



CASE STUDY

**Zimplats Unity Orchestra
Upgrade & Electrode
Slipping Upgrade**



ZIMPLATS

Member of the Implats Group



CUSTOMER SUMMARY

Zimplats SMC (Selous Metallurgical Complex), part of Zimbabwe's Platinum Group Metal mines, has been in operation since 1998. In 2004, 4Sight OT Automation was brought onboard to complete an 8 month project, which involved an upgrade of the Unity Archestra System by Schneider-Electric, as well as an upgrade of the Electrode Slipping system.

This project was only the start of a long-term working relationship between Zimplats and 4Sight OT Automation, as 4Sight has been appointed for ongoing project and onsite support services since then.

Located in Zimbabwe, Zimplats was established by Delta Gold Limited (Delta) in 1998 to take over its platinum interests. In May 1999 the company purchased BHP's interests in the Hartley Platinum and the Mhondoro Platinum Joint Ventures which included a concentrator and smelter.

Zimplats operates four shallow mechanised underground mines, one open-pit and two concentrators at Ngezi. The Selous Metallurgical Complex (SMC), located some 77 kilometres north of the underground operations, comprises a concentrator and a smelter.



Automation
and Electrical
Spares



Ongoing
Commissioning
Support



Service &
Maintenance
Support



Turnkey
Projects



Installation



Control
Panels



Training



CHALLENGES

The project required the capturing of plant wide-process data and historising for a minimum period of 12 months. The exact reasons for plant stoppage needed to be determined, which required accurate Alarm and Fault logging for technicians to rectify the faults with minimum downtime.

The PLC and SCADA software was upgraded to the latest versions, and new plant computers and servers were supplied, to provide availability of web reports for plant managers.

The enhancement of the electrode slipping system enabled it to measure the actual state of the electrode slipping system. The new program functions just like the existing program, with the additional benefits of:

- Shorter slipping times;
- Any given movement, de-clamping, raising, clamping, or lowering taking only as long as required;
- Improved a reliability of the electrode slipping system.
- Error conditions are alarmed on the SCADA system.



SOLUTION

4Sight OT Automation offered a number of enhancements and benefits to Zimplats' existing system's multi core Instrument. This included a plant wide Server/Client topology which centralises their data for easier alarming, data retrieval and reporting and backup. First, alarming was programmed into their PLCs, with clear alarm and fault messaging at their SCADA Clients.

A fixed format for Daily Reports for the Smelter Plant and the Concentrator Plant was designed, for uniformity and measure ability. Device Status and Interlock Display Dash boards were implemented to assist operators.

Two obsolete TSX17 PLCs were upgraded to Modicon M340 under Unity Software and Concept PLC programs were converted to Unity by upgrading PLC firmware, ensuring all software systems were relevant and up to date. The redundant MB+ network that was no longer required was removed.

Auto-save Change Management Software was implemented, which automatically keeps all their PLCs and SCADA software backed up and tracks any software changes that are being implemented.

4Sight OT Automation provided Archestra System Platform Software and Unity PLC Software training for Engineers/Technicians, to ensure effective use and familiarity of the systems, for optimal performance.

New Dell Computers (Servers and Workstations) were supplied for the entire Plant Operations, ensuring that they are at the forefront of technology.

4Sight OT Automation also executed onsite system commissioning, ensuring that all systems and components work seamlessly together.



BENEFITS & OUTCOMES

The successful completion of the Zimplats Unity Archestra Upgrade and Electrode Slipping Upgrade provided us with the opportunity to prove ourselves as a leading service provider in the field of automation and control with our client. This resulted in a longstanding relationship between the two companies, with 4Sight OT Automation providing a number of services and support for the Zimplats mine to this day.

Trust 4Sight OT Automation for a custom solution to meet your company's automation and control system needs.

Contact us today!



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