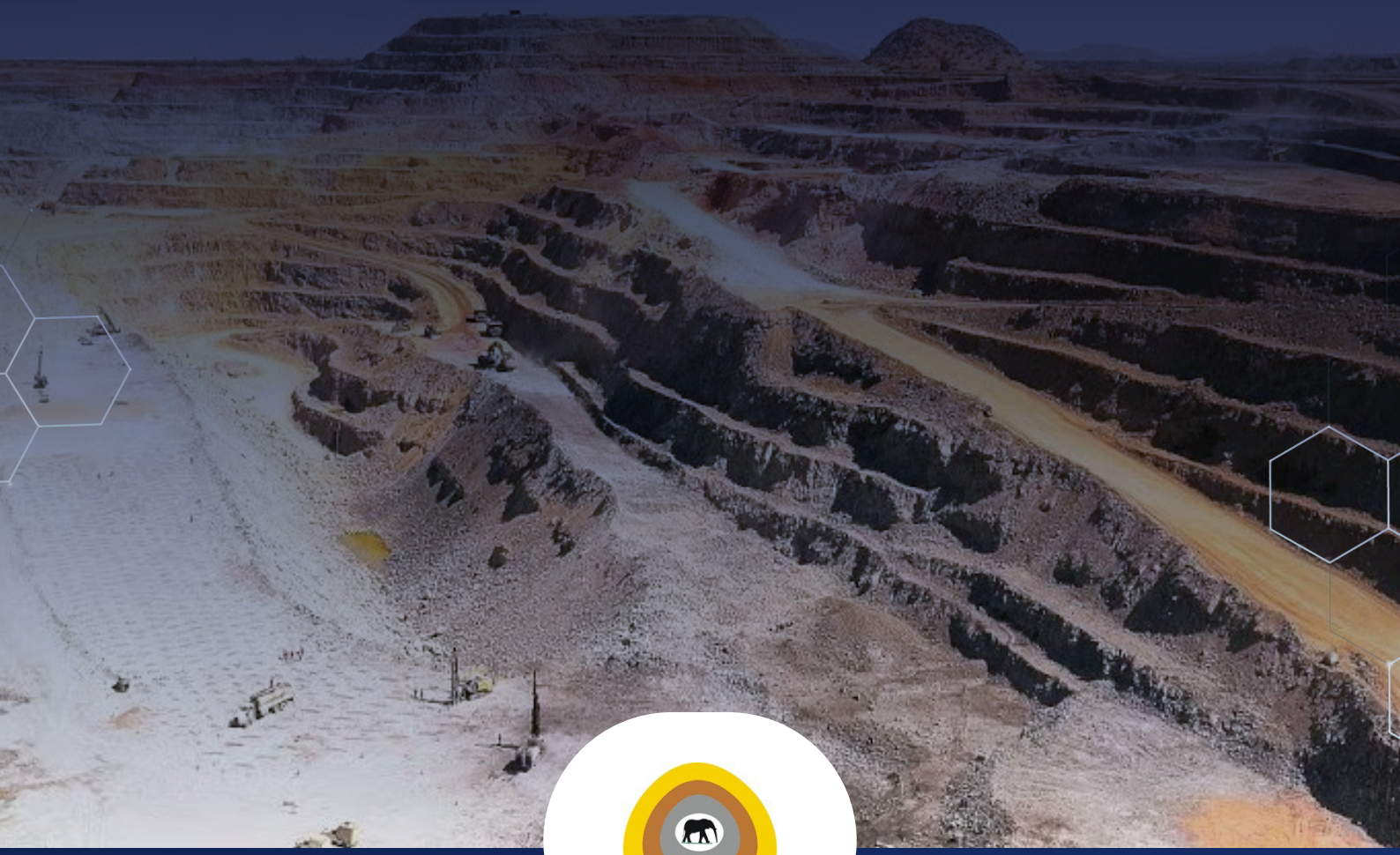
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BISHA MINING

