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KIPP & ZONEN
SINCE 1830

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Contact

If you have a news item for the newsletter or want to share your experiences with Kipp & Zonen applications and contribute to our next issues, please e-mail the editor: kelly.dalu@kippzonen.com

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Kipp & Zonen B.V. - 2014

The Final One!

Ben Dieterink

On Friday 25th April I retired from my position as CEO of Kipp & Zonen, a job that I carried out for 22 years. I started with the company in 1990 as International Sales & Marketing Manager. At that time Kipp & Zonen was a leading manufacturer of strip chart recorders for the analytical laboratory market and industry. Today it is the market leader in measuring solar radiation with an enhanced product range, including complex measuring systems.

Pyranometers were new to me when I arrived at Kipp & Zonen but, after spending some time on investigating the existing applications; a new world was opened to me. One of my first visits for the solar radiation measuring business was to Germany, to attend the start of the Thousand Roof Program. This was the first trigger that measuring solar radiation could become good business.

The second was at the World Meteorological Organisation Meteohydex Conference in Geneva in 1991. We were overwhelmed by the response from the visitors. They knew about Kipp & Zonen but had hardly ever met a representative. The third trigger was a large order from Spain.

The market evolved with applications in Solar Energy, Meteorology, Climate Research and Agriculture. That is still the situation today, but the relative market sizes are very different. As is our product portfolio. It was a bit of a gamble to convert Kipp & Zonen from recorder and data acquisition measurement technology to the current status of the leading supplier in the solar radiation measurement market.

Kipp & Zonen started to upgrade pyranometer quality in the late eighties with the introduction of the CM 10, which was followed by the CM 11 in 1989. The CM 11 pyranometer became a de facto standard in the market. The sensor used modern hybrid technology and delivered a high accuracy together with a stability that was unique for outdoor measuring instruments. The CM 11 was the start for a range of new developments, such as the CM 6B pyranometer, CG 1 pyrgeometer, CH 1 pyrheliometer and CM 3 pyranometer.

Another real breakthrough was the development of the first serious net radiometer, an all-in-one instrument, the CNR 1. Through the years the detector design changed but the shape and basic design remained the same. With the addition of the 2AP solar tracker in 1995 Kipp & Zonen was ready to enter the market of turn-key systems for solar radiation.

Another breakthrough was the introduction of the CG 4, the first top class pyrgeometer that did not require a range of temperature measurements and data corrections. Together with the CM 11 pyranometer, CH 1 pyrheliometer and 2AP solar tracker a BSRN station could be assembled. Many of these stations have been delivered and are used world-wide from the cold Antarctic to hot deserts.

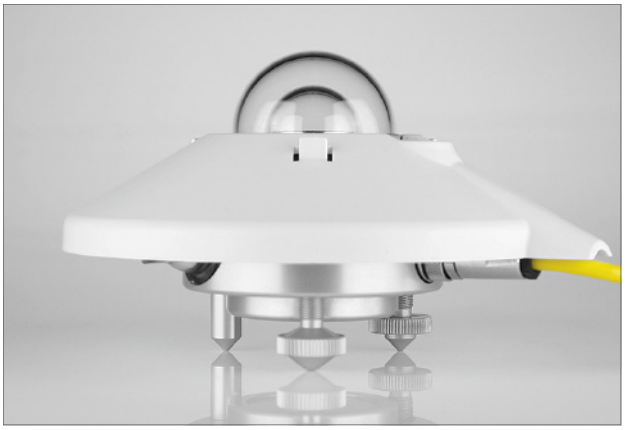
The change in direction of the company worked out very well and it is still growing. 2014 promises to become the best year ever. From 1830 Kipp & Zonen has been a leading supplier with various products. It started with invention of the 'Kipp gas generator', followed by telephone systems, galvanometers, chart recorders and nowadays instruments for measuring solar radiation from Ultraviolet to Far Infrared, including PAR sensors and scintillometers.

With Foeke Kuik as my successor I have a strong belief and confidence that the company will continue to grow with new and improved products and systems. During the Intersolar exhibition in Munich in June you could have seen some new developments and the kick-off for close collaboration with Campbell Scientific in using their brand-new data logger in our Solar Radiation Monitoring Systems.

