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Cisco Connected Mining

Gain Real-Time Visibility and Control across Your Mine

Lean operations, safe environments, and efficiency are essential for the mining industry – especially in light of fluctuating commodity prices. But it's difficult to monitor and control production for large mines that are located in constantly changing, harsh environments. Managing equipment and assets and protecting employees is also challenging as your assets and employees might be spread out and disconnected. How quickly can you respond to new conditions at the mine such as safety issues, or to changing market demands?
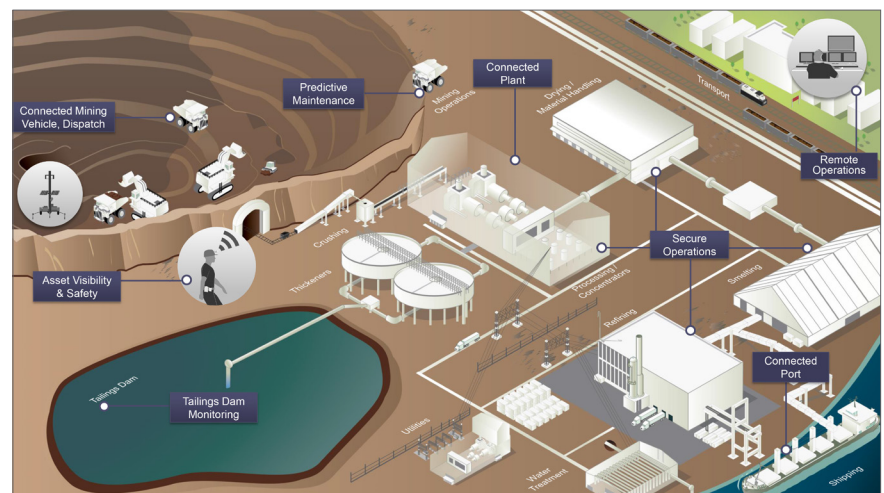
What if you could get complete visibility and control over everything that's going on at every site in real time? The Internet of Everything lets you do just that. This latest evolution of the Internet brings together people, processes, data, and things, to drive powerful business outcomes.

Gain real-time visibility into each step of your production so you can more accurately monitor output, equipment, worker location, and security. Experience better, faster decision making with reduced production cost and improved safety. Create safer working conditions and prepare for growth and respond to new opportunities.

These capabilities are yours with Cisco® Connected Mining (Figure 1).

Benefits

- **Enhance production efficiency** and reliability by tracking every aspect of mining operations, from pit to port.

- **Protect workers** through location tracking, remote operations and monitoring of hazardous work areas.

- **Boost productivity** by sharing information across all processes and business applications.

- **Reduce risk,** improve compliance and enhance security with environmental, physical, and cyber safety measures.

- **Reduce production costs** with real-time visibility of assets that identifies potential issues early, helping extend asset life.

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> "The evolution of the mining industry is under way. The Internet of Everything is helping to enhance safety, increase production, and optimize resources based on real-time information."

Mark Gelsomini
Corporate Director of IT,
Dundee Precious Metals

Accelerate Your ROI

Accelerate your transition to a reliable, smart and connected mining environment with Cisco's Advanced Services that help you plan, build, and manage your solution. From strategy through execution, Cisco services help you get more value from your deployments. We align business outcomes of your investment to your business goals. We also provide comprehensive consulting services with MSHA certified personnel. Our leading networking expertise combined with our technology and implementation partners' specialized industry expertise help you get the most from your investment. Getting started is easy.

Next Steps

To learn more about Cisco Connected Mining solutions, contact your local Cisco representative, or go to http://www.cisco.com/go/mining.

Build Smarter, Safer, More Productive Mines

Cisco, together with leading industry partners, has created Cisco Connected Mining. This portfolio of solutions helps you create safer working conditions, while preparing for growth and new opportunities. Using the power of a multi-service, secure IP network, you can build a competitive advantage and help ensure safety and operational efficiency for daily operations.

Cisco's Connected Mining solutions enable you to manage multiple applications, including dispatch, safety, telemetry, voice and video on a single reliable, secure network. Our solutions have been proven across thousands of installations worldwide.

It's all made possible through unified, secure access from any device and any location.

- **Connected Predictive Maintenance:** Boost equipment reliability and control maintenance costs with actionable predictions for preventive asset maintenance. Predict impending equipment failures weeks before they occur using Cisco and our partners' solutions. So you can schedule maintenance in advance, saving precious production time and avoiding disruptions due to unscheduled maintenance.

- **Digital Tailings Monitoring:** Control onsite costs and improve safety with real-time video and in-ground sensor monitoring and analytics. Reduce risk of tailings breach with solutions that have been proven in critical environments such as dike monitoring in the Netherlands.

- **Secure Mine Operations:** Safeguard your organization and control compliance and safety costs with "process control security as a service." No more guessing about which equipment is connected to your network – and its security and compliance. Cisco Secure Mine Operations features built in collaboration with the world's leading automation vendors. So you can rest easy with real-time visibility into the status of your operations from a single pane of glass.

- **Asset Visibility and Monitoring:** Improve employee safety, protect valuable assets, and reduce energy costs with real-time visibility, monitoring, and ventilation control. Cisco's Mine Asset Visibility solution lets you track personnel at all times. Respond to emergencies immediately, locate your equipment fast, and manage your energy usage in underground mines with "ventilation-on-demand." It all resides on a single, multi-service IP network built to withstand harsh industrial conditions.

- **Connected Plant:** Connect end-to-end operations of your mine with a multi-service, reliable network, ruggedized for the physical conditions of your mining operations. We've deployed Cisco Connected Plant across thousands of processing plants, open cut and underground mines, mills, smelters and refining operations worldwide. So you can be confident that our proven solution will deliver near zero down time in your operations.