ENGINEERING SOLUTIONS

COMPANY PROFILE

www.jadengineeringgroup.com
+2710 974 8925

LEVEL 2 B-BBEE CONTRIBUTOR

ENVIRONMENT MANAGEMENT SYSTEM ISO14001: 2004 COMPLIANT

HEALTH & SAFETY MANAGEMENT SYSTEM OSHAS18001: 2007 COMPLIANT

QUALITY MANAGEMENT SYSTEMS ISO9001 2008 COMPLIANT

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ABOUT US

JAD is passionate about supplying sustainable, turnkey solutions that boost efficiency for our clients. Our design house brings extensive experience to high-end designs and shop detail drawings. With our strong background and deep footprint in the industry, we handle jobs of any size while providing on-time solutions to all our clients. Alongside reactive problem-solving, we actively introduce new ideas and technical skills to enhance operational workflows.

Our team had the privilege of managing and executing the drawing office duties for Anglo American - Sishen Iron Ore for seven years. We believe this foundational tenure provided us with invaluable experience and expertise across various fields of engineering.

SOMETHING NEW

While design and draughting remain among our top focus areas, the JAD team also manufactures and refurbishes various industrial components.

> ***"We notice everything and have immense confidence in the solutions we put on the table."***

WATCH OUR VIDEO

LEVEL 2 B-BBEE CONTRIBUTOR

ENVIRONMENT MANAGEMENT SYSTEM ISO14001: 2004 COMPLIANT

HEALTH & SAFETY MANAGEMENT SYSTEM OSHAS18001: 2007 COMPLIANT

QUALITY MANAGEMENT SYSTEMS ISO9001 2008 COMPLIANT

HOW WE BEGAN?

1994 Andre, the only shareholder at that time, started doing freelance work. (Saldanha commissioning phase).

2003 Anglo American outsources their drawing office duties to JAD until 2020.

2006 First corporate vendor received (Anglo American).

2014 A consulting engineering department is added to our scope of work.

2015 MegaDraft Pty Ltd and JAD merge, incorporating specialised structural detailing into our expertise.

2020 Launched our dedicated 3D Laser Scanning department with industry-leading hardware and software, while simultaneously expanding our engineering footprints globally into Chile and Peru.

2026 Research and Development projects officially launched under the JAD Create product range.

WHO ARE WE

What started with one draughtsman, years of experience, and outstanding professional relationships has now been transformed into a full-scale engineering house with an extensive service offering and a newly launched product range. While our focus and expertise have mainly been aimed at the mining and construction industries, we continue to expand beyond these traditional markets.

At JAD, we have always believed in finding innovative, sustainable solutions that make life easier for our clients. Whether starting a project from scratch or adding modern efficiency to an existing infrastructure, we are dedicated to meeting and exceeding the needs of our valued clients.

OUR VALUES

We always conduct business with integrity & fairness, investing transparency into every relationship forged.

We care about our clients, not just meeting but exceeding their needs, turning strangers into life-long supporters of JAD.

Striving for excellence in all we do is habit. We're always looking for opportunity to grow more, and serve better.

We are committed to the safety of those we surround ourselves with, creating an environment where employees and clients feel valued.

BUSINESS ACTIVITIES

DESIGN & DRAUGHTING

Design, draughting, consulting, engineering, project management, and advanced 3D laser scanning.

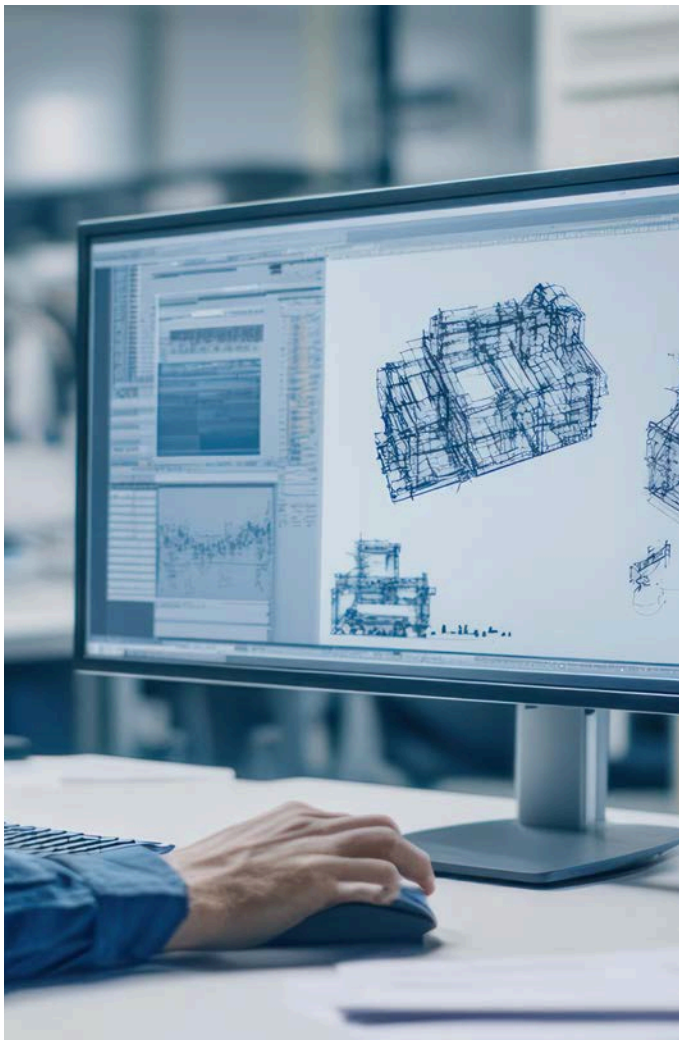
SAFEREACH

Safe Reach centres on assisting you in establishing robust fall protection solutions and safe working environments at elevated

CREATE

We are proud to broaden our reach beyond traditional mining and construction markets, driven by the official launch of our own specialized, custom-engineered product range.

SCOPE OF BUSINESS



DESIGN & DRAUGHTING

DESIGN & DRAUGHTING

We are a dynamic design house backed by a dedicated team of professional engineers and design draughtsmen. Our multidisciplinary drawing office is equipped to fulfil all your structural requirements, seamlessly guiding projects from the initial design phase through to manufacturing and construction, all while adhering to the highest industry standards.

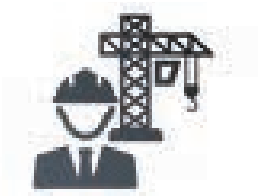
We specialise in every aspect of engineering design, detailing, and the maintenance of built environments. Our mission is to deliver innovative, cost-effective, and sustainable solutions tailored to your unique needs. By designing from first principles and leveraging cutting-edge engineering resources, we ensure that every project is executed with precision and excellence.

> ***"We use only the best available industry-relevant software for our design house.***

Our experienced engineering team brings a wealth of knowledge to the table, capable of consulting on any engineering challenge. When highly specialized expertise is required, we collaborate with leading researchers and industry experts to provide comprehensive solutions. This collaborative approach allows us to tackle complex challenges effectively, delivering results that exceed expectations.

The Software we use

AUTODESK.
Trimble
PV Elite® Vessel Analysis
CAESAR II® Pipe Stress Analysis
Sidewinder Conveyor Design Software
ROCKY
Ansys
PROKON



CIVIL & STRUCTURAL ENGINEERING

Focusing on new projects and modifications to existing structures.

- Expertise in designing new plant structures, conveyor and crane gantries, and access systems for maintenance.
- We specialize in warehouse and factory design to optimize plant operations and efficiency.
- Offers detailed 3D modelling for office buildings and thorough structural analysis and design for industrial formations.

MECHANICAL ENGINEERING

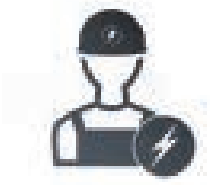
We excel in mechanical engineering solutions, ensuring efficient and reliable project outcomes. Including:

- Finite element analysis (FEA) of structures and specialized components.
- Design of pressure vessels, heat exchangers, and safety features for mining equipment.
- Expertise in hydraulic systems, including cylinders and power packs.

BULK MATERIALS HANDLING

JAD specializes in cutting-edge materials-handling solutions that enhance operational efficiency and safety. Including:

- Expert silo design to prevent material flow issues such as arching and ratholing.
- Comprehensive dust control solutions prioritizing safety, health, and environmental standards.
- Advanced discrete element modeling (DEM) for optimizing bulk material flow in chutes and bins.



ELECTRICAL ENGINEERING

Electrical engineering is essential for optimizing the performance and safety of production and manufacturing plants through advanced control systems.

