



# Introducing Pano

*Actionable Intelligence for Wildland Management*

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# The Age of the Fire Season is Gone... We Are Facing Fire Years

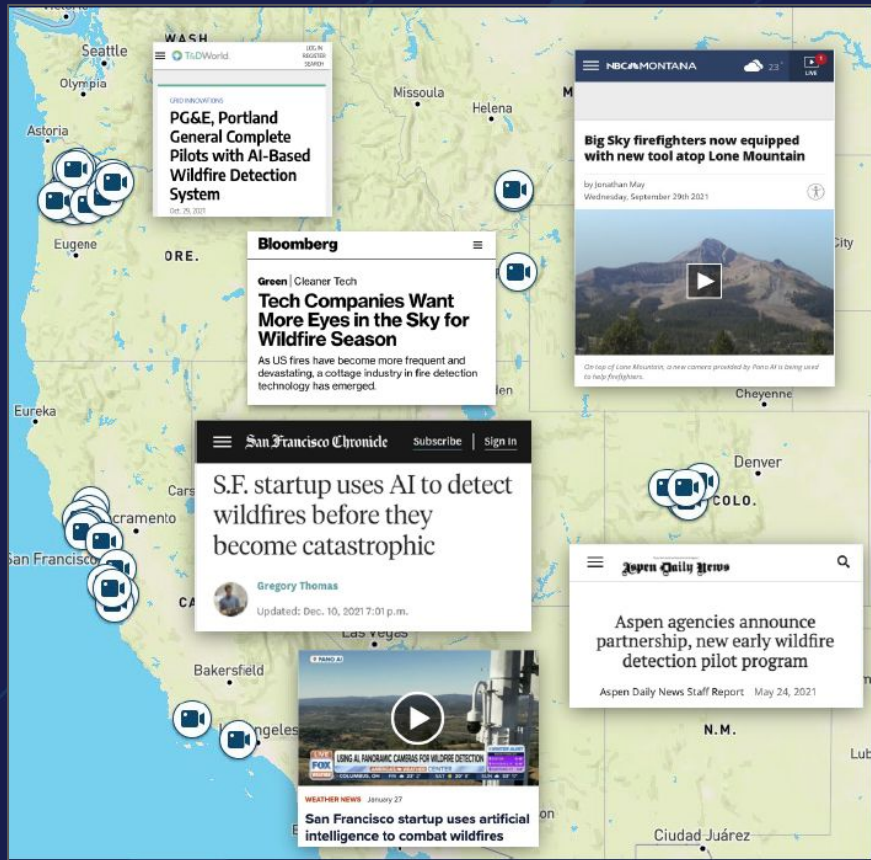


**The New York Times**

## ***Record-Setting Colorado Fires Destroyed More Than 500 Homes***

Unlike fires in mountain wilderness, which often burn over the course of weeks, the destruction on Thursday played out in minutes and hours.

# Pano Stations Have Been Deployed Across the Western US and Abroad



## Power & Water Utilities



## Fire Agencies

Aspen FPD  
Big Sky FPD  
Felton FPD

Hoodland FPD  
Scotts Valley FPD  
Sonoma FPD

South Lake Cty FPD  
Woodside FPD  
CALFIRE

ODF - Bullrun Fed Lands  
USFS (ID, CO, OR, CA, MT)

## Governments

USFS-Caribou Targhee NF  
Gallatin County, MT  
Gresham County, OR  
LA County, CA  
Pitkin County, CO  
Madison County, MT

Boulder County, CO  
Santa Clara County, CA  
San Mateo County, CA  
Santa Cruz County, CA  
Sonoma County, CA  
City of Aspen

City of San Bruno  
City of Malibu  
Redwood City  
City of Portland  
USDA | CA Parks

## Private Landowners, Resorts, & Other Stakeholders

Big Sky Ski Resort  
Lone Mountain Land Co.  
Forest Corp NSW

Southern Cross Forests  
Aspen-Snowmass  
Yellowstone Club



# Pano Rapid Detect Empowers Responders to Tackle a New Generation of Threats

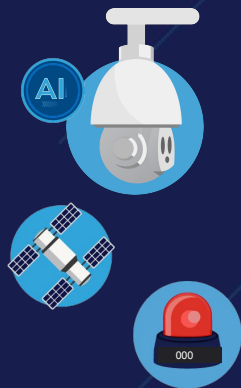
## Detection

## Confirmation

## Dissemination

## Response

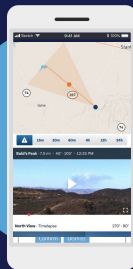
## Review



**Multiple data feeds**  
(i.e. cameras,  
satellites,  
911 calls, etc.)



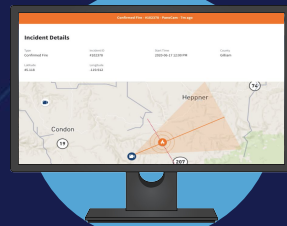
Pano 360  
**web platform** with  
**360-degree**  
**visibility** and **AI**  
**smoke detection**



