

# Mining Giant Improves Agility with Industrial Network in Chile

Customer Case Study



Cisco technology helps Anglo American monitor and control processing plants in real time with high degree of data security

## EXECUTIVE SUMMARY

**Customer Name:** Anglo American

**Industry:** Mining

**Location:** Chile

**Number of Employees:** 4216

### Challenge

- Improve enterprise agility
- Speed up access to accurate real time plant data

### Solution

- Cisco Industrial Network
- Cisco Adaptive Security Appliances

### Results

- Time for system changes reduced from weeks to days
- Greater reliability
- Faster, improved decision-making

## Challenge

Anglo American is one of the world's largest mining companies, with a portfolio of high quality mining assets and natural resources that spans bulk commodities, base metals, and precious minerals. In Chile, the company has four majority-owned copper mines: Mantoverde, Mantos Blancos, Los Bronces and El Soldado, and one smelter, Chagres.

Like any mining operation, Anglo American is eager to improve production output and is looking to introduce increasing levels of automation wherever possible. This goal, in turn, makes it a priority to have proper monitoring systems in place, both to help with fault resolution and to obtain up-to-date operational data upon which timely, informed management decisions can be made.

Anglo American mining operations had mainly been supported through a traditional enterprise network that was suited to commercial traffic characteristics. So, to help improve business and mining operations and control, process and industrial network layers had to be introduced. The intent was to provide the high availability, assured resilience, and low latency required in critical mines and plants.

## Solution

Anglo American uses Cisco® equipment as standard in its WAN and LAN infrastructure, and in 2011, the Mining Technical Systems team began investigating technology options for its industrial network. "We have a global agreement with Cisco, and it is part of our company policy to standardize on Cisco products," says Mario Carvajal, infrastructure projects systems engineer at Anglo American. "The quality of the equipment is never in doubt."



**“Mining operations have very different requirements to those of enterprise networks. So the main benefit is we can now focus the functions of the network in line with business requirements.”**

Mario Carvajal  
Infrastructure Projects Systems Engineer  
Anglo American

The industrial network layer is configured as five LANs, one for each Chilean operation (copper mines and smelter) connected via a WAN infrastructure. Cisco Catalyst® 4507R Series Switches interconnected with 10Gbps fiber links are used for the network core, and the aggregation layer features Catalyst 3750-X Series Switches, while the Layer 2 access layer is built on Catalyst 2960 Series Switches.

To preserve the integrity of the infrastructure, all network layers are protected with Cisco ASA 5520 Series Adaptive Security Appliances and Cisco Intrusion Prevention System modules. The entire network was based on a Converged Plantwide Ethernet Design and Implementation Guide, a collaborative development effort from Cisco Systems and Rockwell Automation.

## Results

“Mining operations have very different requirements to those of enterprise networks. So the main benefit is we can now focus the functions of the network in line with business and mining operational requirements,” says Carvajal. “This allows us to make changes more easily and reduce the amount of administration needed.”

Specifically, the time required for process changes has dropped from two or three weeks to just three or four days. “Our industrial network was designed as a robust infrastructure to support any mining requirements and any mining technology,” says Claudia Poblete, responsible for IT Operational Networking in the Mining Technical Systems team at Anglo American. And because the infrastructure is optimized for industrial control, it is more reliable than a standard enterprise network would be in the same situation. Importantly, too, management now has access to real time plant data, which it can use to make faster and better decisions.

“The main value is a network architecture that ensure standards for reliability, integrity, and availability of information, for all applications that directly support mine operations and production plants,” adds Claudia Poblete. “It’s about allowing efficient management and user access to mining applications.”

## For More Information

To learn more about the Cisco architectures and solutions featured in this case study, please go to:

[www.cisco.com/en/US/docs/solutions/Verticals/CPwE/CPwE\\_DIG.html](http://www.cisco.com/en/US/docs/solutions/Verticals/CPwE/CPwE_DIG.html)

## Product List

### Routing and Switching

- Cisco Catalyst 4500 Series Switches
- Cisco Catalyst 3750 Series Switches
- Cisco Catalyst 2960 Series Switches

### Security

- Cisco ASA 5520 Series Adaptive Security Appliances
- Cisco Intrusion Prevention System Modules



Americas Headquarters  
Cisco Systems, Inc.  
San Jose, CA

Asia Pacific Headquarters  
Cisco Systems (USA) Pte. Ltd.  
Singapore

Europe Headquarters  
Cisco Systems International BV Amsterdam,  
The Netherlands

Cisco has more than 200 offices worldwide. Addresses, phone numbers, and fax numbers are listed on the Cisco Website at [www.cisco.com/go/offices](http://www.cisco.com/go/offices).

Cisco and the Cisco logo are trademarks or registered trademarks of Cisco and/or its affiliates in the U.S. and other countries. To view a list of Cisco trademarks, go to this URL: [www.cisco.com/go/trademarks](http://www.cisco.com/go/trademarks). Third party trademarks mentioned are the property of their respective owners. The use of the word partner does not imply a partnership relationship between Cisco and any other company. (11110R)