



MultiMiner
Earth Observation for Smart Mining

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Dear MultiMiner Community,

We are delighted to welcome you to the latest edition of the MultiMiner newsletter! ✨ As we stride into an exciting summer season, our team is thrilled to share the progress and activities that are set to unfold across our diverse range of test sites. This summer promises to be a pivotal time for the MultiMiner project, with extensive fieldwork and innovative methods taking centre stage.

In this edition, you will find detailed updates on our recent and upcoming fieldwork activities, and a glimpse into the dynamic events that have marked our journey so far. We are proud to showcase the hard work and dedication of our consortium partners and to celebrate the milestones we have achieved together.

Thank you for being a part of the MultiMiner journey. We look forward to keeping you informed and engaged as we continue to forge new paths in the realm of sustainable mining. Here's to a summer filled with discovery, innovation, and meaningful progress!

Warm regards,

The MultiMiner Team



MultiMiner's 3rd Progress Meeting

We're excited to share the highlights from our recent third progress meeting in Greece, where our consortium gathered to celebrate achievements and plan for the future. From exploring the Kallyntiri test site to engaging in insightful sessions and workshops in Stratoni, our team experienced four days filled with learning and collaboration. We wrapped up with an inspiring visit to Chalkidiki, showcasing sustainable mining practices in action.



Want to know more? Dive into our detailed blog post for an in-depth look at the event and our journey forward. [Read more about our Greece meeting here!](#)

[Read the Progress Meeting Blog Post](#)



MultiMiner at PDAC 2024

In March, MultiMiner proudly showcased at PDAC 2024 in Toronto, joining forces with other European Commission projects to highlight cutting-edge advancements in the European mining sector. This global event provided a unique platform for engaging with international stakeholders and reinforcing the importance of innovation and collaboration in mining.



Curious to learn more about our experience and the exciting conversations we had? Check out our full blog post for all the details! Read more about our PDAC 2024 adventure here!

[Read our PDAC 2024 Summary](#)

Spotlight: MultiMiner Innovation at Chalkidiki



This summer, the MultiMiner team embarked on a groundbreaking fieldwork mission in Chalkidiki, Greece. Our efforts focused on collecting water samples, utilising drones for high-resolution spectral measurements, and monitoring dust levels around mine sites. These activities are crucial for validating our advanced Earth Observation data and enhancing our machine learning models. By integrating cutting-edge tools and techniques, we are paving the way for more sustainable and environmentally conscious mining practices.

[Read more about MultiMiner's Chalkidiki Work](#)



Fieldwork: A Summer of Progress Lies Ahead

We are excited to share our upcoming field activities and the latest developments in our research. Here's a closer look at the critical work planned for the next few months and how you can stay connected with us:

Comprehensive Soil Moisture Calibration (June 2024)

June will see our team engaged in extensive soil moisture calibration activities at the Ihalainen site in Finland. Key objectives include:

- **Deploy Advanced Sensors:** We will install and utilise cutting-edge soil moisture sensors to gather detailed data on soil moisture levels across a variety of soil types, including sand, clay, and organic soils.

- **Enhance Predictive Models:** The collected data will be used to calibrate and improve our predictive models for soil moisture, which are vital for understanding soil conditions and assessing potential environmental impacts related to mining activities.
- **Support Remote Sensing:** These in-situ measurements will also be crucial for validating data from satellite and drone-based remote sensing systems, enhancing the accuracy of large-scale soil moisture mapping.

This work supports our commitment to sustainable mining by providing insights into how mining activities affect soil moisture and helping to prevent issues such as land subsidence and soil erosion.



Extended Vegetation and Biodiversity field work (July 2024)

In July, our focus will be on expanding our vegetation and biodiversity monitoring efforts at the Hochfilzen test site in Austria. This month, we aim to:

- **Survey Diverse Vegetation Types:** We will perform comprehensive in-situ measurements across various land use types, including pasture, recultivated meadows, and naturally transitioning areas. This involves quantifying key vegetation structural parameters such as Leaf Area Index (LAI) and Fraction of Vegetation Cover (FVC).
- **Assess Plant Biodiversity:** Special emphasis will be placed on documenting species richness and identifying dominant plant species. This is crucial for understanding the ecological impact of mining activities and aiding in the development of effective reclamation strategies.

- **Utilise Drone Technology:** We will employ drone imagery to upscale the in-situ data, allowing us to conduct a broader analysis of vegetation structure and diversity across the entire landscape.

This effort is part of our broader goal to integrate in-situ data with remote sensing technologies, ensuring accurate and comprehensive environmental monitoring.



Final Dust Measurements and Data Analysis (August 2024)

In August, our team will wrap up dust measurement activities at the Ihalainen site in Finland with a focus on:

- **Monitor Seasonal Trends:** We will conduct final dust measurements to capture seasonal variations and assess the spatial distribution of dust around the mine site. This is critical for understanding the environmental impact of mining operations and ensuring compliance with air quality standards.
- **Perform Detailed Analysis:** The collected data will be thoroughly analysed to identify trends and assess the effectiveness of dust mitigation measures. This analysis will support ongoing efforts to minimise the environmental impact of mining activities.
- **Support Long-Term Monitoring:** These measurements will contribute to our long-term environmental monitoring programme, helping to ensure that mining operations remain sustainable and minimise their impact on the surrounding environment.

This final phase of dust measurement is crucial for completing our environmental assessments and developing effective strategies to mitigate dust-related impacts.



Detailed Tailings Characterisation and Field Spectroscopy (September 2024)

In September, our team will focus on tailings characterisation at the Chalkidiki site in Greece. Our activities will include:

- **Collect and Analyse Samples:** We will gather samples of tailings for detailed analysis to determine their mineralogical composition and assess the potential for recovering valuable minerals. This involves both field spectroscopy and laboratory analyses.
- **Use of Advanced Spectroscopy:** Spectral measurements will be taken directly from tailings to provide a comprehensive understanding of their composition. This is essential for validating remote sensing data and ensuring the accuracy of our environmental assessments.
- **Focus on Sustainability:** This work will help improve waste management practices by identifying opportunities to extract remaining valuable materials from tailings, thus reducing waste and supporting sustainable mining practices.

By characterising tailings, we can better understand their environmental impact and work towards more sustainable methods of managing mining waste.



Stay in Touch!

We invite you to follow our journey as we continue to advance sustainable mineral exploration. By following us on LinkedIn and Twitter, you will receive the latest project updates.

Together, we can achieve a more responsible future for mineral exploration and beyond!



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