



**AL TSA**  
Leading with LED



LEADING THE WAY  
**WITH LED**



# AL TSA leads with LED

## *Cutting-edge LED lighting and electrical solutions for Africa.*

- ALTSA is a leading mining and industrial LED lighting solutions provider in sub-Saharan Africa, as well as the largest lighting replacement company in Africa.
- ALTSA operates in seven countries on the African continent: South Africa (Head office), Nigeria, Tanzania, Democratic Republic of Congo, Uganda, Kenya and Mozambique and Botswana.
- Since 2011, ALTSA has grown significantly throughout Africa within its own network as well as through agency networks Africa.
- ALTSA currently employs 150+ people.
- ALTSA distributes its own premium range of LED lamps and luminaires, assembled in South Africa, distributed to regional offices both nationally and internationally.

We transform the way energy is consumed by providing sustainable, environmentally friendly lighting solutions to benefit people, improve communities and impact positively on society as a whole.

We strive to be the leading supplier of groundbreaking LED lighting solutions, cutting-edge technology.

### **CUSTOMER ORIENTATED**

ALTSA staff are dedicated to go the extra mile in building long-term relationships while helping customers feel good in their environments, with compliant lighting solutions and a profitable return on investment (ROI).

We partner with our customers on their journey to sustainable energy.

### **OUR VALUES**

#### **INTEGRITY:**

We are honest, fair and demonstrate respect to our customers and colleagues.

#### **ACCOUNTABILITY:**

We follow through with what we say and hold ourselves to the highest standards.

#### **HARD WORK:**

We deliver outstanding results through our culture of exceptional service.

#### **TEAM WORK:**

We support one another to deliver results for our customers and our company.

#### **INNOVATION:**

We seek creative and innovative ways to solve our customers' challenges.

