TECHNEAU NEWSLETTER




August 2006

This is the first issue of the TECHNEAU Newsletter. It is designed to disseminate news, scientific results and developments to stakeholders. Newsletters are planned for issue every six months, with Newsletter 2 scheduled for December 2006.

Newsletter 1 introduces the TECHNEAU project, its participants and highlights the initial activities and outputs that are being delivered. The Newsletter can be downloaded from the TECHNEAU website (www.techneau.org / www.techneau.eu), where comments on the Newsletter or on any project-related issues are welcome.

Welcome to TECHNEAU

The Integrated Project TECHNEAU challenges the ability of traditional drinking water supply systems to cope with present and future global threats and opportunities. TECHNEAU will rethink options for water supply and - through innovation, research and development – will provide and demonstrate new and improved technologies for the whole water supply chain.

Message from Theo van den Hoven, TECHNEAU Project Co-ordinator

"Let me introduce the TECHNEAU project. TECHNEAU is a mainly EU-funded Integrated Project (19M€) that addresses the tremendous challenges that face the water supply sector worldwide. New emerging contaminants, aging infrastructures being vulnerable to accidental and deliberate contamination, and shortage of good quality and readily treatable resources are just a few examples.

Integration is the key to addressing these challenges successfully. Integration of scientific advances and technological developments into the socio-economic context and daily practices of water utilities; source-to-tap integration to avoid segmented and isolated solutions; and integration and focus of efforts by universities, research institutes, technology providers, regulators and water utilities from across Europe and developing countries. This is the objective of TECHNEAU.

The TECHNEAU team is proud to partner with the Directorate-General Research of the European Commission in this ambitious project. The benefits of the integrated approach are already becoming apparent in the first half year after the launch in January 2006. You will read more in this first Newsletter."

An Integrated Project Funded by the European Commission under the Sustainable Development, Global Change and Ecosystems Thematic Priority Area.

Contract Number: 018320
Project Coordinator: Dr. Theo van den Hoven Kiwa Water Research
Project Duration: 1st January 2006 to 31st December 2010

Message from Panagiotis Balabanis - European Commission

"TECHNEAU is the biggest EU-funded project on drinking water ever; it should boost scientific excellence and policy making for water supplies."

Who's Who in TECHNEAU

Partners

To achieve its objectives, TECHNEAU brings together a unique breadth of expertise and experience with partners from universities, research and technology institutes, and technology providers/SMEs from across Europe and beyond. The partners involved in TECHNEAU are:

Universities

- Riga Technical University (Latvia)
- NTNU (Norway)
- UNESCO-IHE (The Netherlands)
- University of Surrey (UK)
- RWTH Aachen University (Germany)
- Chalmers University of Technology (Sweden)
- Technische Universiteit Delft (The Netherlands)
- Freie Universität Berlin (Germany)
- Indian Institute of Technology Delhi (India)

Research and Technology Institutes

- Kiwa Water Research (The Netherlands)
- SINTEF (Norway)
- KompetenzZentrum Wasser Berlin gemeinnützige GmbH (Germany)
- EAWAG (Switzerland)
- DVGW-Technologiezentrum Wasser (TZW) (Germany)
- WRc (UK)
- LNEC (Portugal)

(ctd page 2)

In this ISSUE

Who's Who (contd)
Research and Technology Institutes (contd)

- Water Research Commission (South Africa)
- Anjou Recherche Veolia (France)
- Forschungsverbund Berlin e.V., IGB (Germany)
- Mekorot (Israel)
- Swartz Water Utilisation Engineers (South Africa)
- National Institute of Public Health (Czech Republic)

Technology Providers / SMEs

- EUCETSA (Belgium)
- BDS (The Netherlands)
- Alpha M.O.S (France)
- S::can (Austria)
- Vermicon (Germany)
- bbe Moldaenke GmbH (Germany)
- Aqualyng (Norway)
- Opalium (France)

