

# TOTAL LIGHTNING NETWORK



## WORLDWIDE LIGHTNING DETECTION

Earth Networks Total Lightning Network® (ENTLN) incorporates the most advanced lightning location technology delivering unsurpassed lightning detection efficiency and location accuracy.

### OVERVIEW

Our Total Lightning Network is the first of its kind. With over 1,200 sensors in 40+ countries around the world, our network is the most extensive and technologically-advanced global lightning network. Our ability to monitor in-cloud lightning sets us apart from other lightning networks by enabling the most complete lightning system. Detecting in-cloud lightning enables us to generate faster, localized storm alerts and warn of other forms of severe weather like tornadoes, downbursts and hail.

### BENEFITS



*Earth Networks' lightning technology and real-time data services have enabled us to rapidly expand and enhance the Australia Total Lightning Network. EN assigned a team of individuals who assisted in the design, siting and implementation of the network. The operational support and low maintenance requirements have made the ATLN an extremely cost effective solution. We are extremely pleased with the detection efficiency and location accuracy and aim to expand the service throughout the country of Australia, so that early warning benefits of this technology could benefit more government organizations, businesses and communities."*



**Charles Solomon,**  
Managing Director, WxZone



#### COST EFFECTIVE

Very low ongoing maintenance and operational costs with 24/7 network monitoring and support from anywhere. Remote system diagnostics and upgrade capabilities.



#### NETWORK DENSITY

Cost-effective sensor technology enables dense network build-out on a large scale allowing for unsurpassed detection efficiency and location accuracy globally.



#### GLOBAL SCALE COVERAGE

Lightning detection capabilities and network architecture deliver scalability and cause for significant improvement in severe storm warning lead times for greater asset protection anywhere in the world.



#### MULTI-INDUSTRY SOLUTION

Advanced analytics, display capabilities and the option for hosted or standalone configurations meets the needs of weather sensitive users and industries worldwide. This includes federal and national governments, energy and utilities, aviation, outdoor recreation, insurance and telematics, and education.

## KEY FEATURES

- Global Lightning Network (GLN)
- Unique sensor technology
- Lightning activity detection system
- Total lightning detection
- Dangerous Thunderstorm Alerts

## WE DETECT STRIKES YOU CAN'T SEE

Cloud-to-ground lightning represents only a small percentage of the total lightning discharges that occur in the atmosphere. In fact, in-cloud lightning flashes account for the vast majority of lightning activity. Our unique capabilities detect long-range in-cloud lightning at high efficiencies, which are critical for the advanced prediction of potentially deadly weather events that often occur within 5 to 30 minutes of in-cloud flash initiation.

### Largest Global Lightning Network

- 1,200 sensors in 40 countries
- Dense sensor deployment needed for high-efficiency capture of total lightning activity
- Advanced analytics and display capabilities
- Improved lead times for identification of storm cell growth and development
- Early storm warning capability

### Unique Sensor Technology

- Industry-leading broad frequency range extending from 1 Hz to 12 MHz
- Detection of in-cloud and cloud-to-ground lightning. Competing lightning networks are constrained to frequencies of up to just a few hundred kilohertz
- Superior timing and range accuracy

### Lightning Activity Detection System

- Time-of-arrival detection methodology
- GPS technology and sophisticated algorithms for every stroke
- Accurate lightning location and classification (IC/CG) for assessing storm development
- Global detection efficiency

### Total Lightning Detection

- Detect long-range in-cloud lightning at high efficiencies
- Significantly improves severe weather warning times over radar and other technologies
- Highly advanced predictive capabilities crucial for characterizing severe storm precursors, improving severe storm warning lead times, and comprehensive weather management planning
- Prediction of tornadoes, cyclones, heavy rain and monsoons, downburst winds and hail

### Dangerous Thunderstorm Alerts

- Automated and customized delivery and alerting
- Constantly monitors dangerous weather conditions and issues customized alerts in real time
- Used all over the world to help detect high rates of lightning, which indicate increased potential for dangerous conditions

## CONNECT WITH US

For more than 20 years Earth Networks has operated the world's largest and most comprehensive weather observation, lightning detection, and climate networks.

Our observations inform and alert consumers, enterprises and governments around the world, providing them with advanced environmental intelligence for decision making and safety.

☎ (301) 250-4000

✉ [info@earthnetworks.com](mailto:info@earthnetworks.com)