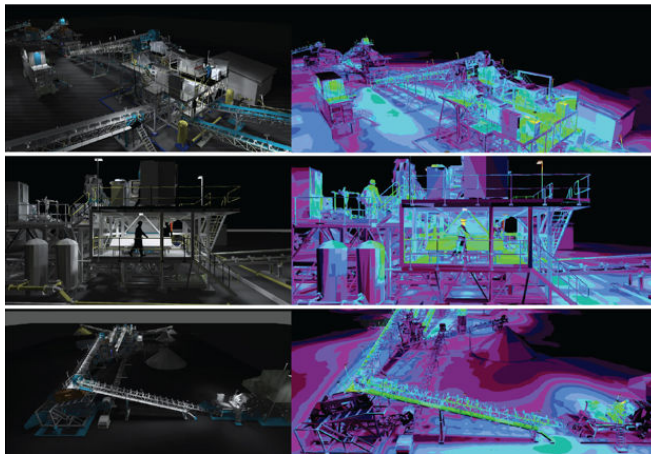




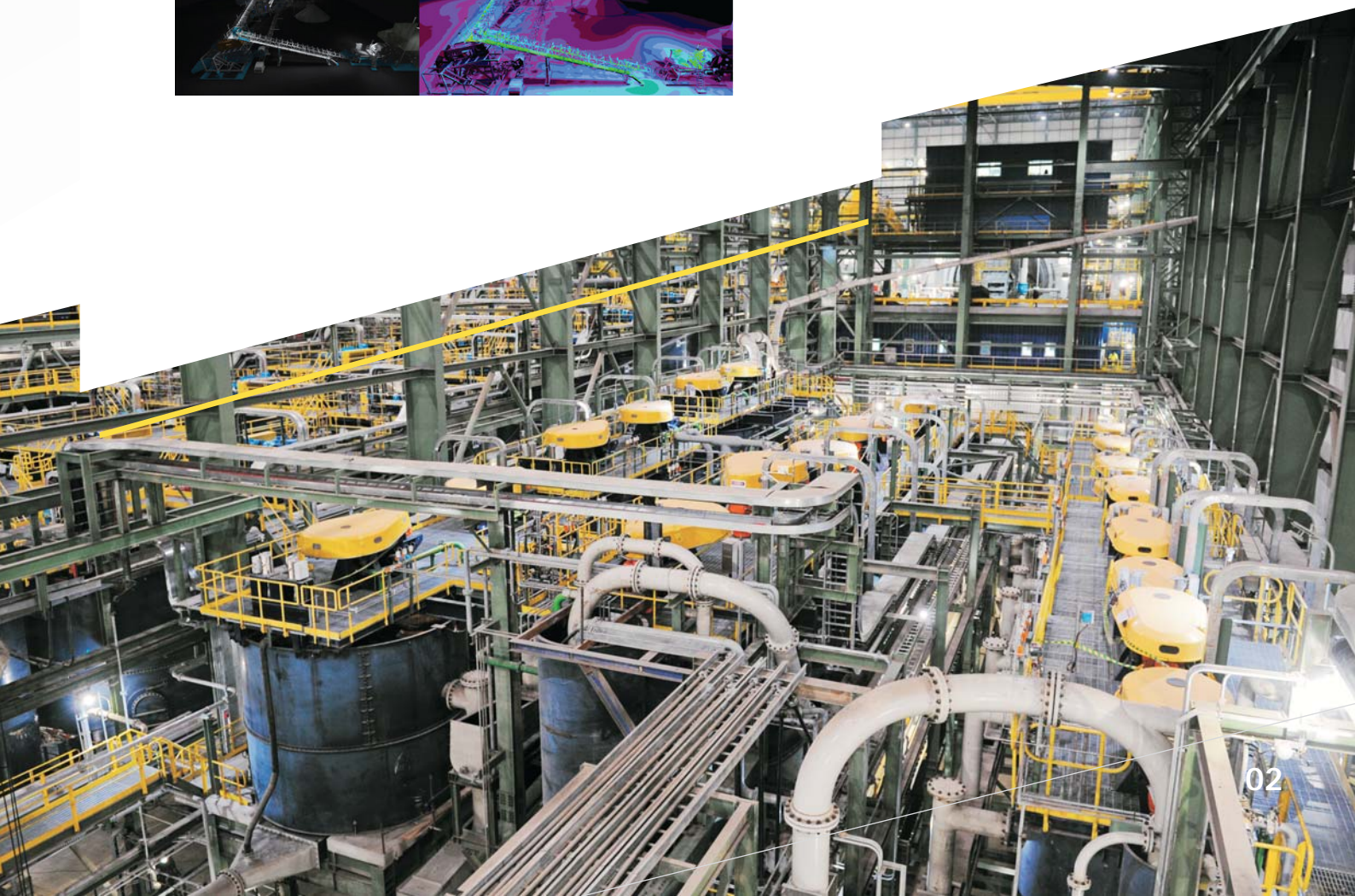
## AL TSA Services

- On mine consultation.
- Lighting assessments and audits.
- Lighting proposals / ROI .
- Lighting designs.
- Replacement projects.
- Energy efficiency and optimization calculation.
- Eskom demand side management.

## Lighting Design Simulation



Key Indicators	Total	
<b>Quantities</b>		
Old Qty Replaced	9,077	
New Qty Installed	6,342	
<b>Power and Energy Saving</b>		
Total Old Power	1,147,301	
Total New Power	457,916	
Max Power Saving (W)	689,385	60%
Monthly Old Energy (kWh)	580,968	
Monthly Energy Saving (kWh)	352,392	61%
<b>Maintenance Saving</b>		
Maintenance Rate (Annual % of Initial Cost)	20%	
Annual Saving on Maintenance	R 1,902,600	
<b>Financial</b>		
Total Supply Cost	R 11,901,705	
Total Installation Cost	R 1,124,230	
Total Installed Cost	R 13,169,935	
Cost per kW	R 28.76	
Preliminary & General Cost	R 658,497	
Contingency	R 395,098	
Crushing & Disposal	R 127,078	
High Lift Equipment	R 163,500	
Total Project Cost	R 14,350,608	
Potential Eskom DSM Subsidy	R 1,347,898	
Potential Eskom 12L Subsidy	R 469,292	
Total Project Cost Less DSM Subsidy	R 12,533,417	
Monthly Electricity Saving	R 659,347	
Monthly Financial + Maintenance Saving	R817,897	
Payback Period (Months)	15.3	
Net Monthly Cashflow Position for 5 yr rental deal	R 864,293	
<b>Environmental Impacts</b>		
Annual Savings of SO <sub>2</sub> (Tons)	33.5	
Annual Savings of NO <sub>x</sub> (Tons)	17.7	
Annual Savings of CO <sub>2</sub> (Tons)	4,186	







SOCIAL DEVELOPMENT

COMMUNITY DEVELOPMENT

EMPOWERING PEOPLE



## AL TSA 5-Year Guarantee

We take immense pride in our ISO9001 national and internationally certified product range. We offer our customer a 5-year guarantee with an option to extend to 10 years.

## Compliance

AL TSA ensures compliant lux levels over the full warranty period.

## Product Range

AL TSA offers Indoor, outdoor and speciality lighting solutions that are ideally suitable for mining and industrial sites - especially areas that require robust, hard-wearing and explosion-proof luminaires.

AL TSA takes pride in distributing a locally assembled range of 190+ lamps and luminaires:

- Long life -up to 100,000 hrs.
- High efficiency - up to 200lm/W.
- Compact, High-quality Profile Designs.
- Wide Operating Temperature Range -50° C to +55° C and up to 80° C on thermal resilient models.
- Easy Installation and low maintenance.
- Manufactured to withstand high, consistent volumes of dust and moist offering IP ratings of up to IP68.
- High electrical and mechanical specifications.
- All products carry a range of SANS and IEC certifications.
- Our EX range carries IECEx certification.
- All products have battery backup and sensor options.



