

With AVEVA software solutions, Lonmin Mining Co. has achieved a centralised operations and data management system enhancing its platinum mining operations.

Lonmin Mining
www.lonmin.com

INDUSTRY
Metals, Minerals & Mining

Goals

- To implement standards enabling the management team to more easily reassign tasks to operators throughout the facility.
- To better optimize plant operations and improve allocation of plant resources.
- To enable scalability of processes to meet the growing needs of the mine.

Challenges

- A host of disparate systems made it difficult for operations management to effectively control operations.
- The lack of technology standards prevented the management team from easily moving staff around the facility to maximise production.

AVEVA Solution

- AVEVA System Platform
- AVEVA Historian Clients
- AVEVA InTouch

Results

- The implementation of redundant systems to prevent downtime saved Lonmin more than a million Rand an hour in potential losses.
- An overall savings of R300 million per year was achieved by the mine.
- The efficiency of Lonmin operations have increased by 10%.

AVEVA Software Centralises Lonmin Operations, Enabling Mine to Continue Tapping into Country's Extensive Platinum Natural Resource

JOHANNESBURG, South Africa – South Africa is home to nearly 80% of the world's platinum resources, and Lonmin is one of the main producers of this precious metal.

With more than 95% of its production coming from its mining facility in Marikana, effective management of the industrial processes and access to production data are key to the successful extraction of its precious resource.

In addition, management of concentrators, smelter, base metal refinery and pure metal refinery located in the town of Brakpan, were key to the overall success of the mine's operations.

“With these critical processes being located in different areas, it was imperative that we implement a standardised software system that could address our needs for tight security and management of a good risk profile to ensure ease of maintenance by our staff.”

Gawie Reyneke, Manager of MES & MRM for Information Management, Lonmin

Eliminating technology “islands” to streamline processes

AVEVA technology has been successfully managing Lonmin mining operations since 1993. However, in recent years, as the facility grew and expanded, individual “islands” of technology were built with no centralised method to connect them.

“When we started off, Lonmin had a host of disparate systems and everybody was on their own (technology) island. The decision was made to implement a solution that would enable us to centralize management of systems and data, as well as have the ability to move people around and still enable them to be familiar with the standards implemented in other areas.”

Percy French, Automation Manager for Smelters, Lonmin

After reviewing a range of software products, Lonmin decided to remain with AVEVA and chose to implement System Platform, a plant-wide industrial operating system that could successfully link all of Lonmin's “islands” of technology.

“System Platform provides us the ability to effectively manage various processes with different risk profiles on the same platform. We also have a great working relationship with the AVEVA team not only in South Africa, but also in the U.S., so we knew if unique requirements were needed for the system they would assist us in any way possible.”

Percy French, Automation Manager for Smelters, Lonmin

AVEVA system platform enables ease of updates without downtime

A primary requirement for the new system was to enable a streamlined process for updating without any downtime. The team understood this would be a challenge, but they were able to develop a method to upgrade the system to the next level with minimum downtime.

“The solution entails having two viewing stations and two application servers for redundancy purposes, with a Historian and one Galaxy on site.”