This is my final column and I would like to thank you all for the trust you have put in the company, and for the many years of fruitful cooperation. Without you we could never have achieved such great success.

Best regards,
Ben Dieterink

High Quality Compact Weather Station



As experts in solar monitoring Kipp & Zonen offers solutions for all requirements. Now we expand our product scope with a reliable high quality weather station that can be equipped with our radiometers or added to one of our solar monitoring stations.

The standard configuration consists of sensors for the primary meteorological parameters, a mast and all the necessary mountings. The station uses the newest Campbell Scientific data logger. In combination with our high quality solar radiation instruments the station fulfils the most demanding requirements for modern weather and solar radiation monitoring.

The compact weather station typically consists of two Kipp & Zonen pyranometers, for tilted and horizontal global irradiance, a 3-cup anemometer and a vane for wind speed and direction, and a highly accurate relative humidity and temperature sensor. The data logger is mounted in a rugged weatherproof enclosure on the mast, which has a strong and stable tripod base.

Other combinations of solar radiometers can be discussed, such as the CNR 4 net radiometer for energy balance studies, or the PQS 1 PAR Quantum Sensor for agricultural applications. A range of power and communication options is available.

We are pleased to announce the addition of this reliable and well tested weather station, with the latest in data logging, to our product range ■

Pyranometers Save Heating Costs in Swedish Buildings

Saving money by efficient heating control in buildings is an increasing field of interest for housing companies. One aspect of this is to take local weather conditions into account, instead of just relying on thermostats in each apartment to control the heat, which is a reactive and slow method. Companies are now starting to use more proactive methods, such as taking solar radiation and wind into consideration when controlling the heat input.

The weather station in Helsingborg with CMP 3 pyranometer

A traditional method of doing this is by using detailed weather forecasts from meteorological institutes, to predict weather changes that could allow reductions of the heat into buildings. For instance, if the prognosis predicts that the wind will decrease and the solar radiation will increase, the heat into the buildings can be reduced to meet this much earlier than if one is relying on thermostats.

The problem with these forecasts is that they are very expensive. According to Patrik Håkansson, control engineer at the municipal housing company in the city of Lund in Southern Sweden, they are also not always accurate. Patrik and his colleagues have instead chosen to collect their own weather data. The company has set up a weather station on the roof of one of the buildings that they manage.

This weather station is the third of its kind to be implemented by Patrik, after proven cost savings in similar projects in Landskrona and Helsingborg. The installation in Helsingborg has already attracted the attention of the Swedish Association of Municipal Housing Companies, SABO, which interviewed Mr. Håkansson on the advantages and disadvantages of the weather station in the heating control systems of municipal buildings.