## *The Gold Standard for Lighting above ground and below*

ALTSA understands the core needs of the mining industry, including the need for health and safety, cost reduction, environmental and electrical compliance. The need to maintain optimal production while remaining prepared for challenging or unexpected circumstances is equally critical. Our LED lighting is designed to meet these needs and to operate flawlessly in demanding and hazardous conditions.

### *Facing the challenge*

ALTSA provides LED lighting solutions designed specifically for areas that are consistently exposed to high levels of dust, grime, vibration, corrosion, water, moist, and rockfall - while being in constant use during both day and night shifts.

Efficient and effective lighting is critical to the safety of mine workers as they depend heavily on visual cues to securely navigate pinning and striking dangers (as well as slipping and tripping hazards) within their work environments. Effective illumination greatly improves their ability to perform their jobs safely while still meeting the daily production requirements.

We provide LED lighting solutions that are robust, with high technical specifications, for underground shafts and surrounding areas. This safeguards the longevity the installed luminaries. Our range offers low maintenance and reduced energy costs while still guaranteeing compliant lighting that helps people get the job done.





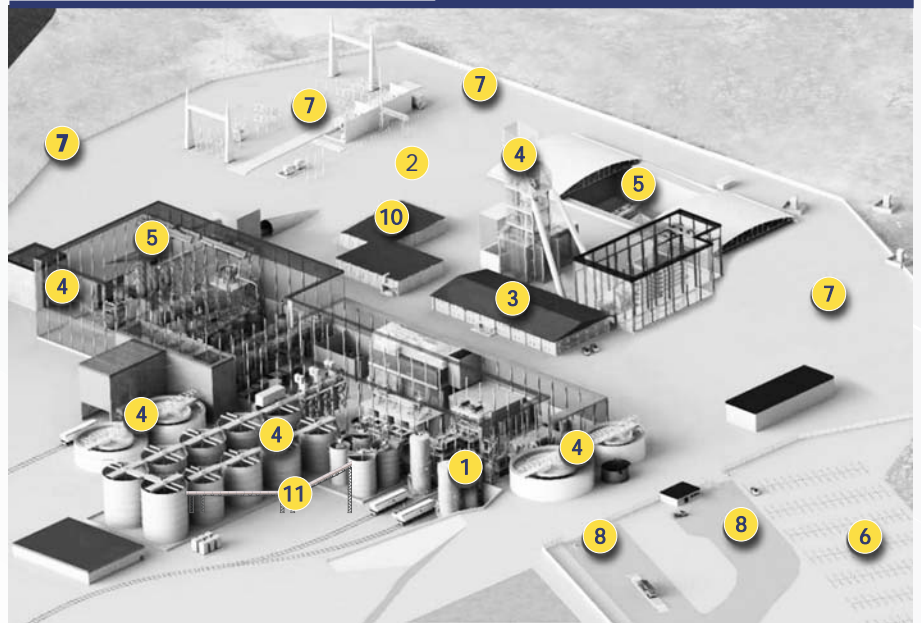
## Surface Applications

- 1 HAZARDOUS AREAS
- 2 EXTERIOR FUNCTIONAL
- 3 INTERIOR FUNCTIONAL
- 4 PLANT AND EQUIPMENT
  - Winder house.
  - Processing plants.
  - Storage facilities.
- 5 TOWERS
- 6 PARKING AND PATHWAYS
- 7 SECURITY
- 8 ROADWAY
- 9 VEHICLE LIGHTING
- 10 WAREHOUSES
- 11 CONVEYOR

## Ideal Products

Highbays  
Floodlights and Highmasts  
Bulkheads  
Streetlights  
EX Linear  
EX Floodlights & Vapour Proof  
Bulkheads & Vapour Proof  
EX Streetlights  
Conveyor Lighting  
Solar Streetlight  
Solar Floodlight

