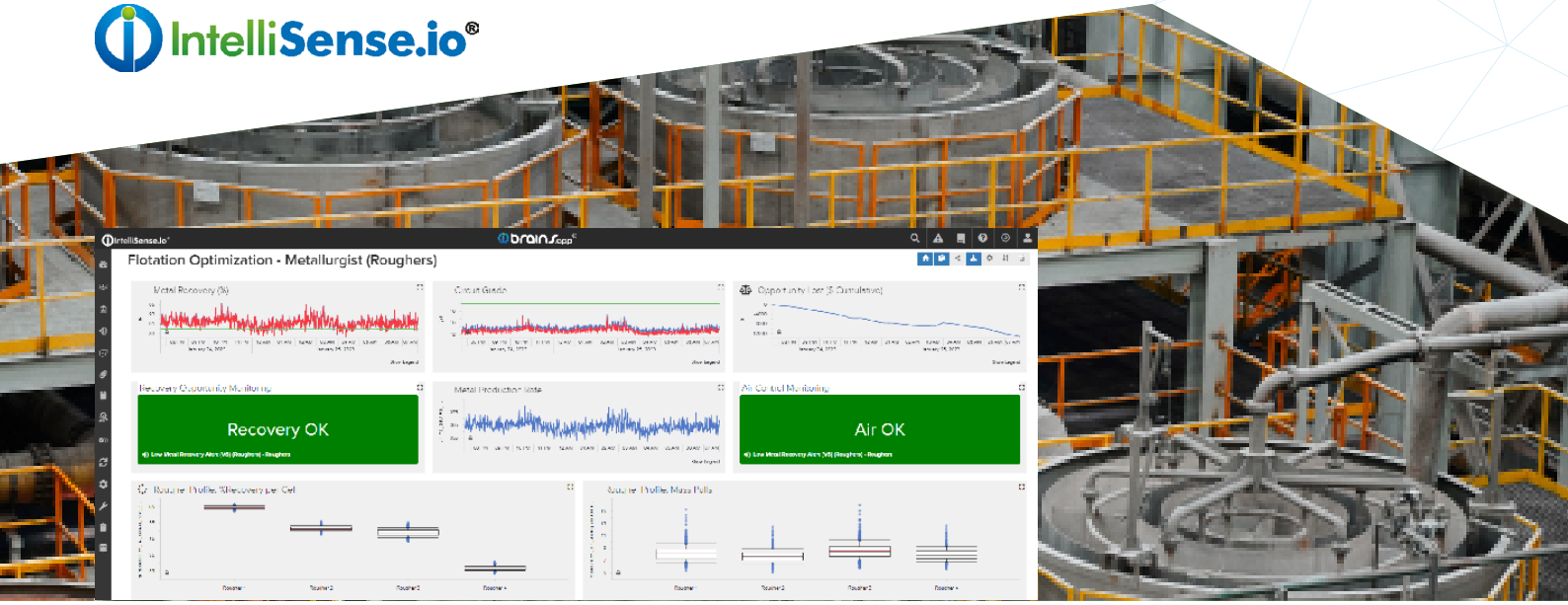
IntelliSense.io®



CASE STUDY

Grinding Optimization

Increase ore throughput by 1%

Worth Value ($)
USD +3.2 Million/yr

Process Visibility
> 3x Visibility

Payback Period
< 3 Months

The Challenge

A fully integrated gold mining company wanted to increase throughput and reduce mill maintenance within their grinding circuit. The lack of knowledge of incoming material was leading to frequent mill overloads, and low insight into mill conditions such as liner wear and ball charge level were driving unwanted mill stoppages.

Due to high variability, metallurgists needs simulation tools for different operative scenarios, also guidance to optimum control parameters for current mill feed.

The Grinding Optimization Application is designed to provide transparency on what is happening inside the mills and variable feed conditions, guiding key users on how to achieve optimal performance from the circuit, contributing to increase throughput and reduce energy consumption.

The Solution

A Digital Twin of the SAG mill was created inside IntelliSense.io Brains.app platform to improve monitoring, performance prediction, and optimization of the grinding process, helping operatos to make proactive changes to keep the circuit stable. Some key features comprise:

- Dynamic ball charge and liner wear condition that enables reduced mill stoppages and increased throughput;
- Mill prediction of 20 mins into the future to prevent overload events from occurring;
- Recommendation of optimum mill control variables stabilises the feed and maximises throughput;

By showing explicit operational guidance, users can benefit from an overall performance irrespective of shift.