Figure 1 TECHNEAU Partners outside Kiwa's Office in Nieuwegein

TECHNEAU Project Board

This oversees the delivery of TECHNEAU and comprises Kiwa personnel and the Work Area (WA) Leaders:

Project Co-ordinator	Theo van den Hoven, Kiwa Water Research	(theo.van.den.hoven@kiwa.nl)
Project Manager	Toine Ramaker, Kiwa Water Research	(toine.Ramaker@kiwa.nl)
Project Assistant	Bianca van der Wolf, Kiwa Water Research	(bianca.van.der.wolf@kiwa.nl)

Work Area Leaders:

WA 1	Wouter Pronk, EAWAG	(wouter.pronk@eawag.ch)
WA 2	Yann Moreau-Le Golvan, KWB	(yann.moreau@kompetenzwasser.de)
WA 3	Frank Sacher, TZW	(sacher@tzw.de)
WA 4	Thomas Pettersson, Chalmers	(thomas.Pettersson@wet.chalmers.se)
WA 5	Axel König, SINTEF	(axel.konig@sintef.no)
WA 6	Chris Fife-Schaw, University of Surrey	(c.fife-schaw@surrey.ac.uk)
WA 7	Ian Walker, WRc	(ian.walker@wrcplc.co.uk)
WA 8	Toine Ramaker, Kiwa Water Research	(toine.ramaker@kiwa.nl)

Project Advisory Committee

The Project Advisory Committee (PAC) oversees TECHNEAU on behalf of the European Commission.

Paul Reiter	IWA
Frans Schulting	GWRC (Global Water Research Coalition)
Peter Wilderer	Institute of Advanced Studies on Sustainability/ European Academy of Sciences and Arts
Jacques Sibony	Various NGO's
Riku Vahala	EUREAU
Sacha Gabizon	WECF (Women in Europe for a Common Future)

Message from Peter Wilderer (IASS/EASA), member of the PAC

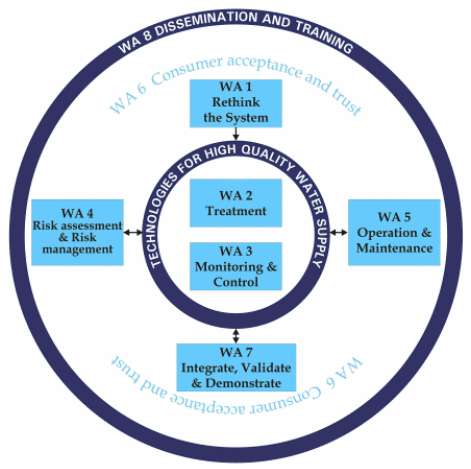
"I am impressed by the ambitious and enthusiastic spirit of the TECHNEAU team. This is a good starting point for a real integrated approach to the enormous challenges of water supply in Europe and in many other regions of the world."

TECHNEAU - Overview

The water sector worldwide faces tremendous challenges. TECHNEAU will address these challenges by developing new and improved treatment and monitoring technologies integrated with the most appropriate management practices into adaptive supply system options (strategies).

These technologies and management practices will enable end-users to make informed choices, appropriate to their own circumstances and constraints, for cost-effective and sustainable source-to-tap solutions for the provision of safe, high quality drinking water that has the trust of the consumer.

To deliver its objectives, TECHNEAU has been divided into eight integrated Work Aeas (WAs), as illustrated in the figure. A ninth work area covers project management.



TECHNEAU Project Structure

The integrated approach to the design and operation of the water supply chain is addressed in WA1 *Rethink the System*, WA4 *Risk Assessment and Risk Management* and WA6 *Consumer Acceptance and Trust*. WA1 will consider the capability of existing water systems to cope with current and future challenges. Adaptive strategies will be developed to meet future requirements, including new supply concepts and multi-scale systems, technologies and management options.

Emerging technologies and monitoring tools will constitute the core of TECHNEAU and will be developed in WA2 *Treatment Technologies for High Quality Water Supply* and WA3 *Monitoring and Control Technologies for High Quality Water Supply*. These work areas will identify research and further develop promising technologies for treatment, monitoring and control, appropriate for the future supply systems and the adaptive strategies defined in WA1.

