



# COMPANY PROFILE

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## ABOUT US

JAD is passionate about supplying sustainable, turn-key solutions that will boost efficiency for our clients. Our design house has experience in high-end designs and shop detail drawings. With our strong background and experience in the industry, we can do any size job and provide on-time solutions to all our clients.

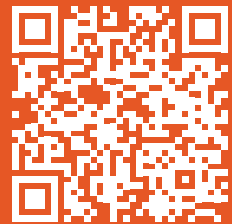
Along with problem-solving, we also initiate new ideas and skills to enhance workflow in operations.

Our team had the privilege of managing and rendering the drawing office of Anglo American - Sishen Iron Ore for seven years. We believe this gave us experience and expertise in various fields of engineering.

## SOMETHING NEW

While design and draughting remain one of the top focus areas, the JAD team can manufacture and refurbish various industrial components.

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



WATCH OUR VIDEO



## HOW WE BEGAN?

**1994** Andre, the only shareholder at that time, started doing freelance work. Saldana commissioning phase.

**2006** First large corporate vendor received Anglo American.

**2013** Anglo American outsources their drawing office duties to JAD until 2020.

**2014** Consulting engineers department added to our scope of work.

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

**2020** JAD Manufacturing is formed, further broadening our services to clients.

**2022** Research and Development Projects launched JAD to launch a product line that is called Create.





## WHO ARE WE

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

At JAD, we've always believed in finding innovative and sustainable solutions to make life easier for our clients. Whether starting from scratch or adding efficiency to an existing project, we're all about meeting and exceeding the needs of our valuable 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 a environment where employees and clients feel valued.

## BUSINESS ACTIVITIES



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



With 25+ years of experience  
in steel detailing, Mega Draft  
will serve as a specialised  
division of JAD.



