Personnel Tracking and Emergency/ Evacuation Solution for Underground Coal & Petrochemical

Increase Safety, Improve Decision Making and Asset Performance

Maximise the efficiency of your operation and hand back time to your team by implementing an Intrinsically Safe personnel, and asset tracking solution. Roobuck offers a comprehesive 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.

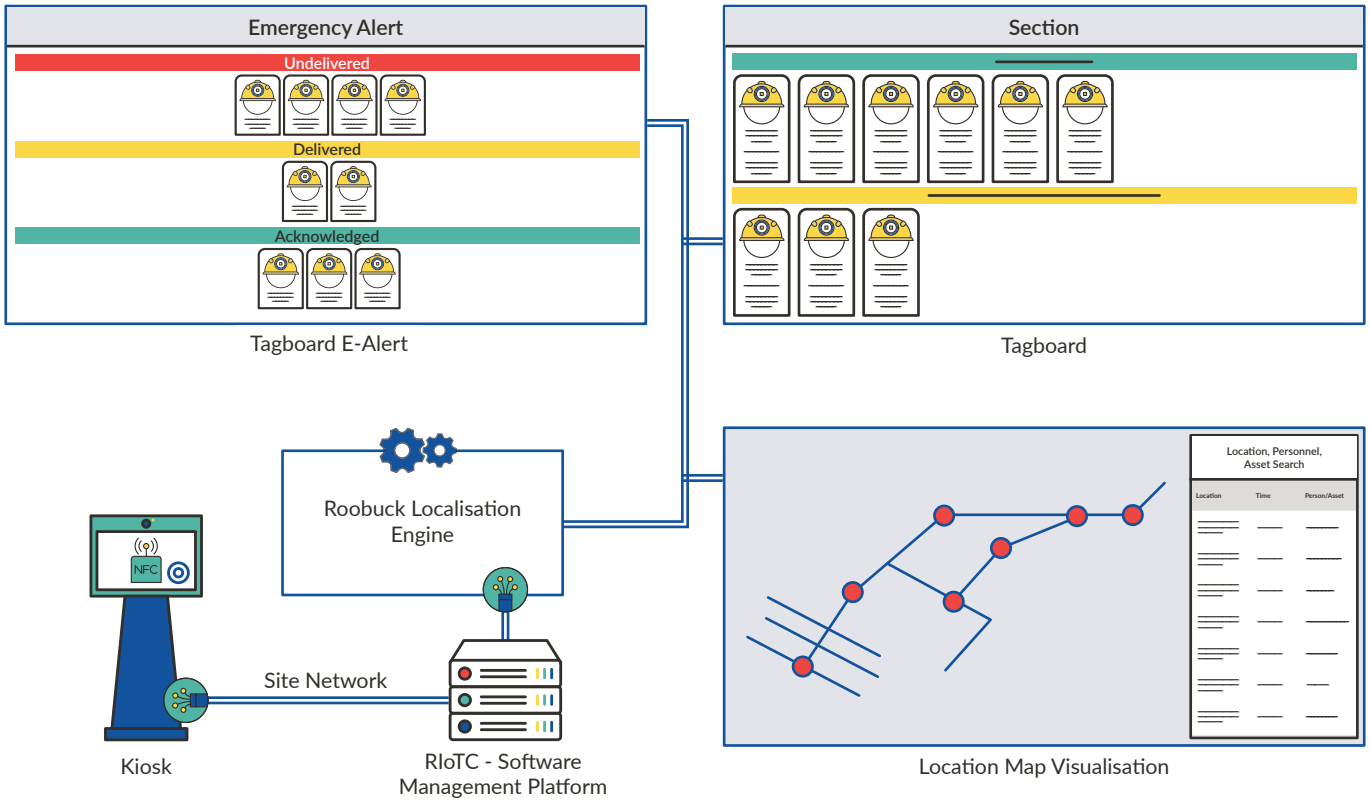
This solution enables you to implement:

- Personnel tracking
- Emergency evacuation
- Lone and isolated worker tracking
- Incident investigation

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 Roobuck's Intrinsically Safe WiFi/BLE Cordless Cap Lamp. These devices send out location, battery usage, 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.