WA4 will develop an integrated framework for risk assessment and risk management for large and small supply systems, taking account of security issues.

WA5 *Operation and Maintenance* will develop modelling and improved operation of existing supply systems. An essential part of this Work Area is the development of integrated computer models that will enable simulation and optimisation of supply systems with respect to water quality, costs, customer service level and environmental impact. Consumer acceptance of new technologies and trust in the water supplied is a main driver for TECHNEAU and will be addressed in WA6.

Supply options, technologies and management practices developed in TECHNEAU will be evaluated in real life cases in WA7 *Integrate, Validate and Demonstrate*.

The involvement of end-users and effective dissemination is key to TECHNEAU. From the start, project deliverables will be disseminated to different end-users through regional technology platforms (RTPs), web-based knowledge systems, training sessions and a web-based decision support system which will provide access to technologies and management practices researched in the different work areas.

Work Area - Overview

Each work area has been divided into a number of Work Packages (WPs). Each WP is led by one of the TECHNEAU partners and has its own declared objectives, work programme and deliverables.

Work Area 1: Rethink the System

Work packages
WP1.1 - Identify trends leading to change
WP1.2 - Develop adaptive strategies
WP1.3 - Case studies

Water supply systems must continually evolve to meet current and future challenges. WA1 will identify such challenges through an analysis of SEPTED (socio-cultural, economic, political, technological, ecological and demographic) trends for different geographical regions. ‘Adaptive strategies’ will be developed to ensure that water suppliers will be prepared to meet future challenges.

The adaptive strategies will be evaluated and further developed through selected case studies.

Work Area 2: Treatment Technologies for High Quality Water Supply

Work Packages
WP2.1 - Technologies to exploit non-conventional water sources
WP2.2 - Development of the OBM (oxidation-biofiltration-membrane) process
WP2.3 - Optimal integration of membrane filtration in drinking water treatment
WP2.4 - Oxidation processes
WP2.5 - Compact treatment for decentralised supply

The quality of drinking water in many parts of Europe is better than ever due to the systems and technologies introduced over recent years. However, consumer expectation for even better quality water, together with environmental and legislative requirements, present continuing challenges for water suppliers. Less developed countries also face these challenges and have an increasing need for new, appropriate, technologies.

WA2 will address these global challenges by developing technologies to provide improved drinking water in Europe and in less developed countries. Whilst advanced technologies and systems will be developed, simple and robust technologies to provide safe drinking water will also be researched for rural areas and developing countries. Of benefit to all consumers affected by water shortage will be the work on technologies to exploit non-conventional water sources, including seawater and recovered wastewater.

Work Area 3: Monitoring and Control Technologies for High Quality Water Supply

Work Packages
WP3.1 – Prioritised parameters and technologies for monitoring water quality
WP3.2 – Monitoring methods for source water quality with respect to biological and chemical threats
WP3.3 – Monitoring technologies for control of drinking water production
WP3.4 – Analytical tools for monitoring drinking water quality
WP3.5 – Technologies for monitoring water quality changes during distribution
WP3.6 – Testing of monitoring technologies

Fast, sensitive and reliable monitoring, control and analytical technologies are indispensable for the production of safe drinking water, from the surveillance of source water quality, through control of treatment, to monitoring water quality in distribution and at consumers' taps. WA3 will review and develop source-to-tap monitoring and control technologies that will address current and future requirements of drinking water suppliers.

Existing, new and innovative monitoring technologies, biomonitoring systems, electronic tongues and noses, sensors and UV spectroscopy, will be evaluated, developed, optimised and tested. Special emphasis will be put on on-line technologies that can be used for early-warning purposes, on molecular methods that allow for effect-related analysis, and on advanced chemical monitoring. These will be complemented by laboratory-based technologies developed to identify high potency pollutants and pathogens of special concern.