- We specialize in industrial instrumentation and control systems for various process variables, enhancing operational efficiency.
- Designs comprehensive power infrastructure, including Motor Control Centres, substations, and transmission networks.
- Conducts feasibility studies and provides earthing and lightning protection solutions to safeguard personnel and equipment.

PIPING SYSTEMS

JAD delivers comprehensive design solutions for ducting and piping systems, ensuring efficiency and minimizing on-site challenges.

- Expert in pump selection, pipe routing, and creating detailed isometric drawings and bills of materials for various liquids, including slurries.
- Specializes in bracketing, support design, and thermo-hydraulic simulations to optimize plant performance and accommodate thermal expansions.

3D LASER SCANNING

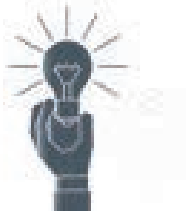
JAD Engineering utilizes cutting-edge 3D laser scanning technology to transform engineering practices through accurate spatial data capture.

- Produces detailed as-built documentation of existing structures and facilities.
- Facilitates effective maintenance planning by monitoring asset condition and changes.
- Creates precise 3D representations for the digital preservation of historical sites and artifacts.

3D SCAN-TO-CAD

JAD Engineering utilizes advanced 3D scanning and CAD modeling to enhance facility design and performance.

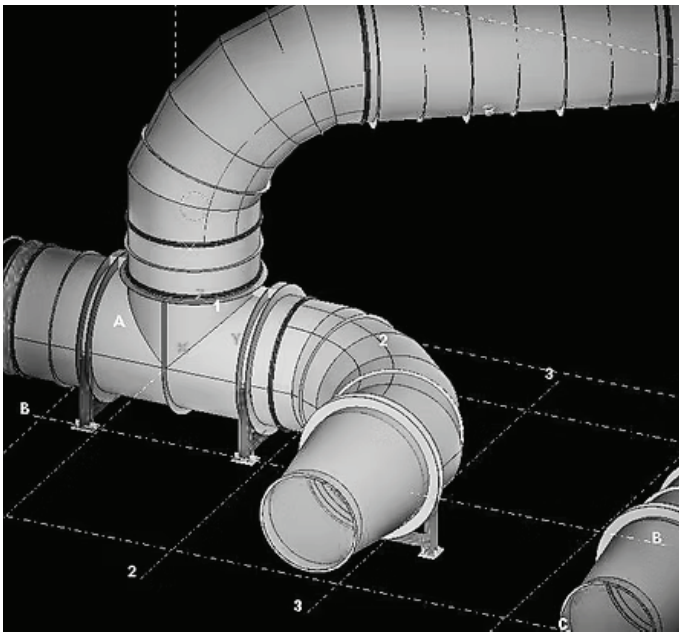
- Expert in reverse engineering and design improvements using CAD models.
- Comprehensive 3D modeling for facilities, equipment, and infrastructure optimization.
- Performs simulations and analyses to assess performance and ensure seamless retrofitting.

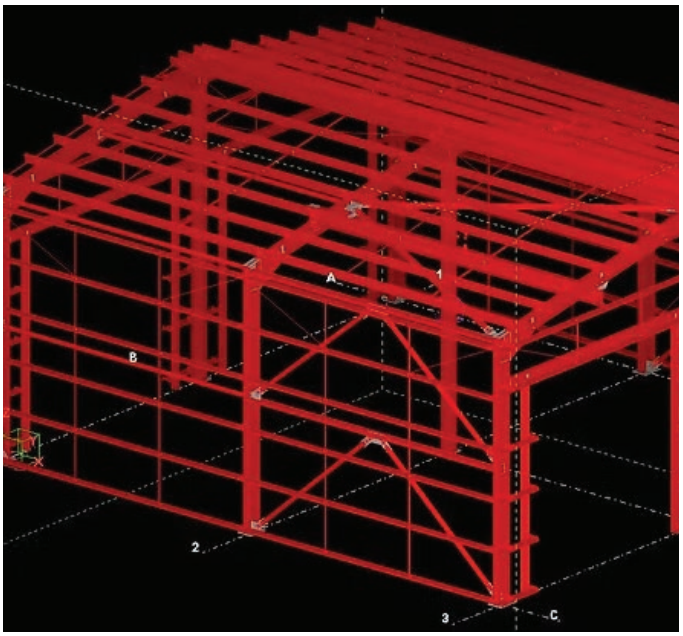


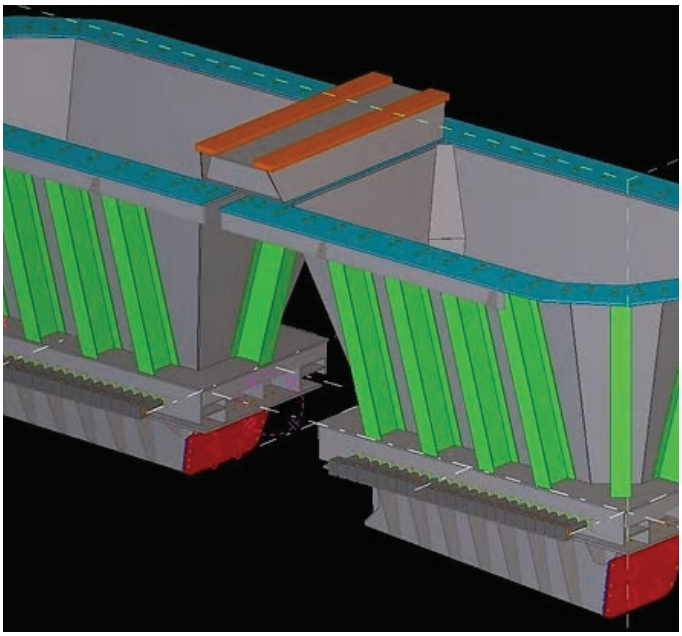
GENERAL CONSULTING

We provide comprehensive consulting engineering services tailored to meet the unique needs of our clients. Our expertise spans various disciplines, ensuring innovative solutions that drive project success and operational efficiency.

- Project Management
- Feasibility Studies
- Risk Assessments
- Regulatory Compliance & Standards
- Technology Integration & Innovation







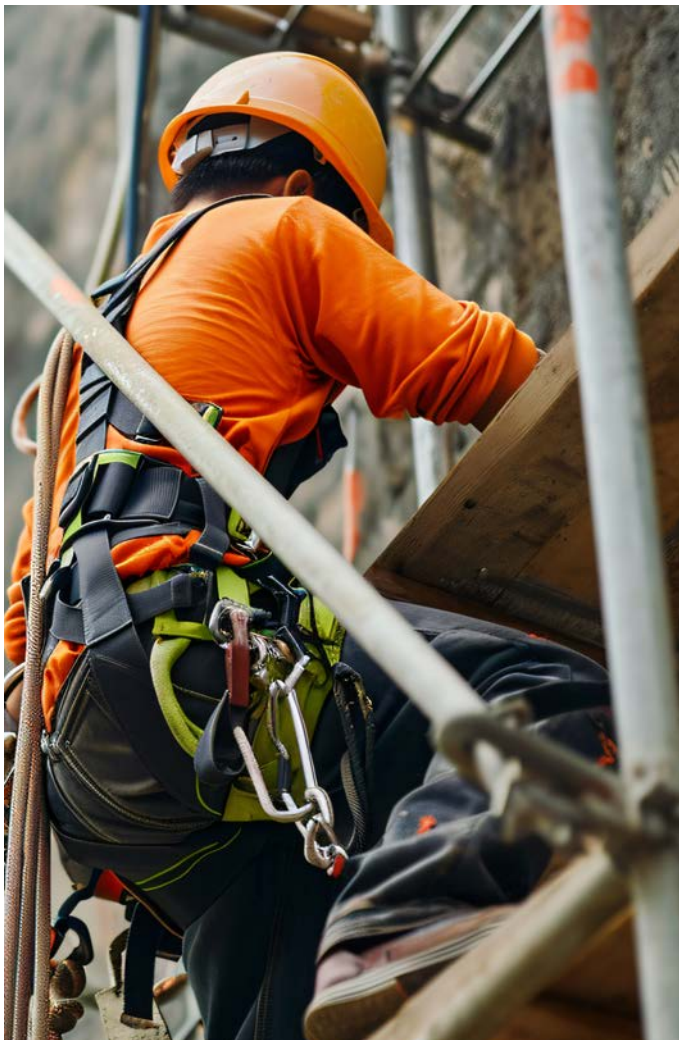
STRUCTURAL STEEL DETAILING

Wanting to assist our clients' turnkey needs further, JAD partnered with MegaDraft to form a specialized division for structural detailing. This gives our team the utmost confidence in tackling any structural detailing task.