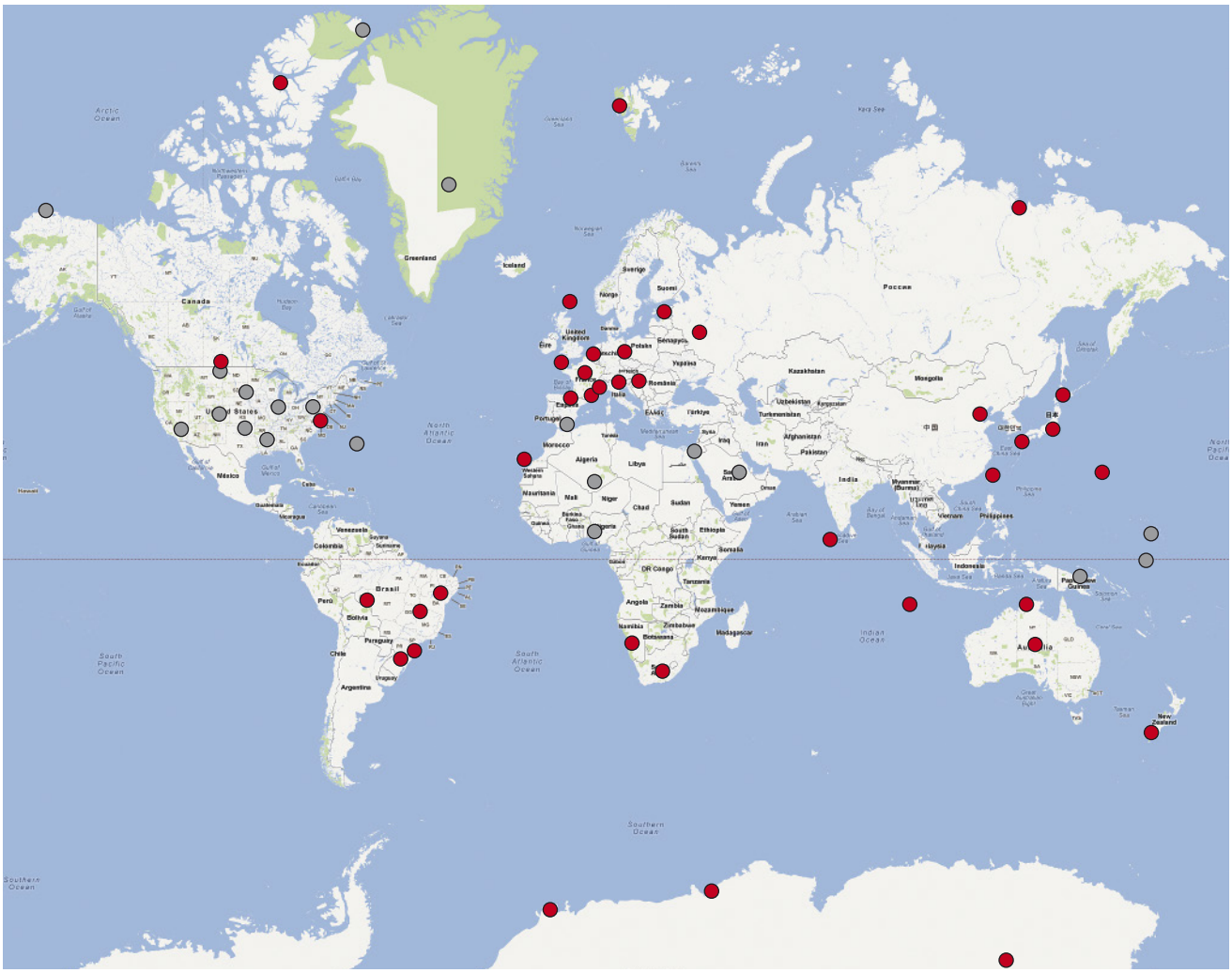
The Helsingborg station measures temperature, wind speed and direction, pressure, humidity, rain intensity and solar radiation. Data from the sensors are processed by software that sends commands to a computer that regulates the incoming heat, based on the local weather situation.

The Kipp & Zonen CMP 3 pyranometer was chosen for the project in Helsingborg, for the quality of the instrument and its proven track record. However, when the City of Lund purchased its weather station, the SMP3 had become available and proved to be an even better solution; thanks to the built-in electronics and the match with the PLC system used in the building automation.

As the cost savings by controlling the heating proactively, instead of waiting for a thermostat to react, are 10 to 15 %, it is not surprising that Mr. Håkansson continued with the installation of weather stations for other cities. Before the City of Lund had its own weather station installed, it was buying detailed weather data from the national meteorology agency. Compared to the purchase of detailed data, the cost of the weather station was earned back in less than 6 months ■

Kipp & Zonen and the BSRN

The Baseline Surface Radiation Network (BSRN) provides the highest quality data about solar and atmospheric radiation and the energy balance at the Earth's surface. More than 60 stations around the world have been accepted by the BSRN, covering all continents and climatic zones from deserts to the Antarctic.



The BSRN global network, 'red' stations are using Kipp & Zonen equipment to measure solar radiation

The instrumentation requirements and operating practices developed by the BSRN ensure that measurements are of the highest quality. The observed data are collected, processed and reviewed by the designated site scientists and provided to the World Radiation Monitoring Centre (WRMC) at the Alfred Wagner Institute (AWI) in Bremerhaven, Germany.

