



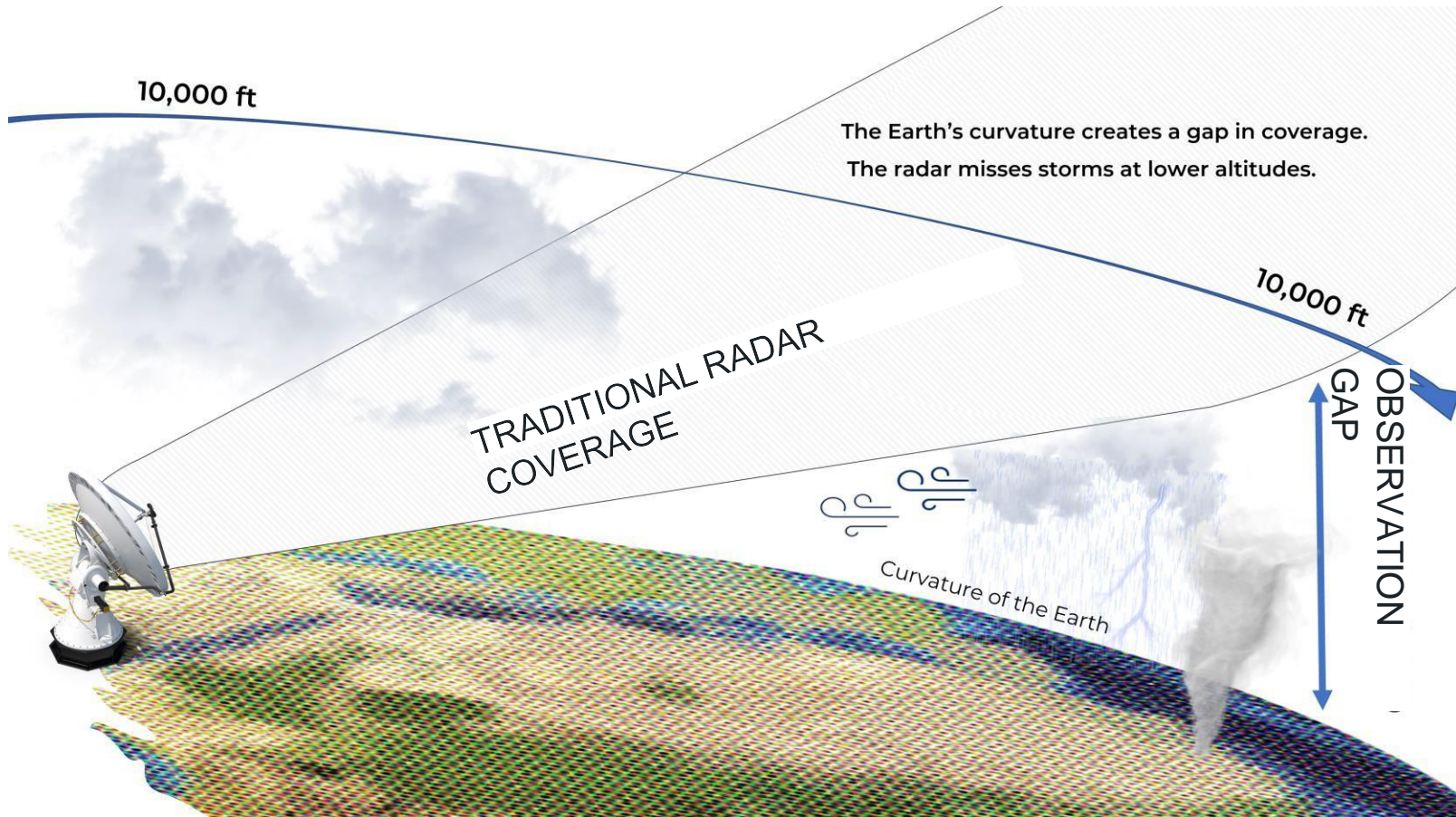
TRUWEATHER
SOLUTIONS

The Trusted Weather Company for Next-Generation Mobility
Reducing the Weather Tax™ on Communities and Commerce

Dr. Chris Zarzar
Director of Weather Strategy and Innovation



Learn More About TruWeather



What approximate percent of time does weather cancel and/or delay your missions?

[More Details](#)

- <10%
- 10-30%
- 30-50%
- >50%



30% of crewed aviation flights cancelled/delayed due to weather **COULD HAVE FLOWN** (expect higher rates for Unmanned Aircraft Systems [UAS])

WHY: uncertainty about what is happening or will happen

[Preliminary Weather Information Gap Analysis for UAS Operations \(mit.edu\)](#)

Operator Pain Points



Terrain-altered winds cause excessive fuel consumption.