We offer 25+ years of experience in the steel detailing, mining, and construction industries. We do commercial structures (e.g., shopping malls) and heavy plant work like process steelwork structures, chutes, bins, conveyors, and piping infrastructure.

Our team can take a concept and turn it into a high-fidelity 3D model, allowing an in-depth review of any structure. This model generates detailed fabrication drawings from which individual members can be precisely manufactured and assembled to form the final structure.

- Structural steel detailing and 3D modelling
- Precise fabrication and workshop drawings
- Detailed erection drawings & review models
- Handrail schedules & grating layouts
- Data for CNC machines & bill of materials



SAFE REACH

Masters of Fall Protection Solutions.

Our mission centres on assisting you in establishing robust fall protection solutions and safe working environments at elevated heights in strict accordance with prevailing regulations. We have assembled a proficient team of engineers and technical consultants with extensive experience to accomplish this.

Our team and network of partners are fully equipped to guide you through every phase of your project, from initial risk assessment to project completion. This encompasses identifying potential risks, conducting site surveys, designing custom fall arrest systems, selecting appropriate personal protective equipment (PPE), on-site installation and assembly, system certification, and a wide range of additional support services tailored to your specific needs.

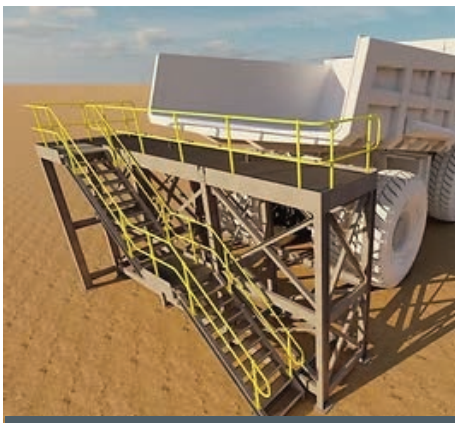
We are committed to being your reliable ally in achieving and maintaining height-safe work environments.

RISK IDENTIFICATION

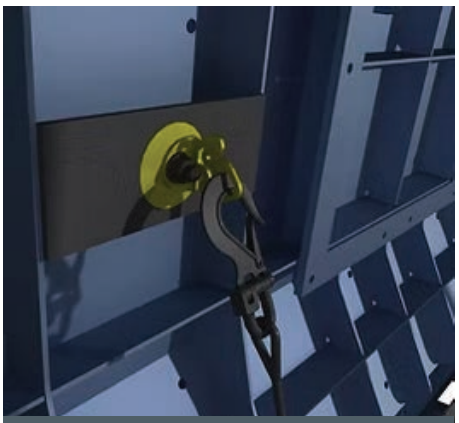
FACILITY DESIGN

PRODUCT SELECTION

INSTALLATION & MANUFACTURING



ACCESS



ANCHOR POINTS

LIFE LINE

CREATE

JAD CREATE

We're a design and manufacturing company built on the belief that every challenge deserves a smart solution. Whether it's a daily inconvenience or a complex business need, we turn problems into possibilities through thoughtful design and precision engineering.

We have launched our own specialized, custom-engineered product range, each item designed to solve a specific problem with creativity and precision. These products span a wide range of industries and use cases.

> ***"At Create, we don't just make products — we solve problems.***

- 100% Locally Manufactured
- Operational Manuals & Supporting Documentation Supplied
- Dedicated After-Sales Support Experts

Custom Product Development

Proudly Local
ll products are locally manufactured

70+
70+ years industry experience

30+
30+ exclusively engineered products

OUR PRODUCTS

TROLLEYS

BARRIERS

CONTAINER CANOPY

MOBILE LADDERS

STORES & SHELTERS

SAFETY CAGES

LIFTING DEVICES

GATES

TRESTLES

BEARING HANDLER

JACKS

HANDLING BASKETS

SCAFFOLDING

SPARE PARTS

ACCESSORIES

SCAN TO SHOP

Explore our standard product range or discover how we build custom engineering solutions for your toughest challenges at www. jadcreate.co.za.

PERFORMANCE

OUR MARKETS

MINING
From transfers and chutes, feeders, and conveyors, we've designed effective solutions, no matter the size of the job.

EARTHMOVING
Add-ons, modifications, and new components have been part of our scope of work in this industry.

CONSTRUCTION
From plant extensions to industrial installations and control systems - we deliver excellence, efficiency, and professional results.

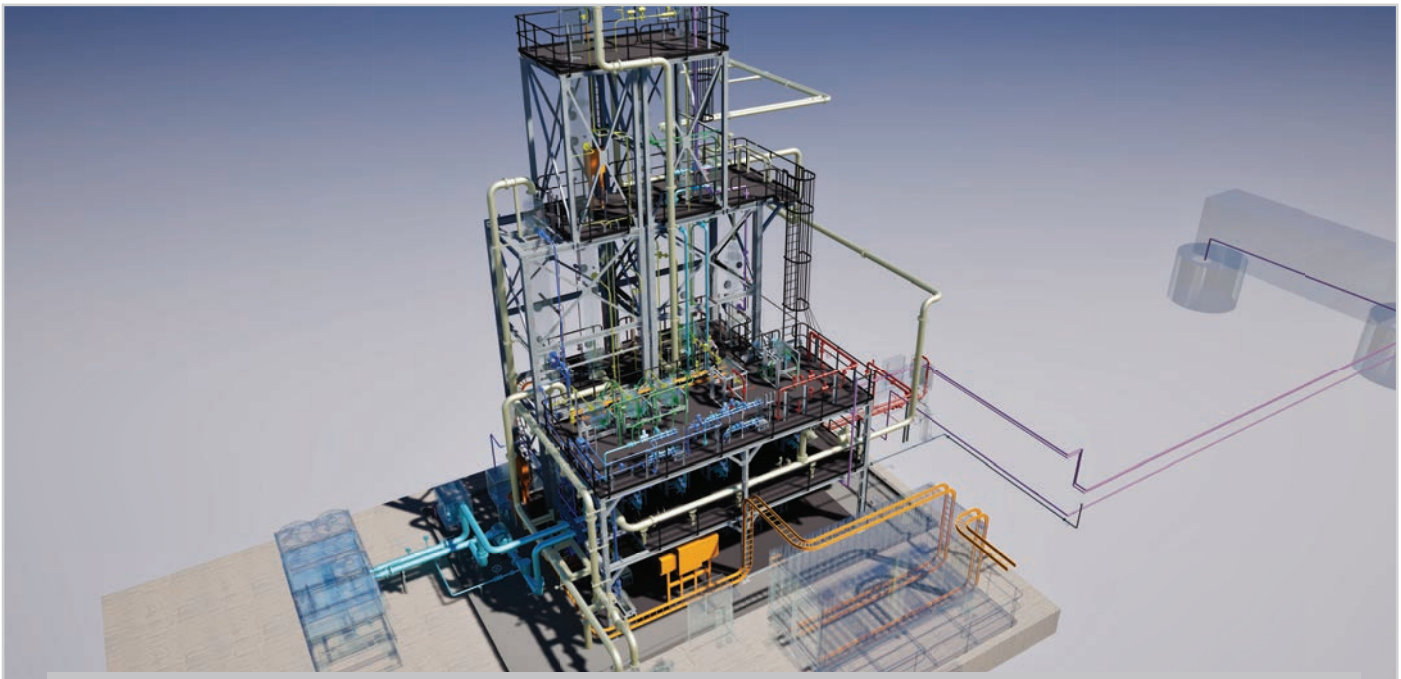
FACTORY
Our portfolio includes the designing of structures and detailed geometrical verification of specialised equipment.

