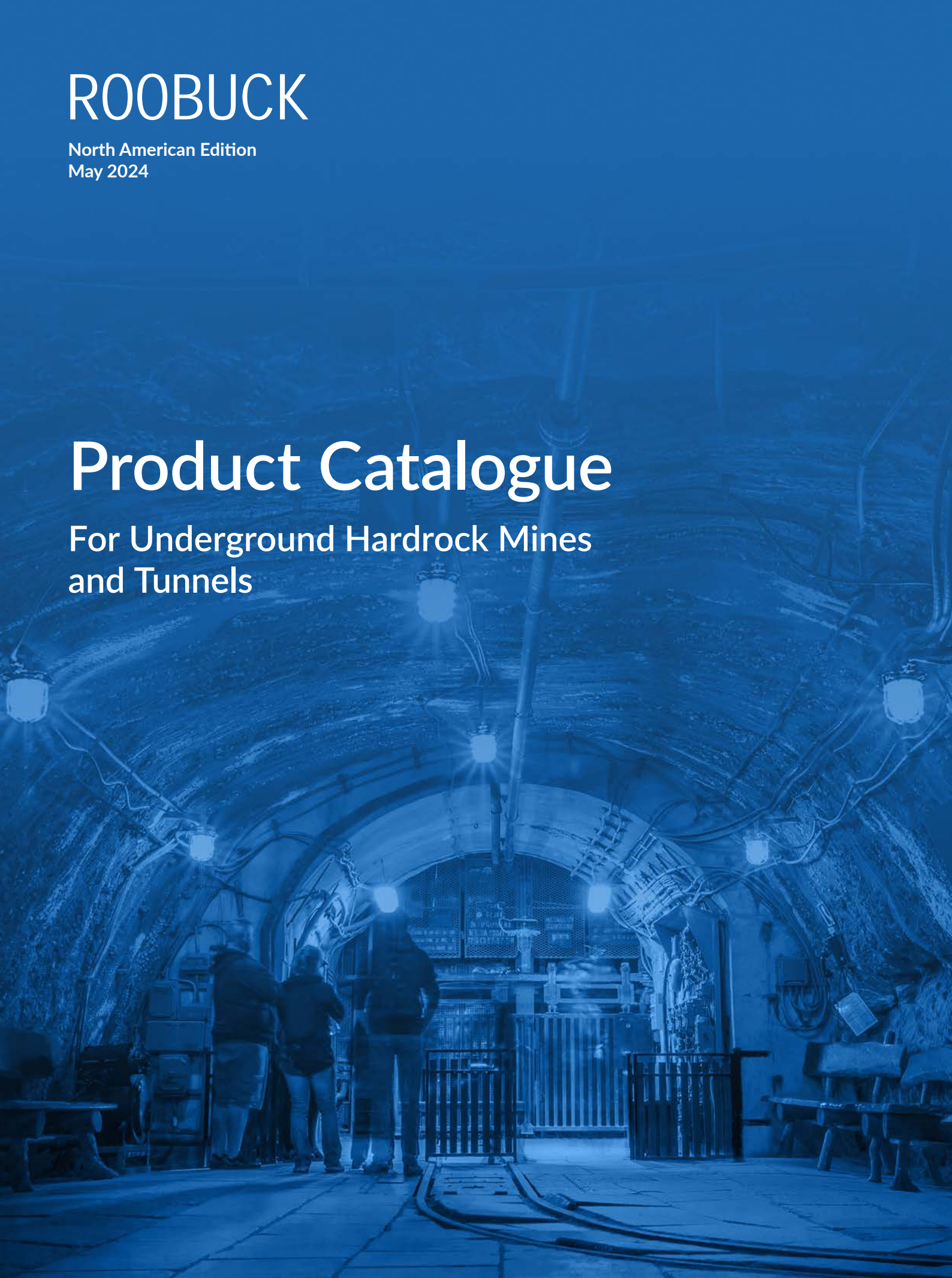


# ROOBUCK

North American Edition  
May 2024

## Product Catalogue

For Underground Hardrock Mines  
and Tunnels



Roobuck is a leading provider of MineloT Solutions and Devices, Cap Lamps, Safety Lights, and other Explosion-proof Products

## Accreditations

Subject to market and regional requirements, products can comply to:

- Ex Certificates/Approvals: IECEx, MSHA, IA, CNEx
- Ex Quality Standards: ISO/IEC80079-34
- Certification & Compliance Marks: FCC, CE, RCM

## Mining IoT Solutions

- Personnel, Vehicle, Asset Tracking and Emergency/Evacuation.
- IoT Device/Data Management with Solution Customisation.
- Personnel Sign-In, Sign-Out and/or Assignment of Assets.
- Collision Avoidance and Proximity Detection Systems using a variety of Technologies including DSRC and UWB.
- Intrinsically Safe versions are available using IECEx Certification.

## Products

- **Wireless devices** - Long-Range WiFi Access Point, Cap Lamps, Belt Tags, Badge Tags and Vehicle Tags utilising various wireless technologies including WiFi, BLE, LTE, DSRC, UWB, LoRa, RFID, NFC.
- **Cordless Cap Lamps** - To suit all working conditions and needs. High performance or great value. Complete charging facilities and accessories.

## R&D Services for Wireless Devices

Roobuck provides development services for integration with our partners/customers. Roobuck offers expertise and engineering resources for intrinsically safe or industrial device design and manufacture.



## R&D Projects

Industry, Federal and State Government supported MineloT projects in collaboration with world leading universities including CRC-Ps, ARCs, TDRI, ACARP, GGCIP and PSF. Roobuck is constantly bringing cutting edge technology to the METS sector.

## Global Reach - Exports from Australia to:

USA, Canada, NZ, PNG, Mongolia, Uzbekistan, Kazakhstan, UAE, Qatar, Saudi Arabia, Egypt, Indonesia, Singapore, South Africa, Zimbabwe, Peru, Colombia, Chile and Sweden

## Customers

BHP, Rio Tinto, South32, Glencore, petroleum companies, military and government

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Which Cordless Cap Lamp is best for my needs?

Questions - Do you need	KH4E-Ex	RN3U	RN2T	KH2M-Ex	RN4E- RN4E-WB	KC4E-WB-Ex
WiFi Tracking Cap Lamp Solution?					✓	✓
IECEX Certificate?	✓			✓		✓
Higher brightness?	✓	✓			✓	✓
A low cost product?			✓	✓		
>15-20 hour duration		✓		✓		
Focused & spread beam?			✓			
An angle adjustable cap lamp?	✓	✓		✓	✓	✓

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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



Rugged casing made from GERMAN FRAS material for rough handling & wide ambient temperature range



World's safest and most reliable Panasonic battery



Made from Top Brand, high quality components and parts

## Optional Extra



UHF 860 - 960 MHz RFID can be integrated into registration and access control systems



13.56 MHz for use with your Kiosk, Digital Tagboard and Inventory solutions



## 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°C ≤ Ta ≤ 40°C

-4°F ≤ Ta ≤ 104°F



### Weight

154 g / 5.4 oz

### 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



Rugged casing made from GERMAN FRAS material for rough handling & wide ambient temperature range