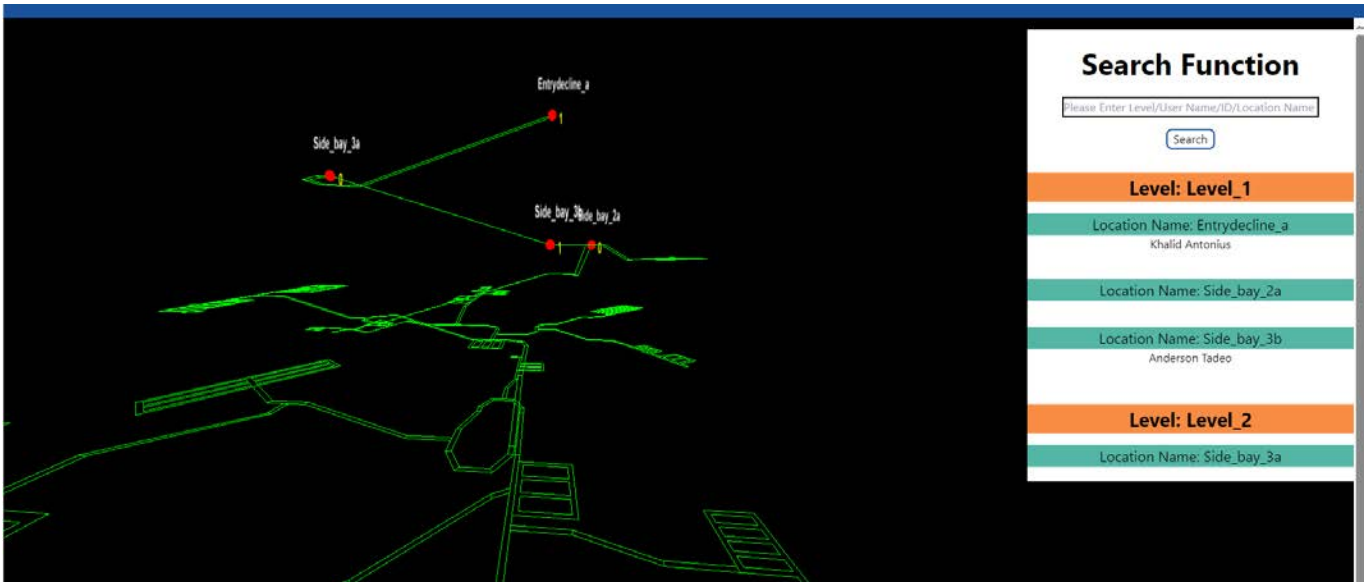
Tracking

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 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 lamps, self-rescuers, 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 recieve 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 that have acknowledged the emergency alert by pressing the button on their flashing I.S. WiFi/ BLE cordless cap lamp.

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

ROOBUCK

Intrinsically Safe Cordless Cap Lamps

KC4E-WB-Ex
I.S. WiFi/BLE Cordless Cap Lamp

KH4E-WB-Ex
I.S. WiFi/BLE Cordless Cap Lamp

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 ulitising 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's I.S. WiFi/BLE cordless cap lamps, that are signed-in using the Digital Kiosk, will respond to emergencies sent from the emergency management system by flashing.