We provide turnkey solutions across the following core sectors and engineering fields:

CIVIL & STRUCTURAL ENGINEERING	MECHANICAL ENGINEERING	PIPING SYSTEMS	ELECTRICAL ENGINEERING	BULK MATERIALS HANDLING	PETROLEUM/GAS

SOME OF OUR CLIENTS

PROJECTS



PIPING SYSTEMS
CARBON CAPTURE PLANT

PROJECT DURATION: 1 Year

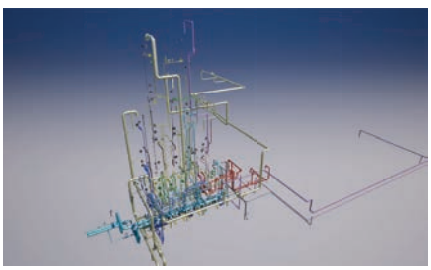
SECTOR: Renewable Energy, Piping Systems

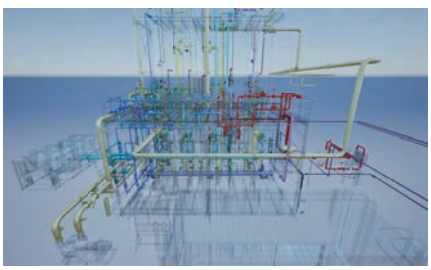
STANDARDS: AS 4100, AS/NZS 1554, AS 3600, AS 4041, ASME B31.3, AS 1210

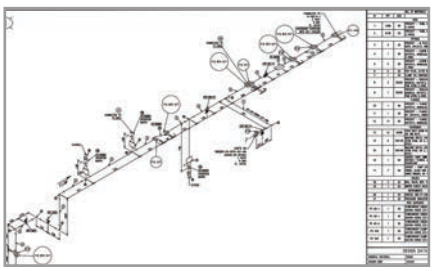
PROJECT DESCRIPTION

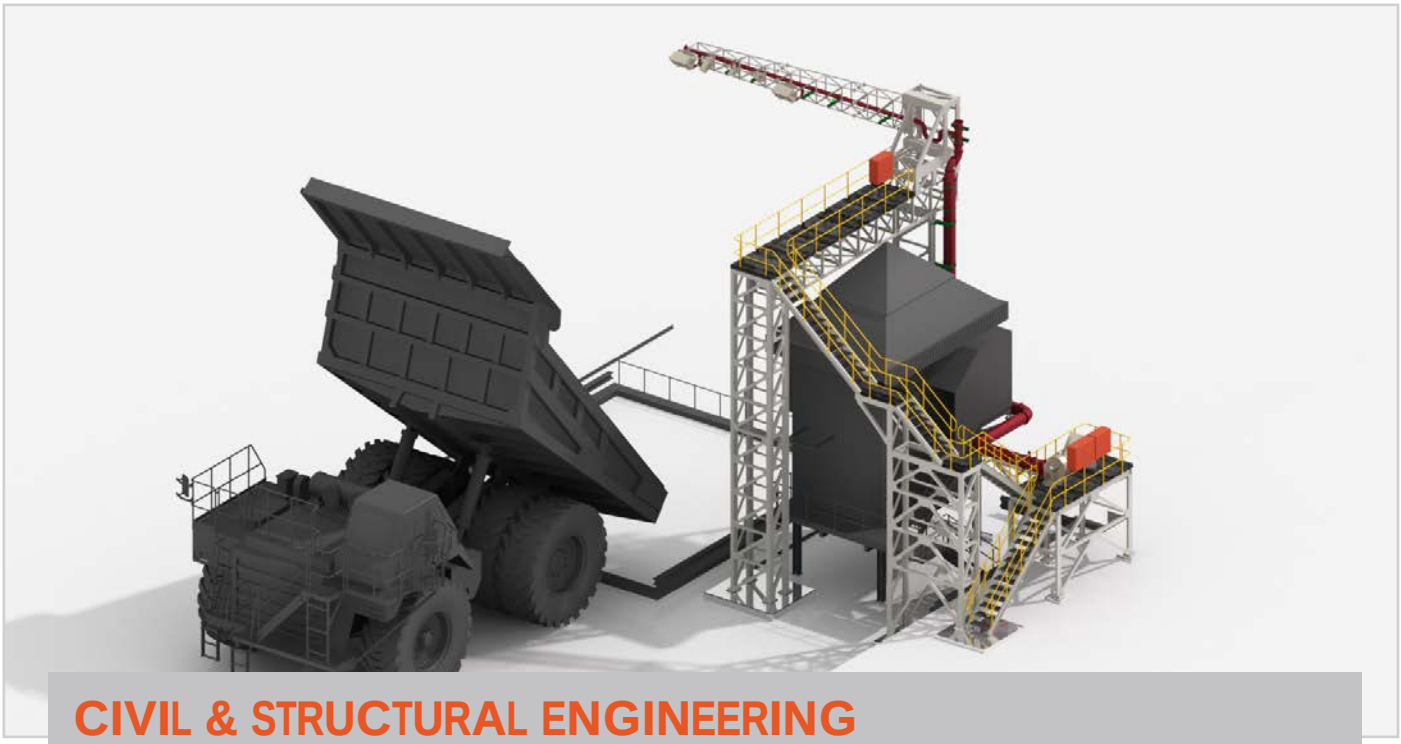
JAD Engineering delivered comprehensive 3D modelling, engineering detailing, and draughting services across the full project scope. This included process equipment, civil works, structural steel, piping systems, mechanical components, pipe supports, and electrical infrastructure, providing a fully integrated turnkey design solution.

Our team produced key engineering deliverables, including General Arrangement (GA) drawings, fabrication and manufacturing drawings, piping isometrics, structural details, and installation documentation to ensure effective coordination across all disciplines. Piping flexibility and stress analysis was performed using Caesar II to verify system integrity, thermal expansion behaviour, support loads, and compliance with applicable design codes and standards. All work was completed in accordance with relevant Australian structural and piping standards, maintaining high levels of quality, safety, and compliance throughout the project. This project marked an important step in supporting the decarbonisation of the cement industry, and we were proud to contribute to a solution helping drive a cleaner, more sustainable future.









CIVIL & STRUCTURAL ENGINEERING
EL-SOLDADO SIZER WHILE TIPPING

CLIENT: Anglo American El Soldado Mine

PROJECT DURATION: 6 Months

SECTOR: Mining, Structural Engineering, Mechanical Engineering

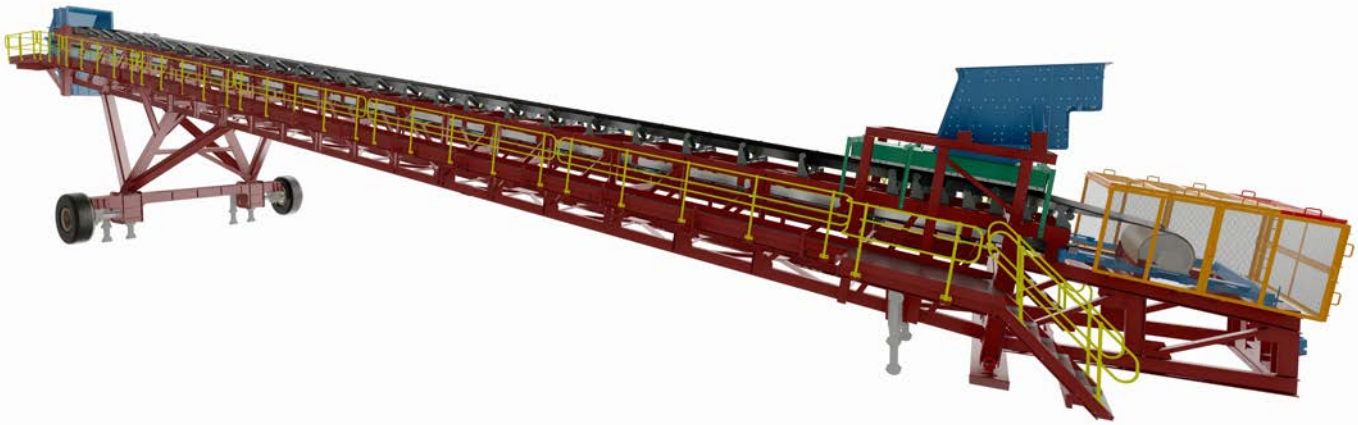
STANDARDS: NCH 2369, SANS 10160, SANS 10162-1, SANS 0100-1, Eurocode 3, Anglo American Standards

PROJECT DESCRIPTION

This development enhanced the mining industry's ability to monitor and control particle size distribution, contributing to improved operational efficiency and product quality.

The project involved the design of a robust portal frame supporting a mechanical boom, which underwent comprehensive Finite Element Analysis (FEA) to verify its ability to withstand operational loads and stresses. A precision-engineered gearbox was integrated into the system to facilitate the rotational movement required for accurate measurements. To support the operation of various equipment on the structure, a detailed thermal and hydraulic analysis was conducted. This analysis ensured adequate airflow and effective temperature control, safeguarding the performance and reliability of sensitive equipment. Following the completion of the engineering calculations, a detailed 3D model of the PSA system was developed. This model formed the foundation for the manufacturing drawings and comprehensive work instructions, enabling safe and efficient onsite assembly.

The PSA system implemented at El Soldado Mine represented a significant advancement in particle size analysis technology. The completed solution improved monitoring capabilities, supported operational decision-making, and contributed to enhanced process performance within the mining operation.