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 / 5.82 oz



# Chargers - KH4E-Ex, RN3U

## CB8E Charging Bank For 8 Cordless Cap Lamps



### Features

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

### Specifications

Input	110 VAC or 12-24 VDC
Dimensions	33 x 21 x 5.5 cm/13 x 8.27 x 2.17 in
Weight	1.1 kg / 2.43 lb

## 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
- Charging Indicator on Charging Bank
- Charging Indicator on Cap Lamp
- Includes wall mounting kit
- 2 x foot pads
- Circuits are easily accessible for servicing

### Specifications

Input	110 VAC
Dimensions	84 x 13 x 110 cm/33.07 x 5.12 x 43.31 in
Weight	31 kg / 68.36 lb



## Individual Chargers & Accessories

- MCE:** Single Mains Charger - AU, EU, UK, USA  
**UCE:** Single USB Charger



# Cordless Cap Lamp

**Lightweight series – for Industrial and Surface Mining Applications without the need for Ex Certificate**

## Features



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



Thin design means Cap Lamp fits behind visor allowing up & down action



Lightweight, comfortable and ergonomic



Rugged casing made from GERMAN FRAS material for rough handling & wide ambient temperature range



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

2800 Lx Standard Focus  
5500 Lx High-Beam Focus



### Charging Time

7 h



### Running Time

13 h Standard Focus



### Weight

97 g / 3.42 oz





## CB8T Charging Bank For 8 Cordless Cap Lamps



### Features

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

### Specifications

Input	110 VAC
Dimensions	33.4 x 18.2 x 6.6 cm 13.15 x 7.17 x 2.6 in
Weight	860 g/1.9 lb

## CB28T Charging Bank For 28 Cordless Cap Lamps

### Features

- Wall Mountable
- Locking Bar for Cap Lamp safety
- Charging Indicator on Charging Bank
- Charging Indicator on Cap Lamp
- Automatic over-load protection – cuts off the circuit when Cap Lamp battery is fully charged
- Space to attach identification label

### Specifications

Input	110 VAC
Dimensions	84 x 60 x 11.5 cm 33.07 x 23.62 x 4.53 in
Weight	9 kg / 19.85 lb



## Individual Chargers & Accessories

**UCT:** Single USB Charger

**RCB:** Angle Adjustable Bracket



# Cordless Cap Lamp

Lightweight series – for Petrochemical Environments & Surface Operations

## 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°C ≤ Ta ≤ 40°C

-4°F ≤ Ta ≤ 104°F



### Weight

119 g / 4.2 oz



### 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)
- Charging Indicator on Charging Bank
- Charging Indicator on Cap Lamp
- Automatic over-load protection – cuts off the circuit when Cap Lamp battery is fully charged

### Specifications

Input	110 VAC or 12-24 VDC
Dimensions	33 x 21 x 6 cm 13 x 8.27 x 2.36 in
Weight	1 kg / 2.21 lb

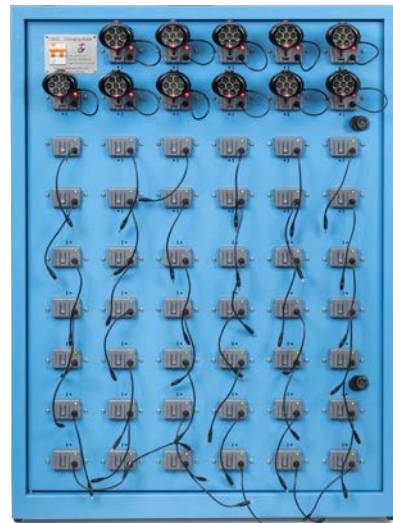
## CB53 - Charging Banks For 53 Cordless Cap Lamps

### Features

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

### Specifications

Input	110 VAC
Dimensions	84 x 13 x 110 cm / 33.07 x 5.12 x 43.31 in
Weight	31 kg / 68.36 lb



## Individual Chargers & Accessories

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

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

## RRS: Rubber Ring Sheath

Protect your Performance Series Cordless Cap Lamp with a cost effective, coloured rubber ring.

It can protect the cordless cap lamp when dropped, bumped or from dripping water. Comes in seven colours that can be used for easy identification of position, department or shift.



## ML: Mining Lanyard

Keep hold of your Cordless Cap Lamp if you drop your helmet. Enables Cordless Cap Lamp to be fastened to your belt or belt loop.

## HS: Head Strap

Fastens your Cap Lamp to hard hats without a mounting bracket. Uses four brim clips to for secure attachment to the helmet.



## RCB: Angle Adjustable Cap Lamp Bracket

Roobuck's patented Cap Lamp Bracket transforms a fixed Cap Lamp into a flexible one. Move it up and down as you are working or to stop the light from shining in your co-workers eyes.

## For Safer, more efficient and productive mining

Through collaboration with leading Australian universities, industry partners and mining digitalisation leaders, Roobuck has developed cutting edge solutions that reduce mine operation costs, increase productivity, improve safety and enable customers to attain ESG targets in the mining sector.

### **Roobuck's Mine IoT Solutions:**

- Are modular and scalable, allowing solution deployment in sync with the implementation schedule of your digitalisation roadmap
- Are easy to integrate into your existing onsite mine network. Our solutions can run entirely onsite, enabling smooth initial setup and minimal IT maintenance.
- Enhance the value and capabilities of compatible Roobuck IoT devices such as WiFi/BLE cordless cap lamps and belt/portable tags.

### **Roobuck provides the following Mine IoT Solutions for use in underground hardrock mines:**

- Personnel, Vehicle and Asset Tracking and Emergency/Evacuation
- Personnel Sign-In, Sign-Out and/or Assignment of Assets
- IoT Device and Data Management with Solution Customisation

Technological solutions need to be implemented at an operational level and require people and process to enable them to succeed. Our technology is flexible and can be integrated into your current network. Roobuck can assist you with a systemic approach to tackling problems and solving your pain points. Roobuck solutions provide immediate high value returns by improving safety and significant long-term value through productivity and efficiency enhancements.

The data produced by the Mine IoT Solutions can be used to for operational insights and improvements.

The Mine IoT Solutions can be used separately or together and are explained in more detail on the following pages. Roobuck's Mine IoT Solutions work with Roobuck's IoT Devices. Please see page 28.



## Personnel, Vehicle, Asset Tracking and Emergency/Evacuation Solution

### Increase Safety, Improve Decision Making and Asset Performance

Maximise the efficiency of your operation and hand back time to your team by implementing a personnel, vehicle and asset tracking solution. Roobuck offers a comprehensive suite of software and IoT devices to form a tracking solution that allows you to monitor the location and provide instantaneous two-way signalling with your personnel underground where there is network connectivity available. IoT Solutions using Intrinsically Safe devices are available.