MINING SITE EXAMPLE



## Hard-wearing and hard-working Lighting

### Impact and Ingression Protection

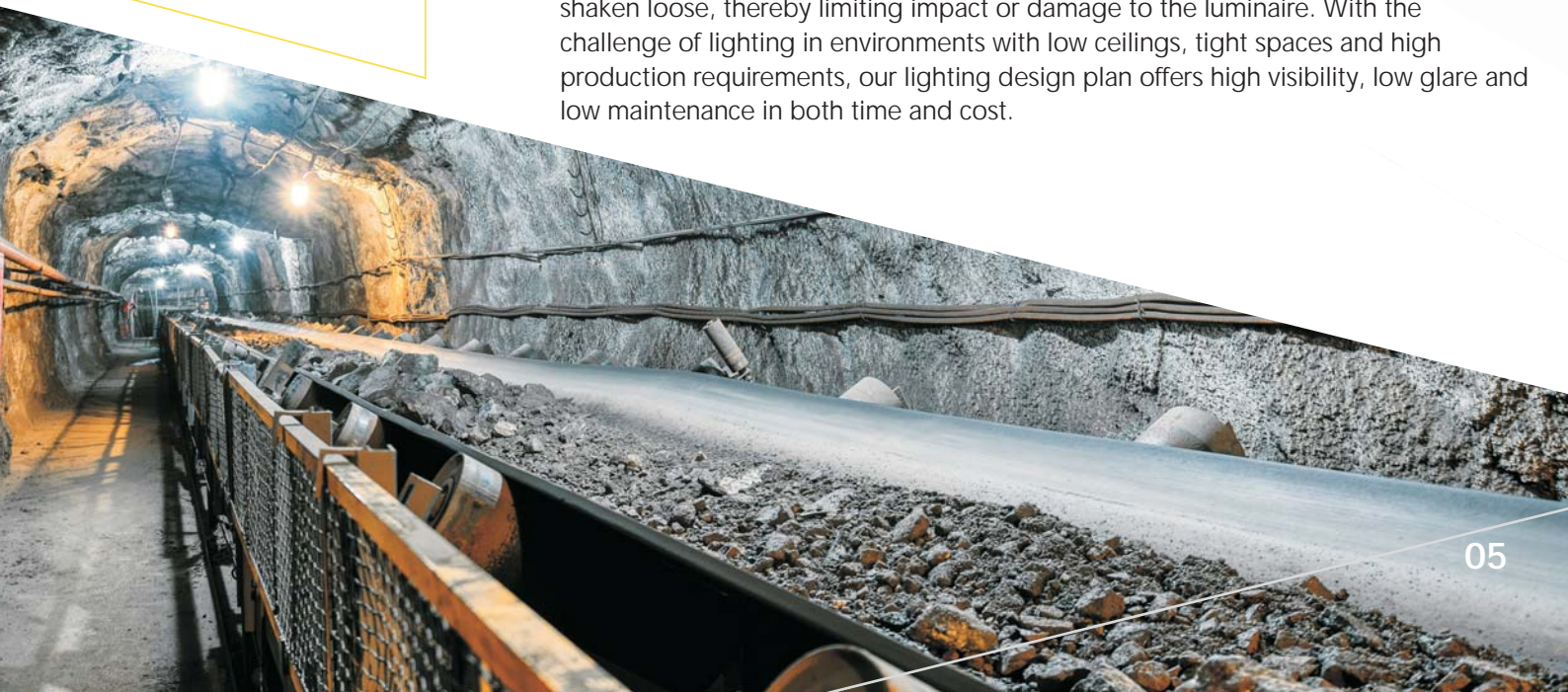
Our robust lighting will withstand low quality electricity supply, hard knocks and hazardous working conditions; water, heat, dust, grime, gas and vibration.

### Corrosive Environments

The ALISA range offers corrosion resistant models of all fittings - designed for hazardous chemical and water environments. IP68 rated luminaires are available for under water areas.

### High-Vibration Exposure

Our lighting is designed specifically for environments where substrate movement and equipment creates high vibration and where shock waves from blasts occur frequently. Each unit has a closed profile to ensure that nuts and bolts are not worn down or shaken loose, thereby limiting impact or damage to the luminaire. With the challenge of lighting in environments with low ceilings, tight spaces and high production requirements, our lighting design plan offers high visibility, low glare and low maintenance in both time and cost.



