GEOMIN: A landmark event for the future of mining

Catherine Truffert[1]

The first installment of the GEOMIN Symposium proved to be far more than an ordinary symposium — it was a pioneering and essential convergence of global geoscience and mining.

GEOMIN, which took place 12–14 October 2025 in Jeddah, Saudi Arabia, was the first event of its kind in Saudi Arabia and the Middle East and North Africa (MENA) region, bringing together mining companies, geoscience service providers, manufacturers, and academia, including students. Its mission was unambiguous: to propel the future by unveiling the latest technological breakthroughs, establishing new benchmarks in sustainability, and showcasing state-of-the-art, data-driven discovery methods. This is where the future of geological knowledge and new mining strategies are truly being forged.

The inaugural GEOMIN brought together more than 550 delegates in Jeddah, marking a powerful debut for the symposium in Saudi Arabia.

Hosted by the authoritative Saudi Geological Survey (SGS) and organized with the invaluable expertise of the Society of Exploration Geophysicists (SEG), the event stood as a global beacon. It successfully gathered the industry's elite: global mining leaders, cutting-edge researchers, and acclaimed academics, forging a dynamic platform for a powerful exchange of revolutionary ideas, crucial insights, and transformative solutions.

Driving strategic growth and Vision 2030

With a strategic focus on the super region spanning Central Asia, the Middle East, and Africa, the GEOMIN Symposium directly confronted the most pressing challenges in mineral exploration. In its historic first edition in Jeddah, GEOMIN 2025 aligned perfectly with the Kingdom's Vision 2030, which prioritizes the exploration and exploitation of mineral resources to meet the growing demands of the energy transition.

The first edition of GEOMIN was chaired by Khalid Hawas (SGS) and Dr. Catherine Truffert (IRIS Instruments, former SEG director at large). The journey to organize the first edition of the GEOMIN Symposium started more than 18 months ago among SEG members and the SEG regional office in Dubai. Following SEG's decision to invest in this venture, weekly alignment meetings of the dedicated management committee were held starting in September 2024. This committee was composed of representatives from various stakeholders, including private companies, academics, and other interested parties, and the key considerations that form the basis of the scientific program were defined. Endorsing institutions, partners, and sponsors were sought to carry the banner of the symposium, which from the outset was intended to be held annually or biannually.

Academic organizations and private companies quickly expressed interest in reserving an exhibition booth, and it became clear that the initial estimates of the number of booths were too low. The MENA SEG team in charge of technical organization reacted quickly by offering pop-up booths in addition to traditional stands. Thanks to its professionalism, this team was able to adapt quickly to exhibitors' requests, lending great credibility to future editions.

Four pillars defining 21st century exploration

In this first edition of GEOMIN, four pillars collectively addressed the global challenge of mineral exploration in the 21st century: moving beyond traditional deposits, adapting to regional complexities, innovating in methodology, and optimizing data management — all while fostering collaboration across borders and disciplines.

Shifting focus to deeper, lower-grade deposits. The depletion of near-surface, high-grade mineral deposits — exacerbated by the Fourth Industrial Revolution — demands a shift toward deeper, lower-grade ores. This requires collaborative knowledge-sharing, advanced concepts, and innovative exploration methods to accelerate the discovery and development of new mineral resources.

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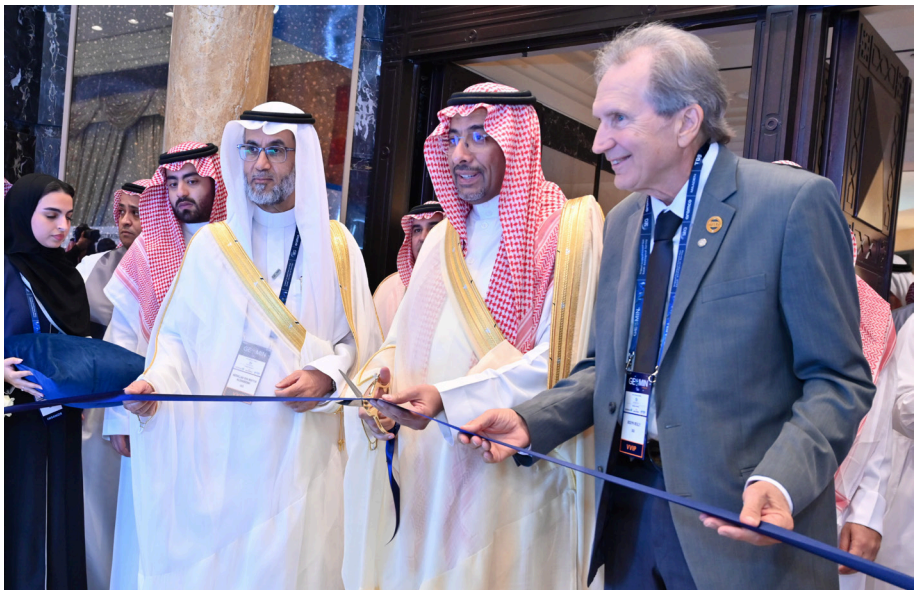

