FAA Ordered Vaisala AviMet® RVR Systems

Following their approval of Vaisala AviMet® PC-Based Runway Visual Range (RVR) system for air traffic control use late last year, the US Federal Aviation Administration (FAA) procured a $2.7 million order of the systems under the existing contract. The order includes 16 Basic RVR systems and the associated sensors.

Runway Visual Range is a calculated assessment of the distance that a pilot can see down a runway. Prevailing weather conditions have the most impact on RVR, but ambient light levels and runway light settings also play an important part in the equation. In addition to having an obvious impact on flight safety, RVR assessment also has an impact on airport capacity as runways can be safely kept open longer under diminishing weather conditions.

Vaisala's RVR system is a PC-based solution that provides fully automated runway visual range assessment and reporting. The primary users of the system are air traffic controllers who access RVR data through a display application, also developed by Vaisala.

Vaisala Road Weather Information Systems to Five New York Area Airports

The Port Authority of New York and New Jersey and Vaisala signed a $5 million agreement for road weather information systems and weather data on August. As per the agreement, Vaisala delivers Road Weather Information Systems (RWIS) equipment, lightning detection, weather forecasting, software and data services, and 10-year maintenance services to all five airports operated by the Port Authority – John F. Kennedy, LaGuardia, Newark, Teterboro and Stewart International.

The solution offered by Vaisala is designed to provide the tools needed to maximize winter maintenance resources and minimize chemical usage at the airports. In addition, it is a long-term solution for weather monitoring, including weather forecasting and real-time data.

“The integration of Vaisala and Quixote Transportation Technologies, acquired by Vaisala in December 2009, allows us to provide a very comprehensive offering, the latest technologies and superior services. This customized solution will help maximize air travel safety, minimize delays, and promote cost-efficient operations,” Antero Jarvinen, head of Vaisala’s Roads segment, commented on the agreement.
Carbon Dioxide and Temperature Transmitter for HVAC Control

Vaisala has introduced a new transmitter for heating, ventilation and air-conditioning (HVAC) applications. The Vaisala CARBOCAP® Carbon Dioxide and Temperature Transmitter GMW116 – a compact-size, wall-mounted, dual-parameter transmitter – is ideal for ventilation control in all types of occupied spaces including those with round-the-clock occupancy, such as hospitals, residential buildings and retirement homes.

The GMW116 incorporates a Vaisala CARBOCAP® silicon-based NDIR sensor, which has advanced single-beam dual wavelength measurement with no moving parts. The excellent performance of the sensor results largely from stable reference provided by an electrically tunable Fabry-Perot Interferometer. It is accurate and durable, and has excellent long-term stability, which decreases the need for maintenance.

Further information: www.vaisala.com/GMW116

Vaisala.com Completely Renewed

Vaisala launched a thoroughly revamped new website in August. Not only does the website have a new look and feel, but it also has a completely renewed approach designed to provide a more customer-oriented online experience. One of the most notable new features is a Quicklinks tool that provides direct access to topical highlights and other essential information per interest and measurement area. The tool is open on the home page, but it is also available on the left side of the page on every subpage throughout the site.

Contacting sales, services and technical support has been made as quick and easy as possible, and tools such as the Vaisala Product Advisor have been incorporated into the site. The Product Advisor helps find the right instrument for every need by comparing the key features of Vaisala’s industrial measurement products (www.vaisala.com/advisor).

Feedback on the new website and its functionalities is welcome and always appreciated – please feel free to send your comments to info@vaisala.com. We also invite you to join Vaisala on Facebook and Twitter, and to subscribe to our YouTube channel:

www.facebook.com/Vaisala
www.twitter.com/vaisalagroup
www.youtube.com/VaisalaGroup
Enhanced High Current Winter Lightning Detection for the Benefit of Energy and Power Industries

Electric power transmission systems depend increasingly on lightning location information in the design, monitoring and maintenance of their operations. High current lightning strokes are a significant threat to the dependability of electric power transmission, because they can do severe damage to power lines. Being able to detect and locate these events means savings in both time and money as the fault locations can be found more quickly, and electricity can be re-routed to a different path. In Japan, lightning events along the coast of the Sea of Japan during the winter months emit particularly different waveforms than the majority of other lightning events, which makes them hard to detect or classify properly. To address this problem, Vaisala has worked together with Tohoku Electric Power Company and Sankosha Corporation to develop improved lightning sensor software. The result of the joint R&D effort is the Vaisala Thunderstorm CG Enhanced Lightning Sensor LS7001, which delivers double the detection accuracy of high peak current winter lightning discharges compared to older sensors.

New Parameters to Detect Different Electromagnetic Waveforms

The significant improvement in the high amplitude detection performance was achieved by studying electromagnetic waveforms generated by winter lightning and then developing new parameters for their detection. The LS7001 is able to continuously sample and process detected signals eliminating the dead time problems of previous sensor generations. Enhanced self-test and calibration capabilities permit the simulation of more complex waveforms and help achieve a significant improvement in stroke time measurements.