Pano 360  
**Mobile Site** and  
**SMS Alerts**  
with live video &  
timely updates



Pano enables an  
**informed rapid**  
**response** to knock  
down bushfires &  
**maintain safety**



Pano creates an  
**institutional**  
**memory** enabling  
**review** of incidents,  
timelapses and data



# Pano's Advanced Technology Helps Firefighters Prevent Catastrophic Wildfires

Combining hardware, artificial intelligence ("AI"), and web-based software in a single easy-to-use platform



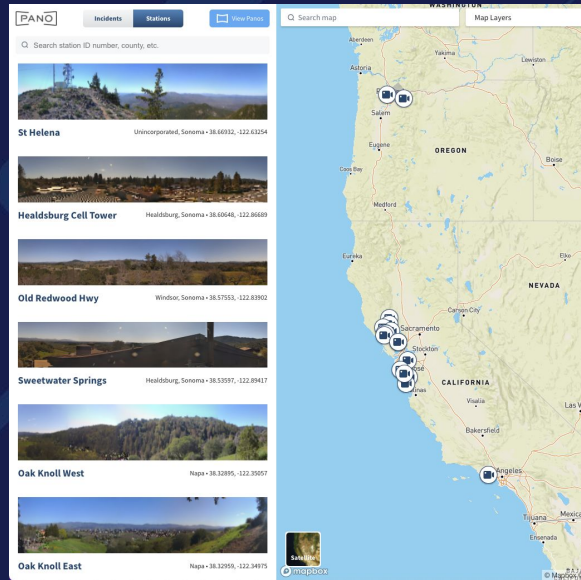
## Cutting-Edge Hardware

provides advanced imagery via two rotating cameras, capturing an ultra-high-definition 360° panorama every minute



## AI Detection Backed By Human Intelligence

Intelligence center monitors for the first indications of smoke 24/7, across the entirety of the geographic coverage area



## Easy-to-use Interface

unifies advanced features developed with partner utilities including asset proximity, zoom-to-investigate, incident triangulation, and alerts in a single platform

# Satellite Detection for Nighttime Incidents

## Data Source:

- GOES (US)
- Himawari (Australia)

## NOAA FDC Detection (In Production):

- Ingested alerts from the NOAA Fire Detection and characterization algorithm are confirmed by Pano Stations

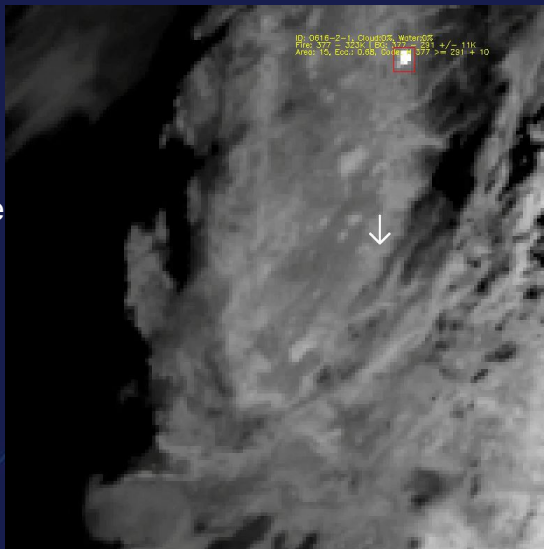
## Thermal Hotspot Detection (In Testing):

- Computer Vision based method for detection of thermal hotspot on GOES 16 & Himawari.