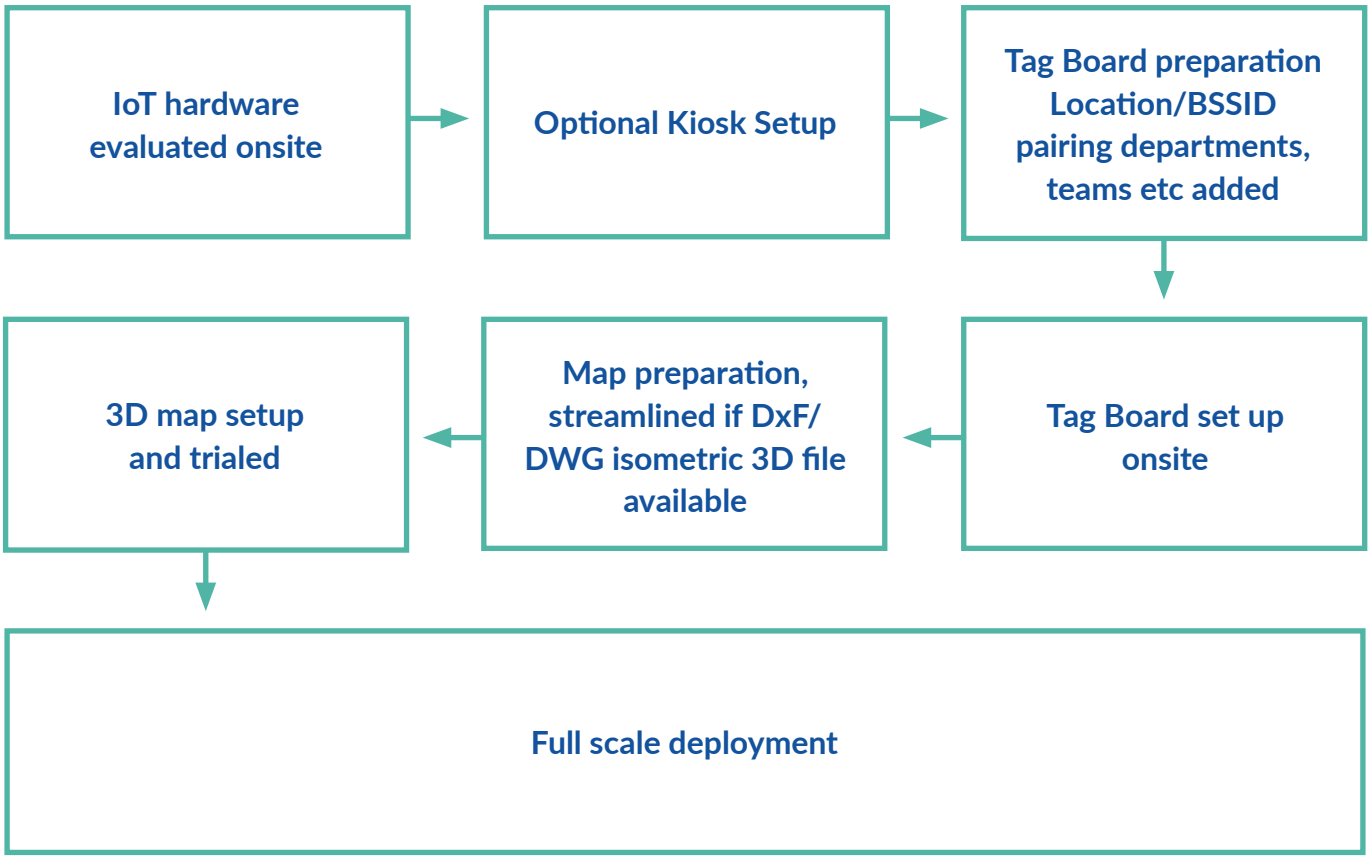
When personnel press the button on their flashing device, they acknowledge receipt of the emergency message. They can also make a Duress Call by holding down the button of their device, prompting the control room to respond and make contact.

Tracking

Solution Deployment Roadmap

Below is a visual depiction of the solution deployment process. Additionally, Roobuck would welcome hearing about your site specific requirements/problems to be solved and how we can apply customisation to this solution to meet your safety and optimisation requirements.

Once this is in operation you can add to this solution to enhance your operation efficiencies which will improve productivity and at the same time ensure the safety of your staff.



Accelerate your mine digitalisation process with our low cost/commitment solutions today. Integrations into enterprise solutions are available, future proofing your investment and maximising your scope of safety and process optimisations.

ROOBUCK

Your Mine IoT Solution Provider

Roobuck Pty Limited
Suite 6, 20 West Street
Brookvale, NSW 2100
Australia

+61 2 9938 1550

info@roobuck.com.au

roobuck.com.au
roobuck.com
roobuck.co