Showcasing a Better World

/ VAISALA SHOWS THE WAY.

VAISALA

Solutions that add value to your life

Vaisala is the world's leading supplier of hydrological and meteorological instrumentation and services. As such, we have been helping to predict the unpredictable for over 70 years. We like to think that our solutions improve lives: through better foreknowledge of weather and hydrological events we help to ensure that everything we do on earth is accomplished as safely and efficiently as possible.

Our worldwide presence and experience in project management have helped to create solutions everywhere. Vaisala employs over 1,000 people in 24 offices worldwide, ensuring that no matter where you are or what your needs, we can handle them.

Researchers' preferred choice

Vaisala's instruments last for decades. That is why our products are staple to the scientific community worldwide. Much of our equipment is modular and upgradeable, so systems can be expanded and enhanced as necessary. We also guarantee the availability of replacement parts for the lifecycle of the product and beyond.

Comprehensive service

No matter where in the world you are, when you need specialized support in the planning, installation, operation or maintenance of observation and forecasting systems, Vaisala can assist. From our head office in Finland we provide advanced remote reporting and diagnostic support and regularly provide highly specialized training. Our service is quick and sure – on all continents – with 24 Vaisala offices and accredited, licensed local operators.

Our dedication to service has won us loyalty. Many of our current client relationships began decades ago. You will find Vaisala entirely dependable – a partner that you can rely on, no matter where you are. We stand by our products, our people and our customers.

Add value to your life. Choose Vaisala.

Vaisala contributes to gold at Beijing Olympics

It is always an honour to participate in the Olympics. Vaisala was able to contribute to the success of the 2008 Olympics in Beijing through its automatic, non-invasive road weather station network. The network helped to ease congestion before, during and after the Olympics. Chinese authorities upgraded their weather warning equipment so that local authorities could have real-time information on street conditions, helping them to better manage traffic flow. The network also includes automatic weather stations, one of which was installed at the main Olympic stadium in order to monitor approaching large-scale weather fronts, as well as for forecasting purposes.

Since 2006, Beijing Meteorological Offices have taken delivery of 25 Vaisala weather stations, 21 road weather stations, an aviation weather solution, two wind profilers and several weather transmitters, a total value of USD 5.5 million.

Accurate forecasts from the Pacific Ocean to the Atlantic

Meteorological Services Canada (MSC) is responsible for providing weather forecasts across the country's almost ten million square kilometres stretching from the U.S. border to above the Arctic Circle and from the Atlantic to the Pacific Ocean.

An important component of MSC's national program is its upper-air observation network of 31 stations. Of these, one located in Whitehorse operates a Vaisala DigiCORA® Unmanned Sounding System installed in 1997 for twice-daily unattended soundings. The other 30 stations have, since the early 1990s, relied on the Vaisala DigiCORA® Sounding System MW15, later upgraded to use Vaisala Radiosondes RS92.

In 2006, MSC published an open global tender to replace its network. Vaisala won the tender for 35 Vaisala DigiCORA® Sounding Systems MW31 and 150,000 radiosondes which included full documentation, training and other services over ten years.

See more weather in Estonia

The Estonian Meteorological and Hydrological Institute, EMHI, acquired two dual polarization Vaisala Weather Radars that precisely identify precipitation type. The first, in Sürgavere, central Estonia, is a completely new radar installation that required the construction of a 27-metre tower. The second radar installation, scheduled for 2009 at Harku, will replace single polarization radar with Vaisala dual polarization radar. The Vaisala radar is capable of precisely identifying precipitation type due to signal processing, data processing and display systems that form part of the Vaisala Sigmet product line.

As part of the total solution, Vaisala also provided Estonia with integrated software developed by the Finnish Meteorological Institute. The software, a tool for the visualization and editing of meteorological data, has enabled EMHI to combine data from different sources. It was enthusiastically received by their meteorologists.

Weather is not an issue at Bangkok airport

The Second Bangkok International Airport (SBIA) became fully operational in 2006. It cost billions to build, but that investment is rapidly being recouped: the airport currently handles 45 million passengers and three million tons of cargo per year. This makes it one of the world's biggest airports – and also one of the toughest to administer. Vaisala's Automated Weather Observing System (AWOS) was chosen from a broad field of competing systems, as it truly is a fully comprehensive automated data system.

Basic variables like pressure, temperature, humidity and rain are measured at five different locations within the airport area to ensure quality of data. The airport runways are also equipped with an extensive array of Vaisala wind and visibility sensors. The modular system allows easy addition when expansions take place.

Smooth, uninterrupted power delivery by Da Nhim

The Da Nhim hydroelectric power station, located 250 kilometres northwest of Ho Chi Minh City, generates 160 MW of electricity. As such, it is a crucial component of Vietnam's electrical grid. But deterioration in reliability and performance over 38 years made major upgrades necessary. Electricity of Vietnam (EVN) chose Vaisala, together with a Vietnamese partner, to deliver and install a hydrological data acquisition system and warning network for the upgraded facility.

The network, spanning more than 30 kilometres of mountainous terrain, includes the Da Nhim power station, its intake dam, the reservoir catchment area as well as the downstream area. The hydrological network contains 11 hydrological measurement stations and two Vaisala MetMan™ Network Software MM400 servers for data collection and processing. The user-friendly MetMan™ WebView displays network data.

Radar wind profiler network for Germany

In 2006, Vaisala completed the initial installation of a radar wind profiler network for the German Weather Service (DWD). The fully automatic, continuously operating wind profilers provide profiles of wind speed and direction up to an altitude of 16 kilometres, and with the Radio Acoustic Sounding System (RASS) option, a virtual temperature profile up to approximately four kilometres, every 30 minutes. In total, four Vaisala wind profiler systems were installed. Vaisala has now been awarded a contract for a fifth installation to replace the oldest of the network profilers.

