SUBSURFACE VOID DETECTION TECHNOLOGIES SPRINT

OCTOBER 2025 – DECEMBER 2025

SUMMARY:

A global resource and infrastructure operator engaged TechConnect to identify innovative technologies capable of detecting subsurface voids that pose risks to safety, asset integrity, and operational continuity. The client sought proven and emerging approaches that could be deployed or adapted to complex underground environments. Through a focused innovation sprint, TechConnect surfaced a diverse set of potential solvers, facilitated direct engagement with top candidates, and enabled the client to advance conversations with the most promising solutions.

COMPANY DESCRIPTION & MISSION:

The client is a multinational organization with extensive underground operations supporting critical infrastructure and resource development. With a strong emphasis on worker safety, operational reliability, and risk mitigation, the client actively explores new technologies to better understand subsurface conditions and proactively address hazards. Due to confidentiality requirements, the client remains anonymous.

TIMELINE:

Challenge Launched: **October 2, 2025**
Submission Deadline: **November 3, 2025**
Virtual meetings with Finalists: **December 4, 2025**

RESULTS AND BENEFITS:

Through the sprint, the client gained:

- Increased visibility into the current landscape of subsurface void detection technologies
- Direct access to a short list of highly relevant solution providers
- A broader view of the innovation ecosystem beyond formal applicants
- Accelerated pathways for follow-on technical evaluation and collaboration

The sprint reduced time-to-insight, enabling the client to move quickly from problem definition to informed engagement with promising technology partners.

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THE CHALLENGE:

Subsurface voids—whether naturally occurring or man-made—present significant challenges for underground operations. Undetected voids can lead to ground instability, safety incidents, and costly disruptions. The client recognized the need for improved detection capabilities but faced a fragmented technology landscape spanning geophysics, sensing, data analytics, and robotics.

The sprint was launched to identify technologies and technical teams capable of:

- Detecting and characterizing subsurface voids in complex underground environments
- Operating under real-world constraints such as depth, geology, and limited access
- Providing actionable data to inform safety and operational decisions

THE OPPORTUNITY:

While the client had internal expertise in underground operations, they sought external innovators who could bring fresh perspectives and specialized technical capabilities. The sprint created an opportunity to:

- Rapidly survey a broad innovation ecosystem
- Compare multiple technical approaches side-by-side
- Establish direct connections with solution providers for follow-on engagement

In parallel, the client was interested in understanding who else in the market—beyond formal applicants—might be well positioned to address the challenge.

THE SOLUTION:

TechConnect designed and executed a targeted Subsurface Void Detection Technologies Sprint to attract qualified innovators from academia, startups, and industry.

Key elements of the approach included:

- Challenge Design & Outreach: Development of clear, technically grounded sprint materials and targeted outreach to relevant innovators across TechConnect's ecosystem.
- Submission Management & Review: Intake and eligibility screening of all submissions, followed by alignment review against the client's technical priorities.
- Market Scouting: Independent research to identify additional potential solvers who did not formally apply but demonstrated strong relevance to the challenge area.
- Client Engagement: Coordination of finalist briefings and structured virtual meetings to enable efficient technical dialogue.

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THE PROGRAM:

Challenge Design, Submissions, and Evaluation

TechConnect developed all public-facing sprint materials in close coordination with the client to ensure technical accuracy and appropriate framing. Submissions were reviewed for completeness and alignment prior to client evaluation.

Opportunity Scouting

In parallel with the open sprint, TechConnect conducted targeted research to identify additional organizations with relevant subsurface sensing, imaging, and analytics capabilities.

Finalist Engagement

On December 4, 2025, TechConnect coordinated virtual meetings for five finalists and the client, each delivering a concise technical overview followed by structured Q&A.

Conclusion

The Subsurface Void Detection Technologies Sprint demonstrated the value of focused open innovation in addressing complex underground challenges. By combining open submissions with proactive market scouting, TechConnect enabled the client to confidently advance conversations with high-potential partners while building a longer-term pipeline of relevant innovators.

CHALLENGE OUTCOMES AND METRICS:

Applicants Reviewed: A competitive pool of 17 qualified respondents submitted solutions addressing subsurface void detection from multiple technical angles.

Finalists Selected: Five finalists were invited to participate in virtual meetings with the client.

Advancing Conversations: From the finalist group, two companies were selected to move forward into continued technical and business discussions with the client. That's an 11.7% success rate from the applicant pool.

Additional Market Intelligence: TechConnect delivered a curated list of 12 additional potential solvers who did not apply to the sprint but were identified as strong candidates for future outreach.