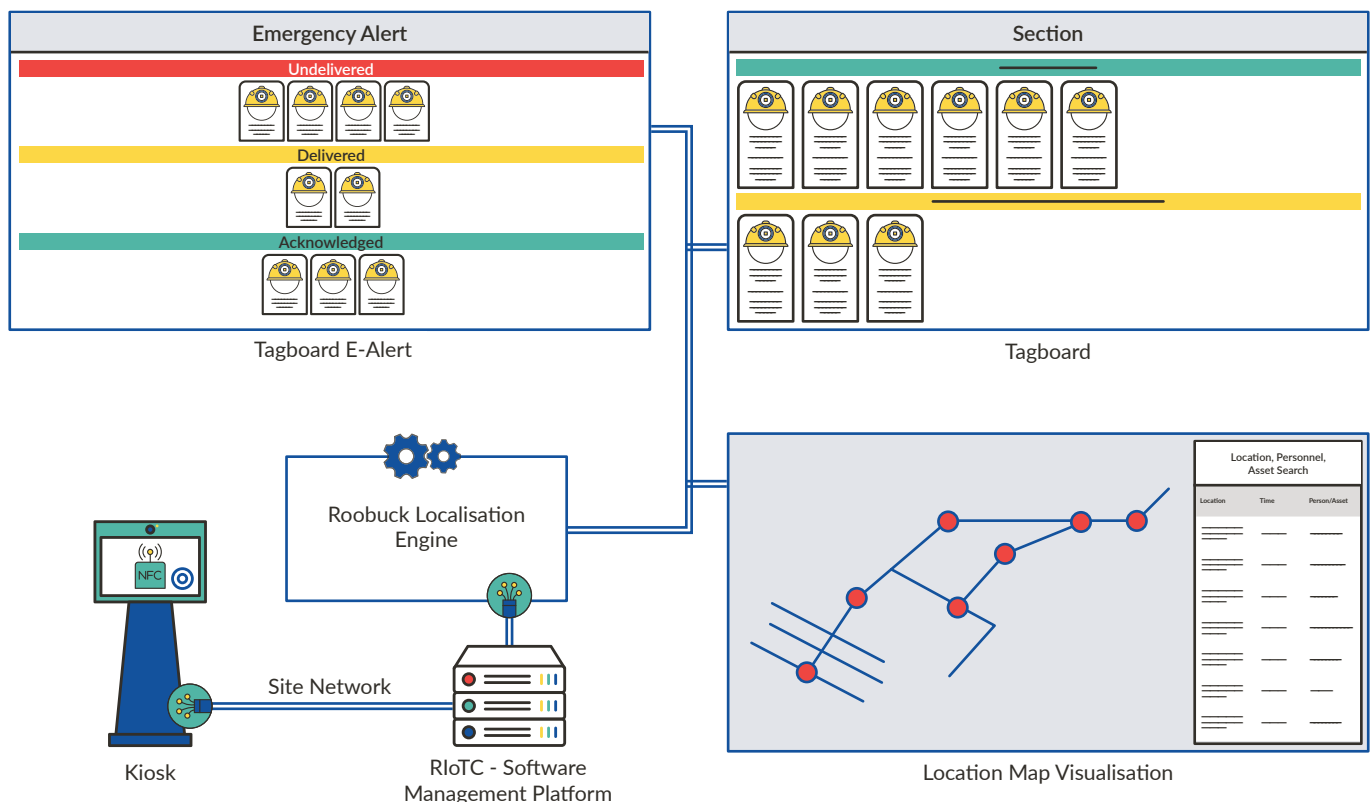
This solution enables you to implement:

- Personnel tracking
- Vehicle tracking
- Asset tracking
- Emergency evacuation
- Lone and isolated worker tracking

Enabling:

- Incident investigation
- Live monitoring and equipment control
- Data visualisation
- Big data collection

Personnel onsite can sign-in using their ID cards and IoT devices such as the Roobuck WiFi/BLE Cordless Cap Lamp. These devices send out location, battery level, IMU and other data to the Roobuck onsite server that feeds information to a Localisation Engine and Visualisation System. The locations of signed-in personnel can be seen on a map that updates as they move throughout the mine.

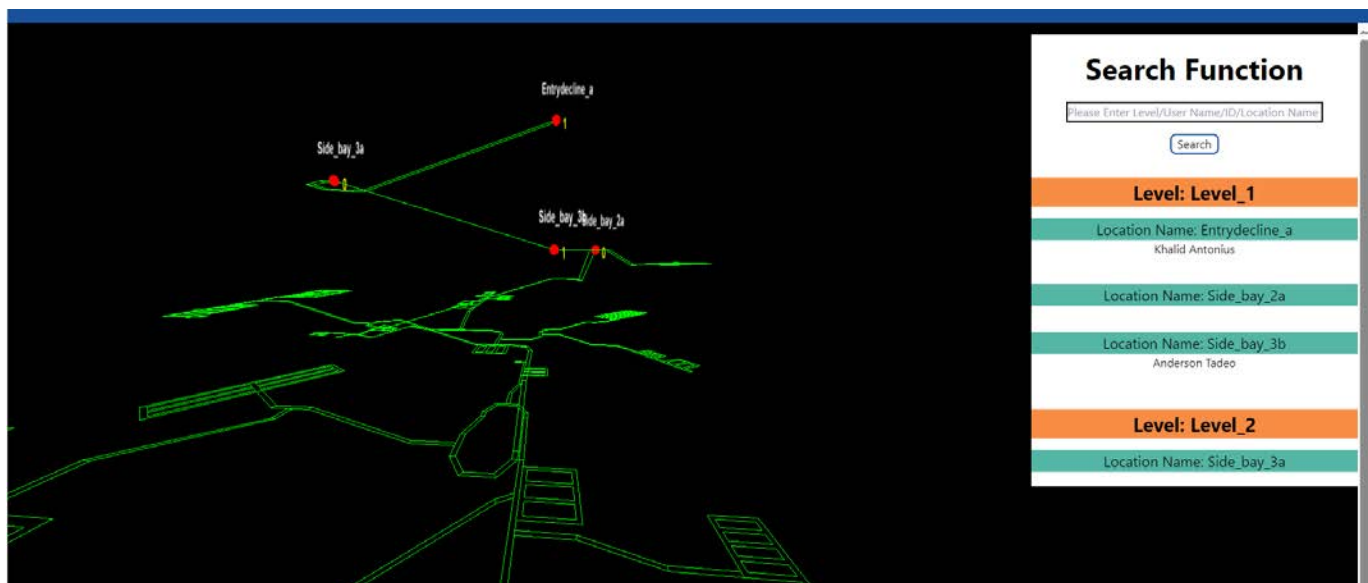


## Digital Tagboard

Incorporating miner and cap lamp registration, shift sign-in/sign-out, miner to cap lamp pairing and inventory record, the Digital Tagboard is a comprehensive solution to record:

- Who is tagged in
- What section of the mine they are working in
- Which kiosk they used to sign in
- What department they are assigned to
- What devices are assigned to the person. Examples are cap lamps, self-rescuers, belt tags, gas monitors
- Nearest Access Point to identify personnel's location. Users paired with Roobuck IoT devices can have their locations with time stamps updated on the Digital Tagboard.

The Digital Tagboard has multiple views of all personnel tagged in. Personnel and their associated assets can be viewed by Section, Department, Kiosk and nearest AP location. It is now easy to search for personnel and their associated information using multiple large screens strategically located underground. Operational Supervisors & Safety Managers can access views on their PC screens and tablets.