The BSRN was conceived and implemented in the late 1980s as the highest level monitoring network of the World Climate Research Programme (WCRP) to contribute to climate research studies and to calibrate satellite instruments reporting radiation budget data. More recently, BSRN stations also contribute to the solar energy resource studies for the renewable energy industry. Due to the high quality reputation of the BSRN, many solar energy facilities specify a station with BSRN compatible equipment for monitoring solar radiation to the highest standards.

Kipp & Zonen has been supplying solar radiation instruments and automatic sun trackers for BSRN stations since the beginning of the network. The majority of BSRN stations now rely on our equipment for the most precise and reliable measurements. Kipp & Zonen regularly participates in meetings with BSRN scientists in order to understand their needs and to improve our products to meet the requirements of their most demanding applications.

For more information please visit our website and go to Products, select 'Atmospheric Science Instruments', click on 'Scientific Solar Monitoring Station' and then 'Read more'. Under Downloads you will find our overview of the BSRN requirements and compatible Kipp & Zonen instruments.

Find out more about the BSRN at **www.bsrn.awi.de**

Intersolar 2014, 3-6 June in Munich

Intersolar Europe is the world's largest annual exhibition for the solar industry and its partners. The exhibition focuses on the areas of photovoltaics, PV production, energy storage and solar thermal technologies. This year Intersolar Europe covered 8 halls, with 1,100 exhibitors from 48 countries, and attracted 44,000 visitors from 145 different countries. Germany, China, Austria, Italy and France boasted the most exhibitors this year.

According to the European Photovoltaic Industry Association (EPIA) Global Market Outlook 2014-2018 the newly installed PV capacity reached 38.4 gigawatts (GW) in 2013, which is 28% more than in 2012. According to the report, the mean scenario predicts that annual new installations will rise from more than 40 GW in 2014 to around 55 GW in 2018. China, South East Asia, Japan and the USA are markets showing particularly strong growth. As a lot of experience and knowledge has been built-up in Europe already, this international interest in solar energy is also an opportunity for European companies.

So, with this market potential in mind, you will not be surprised that Kipp & Zonen decided once again to be present at the largest solar energy exhibition. We have been an exhibitor at Intersolar in Munich for many years and each time we have managed to surpass the looks and the leads from the previous year. Not an easy task for 2014 as last year had been very busy!

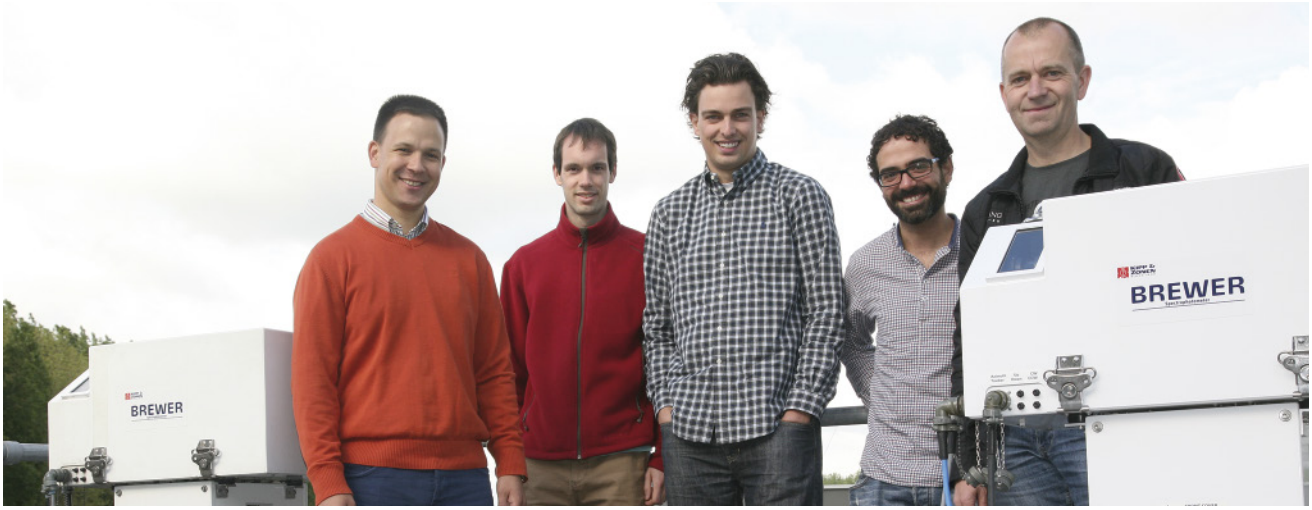
We invested in a large new booth, which proved to be very attractive and efficient, as well as being far more impressive than the booths of our competitors. The counter with a range of sensors and hanging 'pyranometer lights' worked especially well as it invited customers to take a closer look, pick up an instrument and start asking questions. If you did not have a chance to visit us during the exhibition, then use this link to get a brief impression: www.youtube.com/watch?v=KMtvZ9SQHUY

