

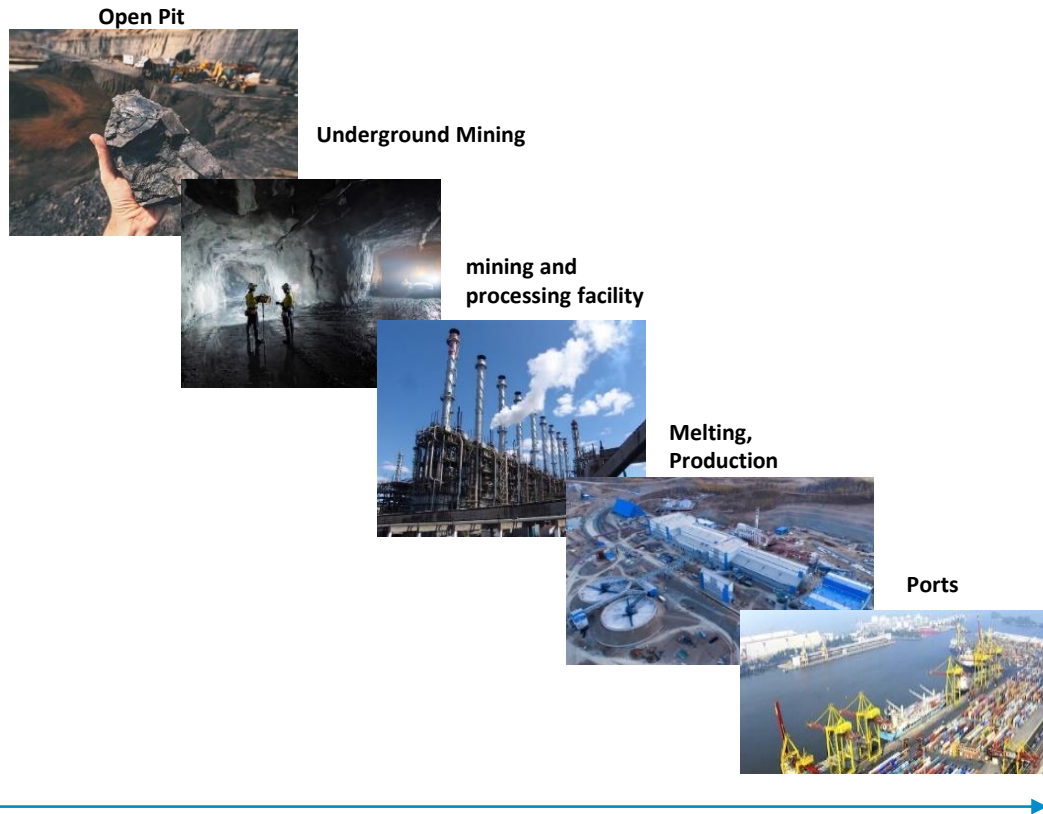


Solutions for **Mining and Processing Plants**

Collision Awareness and Staff/Equipment Monitoring System




RealTrac business specialization



Statistics of requests to RealTrac

Customers come to us with the following problems:

Requests frequency

- 
- A blue vertical line with a downward-pointing arrowhead at the bottom, indicating the direction of the list.
- 1. Collision between vehicle and man**
 - 2. Collision between vehicle and vehicle**
 - 3. Staff/Vehicles position before blasting works (especially contractors)**
 - 4. Search of lost, hurt people**
 - 5. Collision with stationary equipment etc.**

Statistics of requests to RealTrac

How do we solve these issues?

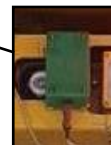
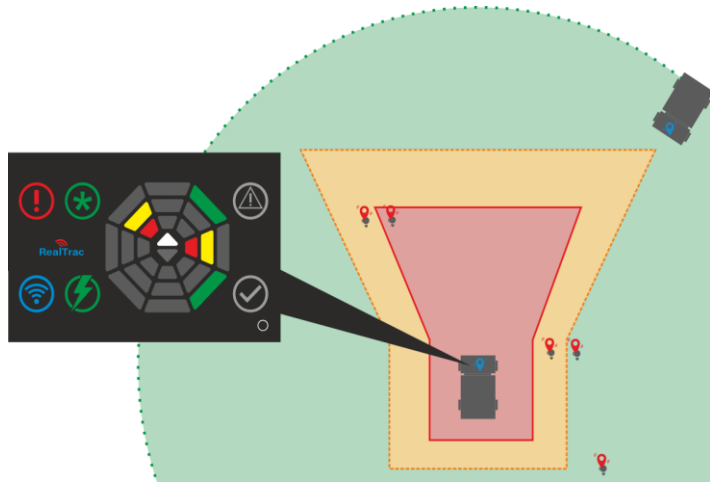
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Collision Awareness System

To prevent vehicles from colliding with people and collisions between vehicles, RealTrac uses an innovative combination of two radio technologies - UWB for near detection and UHF for early detection:



1. Minimum number of false positives thanks to:

- Precise positioning of objects around the car
- Possibilities of flexible adjustment of detection zones both in size and shape (allows taking into account the peculiarities of the vehicle, the direction of its movement)

2. Full system autonomy:

- Does not depend on the stability of power supply, satellite communication
- It is especially important at remote sites, in deep quarries, etc.

3. Works equally well in open areas and indoors on the same equipment

- It allows using the system not only in open pits, but also in maintenance service areas, in the premises, etc.

4. Object detection both at close and far distances:

- Through the use of technologies with different radio frequencies, the system not only accurately determines the direction and distance to nearby objects, but also sees objects at a distance of up to 200 meters
- Objects are detected both in the line of sight and around the corner

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Staff/Vehicles Monitoring System

1. Mix of zonal and precise positioning with one tag:

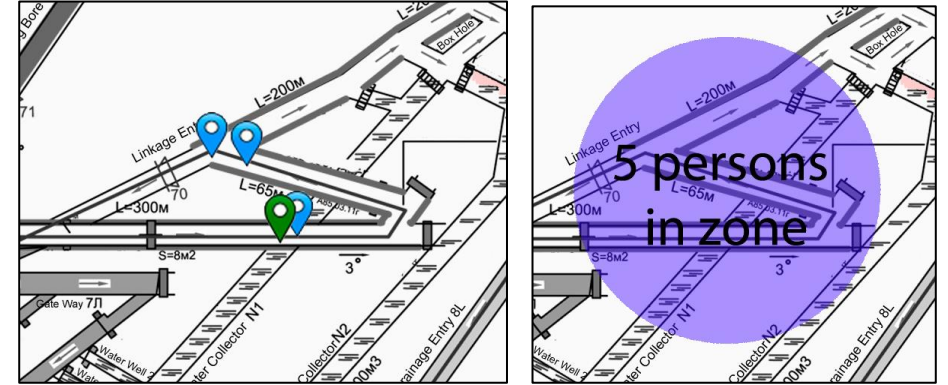
- zone positioning - 30-50m accuracy
- precise positioning – accuracy better than 1m

2. Mix of underground and open pit monitoring:

- With our system you can keep on monitoring your staff and equipment even when they move from open pit to indoor thanks to the mix of different radio technologies inside one tag

3. Simple integration with actual management systems through API:

- analytical reports (time spent in different zones, equipment tracking & utilization, etc.)
- alerts to control room (danger zone violation, etc.)
- tracking personnel and vehicles on site map in real-time, or on-demand



Mix of zonal and precise positioning



Mix of underground and open pit monitoring



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