projects.

## Global Reach - Exports from Australia to:

- Oceania: New Zealand and Papua New Guinea
- Asia: Mongolia, Uzbekistan, Kazakhstan, UAE, Qatar, Saudi Arabia, Egypt, Indonesia and Singapore
- Africa: Ghana, South Africa, Zimbabwe
- Americas: USA, Canada, Peru, Chile, Colombia

We proudly supply:



IECEX Certified Cordless Cap Lamp: KH4E-Ex	5
Cordless Cap Lamp: RN3U	6
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Which Cordless Cap Lamp is best for my needs?

Questions - Do you need	KH4E-Ex	RN3U	KH2T-Ex	RN2T	KH2M-Ex	RN4E-*	RN4UB
An IoT Cap Lamp Solution?						✓	
An IECEX Certificate?	✓		✓		✓		
Bright light for underground operations?	✓	✓				✓	✓
Low cost product?			✓	✓	✓		
>15-20 hour duration		✓			✓		
Both focused & spread beam			✓	✓			
An angle adjustable cap lamp?	✓	✓			✓	✓	✓
The lightest Cap Lamp in our range?			✓	✓			
Cap Lamp with rear safety beacon?							✓

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## Cordless Cap Lamp

Performance series – for Underground Hardrock Mines, Tunnels and Petrochemical Environments

### Features



Three operating modes – Main, High Beam, Auxiliary



Adjustable beam angle to point wherever you look



Lightweight, comfortable and ergonomic



Tough GERMAN enclosure material to withstand rough handling



World's safest and most reliable Panasonic battery



Made from Top Brand, high quality components and parts



### Product Specifications



#### IP Rating - IP67

Submersible in water up to 1m for 30min



#### Illumination

6800 Lx Main Mode  
10000 Lx High-Beam Mode



#### Charging Time

9 h



#### Running Time

14 h Main Mode



#### Ambient Temperature

$-20^{\circ}\text{C} \leq T_a \leq 40^{\circ}\text{C}$



#### Weight

154 g



#### Certifications:

- Certificate #: IECEx TSA 19.0008
- Ex Marking: Ex ia op is IIB T3 Gb

#### Standard #:

- IEC 60079-0
- IEC 60079-11
- IEC 60079-28



## Cordless Cap Lamp

Performance series – for Mining and Industrial Applications without the need for Ex Certificate

### Features



Three operating modes – Main, High Beam, Auxiliary



Adjustable beam angle to point wherever you see



Lightweight, comfortable and ergonomic



Tough GERMANY enclosure material to withstand rough handling



Made from Top Brand, high quality components and parts



Rounded front housing for best impact resistance



### Product Specifications



#### IP Rating - IP67

Submersible in water up to 1m for 30min



#### Illumination

5000 Lx Main Mode  
8000 Lx High-Beam Mode



#### Charging Time

9 h



#### Running Time

16 h Main Mode



#### Weight

165 g



## Cordless Cap Lamp

**Multi-Function Series – with Rear Signalling Beacon for Underground Hardrock Mines and Tunnels**

### Features



Three operating modes – Main, High-Beam, Auxiliary



Adjustable beam angle to point wherever you look



Lightweight, comfortable and ergonomic



Tough GERMANY enclosure material to withstand rough handling



World's safest and most reliable Panasonic battery



Made from Top Brand, high quality components and parts



Rounded front housing for best impact resistance



### Beacon Features



World's only cap lamp with rear beacon for miner's protection



Three beacon modes - Steady, slow flashing, fast flashing



Green, Red, Blue, White & Amber



Beacon is replaceable

### Product Specifications



**IP Rating - IP67**  
Submersible in water up to 1m for 30min



**Illumination**  
6500 Lx Main Mode;  
8000 Lx High-Beam Mode



**Charging Time**  
9 h



**Running Time**  
13 h Main Mode



**Weight**  
201 g

# Chargers - KH4E-Ex, RN3U, RN4UB

## CB8E Charging Bank For 8 Cordless Cap Lamps



### Features

- Portable, Wall Mountable, Vehicle Installation
- Locking Plate is optional extra (CB8(E)-LPU)
- Lamp Charging Indicator
- Automatic over-load protection – cuts off that circuit when Cap Lamp battery is fully charged

### Specifications

Input	110 VAC or 12-24 VDC
Output	5.1 VDC/500 mA
Dimensions	33 x 21 x 5.5 cm
Weight	1.1 kg

## CB35E/CB53E - Charging Banks For 35/53 Cordless Cap Lamps

### Features

- Automatic over-load protection – cuts off the circuit when Cap Lamp battery is fully charged
- Label groove
- Padlock bracket
- Lamp Charging Indicator
- Charger Charging Indicator
- Includes wall mounting kit
- 2 x foot pads
- Circuits are easily accessible for servicing

### Specifications

Input	110 VAC	
Output	5.1 VDC/500 mA	
Dimensions	CB35E: 87 x 11 x 56 cm	CB53E: 84 x 13 x 110 cm
Weight	CB35E: 17 kg	CB53E: 31 kg