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

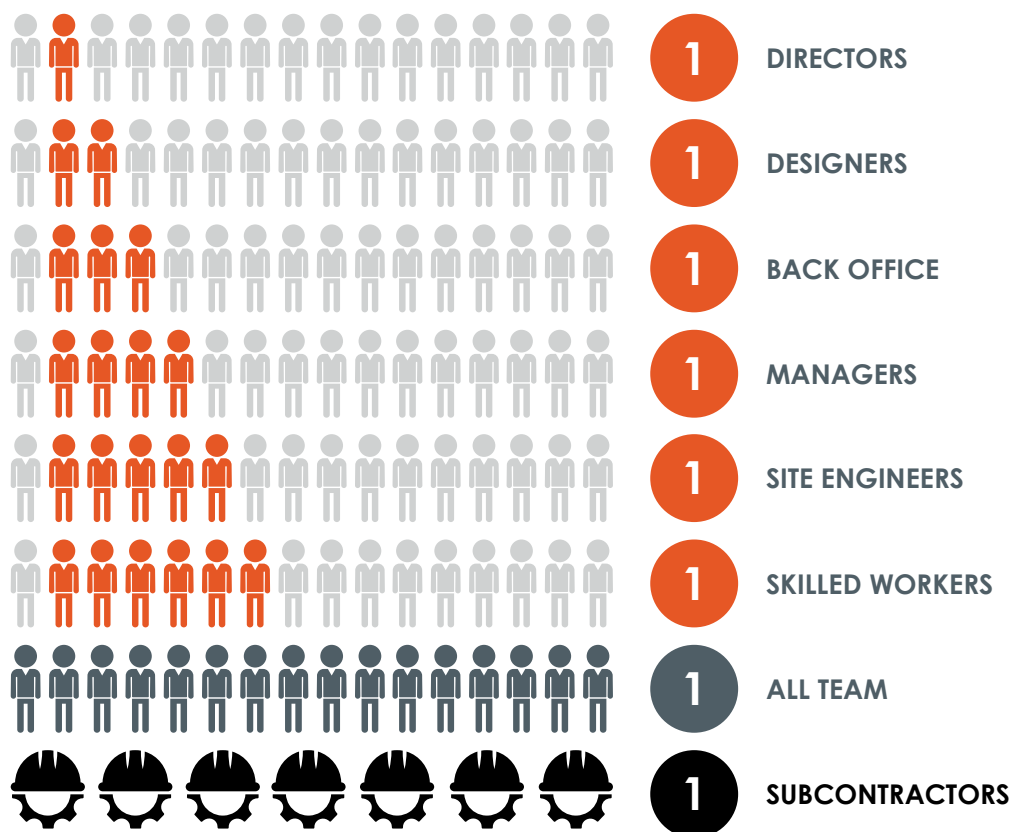
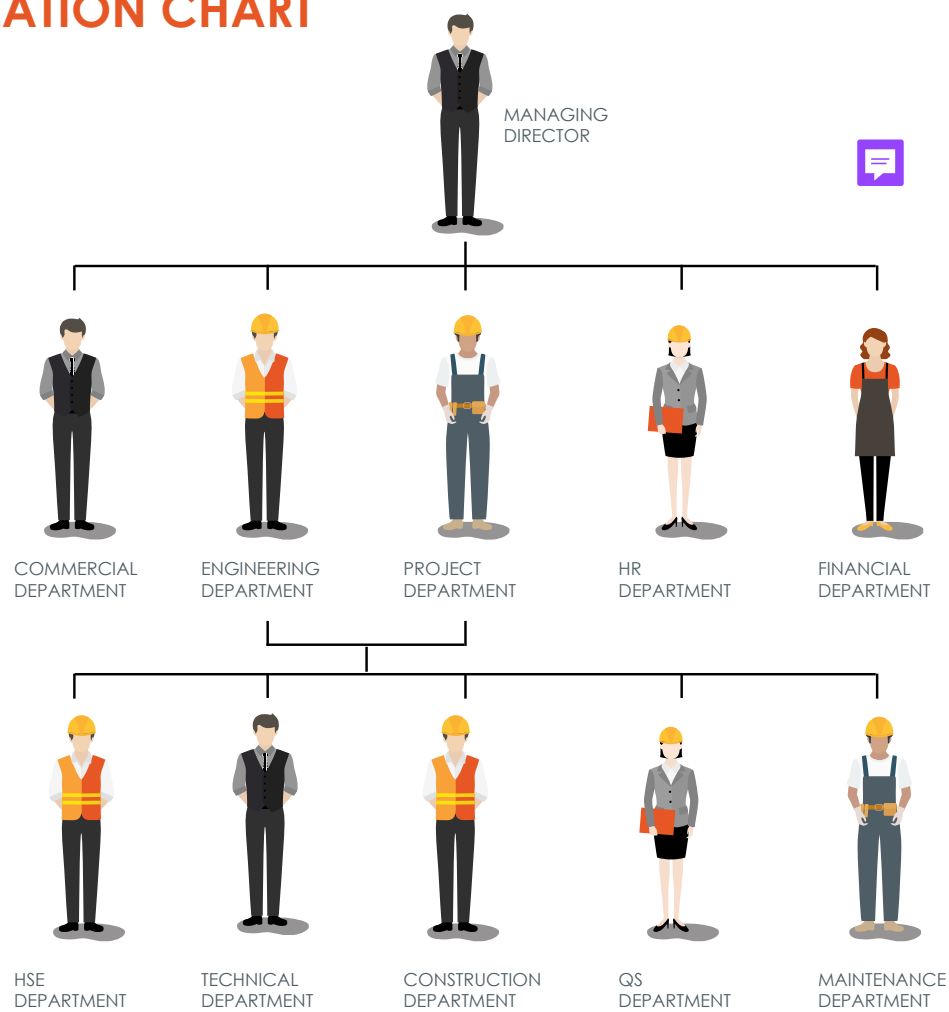


Born from the union of  
Mega Draft Pty Ltd and JAD  
Engineering. With a fusion of  
expertise and experience,  
we have become the go-to  
destination for all your mining  
industry supply needs.



We are excited to soon  
launch our extensive product  
range, which includes  
versatile mobile trolleys,  
reliable ladders, and more

# ORGANIZATION CHART





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# SCOPE OF BUSINESS











## DESIGN & DRAUGHTING

The multidisciplinary drawing office can fulfil any drawing requirements, from the design phase to manufacturing and construction, per relevant standards.



We specialise in all facets that deal with engineering design, detailing, and maintenance of built environments. We offer clients innovative, cost-effective, and sustainable solutions by designing from first principles using cutting-edge engineering resources. Our engineering team has the experience to consult on any engineering project, incorporating the services of researchers and experts in specialist fields when required. This approach enables us to deliver effective solutions for complex challenges.



