

New Product Launches, Expert Meetings, Legislation and Technology Advice all to be found at WWEM 2005

- WWEM 2005 (Water and Wastewater Environmental Monitoring) 29 + 30 June 2005
- Burton-On-Trent, England, near East Midlands and Birmingham airports
- Conference, Workshops and Exhibition

There is a major change ahead for the management of the environment in Europe. This change is being driven by the introduction of the most significant and innovative piece of European water legislation of the past 30 years, the Water Framework Directive. An old saying goes: "If you don't monitor it; you can't manage it," and this has never been truer than when applied to the management of Water. However, monitoring data must be accurate, traceable and representative, and for this reason, the European Commission is currently investigating the provision of an environmental technology verification scheme for Europe. In order to ensure the quality of data, it is essential that those responsible for monitoring are fully aware of their obligations, and this is why WWEM is a must visit event for Water Monitoring Professionals. Conference themes include calibration, data communications, MCERTS and sensors, and a choice of over 60 Workshops are available each day. The workshops will operate on a walk-in, walk-out basis, with delegates selecting subjects to suit their needs. Delegates from industry will be treated to a broad range of workshop topics on new product technology, standards, legislation updates, novel approaches to monitoring, process optimisation and much, much more. Visit our website for a full programme of events: www.wwem.uk.com

"You will find a wealth of information at WWEM 2005. I look forward to seeing you there"



Marcus Pattison Organiser of WWEM 2005

Publisher of International Environmental Technology

ABB Stand Demonstrates Comprehensive Water Industry Offering



ABB Limited (Stand 29 & 32) will be presenting its extensive range of instrumentation products and systems for 'Water and Waste Water Industry'.

Products on display will include ABB's AquaMaster electromagnetic

flowmeter, which features the latest transmitter design with the option of built-in GSM technology, enabling remote access to flow data using SMS messaging.

Other flow devices on display will include the ABB MagMaster and ABB AquaProbe, both ideal for potable water applications, plus ABB's Sensybar pitot tube and the ABB Sensyflow thermal mass meter, for the accurate measurement of compressed air flow on aeration duties. Other exhibits will include ABB's Calmaster 2 calibration verification system, the new AV400 UV nitrate/organics analysers for environmental monitoring and examples of the ABB SM series videographic data recorder range, plus a host of equipment for pressure, level and temperature measurement.

In addition, ABB experts will be hosting four

Real Life Applications of Analysers Discussed



Process control, optimisation and efficiency will increase in importance in AMP4. It is important to understand how tools and equipment manufactured specifically for the water

industry can help achieve these goals. **Danfoss Analytical** will be running workshops during the WWEM conference discussing real life applications of analysers with focus on achievable results in waste water treatment.

On display will be the analysers that set new standards for online waste water analysis and in fact made in-situ (direct in medium) continuous nutrient measurements possible. In-situ measurement in waste water enables more precise process control as the analyser has a fast response to changes in chemical concentrations. Furthermore, significant installation and operational savings can be made as there is no requirement for filters, pipes, pumps, enclosures, daily checks, etc.

Did you know that the Danfoss EVITA® INSITU nutrient meters are the only analysers in the world able to measure reliably over long periods of time directly in inlet waste water? If you can measure in this application any other part of the waste water treatment process is simple! Also on display is the worldwide market leading dissolved oxygen meter, the EVITA® OXY, why not come along and find out why. We will also be displaying our pH, redox, turbidity and sludge meters, plus our cost saving network capabilities.

Extensive Range of Products for Chemical Analysis Sample Preperation and Lab Automation



Dionex Corporation pioneered ion chromatography (IC), an innovative analytical technique that identifies ionic components of chemical mixtures. Since then, the scope of Dionex technology has expanded to include a broad range of techniques, including IC, High

Performance Liquid Chromatography (HPLC), Nano- and Capillary LC, Mass Spectrometry (MS), Accelerated Solvent Extraction (ASE®), Automation, and on-line process analysis.

Our products are used extensively for chemical analysis, sample preparation, and laboratory automation in the environmental, life science/biotechnology, chemical, petrochemical, power generation, pharmaceutical, and electronics industries.