## Individual Chargers & Accessories

**MCE:** Single Mains Charger - AU, EU, UK, USA    **CBS:** Charging Bank Stand  
**UCE:** Single USB Charger





## Cordless Cap Lamp

Value series – for Petrochemicals, Surface Operations and Underground Hardrock Mines

### Features



Three operating modes – Standard Focus, High-Beam Focus, Spread



Thin design means Cap Lamp fits behind visor and allows it to go up and down



Lightweight, comfortable and ergonomic



Tough GERMAN enclosure material to withstand rough handling



World's safest and most reliable Panasonic battery



Made from Top Brand, high quality components and parts



Comes with free Angle Adjustable Bracket (RCB-A or RCB-U)



### Product Specifications



#### IP Rating - IP67

Submersible in water up to 1m for 30min



#### Illumination

2800 Lx Standard Focus  
5500 Lx High-Beam Focus



#### Charging Time

7 h



#### Running Time

13 h Standard Focus



#### Ambient Temperature

$-20^{\circ} \leq T_a \leq 40^{\circ}$



#### Weight

97 g



#### Certifications:

- Certificate #: IECEx TSA 19.0008
- Ex Marking: Ex ia op is IIB T3 Gb

#### Standard #:

- IEC 60079-0
- IEC 60079-11
- IEC 60079-28



## Cordless Cap Lamp

Value series – for Industrial and Mining Applications without the need for Ex Certificate

### Features



Three operating modes – Standard Focus, High-Beam Focus, Spread



Thin design works with most helmet visors



Lightweight, comfortable and ergonomic



Tough GERMAN enclosure material to withstand rough handling



World's safest and most reliable Panasonic battery



Made from Top Brand, high quality components and parts



Comes with free Angle Adjustable Bracket (RCB-A or RCB-U)



### Product Specifications



#### IP Rating - IP67

Submersible in water up to 1m for 30min



#### Illumination

2800 Lx Standard Focus  
5500 Lx High-Beam Focus



#### Charging Time

7 h



#### Running Time

13 h Standard Focus



#### Weight

97 g



# Chargers - KH2T-Ex, RN2T ROOBUCK

## CB8T Charging Bank For 8 Cordless Cap Lamps



### Features

- Portable, Wall Mountable
- Lamp Charging Indicator
- Automatic over-load protection – cuts off that circuit when Cap Lamp battery is fully charged

### Specifications

Input	240 VAC
Output	5.1 VDC/500 mA
Dimensions	33.4 x 18.2 x 6.6 cm
Weight	860 g

## CB28T Charging Bank For 28 Cordless Cap Lamps

### Features

- Wall Mountable
- Optional - Locking Bar
- Lamp Charging Indicator
- Automatic over-load protection – cuts off that circuit when Cap Lamp battery is fully charged
- Space to attach identification label

### Specifications

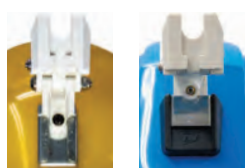
Input	240 VAC
Output	5.1 VDC/500 mA
Dimensions	84 x 60 x 11.5 cm
Weight	9 kg



## Individual Chargers & Accessories



UCT: Single USB Charger



RCB-A

RCB-U

RCB-A/U: Angle Adjustable Brackets

RCB-A slides between the sides of the helmet bracket whereas RCB-U slides between the front & back of the helmet bracket.

## Cordless Cap Lamp

Value series – for Petrochemicals, Surface Operations and Underground Hardrock Mines

### Features



Two operating modes – Main, Low



Well distributed light pattern



Adjustable beam angle to point wherever you look



Lightweight, comfortable and ergonomic



Made from Top Brand, high quality components and parts



### Product Specifications



#### IP Rating - IP67

Submersible in water up to 1m for 30min



#### Illumination

2000 Lx Main Mode



#### Charging Time

7 h



#### Running Time

20 h Main Mode



#### Ambient Temperature

$-20^{\circ}\text{C} \leq T_a \leq 40^{\circ}\text{C}$



#### Weight

119 g



#### Certifications:

- Certificate #: IECEx TSA 19.0008
- Ex Marking: Ex ia op is IIB T3 Gb

#### Standard #:

- IEC 60079-0
- IEC 60079-11
- IEC 60079-35-1



## CB8 Charging Bank For 8 Cordless Cap Lamps



### Features

- Portable, Wall Mountable, Vehicle Installation
- Locking Plate is optional extra (CB8(E)-LPU)
- Cap Charging Indicator
- Automatic over-load protection – cuts off the circuit when Cap Lamp battery is fully charged

### Specifications

Input	240 VAC or 12-24 VDC
Output	5.1 VDC/500 mA
Dimensions	33 x 21 x 6 cm
Weight	1 kg

## CB35/CB53 - Charging Banks For 35/53 Cordless Cap Lamps

### Features

- Automatic over-load protection – cuts off the circuit when Cap Lamp battery is fully charged
- Label groove
- Padlock bracket
- Lamp Charging Indicator
- Charger Charging Indicator
- Includes wall mounting kit

### Specifications

Input	240 VAC	
Output	5.1 VDC/500 mA	
Dimensions	CB35: 87 x 11 x 56 cm	CB53: 84 x 13 x 110 cm
Weight	CB35: 16 kg	CB53: 31 kg



