CASE STUDY

> *"Our mission is to stop the spread of catastrophic wildfires. The Taoglas Barracuda is key to providing our customers with the ultra-high reliability and performance that they need to protect homes, businesses and lives."*
>
> **Sonia Kastner**
> Pano AI Founder and CEO

Taoglas helps Pano AI expand coverage and reliability for their wildfire monitoring network

About Pano AI (Pano):

Pano helps fire districts, municipalities, utility companies, and other organizations detect emerging wildfires before they escalate into major disasters. Using a combination of hardware, software, and artifical intelligence, Pano continuously monitors a geographic region for threats and provides fire authorities with actionable intelligence so that they can quickly detect, assess, and contain wildfires while they are still small.

The Challenge:

Pano places monitoring stations on high vantage points across a geographic region, creating a network of ultra-high-definition (UHD) cameras which rotate continuously to provide a real-time 360 degree view of the landscape. Each Pano Station needs an ultra-reliable, ultra-fast connection in order to provide UHD imagery to Pano's AI engine for analysis. That's challenging in any environment, but it's taken to the extreme atop remote mountains and deep within forests , where cellular coverage is weak. With a weak signal, Pano would struggle to upload gigabytes of continously generated UHD imagery and associated data.

Many fire-prone locations also are in areas with extreme weather conditions, such as high heat, bitter cold and strong winds. All of that can wreak havoc on the camera's antenna, as well as its cable and connector.

When an antenna fails due to the elements, it instantly takes that camera offline, creating a wildfire blind spot in that region. Restoring connectivity also takes time — and money — because technicians with specialized skills are required to work safely on RF equipment in high locations.

The Solution:

To overcome these challenges, Pano AI chose the Taoglas Barracuda OMB.6960.B07F21 antenna and utilized the Taoglas Cable Builder for the custom cable assemblies needed for the application. Featuring an integrated bracket for easy installation on poles and walls, the Barracuda has a UV-resistant, IP67-rated fiberglass housing that's more durable than traditional whip antennas. The antenna also has wind resistance up to 200 km/h and a ruggedized N-type female connector.

With a compact 340x70 mm form factor, the Barracuda covers all 4G LTE, 5G, CBRS and Wi-Fi bands between 600 MHz and 8 GHz, providing maximum flexibility across both public and private networks. The collinear dipole array provides up to 7 dBi peak gain and high efficiency, as well as an omnidirectional radiation pattern that's uniform in the

azimuth to achieve long-distance coverage. That's key for wringing maximum performance out of even minimal signals.

The Outcome:

Pano has successfully deployed its early fire detection and notification system across high-risk fire zones in four U.S. states and Australia. During the 2021 U.S. fire season, Pano identified, confirmed, and notified customers of more than 100 fires in these states.

"Pano AI's cameras, in addition to their intelligence center, could help PGE detect potential fire starts before they become catastrophic fire events," said Jay Landstrom, Senior Manager of Wildfire Analytics and Resiliency for Portland General Electric. "Early intelligence will be critical information that will help keep our customers and our field personnel safe."

"Pano Rapid Detect cameras are subjected to some of the most extreme weather conditions we've ever seen," said Olivier Robin, SVP and GM for Taoglas Advanced Component business unit. "If that weren't enough, they also operate in challenging RF conditions, including the weak signals that come with remote environments. We knew that the Barracuda was the ideal solution to providing reliable, high-performance connections under any conditions."

"Our mission is to stop the spread of catastrophic wildfires," said Pano AI Founder and CEO Sonia Kastner. "The Taoglas Barracuda is key to providing our customers with the ultra-high reliability and performance that they need to protect homes, businesses and lives. "

Featured Taoglas Product

OMB.6960.B07F21

Wideband Omnidirectional 7dBi Wall/Pole Mount Antenna

📄 **Click here for OMB.6960.B07F21 datasheet**

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