

VAISALA

High accuracy.
Proven reliability.

Sounding Solutions



Vaisala: a sound decision

Atmospheric sounding technology formed the heart of Vaisala more than 80 years ago, when Professor Vilho Väisälä put the finishing touches on his first commercial radiosonde in 1936. Today, most atmospheric soundings around the world are performed with Vaisala sounding equipment.



With a solid foundation in technology innovation, we have built a reputation for accuracy and reliability. And we do our utmost to provide our customers with the very best tools for the job—from meteorological organizations to defense forces and specialty users who rely on Vaisala equipment every day.

Better weather prediction

In today's world, weather has far-reaching socio-economic impact. High-quality atmospheric observations provide the data critical for accurate forecasting to anticipate and prepare for weather events. Meteorological institutes need to optimize their observation systems and networks in order to maximize their benefit to society.

Weather observation and forecasting is a collaborative effort that spans the world. This effort is guided by the World Meteorological Organization (WMO) together with the International Telecommunications Union (ITU). Vaisala collaborates closely with meteorological institutes and research organizations all around the world so we can better respond to customer needs.

Radio Soundings

The WMO Global Observing System network releases more than 1,400 radiosondes every day. Radio soundings form the backbone of atmospheric profile data from the earth's surface up to altitudes of about 30 km. This data is essential for both local forecasting and Numerical Weather Forecasting models to predict weather a few days ahead.

Climatologists, universities, research groups, environmental agencies and defense services also use radio sounding data for a variety of purposes. Our core concentration is on quality of observation, as demonstrated in all WMO radiosonde comparisons.

We push the boundaries of what is possible—resulting in better weather prediction—day after day.

Value for money

Vaisala radiosonde systems are accurate and durable. They provide excellent observation quality and a high rate of data availability. As WMO regulations and guidelines evolve, we work to ensure that systems are updated and running continuously.

Hundreds of users have already discovered that purchasing a Vaisala product is an investment in reliable future performance.

Meeting pertinent standards

As a leader in the field of radiosonde systems, we pay special attention to meeting standards and complying with associated regulations. The sensors used in Vaisala radiosondes are calibrated against internationally traceable reference standards. In addition, all Vaisala products meet ISO 14001, ISO 9001, and AQAP 2110 standards.

Our radio soundings expertise makes life more predictable. And that makes the world an easier place to live in.

Radiosonde

Radiosondes perform PTU measurement using sensors designed to cover all atmospheric and weather conditions in every climate zone. To guarantee GPS height measurement accuracy, these sensors are individually calibrated against reference standards traceable to international standards.

Wind data is computed from radiosonde movements during ascent. The movement is measured utilizing either navigation signals such as GPS or radio direction finding.



Meet the sounding family

Vaisala radiosondes

Since 1936, Vaisala Radiosondes have offered evolutionary improvements in pressure, temperature and relative humidity measurement, and wind finding. We currently offer several radiosonde models as well as the ability to measure ozone. You can even add your own sensors.

Vaisala sounding systems

Vaisala offers sounding systems for

- manned and unmanned stations
- mobile
- shipboard
- and airborne use

The Vaisala DigiCORA® Sounding System integrates sounding control, data processing, and output in customer-required formats.

Meteorological message generation follows the latest WMO regulations, including BUFR coding. The Vaisala AUTOSONDE Automatic Sounding Station is an integral part of many national upper-air networks. It is built to increase operational efficiency and extend

observation network coverage into remote locations where a manned station is cost-prohibitive.

Vaisala autosondes

Vaisala introduced autosondes in 1994, quickly becoming the world standard for automatic sounding systems for their efficiency and reliability.

Our automatic sounding systems provide:

- Superior data quality and availability
- Dependable operation in harsh environments
- Independent data gathering – no onsite staffing required
- Lower labor and facility costs

The Vaisala AUTOSONDE® AS41 upper-air observation system has been developed for synoptic and adaptive use. The system provides a safe working environment since gas lines are never fed inside the container, and only requires reloading once every four weeks. The Vaisala Observation Network Manager platform also enables remote control and configuration.

to derive winds. Vaisala's unique RS41 radiosonde sensor technology ensures high-quality, reference-grade thermodynamic measurements. As it descends, the dropsonde continuously measures the state of the atmosphere and telemetries this information to the aircraft, providing a high vertical resolution atmospheric profile. Once the sonde has reached the surface, all data are transmitted to atmospheric research centers, the National Hurricane Center, or dedicated data centers of the World Meteorological Organization.

A key deployment of dropsondes is for targeted observations over oceans that provide critical data to track and predict the trajectory and intensity of severe storms, such as hurricanes. They also collect vital research data in place of land-based radiosonde systems such as atmospheric rivers in the Pacific Ocean.

Built by Vaisala under license from UCAR, the RD41 dropsonde, aircraft data system hardware and software are designed by the Earth Observing Laboratory of the National Center of Atmospheric Research in Boulder, Colorado, USA.

Dropsondes

A dropsonde is essentially a radiosonde that is released from specially equipped aircraft and descends to the surface with a parachute.

This small electronic device measures pressure, temperature and humidity, and uses GPS



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