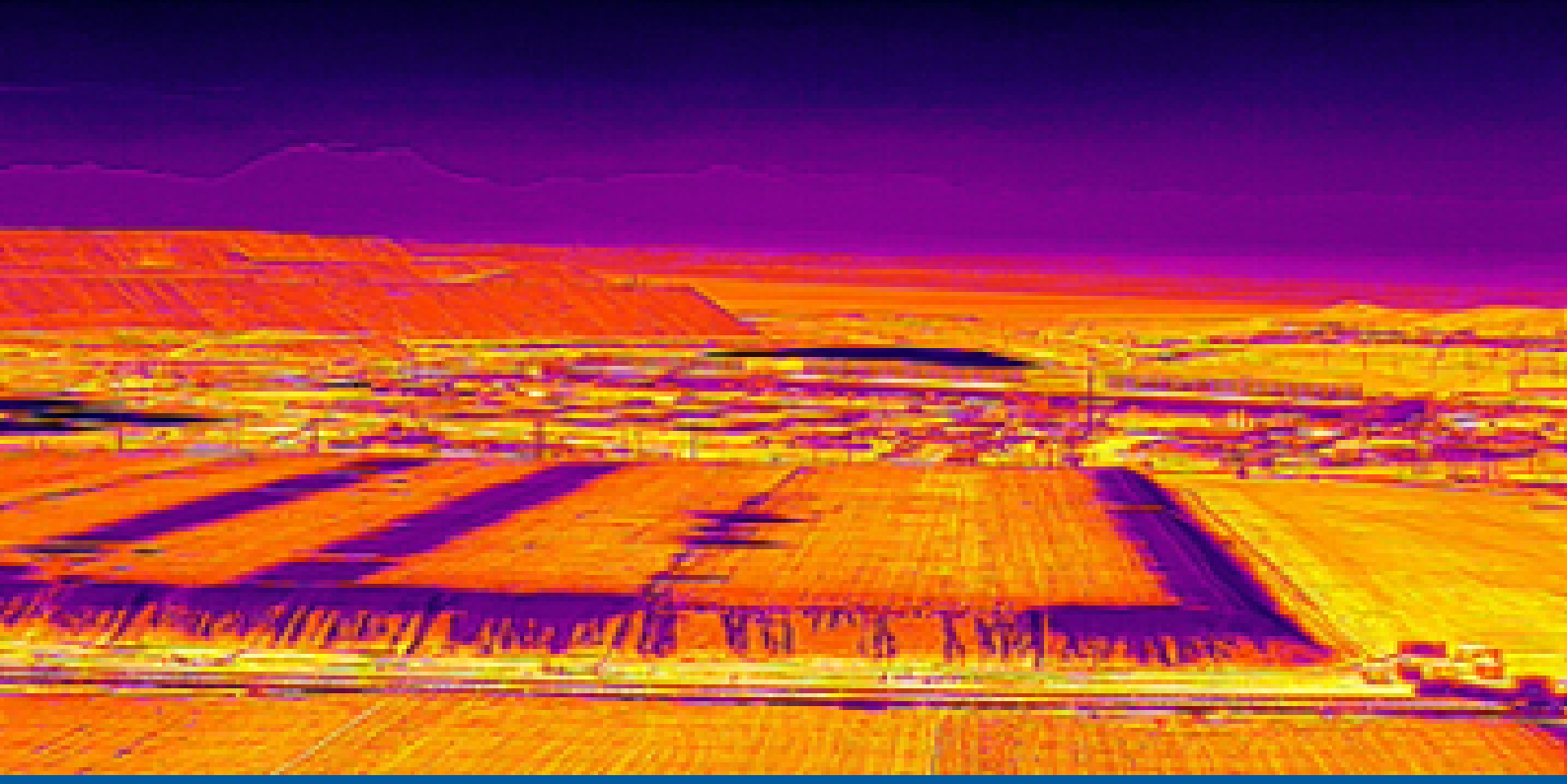

CASE STUDY

Automation and Control System for Heap Leach Pads

EPCM

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PROJECT OVERVIEW

A mining operator required an advanced solution to optimize their heap leach process. Their manual valve control system was inefficient, leading to inconsistent leachate application across their large heap leach pads, which measure 1 km by 3 km each. To address these challenges, the cliente partnered with EPCM Group for a Build, Own, Operate, & Maintain (BOOM) project, which included the design & implementation of a remotely controlled valve system & drone monitoring technology.

CLIENT

Global client in the mining sector

PROJECT SCOPE

EPCM Group was tasked with enhancing the efficiency and effectiveness of the heap leach pads through:

- Automation of valve operations across two large-scale leach pads.
- Integration of solar-powered valve control systems.
- Implementation of drone surveillance to monitor leachate distribution.

SOLUTION

EPCM Group designed a comprehensive BOOM solution that included:

Remote Valve Control

- Automated control systems for all valves on the leach pads to ensure precise and efficient leachate distribution.

Solar-Powered Valve Controls

- Each valve connection was equipped with a solar-powered system to ensure sustainability and reliability without the need for external power sources.

Drone Surveillance

- Regular drone flights over the leach pads to assess and adjust leachate distribution, identifying areas of over or under-saturation.

IMPLEMENTATION

The system was installed with the following components:

Valve Automation

- Installation of automated valves controlled remotely, allowing for real-time adjustments based on the data collected.

Solar Power Systems

- Integration of solar panels and storage systems to power each valve, ensuring uninterrupted operation.

Drone Technology

- Deployment of advanced drones equipped with sensors to monitor leachate distribution and gather data for analysis.

RESULTS

The BOOM project delivered significant improvements in the operation of client's heap leach pads:

Increased Copper Recovery

- The precise control and monitoring of leachate application resulted in a 1-2% increase in copper recovery.

Operational Efficiency

- Automation reduced the manpower needed to manually adjust valves, decreasing operational costs.

Environmental Sustainability

- The use of solar power minimized the environmental impact of the operations.

Improved Monitoring

- Drone technology provided detailed insights into pad conditions, allowing for proactive management and adjustments.

CONCLUSION

The implementation of the BOOM project at client's heap leach pads has not only enhanced copper recovery but also promoted sustainability and efficiency. This project exemplifies EPCM Group's ability to deliver innovative and effective solutions that meet the unique needs of their clients.

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