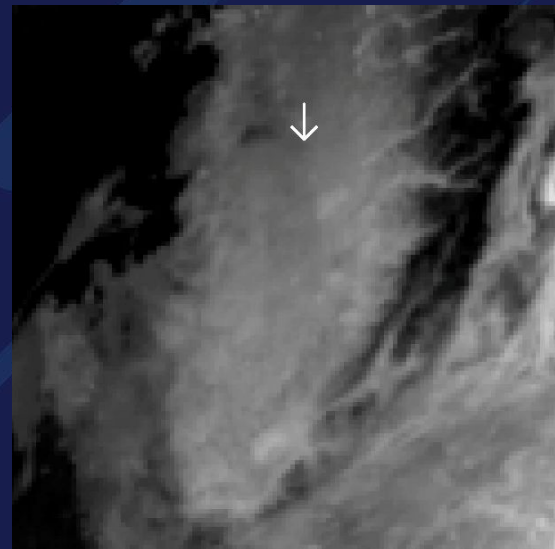
## Deep Learning Detection (In Development):

- Deep learning based models for fire detection using satellite data

July 24, 2022



July 2, 2022



**Thermal hotspot detected in night-time GOES-16 imagery.**

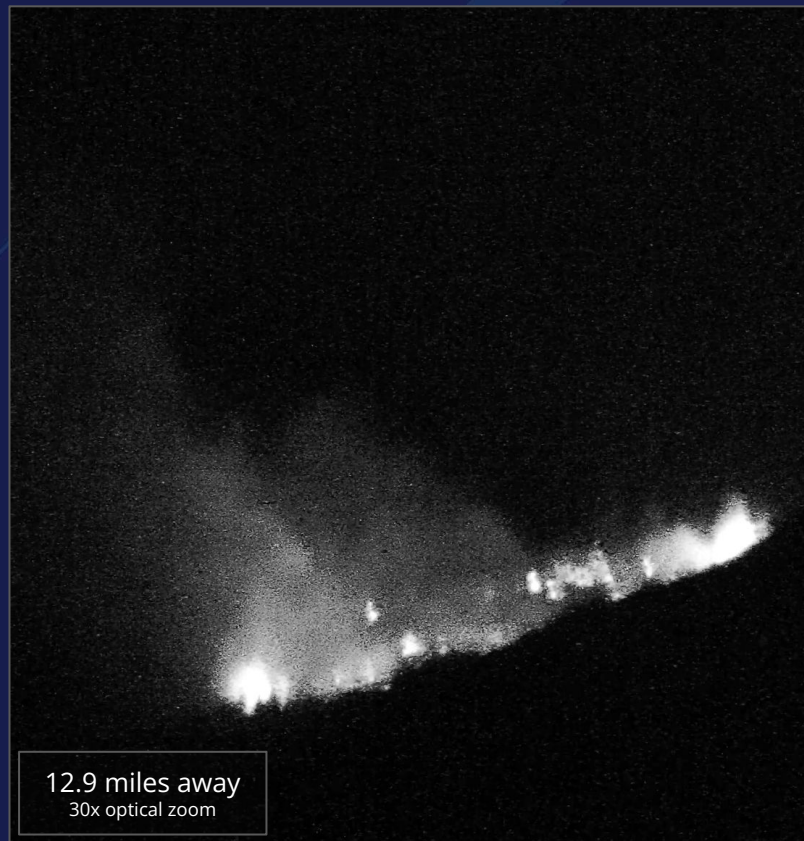
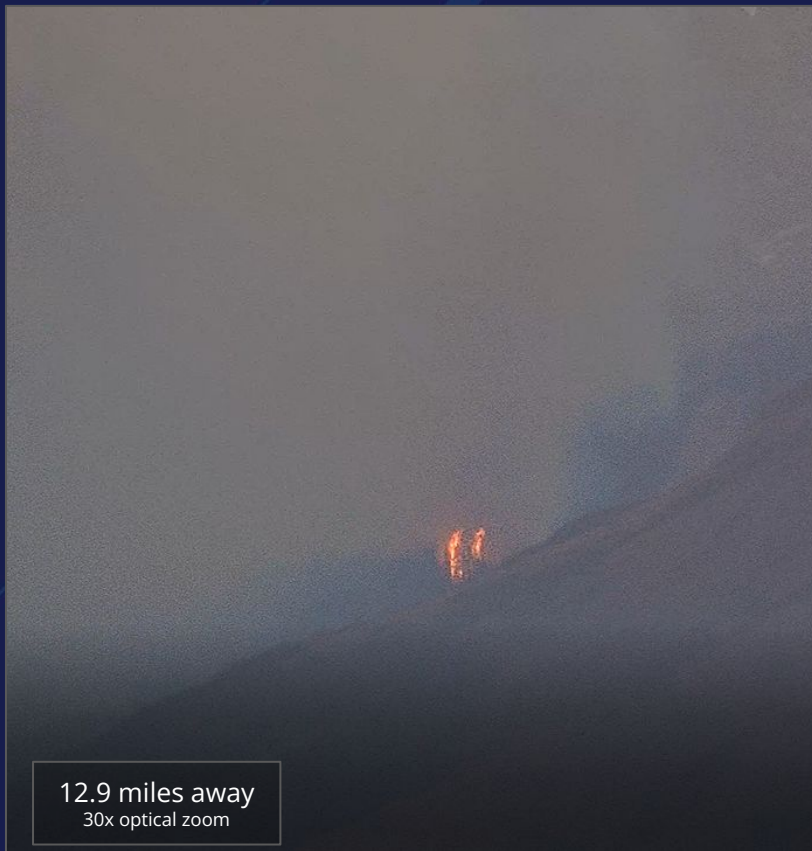
*Video start: 23:16 (Local Time)*