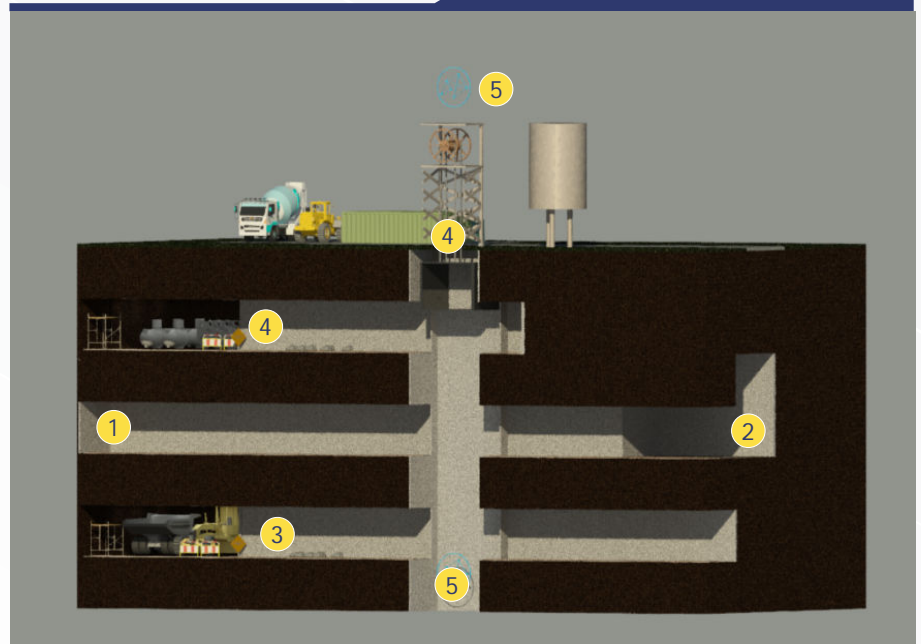


## Underground Applications

- 1 HAULAGES
- 2 STOPE
- 3 DEVELOPMENT END
- 4 STATIONS
- 5 BLUETOOTH SYSTEMS

## Ideal Products

- Haulage Lighting
- Stope Lighting
- Bulkheads
- Rhino Floodlight
- Mining Strip Lights
- Portable Forest Frog
- Shaft Bottom Light
- Shaft Exam Light



## Hard-wearing and hard-working Lighting

### Portable Lighting Solutions

AL TSA LED Lighting offers portable lighting systems as a solution for areas where fixed lighting is not feasible or subject to theft. Our range includes Ex products, and Stope Lighting.

The portable luminaire range features lithium batteries with over 100 000 switching cycles, providing high-quality performance. They provide between 2 and 10 hours of working light, offering flexibility and reliability - where you need it most.

### Area Lighting

AL TSA LED luminaires stands out as a top choice in Industrial environments. Improving visibility with brighter natural light. Delivering a light that is as close to natural as possible by providing the highest colour rendering index. Lens diffusers that reduce glare and has instant-on capability, delivering bright, accurate lighting the moment it is turned on increasing visibility that is critical to the safety and efficiency to mine workers. Our lighting has the ability to dim when there is no human presence.







### Fit for purpose

AL TSA provides advanced LED lighting solutions with the aim of maximising underground mine efficiency. Our lighting ranges include Haulages, Stopes, Development Ends, Stations.

### Safety Illumination

Enhancing Safety and Productivity in Harsh and Hazardous Applications using LED Lighting solutions in underground mining environments play a huge role in safety measures. Lighting before stopes, walkway routes, railways locomotives are important.

With AL TSA the luminaires that we provide perform well in these environments, ensuring that illumination provided meets required lux levels and uniformity, serving as signaling measures.

### Built to last

AL TSAs LED luminaires feature a robust housing design that combines functionality with user-friendly serviceability. Impact ratings (IK08 to IK10) that will outlast most hard knocks.

### IECEx and ATEX Certified Lighting Solutions

IP65 or higher rating

Robust and durable design to withstand high temperatures

Corrosion resistant

80+ Colour Rendering Index



IK10 IP67

SANS



# Communication Systems

ALTSA Bluetooth Mesh (BTM) offers a smart lighting-based control system for monitoring and intervention in mining environments. Our luminaires feature integrated IoT networks for below ground control systems. With ALTSA Smart Lighting Systems, you can expect high standards of safety and reliability. Our smart illumination and user-friendly controls ensure visual navigation and easy communication above and below ground.

## Benefits

- Improves general lighting levels to optimise efficiency.
- Reinforces safety procedures through visual alerts.
- Initiates alerts and emergency evacuations.
- Manages any human risks.
- Bluetooth mesh network topology allows devices to communicate with neighbouring devices and creates a robust, scalable network.
- The mesh network ensures reliable communication even in environments with obstacles or signal interference.
- Users can manage and adjust lighting settings, schedules and other perimeters via a control point (Mobile App, Control System).
- Bluetooth mesh incorporates security features to protect against unauthorized access and tampering.

## Advantages

- Works off Bluetooth low energy and Bluetooth communication protocol to communicate through a wireless network.
- Eliminates the need for expensive and sensitive fibre optic cables running through rugged haulage environment. Avoids cable tampering and damage.
- Spacing of nodes every 20metre as opposed to a wired connection being required.
- Communicate through any device that has a Bluetooth low energy protocol available.