Work Area 4: Risk Assessment and Risk Management

Work Packages
WP4.1 – Risk management framework and hazard identification
WP4.2 – Integrated risk assessment and risk evaluation
WP4.3 – Risk reduction options
WP4.4 – Decision support
WP4.5 – Training activities

A holistic approach to risk management is needed to achieve a safe, sustainable and cost-effective drinking water supply. The source-to-tap approach promoted by the World Health Organisation (WHO) and which is likely to be incorporated into future European legislation, is needed.

WA4 will develop the widely accepted framework for risk assessment and risk management (see Figure 3), incorporating risk analysis, risk evaluation and risk reduction/control, integrating risk assessments of source, treatment, distribution and customer into a comprehensive decision support framework for risk management The framework will be developed in accordance with the WHO water safety plan model and the Bonn Charter and will incorporate risk analysis, risk evaluation and risk reduction-control.

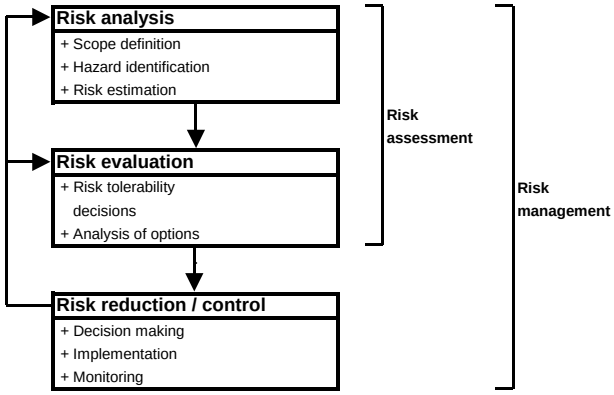


Figure : The risk management process

Work Area 5: Operation and Maintenance

Work Packages
WP5.1 – Operational cost benefit analysis
WP5.2 – Integrated water resource management
WP5.3 – Optimal operation of water treatment systems
WP5.4 – Development of a water treatment plant simulator
WP5.5 – Modelling water and distribution network interactions
WP5.6 – Optimal operation and maintenance of distribution systems

In water supply it is necessary to maintain and improve the level of customer service with regard to reliability, safety and quality whilst meeting the demands and constraints of regulations and costs. To do this, system operators need tools and procedures that can be used to improve the operation, maintenance and performance of existing water treatment and distribution systems.

WA5 will develop treatment tools, focussing on coagulation/filtration, membrane filtration, oxidation, adsorption and soil treatment. Low cost processes including managed aquifer recharge (MAR) will also be developed. A water treatment simulator (WTS) is to be developed as an investigation tool for plant operators and engineers. The WTS will incorporate the most common water treatment processes and water quality parameters and will also be used for training, process design and troubleshooting.

WA5 will also develop distribution models to predict the deterioration of water quality from the treatment plant to consumers' taps. Existing distribution operating and maintenance practices will be reviewed and developed. Tools and procedures

will be combined with water quality models and on-line technologies to improve day-to-day operation and maintenance, as well as rapid response capabilities.

Work Area 6: Consumer Acceptance and Trust

Work Packages
WP6.1 – Understanding consumers' trust
WP6.2 – Management of water supplies based on consumer preferences
WP6.3 – Communication strategies for enhancing trust and acceptance
WP6.4 – Risk perception and communication training

Successful implementation of new technologies requires consumer acceptance and trust. There are many examples of otherwise acceptable technologies that have failed because of consumer indifference or mistrust, e.g. irradiation of soft fruit, genetically modified food, etc. The same customer attitude could be a barrier to the more innovative technical solutions to supplying plentiful and safe drinking water. The importance of end-user participation and community-based approaches in bringing about improvements in drinking water supplies and sanitation must not be underestimated.

WA6 will adopt an end-user-based perspective to look at consumer expectations, decisions and behaviours with respect to individual water consumption as well as the way in which water technologies and water management systems are introduced and accepted within communities.