The ICS-3000 introduced at the Pittsburgh conference this year winning the SILVER award was a result of a team effort, combining customer input with our 30 years of chromatography leadership. In addition, we've added new, innovative features that reshape the face of chromatography.

Visit us at Stand 9 or attend one of our workshops listed below: New Technologies in Environmental Testing using Ion Chromatography (Wednesday 29th June, 10.30 – 11.00)

workshops covering the following topics:

- Flowmeter accuracy and verification
- The benefits of using GSM/SMS technology for datalogging
- Process compliance monitoring
- Modern approaches to coagulation control for upland water treatment

Accelerate Sample Extractions using Innovative Techniques for PAH's, POP's, PCB's, Pesticides and Dioxins and Furans in Environmental Samples. (Thursday 30th June, 15.00 - 15 - 30)





Meet Effluent **Monitoring Requirements**



Applikon Analytical Ltd will be exhibiting the new range of Alert analysers, designed specifically to meet the effluent monitoring requirements of both municipal and industrial customers. To show just why the Alert analyser is the most reliable in its class with the lowest cost of ownership, maintenance demonstrations will be undertaken on the Exhibition Stand.

In addition there will be a demonstration version of the exclusive ADI 2040 Process Analyzer, the most versatile on-line analyser on the market today, configured for our unique Total Phosphorous/Total Nitrogen combination.

For every application enquiry brought to the Stand we will supply an electronic mock up of the complete analyser together with a voucher for a free Preventative Maintenance Agreement to cover the first year of analyser operation.

Applikon Analytical are so confident that the new range of analysers can carry out any wet chemical analysis that a donation will be given to the Water Aid charity for any wet chemical applications beyond our capabilities!



Expert Help and Advice Offered by ALcontrol

ALcontrol Laboratories (Stand 31) will provide experts for help and advice on all matters relating to testing, analysis and monitoring. ALcontrol has 12 UKAS accredited state of the art laboratories in the UK and Ireland. The company employs over 700 staff, and as such has a comprehensive range of expertise for every application. ALcontrol's capabilities include analysis of Ground and Surface Waters, Effluents, Leachates, Sewages and Sludges. Analysis ranges from Metals and Organics e.g. Pesticides and Herbicides through to Ecotoxicity testing which is a flexible and tailored service to meet specific customer requirements. ALcontrol also has capabilities to deal with any aspect of an asbestos enquiry from survey through to analysis Jez Smith, Commercial Manager, says "the extent of ALcontrol's capability in terms of resources and widespread geographic availability, means that we are able to exploit economies of scale to the benefit of our customers, and since the water sector is vitally important for us, we are looking forward to the opportunity of meeting both old customers and new at the WWEM event".



Latest MCerts **Flowmeter Technology**

A visit to the Nivus stand is a must if you want to see how the latest flowmeter technology is being used for MCerts. flow applications. The flowmeters are now finding increasing use by all the major U.K. water companies on these and other applications. A flow rig will have in operation the flowmeters which work on cross correlation principle. Also in operation will be the NEW portable flowmeter which is suitable for flow verification and sewer flow monitoring. The flow rig will be able to demonstrate the unique features and adaptability of the flowmeters. Come to our seminar to see and hear about the unique solutions to many difficult and demanding MCerts flow applications by using the Nivus flowmeter often with large cost savings on installation.

Complete Package for 24x7 Routine Analysis in the Water/ wastewater Industry

Metrohm UK (Stand 28) will be displaying their range of

Potentiometric, Ion Chromatography &

Voltammetry systems with multi sample automation including the new "Invisible Titrator" and "Compact" Ion Chromatography systems...The product of the month is the 855 Robotic Titrosampler - High-performance titration automation with minimal footprint. The 855 Robotic Titrosampler combines the highest quality standards in titration with topperformance automation. It's outstanding features are: . 40 % less lab space

- . Unique and outstanding
- . Easy handling thanks to features like plug-and-play
- . User-friendly thanks to complete packages

As a complete package the system fulfils all requirements of routine analysis in the water & wastewater industries operating 24 x 7 with an impressive sample throughput on the smallest possible footprint. It also fully implements the plugand-play principle.



