

Technology Innovation: Additional Updates

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FRTR Meeting**

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Additional Updates

- Sensor report
- New Cost Engineering section on FRTR.gov
- Next FRTR meeting

Sensor Report

Sensor Technologies Used During Site Remediation Activities – Selected Experiences EPA 542-R-05-007

- **Purpose**
 - To provide an overview of several types of sensor technologies
 - Summary of selected experiences with using these sensors during site remediation
 - Seven mini case studies
- **Sensors**
 - Characterization
 - Monitoring
 - Automation

Sensor Technologies Continued

- **Highlights seven case studies (see handout)**
 - **Site Characterization**
 - **Membrane Interface Probe – contaminant concentrations**
 - **Geophysical Surveys – evaluation of hydrocarbon contamination**
 - **Monitoring**
 - **Capacitance Probe – soil moisture content**
 - **VECTOR Technology – ground water flow velocity**
 - **Burge System – sampling and analysis**
 - **Automation**
 - **Ozone Analyzers and SCADA with PLC – ground water pump & treat operation**
 - **SCADA with PLC – ground water pump & treat operations**

Environmental Cost Engineering

New Environmental Cost Engineering Section on FRTR.gov

- **Developed by Environmental Cost Engineering Committee (EC2) over the last two years**
- **Highlights guidance, software, and other tools to support sound cost estimating**
- **Provides cost engineering contacts for EPA, DOE, Air Force, Army, Navy, Coast Guard, NASA, and DOI**
- **Includes helpful document references and links**



Environmental Cost Engineering

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Promoting sound cost estimating practices, the use of advanced cost estimating techniques, and exchanging information about cost data collection lessons learned benefits public and private environmental project managers. This section provides the information project managers need to leverage and apply environmental cost engineering tools and access assistance from knowledgeable, experienced environmental cost engineering representatives in FRTR member agencies.

- ★ [Environmental Cost Engineering Committee](#)– Federal environmental cost engineering efforts are coordinated by the Environmental Cost Engineering Committee (EC2). EC2 strives to provide agency leadership in promoting sound cost estimating practices and techniques by promoting advanced tools, sharing lessons learned, and providing training.
- ★ [Environmental Cost Estimating Tools](#)– Information about and access to specific guidance, databases, software, models, and other platforms for use in environmental cost estimating.
- ★ [Reference Documents and Links](#)–
- ★ [For More Information](#)–

Next FRTR Meeting

Next FRTR Meeting

- **Date: May/June 2006**
- **Topic: Industry and International Environmental Development Initiatives**
- **Proposed speakers:**
 - **EU Environmental Technology Development Initiative**
 - **Sustainable Development Technology Corporation of Canada**
 - **Petroleum Environmental Research Foundation**
 - **Interstate Technology and Regulatory Council -- Future Plans**
 - **Remediation Technologies Development Forum**
 - **FRTR – Panel on Technical Investments**

Introduction to Discussion on Contaminant Monitoring and Sensor Technology

Technical Discussion: Contaminant Monitoring and Sensor Technology

- FRTR meeting on Nanosensors: December 2004
- Today's Discussion:
 - Program review (DOE, EPA SBIR, Navy SPAWAR)
 - “Sampler”
 - Monitoring systems and sensors
 - Various media and contaminants
 - Gaseous VOCs in air and unsaturated zone
 - Toxic and genotoxic compounds in air
 - Metals, organics, and biological agents in water
 - Under development and deployed