

Silvanet Wildfire Sensor



Solar-Powered Sensor for Ultra-Early Wildfire Detection



The Silvanet Wildfire Sensor is designed for ultra-early detection, identifying forest fires within minutes to minimize damage and impact.

Sensitive to Hydrogen, Carbon Monoxide and other gasses, this “electronic nose” can smell fires as early as the smoldering phase, enabling firefighters to extinguish them before they spread. It also monitors microclimate conditions by measuring temperature, humidity, and air pressure.

The sensor employs highly sensitive gas detection with built-in AI to ensure accurate fire detection and minimize false alarms.

Using LoRaWAN for wireless data transmission, the sensor operates maintenance-free for 10-15 years and uses supercapacitors instead of batteries, eliminating the need for lithium and other toxic materials.

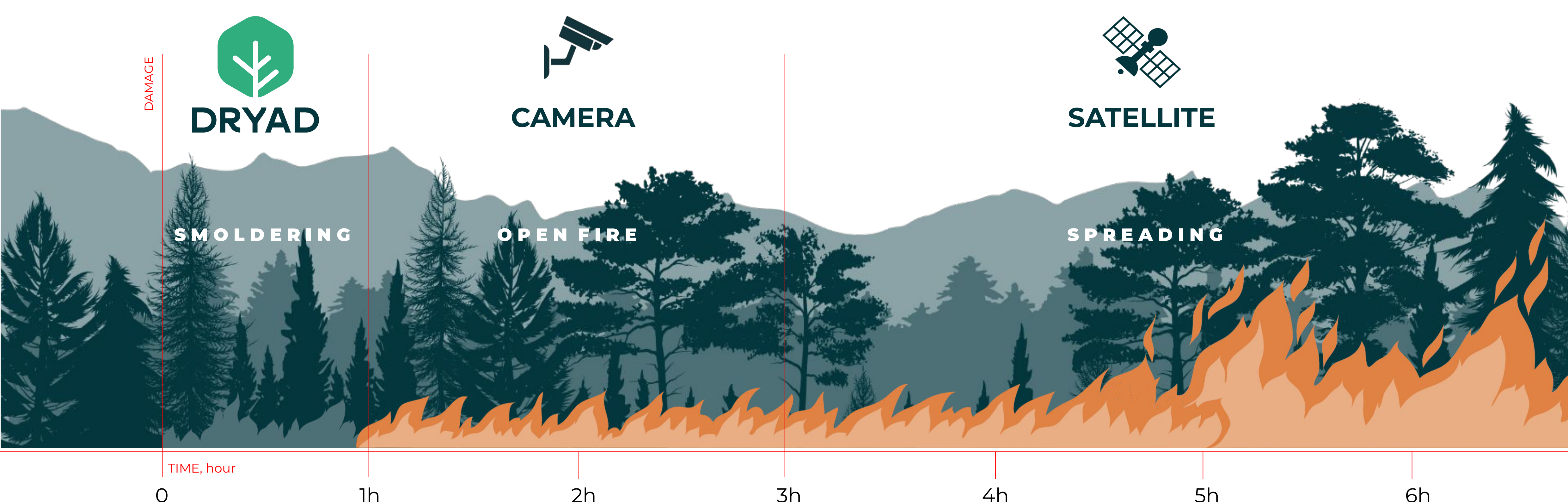
ULTRA-EARLY WILDFIRE DETECTION

- Significantly reduces reaction time
- Prevents economic losses
- Lowers risk and insurance costs
- Saves human lives and wildlife

HEALTH AND GROWTH MONITORING

- Reliable, consistent data collection
- Enhances forest planning effectiveness
- Optimizes tree growth and maximizes ROI

Ultra-early wildfire detection enables swift intervention, minimizing economic losses, reducing risks, and saving lives.



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Mechanical Specifications

Size	19 x 9.2 x 1.2 cm
Weight	136 g
Solar Panel	6 x 6 cm
Operational Temperature	-40°C to +85°C
Operational Humidity	0% to 100% Condensing
Ingress Protection	IP67
Material	Plastic (Weather, UV-proof)

Regulatory Compliance

USA (FCC)	Europe (CE RED)
Canada (IC)	Thailand (NBTC)
Indonesia (SDPPI)	

International type approvals available upon request

General Characteristics

Maintenance	Maintenance-free (10-15 years)
Distance between Sensors (Radius)	100m radius for 60-min detection of 2 x 2 meter fire
Sensor to Mesh Gateway (Ratio)	Typically 100 sensors per Gateway
Power source	Solar-powered
Energy storage	Supercapacitors, battery-free
Installation	Tree- or pole-mounted (3 meter height recommended)

LoRa Radio Parameters

ISM Bands	NA902-928, AU915
ISM Bands	EU868, AS923
Tx Power	14 dBm

Gas Sensor: Bosch BME688

Size	3.0 x 3.0 x 0.93 mm
Operation range	Pressure: 300 to 1100 hPa Humidity: 0 to 100% Temperature: -40 to 85°C
Sensitive to	CO, CO ₂ , H ₂ , VOCs, Temperature, Humidity, Air Pressure

Dimensions