 <p>CIVIL &amp; STRUCTURAL ENGINEERING</p>	 <p>MECHANICAL ENGINEERING</p>	 <p>BULK MATERIALS HANDLING</p>	 <p>ELECTRICAL ENGINEERING</p>
 <p>PIPING SYSTEMS</p>	 <p>3D LASER SCANNING</p>	 <p>3D SCAN-TO-CAD</p>	 <p>GENERAL CONSULTING</p>

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

## The Software we use

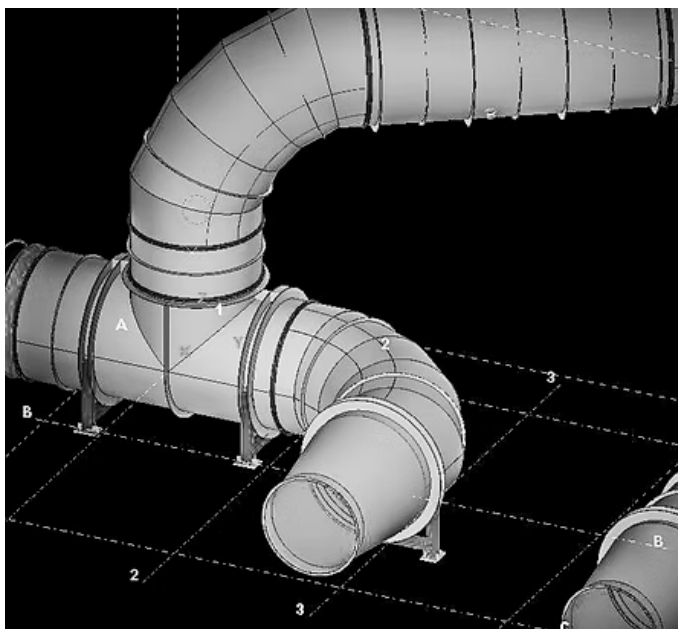
 **AUTODESK**  
Architecture, Engineering  
& Construction Collection

 **AUTODESK**  
Product Design &  
Manufacturing Collection

 **Trimble**  
**Real Works**





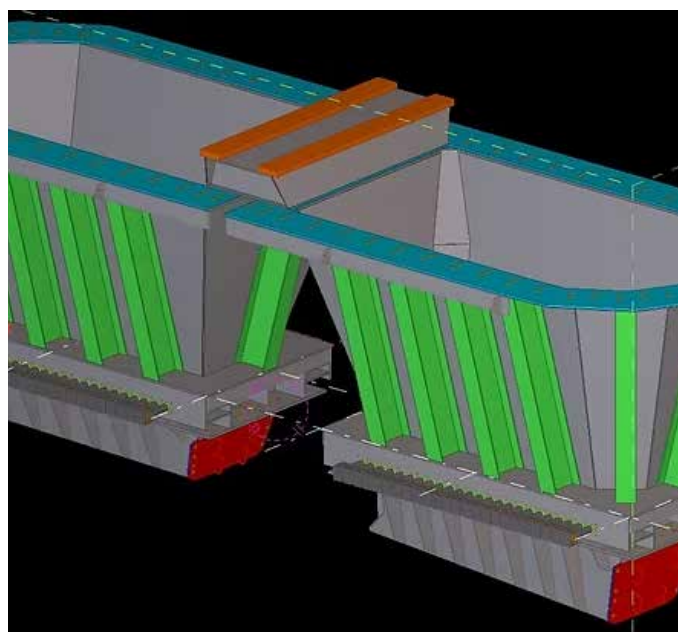
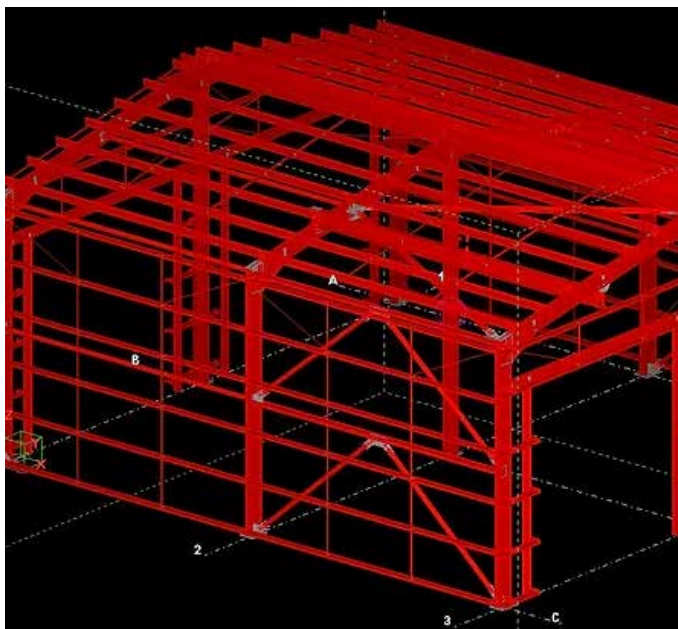


