



## DINAMICS protects water supplies.

BHR Group is a major partner in DINAMICS, a development project aimed at producing an on-line biosensor to monitor and detect potential biohazards in the water supply.

The project, co-funded by the European Commission, is in response to concerns over threats to the security of water supplies for human consumption.

DINAMICS focuses on monitoring water networks for bio-contaminants.

In the extreme cases these contaminants can be the result of bio-terrorism attacks. However, the contamination problem goes beyond terrorist actions. Other intentional contamination events have been threatened or perpetrated by vandals and by extortionists. There have also been a number of hoaxes claiming water contamination.

Accidental or negligent contamination, particularly through backflow of contaminated water from user facilities or through infiltration of sewage through breaks in pipes, has also occurred with disturbing frequency.

Current methods of monitoring water quality rely on periodic water sampling and analysing that typically take hours or days to evaluate.

These methods are usually sufficient for compliance monitoring but are inadequate for early warning systems because by the time the results are known a considerable amount of the contaminated water could be consumed.

Managers of water systems need to have very quick information on the type and extent of contamination so proper protective actions can be implemented. Therefore a ready and reliable device for identification of biological threads

would be a useful tool in managing such events.

DINAMICS is developing a nano-biological sensor that can be positioned at critical parts of the network.

The objective of the DINAMICS project is to develop an integrated and cost-effective nano-biological sensor for detection of bioterrorism and environmental assays. The project's prime deliverable is an exploitable lab-on-a-chip prototype device and warning system for the detection of harmful substances in the water supply chain.

The integration of these will radically improve upon existing technologies as it will deliver a fast, reliable and quantifiable on-the-spot recognition and detection mechanism based on the nano-technological assembly of "unlabelled" DNA and its subsequent hybridisation.



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