## Individual Chargers & Accessories

**MC:** Single Mains Charger - AU, EU, UK, USA

**VC:** Single Car Charger – Cigarette Lighter

## Corded Cap Lamp

For Underground Hardrock Mines and Tunnels

### Features



The brightest cap lamp we sell



Comes with free Angle Adjustable Bracket (RCB-A or RCB-U)



Impact resistant design & material



Two operating modes - Main, Auxiliary



Push button on/off switch



Made from Top Brand, high quality components and parts



### Product Specifications



#### IP Rating - IP68

Submersible in water up to 1.5m for 30min



#### Illumination

16000 Lx Main Mode



#### Charging Time

10 h



#### Running Time

15 h Main Mode



#### Weight

600 g

## CR32 / CR60 / CR102 Charging Banks For 32, 60 or 102 Corded Cap Lamps

### Features

- Purpose designed for standard Cabled Cap Lamps with a Li-ion battery
- Red/Green indicator light for each charging port
- Automatic over-load protection – cuts off the circuit when Cap Lamp battery is fully charged

### Specifications

#### CR32

Input	240 VAC
Output	4.2 VDC / 1.5 A
Dimensions	109 x 45 x 119 cm
Net Weight	64 kg

#### CR60

Input	240 VAC
Output	4.2 VDC / 1.5 A
Dimensions	125 x 40 x 180 cm
Net Weight	114 kg

#### CR102

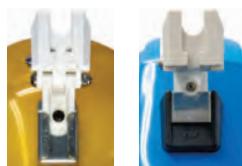
Input	240 VAC
Output	4.2 VDC / 1.5 A
Dimensions	202 x 40 x 180 cm
Net Weight	174 kg



## Individual Chargers & Accessories



**MCE:** Single Mains Charger  
AU, EU, UK, USA



**RCB-A**      **RCB-U**

**RCB-A/U:** Angle Adjustable Brackets

RCB-A slides between the sides of the helmet bracket whereas RCB-U slides between the front & back of the helmet bracket.

## RRS: Rubber Ring Sheath

Miners now have the option to shroud their Performance Series Cap Lamp with a cost effective, coloured rubber ring, with seven colours to choose from.

It can protect the cap lamp when dropped, bumped or from dripping water. The colour can also be used for group identification of the miners.



## ML: Mining Lanyard

Designed to connect Cordless Cap Lamp to the rear of a Miner's helmet or to the Miner's clothing.

## HS: Head Strap

Anchor your Cap Lamp to your hard hat if it doesn't have a mounting bracket. Uses 4 brim clips.



RCB-A



RCB-U

## RCB: Angle Adjustable Cap Lamp Bracket

Roobuck's patented Cap Lamp Bracket transforms a fixed Cap Lamp into a flexible one. Comes in two versions RCB-A and RCB-U.

RCB-A slides between the sides of the helmet bracket whereas RCB-U slides between the front & back of the helmet bracket.

## TG57: Miner's Hard Hat

Strong but lightweight A.B.S construction for durability and robustness with a rolled gutter around the brim for water control.

Features adjustable 6-point web harness with universal slots to accept 25~30mm insert attachments.

White hard hat is in stock but colour options are available upon request.





## Helmet Beacon Light For Underground Hardrock Mines and Tunnels

### Features



Green, Red, Blue, White & Amber



Low running cost



Easily attached to helmet



Fully sealed for the best ingress protection



Replaceable coin battery



### Product Specifications



#### IP Rating - IP65

Dustproof and direct spray proof



#### Operating Mode

Steady, Flash, Blink



#### Running Time

200 h in Flashing Mode



#### Weight

45 g







## Intrinsically Safe Strip Light for Area Illumination For Underground Coal Mines, Petrochemical Environments and Underground Hardrock Mines


The RIS12\*-Ex strip light is Intrinsically Safe and designed for area illumination in underground coal mines, petrochemical environments and underground hardrock mines. It is easy to mount and can be attached to machinery, walls or other objects. It is lightweight and can be carried if you need portable illumination.

It is powered by an external 12VDC I.S. power supply. There is a 2-wire lead at an end of the strip light to connect to a junction box or I.S. power supply directly.




Feature	RIS12S-Ex	RIS12M-Ex	RIS12L-Ex	Installation Accessories
 Power	1.4 W	2.8 W	4.2 W	<ul style="list-style-type: none"> <li>• Clips for wall mounting</li> <li>• Tags</li> <li>• Sticky tabs</li> <li>• Brackets</li> </ul> All models come with 1 metre of cable to connect into your intrinsically safe power supply
 Number of LEDs	42	84	126	
 Length of Light	0.8 m	1.5 m	2.2 m	
 Weight	200 g	300 g	400 g	

### Product Specifications



**IP Rating - IP65**  
Dustproof and direct spray proof



**Ambient Temperature**  
-20~40 degrees

- Certifications:**
- Certificate #: IECEx TSA 22.0010
  - Ex Marking: Ex ia op is I Ma or Ex ia op is IIB T4 Gb

- Standard #:**
- ICE 60079-0 :2017
  - IEC 60079-11 :2011
  - IEC60079:28:2015



## Runway Light

### For Underground Hardrock Mines and Tunnels

A Runway Light is powered by an external 12VDC Power supply. There are 2-wire lead at an end of the strip light to connect to a junction box or I.S. power supply directly. LEDs can be steady or flashing in sequence to generate a flowing effect to show a direction.