As a part of the cooperative research project, a six sensor network of LS7001 sensors was deployed in the Tohoku region during the 2009/2010 winter lightning season. Data from Lightning Electromagnetic Pulse (LEMP) recording equipment operated by Tohoku Electric Power Company and information from lightning caused failures in Tohoku's transmission line systems demonstrated significant improvements in lightning detection performance.

The project will continue through the 2010/2011 winter lightning season. The algorithm updates employed in the reprocessing will be implemented in sensor software, which will be downloadable into most existing LS sensors, making improved detection performance available for energy and power industries around the world.
Vilho Väisälä Awards for Outstanding Research Papers Granted

Professor Dr. Vilho Väisälä Awards were again granted in September. The 22nd Professor Dr. Vilho Väisälä Award for Outstanding Research Paper was awarded to Pamela Heinselman, David Priegnitz, Kevin Manross, Travis Smith and Richard Adams from the US National Oceanic and Atmospheric Administration (NOAA) for their paper “Rapid Sampling of Severe Storms by the National Weather Radar Testbed Phased Array Radar.”

The 3rd Professor Dr. Vilho Väisälä Award for the Development and Implementation of the Instruments and Methods of Observation was granted to Emmanuele Vuerich, Claudia Monesi, Luca G. Lanza, Luigi Stagi and Eckhard Lanzinger for their paper “WMO Intercomparison of Rainfall Intensity Gauges”.

The awards aim to encourage and stimulate interest in research in the field of environmental measurement instruments and observation methods. The Professor Dr. Vilho Väisälä Award for the Development and Implementation of Instruments and Methods of Observation focuses specifically on encouraging meteorological instrument work in developing countries and countries with economies in transition.

Both awards are granted biannually in connection with the Technical Conference on Meteorological and Environmental Instruments and Methods of Observation (TECO) and the Exhibition of Meteorological Instruments Related Equipment and Services (METEOREX), and carry a cash prize of $10,000. The awards, sponsored by Vaisala, are administered by the World Meteorological Organization (WMO).

Vaisala Weather Measurements at Shanghai World Expo

Vaisala’s measurement systems are showcased at the Shanghai World Expo as a part of an integrated weather measurement site. The systems measure a number of parameters, including cloud height and cover, present weather and precipitation.

Situated close to the Italian pavilion, the site monitors weather conditions at the Expo Park and provides precise updated information for weather forecasts during the exhibition.

The World Expo continues until the end of October.
International Science Camp Brought Young Technology Enthusiasts to Vaisala

Millennium Youth Camp (MY Camp) is a new endeavor that aims to increase young people’s interest in natural sciences and technology as well as to promote study and working opportunities in Finland. In early June, the camp brought 30 sixteen to nineteen year old technology enthusiasts from 14 different countries to Helsinki. Vaisala was one of the camp’s corporate partners, and hosted a group of students for a day.

During the week, the students had an opportunity to network with each other as well as with Finnish companies, organizations and top scientists. The program consisted of lectures, workshops and visits, in addition to which the Campers worked on projects that aimed to solve real-world problems in the fields of climate change, applied mathematics, ICT, water, renewable energy and renewable natural resources.

MY Camp was scheduled to coincide with the awarding of Millennium Technology Prize, Finland’s tribute to the developers of life-enhancing technological innovations. Awarded every second year, the Millennium Technology Prize is the world’s largest technology award.

The winner of the 2010 main prize was Professor Michael Grätzel from the Ecole Polytechnique Fédérale de Lausanne for his innovation of third generation dye-sensitized solar cells – known as Grätzel cells – that can be used in electricity-generating windows and low-cost solar panels, for example.

Further information: www.technologyacademy.fi


Vaisala Weather Radars to India

Vaisala and the India Meteorological Department signed a contract in August for the delivery of two dual polarization weather radars and three-year maintenance services. The radars will be installed in New Delhi and Jaipur.

“Vaisala opened a liaison office in New Delhi in summer 2008, and our hard work in the region is now starting to bear fruit. Having the IMD as a customer is an important opening for us, and a sign that we have chosen the right strategy for the region. The ability to serve customers in their own local market is a strong competitive advantage, especially when combined with Vaisala’s pioneering product and service offering,” Martti Husu, Executive Vice President, Meteorology, commented on the agreement.
Humidity Seminar Series Continues

Vaisala’s series of humidity seminars continues in the fall. The one-day, free of charge seminars aim to give a comprehensive understanding of humidity and the measurement principles related to it. Topics will cover fundamental humidity theory and the associated parameters, but also the practical aspects of technology, good measurement practice and calibration.

During the past spring and early summer, five seminars were held in Finland, France and Germany. The sessions attracted altogether close to 200 attendees and received very good feedback; discussion on humidity theory in general was especially appreciated. Each seminar was headed by a Vaisala humidity expert – Jan Grönblad in Vantaa, Finland; Senja Paasimaa in Oulu, Finland; Ulla Mattila in Jyväskylä, Finland; Bernard Sounie and David Reignier in Lyon, France; and Berndt Weber, Matthias Lorenzen and Jörg Ruhl in Uhingen, Germany.