Work Area 7: Integrate, Validate and Demonstrate

Work Packages
WP7.1 – Production of the TECHNEAU Selection Manager (TSM)
WP7.2 – Management and co-ordination of the case studies
WP7.3 to 7.10 – Case studies

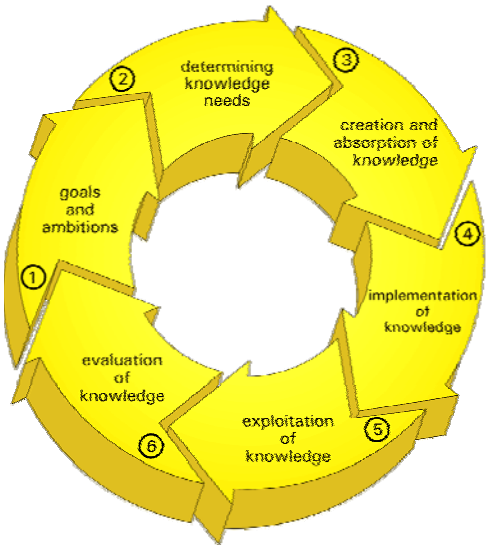
The provision of a secure and safe water supply is dependent on the application of technologies and management systems appropriate to specific local conditions and constraints. Successful implementation of the new technologies and systems developed by TECHNEAU will depend on the end-users having informed access to the results.

WA7 will develop the means by which this information can be accessed by all stakeholders- a computer-based, decision-support system, the TECHNEAU Selection Manager (TSM). This will enable end-users to match local requirements to appropriate available technologies and systems. It will draw from a collection of databases that contain information and data generated by TECHNEAU. Users will also be able to access a range of tools such as process and cost modelling, treatment simulation and risk analysis and to review specific Case Studies where the technologies and systems have been demonstrated..

Work Area 8: Dissemination and Training

Work Packages
WP8.1 – Knowledge management through KnowDET
WP8.2 – Regional Technology Platforms (RTPs)
WP8.3 – TECHNEAU website and portal
WP8.4 – Conferences
WP8.5 – Newsletters
WP8.6 – TECHNEAU training courses

WA8 addresses the implementation and exploitation of knowledge generated in TECHNEAU in terms of a knowledge cycle (see Figure). Only through strong co-operation between researchers and end-users can knowledge be thoroughly evaluated so that project goals and knowledge requirements may be refined.



Work Area 8: Knowledge cycle

Dissemination and training will be achieved through various instruments:

- Regional Technology Platforms will be set up for regular face-to-face consultation and knowledge transfer between operators, regulators, scientific institutions and technology suppliers.
- Communication with remote stakeholders will be achieved through a TECHNEAU web site, web-based knowledge systems, newsletters and conferences.
- The web site will also provide access to the TECHNEAU Selection Manager (TSM) developed in WA7.

Feedback received from stakeholders during the dissemination activities will be used to fine tune on-going research within TECHNEAU and beyond.

Work Area - Highlights

GWRC and AWWARF provide support to TECHNEAU Drinking Water Trend Analysis (WA1)

An initial review of SEPTED (**S**ocial, **E**cological, **P**olitical, **T**echnical, **E**conomic and **D**emographic) trends was discussed at a workshop with GWRC (Global Water Research Coalition) in May 2006. Input was also received from AWWARF, and at a subsequent meeting Rick Karlin presented data from the AWWARF study, '*A Strategic Assessment of the Future of Water Utilities*'.

Trends from different regions are summarised below.

Latvia: **Deterioration of water quality in the distribution** system, especially in rural areas, due to demographic changes and decreased water use. On the positive side, **pollutants in water resources have decreased** dramatically in recent years.

Germany: A large number of local water authorities exist in Germany. **Water consumption has decreased** and prices have stabilised.

Switzerland: A large number of local water authorities exist in Switzerland. A conservative attitude towards water quality and long-term planning leads to a **long life span of water plant**. New investments are usually made with great care and large capital input. Privatisation is not a trend in Switzerland and this is not expected in the short term.