MECHANICAL & STRUCTURAL ENGINEERING
GRASSHOPPER CONVEYOR

CLIENT: Assmang Iron Ore

PROJECT DURATION: 2 Months

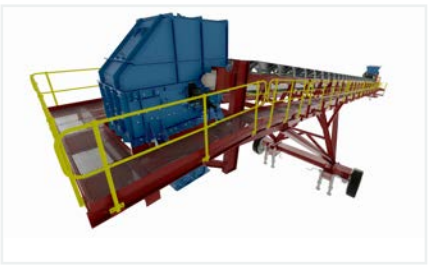
SECTOR: Mining

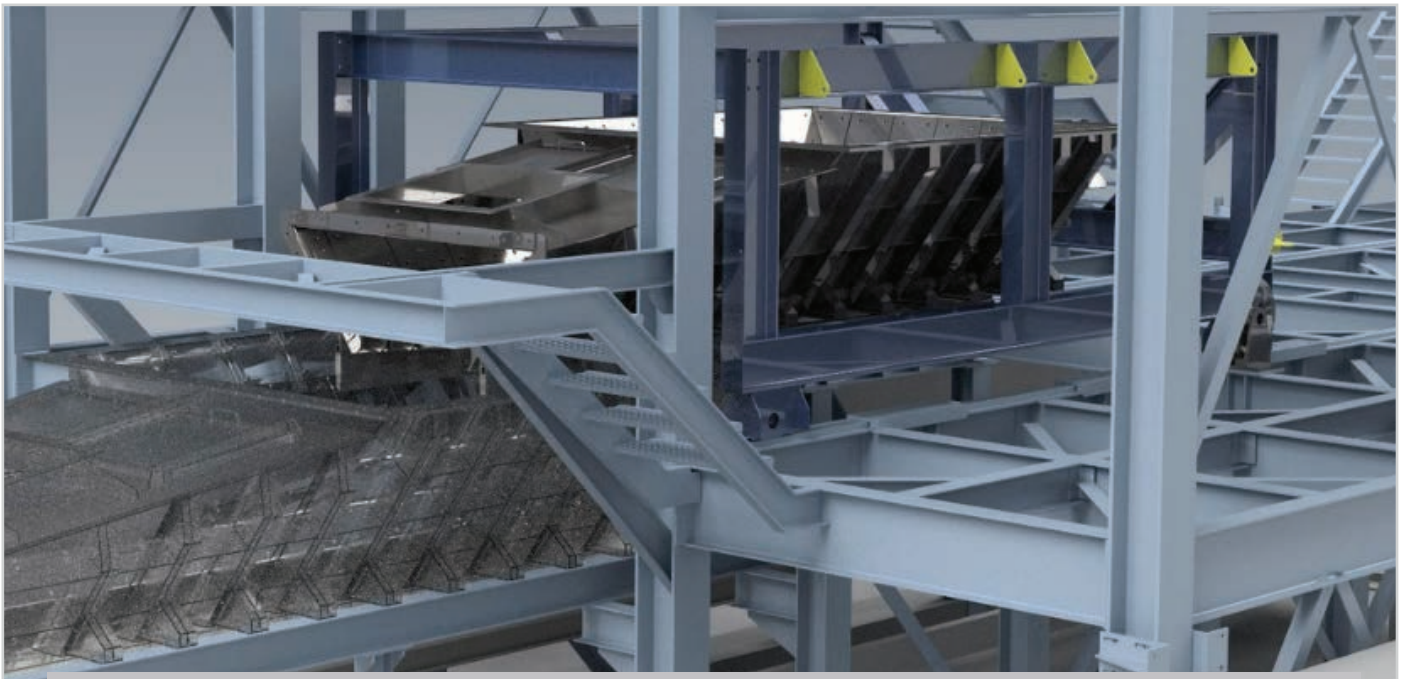
STANDARDS: Cema 5 & 7/SANS 10160

PROJECT DESCRIPTION

JAD was engaged to design and develop a mobile grasshopper conveyor to seamlessly integrate an existing overland conveyor with a slewing conveyor. The project was undertaken to improve material handling efficiency by optimizing the transfer of bulk materials between the two conveyor systems.

Strategically positioned between the existing conveyors, the grasshopper conveyor bridged the transfer gap and facilitated continuous, reliable material flow. The design was developed to ensure compatibility with the existing infrastructure while addressing key requirements such as mobility, structural stability, maintainability, and operational reliability. The conveyor was designed using Sidewinder, Rocky DEM, and Prokon software to ensure accurate conveyor design, material flow analysis, and structural integrity. By providing a flexible and efficient transfer solution, the project enhanced overall conveyor system performance, reduced operational constraints, and contributed to improved productivity and streamlined material handling operations.





BULK MATERIALS HANDLING
40-TON APRON FEEDER

CLIENT: Anglo American

PROJECT DURATION: 2 Months

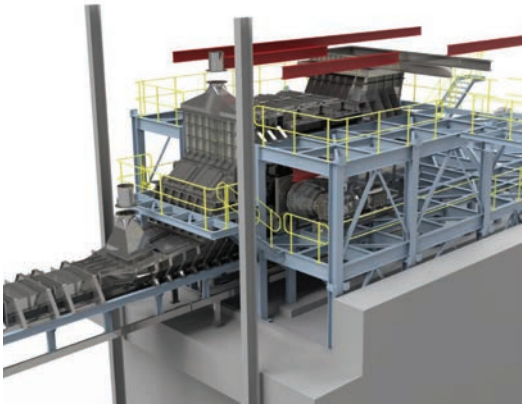
SECTOR: Mining

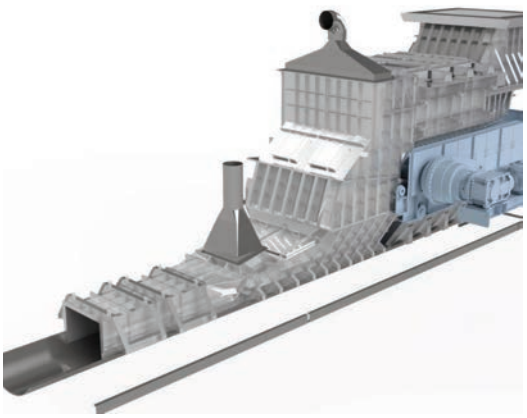
STANDARDS: SANS, CEMA, Anglo American

PROJECT DESCRIPTION

We completed the detailing and manufacturing drawings for a 40ton apron feeder chute. This project involved a comprehensive design process in which precision and accuracy were paramount. Our team focused on ensuring that every aspect of the chute was optimized for efficiency and performance.

Throughout the project, optimization was a key priority, as it significantly enhanced the overall functionality of the feeder. The project was successfully finalized, with the design delivering improved operational efficiency and a robust, practical solution that met the required performance objectives.





3D LASER SCANNING
LIEBHERR SHOVEL

CLIENT: Anglo American

PROJECT DURATION: 1 Month

SECTOR: Mining, 3D Laser Scanning

STANDARDS: ASTM E2807, 3D Scanning QCPs

PROJECT DESCRIPTION

Anglo American initiated a project to create digital copies of its large plant equipment. JAD was engaged to perform 3D scanning and modelling of heavy mobile equipment at Kolomela and Sishen Mines.

The project included the scanning of six haul trucks and four excavators/shovels, with additional equipment scheduled for inclusion at a later stage. Careful planning of the 3D scanning activities was essential, as equipment availability was limited to specific maintenance periods. The resulting 3D models were utilized to support the integration of additional equipment and to assist with the planning and routing of electrical cable installations. Through this project, JAD helped Anglo American improve the maintainability and inspectability of its equipment by providing accurate digital representations of critical assets.