The network significantly improves the prediction models of the German and other European weather services. One of the key features of the network is web-based remote monitoring of all system parameters and status information – an important cost-saving measure for the DWD's radar service and maintenance team. The cost of data acquired over the entire lifecycle of a profiler is low, as there are no consumables and little manpower required.

A new generation in wind profiling

In March and June of 2008 the U.S. National Weather Service (NWS) awarded Vaisala the first two phases of the Next Generation NOAA Profiler Network (NGNPN) upgrade program. The program in its entirety involves the design, development, manufacture and installation of upper air observation facilities to replace the current NOAA Profiler Network that has been operating continuously since its deployment in the early '90s. The NGNPN upgrade will significantly enhance mission critical data distributed in real-time to NWS Forecast Offices, the Storm Prediction Center, the National Centers for Environmental Prediction, government and university atmospheric researchers, private meteorologists and other agencies responsible for weather prediction.

Integrated crisis management

The Czech Armed Forces' Hydrometeorological Service plays a significant role in international crisis management within NATO and EU operations. Their comprehensive mobile hydrometeorological station, the OBLAK, is used to support rapid international deployment wherever it is needed most. During a peace support mission in Kosovo, for example, it was installed at Pristina airport.

Among other sophisticated equipment, this station includes Vaisala's Tactical Meteorological Observation System as well as radiosounding equipment. The data from these systems are integrated with other hydrometeorological data received via satellite and analyzed for distribution to support command and control and other critical local operations such as aviation.

Detailed weather data is also exchanged with other NATO organizations locally and internationally via the NATO Meteorological Information System NAMIS.

Positive effects of detecting lightning

Brazil has one of the highest rates of lightning strikes in the world, resulting in millions of dollars of damage every year. In an effort to better monitor and report lightning activity, electrical companies and research institutions in southern Brazil have joined together under the banner of the SIDDEM project.

A 16-unit Vaisala Lightning Detection Network (LDN) monitors cloud-to-ground and cloud-to-cloud discharges. The results have positively contributed to the operations of electric power companies. The LDN has also provided data to meteorological centers and, consequently, for civil defense, agriculture and air navigation. The success of SIDDEM means that it will likely be extended to the other Mercosur countries of Argentina, Uruguay, Venezuela and Paraguay.

Ceiling and visibility OK at U.S. airports

In 2006, the U.S. Federal Aviation Administration awarded Vaisala a EUR 4.4 million contract to supply ceilometers and visibility instruments for the Federal Automated Weather Observation System program. The contract included a couple hundred systems.

One of the main deliverables was the new Vaisala Ceilometer CL31. Based on second generation Vaisala single lens optics, the ceilometer is a compact laser instrument for reliable cloud base height and vertical visibility measurement. The instrument's electronics are based on Digital Signal Processor technology, enabling a measurement cycle of 2 seconds, as opposed to 12-30 seconds for other ceilometers.

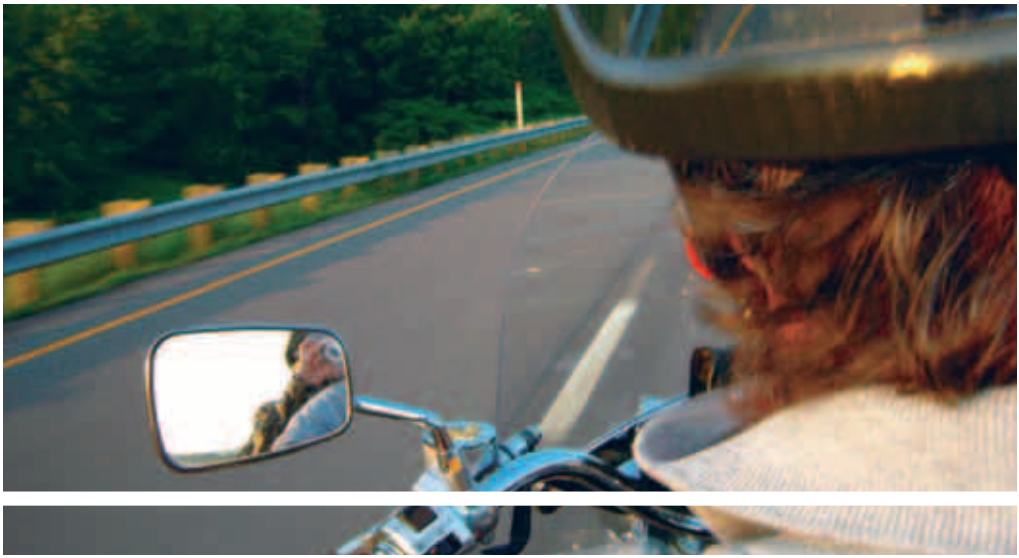
The other main instrument contracted for was the Vaisala Visibility Sensor PWD22, which measures visibility up to 20 kilometres and also detects precipitation type and intensity. The ceilometers and visibility sensors were all successfully installed ahead of schedule.

High-quality data protects drivers in the UK

The UK has a very marginal winter climate and this poses significant challenges to highway authorities as night time road temperatures often drop close to freezing. The UK Highways Agency is responsible for maintaining motorways and trunk roads across England.

To meet the challenge, the Highways Agency has installed a network of over 200 weather stations. Vaisala manages and delivers quality tested data and traffic weather camera images from the weather stations. This safety critical information is archived by Vaisala and available to support in the case of litigation, together with Vaisala as an expert witness.

Due to the changing climate, as well as icy conditions, road engineers in the UK have to deal with other severe weather events, particularly high winds and fog. Vaisala is working with the Highways Agency to provide critical wind and fog data linked to alarm systems to help them protect vulnerable areas such as bridges and coastal routes.



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