

Federal Remediation Technologies Roundtable

Questionnaire to Senior Leaders of FRTR Member Agencies

Report out for FRTR
Spring 2021 Webinar



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Federal Remediation Technologies Roundtable

You may share your thoughts on these questions using the Q&A live today.
* You may use the anonymous submission if preferred

You may also send your thoughts by email to FRTR@emsus.com by May 31, 2021.

Please
Check the Meeting
Chat Box for Full Set
of Questions

1) Grand Challenges:
What are the grand challenges facing your agency regarding remediation over the next decade?

2) Technology Needs and Research Gaps:
Focusing on specific technology needs, the FRTR has identified these cross-cutting issues going forward:

- Contaminant source and site characterization
- Emerging contaminants
- Remedy resilience under evolving climatic conditions

What are your agency's remediation technology needs or research gaps for these issues? Are there other key issues not captured above?

3) Advancing New Technologies:

- ✓ *What are the main barriers to advancing application of innovative remediation approaches from your agency's perspective?*
- ✓ *Do you have recommendations for overcoming these barriers and/or incentivizing new technology application?*
- ✓ *Are you aware of any promising new remediation technologies on the horizon?*

4) Initiatives and Coordination: *(results to be consolidated/posted on FRTR Meeting Outcomes Page)*

- ✓ *Are there any strategic remediation initiatives/programs underway in your agency for advancing site cleanups?*
- ✓ *Are you aware of resources, opportunities, or other groups that would enhance FRTR's coordination efforts?*

5) Vision for Future of FRTR:

- ✓ *What do you see as the key value of the FRTR for your agency, and what would you hope to see FRTR accomplish in the next 5-10 years?*



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Senior Leader Respondents

- US NRC
- DOE
- DOI
- EPA
- NAVFAC
- NIEHS
- USACE
- USGS












National Institute of
Environmental Health Sciences
Superfund Research Program

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Advancing New Technologies





Photo credit: Ed Gilbert, EPA

- **Barriers**
 - Lack of demonstration and verification opportunities
 - Lack of scaling up technologies from lab to field
 - Inability to match technology development to sites and needs
 - Lack of willingness to test new technologies on sites (regulatory and time commitment restraints)
 - Reluctance to adopt new technologies
 - Time consuming



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Advancing New Technologies

• Recommendations

- Increase resources for advancing new technologies, field pilots, etc.
- Continue development and application of source reduction technologies
- Develop innovative approaches that are compatible with federal location-specific Applicable or Relevant and Appropriate Requirements (ARARs)
- Continue collaboration, communication, and information sharing
- Hold annual workshop to discuss new technologies
- Use social media to discuss technical issues and direction



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Advancing New Technologies

• Promising New Technologies

- Passive treatment for mining-influenced water
- Remote sensing tools for large sites, robotics
- Tools to interpret geology and chemistry data to build better conceptual site models (CSMs)
- Use of artificial intelligence and machine learning to guide development of remediation technologies and/or analyze data across multiple sites
- Source reduction technologies



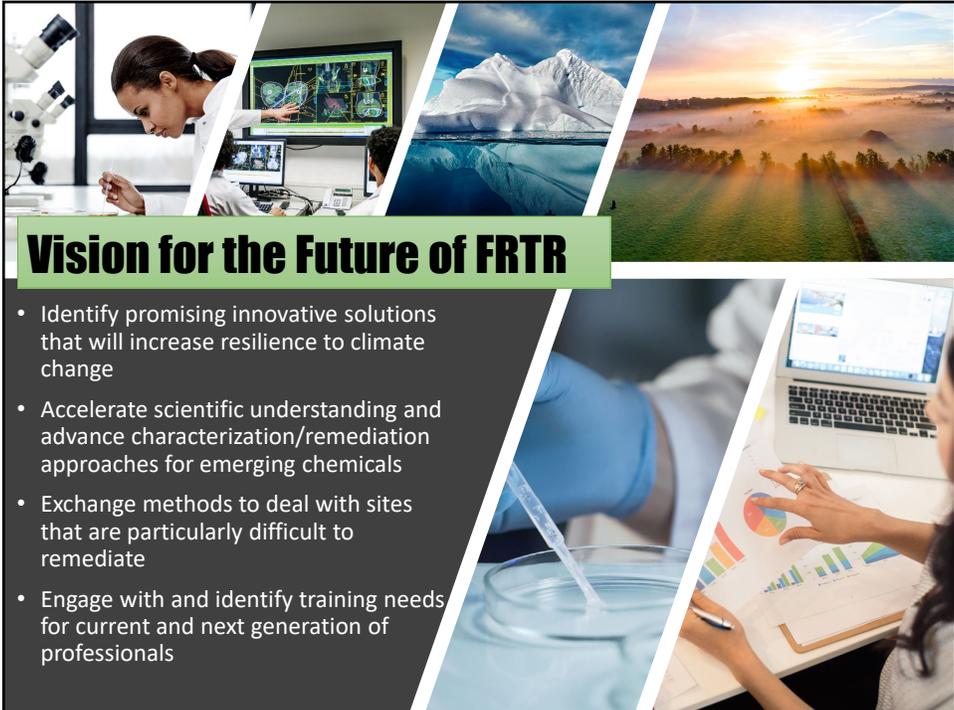
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Vision for the Future of FRTR

- Continue sharing lessons learned, updates on innovative technology, and estimating costs across similar sites
- Communicate needs and opportunities to outside researchers and technology developers
- Develop a framework for sharing progress of new technologies between the agencies
- Continue to be a resource for identifying subject matter expertise within the agencies
- Identify promising opportunities to leverage other ongoing initiatives and programs
- Focus on enhancing safety, environmental protection, cost and time reduction, and optimization of remediation performance

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Vision for the Future of FRTR

- Identify promising innovative solutions that will increase resilience to climate change
- Accelerate scientific understanding and advance characterization/remediation approaches for emerging chemicals
- Exchange methods to deal with sites that are particularly difficult to remediate
- Engage with and identify training needs for current and next generation of professionals

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