EXPERTISE IN SUBTERRANEAN CORROSION SCIENCE SPRINT MARCH 2025 - MAY 2025

SUMMARY:

The client sought to engage subject matter experts (SMEs) in subterranean corrosion to gain critical insight into the chemistry and physics of corrosion impacting steel safety components, such as tendons, mesh, and straps. They prioritized experts with direct knowledge of corrosion in North American geology.

ABOUT THE COMPANY:

The client is a global leader in mineral resource extraction, employing tens of thousands of people worldwide. Its operations procure essential materials, including aluminum, copper, iron, and minerals, necessary for 21st-century technologies. The client remains committed to adopting new technologies—such as AI and automation—to boost productivity, enhance efficiency, and reduce operational impact.

TIMELINE:

Challenge launched: March 18, 2025 Submission deadline: April 18, 2025 Virtual meetings: May 28, 2025

THE CHALLENGE:

The client launched this project to protect underground workers. While their steel safety components effectively serve their purpose, these components face corrosive stress underground. The client recognized the challenge but needed deeper understanding of the complex chemical and physical processes in their work environment. Through this sprint, they sought experts who could illuminate these processes, enabling better planning and response to corrosion.

THE OPPORTUNITY:

Despite operating globally in subterranean resource extraction, the client lacked institutional knowledge of how their safety materials interact with the specific solids, liquids, and gases in their environment. This project created opportunities to establish connections with corrosion SMEs experienced in detection, simulation, prevention, and remediation of steel safety product degradation.



EXPERTISE IN SUBTERRANEAN CORROSION SCIENCE SPRINT MARCH 2025 - MAY 2025

THE SOLUTION:

Although the client's team did not specialize in subterranean corrosion, they recognized its complexity and the need for a multidisciplinary approach. TechConnect responded with an expansive strategy, seeking SMEs across diverse topics, including corrosion parameters, failure mechanics, modeling, and detection technologies. Through this sprint, the client reached a global pool of SMEs with deep expertise in the many facets of corrosion science.

OUTCOMES AND METRICS:

The sprint generated 21 responses, with just over half from academic institutions. Respondents also included organizations with relevant technologies, such as physical and computer simulations and AI detection systems.

RESULTS AND BENEFITS:

The sprint helped the client broaden its understanding of the chemical and physical processes at play in its subterranean environment. TechConnect successfully communicated the client's needs, attracting nearly two dozen experts from 11 countries. Some respondents also brought valuable technological resources.

Following the virtual meetings, the client identified three SMEs for additional conversations and flagged another SME—who did not present—as a potential partner. Through this project, the client established critical new relationships with corrosion SMEs who will soon provide valuable insights into improving the safety of their underground operations.



EXPERTISE IN SUBTERRANEAN CORROSION SCIENCE SPRINT MARCH 2025 - MAY 2025

THE PROGRAM:

Challenge Design, Submissions, and Evaluations

TechConnect developed all public-facing sprint content with the client's review and approval to ensure accurate messaging and intent. TechConnect's team of project and program managers coordinated the effort, while the client's technical lead provided guidance.

Submissions covered diverse topics: chemistry, physics, simulation, detection, remediation, and prevention of subterranean corrosion. The client's technical lead reviewed all eligible submissions and invited six companies for virtual meetings.

Preliminary Program Consultation

Because the client had partnered with TechConnect on previous innovation projects, both teams quickly aligned on technical requirements and the work environment parameters for deploying potential solutions.

Opportunity Scouting

TechConnect conducted extensive research into all aspects of corrosion, identifying relevant academic researchers, research labs, contract research organizations, and private enterprises.

Request for Innovations

TechConnect reached out to individuals and organizations in their network and engaged new contacts identified through the research phase. They amplified outreach with targeted emails, LinkedIn posts, and one-on-one conversations with potential respondents.

Opportunity Evaluation Support

After submissions closed, TechConnect reviewed them for compliance with non-confidentiality requirements and highlighted responses that aligned with the client's goals.

Web Conferences

On May 28, 2025, six respondents participated in virtual meetings with the client, each presenting for approximately five minutes followed by 15 minutes of Q&A.



EXPERTISE IN SUBTERRANEAN CORROSION SCIENCE SPRINT

MARCH 2025 - MAY 2025



ORGANIZATION TYPE:





COUNTRIES:



