VAISALA

Vaisala Integrated Solutions

From single Instruments
to end-to-end solutions

Integration through experience

Weather challenges

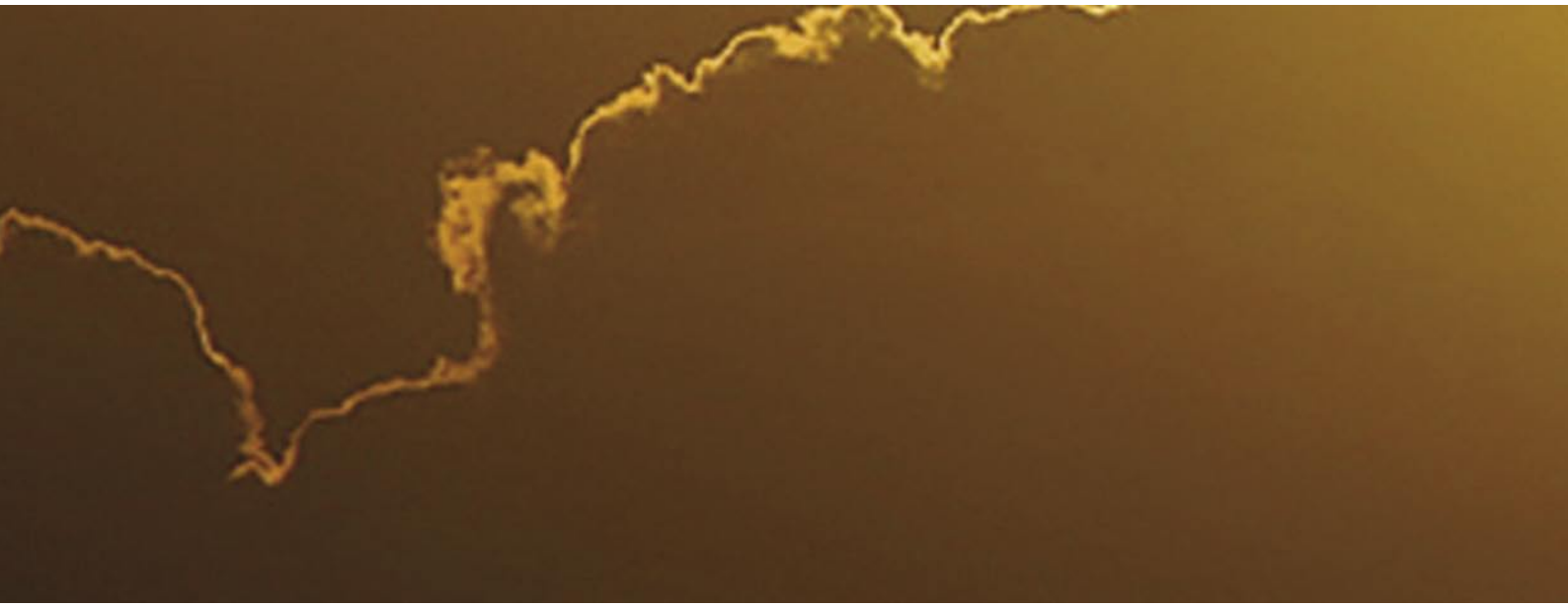
Weather related challenges vary greatly in different parts of the globe. Thus to produce application specific information, each region and each phenomenon requires its own definitive approach to monitoring the environment and its own specific methods of managing observation data.

Nature will always provide challenges that require environmental monitoring. The focus of severe weather management is moving towards proactive measures, such as mitigation, preparedness, monitoring and forecasting.

Early Warning Systems (EWS) are considered to be the most efficient way to predict severe weather and natural hazard events. EWS gives valuable lead time to protect lives and property, if any severe weather related challenges should occur.

Vaisala knowhow

- 70 years of experience in weather related measurement
- System lifetime accuracy through maintenance and service
- Leading technologies, strong science
- Large variety of different products and systems offering top quality data



With more than 70 years of experience in weather observation technologies and weather related operations, Vaisala offers fully integrated solutions from single instruments to complete end-to-end solutions.

Our solution offering covers applications for monitoring and forecasting both extreme weather conditions and general meteorological phenomena.

Protection from extreme weather

Automation, new telemetry solutions and advanced observation systems with new sensor technologies offer you significant advantages in achieving the goals of protecting life and property from natural severe weather events, such as:

- Flood
- Storm surge
- Fire weather

Weather service applications

Improved data quality and availability combined with forecasting tools, allow better and more accurate weather information for the following application areas:

- Synoptic meteorology
- Hydrology
- Agriculture
- Research
- Marine
- Energy
- Transport

Flood forecasting

Sufficient flood warning time allows action to be taken to prevent flood damage minimizing economic damage and human suffering. The estimate for flood forecasting benefit is 10 - 35% savings in damage.