Pop-up and poorly forecasted precipitation can lead to hazardous conditions and reduce reliability



Reliance on METAR for visibility decision making reduces operational efficiency



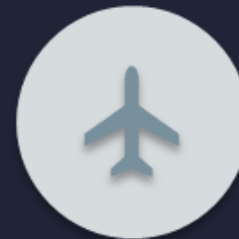
Poor icing forecast results in unnecessary downtime



Low temperatures in the winter and high temperatures in summer have predictable impacts



Cloud base observations needed rather than traditional ceiling estimates.



Turbulence negatively impacts controllability and ride comfort

It is Time for Weather Industry Disruption

TruWeather provides transformational micro-weather data, analytics, and services to safely move people and goods across a new frontier of air and ground journeys, while generating greater economic value for clients and communities.

1. Comprehensive Weather Monitoring Ecosystem

the creation of unique weather sensor networks enabling local scale weather modeling that does not exist today

4. Advanced Weather Intelligence

weather system monitoring analytics
Meteorologist-Over-the Loop decision guidance



2. Proprietary Weather Data Analytics and Modeling

producing micro models at 1KM scale resolution, with 15 min refresh and 6-hour forecasts

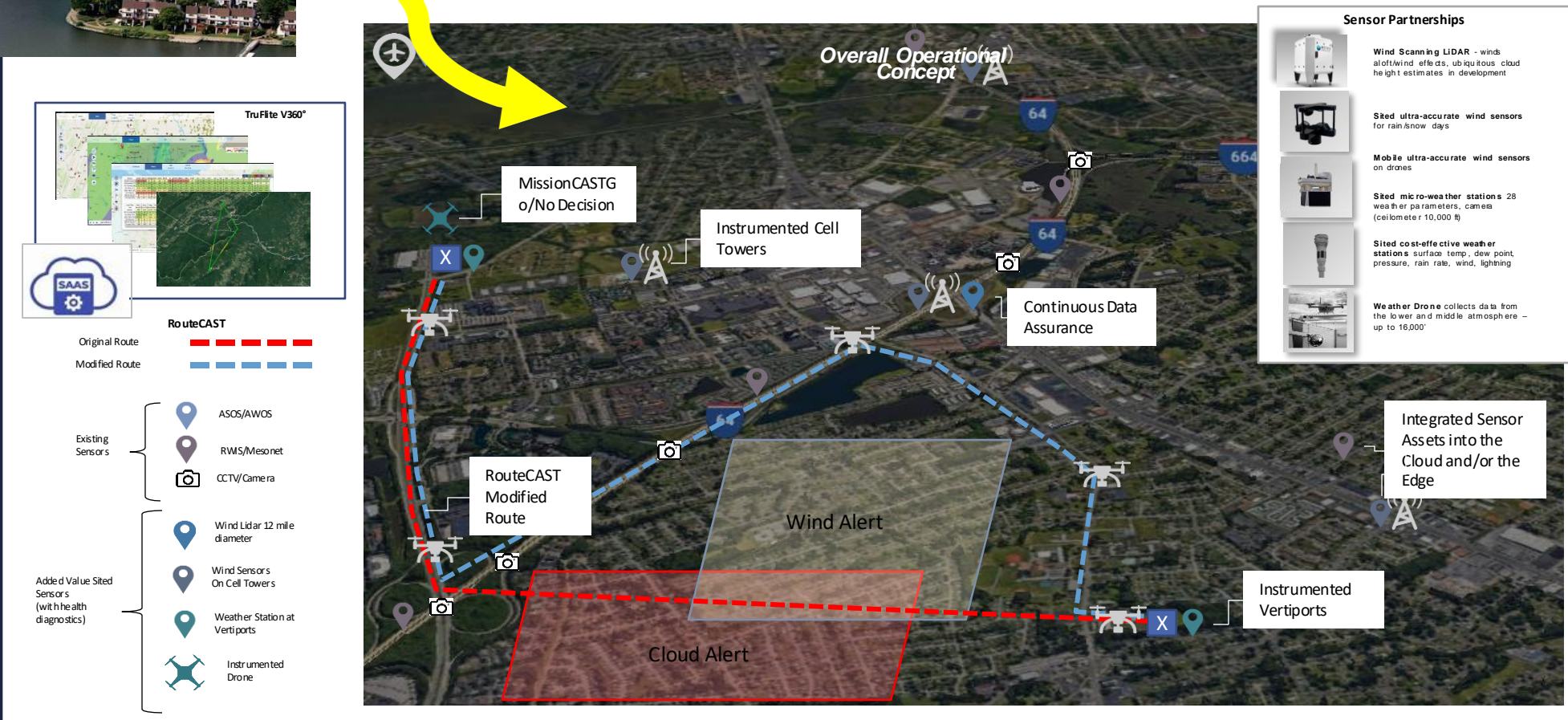
3. Vertical 360 Visualization Platform or API

an all-in-one translation and communication platform or al-a-carte API integration architecture