Location Map Visualisation

## Emergency Alert and Duress Call

On the Digital Tagboard there is a view to see the current status and location of all signed-in personnel during an emergency call event. Personnel that have yet to receive an emergency alert called by the control room are placed into one category, **Undelivered**. A second category, **Delivered**, displays personnel who have received the emergency alert, but are yet to respond. A final category, **Acknowledged**, displays personnel who have acknowledged the emergency alert by pressing the button on their flashing IoT device. The IoT device can be a Roobuck cap lamp or belt tag.

The Digital Tagboard also displays and alerts the control room to any signed-in personnel that makes a duress call using the IoT device. To make a Duress Call, hold down the button on the cap lamp or belt tag.

# Device/Data Management ROOBUCK

## IoT Device/Data Management with Solution Customisation

### Increase Safety, Improve Efficiencies Through Technology

Roobuck's IoT device management solution is essential for maximising the value provided by your personnels' equipment, cap lamps and belt tags, on site. The IoT devices enable critical solution deployments such as Tracking and Digital Kiosks. Over-the-Air updates and mass device configurations ensure your site can rapidly deploy new solutions/network improvements/expansions without the risk of making your IoT devices redundant. IoT Solutions using Intrinsically Safe devices are available.

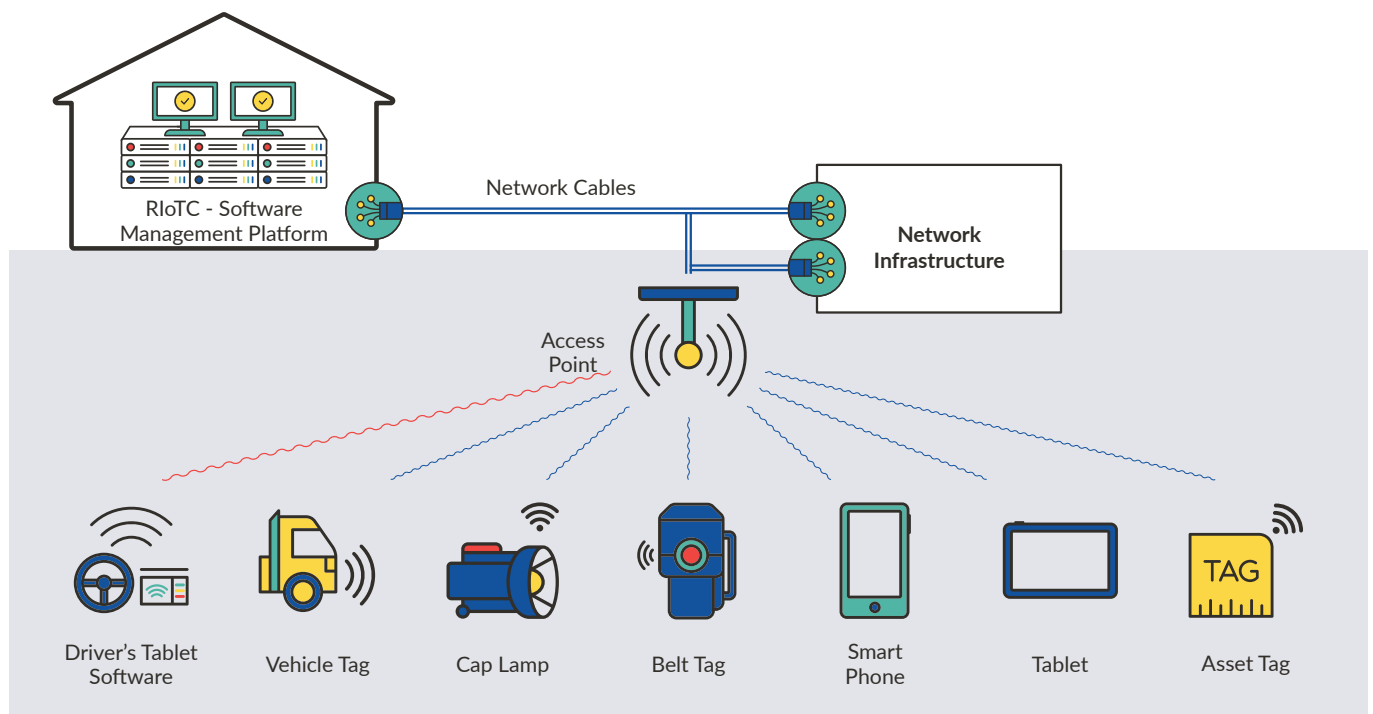
This solution includes our device management platform which includes:

- Over-the-Air updates
- Bulk configuration
- Customisation opportunities
- Integration services

Enabling:

- Big data collection
- Knowledge generation
- The ability to facilitate AI

Roobuck's team of specialist engineers can create custom solution integrations for your site specific projects.



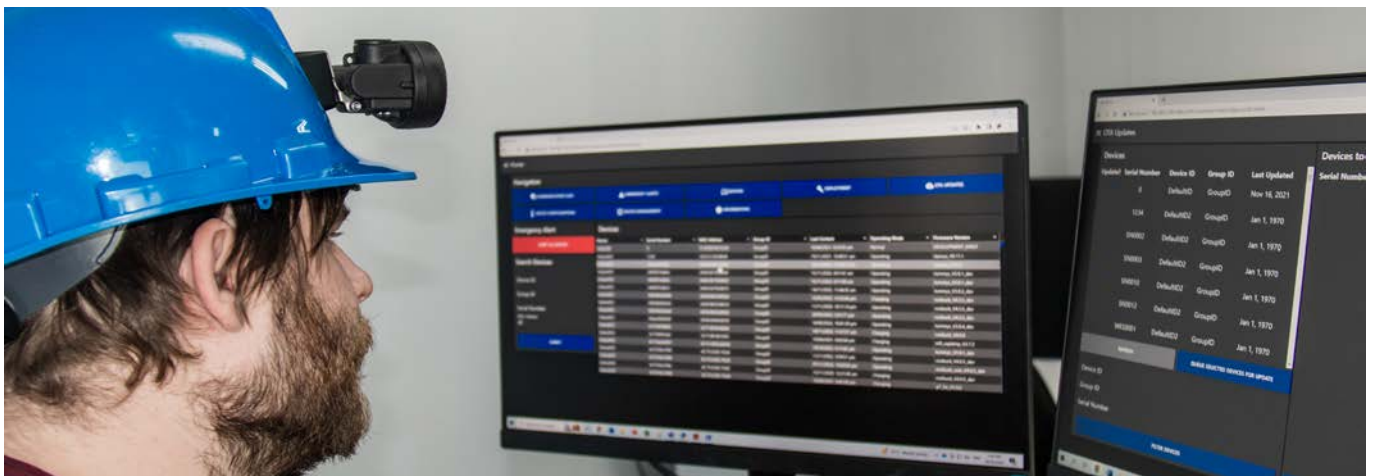
# Device/Data Management ROOBUCK

## RloTC – Device Management Software Platform

The Roobuck Internet of Things Configurator, RloTC, is a platform for managing Roobuck IoT Devices such as Roobuck's WiFi/BLE cap lamps or belt tags. This software runs in an onsite server and can be configured to connect to devices that are registered on your network.