## MEGA DRAFT

Wanting to assist our clients' turnkey needs further, JAD partnered with Mega Draft to form a special division for structural detailing. This gives our team the utmost confidence in being able to tackle any structural detailing task.

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

The Mega Draft team can take a concept and turn it into a 3D model, allowing an in-depth review of any structure. This model uses detailed fabrication drawings from which the individual members can be 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**



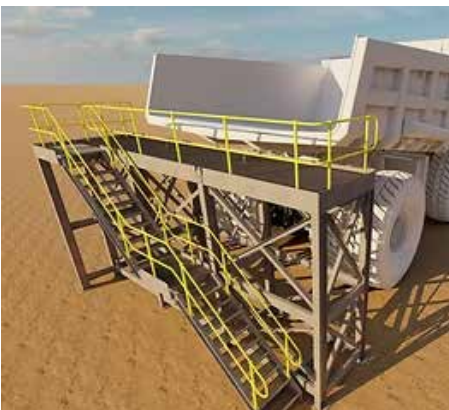
**FACILITY DESIGN**



**PRODUCT  
SELECTION**



**INSTALLATION &  
MANUFACTURING**



**ACCESS**



**ANCHOR POINTS**



**LIFE LINE**





# MEGA SUPPLY

Your Industrial Services & Supply Solution

## MEGA SUPPLY

We noticed a growing challenge in the industry – clients struggling to piece together suppliers, ascertain product quality, compare prices, and ensure swift turnaround times. Having been deeply entrenched in turnkey projects within the mining sector, we seized the opportunity to mitigate this supply challenge.

Over the years, we have nurtured invaluable relationships with suppliers worldwide, making us the prime facilitator for seamless procurement processes.

Moreover, our in-house manufacturing facilities elevate us above the rest. Crafting our own products tailored to the mining industry, we offer an added advantage of quality assurance and customisation to suit your needs



**HEAVY MINING  
EQUIPMENT**



**PLANT  
EQUIPMENT**



**BULK MATERIAL  
HANDLING**



**WORKSHOP  
TOOLS**

At Mega Supply, we are dedicated to simplifying your procurement journey.



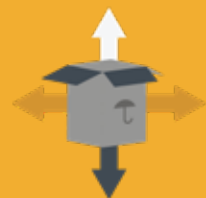
When our clients present their requirements, we spring into action.



We have access to suppliers on a global scale, and delve into price comparisons to secure the best deal.



Rigorous checks are conducted to ensure suppliers align with the client's specifications.



We leverage our global network to ship directly from various suppliers worldwide, ensuring efficiency and cost-effectiveness



# CREATE

## JAD CREATE

JAD CREATE is born from a passion for progress and innovation, backed by years of hands-on design and manufacturing experience within the mining and heavy engineering industry.

We've developed a product line with specialised features that will assist in delivering safe and practical solutions for various environments and industries.