#### Features



Direction identification



Fire-resistant



High ingress protection



Easy to install



#### Product Specifications



##### IP Rating - IP65

Dustproof and direct spray proof



##### Power Supply

12 VDC



##### Power

20 W



##### Length

20 m



##### LED Colour

Red or Green



##### Ambient Temperature

$-20^{\circ}\text{C} \leq T_a \leq 40^{\circ}\text{C}$

#### Models

- Steady Style: RSS12SR1
- Flashing Style: RSS12FR1

Default colour is red. Other colours are optional

## Intrinsically Safe Battery Powered LED Strip Light

### For Petrochemical Environments

This strip light is a chain of several LED Soft Bars. There are different types of LED Soft Bars with different numbers of LEDs. A LED Soft Bar is consisting of a FPCB fully sealed in a transparent shrink tube. All LED Soft Bars are connected using cables, connectors and jointing boards to form a complete Battery Strip Light. The Battery Box connects to the LED strip chain either directly or through a connector to supply power.

#### Applications

- LED Workwear design
- Portable safety product design
- Sign enhancement
- Equipment visualisation
- Site safety

#### Features



Zone 0 environment

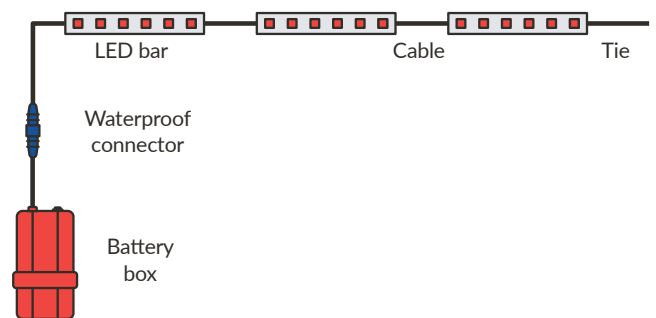


Flexible construction



Portable and stationary

Indoor or outdoor use



This product is certified with great flexibility and is made to the customers requirements. Everything can be customised, including:

- the amount of LED bars and their positions,
- the amount of LEDs in each bar, and
- the length of each cable.

Default LED color: Red, other colours optional  
Batteries: 2xAA

Other LED colours and 3AH rechargeable Lithium battery are available, subject to price variations and extended delivery times.

Running time (T) is decided by the total number of LEDs (N) and operating mode. T in hours in steady mode can be estimated using the following formula. In a flashing mode, T is doubled.

$$T = 300/N \leq 16$$

#### Attention: Product Developers

This Strip Light is an OEM product. You are welcome to use it to design your own intrinsically safe products with our engineering support.

#### Certifications:

- Certificate #: IECEx TSA 22.0007X
- Ex Marking: Ex ia op is I Ma / Ex ia op is IIB T3 Ga

#### Standard #:

- ICE 60079-0:2017
- IEC 60079-11:2011
- IEC 60079-28:2015



### Product Specifications



#### IP Rating - IP65

Dustproof and direct spray proof



#### Operating Mode

Steady, Slow Flashing,  
Fast Flashing



#### Ambient Temperature

$-20^{\circ} \leq T_a \leq 40^{\circ}$



#### Weight

90 g - battery box

## IoT Cordless Cap Lamp










The IoT cordless cap lamps come with the technology you require to work with the application used in your underground mining solution. The model number depends on the technology you require. The \* will be replaced with the following letters:

- |          |   |          |  |
|----------|---|----------|--|
| <b>W</b> | WiFi (2.4GHz) for Tracking, Emergency & Duress Call                     | <b>D</b> | DSRC (802.11p) for Collision Avoidance |
| <b>L</b> | LTE (Cat M1) for Tracking, Emergency & Duress Call                      | <b>P</b> | Proprietary 3rd party Wireless Tags    |
| <b>B</b> | BLE for location IDs, asset locationing, light control, sensor data log | <b>O</b> | LoRa to be released soon               |
| <b>U</b> | UWB for collision avoidance   |          |  |

Please note that LTE, DSRC and Proprietary Wireless Tags cannot exist in the same cap lamp

Not all Models are currently available. Some are under development. Please contact Roobuck for details

### Features

-  Three operating modes - Main, High-Beam, Auxiliary
-  Adjustable beam angle to point wherever you look
-  Lightweight, comfortable and ergonomic
-  Tough GERMAN enclosure material to withstand rough handling
-  World's safest and most reliable Panasonic battery
-  Made from Top Brand, high quality components and parts
-  UHF 860 - 960 MHz with longer range than NFC can be integrated into tracking & entry control systems
-  13.56 MHz for use with your Kiosk, Tag Board and Inventory solutions
-  IMU for capturing movement data for your AI and man-down solutions