Largest Line of DO **Monitoring Instrumentation**



The Royce Technologies Stand will feature the Model 9810/98 Optical Dissolved Oxygen monitoring and control system, which joins the largest line of DO monitoring instrumentation available from anv one company worldwide, for monitoring

applications including wastewater treatment, aquaculture, environmental, and industry. The key to this new technology is the patented Model 98 DO sensor. It is a fluorescent emitting sensor that monitors the optical phased shift of the luminescent quenching of a fluorophore during its contact with oxygen. Royce guarantees the entire sensor for three years. Royce Jet-Cleaning can be used and virtually eliminates any maintenance. The instrument checks and readjusts electronic zero automatically every conversion cycle, making this operation completely transparent to the user. The Royce Technologies Model 98 DO sensor has been designed to eliminate all the problems associated with other optical DO sensors. The Model 98 is not affected and destroyed by sunlight. There are no caps to change. The system uses the same field proven type of electronics and enclosures that have set Royce Technologies apart worldwide.

One-stop Supplier for all Industry Processes



Endress+Hauser (Stands 12 and 13) is a one-stop supplier of high quality products and services to suit all industry processes which comply with all regulatory requirements. The broad range of

products provided by Endress+Hauser covers a diverse selection of technologies for level, flow, temperature, pressure and analytical measurements. The latest example of Endress+Hauser's innovative approach is the new revolutionary digital pH measurement device, Memosens. This features a new inductive, two-way data transfer system between the sensor and transmitter, allowing process and calibration information to be saved directly into the sensor. This approach removes all problems associated with moisture ingress, leakages, corrosion and handling. Endress+Hauser, with its innovative products and extensive range of support services, plays a major role in providing environmental protection, together with treatment plant safety, efficiency and discharge quality.



New Range Launched for the Water/Wastewater Industry



Partech (Stand 39) will be launching a new range of analytical equipment as part of Partech's expanding presence in the Water and Wastewater marketplace.

Andrew Wallace will be

presenting a paper to the conference that has been prepared in conjunction with Exeter University that looks at the issues surrounding the integration of digital signal processing and water quality sensors. The paper will look at both the product development challenges and the knock on effects of digital communications on the water industry in terms of the volume and accuracy of data.

In the workshops our highly experienced engineers will be looking at ways of using instrumentation to make process improvements and cost savings. The first day's workshop will focus on the control of Iron dosing in Phosphate removal. The second day's workshop will look at the use of Sludge Blanket monitors and how they impact on the treatment process.



New **Robotic** Laboratory **Featured**



Ltd (stands 42 and 43) will feature the newest robotic laboratory, which has gone on line at Vitens in Holland. Working throughout the night the entirely new laboratory shoots upwards of 3000 sample bottles and petri dishes from lab to lab and from darkened robot to darkened robot. Labman will be showing video (taken with the lights on) and explaining all the amazing functionality of this world beating installation at WWEM. Labman will also demonstrate their new Konelab sample feeder, which automatically aliquots samples for the Konelab 600's multiple test colorimetric analysis.

Royce will also feature the Model 7700 continuous Sludge Retention Time (SRT) Control System, which is a complete package ideally suited for both Industrial and municipal WWT systems, to accurately and reliably control SRT. The Model 7700. winner of the 2001 WEF Innovative Technology Award, continuously monitors both aeration basin solids and the concentration of wasted solids, to give a feedback control signal for automatic or manual control of the wasting rate for SRT.



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New Range of On-line and **Portable Water Quality** Instrumentation



Services will be exhibiting a selection of key products from their extensive range of on-line and portable water quality instrumentation.

Severn Trent

Bufferless measurement of chlorine, both free and total, over a very wide pH range, will be described in one of our workshop sessions. A range of new products will be on show. These will include the recently launched Cl4000 bufferless instrument, part of the full range of water sensors available with our MicroChem analyser/transmitter.

We will also be running a workshop covering wastewater monitoring. The key measurements for AMP4 of nutrients in effluent streams will be our main focus. Other technologies for wastewater treatment and the instrumentation of small works will be on show. Find out more about all the new products from Severn Trent Services at Stand 11.