What is predicted:

- How high the water will rise
- When the water level will peak
- Which properties will be flooded
- How long the flood will continue
- How long the drought will last

Creating solutions

From evaluation and planning to integrating and managing your meteorological networking solutions, Vaisala has the depth and experience to respond to the unique requirements and challenges of your location.

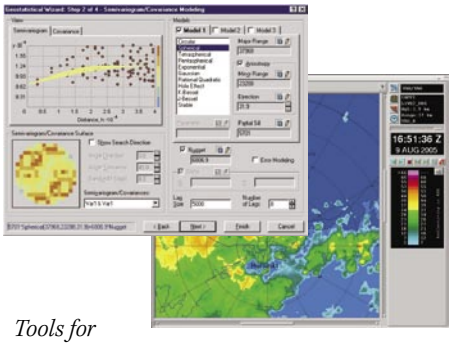
Finding the right solution

Working closely with our customers gives us the best means for finding the optimal solution for each individual challenge.

Our offering includes high quality innovative and cost-effective tools for various meteorological applications, along with a full range of support services.

Vaisala with partners

Various partners operating in the hydrological and meteorological area provide us with the specific knowledge for each application. Teaming up with the strategic partners achieves synergy through our combined experience and helps us create the most comprehensive and effective solution for each specific application.



Tools for hydrological and meteorological information applications.

Information and warning networks

Typical large-scale networks are provided with applications such as lightning detection, flood management and traffic safety as well as synoptic and climatologic purposes.

Traffic safety

In order to ease the difficulties of managing traffic weather problems Vaisala has a variety of systems from which we can choose the one to meet your needs. Such systems range from relatively simple traffic management to more complex winter service systems. Every system is modular in design, which enables development in line with the network it is designed to serve.

Flood management and control

Vaisala provides comprehensive systems for river monitoring integrated with hydrological data management, flood prediction and related decision support systems. These systems combined provide the tailored solution to meet the specific need for advanced flood prediction and river basin control.

Lightning detection systems

Lightning detection helps users to identify which precipitation areas are developing into thunderstorms. The information created is displayed in a clear visual format. Lightning data and analyses are also provided for use by a great number of different industries.

Lightning information system, South Africa

South Africa is a lightning prone country with one of the highest ground flash densities in the world. The Vaisala Thunderstorm Information System was chosen for the whole country because it has the highest detection efficiency and location accuracy. The applications for lightning information are developed for meteorological purposes. This information is also valuable for nowcasting and early warnings, for information to local industries and aviation, for safety of life and property.

Flexibility in design

Vaisala provides a wide range of observation systems, meteorological data and information management technologies.

Solutions are built up for various applications in the hydrological and meteorological fields. The common technology platform, that is used in all of our systems, allows flexible design for each individual solution.

Meteorological network software

Vaisala MetMan™ Network Software links observation data to various data storages and data analyses systems.

It supports various measurement systems for meteorological and hydrological observations. It has features for data quality control and data ingest from various sources.

Vaisala MetMan™ also automatically generates meteorological messages, such as SYNOP-messages.

Vaisala MetMan™ links the meteorological data sources.

Automatic weather stations

Due to the flexibility in design, Automatic weather stations are ideal for gathering high-quality, real-time surface observation data for several weather observation purposes.

Weather radar

The Vaisala/SIGMET team has designed radar systems with the most advanced technology available today. Weather radar is the key observation system for precipitation monitoring, which is a crucial parameter for typical extreme weather conditions.

Wind profilers

For remote sensing and boundary layer measurements, Vaisala Wind Profilers are the key solution. Customized solutions are also available for tropospheric measurements and cloud radar applications.

Reliable instruments

Most of the Meteorological Institutes throughout the world prefer Vaisala´s unique sensor technology. This technology provides accurate and reliable measurements for humidity, pressure, wind and temperature as well as many of the optical parameters, such as visibility. For more information, see Vaisala Products for Professional Meteorological Measurement -brochure.

Estonia´s hydrological network

This project includes the delivery and installation of hydrological measurement and information systems. The project also includes training and a service contract to maintain the stations and main centers. Hydrological networks are used to monitor and manage water quality and resources in: streams, rivers, lakes, reservoirs and harbors. They also provide forecasting and warning services. Monitoring water resources helps to protect life and property and safeguard the environment.

