THE ASSOCIATION OF HYDRO-METEOROLOGICAL EQUIPMENT INDUSTRY'S MEMBER PRODUCTS CATALOGUE

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ABSTRACT

There is a global need to know what instruments, sensors, systems, software and service are available from the private sector to support various environmental applications, including meteorology, hydrology, climate, environment, energy, to name but a few.

The Product Catalogue produced and maintained by the Association of Hydro-Meteorological Equipment Industry (HMEI) fulfils this need.

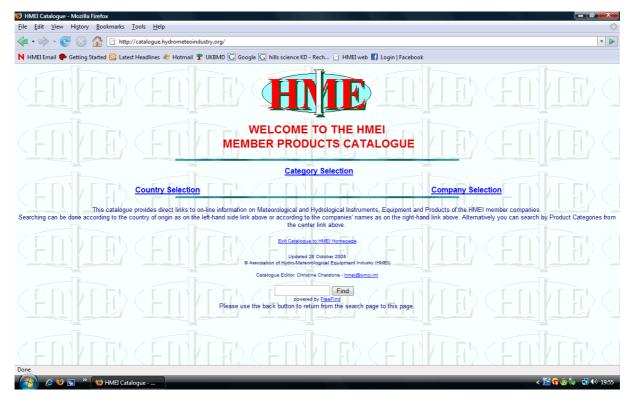
The catalogue provides details of products manufactured by 92 suppliers. These suppliers are the members of HMEI, who come from all continents and from 22 countries. The catalogue includes instruments in 40 categories; 23 applications areas and 17 sensor parameter areas.

The catalogue is accessible online as a continuously maintained, updated and searchable website.

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- 1. Catalogue overview
- 2. Companies included and individual company information
- 3. Categories included and category information included
- 4. Individual product information
- 5. Searching the catalogue
- 6. Catalogue maintenance and updating
- 7. Access to the catalogue

1. The HMEI catalogue is a web-based, on-line catalogue with a company page for each vendor. The company page includes the members address and contact information, a general description of the products and services provided by the vendor, and a list of the categories with which the vendor is involved. These categories can be individual instruments, systems or solutions, or application areas that cover the activities of the vendor.



1.2 The contents of the catalogue can be accesses through three primary entry points from the home page – by company, by country and by category, as shown above.

Back to Catalogue Homesage nis section of the catalogue lists manufacturers according to their country. The countries are in alphabetical order and within each country the companies are listed alphabetically. Click on a company nam manufacturer's own summary statement and for links to the company's website or email. COUNTRY COMPANIES Australia ENVIRONMENTAL SYSTEMS & SERVICES PTY, LTD.	• to go t
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Australia ENVIRONMENTAL SYSTEMS & SERVICES PTY, LTD.	
HYDROLOGICAL SERVICES PTY. LTD.	
MCVAN INSTRUMENTS	
Austria LOGOTRONIC GMBH	7
Canada CAMPBELL SCIENTIFIC (CANADA) CORPORATION	
China BEIJING METSTAR RADAR CO., LTD. CHINA NATIONAL HUAYUN TECHNOLOGY DEVELOPMENT CORPORATION	20
TIANJIN METEOROLOGICAL INSTRUMENT WORKS	
Czech Republic METEOSERVIS V.O.S.	
Finland VAISALA OYJ	1
France CIMEL ELECTRONIQUE DEGREANE HORIZON	

1.3 Here is the entry through the country entry portal. In total there are 22 countries included.



1.4 Shown above is the view of the first 15 entries through the company entry point.

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				order to cover a wide range of product areas and f o HMEI member companies providing relevant pro	
FERN	PARAMETERS		APF	PLICATIONS	
arbon Dioxide Iouds		Agronomy Atmospheric Composition		Radar Renewable Energy	
vaporation		Automatic Weather Stations		Road Weather	
lumidity ightning		Aviation Balloons		Systems Integration Satellites	
recipitation		Climatology		Training	
resent & Past Weath Pressure Cadiation - Solar Cadiation - Other		Communications Data Loggers Data Visualization Environment			
inow		Hydrogen Generators HydrologyWater Management			
urface Wetness emperature sibility		Marine Profilers Public Health			
lind		Quality Control			

1.5 The catalogue includes products in 40 categories, as shown above. These categories are based on the elements (parameters) to be observed and the application areas listed in the WMO Guide to Meteorological Instruments and Methods of Observation, WMO-No. 8.

1.6 The categories are subdivided into 17 parameter areas, such as temperature and pressure, and 23 application areas, such as radar and upper air.