New Waterproof Multiparameter Water Quality Monitor



DKK-TOA, stand 10, will feature a fully waterproof multiparameter water quality monitor that has recently been launched in the UK market. Manufactured in Japan, the WQC-24 offers a choice of 17 parameters. A single probe offers standard sensors for Temperature, Turbidity, DO, Conductivity

and pH, with an additional depth option. Dual probe configurations offer the opportunity to include three further sensors for parameters such as ORP, calcium, chloride, fluoride, ammonium, nitrate or potassium. Alternatively, the dual probe option can accommodate a chlorophyll sensor and one of the ISE or ORP sensors. The robust sensor probe is detachable, and can be used as a separate logging sonde, with the ability to record up to 35 days data at a logging interval of 15 minutes. DKK-TOA also manufactures a wide range of portable and on-line instruments for water and wastewater treatment plants.



Skalar Offers Total Concept of Automation in Wet-Chemistry.

STAND 11

- SAN++ Analyser, total concept of automation in wet-chemistry; to increase analysis speed and saving valuable operator time, for the analysis of:
- Total Nitrogen & Total Phosphate (incl. automatic in-line UV digestion);

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- Total Cyanide (incl. automatic in-line UV digestion & distillation);
- Phenol (incl. automatic in-line distillation) and over 900 other methods available.
- OPA 2000 On-Line Analyser, suitable for effluents, process control, latest touch screen control, up to 4 chemistries monitored in one unit, batch unit gives results at preset frequency 100's of methods available. There will also be information available on many other products and applications offered by Skalar.



Sophisticated Automation Products on Show



Presearch supply sophisticated automation products for the monitoring of water pollutants and flavour quality. The Symbiosis Environ can be coupled directly to HPLC or LC-MS to provide rapid, fully automated analysis of water for

the presence of pesticides and other pollutants. It can be sited on the

Relative Virtues of Ortho and Total Phosphate Monitoring



EauxSvs (Stand 20) will be demonstrating the latest multi-parameter water quality pro-ducts, including a system that has been developed for riverbank installation. There will be a live data link to an installed system that is monitoring river quality in a key Cornish location. In the workshop sessions EauxSys will look at the relative virtues of Ortho and Total Phosphate monitoring and the use of the Internet for data management. These workshops will give some ideas for improving the quality of data and for how to manage the volume of information that is being created.

New Series of Electrodes are Launched



The JUMO Instrument Group have developed a new series of electrodes for applications such as processing of drinking and bathing water, freshwater and seawater aquariums, fisheries and hatcheries, and for use with portable measuring equipment. The elec-

trodes feature a robust, acid- and alkali-resistant plastic stem made from polypropylene oxide (PPO). The polyolefine diaphragm is insensitive to the medium and the proven JUMO-gel guarantees fast, stable measurements.

Jumo will also present a new generation of conductivity transmitters, operating with inductive measurement. They offer wide-ranging options for mounting in pipe systems and on containers. Measurement ranges from 0 - 500 $\mu S/cm$ to 0 -2000mS/cm, make this a universal instrument for generalpurpose water engineering, as well as for special tasks (for instance: water testing in flushing baths, dilution controls, bottle sterilizers, CIP installations)

Jumo's LOGOSCREEN AQUA 500 is a universal acquisition system, designed specifically for the water industry.

The unit directly accepts a range of probes and assemblies which include pH, redox potential, free chlorine, chlorine dioxide, ozone or conductivity and concentration measurement, without the use of converters. Current, voltage and temperature inputs can also be configured. The instrument can be equipped with 3 or 6 isolated measurement inputs and offers many different recording functions.

Calibration procedures and temperature compensation, for instance for pH measurement, are integrated in the instrument. This means that there is no need for separate transmitters or controllers. The instrument can be programmed from its 8 button keypad or from a PC (via the serial interface or diskette).



