



# Measurement and Monitoring Technologies for the 21<sup>st</sup> Century

Through the Measurement and Monitoring Technologies for the 21<sup>st</sup> Century (21M<sup>2</sup>) initiative, EPA's Office of Solid Waste and Emergency Response (OSWER) is identifying and supporting deployment of promising measurement and monitoring technologies by matching existing and emerging technologies with OSWER program and client needs in the fields of waste management and site cleanup.

# 21M<sup>2</sup>

## Defining Needs

OSWER has identified 10 "needs areas" as the focus of 21M<sup>2</sup>. These needs reflect evolving requirements across all waste programs. They include (but are not limited to) *in situ* sensors for monitoring ground water; new technologies for fence-line monitoring; monitoring technologies for mining waste sites; new sampling and analytical technologies; technologies for locating and monitoring DNAPL; and leak detection methods for underground storage tanks, pipelines, landfills, and other containment systems.

RCRA  
CERCLA  
TANKS  
BROWNFIELDS

## Small Business Innovative Research (SBIR) Program

OSWER is working with the Office of Research and Development to ensure that waste program monitoring needs identified through 21M<sup>2</sup> are considered in SBIR solicitations and in reviews of Phase I and II research proposals. Information on current SBIR programs and opportunities can be found at <http://es.epa.gov/ncerqa/sbir/>.



## Technology Evaluation/Implementation

OSWER will support EPA Headquarters and Regional staff to enable them to test and apply needed technologies. Through 21M<sup>2</sup>, EPA currently supports headquarters and regional efforts to develop and validate new analytical methods for organics and inorganics, including pesticides, mercury, lead, PCBs, and pesticides; apply an open-path monitoring technique to a landfill site; review and test diffusion samplers for sediments; test a new characterization tool to support the application of *in situ* extraction/treatment technologies; develop a better computer system for tracking and modeling sampling information; test metals continuous emissions monitors; and apply a field method for analyzing perchlorates.



## Feedback

OSWER welcomes comments on the 21M<sup>2</sup> Initiative and encourages the submission of new literature citations describing research ideas and demonstrations of technologies. Items can be submitted through our literature search webpage (see back page).



## Literature Search

OSWER is actively searching the literature, Federal agency research programs, and the commercial sector to identify promising technologies. We have collected over 500 citations and abstracts covering all 10 needs areas in a searchable database available at <http://clu-in.org/21m2>. In addition, the web site provides periodic, focused searches on specific topic areas.



## SENTIX.org

WPI

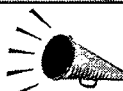
Through a cooperative agreement with WPI, 21M<sup>2</sup> is supporting the creation and maintenance of the Sensor Technology Information Exchange (SenTIX) Internet site. SENTIX provides a searchable database to help improve communication of state-of-the-art information on the development of advanced sensor technologies. The goal is to help sensor technology developers within and outside the environmental field to identify technology needs (i.e., markets) in the waste programs and locate potential partners to develop systems that meet these needs.

<<http://www.sentix.org>>



## Outreach

OSWER is developing and reporting information on program needs, technological advances, and the acceptance and impacts of program-supported technologies. The goal of 21M<sup>2</sup> outreach efforts is to improve communication on what is needed and what is available among researchers, developers and users of technologies.



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## Measurement and Monitoring Technologies for the 21st Century (21M<sup>2</sup>)

Through the Measurement and Monitoring Technologies for the 21st Century Initiative, EPA's Office of Solid Waste and Emergency Response (OSWER) will identify and deploy promising measurement and monitoring technologies in response to waste management and site cleanup program needs by matching existing and emerging technologies with OSWER program and client needs.

### In the Spotlight

#### Perchlorate Analysis Literature Search

Posted: January 3, 2001

This literature search considered published innovative research and development activities for perchlorate analysis over the past 4 years.

[More Information](#)

#### Burge Automated Monitoring System

Posted: January 2, 2001

EPA has teamed with the Air Force Center for Environmental Excellence to test the Burge automated ground-water monitoring system. The system is specific for trichloroethene.

[More Information](#)

#### TIO sponsors new monitoring and measurement project initiatives in 2001

Posted: January 1, 2001

These projects include: Congener Specific Immunoassay for PCBs; Immunoassay for Lead; Field Method for Detecting Perchlorate; Feasibility of Using Diffusion Samplers for Sediments; Continued Sponsorship of WPI's Sensor Website; Development of On-line Training Manual for FIELDS Software.

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**For more information** write the Technology Innovation Office at:

U.S. EPA (5102G), 1200 Pennsylvania Ave., NW, Washington, DC 20460 or call them at: (703) 603-9910.

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