### ALTSA BTM Sensors

Oxygen levels

Temperature and humidity

Electrical sensors

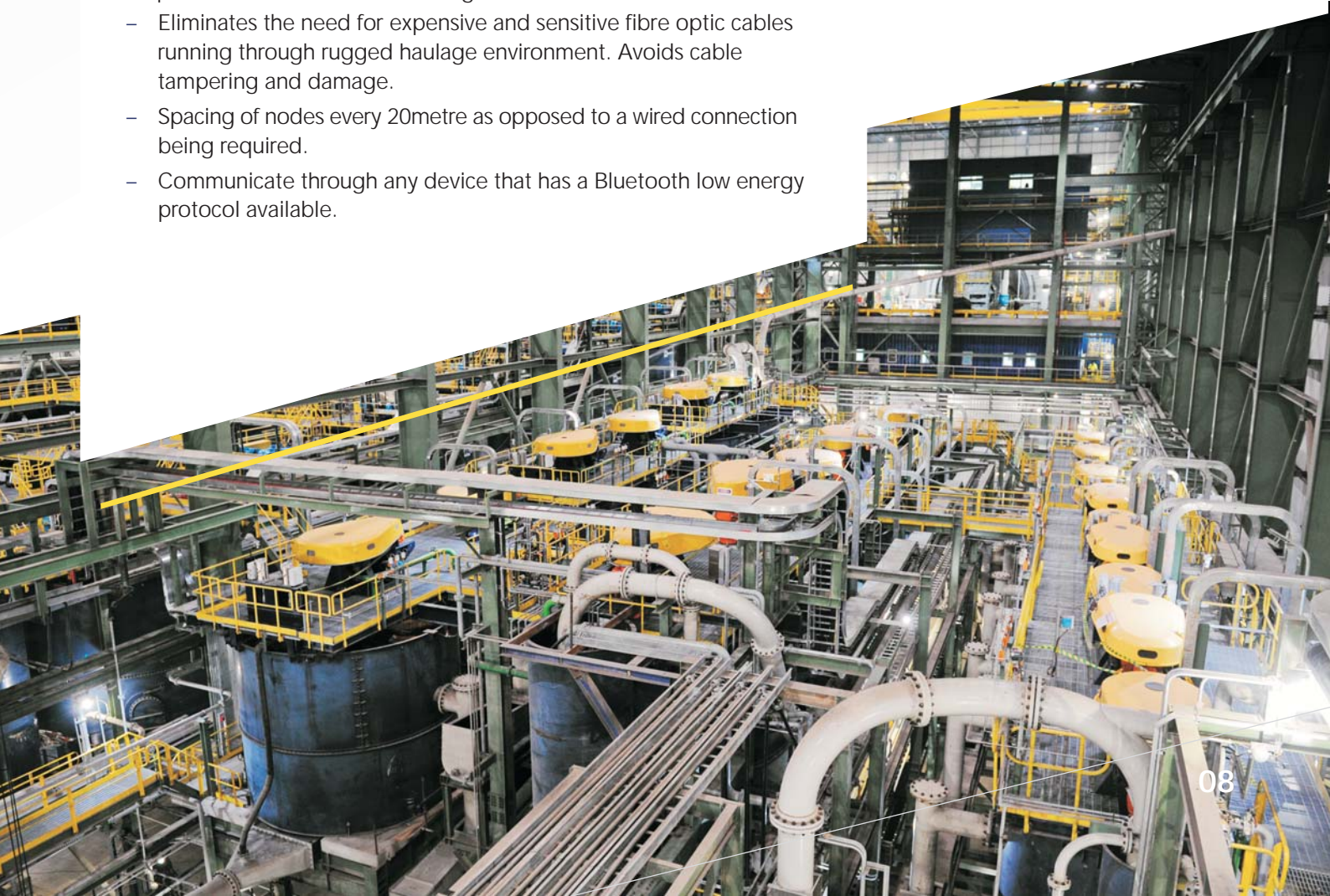
Water level sensors

Toxic gas levels (CO, CO<sup>2</sup>, CH<sup>4</sup>, SO<sub>x</sub>, NO<sub>x</sub>, etc)

Loco and people monitoring

Seismic activity  
(accelerometers/vibration)

Smoke detection





## Performance where it matters

AL TSA's LED Lighting Solutions are optimized for all underground mining environments:

- Improved lighting quality reduces the amount of lighting needed, lowers power consumption and improves energy efficiency.
- Input voltages ranging from AC100-300V.
- Low voltage operations DC12V,24V,36V and 48V.
- Improved environmental performance including no UV emissions.
- Enhanced quality and lighting distribution of the LED optics include a variety of symmetrical and asymmetrical beam angles.
- All our products come with a standard 5-year guarantee.