John Louw, Automation Specialist, Lonmin

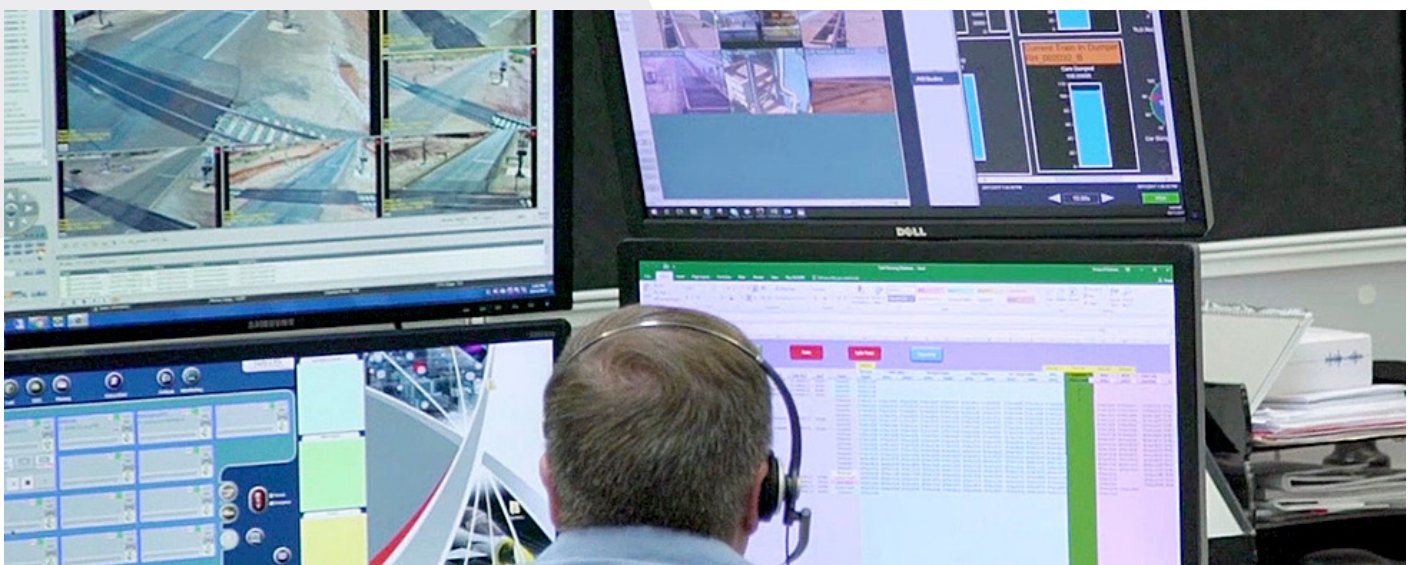
With these redundant processes in place managed by System Platform, Lonmin can prevent potential downtime which could cost the company more than a million Rand an hour.

System Platform operates as an “Industrial Operating System” by providing common services to plant operators such as visualisation, configuration, deployment, communication, security, data connectivity, data storage and management and people collaboration.

These features enable Lonmin staff to build a single, unified plant model that logically represents its industrial processes and equipment, making the design and maintenance of these systems more efficient, more flexible, and less risky. The plant model also gives essential context to plant floor data, greatly assisting with diagnostics and troubleshooting, as well as providing valuable system documentation throughout the system lifecycle.

“The ability of System Platform to integrate and consolidate data across the different equipment and operations, while at the same time deliver data directly to managers’ desktops in a presentable format, enables us to be proactive, rather than reactive.”

John Louw, Automation Specialist, Lonmin



Lonmin operators can now access accurate data with AVEVA Historian Clients

The Lonmin production team depends on the critical data gathered via System Platform from the PLCs and accessed through Historian Clients by plant systems.

Historian Clients is a high-performance process historian capable of storing substantial amounts of data generated by the Marikana mine. As a core component of System Platform, Historian Clients combines advanced data storage and compression techniques with an industry-standard query interface to ensure open and easy access to stored time-series information. Historian enables process and production decisions to be evaluated and made at any time.

Highly scalable and flexible, Historian Clients enables connectivity to the widest range of data sources and systems in the industry. Its advanced data retrieval modes mean companies don't need a full time IT person to generate reports for the team. Historian Clients also integrates to a complete line of desktop, web and mobile data analysis and reporting clients, allowing visualisation and analysis of processes from any location.

Historian Clients can be applied to a single process or expanded, over time, to a large multi-tiered information management solution serving dozens of sites and hundreds of users worldwide. Its multi-tiered architecture allows cost-effective isolation of the control and business networks and broader, safer data access by more users, increasing the system's ROI.

"With the Lonmin system built on the AVEVA software foundation, it is possible for us to achieve close to 100% reliability and consistency."

Gawie Reyneke, Manager of MES & MRM for Information Management, Lonmin

AVEVA solution increases efficiency and results with significant cost savings

Not only did Lonmin achieve improved operational efficiency, but it also enhanced product quality.

By standardising on System Platform, Lonmin has been able to join together the various Lonmin teams based in different plant locations.

"The AVEVA solution has helped us bring our teams at the smelter and other complexes together achieving a more effective, efficient and stable process. With the implementation of AVEVA, we were able to implement unique processes, enabling Lonmin to save R300 million and increase operational efficiency by 10%."

Percy French, Automation Manager for Smelters, Lonmin

About AVEVA

AVEVA is a global leader in engineering and industrial software driving digital transformation across the entire asset and operational life cycle of capital-intensive industries. The company's engineering, planning and operations, asset performance, and monitoring and control solutions deliver proven results to over 16,000 customers across the globe. Its customers are supported by the largest industrial software ecosystem, including 4,200 partners and 5,700 certified developers. AVEVA is headquartered in Cambridge, UK, with over 4,400 employees at 80 locations in over 40 countries.

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