2. The catalogue contains information on products from 92 companies located in 22 countries. The companies included in the catalogue are:

AANDERAA DATA INSTRUMENTS AS - NORWAY ADOLF THIES - GERMANY ALL WEATHER INC. - USA ATMOSPHERIC SYSTEMS CORPORATION - USA ATTEX - RUSSIA AVIOMET LTD - POLAND **BARON SERVICES INC. - USA** BEIJING METSTAR RADAR CO., LTD. - CHINA **BELFORT INSTRUMENT CORPORATION - USA** CAE S.P.A. - ITALY CAMPBELL SCIENTIFIC (CANADA) CORPORATION - CANADA CAMPBELL SCIENTIFIC LTD. - UK CASELLA CEL - UK CHINA NATIONAL HUAYUN TECHNOLOGY DEVELOPMENT CORPORATION - CHINA **CIMEL ELECTRONIQUE - FRANCE CLIMATRONICS - USA** DAVIS INSTRUMENTS - USA **DEGREANE HORIZON - FRANCE** DELTA-T DEVICES LTD - UK **DETECT INC - USA DROPLET MEASUREMENT TECHNOLOGIES - USA** EEC - USA EIGENBRODT GMBH & CO. KG. - GERMANY EIJKELKAMP AGRISEARCH EQUIPMENT - NETHERLANDS EKO INSTRUMENTS CO. LTD. - JAPAN ENVIRONMENTAL MEASUREMENTS LTD. - UK ENVIRONMENTAL SYSTEMS & SERVICES PTY. LTD. - AUSTRALIA **ERNST BASLER & PARTNER GMBH - GERMANY** FAIRMOUNT WEATHER SYSTEMS LTD. - UK GAMIC MBH - GERMANY **GEONOR AS - NORWAY** GILL INSTRUMENTS LTD. - UK GRAW RADIOSONDES GMBH & CO. KG - GERMANY HYDROLOGICAL SERVICES PTY. LTD. - AUSTRALIA **IBL SOFTWARE ENGINEERING - SLOVAKIA** IMKO MICROMODULTECHNIK GMBH - GERMANY **INTERNATIONAL MET SYSTEMS - USA IPS METEOSTAR INC. - USA** JENOPTIK LASER, OPTIK, SYSTEME GMBH. - GERMANY JINYANG INDUSTRIAL COMPANY LTD. - REPUBLIC OF KOREA KIPP & ZONEN B.V. - NETHERLANDS **KWEATHER CO. - KOREA** LEOSPHERE SAS - FRANCE LI-COR BIOSCIENCES - USA LOCKHEED MARTIN - COHERENT TECHNOLOGIES - USA LOCKHEED MARTIN - MS2 INTEGRATED WEATHER AND ENVIRONMENTAL SYSTEMS - USA LOCKHEED MARTIN - SIPPICAN - USA LOGOTRONIC GMBH - AUSTRIA LSI SPA - ITALY **MCVAN INSTRUMENTS - AUSTRALIA** MEISEI ELECTRIC CO. LTD. - JAPAN METEK - METEOROLOGISCHE MESSTECHNIK GMBH - GERMANY METEO FRANCE INTERNATIONAL (MFI) - FRANCE **METEOLABOR AG - SWITZERLAND** MÉTÉORAGE - FRANCE METEOSERVIS V.O.S. - CZECH REPUBLIC MICROSTEP - MIS SPOL. S.R.O. - SLOVAKIA **MIERIJ METEO BV - NETHERLANDS MODEM - FRANCE** MPS SYSTEM - SLOVAKIA MUIR MATHESON LTD. - UK NIPPON ELECTRIC INSTRUMENT INC. - JAPAN **ORIENTAL ELECTRONICS, INC. - JAPAN** OTT MESSTECHNIK GMBH & CO. KG - GERMANY **PAWAN EXPORTS - INDIA PRECIS MECHANIQUE - FRANCE PROTON ENERGY SYSTEMS - USA PULSONIC - FRANCE RADIOMETRICS CORPORATION - USA** R.M. YOUNG COMPANY - USA **ROTRONIC AG - SWITZERLAND** SAGIM S.A. - FRANCE SKANDINAVISKA METEORLOGI- OCH MILJOINSTUMENT AB - SWEDEN SCINTEC AG - GERMANY SEBA HYDROMETRIE GMBH - GERMANY