We worked with 7 or 8 representatives on our booth, covering 7 languages, which enabled us to be in direct touch with many existing and prospective customers, collecting 145 leads. Since then we have followed up on all the leads and have shared customer information with our distributors and sales offices.

We look back at Intersolar 2014 with pride and satisfaction and, together with our distributors and sales offices, will make the most of the leads generated and the attention received ■

The Brewer Team Expands

Around the World there are about 160 Brewers in operation measuring the Total Ozone Column in the atmosphere and Ultraviolet radiation from the sun. It is very important for the quality of the data to maintain them in optimum operational condition. This requires regular maintenance, servicing and calibration of the Brewers.



The Brewer team: Oleksii Marianenko, Pavel Babal, Alexander Visser, David Godoy and Michel Elshout

The Brewer firmware monitors parameters inside the instrument and the operating software runs scheduled performance and operation checks every day. However, more in-depth monthly and yearly verification of the 'health' of the Brewer is important.

As the manufacturer, Kipp & Zonen provides services for all models of Brewer; MkII, MkIII and MkIV. These services include remote system checks and diagnostics, routine administration, data analysis, service and repairs. Ozone calibration is carried out by comparison to our travelling standard Brewer MkIII and UV calibration using traceable 1000 W lamps.

It is required by the World Meteorological Organisation (WMO) that to provide data to the World Ozone and UV Data Centre (WOUDC) Brewers must be calibrated at least every two years.

In most cases the services can be provided at the customer location, although some repairs can only be carried out at the factory in Delft using specialised test and alignment equipment. Site visits can also be an opportunity for training of the operating personal. Of course, all services and training are available at the factory.

The Brewer team objective is to support users and maintain the Brewer network around the world in good operational condition and to enable this the team has recently expanded with new professionals. Oleksii Marianenko joined Kipp & Zonen in December 2013 as Brewer Team Coordinator. Oleksii is responsible for team communication, organisation and the management of projects, including the delivery of new Brewers. Two engineers, Pavel Babal and Alexander Visser, joined the Brewer department this spring. Pavel is a young scientist with a PhD in solar energy and spectroscopy. He brings scientific expertise and the ability to add value and optimize current processes with a fresh outlook. Alexander is an experienced electrical engineer and international customer support specialist with many years of experience in these fields and invites costumers to ask any Brewer questions that they might have.

For all Brewer support related questions, service, repairs, spares and calibrations please contact Kipp & Zonen Customer Services, either by registering a Support Call at www.kippzonen.com/support or by sending an e-mail to services@kippzonen.com ■

Fairs & Events

METEOREX St. Petersburg • Russian Federation	7 - 9 July
WWOSC 2014 • Montréal • Canada	16 - 21 August
EU PVSEC 2014 Amsterdam • The Netherlands	23 - 25 September
Meteorological Technology World Expo 2014 Brussels • Belgium	21 - 23 October

Passion for Precision

Kipp & Zonen is the leading company in measuring solar radiation and atmospheric properties. Our passion for precision has led to the development of a large range of high quality instruments, from all weather radiometers to complete measurement systems.

We promise our customers guaranteed performance and quality in; Meteorology, Climatology, Hydrology, Industry, Renewable Energy, Agriculture and Public Health.

We hope you will join our passion for precision.

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