



# ShovelMetrics<sup>™</sup> Gen<sup>3</sup>

## Introducing the next generation in G.E.T. and Shovel Monitoring

ShovelMetrics Gen 3, the most advanced shovel monitoring service on the market, uses artificial intelligence and computer vision to provide industry-leading bucket G.E.T., rock, and shovel monitoring. With industry-leading 3D imaging technology and support for all excavators, backhoes, and shovels. Our flagship shovel monitoring solution is a fully managed service that includes accurate and reliable missing tooth and lip shroud detection. These features mitigate the risk of crusher obstructions in order to safeguard your employees and prevent hundreds of thousands of dollars in lost production. ShovelMetrics Gen 3 pays for itself by increasing productivity and reducing operational downtime.

## Features

#### Missing Tooth Detection

Mitigates the risk of dangerous and costly crusher obstructions by alerting shovel operators to missing teeth.

## Particle Size Analysis

Optimize drill and blast parameters with real-time particle size data.

#### **Blind Spot Reduction**

Reduce the likelihood of equipment collisions with real-time surveillance views.

## **Tooth Wear Monitoring**

Optimize change-out intervals by monitoring tooth wear.

## **Boulder Detection**

Improve blast efficiency while minimizing crusher downtime and reduce rock-breaker usage by diverting oversized material.

#### **I** Video Recording

3 days of continuous recording from the Bucket Camera and Blind Spot Reduction cameras is stored for each system. "Previously, mine personnel had to enter the primary crusher to remove a missing tooth. With ShovelMetrics, we remove our people from the line of fire and maintain operational continuity."

Gustavo Córdova, Mine Manager, Codelco Gabriela Mistral Mine

### Lip Shroud Detection

The world's first solution to identify missing bucket lip shrouds in real-time, before they reach the crusher.

## **Payload Monitoring**

Maximize productivity and ensure truck compliance with bucket-by-bucket payload monitoring.

## Metrics**Manager**<sup>™</sup> Pro

Authorized users can securely access detailed productivity and fragmentation reports from the cloud.





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# 3D Machine Vision One system, many benefits

In order to detect missing teeth, the ShovelMetrics<sup>™</sup> Gen 3 bucket camera needs a clear view of the shovel or excavator bucket. This can be difficult at mines in extreme latitudes where mines receive very little sunlight during the winter, or at mines where sticky material can obscure the bucket teeth. To overcome these challenges, our engineers have developed a

ruggedized stereoscopic 3D camera system with powerful LED lighting, capable of capturing high-resolution image data in all operating conditions.

> ShovelMetrics<sup>™</sup> Gen 3 provides accurate missing tooth and lip shroud detection under the harshest environmental conditions. Equipped with AI-enabled 3D machine vision for blind spot reduction views, and payload monitoring for hydraulic shovels, ShovelMetrics<sup>™</sup> Gen 3 is the most complete shovel monitoring service on the market.

## How a Chilean Copper Mine Used ShovelMetrics to Save \$6.5M

After successfully trialling the system, a large open-pit copper mine near Santiago, Chile installed ShovelMetrics to mitigate the risk of missing shovel teeth. The system exceeded key performance indicators set by the mine and helped the mine avoid an annual production loss equivalent to about USD \$6.5M.





Like all Motion Metrics products, ShovelMetrics interfaces with our centralized data analysis platform, MetricsManager Pro. Users with authorized credentials can receive automated SMS and email event notifications, in-depth performance reports, equipment activity logs, and particle size data from anywhere. Motion Metrics recognizes the importance of interoperability and will work with other vendors to ensure our solutions interface with your existing software.