SELEX SISTEMI INTEGRATI GMBH - GERMANY	
SIAP + MICROS S.R.L ITALY	
SKYE INSTRUMENTS LTD UK	
STERELA - FRANCE	
SUMITOMO ELECTRIC INDUSTRIES, LTD JAPAN	
SUTRON CORPORATION - USA	
TECHSENSE SOLUTIONS SDN BHD - MALAYSIA	
TELVENT ENVIRONMENT - NETHERLANDS	
THE REPUBLIC GROUP CORPORATION - USA	
TIANJIN METEOROLOGICAL INSTRUMENT WORKS - CHINA	
TOTEX CORPORATION - JAPAN	
VAISALA OYJ - FINLAND	
VAISALA OYJ - FINLAND VCS AKTIENGESELLSCHAFT - GERMANY	
VCS AKTIENGESELLSCHAFT - GERMANY	
VCS AKTIENGESELLSCHAFT - GERMANY VECTOR INSTRUMENTS (WINDSPEED LTD.) - UK	
VCS AKTIENGESELLSCHAFT - GERMANY VECTOR INSTRUMENTS (WINDSPEED LTD.) - UK WEATHER DECISION TECHNOLOGIES, INC USA	

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JENOPTIK I DEFENSE & CIVIL SYSTEMS	JENOPTIK Laser, Optik, Systeme GmbH Goeschwitzer Strasse 25 07745 Jena Germany	
GERMANY	Tel: +49 3641 65-3845 Fax: +49 3641 65-3573 Email: <u>sensor.sale:@ijenoptik.com</u>	
	Web: www.jenoptik-los.com	
COMPANY PROFILE		
stabilization technology for weapons and optoelectronic sen- the laser and infrared sensor systems area the focus is on the The CHM 15k laser cellometer of Jenoptik measures simulta instrument able to reliably and routinely detect multi-cloud la and climatological applications. The CHM 15k cellometer is Additional software modules are available for data recording. Further meteorological products, like e.g. sensors for visibilit	for intelligence gathering und reconnaissance as well as military and civil vehicle and aircraft equipment: gener riosr, radomes for military aircrafts well as composite structure elements for civil aircrafts, and additionally, me te development, manufacturing and marketing of laser distance measurement equipment and infrared camera neously cloud base height, boundary layer height and vertical visibility. With an operating range of up to 15 kil yers and high-lying cirrus clouds with low backscatter coefficients. The low-maintenance sensor is designed t configured and controlled by an intuitive command set. The measurement data can be individually evaluated wi and analysis (JO-DataClient) and graphical visualisation of backscatter data (JO-Visual). y, snow height and water level are under development, but already available for demonstrations	chatronic components and subsystems. In systems for different applications. ometers it is the first commercial LIDAR o work autonomously in all meteorological
PRODUCT CATEGORIES (Follow the links below for informa Clouds Visibility Atmospheric Composition (Please note those categories listed in bold red have extended		
Home Company Selection Country Selection		
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2.1. Each company has a home page similar to that displayed above, providing contact information on the company, a brief overview of the companies activities and a list of the categories with which the vendor in involved.

3. More information is available on company products by entering into each category entry. The number of categories varies from company to company, and is usually in the range of 5 to 15 categories for each company. There are in total approximately 400 category entries in the catalogue.

3.1 A category entry in red includes additional individual product information, including a mini specification on a particular product, and links to more information from individual company websites. This will be described in detail is a later section.

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Cloud Products Please click on any of the links below to go directly to the relevant on-line informs	Back to Product Category Page ation of the companies and their products. Or contact the company at their email address.
ALL WEATHER, INC. United States of America Marketing@allweatherinc.com	AWI repeatedly sets the pace in the weather information industry with such firsts as the <u>8339 Laser Ceilometer</u> , the only laser ceilometer that measures four layers of cloud height. The system measures up to <u>25,000 feet and incorporates</u> an optical band pass filter to preven interference from other light sources. Modular design and built-in tests allow for simple field replacement of components without the need for on-site alignment, troubleshooting, or factory returns. The preferred development partner of the FAA, and meeting the requirements of the ICAO and WMO, AWI's meteorological sensors are used worldwide.
DROPLET MEASUREMENT TECHNOLOGIES United States of America info@dropletmeasurement.com	DMT has developed single particle optical spectrometers for measuring cloud properties from aircraft and fog properties on the ground. These instruments measure droplet and ice crystal size distributions from 0.5 µm to 6 mm. For airborne applications, there are the Cloud Droplet Probe (CDP), the Cloud Imaging Probe (CIP) and the Cloud Combination Probe (CCP). For a complete list, with descriptions, of the DMT airborne cloud probes, <u>go here</u> . For ground based cloud and precipitation measurements, DMT offers the Fog Monitor (FM-100) and is the <u>Meteorological Particle Spectrometer (MPS)</u> .
JENOPTIK Laser, Optik, Systeme GmbH Germany sensor sales@jenoptik.com Product Details and Technical Specifications	JENOPTIK Laser, Optik, Systeme GmbH develops and manufactures optoelectronic laser sensors for reliable and cost-effective measurements in meteorological, industrial, traffic monitoring and military applications. The <u>CHM 15k ceilometer</u> measures ceilings, boundary layer height and vertical visibility. With an operating range up to 50,000 ft (15 km) it is the first ceilometer which reliably detects multi-cloud layers and high circus clouds. The low-maintenance sensor is designed to work automonus/y at any climate and throughout the year.
KIPP & ZONEN B.V. Netherlands	Kipp & Zonen is the exclusive worldwide distributor, with the exception of Greece and Cyprus, for the new range of LIDAR systems designed and manufactured by Raymetrics S.A. of Athens. These are rugged, compact, turn-key products which are easy to install and operate with uniquely flexible software for data acquisition, visualization and analysis. Various wavelength, telescope size and detection channel options are available, including eye-safe configurations and Raman versions. A micro-pulse LIDAR is also available. Cloud base, cloud properties and temporal development can be monitored.
LEOSPHERE SAS	LEOSPHERE presents the EZ Cloud & Aerosol Lidar, a LIDAR dedicated to cloud and aerosol monitoring. • Aerosols and clouds lavering

3.2 Here are the first few entries of the cloud product category. Many category entries include details of individual products and hyperlinks to additional information of the company website.

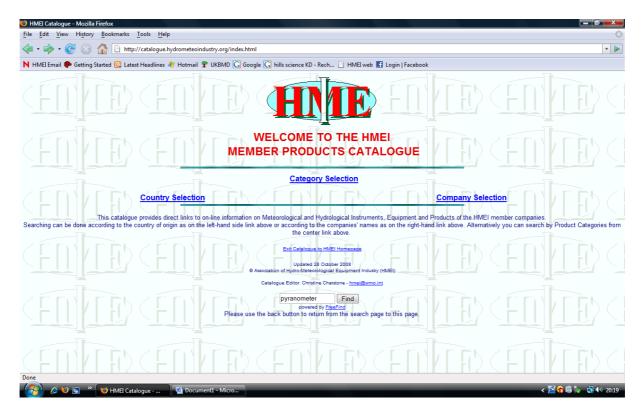


4. The product details available from the category entries lead to information on individual products, as shown here. This includes links to live information on the company websites, including technical specifications, additional product information and any other information that is available on that product. The product detail entries are a new extension to the catalogue. To date there are 130 product entries; all companies in the catalogue are expected to eventually include individual products details.

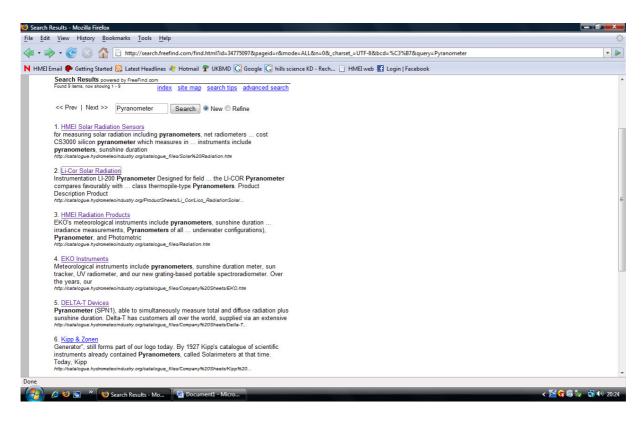
Searching the catalogue

5. This can be done by looking through individual company categories and following the links down to the individual product information.

5.1 Additionally the search facility on the catalogue home page allows one to search for any information in the catalogue, including individual product names.



5.2 Shown above is how to search for information on pyranometers. Below are the results:



Catalogue maintenance and updating

6. Companies maintain the content of their own entries and provide updates regularly. The HMEI Secretariat update the catalogue on an almost daily basis, ensuring that the information included in the catalogue is always up-to-date.

Access to the catalogue

7. The HMEI Member Product catalogue is available at:

http://catalogue.hydrometeoindustry.org