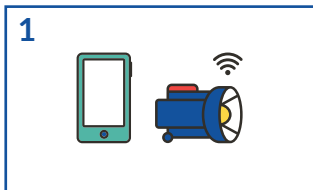
This platform performs the following functions:

- Over-the-Air firmware updates
- Historical data of communication logs from IoT devices
- User device allocation and management. This is for sites with devices permanently assigned to personnel
- Configurations: network, lighting, flashing patterns and operations
- Two-way signalling, including individual paging with historical data of communication logs
- Systems integration via MQTT to Roobuck solutions or external platforms

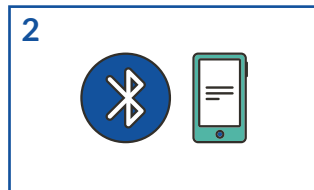


## Mobile RloTC

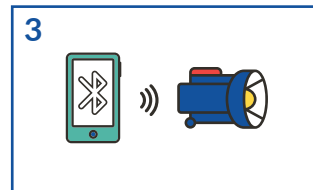
Roobuck's Mobile Configuration App for Android devices allows for immediate diagnosis and configuration of Roobuck IoT devices via Bluetooth pairing.



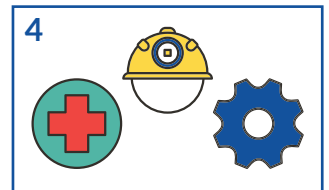
1  
A device's internal NFC tag is scanned using an Android device.



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.

## Personnel Sign-In, Sign-Out &/or Assignment of Assets

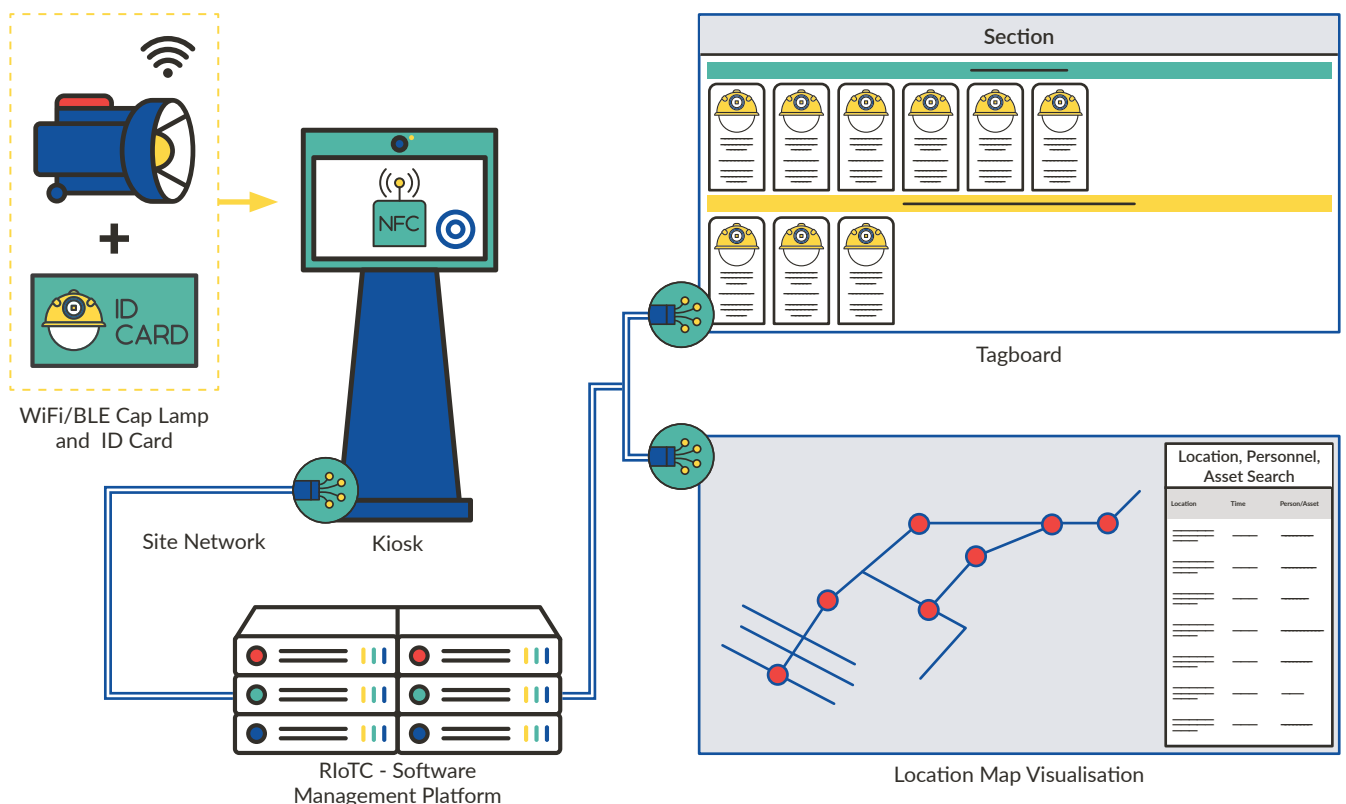
### Increase Safety, Improve Productivity & Operational Efficiency

Hand back time to your busy team by implementing an automated sign-in/sign-out solution that is linked to your tracking and asset assignment systems. Avoid human error and equipment misplacement by assigning assets to personnel who sign-in, then track their location underground using WiFi and BLE. IoT Solutions using Intrinsically Safe devices are available.

This solution enables you to:

- Trace who is signed-in & signed-out
- Implement automation tracking
- Automate processes to avoid human error
- Integrate into systems
- Implement asset management
- Comply to safety policies and procedures
- Implement productivity enhancements
- Collect big data for analytics & reporting

Roobuck provides IoT personal devices such as WiFi/BLE cordless cap lamps and belt tags that are designed to be assigned to your staff via a kiosk terminal. Rugged touch screens with NFC scanners run our Digital Kiosk software that allows personnel to scan their ID and IoT devices. These devices then send data to our Roobuck onsite server that can be hosted locally onsite to enable tracking and emergency alert applications. Roobuck has a specialist R&D team that can integrate your existing ID card system into our Digital Kiosk as a customised site specific project.





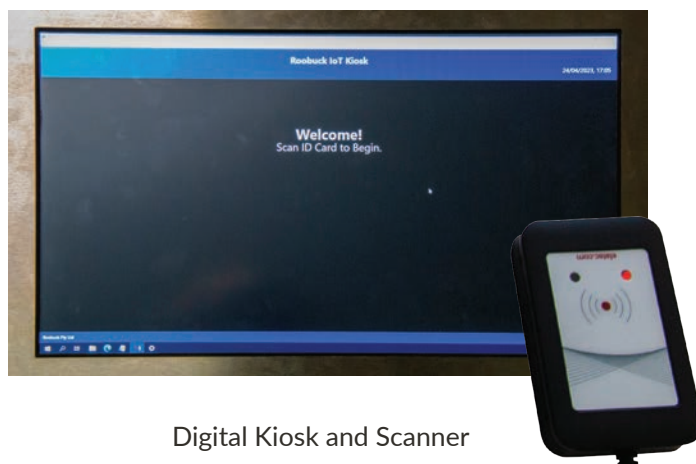
## Digital Kiosk Linked to Live Applications

Personnel scan their ID card, then their equipment. Equipment can include a Roobuck IoT device, such as a WiFi/BLE cap lamp or belt tag or any device with an NFC sticker or tag attached. This person is then displayed on the Digital Tagboard and is visible on the Location Map Visualiser in real time. They will also receive emergency alerts sent via the evacuation tool, and can send duress calls, which will be received and displayed on the Tagboard. Emergency Alerts and Duress Calls are simultaneously displayed on operational PCs and tablets.