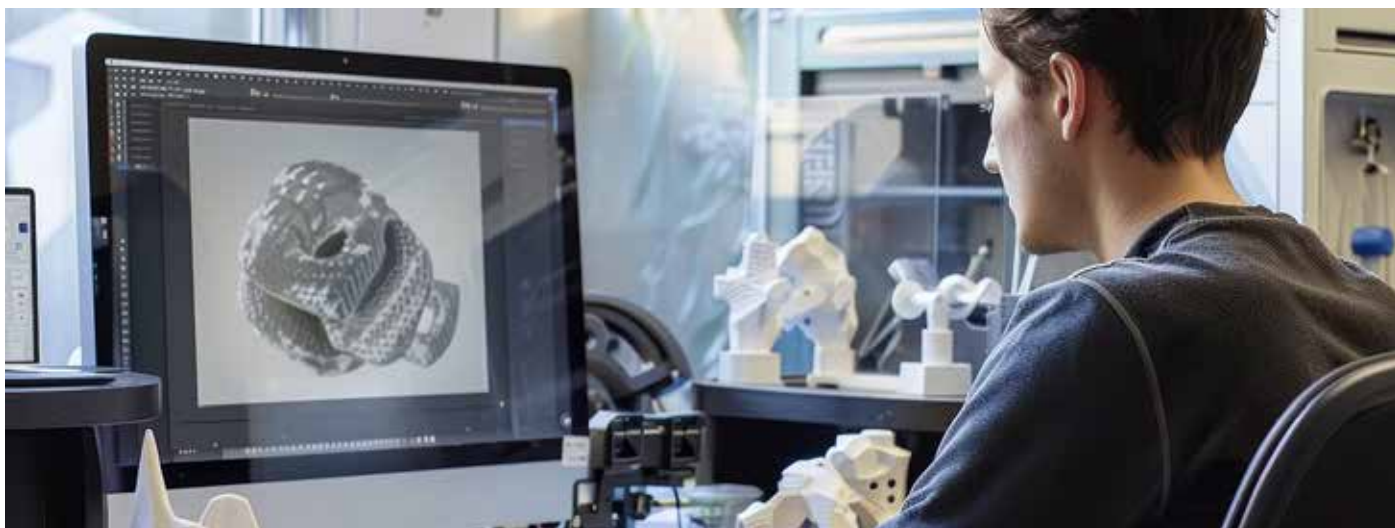






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# PERFORMANCE



## 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 turn-key solutions to the following Engineering Fields**



**CIVIL & STRUCTURAL  
ENGINEERING**



**MECHANICAL  
ENGINEERING**



**PIPING  
SYSTEMS**



**ELECTRICAL  
ENGINEERING**



**BULK MATERIALS  
HANDLING**

## OUR CLIENTS

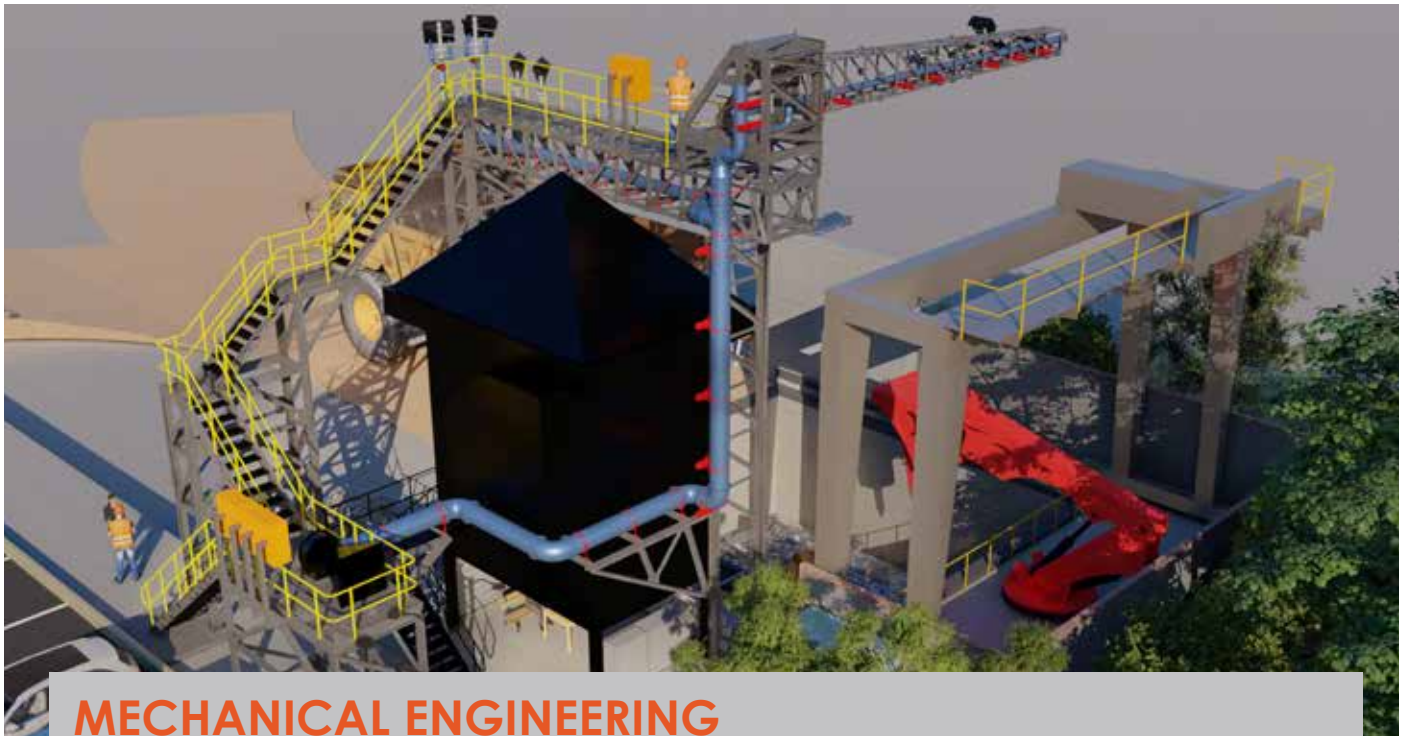






# PROJECTS





## 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 proposed dewatering project for a mining area involves the extraction of ground-water through the use of boreholes that reach depths of up to 400 meters. Currently, this process is carried out manually, requiring personnel to uncoil and recoil heavy lengths of electrical cable. This method poses significant safety risks, including potential injuries from repetitive strain and accidents related to handling bulky equipment.

To address these concerns, we have developed an innovative solution: a fully mechanised mobile unit designed specifically for this purpose. Our unit can efficiently wind and unwind cables with a diameter of up to Ø60 mm and a length of 400 meters. It is powered by a petrol engine that drives a hydraulic pump, ensuring both reliable operation and high performance in demanding environments.

This project not only enhances operational safety by minimising manual handling but also exemplifies our dedication to teamwork and collaboration. We are committed to meeting the evolving needs of our clients while implementing solutions that prioritise their safety and operational efficiency.