The exhibition floor was officially opened by H.E. Mr. Bandar bin Ibrahim Al-Khorayef, Minister of Industry and Mineral Resources, Saudi Arabia; Eng. Abdullah bin Muftir Al-Shamrani, CEO of SGS; and Joseph Reilly, SEG President .

Unlocking Saudi Arabia's and MENA's mineral potential. The symposium brought together geoscientists and technologists from Saudi Arabia, the MENA region, the United States, Canada, and Australia with the goal of adapting established exploration techniques to the unique geological and logistical challenges of the MENA region, fostering cross-regional learning and innovation.

Harnessing innovative exploration techniques. Dedicated sessions explored integrated geoscience methods, evaluating their strengths and limitations. The aim was to identify and unlock promising mineral potentials through cutting-edge techniques tailored to complex geologic settings.

Optimization and prioritization of data workflows. With the overwhelming volume of geoscience data, efficient workflows are critical. This involves leveraging robust algorithms, AI-driven analysis, and advanced computing to process, analyze, and interpret data — enabling faster, data-driven decision-making in exploration.

As a vital link in this global dialogue, GEOMIN 2025 attracted more than 550 delegates from 38 countries. More than 185 companies from the mining sector were represented.

After the Grand Opening Ceremony, inaugurated by Minister of Industry & Mineral Resources Bandar Alkhorayef, welcome addresses were delivered by SGS CEO Abdullah Bin Muftir Al-Shamrani and SEG President Joseph Reilly. The opening keynote was presented by TDS CEO Mohammed Gad.

The symposium featured 19 technical oral sessions, four technical panels, three strategic panels, two expert panels, and seven poster sessions, supported by 20 sponsors.

Beyond its technical focus, GEOMIN served as a premier platform for knowledge exchange — offering opportunities to collaborate with leading experts and advance human talent, innovation, and data integration across the Arabian Shield.

Panel and presentation highlights

The strategic executive panel "Accelerating the unlocking of mineral potential at speed and scale" opened the symposium. Moderated by SEG President Reilly and featuring senior institutional leaders Abdulrahman Albelushi (deputy minister, Ministry of Industry and Mineral Resources), Darryl Clark (senior vice president, exploration and resource development, Maaden), Nasser Aljahdali (vice president, geological programs, SGS), and Saleh Alsaleh (vice president, transition minerals, Aramco) the panel focused on Saudi Arabia's transformation into a global mining powerhouse under Vision 2030 and provided an opportunity to address topics such as regulatory clarity, ecosystem coordination, subsurface intelligence, and institutional collaboration.

The mining leaders panel, moderated by John Bradford (vice president, global initiatives, Colorado School of Mines), offered panelists Khalid Alsharief (regional vice president, strategy and business development, Maaden), Abdulrahman Alshuhail (chief technologist of geophysics, Aramco), Elif Tekin Alagül (exploration and business development manager, AMAK), and Henry Onslow (exploration manager KSA and Egypt, Barrick) the opportunity to reflect on how to shape the future through leadership, collaboration, and innovation in the mining sector.