A Single Source For Water Testing

The Tintometer Ltd represents a single source of equipment for water testing. Visitors to WWEM 2005 will be able to view the latest range of Lovibond equipment, reagents and accessories for industrial and waste water testing, including:



- User friendly photometers that are equipped with a wide range of pre-programmed water testing methods, such as COD, ammonia, chlorine, nitrate,
- nitrogen, chloride, manganese and iron.
- A new range of hand-held meters for pH, conductivity, TDS and dissolved oxygen that are equipped with a protective casing and built-in electrode holder
- Measurement systems for determination of biochemical and chemical oxygen demand in waste waters.
- The established Comparator System, a modular, visual system

river and alarms set to signal if levels are too high. The Astree E-Tongue and Gemini E-Nose can be used to test for the presence of substances that impact on water taste, which emanate from a range of sources, but packaging is a common cause of water flavour problems and this is a particular focus. Additionally we offer the 3M Empore solid phase extraction membranes, which offer rapid sample clean up, particular useful where rapid, one-off results are required.

for colorimetric chemical water analysis, using precalibrated, stable-coloured glass filters in test discs for colour matching. Lovibond Water Testing will also be holding a topical workshop entitled: "COD testing according the new standard method BS ISO15705:2002 'Water Quality - determination of the chemical oxygen demand index (ST-COD) - Small-scale sealed tube method"





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Optimising Your Wastewater Process

The bacteria in activated sludge are at the heart of your waste treatment process. Keeping

these bacteria in optimum condition not only avoids significant problems, it can also reduce many of the day-to-day upsets in plant operation. Optimally performing bacteria can also decrease your costs, and improve your effluent quality. Just as in humans a clear indication of bacterial performance can be gained by measuring the rate of respiration or oxygen uptake.

The rapid (10 minutes), simple (you need only be able to pipette) and inexpensive (no consumables, you use your own bacteria) testing capability of Strathtox from Strathkelvin is being used to provide active toxicity management and process optimisation across a range of industries. From small local breweries to major industrial treatment sites improvements in plant performance, and avoidance problems has improved the security and compliance of their wastewater treatment processes by removing the guesswork from their plant operations.

GE Panametrics and GE Druck are recognised brand names within the Water and Waste Water Industry, with a number of supplier Framework Agreements in place. Their stand will carry the portable & fixed installation clamp-on flowmeter products that have become the standard for closed



pipe flow measurement in potable water and sewage applications alike. Liquid level transmitters with remote-ranging will be shown for borehole, river, water tower and reservoir applications, plus pressure transmitters for sand filter differential and pump performance monitoring, including a flush-mount model for sewage pumping applications. Their workshop sessions will focus on the retro-fit capability of

GE Infrastructure Sensing Offer

Portable and Fixed Flowmeter

Range and Level Applications

the clamp-on flow technology to meet legislation, and data validation in level measurement applications.



IDEXX to Present Rapid Microbiology Methods as WWEM



IDEXX Laboratories will present its industry-leading portfolio of easy, rapid, accurate and cost effective water microbiology test kits at the WWEM IDEXX will demonstrate its well-known Colilert®-18/Quanti-Tray® test kit for coliform/E. coli testing, a new test for enterococci testing and a new rapid method for monitoring Total Viable Count in water.

The Colilert-18/Quanti-Tray test method is accepted for compliance testing in the United Kingdom by the Drinking Water Inspectorate. The Colilert family of products is widely used by British water companies, bottled water suppliers, food companies and environmental monitoring laboratories. The method detects and enumerates total coliforms and E. coli simultaneously. Colilert®-18 produces confirmed results in 18 hours. Simply add the Colilert-18 reagent to a water sample, pour the mixture into an IDEXX Quanti-Tray® and incubate for 18 hours. The test is accurate to 1 organism/100ml, requires

no media preparation, filtering, or confirmation and takes less than 1 minute hands-on time. Results are easy to read and can produce counts up to 2,419 without dilutions. Reagent is stable at room temperature up to 12 months after date of manufacture.



Nutrient Analysers on Show



Labmedics Ltd will be exhibiting two Aquakem nutrient analysers at WWEM. The Aquakem 250 is a more compact analyser for the smaller laboratory with a sample throughput of 300 tests per hour.

The Aquakem 600 is a

larger analyser for the larger laboratory with a sample throughput of 600 tests per hour.