### Product Specifications



**Illumination**  
5000 Lx Main Mode;  
8000 Lx High-Beam Mode



**Running Time**  
14 h Main Mode  
WiFi+BLE Model



**Charging Time**  
9 h



**Weight**  
160 - 180 g



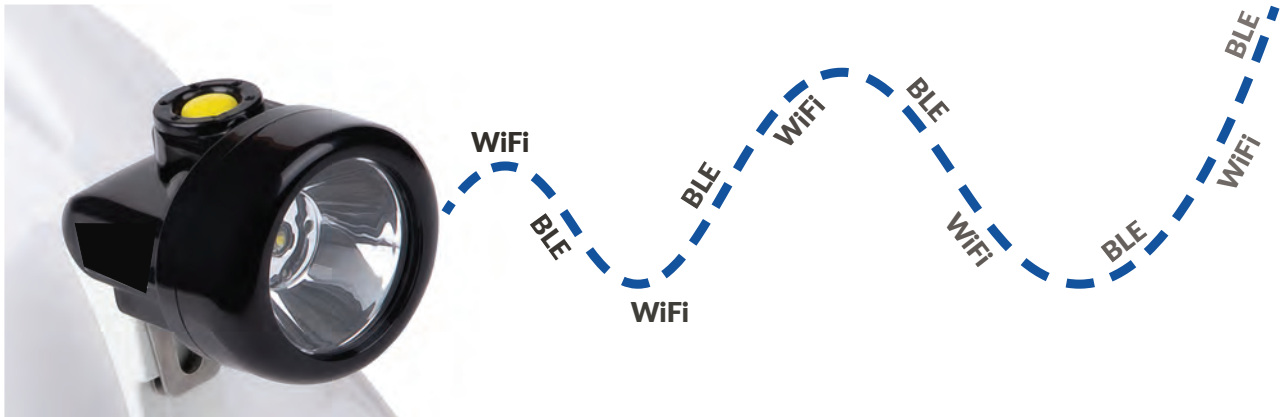
**IP Rating - IP67**  
Submersible in water  
up to 1m for 30min

Charging Banks for 8/53 Cap Lamps

## IoT Cordless WiFi/BLE Cap Lamp

The IoT cordless WiFi/BLE cap lamp is designed to complement your Digital Mine Solutions in Underground Hardrock mines. It come with:

- WiFi (2.4GHz) for Tracking, Emergency & Duress Calls
- BLE for location IDs, asset locationing, light control, sensor data log



This Model is currently under commercaill trials

### Technical Features



WiFi 802.11 b/g/n



Bluetooth V4.2, BLE



UHF 860 - 960 MHz with longer range than NFC can be integrated into tracking & entry control systems



13.56 MHz for use with your Kiosk, Tag Board and Inventory solutions



IMU for capturing movement data for your AI and man-down solutions

### Product Specifications



**IP Rating - IP67**

Submersible in water up to 1m for 30min



**Illumination**

5000 Lx Main Mode  
8000 Lx High-Beam Mode



**Charging Time**

9 h



**Running Time**

14 h Main Mode



**Weight**

160 g

### Cap Lamp Features



Three operating modes – Main, High-Beam, Auxiliary



Adjustable beam angle to point wherever you look



Lightweight, comfortable and ergonomic



Tough GERMAN enclosure material to withstand rough handling



World's safest and most reliable Panasonic battery



Made from Top Brand, high quality components and parts

### Integration Specifications

MQTT Compatible

JSON based API Available

Flash Frequency Configurable

Charging Banks for 8/35/53 Cap Lamps

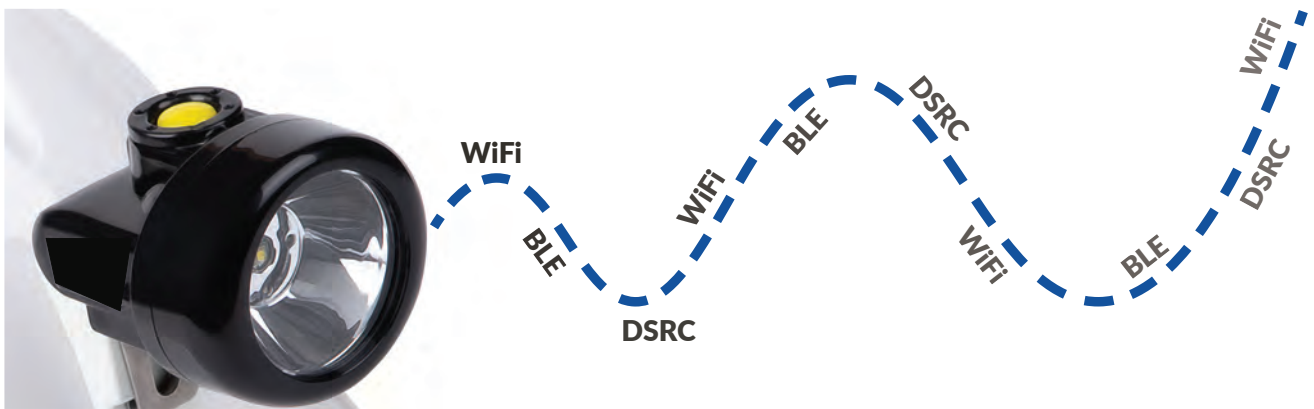
## IoT Cordless DSRC Cap Lamp

The IoT cordless DSRC cap lamp is designed to complement your Digital Mine Solutions in Underground Hardrock mines. Featuring:

- WiFi (2.4GHz) for Tracking, Emergency & Duress Calls
- BLE for location IDs, asset locating, light control, sensor data log
- DSRC for Collision Avoidance Solutions

Moving vehicles can detect personnel wearing DSRC cap lamps. This early warning system prevents accidents and potentially saves lives and prevents downtime.