## Industry Leading Optical Zoom & Image Quality

With 30x optical zoom Pano Stations can provide real-time visibility into incidents from miles away - both in daylight and nighttime conditions - images from the Shedhorn Mountain Fire shown below





# Caribou Targhee USFS Prescribed Fire-2022

*View from Relay Ridge Station*



# Caribou Targhee USFS Prescribed Fire-2023

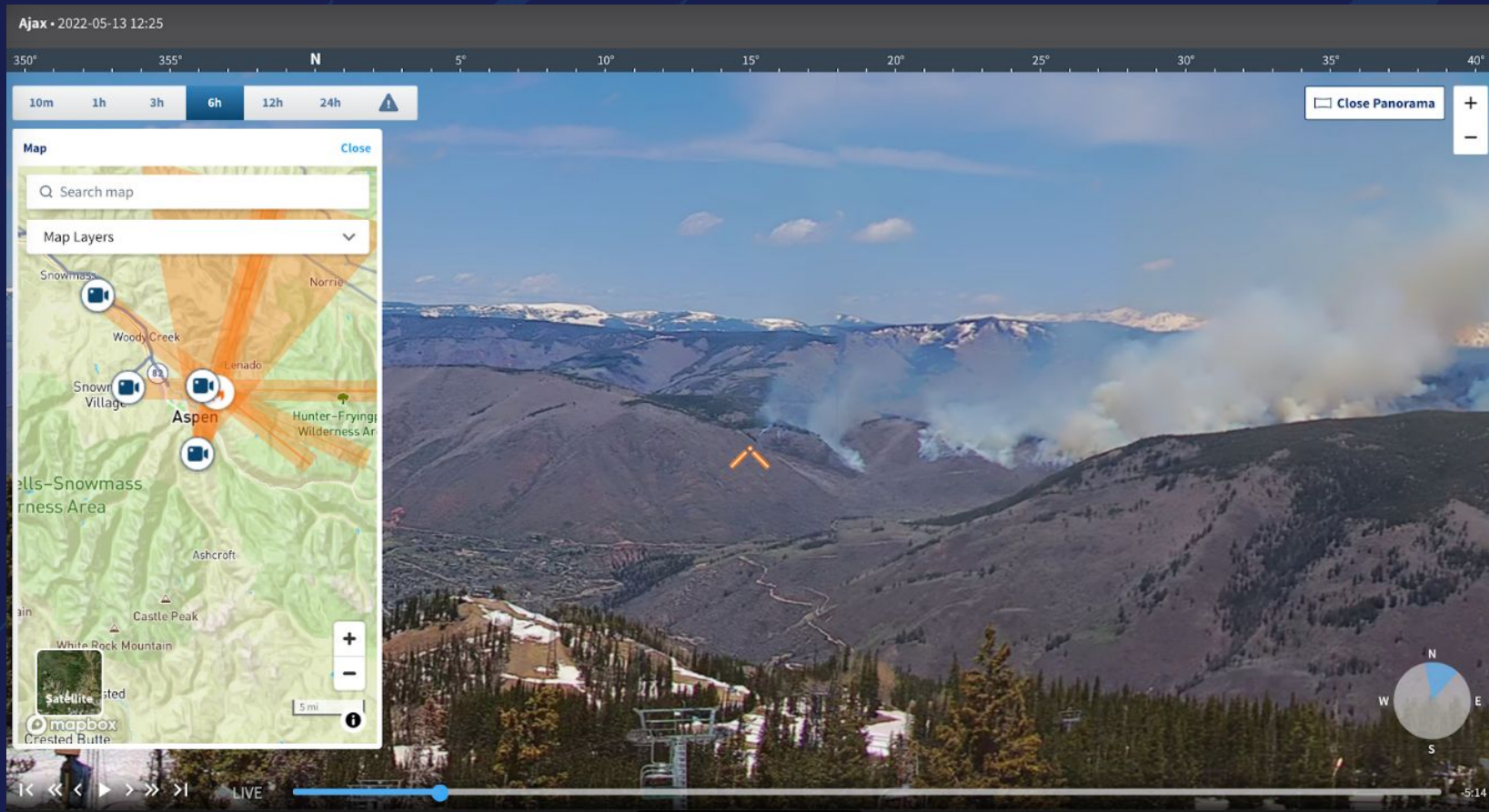
*View from enabled Pano optical zoom feature*