## BULKHEADS



MAX BULKHEAD  
[VIEW DATASHEET](#)



UP & DOWN  
[VIEW DATASHEET](#)



ADJUSTABLE  
WALLPACK  
[VIEW DATASHEET](#)



SKEO WALL LIGHT  
[VIEW DATASHEET](#)



CANOPY BULKHEAD  
[VIEW DATASHEET](#)



VANDAL GUARD  
[VIEW DATASHEET](#)



MID BULKHEAD  
[VIEW DATASHEET](#)



BULKHEAD SERIES  
[VIEW DATASHEET](#)



WALL PACK  
[VIEW DATASHEET](#)

OUTDOOR

## FLOODLIGHTS



SK FLOOD  
[VIEW DATASHEET](#)



RHINO FLOOD  
[VIEW DATASHEET](#)



MID FLOOD  
[VIEW DATASHEET](#)



MINI FLOOD  
[VIEW DATASHEET](#)



COOL FLOOD  
[VIEW DATASHEET](#)



# HIGH MASTS



MAX HIGH MAST  
[VIEW DATASHEET](#)



MAX STADIUM II  
[VIEW DATASHEET](#)



MAX STADIUM III  
[VIEW DATASHEET](#)



MEGA STADIUM  
[VIEW DATASHEET](#)



VISTA  
[VIEW DATASHEET](#)

# EXPLOSION PROOF



EXPLO TUBES  
[VIEW DATASHEET](#)



SS MAX  
[VIEW DATASHEET](#)



AL TSA ALTBAY  
[VIEW DATASHEET](#)



SWORDFISH  
[VIEW DATASHEET](#)



TRITON HIGHBAY  
[VIEW DATASHEET](#)



POLAR BEAR  
[VIEW DATASHEET](#)



FOREST FROG  
[VIEW DATASHEET](#)



SEA LION  
[VIEW DATASHEET](#)



SHAFT  
[VIEW DATASHEET](#)



GYD FLOODLIGHT  
[VIEW DATASHEET](#)



PORTABLE FROG  
[VIEW DATASHEET](#)

# HAULAGE



HAULAGE LIGHTS  
[VIEW DATASHEET](#)



HELUKABEL CABLE  
[VIEW DATASHEET](#)

OUTDOOR



## MINING STRIP LIGHTS

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MINING STRIP LIGHT  
[VIEW DATASHEET](#)

## MYNA FLOODLIGHT

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MYNA FLOODLIGHT  
[VIEW DATASHEET](#)

## CONVEYOR/SHAFT

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CONVEYOR MASTER  
[VIEW DATASHEET](#)

## STOPE LIGHTING

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ASTRA  
[VIEW DATASHEET](#)



ELECTRA  
[VIEW DATASHEET](#)



## HIGH BAYS



FLAT HIGH BAY  
[VIEW DATASHEET](#)



SATURN HIGH BAY  
[VIEW DATASHEET](#)



LINEAR HIGH BAY  
SERIES  
[VIEW DATASHEET](#)



GALAXY LINEAR  
HIGH BAY  
[VIEW DATASHEET](#)



LINEAR SERIES  
HIGH BAY  
[VIEW DATASHEET](#)



MAX LINEAR  
HIGH BAY  
[VIEW DATASHEET](#)



MX LINEAR  
HIGH BAY  
[VIEW DATASHEET](#)



HONEYCOMB  
LINEAR HIGH BAY  
[VIEW DATASHEET](#)



LINEAR SERIES  
HIGH BAY  
[VIEW DATASHEET](#)

## STREETLIGHTS



MAX II A&C  
[VIEW DATASHEET](#)



H SERIES  
[VIEW DATASHEET](#)



ST STREETLIGHT  
[VIEW DATASHEET](#)



MAX SB  
[VIEW DATASHEET](#)



S7 STREETLIGHT  
[VIEW DATASHEET](#)



S8 STREETLIGHT  
[VIEW DATASHEET](#)



GALAXY SOLAR  
[VIEW DATASHEET](#)



MINI SOLAR  
[VIEW DATASHEET](#)



AQUILA SOLAR  
[VIEW DATASHEET](#)



EPSILON SOLAR  
[VIEW DATASHEET](#)



SPLIT SOLAR  
[VIEW DATASHEET](#)



FX SOLAR  
[VIEW DATASHEET](#)



LK SOLAR  
[VIEW DATASHEET](#)



FX SOLAR  
[VIEW DATASHEET](#)



INTEGRATED SOLAR HIGHMAST  
[VIEW DATASHEET](#)



## LINEAR



IP65 VAPOUR PROOF  
[VIEW DATASHEET](#)



INTEGRATED  
VAPOUR PROOF  
[VIEW DATASHEET](#)



ITB TRI-PROOF  
[VIEW DATASHEET](#)



H BATTEN  
[VIEW DATASHEET](#)



OMEGA BATTEN  
LINKABLE  
[VIEW DATASHEET](#)



SLIM BATTEN  
[VIEW DATASHEET](#)



BETA BATTEN  
[VIEW DATASHEET](#)



GAMMA BATTEN  
[VIEW DATASHEET](#)



LIGHT BAR LINEAR  
[VIEW DATASHEET](#)



AL TSA BATTEN  
[VIEW DATASHEET](#)



OFFICE LINEAR  
SERIES  
[VIEW DATASHEET](#)



LINEAR TRUNKING  
SYSTEM  
[VIEW DATASHEET](#)



VANDAL GUARD  
LINEAR  
[VIEW DATASHEET](#)