RN4E-WBD cordless cap lamps use Codha Wireless V2X technology and are compatible with Maptek™ VisionV2X.



This Model is currently under development. Please contact Roobuck for details

### Cap Lamp Features



Three operating modes – Main, High-Beam, Auxiliary



Adjustable beam angle to point wherever you look



Lightweight, comfortable and ergonomic



Tough GERMAN enclosure material to withstand rough handling



World's safest and most reliable Panasonic battery



Made from Top Brand, high quality components and parts

### Technical Features



DSRC 802.11p standard compatible



WiFi 802.11 b/g/n



Bluetooth V4.2, BLE



UHF 860 - 960 MHz with longer range than NFC can be integrated into tracking & entry control systems



13.56 MHz for use with your Kiosk, Tag Board and Inventory solutions



IMU for capturing movement data for your AI and man-down solutions

### Product Specifications



**Charging Time**  
9 h



**Weight**  
165 g



**IP Rating - IP67**  
Submersible in water  
up to 1m for 30min

**Charging Banks for 8/35/53 Cap Lamps**

## Rechargeable Belt Tag with WiFi & BLE




The Belt Tag is especially suitable for underground hardrock mines and tunnels. It integrates WiFi, BLE, RFID and NFC capability in a single wearable device. It features a user interface for miner activities, such as relaying emergency alerts, localisation information, light control, text messaging and a digital clock.

The Belt Tag easily attaches to a belt. It can be assigned to personnel which can be integrated into a PPE Kiosk Solution. For seamless maintenance, the Belt Tag fits into the same Roobuck charging banks and single chargers as used with our premium underground cordless cap lamps.

### Belt Tag Features

-  Easy to carry and charge
-  No charging socket to ensure best ingress protection
-  Utilises the same Charging Bank Infrastructure as Roobuck Cap Lamps
-  World's safest and most reliable Panasonic battery
-  Manufactured to quality management standard ISO/IEC 80079-34

### Technology

-  WiFi 802.11 b/g/n
-  Bluetooth V4.2, BLE
-  Compatible with your choice of Enterprise Tracking software or integrate into your own solution



This Model is currently under development. Please contact Roobuck for details

### Product Specifications



**Battery Capacity**  
6 AH



**Charging Time**  
6 AH -10 h



**Weight**  
160 g



**Dimensions**  
79 x 63 x 52 mm

Single Chargers and Charging Banks for 8/35/53 Belt Tags



## Applications and options

### Main Applications

- WiFi: Location for personnel tracking & device management
- BLE: Location and object identification & device management
- Internal RFID and NFC tags for kiosk management, personnel sign in/out, registration and access control.

### User Facilities

#### Push Button for navigating user interface

- Emergency alert
- Messaging - send, receive & message log
- Configurations
- Time
- Battery Life

#### Display

- Type: OLED
- Size: 0.96 inch / 2.44 cm
- Colour: White text on black background
- Pixels: 128 x 64

#### Alerts

- Warning/illumination Light - 2 LEDs in various directions plus frosted transparent cover
- Audio Buzzer
- Vibration Alert

#### Attachment

- Belt Slot



## System Software - RIoT

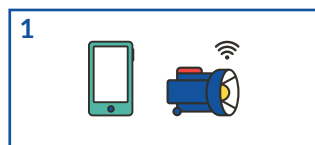
Roobuck's Device Management Software Platform or RIoT System can be run as a VM docker container offering a complete onsite operations based solution

### Key RIoT Capabilities

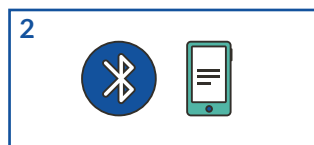
- OTA Firmware updates
- Upstream and Downstream Emergency Alerts with historical data of communication logs
- User - Device Allocation and management
- Configurations: Network, Lighting, Operations
- Two-way signalling, including individual paging with historical data of communication logs
- Tracking Integration via MQTT to external platforms



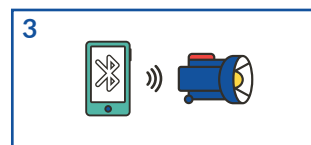
### Mobile Configuration Features



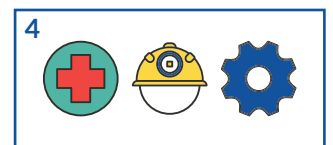
1  
A device's internal NFC tag is scanned using an Android device.



2  
The BLE MAC address and serial number is read from the tag and displayed on the device.



3  
By using BLE, new WiFi and MQTT credentials and settings can be set on the device.

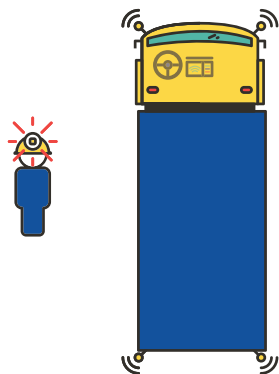


4  
Device health checks and user registration details can be retrieved from central database via MQTT. Current device configurations can be read via BLE.