Details on upcoming seminars are available at www.vaisala.com/humidityseminars.html

“Thank you for a great seminar. It is a rare opportunity to listen to a true expert, there are few who arrange this sort of seminars anymore. I have also got lots of useful tips to my daily work.”

– Attendee at the Vantaa seminar

50 M€ Research Program on Environmental Monitoring in Finland

The Finnish Strategic Centre for Science, Technology and Innovation for Energy and Environment, CLEEN Oy, has launched an ambitious five year, 50 M€ research program on environmental monitoring and services. The program is executed by a wide cross-functional consortium, including both leading technology providers and research institutes. Vaisala is the program’s the largest industry contributor.

The program is called Measurement, Monitoring and Environmental Assessment (MMEA), and its objective is to create new tools, standards and methods for environmental measurement, monitoring and decision support. The program promotes new applications and services based on environmental data to improve the energy and material efficiency of infrastructures and industrial processes.

An important part of the program is the MMEA Testbed, which will integrate data from several environmental measurement networks in one portal to be analyzed, modeled and used as raw material for the new environmental services.
“It is rare to get to work on such a comprehensive project during an internship, and learn so much in such a short time about the products, strategy and operations of the company.”
– 2010 Giant Leap Trainee

Vaisala Giant Leap – Great Success for Three Years Running

For the past three years, Vaisala has hired students to work as interns in a variety of projects during the summer months. The program – called Vaisala Giant Leap – has established itself as a very attractive alternative among the internship opportunities available for students in Finland.

Last summer, over 700 students applied to participate in the program. In the end, 23 were selected to work on both highly scientific development projects as well as more hands-on general projects such as the possible uses of eLearning in customer training and streamlining product launch processes. The program is targeted at students who actively pursue a university level degree, demonstrate intellectual curiosity, and are highly motivated by and interested in Vaisala’s business and customers – quoting the program slogan, students are encouraged to “come as you are, as long as you’re curious”.

30 184/2010
## Upcoming Industry Events

<table>
<thead>
<tr>
<th>Event</th>
<th>Location</th>
<th>Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ELDW/EUCLID 2010</strong></td>
<td>Helsinki, Finland</td>
<td>4-8 October 2010</td>
</tr>
<tr>
<td><strong>Tekniikka 2010</strong></td>
<td>Jyväskylä, Finland</td>
<td>5-7 October 2010</td>
</tr>
<tr>
<td><strong>ISPE Boston</strong></td>
<td>Foxboro, MA, USA</td>
<td>6 October 2010</td>
</tr>
<tr>
<td><strong>Georgia Airports Conference</strong></td>
<td>Savannah, GA, USA</td>
<td>13-15 October 2010</td>
</tr>
<tr>
<td><strong>Snow and Ice Colloquium</strong></td>
<td>Mississauga, Ontario, CAN</td>
<td>19-20 October 2010</td>
</tr>
<tr>
<td><strong>ATCA</strong></td>
<td>National Harbour, MD, USA</td>
<td>24-27 October 2010</td>
</tr>
<tr>
<td><strong>ITS World Congress</strong></td>
<td>Busan, South Korea</td>
<td>25-29 October 2010</td>
</tr>
<tr>
<td><strong>Automotive Testing Expo</strong></td>
<td>Novi, MI, USA</td>
<td>26-28 October 2010</td>
</tr>
<tr>
<td><strong>Interoute &amp; Ville Expo 2010</strong></td>
<td>Metz, France</td>
<td>26-28 October 2010</td>
</tr>
<tr>
<td><strong>CHINA-PHARM 2010</strong></td>
<td>Beijing, China</td>
<td>26-29 October 2010</td>
</tr>
<tr>
<td><strong>Energia 10</strong></td>
<td>Tampere, Finland</td>
<td>26-28 October 2010</td>
</tr>
<tr>
<td><strong>Symposium on Air Quality Measurement Methods and Technology</strong></td>
<td>Los Angeles, CA, USA</td>
<td>2 November 2010</td>
</tr>
<tr>
<td><strong>Road Expo Scotland 2010</strong></td>
<td>Edinburgh, Scotland</td>
<td>3-4 November 2010</td>
</tr>
<tr>
<td><strong>ISA Brazil</strong></td>
<td>Sao Paulo, Brazil</td>
<td>10-12 November 2010</td>
</tr>
<tr>
<td><strong>China Gas 2010</strong></td>
<td>Chengdu, China</td>
<td>10-12 November 2010</td>
</tr>
<tr>
<td><strong>OSEA 2010</strong></td>
<td>Suntec, Singapore</td>
<td>30 November - 3 December 2010</td>
</tr>
<tr>
<td><strong>AMS 2010</strong></td>
<td>Seattle, WA, USA</td>
<td>23-27 January 2011</td>
</tr>
</tbody>
</table>

Full list is available at [www.vaisala.com/en/events](http://www.vaisala.com/en/events)

## Contact the Vaisala News team

**Sanna Nyström**  
*Editor-in-Chief*

For subscriptions, cancellations, feedback and changes of address, please contact the Vaisala News team by sending an email to vaisala.news@vaisala.com