CASE STUDY

BISHA MINING SCADA & PLC UPGRADE

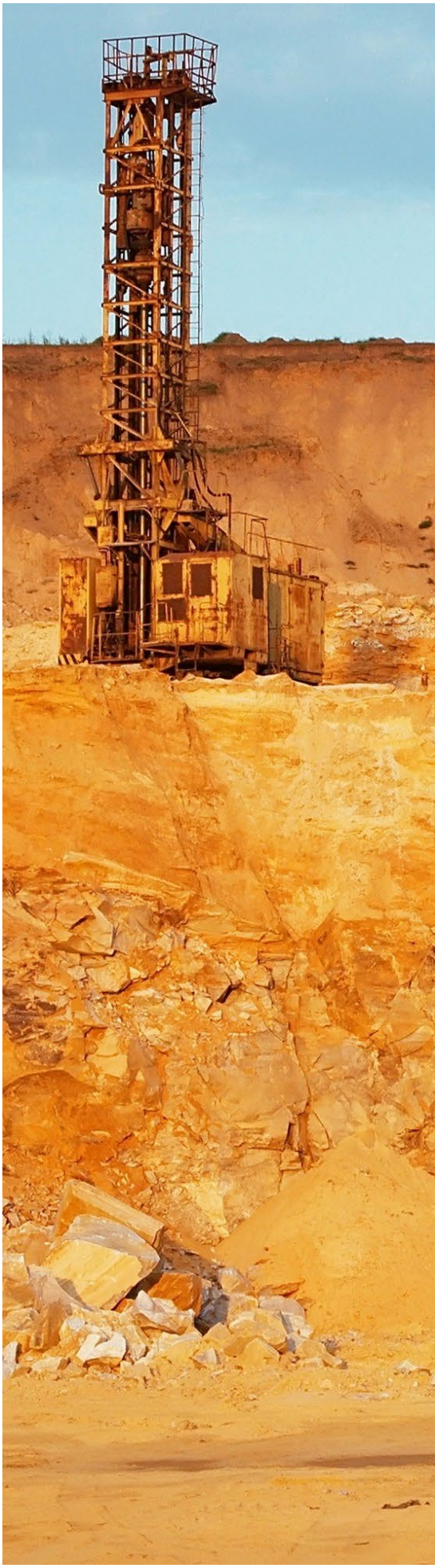
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CUSTOMER SUMMARY

Bisha Mining required a complete overhaul of its SCADA and PLC control systems to consolidate multiple standalone applications, standardise operations across the plant, and leverage modern technology for improved operational efficiency. The scope included selecting a new SCADA vendor, developing standardised SCADA and PLC software, rewriting existing PLC code, and commissioning the upgraded system on-site.

Some of the Key Project Objectives were:

- Select a new SCADA vendor capable of the site's functionality or better, providing a consolidated SCADA for the site and more effective licensing costs.
- Develop SCADA standards and incorporating situational awareness and tagging convention aligned with new PLC standards which can be rolled out for the whole site.
- Develop PLC standards which will be rolled out for all PLC upgrades across the site.
- Designing and supplying new virtualised Servers to cater for the SCADA IO Servers, Historian and Engineering Stations.
- Rewrite PLC code for 9 PLC's which control different areas of the plant.
- Workshops and software thin slice testing during design and development phases with Bisha Engineering Team.
- Factory Acceptance Testing of developed software applications.
- On-site commissioning of the new SCADA and PLC applications in a multi–phased approached.
- Supply design, system change-over methodologies with risk mitigation and As-Built documentation for the new Control System Software.
- Supply Operation and Maintenance Manuals for new Control System.
- Provide OEM training of software packages for Engineering Team.



CHALLENGES

Bisha Mining faced several operational challenges prior to the upgrade:

- Multiple standalone SCADA applications were deployed across the plant, with no consolidation.
- Existing SCADA systems were unmanaged and obsolete; OEMs no longer supported them.
- PLCs were supplied by multiple vendors over time, with no standardisation.
- SCADA and Historian tag limitations reduced operational efficiency.

SOLUTION

4Sight OT Automation implemented a comprehensive, end-to-end solution addressing Bisha Mining's challenges:

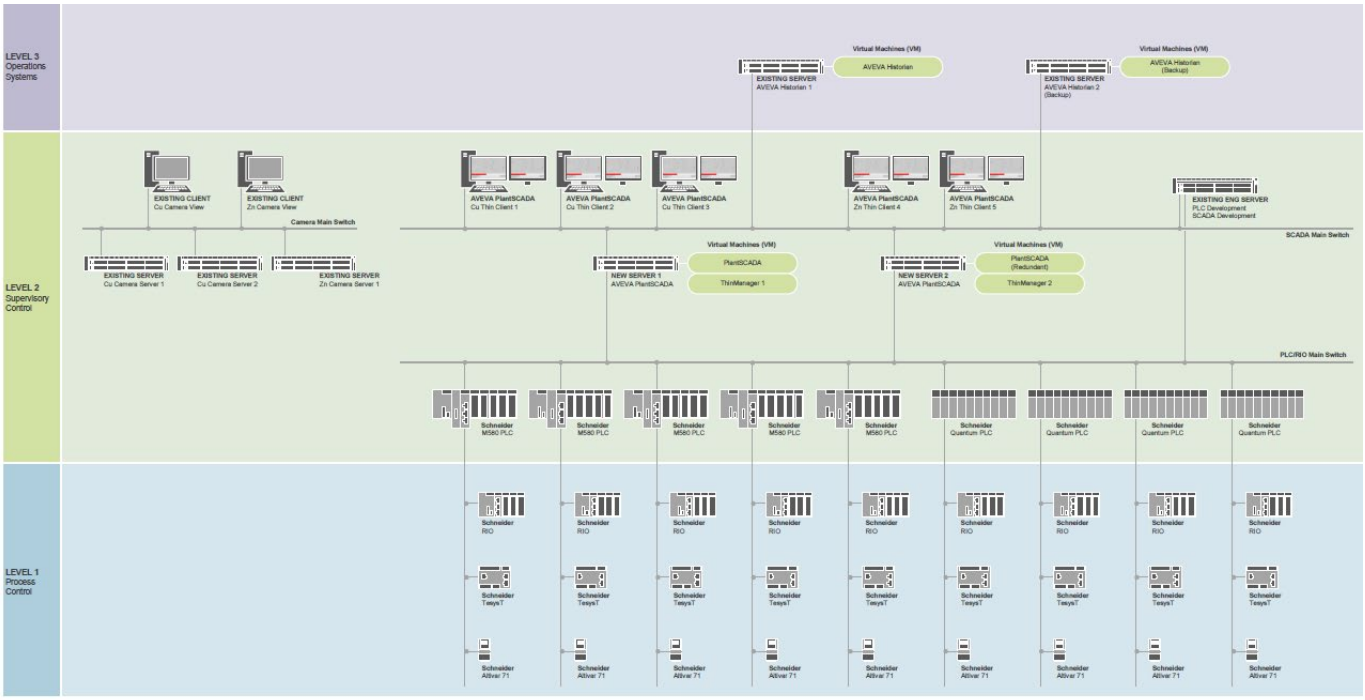
- SCADA Vendor Selection: Provided a business case comparing three SCADA solutions, including 10-year cost analysis. A Pro's & Con's table highlighted each solution's cost, ease of use, scalability, maintainability, and learning curve.
- SCADA & PLC Standards Development: Developed new standards based on 4Sight's in-house methodology, incorporating situational awareness and a unified tagging convention suitable for site-wide rollout.
- SCADA Application Development: Designed and implemented a complete plant SCADA application using the new standards.
- PLC Code Rewrite: Rewrote code for 9 PLCs controlling different plant areas according to new PLC standards.
- Server Infrastructure: Supplied and configured 2 HP servers for SCADA deployment and 2 HP thin clients for operator stations.
- Factory Acceptance Testing: Conducted remotely via MS Teams, ensuring software met all functional requirements.
- Licensing & Training: Implemented AVEVA Plant SCADA Flex License subscription and provided virtual OEM training for technical personnel.
- On-site Commissioning: Executed multi-phased commissioning of SCADA and PLC systems with risk-mitigated changeover methodologies.



BENEFITS AND OUTCOMES

- Enhanced SCADA Solution: New AVEVA Plant SCADA solution exceeded original requirements, delivering additional functionality and improved situational awareness.
- Standardised Software: Deployment of uniform SCADA and PLC standards across the site enabled familiarity for engineering teams, simplified system development, and reduced downtime during breakdowns.
- Modern Hardware & OEM Support: Latest server hardware and software ensured long-term operational reliability and support.
- Backup & Recovery: Integrated backup and recovery solution for SCADA and PLC applications.
- Operator Efficiency: 2 HP thin clients enhanced operator interaction with the SCADA system.
- Training & Knowledge Transfer: Virtual OEM training courses improved technical competency of Bisha Engineering Team.
- Seamless Transition: On-site commissioning with phased approach minimised operational disruptions.

Through the Bisha Mining SCADA & PLC Upgrade, 4Sight OT Automation delivered a modern, standardised, and fully supported control system solution. The project enabled plant-wide operational efficiency, simplified maintenance, and ensured long-term scalability, empowering Bisha Mining to operate safely and effectively with the latest technology.



4Sight Holdings Limited (4Sight) is a multinational, diversified technology group listed on the General Segment of the Main Board of the JSE (ticker: 4SI). Our purpose is to leverage our extensive products and services portfolio, focused on AI technologies, people, and data-focused solutions, to design, develop, deploy and grow solutions for our partners (customers and vendors).

The company's mission is to empower our partners to future-proof their businesses through Digital AI Transformation to make better and more informed decisions in the modern digital economy.

4Sight's business model enables its partners to take advantage of products and solutions within its group of companies, which will allow them to enjoy turnkey Digital AI Transformation solutions across industry verticals.



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