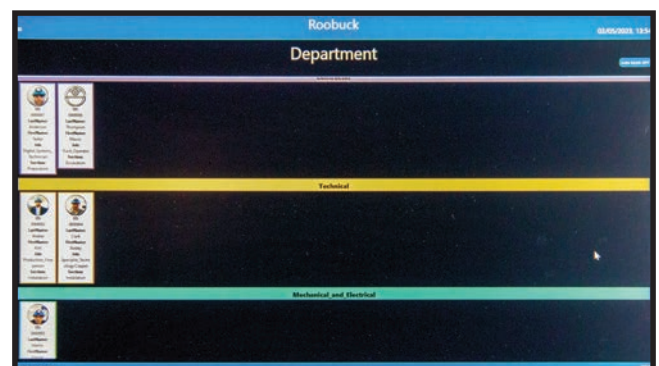
## Asset Assignments

Equipment such as a hard hat or respirator can be registered into the system database.

- NFC tags or stickers are attached to equipment.
- The equipment is registered using the Tag Configurator Tool
- When a member of your team is signing-in to work, they scan their ID card, IoT device, and any registered equipment they are taking underground.
- If a vital piece of equipment is not scanned as part of sign-in, a digital record is kept and the control room can be alerted. This procedure can be configured to match your current compliance policy system.
- When a signed-in person is selected on the Digital Tagboard, a list of all their equipment is displayed
- Equipment usage data is stored and available for integration into your maintenance cycle system so you can make sure there is a record of all critical equipment going underground.



Digital Kiosk and Scanner



Tagboard

## Cap Lamps, Belt Tags & Portable Tags

The Mine IoT devices complement our Mine IoT solutions for underground hardrock mines. On the following pages are the brochures with the product information and specifications of each IoT device.



**RN4E-WB**

WiFi/BLE Cordless Cap Lamp



**KC4E-WB-Ex**

I.S. WiFi/BLE Cordless Cap Lamp



**KH4E-WB-Ex**

I.S. WiFi/BLE Cordless Cap Lamp



**RN8C-WB**

WiFi/BLE Corded Cap Lamp

**Coming Soon**



**RBT6A-WB**

WiFi/BLE Rechargeable Belt Tag



**RPT6A-WB**

WiFi/BLE Rechargeable Portable Tag

### Technology



WiFi 802.11 b/g/n



Bluetooth V4.2, BLE



UHF 860 - 960 MHz RFID can be integrated into tracking, registration & access control systems



13.56 MHz for use with your Kiosk, Digital Tagboard and Inventory solutions



IMU for your movement data collection and personnel safety applications



Compatible with Roobuck solutions or your choice of enterprise tracking software

Roobuck is developing Cap Lamps, Belt Tags and Portable Tags utilising various wireless technologies including LTE, DSRC, UWB and LoRa.

### Emergency Management

Using the Roobuck Emergency Management System you can dramatically reduce the time it takes to inform personnel underground to evacuate. Roobuck IoT devices such as WiFi/BLE cap lamps or belt tags, that are signed-in using the Digital Kiosk, will respond to emergencies sent from the emergency management system by flashing.

When personnel press the button on their flashing device, they acknowledge receipt of the emergency message. They can also make a Duress Call by holding down the button of their device, prompting the control room to respond and make contact.

## I.S. WiFi/BLE Cordless Cap Lamp

The Intrinsically Safe WiFi/BLE cordless cap lamp is designed to enable the following Mine IoT Solutions for underground coal and hardrock mines:

- Personnel, Vehicle and Asset Tracking and Emergency/Evacuation
- Personnel Sign-In, Sign-Out and/or Assignment of Assets
- IoT Device and Data Management with Solution Customisation

### Technical Features



WiFi 802.11 b/g/n



Bluetooth V4.2, BLE



UHF 860 - 960 MHz RFID can be integrated into tracking, registration and access control systems



13.56 MHz for use with your Kiosk, Digital Tagboard and Inventory solutions



IMU for your movement data collection and personnel safety applications



### Cap Lamp Features



Three operating modes – Main, High-Beam, Auxiliary



Adjustable beam angle to point wherever you look



Lightweight, comfortable and ergonomic



Rugged casing made from GERMAN FRAS material for rough handling & wide ambient temperature range



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

5000 Lx Main Mode  
8000 Lx High-Beam Mode



#### Charging Time

9 h



#### Running Time

14 h Main Mode



#### Weight

160 g / 5.64 oz

### Certifications



#### Certifications:

- Certificate #: IECEx TSA 19.0008
- Ex Marking: Ex ia op is I Ma IEC 60079-35-1 2BDKT4EWB

#### Standard #:

- IEC 60079-0
- IEC 60079-11
- IEC 60079-28
- IEC 60079-35-1

FCC ID: 2BDKT4EWB

CE RCM

### Integration Specifications

MQTT Compatible

API Available

LED Flashing Modes Configurable

Running Time/Brightness Configurable

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

This model is currently under commercial trials

# 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>M</b>	Multiple Proprietary 3rd party WiFi 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

All Models come with RFID/NFC.

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 & ergonomic



Rugged casing made from GERMAN FRAS material for rough handling & wide ambient temperature range



World's safest and most reliable Panasonic battery



Made from Top Brand, high quality components and parts



IMU for your movement data collection & personnel safety applications

## 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

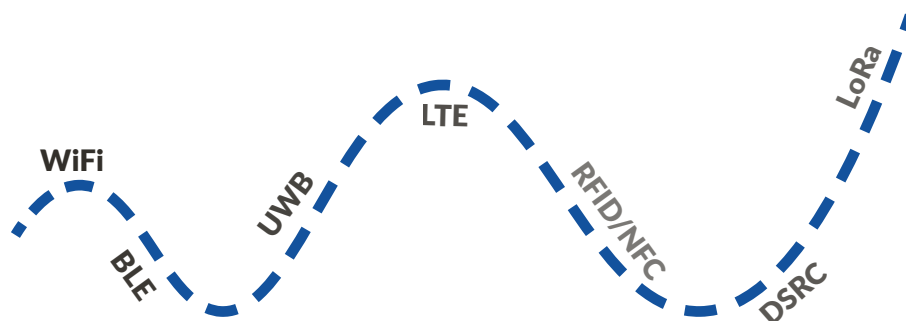
14 h Main Mode



### Weight

160 g / 5.64 oz -  
180 g / 6.35 oz

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



# WiFi/BLE Cordless Cap Lamp

The WiFi/BLE cordless cap lamp is designed to enable the following Mine IoT Solutions for underground hardrock mines:

- Personnel, Vehicle and Asset Tracking and Emergency/Evacuation
- Personnel Sign-In, Sign-Out and/or Assignment of Assets
- IoT Device and Data Management with Solution Customisation

## Technical Features



WiFi 802.11 b/g/n



Bluetooth V4.2, BLE



UHF 860 - 960 MHz RFID can be integrated into tracking, registration and access control systems



13.56 MHz for use with your Kiosk, Digital Tagboard and Inventory solutions



IMU for your movement data collection and personnel safety applications

## Cap Lamp Features



Three operating modes – Main, High-Beam, Auxiliary



Adjustable beam angle to point wherever you look



Lightweight, comfortable and ergonomic



Rugged casing made from GERMAN FRAS material for rough handling & wide ambient temperature range



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



**Charging Time**  
9 h



**Running Time**  
14 h Main Mode



**Weight**  
160 g / 5.64 oz

## Integration Specifications

MQTT Compatible

API Available

LED Flashing Modes Configurable

Running Time/Brightness Configurable

## Certifications



CE

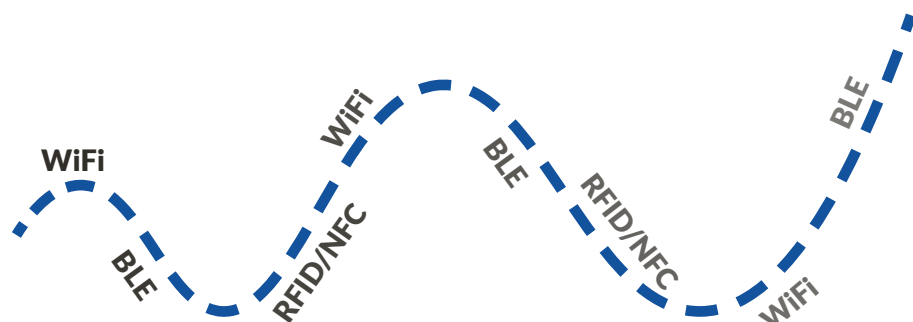


RCM



FCC ID:  
2BDKT4EWB

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





## WiFi/BLE Rechargeable Belt Tag

The WiFi/BLE Belt Tag is especially suitable for surface and underground hardrock mines and tunnels. It integrates WiFi and BLE into a single wearable device. It features a user interface for miner activities, such as acknowledging emergency/evacuation alerts, sending duress calls, location information, text messaging and a digital clock.

The WiFi/BLE Rechargeable Belt Tag and WiFi/BLE Portable Tag are designed to enable the following Mine IoT Solutions:

- Personnel, Vehicle and Asset Tracking and Emergency/Evacuation
- Personnel Sign-In, Sign-Out and/or Assignment of Assets
- IoT Device and Data Management with Solution Customisation

### 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



IMU for your movement data collection and personnel safety applications

### Product Specifications



**Ingress Protection Rating**  
IP66/IP67



**Running Time**  
30+ h



**Charging Time**  
10 h



**Battery Capacity**  
6 AH



**Weight**  
160 g / 5.64 oz



**Dimensions**  
79 x 63 x 52 mm  
3.11 x 2.48 x 2.05 in

### Certifications



CE



RCM



ICASA

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



### Integration Specifications

- MQTT Compatible
- API Available
- LED Flashing Modes Configurable

### User Interface

- Duress alert and Evacuation alert
- Send & receive preconfigured messages
- Configurations display
- Time display
- Battery life display

### Display

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

### Alerts

- Warning/illumination Light with two LEDs and frosted transparent cover
- Audio Buzzer
- Vibration Alert

## RPT6A-WB

## WiFi/BLE Rechargeable Portable Tag

The Portable Tag utilises the same hardware as the Belt Tag but has firmware designed for installation on vehicles or assets. It is not worn by personnel. It can be installed in a charging unit inside a vehicle for vehicle tracking. It can also be attached to a portable machine, tool or asset to track these objects.

Attachment/Mounting accessories can be provided. The device firmware can be customised and Over-the-Air updated to meet the functional requirements to accelerate your digital road map.

## RBT6A-\* / RPT6A-\*

## Rechargeable Belt Tag & Portable Tag

Other than WiFi/BLE, Belt Tags and Portable Tags come with other wireless technologies. The \* in the model number will be replaced with the following letters corresponding to the technology:

**W** WiFi (2.4GHz) for Tracking, Emergency & Duress Call

**L** LTE (Cat M1) for Tracking, Emergency & Duress Call

**B** BLE for location IDs, asset locationing, light control, sensor data log

**U** UWB for Collision Avoidance

**D** DSRC (802.11p) for Collision Avoidance

**M** Multiple Proprietary 3rd party Wireless Tags

**O** LoRa to be released soon

**Please note that some wireless tag combinations cannot exist in the same enclosure**

**Some Models are currently under development. Please contact Roobuck for details.**

# IoT Device Charging Options R00BUCK

## CB53X - Charging Bank For 53 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
- Charging Indicator on Charging Bank
- Charger Indicator on Cap Lamp
- Includes wall mounting kit
- 2 x foot pads
- Circuits are easily accessible for servicing

### Specifications

Input	110 VAC
Dimensions	CB53X: 84 x 13 x 110 cm / 33.07 x 5.12 x 43.31 in
Weight	CB53X: 31 kg / 68.36 lb



## 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)
- Charging Indicator on Charging Bank
- Charging Indicator on Cap Lamp
- Automatic over-load protection – cuts off the circuit when Cap Lamp battery is fully charged

### Specifications

Input	110 VAC or 12-24 VDC
Dimensions	33 x 21 x 5.5 cm 13 x 8.27 x 2.17 in
Weight	1.1 kg / 2.43 lb

