



StoneThree

The Future of Work. Now.™

Mining Productivity Solutions



The Company

Always On. Always Accurate. Always Monitored.



Purpose

We leverage domain expertise and advanced process control technology to drive productivity in comminution and flotation, solving the mineral processing challenges that matter most.



Vision

A world where comminution and flotation operate at maximum efficiency, enabled by systems that are always on, always accurate, and continuously monitored for sustainable performance.

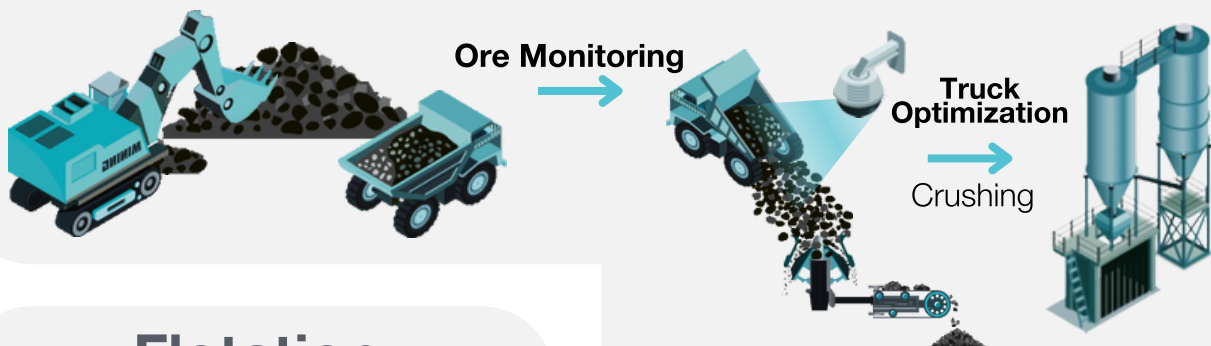


Mission

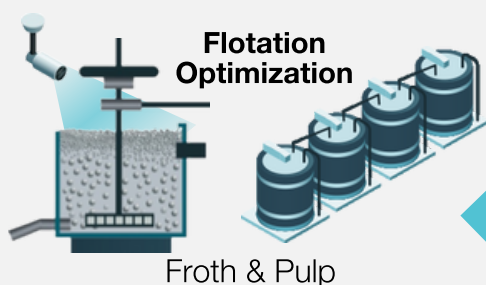
To bring technology to earth, transforming the future of comminution and flotation into always on, always accurate, always monitored with performance guarantees.

End-to-End Solution

Comminution



Flotation



The Company

Stone Three as a Digital Transformation Partner.

Stone Three is a leading expert in the field of smart sensing solutions, industrial data science and advanced process control. With solutions implemented on five continents and actively monitored and supported, our systems and services have significantly contributed to our clients' throughput and metal recovery improvement initiatives.

As a digital transformation partner, Stone Three combines expert-driven services with advanced technology to drive measurable operational improvements. Collaborating within an ecosystem of trusted partners, we integrate complementary technical solutions that provide actionable insights and effective control strategies. Our deep industry experience empowers our solution consulting team to deliver targeted guidance early and throughout the lifecycle of a mineral processing site, ensuring every stage of transformation is informed, strategic, and impactful.

Stone Three's SmartROC™ (Smart Remote Operations Centre) is a state-of-the-art facility powered by domain experts to monitor and support mineral processing operations globally. Leveraging advanced data infrastructure, deep operational expertise, and seamless system integration, SmartROC™ provides continuous support during and after the delivery phase of a project. It delivers real-time productivity monitoring, outcomes-based operational advisories, and predictive insights powered by advanced data analytics and practical automation.



Trusted Partner

Stone Three as a Proven Partner in Advisory & Executing on Digital Transformation

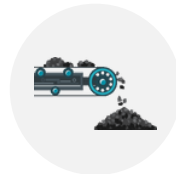
The presence of a Smart Remote Operations Centre (SmartROC™) in the strategic roadmap reflects the increasing emphasis on digitalization in the industry, an area where we have relevant operational experience. This points to the growing role of digital solutions in supporting future mining operations.