Introducing our innovative fully mechanised mobile unit, designed to revolutionise ground-water extraction in mining while prioritising safety and operational efficiency.



## BULK MATERIALS HANDLING 40-TON APRON FEEDER

**CLIENT:** Anglo American

**PROJECT DURATION:** 2 Month

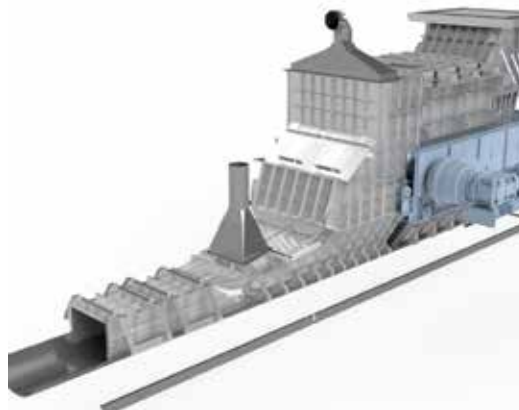
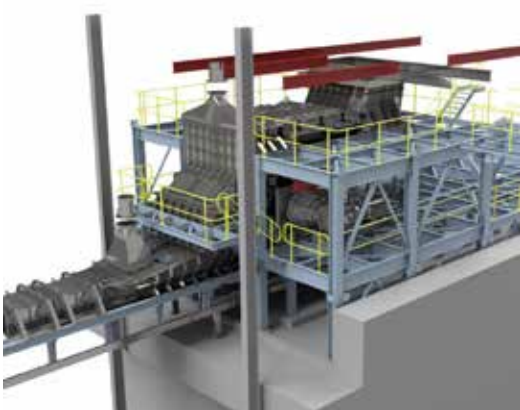
**SECTOR:** Mining

**STANDARDS:** SANS, CEMA, Anglo American

### PROJECT DESCRIPTION

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

We were excited about the potential of this project and looked forward to sharing the complete details and scope of work with you once everything was finalized. Optimization was particularly crucial in this undertaking, as it significantly enhanced the overall functionality of the feeder.





## 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

The company Anglo American wants to create digital copies of all their large plant equipment. They've asked JAD for help to make 3D scans and models of heavy mobile equipment at their Kolomela and Sishen Mines.

Right now, they want to scan six haul trucks and four excavators/shovels, but more equipment will be added later. Planning the 3D scans is important because there are only certain times when the equipment is available for maintenance. Anglo will use the 3D models to add other equipment and plan where to put electrical cables. By doing this project, JAD will help Anglo make the equipment easier to maintain and inspect.



