

# Intelligent Repeater System

## Zone-based Indoor Location with GPS Simulators



### Challenge

Real-time GPS location of people or assets in indoor/underground environments

Indoor positioning with standard GPS-based devices is highly desirable to seamlessly track people and assets from areas with clear-view of the sky into GPS-denied environments. Whereas GPS repeaters have significant drawbacks for positioning in indoor or underground locations, Orolia's intelligent GPS repeater system offers a cost-effective, zone-based indoor location solution.

Similar to a GPS repeater, this system uses an outdoor GPS antenna. However the intelligent repeater system uses a GPS synchronization unit to collect the live GPS data and distribute it via a network, with precise timing signals, to GPS simulators located in different zones in the coverage area. The simulators are configured to broadcast signals that standard GPS receivers calculate as a fixed location within the zone. The position resolution is determined only by the number of simulators deployed.

### Solution

Orolia's intelligent repeater system for zonebased GPS location via simulation

For more information about Orolia's intelligent GPS repeater system, see our technical paper, [Zone-based Indoor Location using GNSS Simulators](#).

### Results

Improved safety-of-life and high value asset tracking with standard GPS equipped devices in remote locations



Orolia's GSG Series GPS/GNSS simulator can be configured as a GPS beacon when receiving live GPS data and precise timing signals.