## Individual Chargers & Accessories

**MCX:** Single Mains Charger - EU, UK, AU, USA  
**UCX:** Single USB Charger



## V2X-DSRC Cordless Cap Lamp

Patent App No: 2023248110

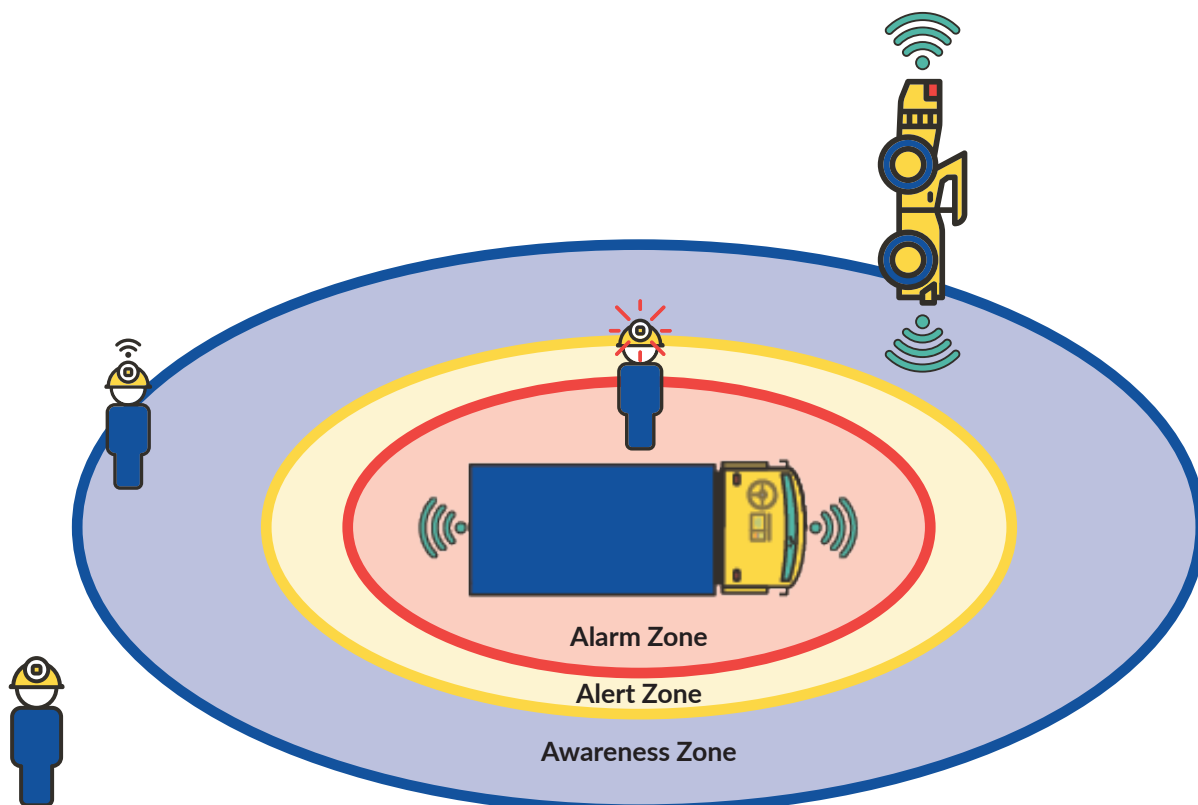
### Enabling Safer Working Conditions

Vehicle related accidents are a leading cause of injury for mine sites worldwide. Collision Avoidance Systems (CAS) or Proximity Detection Systems (PDS) can provide critical information/alerts to pedestrians and drivers or enable intervention controls which prevent these incidents occurring. Roobuck supplies both vehicle and personnel CAS components using a variety of high precision technologies such as Ultra Wide Band (UWB) and Dedicated Short Range Communications (DSRC) (802.11p).

Roobuck supplies V2P (Vehicle to Pedestrian) compatible cordless cap lamps so that personnel are detected by vehicles before a collision occurs. The V2X-DSRC Cordless Cap Lamps are 802.11p standard compatible and enable personnel to be detected by Vehicle to Everything (V2X) systems installed on vehicles. The cordless cap lamps are ideal for use in an underground environment as they can be detected up to 30 metres around corners and do not require line of sight with a vehicle to be detected. Moving vehicles can detect personnel wearing DSRC cordless cap lamps and other moving or stationary vehicles. This early warning system prevents accidents, potentially saving lives and preventing downtime.

The collision detection zones are fully configurable, allowing our solution to be customised to meet site specific requirements:

- Blue Zone is Awareness and can be 40-60 m
- Yellow Zone is Alert and can be 20-40 m
- Red Zone is Alarm and can be 0-20 m



## How Does This Work?

Our cap lamps utilise 802.11p DSRC technology in conjunction with WiFi and BLE to enable integration into comprehensive V2X tracking solutions. The embedded DSRC module implements flashing warning signals to inform the wearer that there are vehicles in their Awareness, Alert, Alarm zones. At the same time the drivers of the vehicles are informed of people in their Awareness, Alert, Alarm zones.

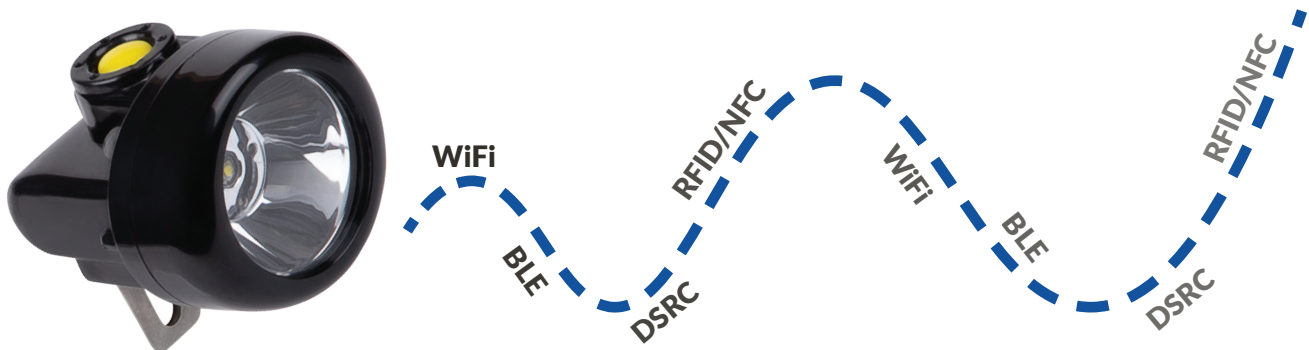
In situations where drivers of vehicles don't have a good view of people and other vehicles in their pathway, the V2X solution significantly reduces the risk of collisions that could result in injuries or damage to assets. The DSRC Cap Lamp Solution includes a configuration, update and maintenance dashboard. Data collected by the V2X solution can be used for:

- centralised reporting of live vehicle and personnel location
- in-vehicle traffic management advice to optimise production workflows
- comprehensive incident analysis, production tracking and centralised co-ordination
- equipment & system health checks, equipment usage, tracking when vehicles are in use
- monitoring current or last known location

The deployed V2X solution includes the Vehicle Operator's Display where:

- Remote Objects are displayed within the relevant zone, giving them the relative distance using zone and direction ahead or behind the vehicle
- Remote Objects are identified as either people or vehicles, allowing for efficient communication
- Audible alerts can be triggered for critical situations and when objects enter the Alarm Zone

As the DSRC cordless cap lamp include WiFi and BLE capabilities, it can be used for other functions including data forwarding, tracking, traffic management, evacuation and alert management.





## V2X-DSRC Cordless Cap Lamp

### Technology



DSRC 802.11p standard compatible



WiFi 802.11 b/g/n



Bluetooth V4.2, BLE



UHF 860 - 960 MHz RFID can be integrated into tracking, registration & access control systems



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### Cap Lamp



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World's safest and most reliable Panasonic battery



Made from Top Brand, high quality components and parts

### Specifications



**Running Time**  
14 h Main Mode



**Charging Time**  
11 h



**Weight**  
165 g



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

Charging Banks for 8/35/53 Cap Lamps

# Roobuck Pty Limited

ABN 68 130 073 451

## **Headquarters:**

Suite 6, 20 West Street  
Brookvale, NSW 2100  
Australia

Phone: + 61 2 9938 1550

Fax: +61 2 9939 8532

Email: [info@roobuck.com.au](mailto:info@roobuck.com.au)

Web: [roobuck.com.au](http://roobuck.com.au)

## **Other North American Catalogues**

Product Catalogue for Surface Operations  
and Industrial Applications

Product Catalogue IECEx Group II for  
Petrochemical Environments