

Ventura County, CA Fire Department Tests Sensor-Based Early Wildland Fire Detection and Alerting Device

GRIDWIDE FIRE-SPY® (GFS) provides fire and outdoor smoke/gas detection along with temperature and humidity monitoring, with text alerting and other notification capabilities for expedited fire detection and suppression.




Solution: GRIDWIDE FIRE-SPY (GFS)

Use Case: Early Wildland Fire Detection, Auto Alerting and ongoing Situational Awareness Data Flow

Testing and Evaluation Highlights

Challenge – Since 2017, US wildland fire damages have consistently ranged from \$50-\$100+ billion annually. Ongoing severe drought conditions combined with extremely dry vegetation in high-risk areas means early fire detection leading to faster fire suppression is imperative for all affected communities.

Solution – GRIDWIDE FIRE-SPY (GFS) quickly and easily mounts on utility transformers to create an always on sensor canopy for prompt reporting of unfolding wildland fire events. GFS provides outdoor smoke/gasses detection, ground surface temperatures and ambient temperature monitoring, and changing humidity levels. Helping to pinpoint issues via Alerts and GPS coordinates.

 ***The successful GRIDWIDE FIRE-SPY demonstration spurred several discussions about the importance and impact of technology solutions in early wildland fire detection and warning.***

- Fire Chief Dustin Gardner, Ventura County (CA) Fire Dept

Challenge

The GRIDWIDE FIRE-SPY (GFS) device was affixed to a boom lift (using its built-in magnets) and raised to a height of approximately 35 feet to simulate the typical height of utility grid overhead transformers. VCFD firefighters then lit a total of 8 separate fires, using local brush, pallets and straw for fuel. Facing the demonstration area, fuel piles were placed approximately 40+ feet directly in front of the GFS, and at varying distances of ~60-125 feet to the left (downwind) and to the right (upwind) of the device. There was a prevailing northerly wind of ~8-10 mph moving smoke and fire conditions from right to left.

Test fires were started and then completely extinguished to remove smoke from the air before each subsequent fire test began. Once each fire was lit, near real-time sensor measurements were displayed on monitors for participants. Detailed graphs showed the exact times when ground surface and ambient temperatures rose, smoke was detected, and the humidity dropped. Auto alerts were immediately dispatched to pre-authorized participants.



Solution

The GFS easily detected the fire that was started directly in front of it and separate fires that were located up to 120+ feet to the left or right of the device. Text alerts arrived on a sampling of participant cell phones within 15-60 seconds of live fire and/or smoke being registered by the GFS sensor, allowing participants to view the real-time empirical data flow.

With the 220°-240° field of view offered by the GFS, this demonstration resulted in a monitored coverage area of approximately 1/3rd acre provided by a single GFS device.

Benefits

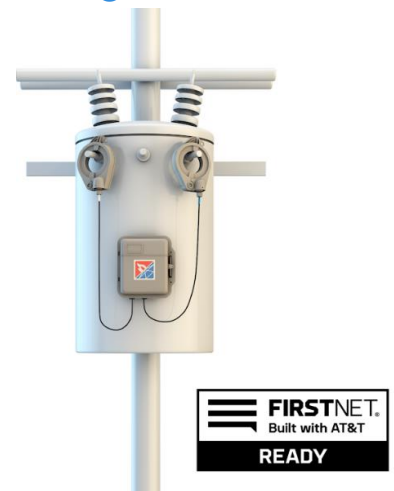
The height of deployment, terrain, wind speed/direction and fire size may impact the overall GFS field of view and resulting coverage area. To accommodate these variables, having a network of GFS devices deployed throughout communities will improve the public safety value and environmental protection gains uniquely offered by GFS.

The overhead monitoring canopy created by GFS devices facilitates robust coverage. Thereby maximizing early wildland fire detection; driving auto notifications, resulting in improved situational awareness, faster fire suppression, and less damage or devastation for communities.



Keeping wildland fires smaller with early detection and warning is beneficial for helping to save lives and helping to:

- Reduce mass community evacuations
- Reduce safety risks to first responders
- Reduce property loss and personal injuries
- Reduce fire suppression costs
- Reduce post-event rehabilitation and restoration costs
- Reduce liability concerns for utilities and other businesses
- Reduce losses/settlements for insurers
- Reduce harmful greenhouse gas emissions



We are concerned about wildland fires year-round in our community and have a very progressive mindset in leveraging technology tools, such as GRIDWIDE FIRE-SPY, for the fire service to help mitigate these types of fires.

- Deputy Fire Chief Chad Cook, Ventura County (CA) Fire Dept

Want to learn more?

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