Optimal Slope secures £400,000 from Digital Catapult

Friday 17 October, 2025

Optimal Slope secures £400,000 from Digital Catapult to cut mining waste and carbon emissions

(London, United Kingdom, 16th October 2025):
Digital Catapult has announced a £400,000 investment in deep tech startup Optimal Slope, a mining technology company on a mission to transform open-pit mining into a more efficient and environmentally sustainable industry. The investment will enable the startup to secure more partnerships with global mining companies, as it looks to scale its solution, decarbonise mining operations and equip the sector to be future ready through the application of its deep tech solution.

Founded in 2021, Optimal Slope developed the world's first software platform to automate, optimise, and digitalise the design of mine pit walls, which are the stepped rock faces that form the sides of an open-pit mine, and is a process that traditionally relies upon manual trial-and-error by engineers. By intelligently minimising the excavation of waste rock, Optimal Slope's solution reduces costs, increases mine profitability, and significantly cuts the carbon footprint of mining operations, which is critical to decarbonising the sector and driving industrial supply chain resilience.

While mining is often associated with a negative environmental impact, it is also essential for producing the metals required to build solar panels, wind turbines, electric vehicles, and other clean energy technologies. By reducing waste and energy usage in the excavation process, Optimal Slope helps the mining industry to deliver the resources needed for the global energy transition, playing a key role in shifting perceptions of the sector and strengthening the resilience of supply chains for critical minerals.

Optimal Slope's platform is already in use with international mining companies, and the investment will support expansion into key international markets such as Australia, Canada, South America, and Africa, where metal mining is critical to both local economies and the global clean energy supply chain. With Digital Catapult's £400,000 investment in the form of a convertible loan note (CLN), the company will also refine its product with user feedback and strengthen its commercialisation and marketing efforts.

Stefano Utili, Co-Founder and CEO of Optimal Slope, said: "Mining has a crucial role to play in the transition to renewable energy, but the industry needs to change the way it operates to gain widespread social acceptability. Our mission is to help mines become cleaner, more efficient, and more digitally advanced, and Digital Catapult's investment is a strong endorsement of our vision. This investment will help us grow our customer base, refine our product with real-world feedback, and demonstrate that mining can be both profitable and sustainable, as we look to partner with mining leaders around the world to enact a low-carbon future."

Susan Bowen, CEO of Digital Catapult, said:
"Optimal Slope is demonstrating how deep tech innovation can transform the mining industry, making it cleaner, more efficient, and better aligned with the needs of the global energy transition. This investment will help the team to scale their solution internationally and showcase how deep tech can reshape essential industries for a sustainable future. Driving industrial supply chain resilience is something that we continue to champion at Digital Catapult, and we're pleased to support Optimal Slope's solution that will

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strengthen the resilience of critical mineral supply chains and equip the sector to be future-ready.”

Notes to editor

Information on Digital Catapult’s investment activity can be found
here

About Optimal Slope

OptimalSlope’s Slope Optimiser is an innovative software tool that improves the efficiency of the mining industry by finding the optimal non-planar slope geometry for a specified target
Factor of Safety (FoS), allowing for steeper pit walls without compromising safety. The company’s design solution to open-pit mining automates the design process, saving significant time and costs by eliminating manual trial-and-error. The software creates
topologically optimised pit walls that reduce waste rock by up to 25% and carbon footprint as well. Reducing the land footprint of mining and the amount of waste rock that needs to be disposed of in the environment also improves the safety and quality of life
of mining communities.

About Digital Catapult

Digital Catapult is the UK’s leading advanced digital technology innovation centre. Partnering with government, industry and academia, Digital Catapult accelerates the adoption of cutting-edge solutions such as AI, immersive, and future networks.

By breaking down barriers, de-risking innovation, and opening up new markets, Digital Catapult helps shape the products and services of the future. Part of the Catapult Network established
by Innovate UK, Digital Catapult supports businesses in transforming great ideas into valuable, impactful solutions.

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