

DETECTION

# GRIDWIDE FIRE-SPY: IMPROVING EARLY WILDFIRE DETECTION

Alan Snook, President at GRID20/20 tells IFSJ about the fire detection solution that helps catch wildfires early

**F**or many, the threat of wildfire is omnipresent and its ability to devastate is unpredictable and unprecedented. On 8 November 2018, the Paradise fire in California spread over seven miles in 90 minutes, crossed a large canyon, claimed the lives of 85 and resulted in over \$25.5 billion in costs and settlements. For Alan Snook, President at GRID20/20, the Paradise tragedy was a catalyst for innovation. And annual wildfire damages of \$50 Billion to \$100+

Billion assures him they are on the right track.

While watching a documentary about the Paradise fire, Snook considered how his team could leverage their company's intra-grid sensor expertise and capitalise on the height, location and density of existing overhead transformers to create proactive always-on fire/wildfire monitoring canopies throughout communities. And so GRIDWIDE FIRE-SPY was born.





## In development

Initially, says Snook, the wildfire mitigation product was an add-on sensor pack to the face of his company's legacy Advanced Transformer Infrastructure® device: "Our first generation product was a piggyback design that was sealed onto our legacy ATI hardware," he explains.

Following multiple lab and field tests, the second-generation product is a fully-contained technology that now simultaneously includes fire detection and/or intra-grid monitoring capability. This second generation version is designed for both single phase and poly phase overhead transformers. Thus enabling deployment upon virtually every overhead distribution transformer used by operators within their existing grid architecture. GRIDWIDE FIRE-SPY devices can be mounted on most overhead transformers in 5-7 minutes causing no service interruption to customers.

Throughout the nearly two-year process of bringing GRIDWIDE FIRE-SPY to market there have been many lab and field tests. This includes: four separate field tests at a major Investor-Owned Utility's fire training centre in Virginia, a field test at a volunteer fire department in Virginia, a field demo in Hawaii for first responders and utility personnel, and another comprehensive field demo in Ventura County California in September this year for first responder personnel, and representatives of Western Fire Chiefs Association, California State Firefighters Association, and FirstNet® Ready built by AT&T; the latter being a dedicated cellular network by which GRIDWIDE FIRE-SPY is certified.

## The solution

GRIDWIDE FIRE-SPY is a turnkey wildfire mitigation solution that involves patented field sensors, automated alert capability and seamless interfacing for expedited field conditions reporting to

authorised users. Snooks calls it a 'set it and forget it' technology; but one that users can remotely adjust as needed using over the air upgrade capability.

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"Via 24/7 monitoring, our patented sensors use Infrared for 'seeing' fire/wildfire heat-induced conditions, plus onboard smoke/gas detection, humidity monitoring, and ambient temperature monitoring," explains Snook. "These features are designed to detect conditions that are commonly associated with an unfolding fire.

"The GRIDWIDE FIRE-SPY sensor data is typically driven by various types of cellular communications, thereby facilitating important auto alert capability. Our software and analytics can be seamlessly integrated with existing utility and first responder platforms and made available to authorised users via Graphical User Interface (GUI)."

GRIDWIDE FIRE-SPY uniquely reports latitude/longitude GPS coordinates thereby enabling utility operators and first responders to more accurately dispatch personnel to where wildfire conditions are being detected.

"Ongoing empirical data flow enhances situational awareness intel so the authorities can remain



informed during unfolding events,” Snook explains. “The unique intra-grid monitoring capability of GRIDWIDE FIRE-SPY simultaneously reports transformer asset and intra-grid conditions insights for certain fire prevention purposes.”

GRIDWIDE FIRE-SPY presents a wildfire mitigation solution that helps to address important community-wide monitoring needs. Proactive atmospheric, environmental, and intra-grid conditions monitoring all wrapped into one sensor solution is novel, versatile, and cost-effective.

### System integration

During GRID20/20’s 11-plus year intra-grid sensor experience, including the last two years experiencing the wildfire mitigation learning curve, Snook says his team has gained several insights. One of the most important realisations, he says, is that true wildfire mitigation will not be achieved by a single ‘solution’ or practice. Genuine wildfire mitigation will undoubtedly require multiple process improvements strategically combined with multiple technology tools.

To this end, he says that GRIDWIDE FIRE-SPY is a solution unique in its ability to simultaneously drive early detection, auto alerts, certain wildfire prevention capabilities, ongoing situational awareness information, and localised longitude/latitude GPS



coordinates reporting for helping to pinpoint where operators and first responders must quickly target.

He notes that whilst GRIDWIDE FIRE-SPY can operate as a ‘stand-alone’ always on, overhead outdoor monitoring solution, it is strategically built to interface with other solution providers to yield the best possible outcome for at-risk communities, and all stakeholders.

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### Looking ahead

Near term, Snook says the intention is for GRIDWIDE FIRE-SPY to be adopted by utility operators and all stakeholders for the purpose of protecting at-risk communities. This, he says, will require decision-makers to recognise that the solution presents a comprehensive set of value propositions; achieved via the deployment of this versatile technology onto existing overhead grid architecture; right where we all live, work, sleep, commerce, and play.

By the adoption of GRIDWIDE FIRE-SPY, he anticipates that utility operators will continue to

demonstrate their sincere interest to protect the communities they serve; while they too will benefit from increased wildfire protection gains to avoid or lessen damage to their grid assets, reduce corporate liability risk, and better protect the environment.

He adds that whilst video cameras have become the ‘latest tool’ being desired by authorities, he believes that people will soon recognise the comprehensive upsides that their solution presents: “GRIDWIDE FIRE-SPY doesn’t have to wait for a plume of smoke to emerge and then be sighted. Rather, we are deployed on the proverbial frontlines; improving our ability to ‘see’ and ‘sniff’ fires sooner.

“By uniquely using infrared capabilities to ‘see’ fires, and onboard sensors to ‘smell’ wildfire conditions (e.g., smoke, gas, humidity, ambient temp) we enhance early detection opportunity. Our auto alerts feature will help to accelerate notifications to authorities. And we uniquely help to locate unfolding events via our use of longitude/latitude GPS coordinates to accelerate the pinpointing of where to deploy response resources.”

He adds: “Time is of the essence regarding fires. The most effective solutions will detect fire conditions at, or near the source. Our solution is substantially based on early detection. This is how we will help to accelerate responses. This is how we help to make fire events smaller, and help to reduce or avoid disasters. By being deployed on the frontlines, GRIDWIDE FIRE-SPY is intended to provide a legitimate chance for early detection, and accelerated response effectiveness.”

