Silvanet Wildfire Sensor

DRYAD

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.

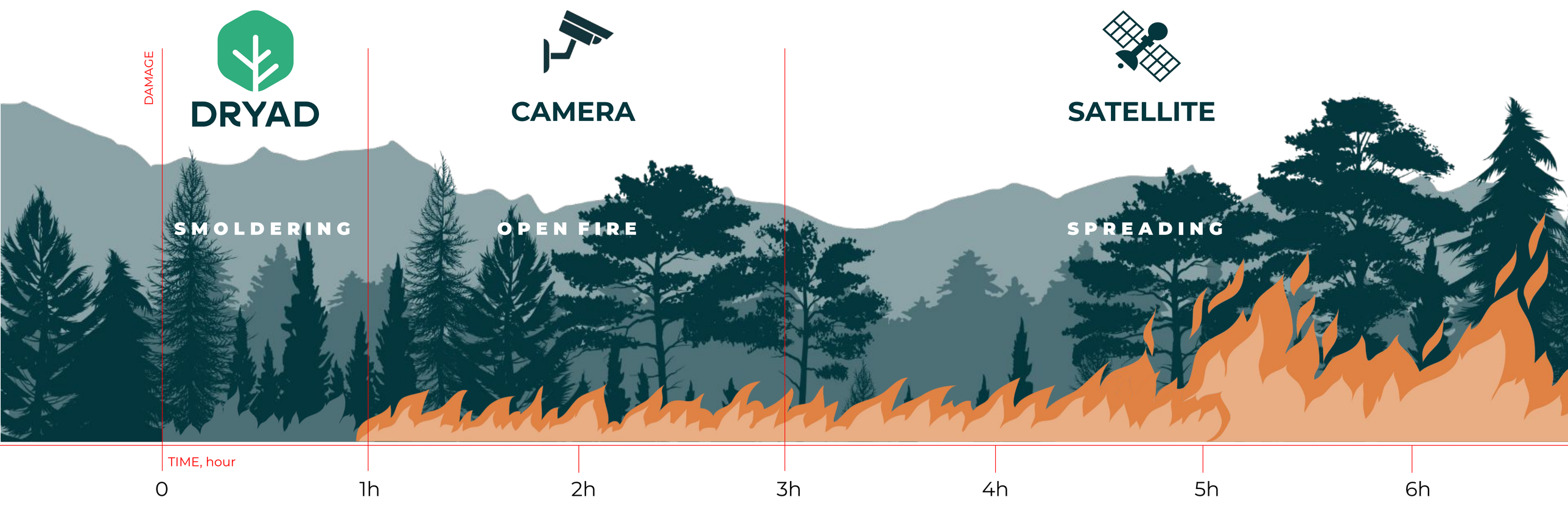
ULTRA-EARLY WILDFIRE DETECTION

- **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℃ to +85℃
Operational Humidity	0% to 100% Condensing
Ingress Protection	IP67
Material	Plastic (Weather, UV-proof)

Regulatory Compliance

USA (FCC, PTCRB)	Europe (CE RED)
Canada (IC)	CB Scheme

General Characteristics

Maintenance	Maintenance-free (10-15 years)
Distance between Sensors	100m radius for 60-min detection of 2x2 meter fire
Wildfire Sensor to Mesh Gateway (ratio)	Typically 100 Wildfire Sensors per Mesh Gateway
Power Source	Solar powered
Energy Storage	Supercapacitors, battery-free
Installation	Tree- or pole-mounted
Provisioning	NFC for local debugging and configuration

LoRa Radio Parameters

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

Gas Sensor: Bosch BME688

Size	3.0 x 3.0 x 0.93 mm
Operational Range	Pressure: 300 to 1100 hPa Humidity: 0 to 100% Temperature: -40 to 85°C
Sensitive to	CO, CO2, H2, VOCs, Temperature, Humidity, Air Pressure

Dimensions