# Pano for Prescribed Burning












# Pano AI Alerts are Key for Managing RX Burns & Containing Flare Ups

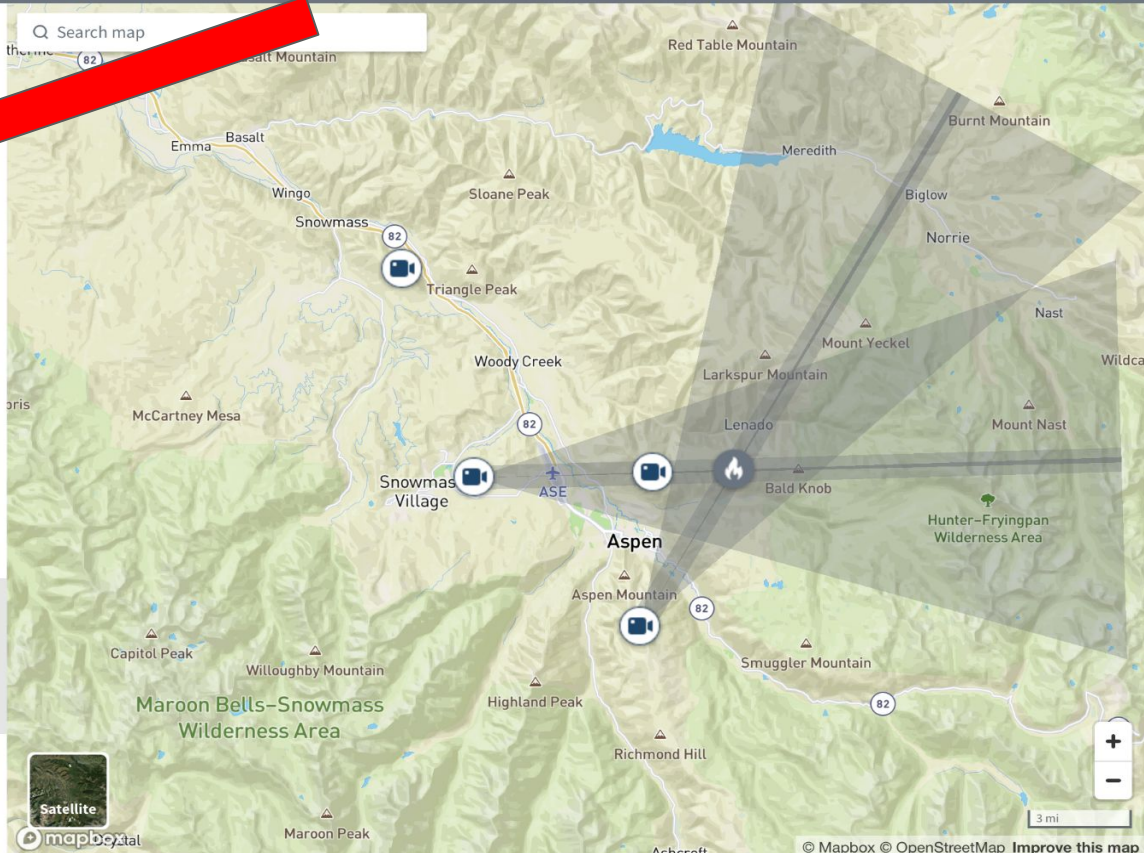
**PANO for Government**  [View Panos](#) 

