



Critical Times

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Licensing CMI technology Ionometallurgy: A sustainable approach to extractive metallurgy

While the mining industry is undergoing an impactful change in terms of sustainable practices, there is an imminent need for new approaches that fit this mandate.



A new company, Auxilium Technology Group has taken the mission to aid the industry by providing solutions for repurposing mine tailings. In a step toward low-energy metal extraction, Auxilium will advance "ionometallurgy" technology, which uses ionic liquids as lixiviants to extract metallic valuables and as plating bath to electrodeposit the metal. "Less solvent is required to dissolve the same amount of metal from an ore when using ionic solvents. After the metal is deposited from this ionic solvent, it can be recycled and reused to extract more metals from ores," explains Dominic Gervasio, Auxilium electrochemistry expert.

Collaborating with the Critical Materials Institute through Idaho National Laboratory, Auxilium aims to provide the industry with not only sustainable but also efficient solutions. The young company is already experiencing success. Most recently, it was selected as one of the top 10 proposals out of 153 participants from a worldwide search in the BHP Tailings Challenge, a competition that seeks to promote the development of innovative solutions for repurposing copper tailings.