ELECTRICAL ENGINEERING
AIR CURTAIN (PERU)

CLIENT: Anglo American Quellaveco Mine

PROJECT DURATION: 6 Months

SECTOR: Mining, Structural Engineering, Mechanical Engineering

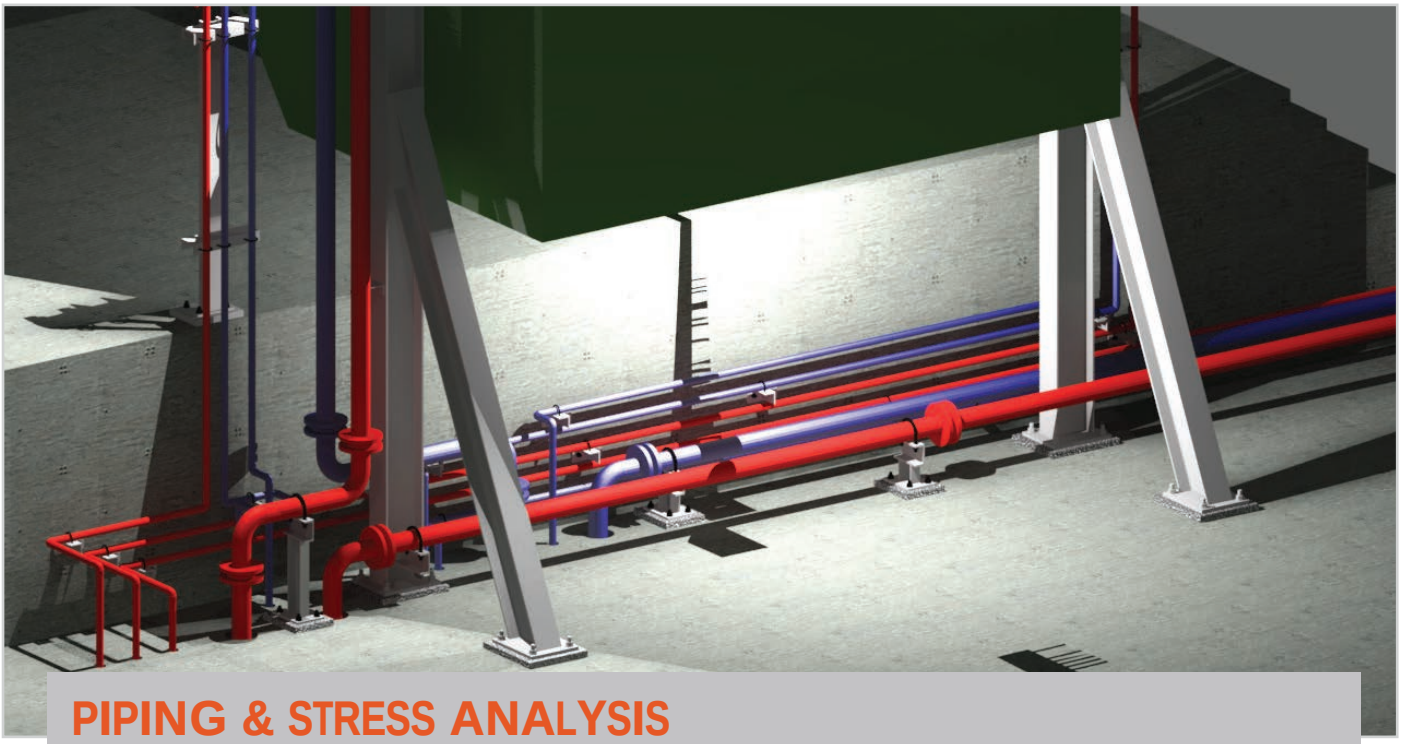
STANDARDS: DS 024-2016; EN 1991-1-4; ASCE/SEI 7-10; AISC 360-10, 641-10, 303-10; AISI S100-2007, Uniform Building Code UBC-97, Anglo American Standards

PROJECT DESCRIPTION

Anglo American Quellaveco Mine engaged our team to engineer a PSA crusher air ducting system for a South American mining operation. The primary objective was to develop a duct network that provided positive airflow across critical equipment, including instruments, lighting systems, and scanners, thereby mitigating dust accumulation on optical surfaces and reducing the frequency of manual lens maintenance.

Our team of draughtsmen worked closely with the design engineer to model the facility and optimize duct routing within the existing crusher steelwork. Detailed simulations were performed to determine the optimal duct dimensions and configurations while ensuring compliance with client specifications and operational requirements. In addition, comprehensive thermo-hydraulic analyses, beam loading assessments, and support structure designs were completed to validate the performance and integrity of the ducting system. These engineering studies informed the design of brackets and support steelwork required to accommodate the ducting infrastructure.

The drawing office played a key role in integrating additional steel supports and mounting brackets for fans and ducting throughout the crusher assembly. The project culminated in the delivery of a comprehensive manufacturing drawing package that supported fabrication and installation activities in Peru.



PIPING & STRESS ANALYSIS
PLATE MILL MAIN DRIVE UPGRADE

PROJECT DURATION: 3 Months

SECTOR: Industrial

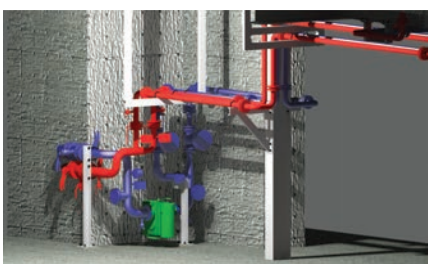
STANDARDS: ASME B31.3

PROJECT DESCRIPTION

JAD Engineering recently completed the design and drafting of coolant piping systems for two motors and their drives using Autodesk Plant 3D and CAESAR II.

The project included 3D laser scanning of the cooling water tie-in points, detailed 3D modelling of the piping routes, and comprehensive pipe stress and thermal expansion analysis. By integrating the design with laser scan data, potential clashes were eliminated and pipe support locations were optimized. The system was designed with strategically placed supports and routing to improve constructability, accessibility, and long-term reliability. All instrumentation and valves were implemented according to the client's single-line diagram. This project showcases JAD Engineering's expertise in combining advanced surveying, 3D modelling, and engineering analysis to deliver accurate, efficient, and reliable piping solutions.

This project represented an important milestone in supporting the decarbonisation of the cement industry, and we were proud to contribute our expertise to a solution that helps drive a cleaner, more sustainable future.



AS-BUILTS
FAN HOUSING & EVASE

PROJECT DURATION: 1 Month

SECTOR: Mining

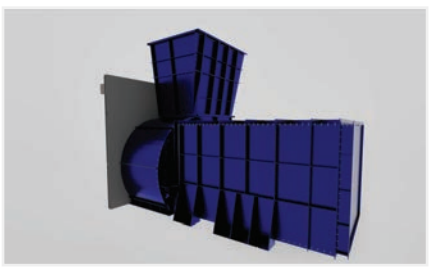
STANDARDS: ASTM E2807, 3D Scanning QCP's

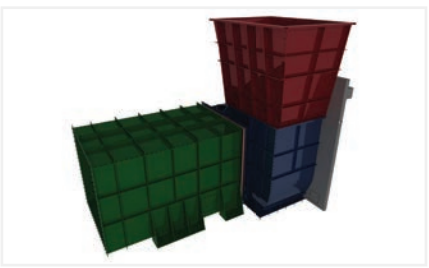
PROJECT DESCRIPTION

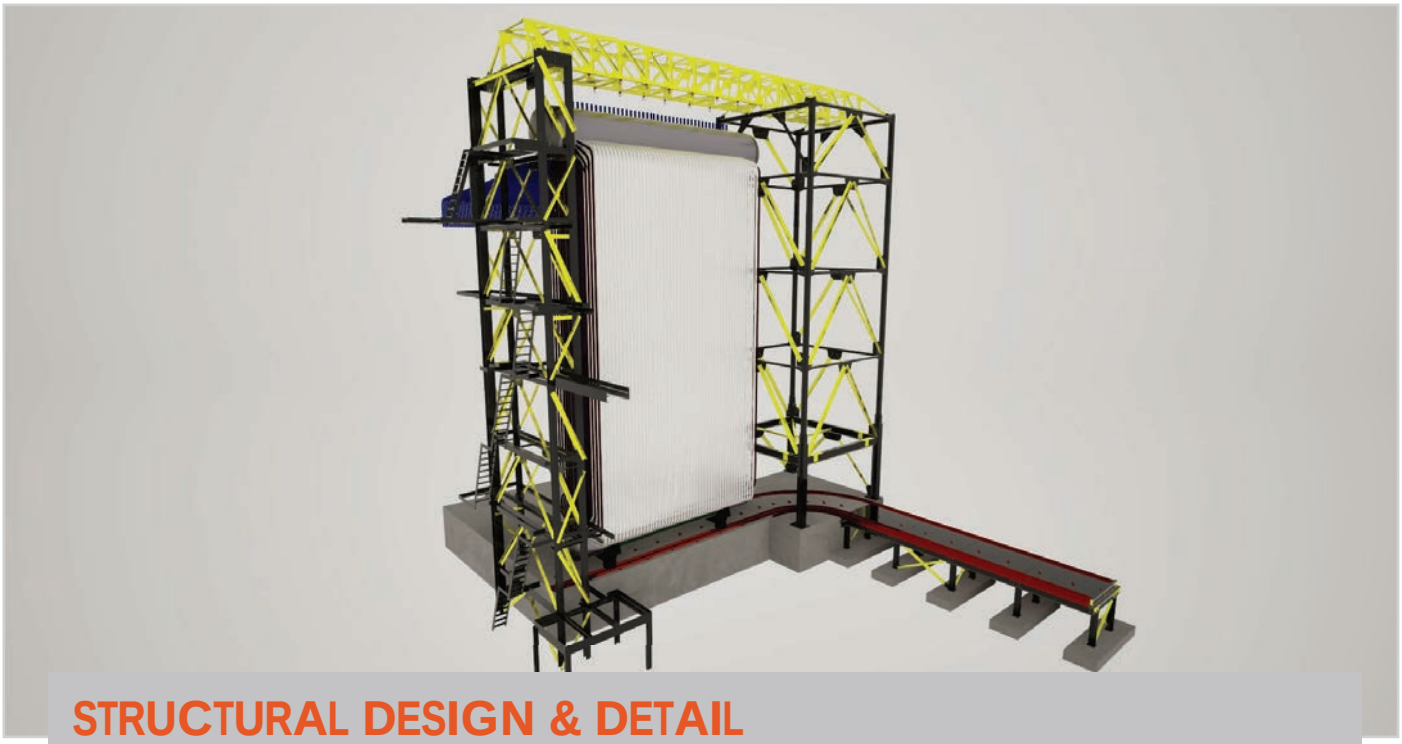
We recently completed a 3D laser scanning and as-built documentation project for a mine extraction ventilation system. The scope of work included the extraction fan, ducting, fan housing, evase, and self-closing doors.