**Incidents** **Stations** 

-  **Hunter Creek Prescribed Fire Flare Up** Closed for 74d  
#3588  
Ajax
-  **Hunter Creek Prescribed Fire Flare Up** Closed for 74d  
#3587  
Ajax
-  **Hunter Creek Prescribed Fire Flare Up** Closed for 74d  
#3585  
Ajax
-  **Hunter Creek Prescribed Fire Triangulation 14:00 MT** Closed for 72d  
#3583 • Aspen, Pitkin  
Ajax • Jack Rabbit
-  **Hunter Creek Prescribed Fire Triangulation 13:00 MT** Closed for 75d  
#3579 • Aspen, Pitkin

Display a menu for "<https://360.pano.ai/incident/3583>"

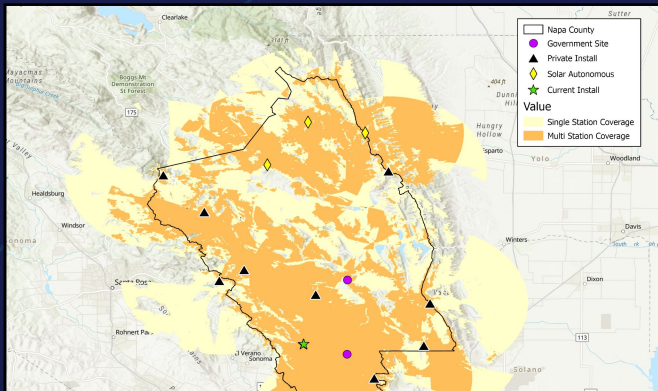
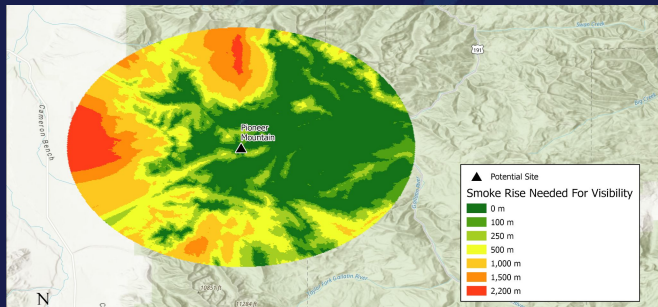
 

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© Mapbox © OpenStreetMap [Improve this map](#)

# Complete Solution for Lifespan of the Product

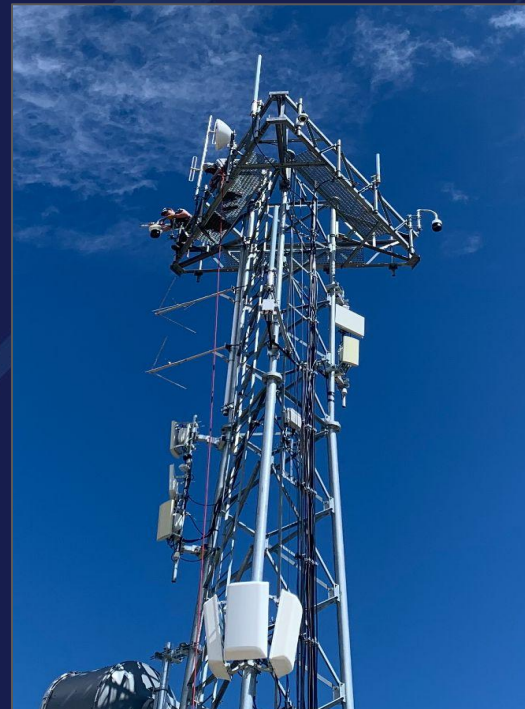
## Topographic & Tower Analysis



## Deployment

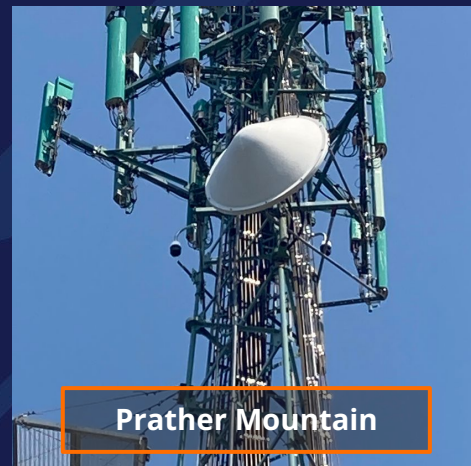


## Management





# Pano has Deployed Various Station Configurations with Other Partners



## Flexible Site Configurations





# Thank you.

*Questions can be directed to:*

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