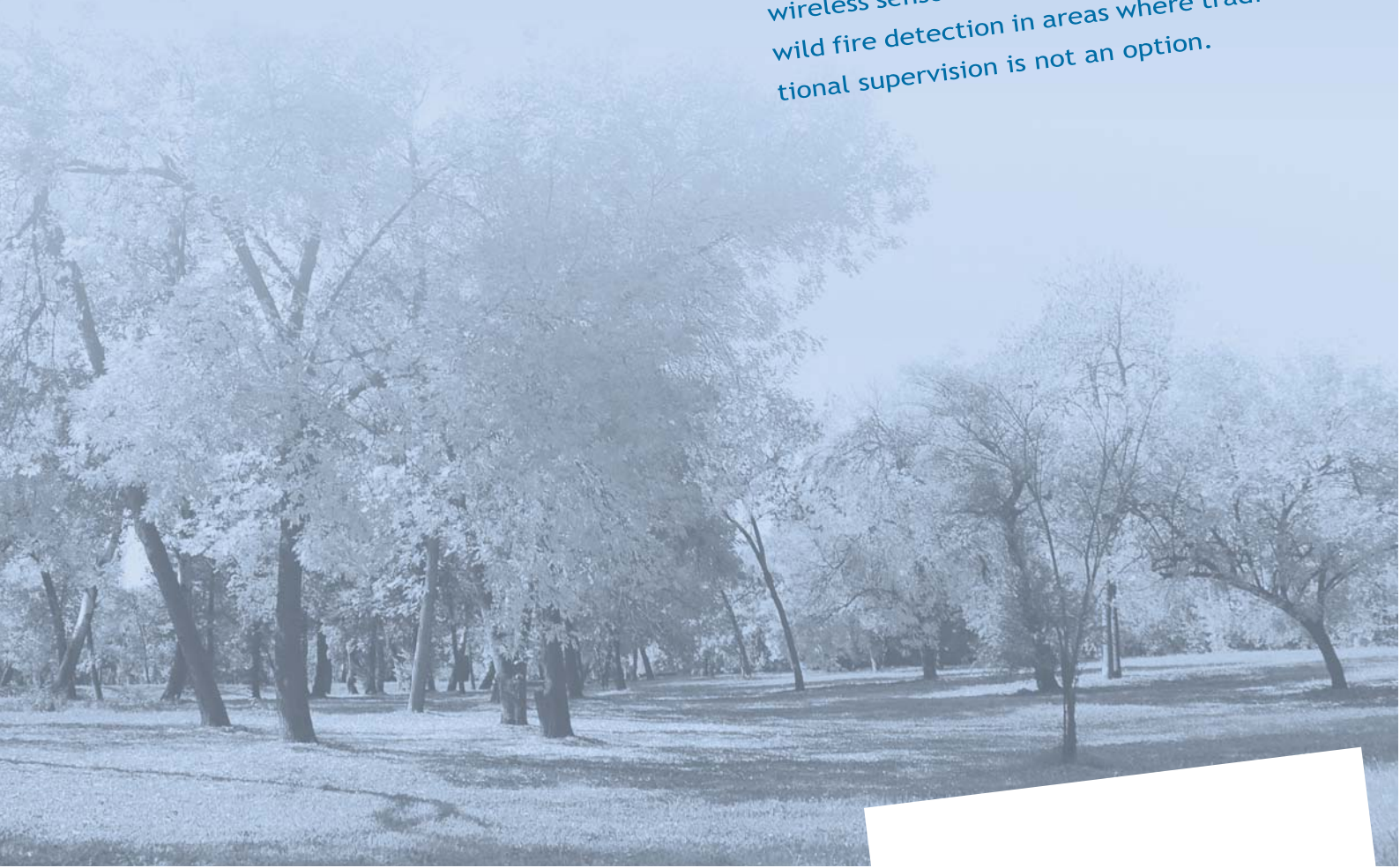


OptumSense

OptumSense is an environmental-friendly wireless sensor device, appropriate for detecting forest fire incidents as soon as possible. Designed to cover large areas, sensors are placed in the canopy of trees, at a density of 20-50 meters depending on the topography and density requirements. Sensors remain camouflaged in the tree canopy for their entire lifetime. In the event of a fire, an alarm signal is transmitted to gateways in range before the sensor that captured the event gets destroyed by the fire. Suited for large-scale and cost-effective deployments, the OptumSense wireless sensors are a viable solution for wild fire detection in areas where traditional supervision is not an option.



The OptumSense Wireless Forest Fire Sensor

OptumSense is a wireless sensor for the detection of forest fires, achieving close-to-real time performance. A temperature activated device, factory-programmed to trigger alarms at a specific temperature threshold, is the main element of each OptumSense sensor targeted to a typical forest fire detection application. Sensors are camouflaged into the tree canopy so as to be barely visible and remain there for their entire lifetime. Each sensor communicates directly with gateways in range to transmit alarm messages. Sensors can be deployed at any spatial density, limited only by the effective transmission range which can be up to a several hundred meters; however, best results are achieved by deploying sensors at high densities, like every 20 to 50 meters, which requires a rough number of 400 to more than 2000 pieces for every square kilometre. A typical sensor deployment may range from 1 to many square kilometres, and is limited only by the WAN coverage; the network may contain thousands of sensors organized in cells.

The OptumSense sensor communication protocol is a very simple and reliable protocol designed to provide dependable forest fire alarms; it consumes very low power and employs no complicated multi-hop or self-organizing techniques that may be suitable for other application domains. The supported network topology is a two-level star topology the first being the sensor-to-gateway communication and the second being the gateway-to-WAN communication. The concept behind the OptumSense sensor's simple and comprehensive operation is to enable the deployment of very large numbers of sensors in forest areas while being able to receive reliable fire alerts.

OptumSense Specifications

Current version	1.5
Temperature sensor	YES
Threshold alarm	Factory set at 55-65° C
Weather sealing	YES, IP64 compliant
Positioning	Vertical
Operating temperature	-10° C to 65° C
Operating rel. humidity	0 - 100%, RHI, Condensing
Typical size	20 x 3 x 3 (cm) max
Camouflage	Colour at choice
Antenna type	Internal antenna
Diagnostics	YES
Topology supported	Star
Effective sensor range	Up to 1000 m with free line of sight
Operating frequency	433 MHz
Sensor to gateway time	<30 ms
Multiple gateways per sensor	YES. Alarms are processed by all gateways in range
Battery lifetime	3-5 years
User-replaceable battery	NO
Environmental - friendly materials	YES
False alarm rate	<0,5%
MTBF (measuring device)	>3 years
MTBF (radio device)	>3 years
Warranty	3 years

Optum


Sensible
Solutions

Commission Agent


pylones
INFORMATION TECHNOLOGY

27 Mesogeion Ave | 11526 Athens, Greece | Phone: +30 210 7483700
e-mail: info@pylones.gr | website: www.pylones.gr

Optum Ltd

144 Yiannou Kranidioti Avenue | Latsia, Cyprus 2235 | Phone: +357 22482040
e-mail: info@optumservices.com | website: www.optumservices.com