Using high-accuracy laser scanning technology, we captured a detailed point cloud of the entire installation, creating an accurate digital representation of the existing infrastructure. The scan data was then processed and used to produce comprehensive as-built drawings that accurately reflected the current site conditions.

The completed documentation now provides a reliable engineering record of the ventilation system, supporting future maintenance, upgrades, inspections, and asset management activities. This project demonstrated how 3D laser scanning can deliver precise measurements, reduce the need for manual surveying, and provide high-quality data for critical mining infrastructure.







STRUCTURAL DESIGN & DETAIL
MUD DRUM REPLACEMENT

PROJECT DURATION: 2 Months

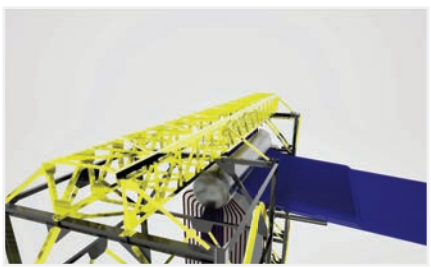
SECTOR: Steel Production

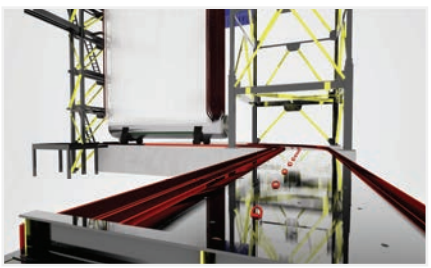
STANDARDS: SANS 10160-3, SANS 10162-1, South African Steel Construction Handbook, Eurocode 3

PROJECT DESCRIPTION

A critical upgrade was completed on Boiler No. 3, where the existing water/mud drum had reached the end of its service life and was replaced. The boiler bank tubes connecting the mud drum at ground level to the steam drum 19 metres above were also replaced.

To facilitate the work safely, a temporary support system was designed to hold the steam drum in position during construction. The solution incorporated the existing staircase structure, a newly designed support tower, and a new gantry spanning between them. A 3D laser scan of the boiler area revealed that the existing boiler bank tube drawings were outdated. The scan data was used to develop an accurate set of updated engineering drawings, supporting both the replacement work and future maintenance. The project demonstrated the value of innovative temporary works design and laser scanning technology in delivering safe, efficient, and successful plant upgrade projects.





3D SCAN-TO-CAD
HAUL TRUCKS & EXCAVATORS

CLIENT: Anglo American Sishen Iron Ore and Kolomela Mines

PROJECT DURATION: 1 Month

SECTOR: Mining, Digital Twin, 3D Laser Scanning

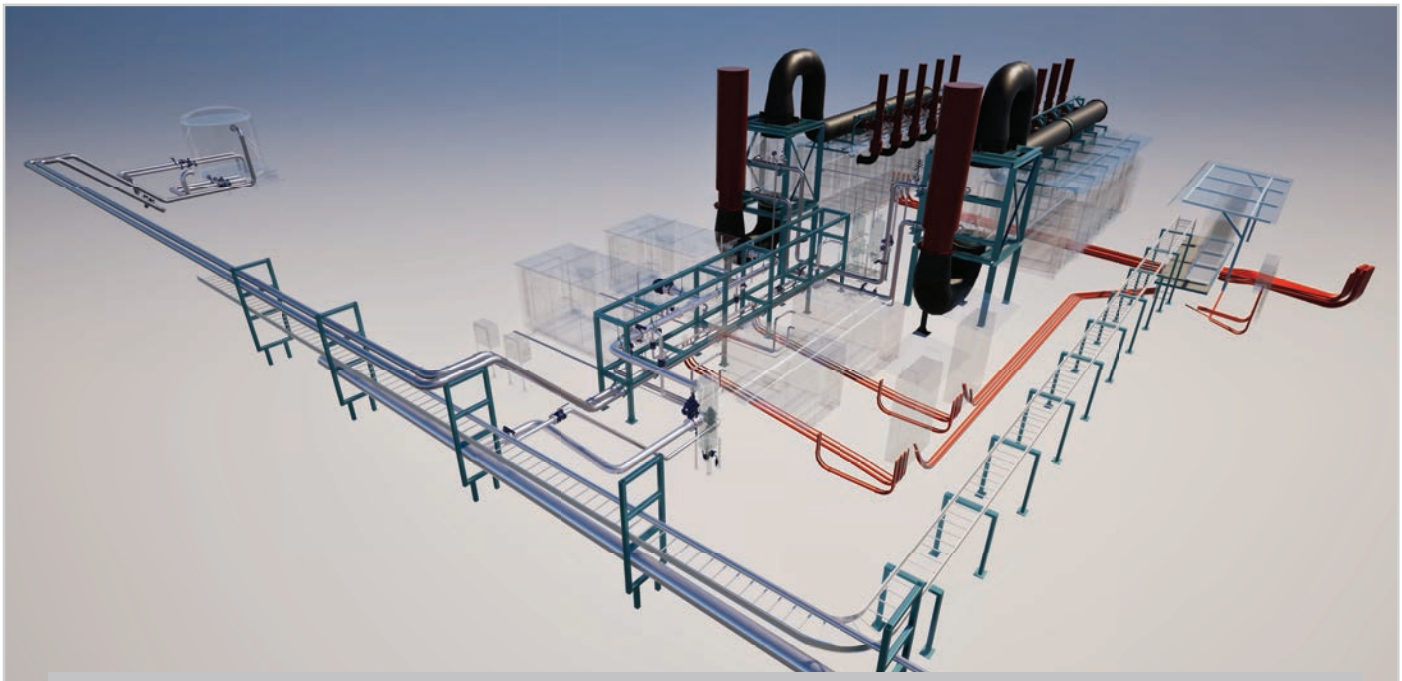
STANDARDS: ASTM E2807, 3D Scanning QCPs

PROJECT DESCRIPTION

As part of its digital transformation initiative, Anglo American commissioned JAD to perform 3D laser scanning and modelling of Heavy Mobile Equipment (HME) at Sishen Iron Ore and Kolomela Mines. The objective was to develop accurate digital twin models of critical mining assets to support future engineering, maintenance, and operational activities.

The initial scope of work included the 3D scanning of haul trucks and excavators/ shovels, with provision for additional equipment to be incorporated into the digital twin environment at a later stage. Careful planning and coordination were required to execute the scanning activities within limited maintenance windows, ensuring minimal disruption to mining operations. High-resolution 3D models were generated from the scan data and delivered to Anglo American. The models supported the planning and routing of electrical cable installations, as well as the incorporation of third-party equipment into the existing operational environment.

Through this project, JAD assisted Anglo American in advancing the standardisation of equipment cable routing and asset documentation. The resulting digital twin models enhanced maintenance planning, improved inspection processes, and provided a reliable foundation for future engineering and operational decision-making.



PIPING SYSTEMS
MICROTURBINE PLANT

PROJECT DURATION: 6 Months

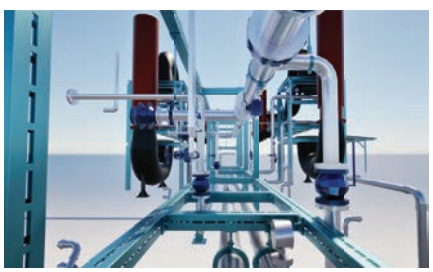
SECTOR: Renewable Energy, Piping Systems

STANDARDS: AS 4100, AS/NZS 1554, AS 3600, AS 4041, ASME B31.3, AS 1210

PROJECT DESCRIPTION

This dual microturbine power generation plant showcases our ability to deliver fully integrated industrial design solutions from concept through to fabrication. Our team was responsible for developing a complete 3D model of the facility, incorporating all major equipment, structural support steelwork, piping systems, electrical conduit routing, and civil infrastructure into a coordinated design environment.

