# Davra and ESA Launch Platform to Prevent Mining Dam Failures

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Dublin, Ireland, September 2025—Irish technology company Davra, in partnership with the European Space Agency (ESA), has developed a breakthrough solution to help prevent mining disasters. Each year, millions of tons of mining waste—known as tailings—are stored behind vast dams. When these structures fail, the results can be catastrophic, threatening lives, communities, and the environment.

The Protelum project, supported through ESA's InCubed programme, has created an intelligent monitoring system that combines satellite imagery, IoT sensors, and advanced analytics to detect risks in tailings storage facilities (TSFs) before they escalate.

## Protelum: An End-to-End Solution for TSF Safety

Protelum was conceived to address the fragmented state of TSF oversight with a cloud-based platform that acts as a "single pane of glass" for real-time safety, environmental, and operational monitoring.

By combining Earth Observation (EO) satellite imagery, drone data, LiDAR, and ground sensors with advanced analytics, Protelum delivers actionable intelligence that improves safety and compliance for regulators, operators, and communities.

## Preventing Failures Before They Happen

Tailings storage facilities (TSFs) are essential for mining, but when they fail the consequences can be devastating. A tragic example is the 2019 collapse in Brumadinho, Brazil, which claimed more than 250 lives and caused lasting environmental damage.

Protelum—and the Sentinel platform it enabled—was designed to help prevent such disasters. By combining satellite imagery with ground sensor data, Sentinel can spot early signs of instability—down to millimeter shifts in dam walls—giving operators time to act before problems escalate.

## European Space Agency Funding

ESA's InCubed funding was instrumental in transforming Protelum from concept to reality. It enabled Davra to conduct essential R&D, validate compliance with the new Global Industry Standard on Tailings Management (GISTM), and also opened access to satellite data that made Protelum possible.

Paul Glynn, CEO of Davra, noted:

> "ESA's support has been a critical enabler for us. It allowed Davra to accelerate innovation and bring forward solutions that address one of the mining industry's most pressing challenges: the safe management of tailings. Protelum is proof that collaboration between Irish technology companies and ESA can deliver global impact."

## From Protelum to Sentinel: Delivering Real-World Impact

Building directly on Protelum's outcomes, Davra launched Sentinel—its IoT-powered remote monitoring application for tailings safety. Sentinel enables 24/7 oversight of TSFs through satellite data and connected sensors, with alerting capabilities attuned to regulatory thresholds and risk conditions. Its intuitive interface supports global scalability, GISTM compliance, and operational simplicity—all made possible by Protelum's technical foundation and ESA's support.

Through its partnership with Johannesburg-based IoTDC, Davra has brought Sentinel to South Africa, one of the world's largest mining regions. Its first customer, INTASOL Tailings, has already deployed the platform across 59 sites.

> "Sentinel is helping us grow strategically and sign on new clients because of the way we're managing their facilities," said Brink Loots, Operations Specialist at INTASOL.

With Sentinel already live in South Africa, Davra is now scaling the platform worldwide to help mining

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companies, regulators, and communities ensure tailings safety and environmental protection.

## About Davra

Headquartered in Dublin, Davra is a globally recognized leader in industrial IoT software, delivering innovative, cloud-based solutions across sectors including mining, manufacturing, and utilities. Working with partners such as the European Space Agency, Davra is redefining digital transformation for safer, smarter, more sustainable industrial operations.

## Company Contact:

**Davra**

T. 0851630958
E. allen.bellew@davra.com
W. https://www.davra.com

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