Actionable insights from our SmartROC:



+1 Million

Truck Tips monitored remotely per year.



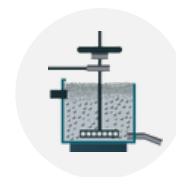
+30 Million

Tonnes of Ore monitored remotely per year.



+11 Petabytes

Processed per year.



+300 Billion

Bubbles counted per year.



+12 Billion

Rocks counted per year.



+62 Billion

Images processed per year.

Stairway To Value

Stone Three Stairway Too Value

To Measure is to Know 1

Difficult Measurements with Smart Sensors: Advanced Productivity Solutions in mineral processing. Stone Three provides sensors backed with Machine Learning to optimize the minerals production process.

Automated Actions 2

Process Optimization: Advanced Process Control (APC) assisting with system-based corrections. APC is available for crushing, grinding and flotation, to help optimize actions combined with the sensor data to reduce downtime and improve throughput and recovery.

SmartROC™

Expert Augmented Actions 3

Monitoring, Diagnostics and Advisories: SmartROC™ is a Tailored End-to-End solution offering that consists of Data Investigations & Expert Recommendations, Deep-Domain Expert Services and Advanced Analytics, ensuring recovery improvement through process stabilization and optimization.





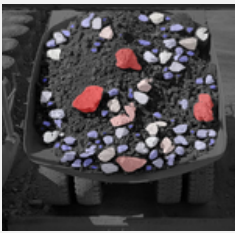
Comminution Optimization

Crushing & Grinding Solution

Smart Sensors

1

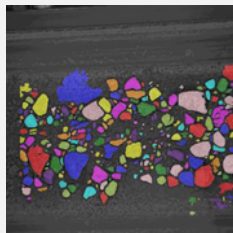
Truck PSD & Oversize



Measure:

- Real-Time Particle Size Distribution.
- Truck Oversize Material Detection.
- Sub-Optimal Blasting Detection.

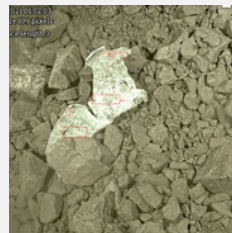
Conveyor Particle Size Distribution



Measure:

- Sub-Optimal Crushing Detection.
- Sub-Optimal Milling Detection.
- Screen Panel Failure Detection

Foreign Object Detection Sensor



Measure:

- Conveyor Belt Foreign Objects Detection.
- Prevent Catastrophic Equipment Damage.
- Provide Actionable Intelligence.

Conveyor Volume



Measure:

- Real-Time Material Flow Visibility.
- Enhance Forecast & Throughput Tracking.
- Supports Feed-Forward Control.

Advanced Process Control (APC)

2

Phase 1: Stabilize

(2-3% Throughput Increase)

Crushing Stabilization

- Feed Stabilization.
- Feed PSD Stabilization.
- Circuit Load Regulation.

Grinding Stabilization

- Mill Feed Control
- Mill Feed Blend Control
- Cyclone Split Control

Phase 2: Optimize

(+5% Throughput Increase)

Crushing Optimization

- Crushing PSD Control.

Grinding Optimization

- Power Load Control
- % Passing Control

Monitoring & Diagnostics

3

Truck

- PSD & Oversize Sensor Data Health Monitoring.
- Truck Performance Data Investigations and Expert Recommendations.

Crushing

- APC Support & Monitoring.
- Crushing Performance Data Investigations and Expert Recommendations.
- PSD, FOD & Volume Sensor Data Health Monitoring.
- Control Loop Performance Monitoring.

Grinding

- APC Support & Monitoring.
- Grinding Performance Data Investigations and Expert Recommendations.
- Milling Performance Monitoring.
- Control Loop Performance Monitoring.



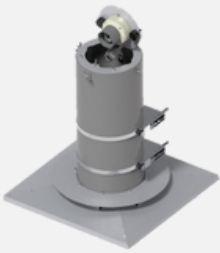
Flotation Optimization

Flotation Grade & Recovery Solution

Smart Sensors

1

Froth Sensor



Measure:

- Froth velocity over lip.
- Froth Height above lip.
- Froth Velocity Stability.
- Froth Bubble Size.
- Froth Colour.