## CIVIL & STRUCTURAL ENGINEERING EL-SOLDADO SIZER WHILE TIPPING

**CLIENT:** Anglo American El Soldado Mine

**PROJECT DURATION:** 6 Month

**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 aimed to enhance the mining industry's ability to monitor and control particle size distribution, leading to improved efficiency and product quality.

Our work revolved around designing a robust portal frame that supported a mechanical boom, which underwent thorough Finite Element Analysis (FEA) to ensure it could handle operational stresses. We integrated a precision-engineered gearbox into the system to facilitate essential rotation for accurate measurements.

In order to effectively mount various equipment on the structure, we conducted a detailed thermal hydraulic analysis. This analysis ensured positive airflow and temperature control, safeguarding the performance of the sensitive equipment.

After completing our calculations, we developed a detailed 3D model of the PSA system. This model served as the basis for manufacturing drawings and comprehensive work instructions, guiding the on-site assembly team in a safe and efficient manner.

The PSA system at El Soldado Mine represented a significant step forward in particle size analysis technology, and we were eager to see its impact on mining operations and enhanced performance in the field.





## ELECTRICAL ENGINEERING AIR CURTAIN (PERU)

**CLIENT:** Anglo American Quellaveco Mine

**PROJECT DURATION:** 6 Month

**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 us to engineer a PSA crusher air ducting system tailored for a South American mining operation. The primary objective was to establish a duct network that facilitates positive airflow across critical equipment, including instruments, lights, and scanners, effectively mitigating dust accumulation on optical surfaces. This design helps to reduce the frequency of manual lens maintenance.

Our team of Draughtsmen collaborated closely with the design engineer to model the facility and strategize the duct routing within the existing steel infrastructure of the crusher. Our skilled engineers conducted detailed simulations to optimize duct dimensions and configurations, ensuring compliance with client specifications. Additionally, we performed a thermo-hydraulic system analysis, beam loading assessments, and bracket designs to support the ducting infrastructure.

The drawing office contributed significantly by integrating extra steel supports and brackets to accommodate fans and ducting throughout the crusher assembly. Ultimately, we produced a comprehensive set of manufacturing drawings for the fabrication process in Peru.



## **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**

Anglo American as part of an initiative to produce digital twins of all their plant equipment, has requested the assistance of JAD to 3D scan and 3D model Heavy Mobile Equipment (HME). This will take place at their Kolomela and Sishen Mines.

The current list of equipment includes haul trucks and excavators/ shovels, with more to be included in future. 3D scan planning is crucial, as there is only a limited timeframe during maintenance windows where access to the equipment is available.

The 3D models generated from the scans will be used by Anglo in order to model in additional 3rd party equipment, along with the electrical cable routing for said equipment. By undertaking this project, JAD will assist Anglo with the standardization of equipment cable routing, for easier maintenance and inspection activities.



## PIPING SYSTEMS WEC CONTAINER PLANTS

**CLIENT:** WEC Projects

**PROJECT DURATION:** 2 Month

**SECTOR:** Wastewater Treatment, Mechanical Engineering

**STANDARDS:** National Water Act 36 of 1998

### PROJECT DESCRIPTION

JAD has collaborated with WEC Projects to deliver four wastewater treatment plants earmarked for deployment in Guinea. WEC Projects brings extensive expertise in the water treatment industry, having developed proprietary filter media. The project scope encompasses the process, mechanical, electrical, piping, and instrumentation aspects of the plants, featuring a configuration of one 250 m<sup>3</sup>/day facility, one 150 m<sup>3</sup>/day unit, and two 60 m<sup>3</sup>/day plants.

Each facility integrates septic tanks, trickle filters, and clarifiers, with quantities tailored to the respective daily treatment capacity. The modular design of the containerized process sections facilitates flexibility in achieving and constructing varying plant capacities.

To eliminate potential design clashes, we produce detailed 3D models that clearly outline all piping and cabling routes, inclusive of bracketry and instrumentation. This precision is particularly critical in the clarifier containers, which house both the switchgear and control panel. The pre-fabrication and installation of the container units can thus proceed seamlessly, guided by the comprehensive drawings generated.



“

To offer sustainable Engineering solutions & products to assist with problem-solving, and ensure efficiency throughout various industries.

## CONTACT US



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