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Coaltech Unveils 2026 Research Portfolio, Positioning South Africa for Leadership in Clean Coal Innovation and Critical Minerals

In addition to its existing projects, Coaltech has announced a new portfolio of eight strategic research projects set to begin in the new year, strengthening South Africa's capability in clean coal technology, critical minerals recovery, environmental sustainability and digital transformation. The programme is delivered in partnership with leading universities, science councils and innovation institutions across the country.

"This research portfolio reflects our belief that the future of coal lies in innovation, circular resource use and the strategic development of critical minerals that underpin modern technologies," said Avhurengwi Nengovhela, CEO of Coaltech. "Our investment signals a clear intent to build new mineral value chains, support energy resilience and enhance environmental responsibility across the sector."

Eight New Projects for 2026

Coaltech's 2026 research programme includes:

- Discard Dewatering, researchers from North-West University, improving moisture reduction for enhanced processing efficiency.
- 100 kW Coal-Fired Air-Brayton Cycle, University of the Witwatersrand, developing a compact low-emission small-scale energy system.
- Turning Ash into Assets, Mintek, recovering valuable minerals such as rare earths, silica and iron.
- Resource Valorization and Critical Minerals, University of Johannesburg, investigating rare earth and strategic element recovery from discard coal.
- Wearable Technologies for Mine Safety, RIIS, designing practical, behaviour-informed safety wearables.
- Sustainable Liner Technology, ARC Innovations, creating closure materials from coal ash and tailings.
- Rare Earth Element Recovery, University of the Witwatersrand, producing mixed rare earth oxide concentrates from coal and ash.
- Coal Mining Digital Evaluation Platform, Digital Twin Pty Ltd, developing a digital twin platform for mine modernisation.



A National Push into Critical Minerals

Coaltech is expanding its leadership in rare earth and critical minerals research, working with researchers from the University of Johannesburg, the University of the Witwatersrand, Mintek, the University of South Africa and the University of Cape Town. This multi-institutional programme aims to position South Africa as a meaningful supplier of critical minerals needed for electric vehicles, renewable energy systems and advanced manufacturing.

Governance Updates

Coaltech welcomes Mr. Madder Steyn of Sasol to its Board, replacing Mr. Veli Sibiyi, and congratulates Ms. Lerato Saolose on her appointment as Vice Chairperson of the Association.

2026 Coaltech Colloquium

Planning is underway for the 2026 Coaltech Colloquium, which is expected to be the largest to date, featuring presentations that will move the sector forward. Companies are invited to secure their exhibition space by contacting Carmen Bergman at cbergman@coaltech.co.za. Spaces are limited and early confirmation is advised.

Invitation to Industry

Companies across the coal value chain are invited to participate in Coaltech's research focus areas. For membership information, please contact cbergman@coaltech.co.za

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About Coaltech Research Association

Coaltech Research Association is a voluntary collaborative non-profit organisation that addresses the research needs of South Africa's coal industry. Established with the primary goal of developing technologies and applying research findings, Coaltech aims to make the South African coal industry competitive, sustainable, and safe. The organisation brings together mining groups, researchers, academics, and government stakeholders to foster collaboration and innovation in the coal sector.