NASA Funded Urban Weather Sensor Testbed in Hampton, VA



The Result: Detect and Avoid
 Hampton testbed of sensors and emerging services provides the operational infrastructure to support Longbow and NASA High Density Vertiplex project.

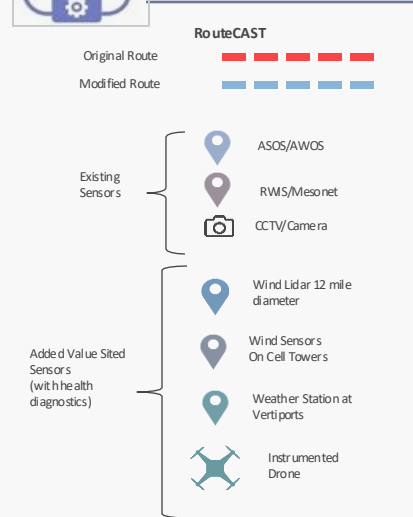
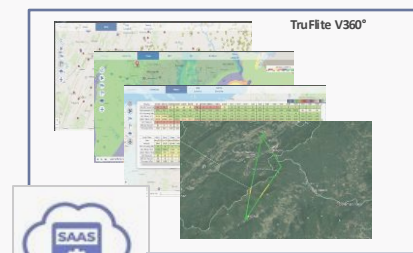


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- Coordination with FAA to advance new weather standards and policy
- Leading ASTM Weather Data Standards
- Guiding new policy development
- Near-Term Approval Process (NTAP)



Sensor Partnerships

- Wind Scanning LIDAR** - winds aloft/wind effects, ubiquitous cloud height estimates in development
- Sked ultra-accurate wind sensors** for rain/snow days
- Mobile ultra-accurate wind sensors** on drones
- Sked micro-weather stations** 20 weather parameters, camera (ceilingometer 10,000 ft)
- Sited cost-effective weather stations** surface temp, dew point, pressure, rain rate, wind, lightning
- Weather Drone** collects data from the lower and middle atmosphere - up to 18,000'

Integrated Sensor Assets into the Cloud and/or the Edge

Investment Across the Commonwealth

By investing in weather sensors and weather services, Virginia can become the weather network of networks blueprint for enabling safe and sustainable statewide AAM operations.

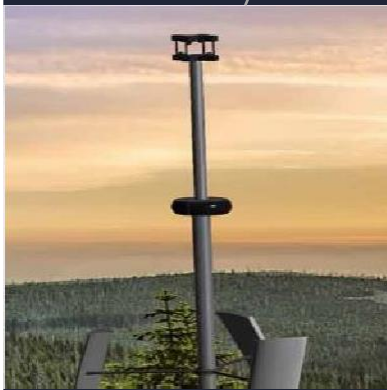
Barani
Surface Weather Data



Doppler Lidar
Scanning Wind Coverage



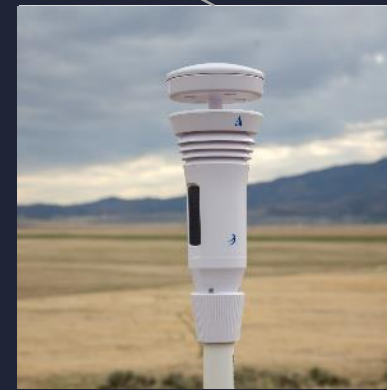
Anemoment
Surface Winds



Intellisense MWS
Surface Weather,
Ceiling, Visibility



Tempest
Surface Weather Data



NRG Wind Lidar
Low-altitude Winds



Low-Altitude Weather Sensing Ecosystem



Urban Weather Sensing
Hampton, Virginia

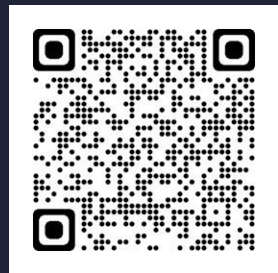


GA Airports

Thank You

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