

MATERIALS AND MINING

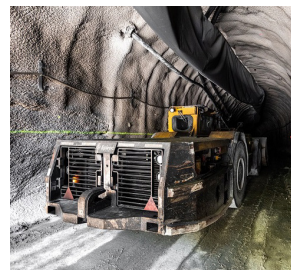
Customer Success Story

The Sasa Mine

Makedonska Kamenica, North Macedonia

Advanced Mining Excellence Through Real-Time Visibility & Scalable Automation

The Sasa Mine, located near Makedonska Kamenica in eastern North Macedonia, is one of Europe's largest zinc and lead producers. The underground mine has been in operation since the 1960s and plays a critical role in supplying high-quality zinc and lead concentrates to international markets.



Key Points

- **Centralized mining, processing, and production using GENESIS, improving situational awareness and reducing inefficiencies.**
- **Connected equipment from multiple vendors with GENESIS and DeviceXPlorer OPC Server, eliminating silos, reducing downtime, and enabling real-time data flow.**
- **Advanced modernization efforts using GENESIS' flexible architecture, sustaining efficiency, safety, and environmental responsibility into the future.**

The Sasa mine is owned by [Central Asia Metals Plc \(CAML\)](#), a London-headquartered, diversified base metals producer with operations in Kazakhstan and North Macedonia. CAML has built a reputation as a low-cost, sustainable producer of copper, zinc, and lead and acquired the Sasa Mine in 2017 as part of its long-term growth strategy.

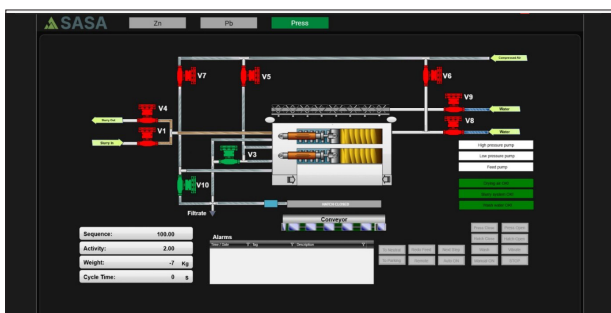
Sasa's operations include underground mining, flotation processing, and concentrate production. The mine typically produces between 18,000–20,000 tons of zinc and 26,000–28,000 tons of lead annually. Since acquisition, CAML has continued to invest heavily in modernization and capital projects at Sasa, focusing on efficiency, safety, and environmental responsibility. With significant reserves, a skilled workforce, and a strategic location, the Sasa Mine remains a cornerstone of CAML's portfolio and long-term value creation strategy.

The Challenge

As one of Europe's largest zinc and lead producers, the Sasa Mine manages a highly complex operation that depends on accurate, real-time visibility into underground mining activities, processing operations, and concentrate production. The mine sought a modern automation platform to centralize monitoring, improve operational efficiency, and ensure long-term scalability as part of CAML's broader modernization program.

The project required an automation solution capable of integrating diverse data sources, connecting equipment from different vendors, and providing operators with a unified view of production.

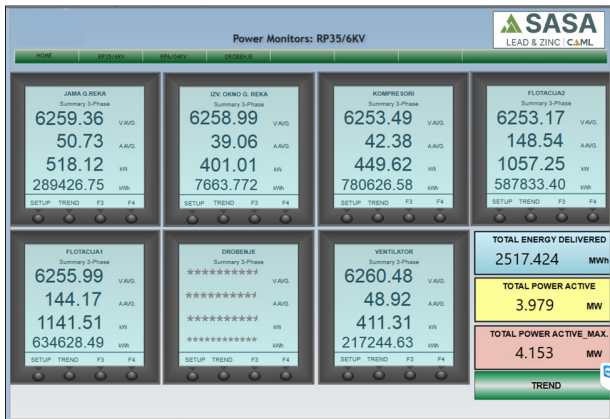
GENESIS from Mitsubishi Electric Iconics Digital Solutions was evaluated against automation software from other vendors and selected for its cost-effectiveness and superior capabilities such as:



Monitoring Vertical Plate Filter Pressure



Overview of Flotation Level Monitoring



Energy Consumption Monitoring



Server Room Dashboard

advanced data visualization, control, alarming, trending, and reporting, along with seamless integration. The solution was implemented by the system integrator [Aspect](#), chosen for their extensive expertise in SCADA systems.

The Solution

- **GENESIS SCADA Platform** – An advanced SCADA and HMI solution from Mitsubishi Electric Iconics Digital Solutions, providing real-time visualization, monitoring, and control of critical mining operations.
- **DeviceXPlorer OPC Server** – A leading connectivity solution from Takebishi that ensures seamless communication and integration across mining equipment and control systems from multiple vendors.

The Results

The deployment of GENESIS and DeviceXPlorer OPC Server has created measurable value for Sasa Mine. Benefits include:

- **Centralized visualization, monitoring, and control** – Operators now view underground mining, processing, and production data in one platform, improving situational awareness.
- **Improved connectivity** – DeviceXPlorer ensures reliable integration of equipment from multiple vendors, reducing downtime and manual intervention.
- **Operational efficiency** – GENESIS provides advanced visualization and real-time insights, supporting faster decision-making across the mine's operations.
- **Enhanced sustainability** – Unified data collection and monitoring support CAML's commitment to safe, efficient, and environmentally responsible operations.
- **Scalability for future growth** – The flexible architecture ensures the system can expand as CAML continues to invest in modernization and future capital projects.

Conclusion

The deployment of GENESIS and DeviceXPlorer OPC Server at the Sasa Mine demonstrates how modern automation platforms can transform complex mining operations. By unifying data, strengthening connectivity, and delivering actionable insights, the mine is better equipped to achieve operational excellence while meeting its sustainability and safety commitments.

With CAML's ongoing investment in modernization, the Sasa Mine is well positioned to remain one of Europe's leading producers of zinc and lead, and GENESIS provides the foundation for continued efficiency, scalability, and long-term success.

The company's future plans includes integrating the SCADA solution with additional systems at the Sasa Mine. Work is already underway on a temperature monitoring system that will track the temperature of control cabinets and issue alerts via email and SMS. Next year, the number of temperature sensors will be expanded, requiring additional tags to accommodate the increase in data points. Further enhancements planned for the coming year include integration with the vibration monitoring system through OPC UA and integration with the ERP system to streamline operations and enable even deeper data connectivity across the enterprise.

Together, these initiatives reflect Sasa and CAML's commitment to continuous improvement and its confidence in GENESIS as the digital backbone of its evolving automation strategy.

“The GENESIS solution deployed at our plant helped us with continuous monitoring and control of technological processes to maintain the optimal efficiency of our plant. The software is straightforward and user-friendly. We look forward to scaling this solution for other applications in the future, as needed.”

Mr. Boban Spasevski, Chief Engineer for Automation and IT.

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