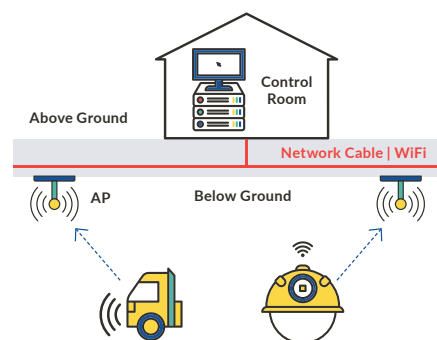
## Solutions

Roobuck offers comprehensive hardware and supporting software to assist you to implement a custom PPE and/or IoT solution integration to use with the IoT Cordless Cap Lamp. Solutions include:

### V2P Collision Avoidance System



### Tracking System



# IoT Device Charging Options **ROOBUCK**

## CB53X/CB35X - Charging Bank For 53/35 IoT Cap Lamps, Belt Tags and Portable Tags

### Features

- Automatic over-load protection – cuts off the circuit when Cap Lamp battery is fully charged
- Label groove
- Padlock bracket
- Lamp Charging Indicator
- Charger Charging Indicator
- Includes wall mounting kit
- 2 x foot pads
- Circuits are easily accessible for servicing

### Specifications

Input	240 VAC
Output	5.1 VDC/750 mA
Dimensions	CB53X: 84 x 13 x 110 cm    CB35X: 87 x 11 x 56 cm
Weight	CB53X: 31 kg                      CB35X: 17 kg



## CB8X - Charging Bank For 8 IoT Cap Lamps, Belt Tags and Portable Tags



### Features

- Portable, Wall Mountable, Vehicle Installation
- Locking Plate is optional extra (CB8X-LPU)
- Lamp Charging Indicator
- Automatic over-load protection – cuts off the circuit when Cap Lamp battery is fully charged

### Specifications

Input	240 VAC or 12-24 VDC
Output	5.1 VDC/750 mA
Dimensions	33 x 21 x 5.5 cm
Weight	1.1 kg

## Individual Chargers & Accessories

**MCX:** Single Mains Charger - EU, UK, AU, USA    **CBS:** Charging Bank Stand  
**UCX:** Single USB Charger

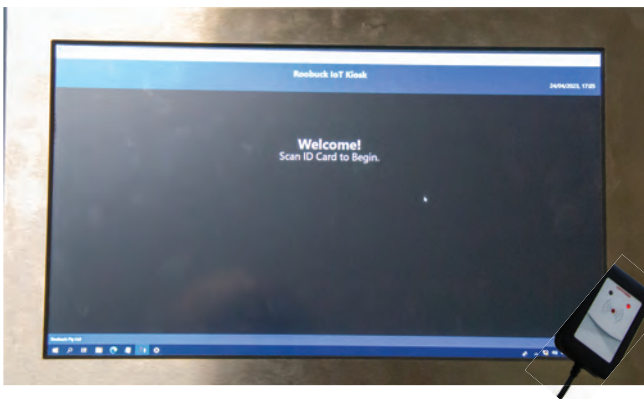


## Location, Safety & Asset Management Miner and Cap Lamp registration, shift sign-in/sign-out, miner Cap Lamp pairing and inventory record

The Digital Kiosk and Tag Board form a comprehensible solution to record:

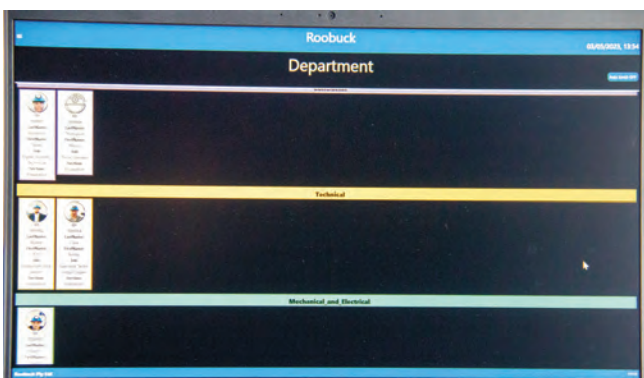
- Who is tagged in
- What Section of the mine they are working
- Which Kiosk they used to sign in
- What Department they are assigned to
- What devices are assigned to the person. Examples are cap lamp, self-rescuers, belt tags, gas monitors
- Nearest AP to identify personnel's location. This feature is only available if using Roobuck's IoT Cap Lamps or Belt Tags

### Digital Kiosk



- Touch Screen for easy use
- Rugged for use in harsh conditions
- Multiple kiosks located at all entry and exit points
- Works with both IoT devices and equipment with NFC tags attached
- Miners sign on using NFC enabled ID card
- Miners scan all NFC and IoT devices and pair with their name
- Data can be exported for analysis and productivity reporting.

