



# **Water monitoring technologies: Harmonised approach to performance demonstration**

**25-26 October 2007**

**Location: Kiwa Water Research  
Nieuwegein, the Netherlands**

**Workshop programme**



### **Background and objectives of the workshop**

The European Commission's Environmental Technology Action Plan (ETAP) aims at promoting environmentally sound technologies (EsT). One of the priority actions of ETAP is the establishment of an European EsT verification system. A performance verification system will help innovative eco-technologies and provide objective proof that the claimed performance is reliable. TESTNET is one of the European projects selected to "test the testing system". It is funded by the European Union within the 6th Research Framework Programme.

The Nordic Water Technology Verification Network NOWATECH (funded by Nordisk InnovationsCenter) supports the Nordic technology providers and users, as well as test center operators by establishing Nordic test centers, in line with the European ETV initiative. The main objective is to support the Nordic environmental technology industry in both the home market and the global market by giving access to accepted and comparable technology verification data. The NOWATECH project will provide four ETV test centers within the water technology sector, and a cooperation with networks of technology providers and users.

Within the FP6 TECHNEAU project, new technologies for water monitoring are developed, optimised and extensively tested in waterworks for their application in controlling water quality in the whole drinking water production process from source to tap. Evaluation criteria are not only performance characteristics like sensitivity or reproducibility, but also include criteria like ease-of-use, robustness, maintenance, and costs. These new and innovative monitoring technologies include on-line UV sensors for source water control as well as for operational control of different treatment steps, effect-related DNA-arrays for the detection of various adverse effects, fish biomonitors for continuous quality control of the finished water, and electronic nose and tongue technologies for taste and odour control.

The central mission of the Virtual Institute for Reference Materials (VIRM) is to be a knowledge network and a facility to encourage the interaction between all stakeholders in the field of Reference Materials (Certified Reference Materials, Quality Control Materials) for analysis. This institute plays a supporting role in the ETV initiative. The foundation and initial development of the Virtual Institute (2003-2005) was financially supported by the European Community within the 5th Research Framework Programme.

Nowadays, on-line biomonitors have reached a level of technical development that has made them extremely useful in the practical field. On-line biomonitors are currently being used to monitor the water quality of the surface water at seven locations in the Netherlands. Five of the locations are intake points of water companies and two are national river authorities monitoring stations. The aim of the intake protection of the different water companies is to detect pollution peaks at an early stage and to selectively abstract good quality water for the production of drinking water. In the past few years, a lot of research has been done to improve the operability of these early warning systems and to integrate the biomonitoring efforts into the existing chemical monitoring programmes.

The objective of this workshop is to bring together the knowledge as it is developed in all these different projects and initiatives, in order to learn from each other's experiences. This workshop will provide an overview of the latest developments in the establishment of a



European ETV, and the state-of-the-art in on-line (bio)monitoring technologies and their practical application in the field.

**Venue and date of the workshop**

Kiwa Water Research, Groninghaven 7, 3433 PE Nieuwegein, The Netherlands  
25-26 October 2007

**Organising committee**

Anders Lynggaard-Jensen & Corina de Hoogh

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**Preliminary programme**

*Day 1: Thursday 25 October*

- 09.00-09.45 Registration, coffee
- 09.45-10.00 Welcome and Opening  
Pierre Henry, DG Environment and Elena Domínguez, DG Research,  
European Commission
- 10.00-12.00 **Session 1: TESTNET (chair: Berrie van Kampen – TNO, NL)**
  - 1. Using existing standards for verification of sensors and biomonitors  
(Anders Lynggaard-Jensen, DHI, DK)
  - 2. Case study ToxControl: laboratory and field tests (Corina de Hoogh,  
Kiwa Water research, NL)
  - 3. Evaluation of test cases and the role of a verification institute  
(Dominique di Benedetto, Exera, F)
- 12.00-13.00 Lunch break
- 13.00-14.30 **Session 2: Related projects and initiatives (chair: Edu van Naerssen – Kiwa WR, NL)**
  - 1. NOWATECH – A Nordic ETV (Uwe Fortkamp, IVL, S)
  - 2. EXERA – an end user driven testing organisation (Christian Dosset,  
EXERA, F)
  - 3. Supporting role of VIRM and SWIFT projects in performance  
demonstration of sensors and biomonitors (Kees J.M. Kramer,  
Mermayde, NL and Roberto Morabito, ENEA, IT).
- 14.30-18.00 Excursion to field monitoring station Keizersveer along the river Meuse  
and visit to the reservoirs of Evides water company
- 18.00-22.00 Evening programme including dinner



Day 2: Friday, 26 October

- 09.00-10.30 Poster session
- 10.30-12.00 **Session 3: TECHNEAU: development of new technologies for water monitoring (chair: Frank Sacher, TZW, D)**
1. Using gene expression in human cells as a read-out for environmental and human risks (Bart van der Burg, BDS, NL)
  2. Case study UV-probe (Joep van den Broeke, S::can, AT)
  3. Case study fish biomonitor (Detlev Lohse, bbe-Moldaenke, D)
- 12.00-13.00 Lunch break
- 13.00-14.00 **Session 4: Dutch activities on standardisation of on-line continuous biotests (chair: Corina de Hoogh, Kiwa WR, NL)**
1. Performance of the Algae-, *Daphnia* and Musselmonitor along the rivers Rhine and Meuse (Corina de Hoogh, Kiwa WR, NL)
  2. Evaluation of recent biomonitor alarm situations in the Meuse (Arco Wagenvoort, AqWa, NL)
- 14.00-15.00 **Closing session: the way forward (chair: Dominique di Benedetto, Exera, F)**
1. Roadmap for sensor development – results of the GWRC-workshop (Global Water Research Coalition) of March 2007 (Bram van der Gaag, Kiwa Water Research)

#### Poster session

You are invited to submit an abstract for a poster (max. 300 words), for the following themes:

1. Verification and performance characteristics of sensors and (bio)monitors
2. New developments in on-line water monitoring technologies

Please indicate the relevant theme when submitting an abstract. Abstracts should be sent to Corina de Hoogh ([corina.de.hoogh@kiwa.nl](mailto:corina.de.hoogh@kiwa.nl)) before October 10<sup>th</sup>, 2007.

#### Registration and participation

Participation is free of charge. For registration please follow the instructions on the registration form. Arrangements for special price hotel rooms have been made with hotels of different price categories, information will follow after we have received your registration form.