Pulp Sensor



Measure:

- D32 & Bubble Size Distribution.
- E_g Gas Hold Up.
- J_g Superficial Gas Velocity.
- U_g Bubble Rise Velocity
- Pulp Colour.

Bubble Sizer



Measure:

- Offline Bubble Size Distribution.
- Offline Superficial Gas Velocity (J_g).
- E_g Gas Hold Up.
- U_g Bubble Rise Velocity
- Pulp Colour.

Grade Analyzer



Measure:

- No Nuclear Sources
- Factory Calibrated with Drift Correction
- Accuracy within 3% in tails at 0.4g/t.
- Repeatability 0.04ppm over a hour.
- Measurement over Conc/Feed & Tails.

Advanced Process Control (APC)

2

Phase 1: Stabilize

(1-2% Recovery Increase)

Level Stabilization

- Stabilize Feed & Froth Levels.

Mass-Pull Stabilization

- Control Conc Pump Box Flow.
- Stabilize Froth Pull per Cell.
- Balance Grade & Recovery.

Phase 2: Optimize

(+3% Recovery Increase)

Reagent Optimization

- Automatic Frother CCC Control
- Collectors & Depressants Dosing Automation

Monitoring & Diagnostics

3

Flotation

- APC Support & Monitoring.
- Control Loop Performance Monitoring.
- Online Mass-Balance + Mass Pull Performance.
- Grade Sensor Data Health Monitoring.

Froth Phase

- Froth States (Cell % Producing/ Pulping)
- Online Froth State Advisories.
- Sensor Data Health Monitoring.
- Performance Data Investigations & Expert Recommendations.

Pulp Phase

- Sensor Data Health Monitoring.
- Performance Data Investigations and Expert Recommendations.



SmartROC™

Monitoring and Diagnostics (M&D)

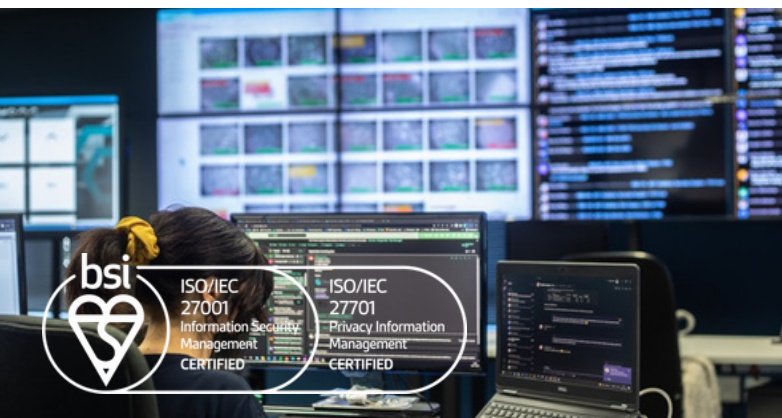
Stone Three operates our SmartROC™ center, which provides monitoring and diagnostics (M&D), from Somerset-West, Cape Town.

The aim of the M&D services is to maximize the value of installed APCs, sensors, and other available data sources, ensuring that undesirable process conditions are identified and returned to the desired state through quick identification, notification, and action closure. Moreover, analyses of trends and case management records support continuous improvement objectives for the operations.

In addition to daily and weekly observations and automated advisories, successful programs include deep dive analytics by Stone Three's subject matter experts (SMEs). The deep-dives support root-cause assessments and / or data driven continuous improvement objectives on long duration data sets.



Moreover, our ability to integrate AI-driven solutions and domain expertise into mining operations has enabled the construction of client specific remote operations centers jointly staffed by client and Stone Three experts, collaborating towards operational efficiency built on data rich decision workflows. Collectively the services enable the stabilization and optimization of the processes being monitored, while progressively building a digital twin to service all the optimization objectives of the mine.



Get in Touch



Phone Number:
+27 21 851 3123



Email:
info@stonethree.com



Website:
www.stonethree.com



Address:
Cape Town, South Africa



ISO/IEC
27001
Information Security
Management
CERTIFIED

ISO/IEC
27701
Privacy Information
Management
CERTIFIED