

Maximizing profits with fragmentation analysis

Two mines see profits increase by up to USD \$7.5 million a month after using HxGN Split



The Customer

Two open-pit copper mines in Peru use HxGN Split to improve rock fragmentation.

The Challenge

Mining operations face the challenge of maximizing production throughput while managing energy costs within highly variable and uncertain conditions. Numerous processes, technologies and resources must be strategically and practically aligned to maintain consistent high-level output. Variability in blast fragmentation significantly affects downstream processes such as mining, crushing and milling.

The two mines recognized the need to invest in the drill and blast operations to improve rock fragmentation. The mines identified key objectives:

- Optimize resources, technologies and processes
- Evaluate blast design to improve fragmentation from pit to plant
- Improve the shape of the muckpile
- Improve SAG milling energy efficiency
- Increase equipment utilization efficiency
- Increase SAG mill throughput

The Solution

The operations implemented the ShovelCam, TruckCam and ConveyorCam to measure the rock fragmentation from post-blast product to the SAG mill feed. Blast designs were adjusted to measure the changes in rock fragmentation, equipment efficiency, mill efficiency and throughput. The implementation led to the following improvements:

- 50% increase in material less than 1 inch (25.4 mm)
- 20% increase in mining equipment productivity
- 13% reduction in SAG mill specific energy consumption
- 12% increase in SAG mill throughput
- USD \$7.5 million per month increase in revenue





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Our technologies are shaping urban and production ecosystems to become increasingly connected and autonomous — ensuring a scalable, sustainable future.

Hexagon's Mining division solves surface and underground mine challenges with proven technologies for planning, operations and safety.

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