



UNATTENDED GROUND SENSORS RDC ULTRAMESH

COVERT REMOTE DETECTION AND CLASSIFICATION SYSTEM

RDC UltraMesh is a passive, networked, wide-surveillance system that provides continuous monitoring of vulnerable locations, perimeters and operations.

Its low-power mesh communications, ease of deployment and ability to support multiple sensor types make RDC UltraMesh ideal for surveillance and security in remote locations where power and communications infrastructure are limited.

Keeping an ear to the ground

RDC UltraMesh is an Unattended Ground Sensor (UGS) system for covert monitoring of extended perimeters, border regions and remote assets. UltraMesh is designed around a very low-power mesh network that is self-forming and self-healing, creating a robust and secure platform for transmitting alarm events.

RDC includes an innovative seismic sensor node in a unique one-piece design, with intelligent processing for target detection and classification in most terrains.

With a low profile, internal antenna and rapid deployment design, RDC nodes are simple to conceal for covert deployments. Exceptional power efficiency is available on a single internal battery, with over-the-air configuration of sensitivity for minimal in-field service. Alternative sensor nodes allow connection of external sensor types (such as PIRs) on the UltraMesh to extend the applications of the platform. Nodes transmit alarms back to a master node, which can also be connected to EdgeVis Shield surveillance hub for camera integration and backhaul of alarms.

Practical operational benefits

- UltraMesh is extremely flexible, allowing additional nodes to be added to an existing network. A unique deployment utility provides information on background seismic noise and signal strength between nodes to assist in the locating of nodes for optimal communications and detection. It also logs the GPS location of each node for subsequent upload into the RDC management and configuration application for monitoring of nodes and network, as well as reporting of alarm events.
- Its compact form factor, ease of deployment, intelligent target classification (personnel, vehicles and digging) and false-alarm filtering ensure that RDC is simple and reliable in operation – with a minimal training requirement. It is also simple to incorporate RDC into a range of solutions, making it a practical, as well as cost-effective, UGS option.

Product codes

RDC-UM-SSN	RDC Seismic Sensor Node
RDC-UM-ASN	RDC Alternative Sensor Node
RDC-UM-MN	RDC Network Master Node

Key features

- Unique form factor, allowing rapid deployment and concealment of sensor nodes (in under one minute)
- Lightweight system consisting of seismic sensor, alternative and master nodes – easily carried by a single person
- Low-power, mesh-networked communications – self-healing and self-forming (sensor nodes automatically identify the most robust comms path to the master node)
- Exceptionally long battery life – sensor nodes can be deployed for around four months on a single battery
- Low cost of ownership and minimal training overhead compared with conventional military UGS systems
- Supports triggering of local PTZ cameras, providing target confirmation, identification and tracking (allowing live video streaming of target)
- Deployment utility assists in the placement of nodes and control application provides remote monitoring

Operational domains

RDC is flexible enough for use in civil and military applications – wherever conventional security measures are impractical. Its innovative design makes it ideally suited to covert applications:

- Force protection and forward-operating base security
- High-value asset protection (Oil and Gas, CNI, VIP)
- Temporary security or augmentation of fixed security



RDC Seismic Sensor Node



Covert seismic sensor: screw design (for minimal spoil) and discreet radio antenna

**SAFER.
STRONGER.
MORE SECURE.**

TECHNICAL SPECIFICATIONS RDC ULTRAMESH

UK.D.017
RDC - Ultramesh

RDC UltraMesh System

Key Functions:	Detect, classify, confirm, identify and track human, vehicle and digging activity
Key Components:	Seismic sensor nodes with innovative screw design Alternative sensor node with external open/closed relay connection (PIR etc.) Master Node: Communications gateway node for network alarm/monitoring outputs Sensor Node Deployment Tool RDC Deploy field utility RDC Control application

RDC Sensor Node

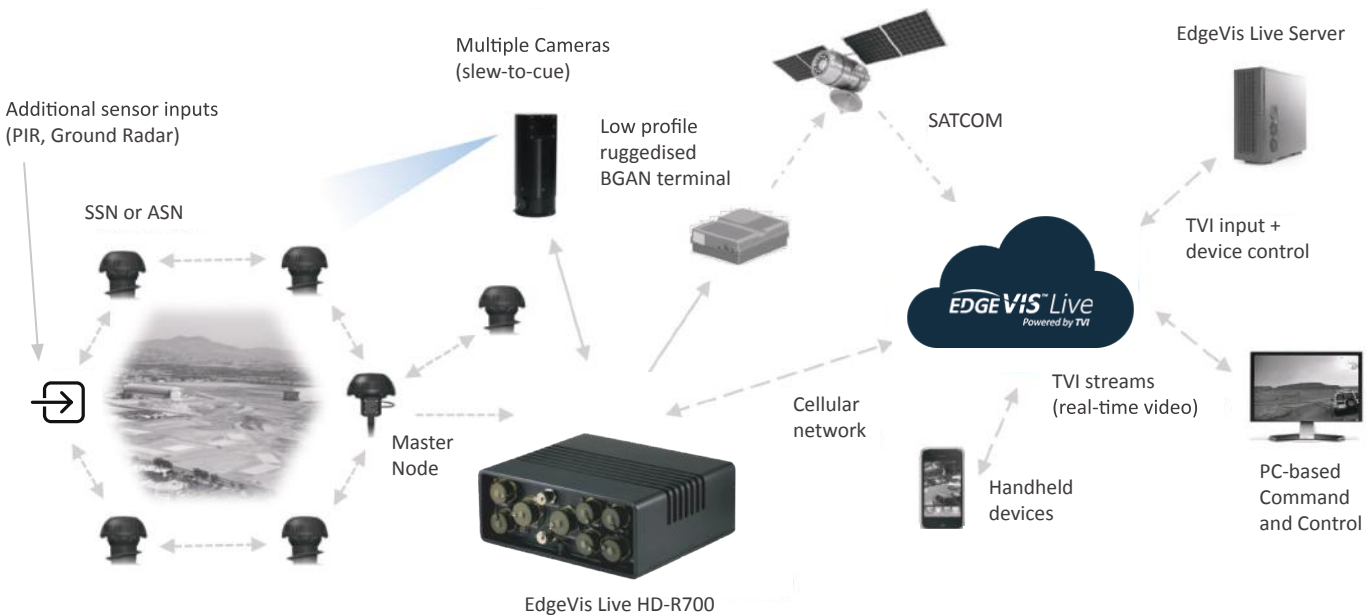
Typical Classification Range:	Personnel up to 30m, vehicles up to 100m and digging up to 30m (range varies depending on terrain and environmental conditions)
Battery Deployment Life:	6 months on Star (single-hop) mode, 4.5 months on Mesh (multi-hop) mode
Power Source:	Replaceable D cell lithium battery
Operating Temperature:	-20°C to +70°C
Node Weight:	<500g

RDC Master Node (network gateway)

Wide Area Network:	Direct connect to laptop or interface into cellular, SATCOMS and other networks via EdgeVis encoder
Power Source:	External battery (5 to 35V max)
Operating Temperature:	-20°C to +70°C
Node Weight:	500g

UltraMesh Network Communications

Radio Frequency:	Europe: 863 - 870MHz North America: 902 - 928MHz
Standards Compliance:	ETSI: EN300 220 and EN 301 489 FCC: 47CFR part 15
Network Characteristics:	Self-configuring, self-healing (with remote monitoring of network)
Networking Modes:	Star – extended battery life and low probability of RF intercept Mesh - large, complex networks



EDGE VIS™ Shield
Integrated Surveillance Platform

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