Portugal: A large **increase in water consumption** was observed in the last decades: from 27 litres per person per day in 1981 to 81 litre per person per day in 2002. A strong tendency towards **centralised water treatment** exists, which is driven by improvement in efficiency and professionalism.

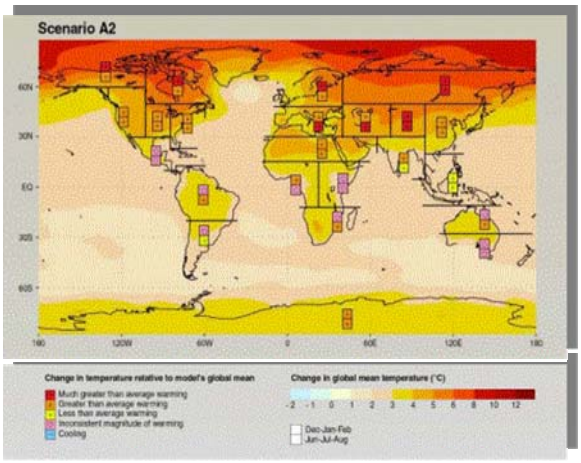
Sub-Saharan Africa: An important trend is the **dramatic increase in population**, anticipated for the coming decades. In combination with **urbanisation**, this implies that problems can be expected in the large cities. Climate change is expected to result in **changes in rainfall patterns**, for example in periods of drought and occasional floods.

Water stress: A number of regions in Europe are affected by water shortage. Efforts within TECHNEAU are focused on Bucharest, Flanders and Israel. Causes and solutions vary widely. For example, in Israel seawater **desalination** technologies are being implemented, whilst in Flanders **water recycling** projects using membrane technology and UV are being installed.

Climate Change affects Water Supply and Demand (WA1)

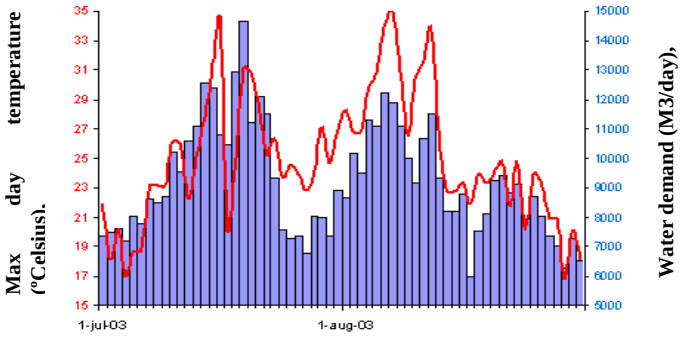
TECHNEAU is investigating impacts of climate change through comprehensive case studies covering three European regions: Romania, Spain and The Netherlands.

One of the major issues associated with climate change is global warming and its affect on water demand. If our climate continues to warm up, a significant increase in water demand is to be expected.



A Scenario A2 for Anticipated Global Warming (Source: IPCC)

Research shows that when temperature is above 17ºC: water demand increases by 1.8% for every degree above 17ºC. If our climate continues to warm up, a significant increase in water demand is to be expected.



Water Demand vs. Temperature (*Based on production statistics of a drinking water production station in a rural area inThe Netherlands in 2003)*

Based on future climate scenarios for the Netherlands TECHNEAU scientists predict that the maximum daily drinking water production could increase by 6% ('dry' scenario) and that the maximum peak factor could increase by 3.7%. Whilst these values are not very alarming for production sites with overcapacity, sites that have limited production or license capacity could face problems in supplying sufficient water during peak hours.