There are numerous user friendly applications for both the analysers, including core methods such as Ammonia, Chloride, Orthophosphate, TON (NO3), Nitrite, Sulphate, Alkalinity and Silicate through to the more complex Kjeldahl Nitrogen, Total Cyanide, Total Phosphate, Total Iron (post distillation/digestion).

To further facilitate ease of use, Labmedics Ltd also provide pre-prepared reagents for several of the chemistries, supplied

Portable and Real-Time Trace Metal Analysers

TraceDetect brings accuracy and precision to portable and real-time trace metal analysis. Monitor your wastewater effluent in real-time using the SafeGuard™ automated trace metals analyser. Screen



your remediation site using our field-portable NanoBand™ Explorer. Both systems deliver rapid and economic detection to below 1 part per billion (ppb) in water matrices. Proven accuracy with ICP-MS correlation, the SafeGuard $^{\scriptscriptstyle \rm M}$ and NanoBand[™] Explorer immediately pinpoint your trace metal levels. No more waiting for sample results.

- Arsenic Speciation Method utilized by Severn Trent Laboratories (STL)
- Leader in Electrode Sensitivity with NanoBand[™] Technology
- Proven ASV Technology
- **Excellent Correlation with Conventional** atory Methods (ICP-MS, AA)

Latest Products for the Laboratory, Hand-held and **Remote Water Quality Monitoring Industry**



If you ask anyone responsible for taking water quality measurements what they long for the most, they will tell you that their ideal instrument collects accurate, representative data without the need for frequent maintenance.

They will be interested to learn, therefore, that YSI Hydrodata will present a workshop at WWEM, in which help and guidance will be given on techniques that enable extended deployment of water quality monitoring equipment. This will feature for example, YSI's 'Clean Sweep' system in which sensor probes are routinely wiped automatically in order to remove fouling. Examples will be given of applications in which high levels of biofouling would normally result in a requirement for frequent site visits in order to clean and recalibrate sensors. However, trials involving the deployment of the 'Clean Sweep' system have resulted in site visit intervals being extended by factors in excess of five. Significant extension to the deployment period obviously reduces costs markedly.

Visitors to the YSI Hydrodata stand 45 will be able to view some of the latest technologies for laboratory, hand held and remote water quality monitoring instrumentation, including the 'Clean Sweep' system, and the new S::CAN system, a submersible scanning spectrometer that is able to record highly accurate Nitrate measurements without the need for reagents. The YSI SonTek range of velocity, profile and flow meters will also be featured at WWEM, with technical advice available to ensure that the best instrument is chosen for every flow monitoring application.



Long Term Water Quality **Monitoring Equipment**

Greenspan (Stand 23) is a global company manufacturing long term water quality monitoring equipment and offering surveys, consultancy and support for data presentation.

Greenspan will exhibit their range of products that have global application, and give real-time online demonstrations of some of their global systems integration and web data management carried out by the company's technology services.

Greenspan Products

- 1 Single and Multi parameter sensors for pH ORP/Redox, Trubididty and dissolved oxygen
- 2. Aqualab Continuous Monitoring and Phosphate . Nutrient measurement monitor applications include Phosphate, Nitrate Ammonia, Ammonium and total phosphorous. The flexibility and self-cleaning reliability of these Analysers have assured many applications including drinking water plants, harbours and ports, aquaculture research and wastewater treatment.
- 3. Rugged pressure and level sensors 22m diameter with on

with a 'Certificate of Performance' and Lot Numbers for trace ability to satisfy accreditation bodies.

Further method developments include TON by cadmium reduction, and low-level nutrient detection in seawater.

If you would like to be alongside Labmedics Ltd at the forefront of next generation technology in water analysis, then the Labmedics Ltd stand will be well worth your attendance.

Commitment to Technical & Customer Support

Please visit our workshops:

STAND 30

"Arsenic - Are you over the legal limits?: The value of at-line arsenic monitoring." "Heavy metal contamination - The importance of real-time monitoring for lead and copper in drinking water."

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board loggers to cover every pressure application

System Integration and services

STAND 23

There will be on-line connections through Greenspan's web based systems to global applications, including the SWSOOS product which integrates level, load, rainfall and H2S sensors and provides web based uploads, and text warnings.

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