By modelling every discipline within a single plant model, we ensured seamless integration between systems, improved constructability, and identified potential clashes long before fabrication and installation commenced. This approach provided the client with a clear visual representation of the entire facility while reducing risks during construction. Beyond the 3D design phase, our scope extended to the production of detailed assembly and manufacturing drawings, providing the documentation required for fabrication, procurement, and site installation. The result was a comprehensive engineering package that supported efficient project execution and delivered a reliable foundation for the successful implementation of the microturbine plant.



SCAN-TO-MESH
HITACHI CYLINDER

PROJECT DURATION: 2 Days

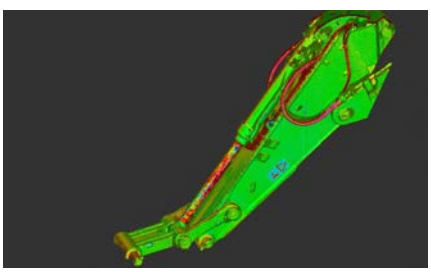
SECTOR: Mining

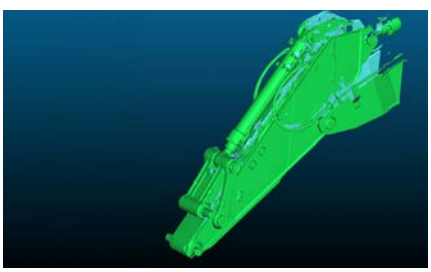
STANDARDS: ASTM E2807, 3D Scanning QCP's

PROJECT DESCRIPTION

This project involved the 3D scanning of a Hitachi 490 hydraulic cylinder assembly to capture its exact as-built geometry and physical condition. Using high-resolution scanning technology, the complete component was digitally recorded, including all major structural features, mounting interfaces, pin locations, hydraulic line routing, and surface details.

The captured scan data was processed into a detailed point cloud and subsequently converted into a high-quality 3D mesh model. The resulting mesh accurately represents the physical cylinder assembly and provides a reliable digital replica that can be used within various engineering and design environments. The final mesh model was supplied to the client for use in reverse engineering, CAD modelling, fitment verification, interference detection, and future design modifications. By creating an accurate digital representation of the component, the project eliminated the need for extensive manual measurements and provided the client with a valuable asset for ongoing maintenance, refurbishment, and engineering development activities.





PIPING SYSTEMS
WEC CONTAINER PLANTS

CLIENT: WEC Projects

PROJECT DURATION: 2 Months

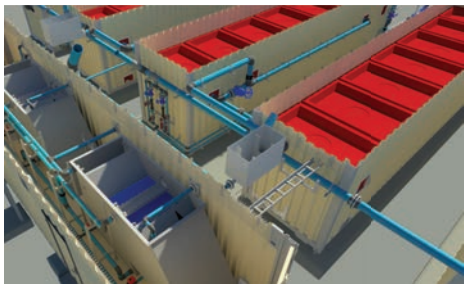
SECTOR: Wastewater Treatment, Mechanical Engineering

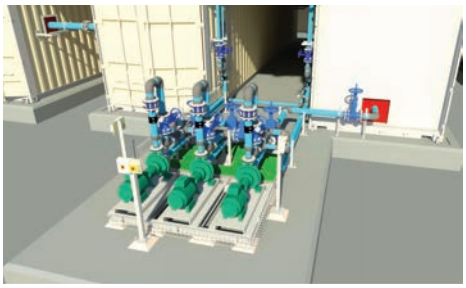
STANDARDS: National Water Act 36 of 1998

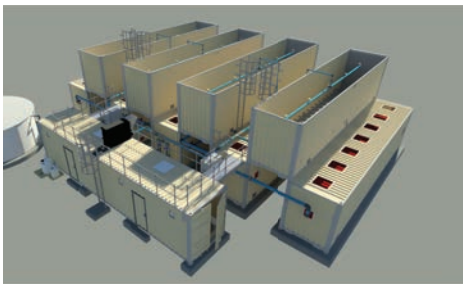
PROJECT DESCRIPTION

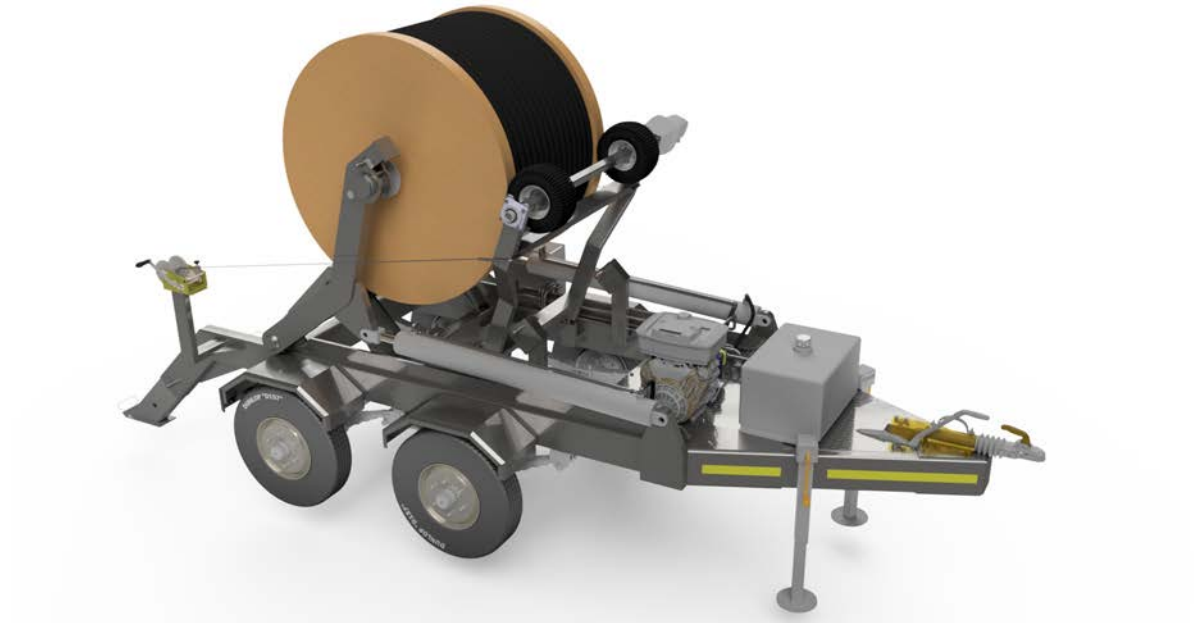
JAD partnered with WEC Projects to deliver four modular wastewater treatment plants in Guinea, comprising one 250 m³/day plant, one 150 m³/day plant, and two 60 m³/day plants. The project covered the process, mechanical, electrical, piping, and instrumentation disciplines.

Detailed 3D models were developed to coordinate piping, cabling, instrumentation, and support structures, eliminating design clashes and facilitating efficient fabrication. Comprehensive manufacturing drawings supported the prefabrication and installation of the containerized units, ensuring seamless assembly and successful project execution.









MECHANICAL ENGINEERING
A FULLY MECHANISED MOBILE UNIT

CLIENT: Anglo American Sishen Iron Ore

PROJECT DURATION: 1 Month

SECTOR: Mining, Mechanical Engineering

STANDARDS: MHS Act 29 of 1996, Anglo American Standards

PROJECT DESCRIPTION

The dewatering project was developed to improve groundwater extraction within a mining environment through the use of boreholes reaching depths of up to 400 metres. Prior to implementation, the process was performed manually, requiring personnel to unreel and rewind heavy electrical cables. This approach presented significant safety risks, including repetitive strain injuries and accidents associated with handling bulky equipment.

To address these challenges, a fully mechanised mobile unit was designed and developed specifically for this application. The unit enabled the efficient winding and unwinding of electrical cables with diameters of up to Ø60 mm and lengths of up to 400 metres. The system was powered by a petrol engine driving a hydraulic pump, providing reliable performance in demanding operating conditions.

The project significantly enhanced operational safety by reducing manual handling requirements and minimizing the associated risks to personnel. In addition, the mechanised solution improved efficiency during dewatering operations, resulting in streamlined deployment and recovery of borehole equipment. The completed mobile unit represented a significant advancement in groundwater extraction support equipment, delivering improved safety, reliability, and operational efficiency for mining dewatering activities.

“To offer sustainable engineering solutions & products to assist with problem-solving, ensuring efficiency throughout various industries.

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