(contd page 7)

Work Area Highlights (contd)

	Low	Average	High	Dry
Temperature	+°C	+°C	+°C	+°C
Year	0.5	1	2	2.3
Summer	0.5	1	2	3.1
Winter	0.5	1	2	2.0
Precipitation	%	%	%	%
Year	+1.5	+ 3	+6	- 4
Summer	+0.7	+1.4	+2.8	- 20
Winter	+3	+6	+12	+ 13
Evapotranspiration	+%	+%	+%	+%
Year	1.9	3.9	7.8	18
Summer	1.7	3.3	6.6	24
Winter	2.8	5.6	11.2	8

Climate Scenarios for The Netherlands (*Source: Royal Dutch Meteorological Institute)*

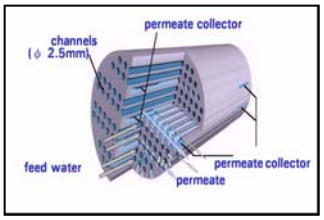
Other impacts of climate change on drinking water supply identified include:

- Salt water intrusion in river mouths and infiltration of brackish groundwater in coastal areas.
- Pipe failure in subsidence-sensitive areas.
- Deteriorating river water quality during low water run-off.
- Greater microbiological activity.

For further information, contact Wouter Pronk, WA1 Leader, or visit the TECHNEAU website.
www.techneau.org/index.php?id=12

Ceramic Membranes for Water Treatment (WA2)

Ceramic membranes, made from inorganic materials, may become an innovative solution for several tasks in water treatment in the future. They have many interesting characteristics such as their resistance to mechanical, chemical and thermal stress, and their hydrophilic surface. These characteristics open new fields for application in water treatment, such as the direct treatment of surface water or the treatment of residuals.



Pilot testing of a ceramic membranes, performed by Kiwa/Vitens/IHE, has showed that for the treatment of surface water, a stable flux could be achieved which was 2 times greater than for non-ceramic membranes. Furthermore, a 5-log virus removal was achieved by dosing of an iron flocculant. Further work is planned to look at the treatment of waste streams such as filter backwash water using ceramics, the performance of nanofiltration for removal of organic micropollutants and the treatment of concentrate wastes.

For further information in WA2 activities contact Yann Moreau-Le Golvan, WA2 Leader, or visit the TECHNEAU website.
www.techneau.org/index.php?id=11

UV/Vis Spectroscopy for on-line Monitoring of Water Quality (WA3)

UV/Vis spectrometers are being tested for on-line monitoring of water quality. The spectro::lysers™ measure the UV-absorption spectrum of water as well as turbidity, TOC, DOC, nitrate and UV_{254}.

TECHNEAU will develop new applications for the spectrometers, including

(i) provision of an on-line alarm system based on the combination of water quality monitoring with a central data collection and processing facility, and

(ii) process control based on spectroscopic data generated by instruments measuring before and after treatment.

Three UV/Vis spectrometers have been installed at end-user sites. One installed at Vienna Waterworks monitoring raw water springs and two at WATERNET (Amsterdam) monitoring one of their pilot plants.

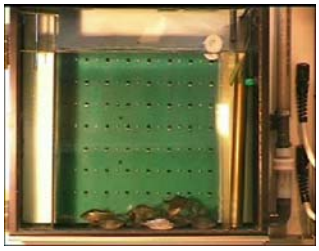
Robust, Low Cost Fish Biomonitor under Development (WA3)

TECHNEAU partners bbe Moldaenke and IGB are developing a low cost biomonitoring system for drinking water protection. The real-time fish biomonitor utilises the reaction of fish to provide an early warning of contamination.

A laboratory version of the real-time fish biomonitor has been developed and is undergoing tests. The laboratory version uses a small (4-6 cm) domestic fish swimming in a tank monitored by an array of lights.

Fish activity is assessed by integrated software that combines an activity count with height distribution analysis. Initial trials have successfully demonstrated the reliability of the fish biomonitor and an 'alarm verification system' has been developed to minimise false alarms caused by the normal behaviour of the fish.

Although further development is required, the first pilot fish biomonitors should be tested at co-operating water treatment works in the near future.



Rapid AOC Detection - A step towards Understanding Microbiological Stability of Drinking Water (WA3)

Techneau Partner EAWAG has developed a fast and accurate method for determining assimilable organic carbon (AOC) in water.
AOC is a factor in microbial regrowth in distribution. Microbial regrowth can adversely affect the quality of the water - leading to biofilm formation, taste and odour, and in extreme cases, proliferation of pathogenic microorganisms.