### Electronic Tag Board



- Electronic Tag Boards have multiple views of all personnel tagged in. Personnel and their associated assets can be viewed by Section, Department, Kiosk and nearest AP location
- Multiple large screens strategically located underground can be viewed by all personnel
- Operational Supervisors & Safety Managers can access views on their PC screens
- Locations with time stamps updated on Electronic Tag Board for users paired with IoT devices
- Search for personnel and their associated information

The Digital Kiosk can be integrated into your preferred PPE solution upon request.

**This project is ready for pre-commercial trials. Please contact Roobuck for details.**

## The next level for underground mines

Wireless products integrated to your preferred tracking system  
Specifically designed for Underground Hardrock Mines

### System Parts



**Infrastructure:**  
WiFi or LTE networks available in mines



**System Software:** Supplied by your preferred solutions partner to integrate with Roobuck IoT tracking devices



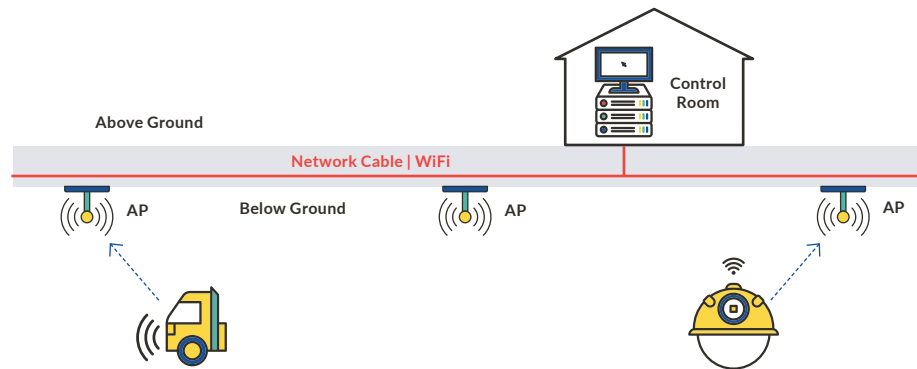
**Tracking tags and supporting software:**  
Supplied by Roobuck



### WiFi Tracking

Every WiFi Tag also has BLE (Bluetooth Low Energy).

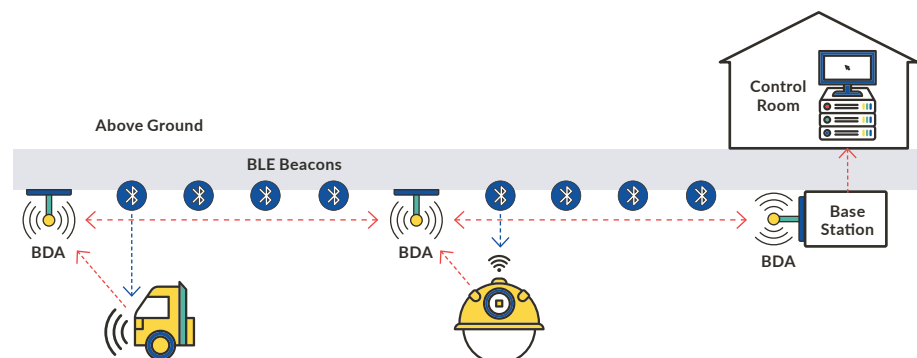
AP (Access Points) must be installed to achieve 100% coverage, typically 100m between two APs, or to cover areas where tracking is required. The nearest AP and signal strength determine the Tag location.



### LTE Tracking

Every LTE Tag also includes WiFi/BLE as supplementary.

Tags communicate with a Base Station through BDAs (Bi-Directional Amplifiers), typically 300m between two BDAs. A Tag receives the ID from the nearest Beacon then sends it to nearby BDAs.



## RloTC - Device Management Software

Roobuck's Device Management Software Platform or RloTC is a platform for managing Roobuck IoT Devices. It runs in a VM container hosted by the operator. This platform can perform the following functions:

1. Configuration of Roobuck IoT devices.
2. Device configuration and firmware updates via the OTA (Over-The-Air) Update Engine.
3. Real-time device monitoring.
4. Two-way signalling between management platform and devices.



A web based dashboard

## Additional Applications

Once the tracking system is in place, various applications can be enabled

### Emergency Management

**Sending Duress Calls:** Send duress calls to the RloTC by holding the PUSH button for 5 seconds.

**Receiving Duress Calls:** A pop-up alert will appear on the RloTC screen:

1. Respond to the emergency as per mine site policy.
2. Click the Acknowledge button to acknowledge the duress call.
3. RloTC will send a signal back to the device acknowledging the duress call.
4. The device will slow flash 3 times to inform the device user that the RloTC user has acknowledged their duress call.
5. A second pop-up alert will appear on RloTC giving the RloTC user two options: Alert All Devices or Cancel Alert



### Capabilities provided by our solution partners

- Provide situational awareness
- Advanced warning to miners using cap lamp flash signaling of vehicle coming towards them
- Big data analytics to help mines model and organise human behaviour to better manage risk
- Control room Operator visibility of situations to take remote action
- Provide miners and mine truck drivers a picture of what is going on around them
- Accident prevention that potentially saves lives and prevents downtime

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## Other Australian Catalogues

Product Catalogue for Underground  
Coal Mines

Product Catalogue for Surface Operations  
and Industrial Applications

Product Catalogue IECEx Group II for  
Petrochemical Environments

We proudly supply:

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