Responding to unique challenges

Turnkey project supplier

Vaisala ensures the best solution for each weather sensitive application through comprehensive knowledge of the meteorological field, related technologies and project management. The technologies cover everything from the observation systems through telecommunication systems, IT networking and software integration to information dissemination tools. As a turnkey supplier, Vaisala's project management cycle includes all required steps for succesful project implementation.

Application specific consulting and solution definition

Vaisala and partners define and agree on the scope of the project including the required technologies, funding arrangements and operational requirements for the specified networks and systems.

Initial network and system planning with required feasibility studies

Feasibility studies are provided for network and system specifications as well as studies for socio-economical impact assessments to determine the most feasible solution for each organization.

System deliveries and installations

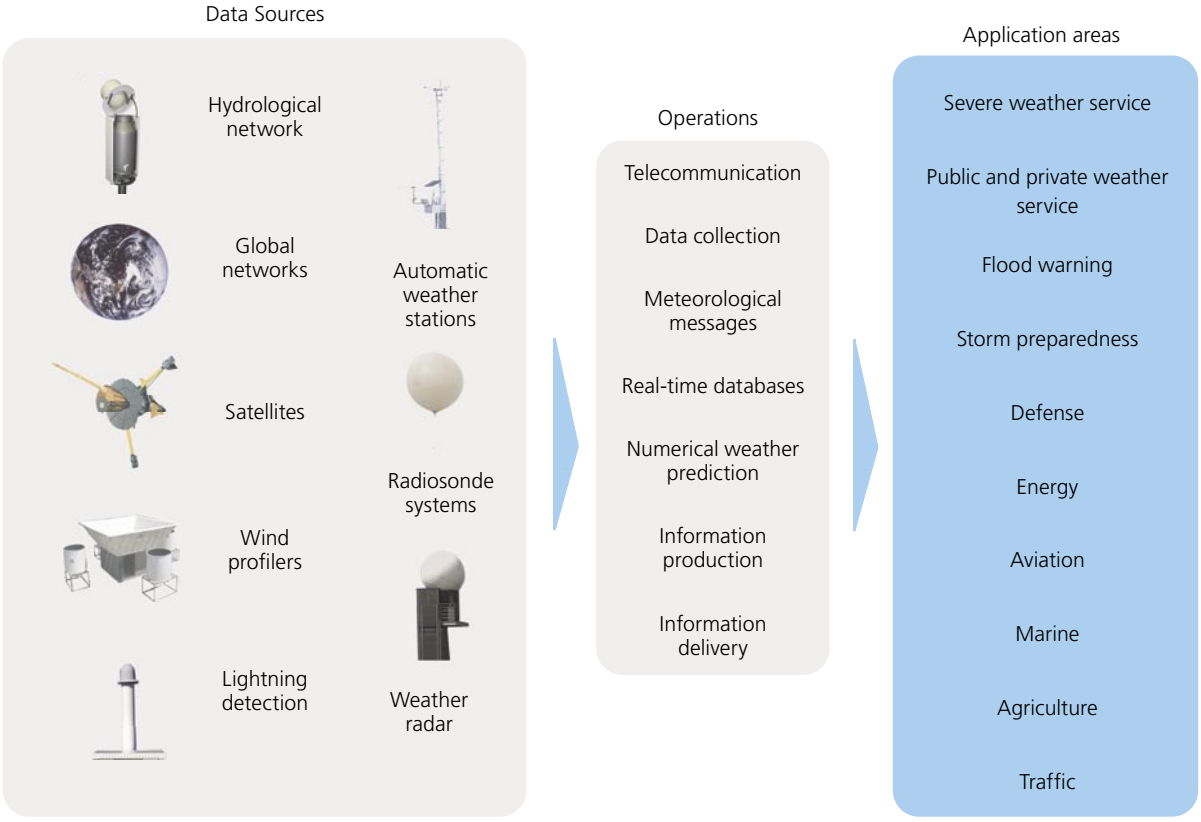
The systems are delivered and installed by professionals, which ensures smooth start-up of the project. Vaisala takes full responsibility of all the installation work across the world.

Training

As the meteorological systems are installed and tested; Vaisala provides customized training programs that cover theory and practice. The goal is to ensure the smooth hand-over of the systems to your personnel and to ensure efficient operation throughout the lifetime of the systems.

Lifetime accuracy

Vaisala provides lifetime maintenance support and ensures the reliable lifetime operations for all its delivered systems. The maintenance support includes a helpdesk service to full scale maintenance contracts.



Our solution comprises systems and tools from the state-of-the-art observation systems to application specific information platforms and decision making tools. With these tools, all application specific weather information can be created and disseminated to the end user.

VAISALA
Reliable.

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