The second strategic panel, moderated by Idrissa Garba (general manager, mining compliance, ESNAD), was an opportunity for the panelists from all over the world to develop their vision on innovations in technology for sustainable and responsible resource exploration. Panelists included Sami S. Al Harbi (general manager, mineral resources development, MIMR), Bekhzot Narmatov (advisor, Ministry of Mining, Uzbekistan), Carina Cancela (senior associate, CCSBR), and Muneef Almuneef (managing director, Newlab).

The third strategic panel was organized by the Women in Mining Association and was moderated by Rana Zumai (chairwoman, Women in Mining KSA). The panelists — Sushma Rawat (ONGC), Marie Van Steene (SLB), Yogaani Bhatia (SEG), Giuseppe Lo Grasso (Maaden), and Mashael Alomair (Maaden) — discussed the role of women in the profession.

The technology leaders panel, moderated by Fatimah Abdulghafur (principal specialist, geophysics, Maaden), focused on subsurface intelligence and technological innovation for advanced mining exploration in the super region. Selected from among the major players in the sector, the panelists were Christopher Page (executive vice president, new businesses development, Viridien), Jason Simmons (global geoscience director, Baker Hughes), Jürgen Fitschen (country land manager, Fugro Suhaimi), Mario Guedes (vice president, mining, ARGAS),

Mohammed Gad (CEO, TDS), Nicholas Lugansky (head of mining, SLB), and Riaz Mirza (director, Simcoe Geoscience).

Then, four technical panels, moderated by Catherine Truffert (IRIS Instruments), Junior Potgieter (Viridien), Azzan Hamed Alyaarubi (SLB), and Johann Tuduri (BRGM), focused on the contributions of AI and machine learning to mineral exploration, geologic inputs in metallogenic systems studies, advances in lithium prospecting, and the geoscience perspectives on critical minerals.

The symposium's 19 oral sessions provided a forum for specialists to discuss frontier technologies, human expertise, and innovative strategies in geophysics and geology — from early-stage (greenfield) exploration to complex metallogenic systems, critical-mineral targeting, environmental, social, and governance (ESG) integration, and rehabilitation practices. Seven digital poster sessions utilized an interactive platform allowing researchers to present their work directly to delegates, encouraging dynamic engagement and knowledge sharing.

GEOMIN also offered participants a memorable cultural immersion. Delegates enjoyed a captivating walk through historic Jeddah, a UNESCO World Heritage Site, providing a rare opportunity to experience the Kingdom's rich heritage and vibrant atmosphere firsthand.

A gala dinner served as a fitting celebration of the collective effort behind the symposium, honoring the contributors, volunteers, and partners whose dedication brought GEOMIN 2025 to life.

The final day was dedicated to an in-depth geological field excursion. Led by experts from SGS and KAUST, the tour explored the mineralogy and lithostratigraphy of the Precambrian crystalline basement and Phanerozoic sedimentary sequences. The structural geology and volcanic history of eastern and northern Jeddah (Wadi Fatimah, Haddat Al-Sham, and Usfan) were highlighted. Emphasis was placed on the Precambrian Samran Group, as well as on the Mesozoic and Cenozoic minerals and stratigraphy of the Usfan, Shumaysi, and Khulays formations.

A platform for collaboration and innovation

All the scientific and technical forces mobilized for this first edition of GEOMIN were impressed by the event's success, and it was clear that GEOMIN is an essential platform for the global exploration community — a forum capable of forging lasting connections between geology, geophysics, metallogeny, geochemistry, data science, and ESG. Its ability to align disciplines around common objectives and mobilize stakeholders toward a shared future form a solid foundation for its success.

A heartfelt thank you to all who contributed their time, expertise, and energy — and to the generous sponsors and partners whose confidence made GEOMIN possible.

With the steadfast support of the Ministry of Industry and Mineral Resources, SGS, and SEG, GEOMIN 2025 marked the beginning of a new chapter for collaborative exploration across the super region — and a blueprint for the future of global mining. Building on this strong foundation, the GEOMIN 2026 conference will take place 14–16 September 2026 in Tashkent, Uzbekistan, hosted by the Ministry of Mining Industry and Geology of the Republic of Uzbekistan, under the theme "Advancing Mineral Exploration through AI and Digital Transformation." The global geoscience and mining community is invited to contribute to the next edition, with abstract submissions closing on 15 April 2026. See https://geominseg.com for more information. TLE