(contd p8)

The new method uses a natural microbial community as inoculum and fluorescent staining and flow cytometry for enumeration of cells. The rapid measurement of AOC has the potential to provide new insights into the microbial stability of water.
Testing of the EAWAG AOC method has been underway at a water treatment works and in distribution systems over the last 6 months.

Future developments in monitoring and measurement:

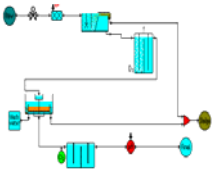
- Mechanism-based bioassays for waterborne contaminants and the development of HPLC-based analytical methods for new algal toxins such as nodularin, domoic acid, and beta-N-methylamino-L-alanine (BMAA).

- Technologies based either on confocal laser scanning microscopy (CLSM) or on enzyme activity measurements for identifying and quantifying membrane biofouling .
- A protocol for the fast and specific detection of indicator organisms and pathogens based on FISH (fluorescence in-situ hybridisation) technology for the development of an automated system for quantifying micro-organisms in drinking waters and monitoring pathogens in biofilms.

For further information, contact Frank Sacher, WA3 Leader, or visit the TECHNEAU website.
www.techneau.org/index.php?id=10

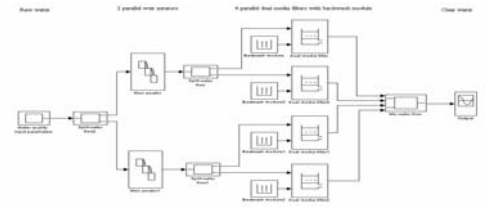
European Water Treatment Simulator - (WA5)

An open workshop on "Developments in Water Treatment Modelling", organised by TECHNEAU , was held in Delft in June 2006. The 40+ participants discussed the role and value of treatment simulators and concluded that a state-of-the-art system would bring benefits to operation, research and training. Existing simulators each offer different features and processes but no current individual system offers what is needed.



Five water treatment modelling packages have been examined in detail: OTTER (WRc), Stimela (TU Delft), METREX (TU Duisberg), WatPro (Hydromantis) and WTP (US EPA).

After discussion between the partners, OTTER and Stimela have been selected as the basis of the framework for the new WTS.



These existing simulators include models for the most commonly encountered treatment processes and water quality parameters and they will be integrated into the new framework.

For further information, contact Axel König, WA5 Leader, or visit the TECHNEAU website.
www.techneau.org/index.php?id=8

Regional Technology Platform - Riga, Latvia

Regional technology platforms (RTPs) will be organised twice per year throughout Europe to promote face-to-face communication between TECHNEAU partners and dissemination of results to stakeholders and the drinking water community.

The first RTP, "Technology for Safe Drinking Water in the Baltic Region", will be held on 5 October 2006, in Riga, Latvia.

For further information, contact Toine Ramaker, WA8 Leader, or visit the TECHNEAU website.
http://www.techneau.org/index.php?id=5

Forthcoming Events

- **10-14 September 2006.**

Beijing, IWA World Water Congress. TECHNEAU will be presented in the 'International Water Research Report' session on 13 September.
Further information: www.iwa2006beijing.com

- **25-27 September 2006**

Amsterdam (The Netherlands). Host: IWA/NVA/Aquatech. International Conference: Innovations in Coping with Water and Climate Related Risks.
Further information: www.moorga.com

- **5 October 2006**

Riga (Latvia). Prof. Dr. Talis Juhna (talis@bf.rtu.lv). Regional Technology Platform "Technology for Safe Drinking Water in the Baltic Region".
Further information: Diana Marquardt, RWTH Aachen University (marquardt@ivt.rwth-aachen.de)
www.techneau.org/index.php?id=44

An Integrated Project Funded by the European Commission under the Sustainable Development, Global Change and Ecosystems Thematic Priority Area.

Contract Number: 018320
Project Coordinator: Dr. Theo van den Hoven Kiwa Water Research
Project Duration: 1st January 2006 to 31st December 2010