AL TSA CYRUS  
LINEAR  
[VIEW DATASHEET](#)



WRAP AROUND  
BATTEN  
[VIEW DATASHEET](#)



TP TRI-PROOF  
BATTEN  
[VIEW DATASHEET](#)



T-SERIES  
TUNNEL LIGHT  
[VIEW DATASHEET](#)



OWM STRIP LIGHT  
[VIEW DATASHEET](#)

## TUBES & LAMPS



IP65 LAMPS  
[VIEW DATASHEET](#)



TUBERON  
[VIEW DATASHEET](#)



2G11 TUBE  
[VIEW DATASHEET](#)

INDOOR / OUTDOOR



# POST TOPS | SPOTLIGHTS | BOLLARDS



BOTANIC  
[VIEW DATASHEET](#)



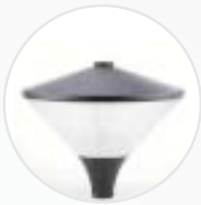
ATHOS  
[VIEW DATASHEET](#)



CYRAH  
[VIEW DATASHEET](#)



POST TOP SERIES  
[VIEW DATASHEET](#)



SOLAR DIAMOND  
[VIEW DATASHEET](#)



APOLLO  
[VIEW DATASHEET](#)



ATLAS  
[VIEW DATASHEET](#)



CYCLOPS  
[VIEW DATASHEET](#)



RIO  
[VIEW DATASHEET](#)



LINA  
[VIEW DATASHEET](#)



VILA  
[VIEW DATASHEET](#)

# FLASHLIGHT SERIES



FLASHLIGHT 1  
[VIEW DATASHEET](#)



FLASHLIGHT 2  
[VIEW DATASHEET](#)



FLASHLIGHT 3  
[VIEW DATASHEET](#)



## *Reliable, quality components that go the distance*

ALTSA supplies and distributes a wide range of high-quality, long lifespan electrical products essential for everyday use that are related to lighting management solutions.

We facilitate custom specifications to manufacturers and offer a high degree of product format flexibility.

### *Solutions where you need them*

ALTSA is an ISO 9001 company with a proven track record for successful installations at a number of commercial and industrial sites. Our products are IEC/SANS approved and carry multiple national and international accreditations.

We have managed numerous complex installations within the last ten years. Most notable is the Netcare Hospital project which required the installation of over 100,000 luminaires, 116 different products from our indoor and outdoor ranges. Over the project period of 3 years, we installed lighting at all the blue chip mining companies across South Africa which included switched and emergency back-up luminaires.

The ALTSA installation team employ stringent measures throughout the process to ensure the highest standards are met, consistently. Customer satisfaction is a part of our guarantee.



## Commercial Cable Solutions (LV)

General Purpose House Wire (GP)

Flat Twin & Earth

Surfix (Norsk)

Cabtyre

Flex panel Cables

Welding Cable

Airdac Cable

Submersible Cable

## Industrial Cable Solutions (MV/HV)

SWA Armored Cable

Aerial Bundle Cable

Aluminum Cable

## Instrumentation & Communication

INTERBUS

PROFIBUS

CAN

Ethernet Cat5, Cat6, Cat7

PROFINET Cat5, Cat6, Cat7

Optical Fibe

## Electrical solutions

ALTSA offers a full spectrum of low, medium and high-voltage cables catering for commercial and industrial industries.

### Terminal & Junction Boxes



#### High Voltage Box

A high voltage terminal enclosure made from stainless steel. Ex e certified for installation of power distribution networks in explosion-hazardous areas. Equipped with M10 internal/external brass earth stud.



#### Splice Box

A series of splice boxes made from stainless steel. Ex op pr and Ex tb certified for safe protection of fibre optic cable splices in explosion-hazardous areas. Up to 8 splice trays, 12- fusion-type splices per tray. Equipped with return flange sealing.



#### Eave Box

A series of terminal and junction boxes made from aluminium. Ex e and Ex tD certified for installation in explosion-hazardous areas. Customizable configuration as per specification.

### Plugs and Sockets



#### Plugs

PS\*-7\* plus for use with PS\*-4\* sockets in hazardous locations to create a connection point between two devices. Certified in Ex de and Ex tb for Zone 1/21 and Zone 2/22 applications. Made out of GRP. The plug cannot be removed until the switch is turned to the OFF position, this de-energizing the circuit.



#### Sockets

PS\*-4\* sockets for use with PS\*-7\* plugs in hazardous locations to create a connection point between two devices. Certified in Ex de and Ex tb for Zone 1/21 and Zone 2/22 applications. Made out of GRP. Each socket contains a disconnect switch.





## Switch Disconnectors & Switches



### Switches - Padlockable

A series of padlockable switch disconnectors and safety switches made from glass fibre reinforced polyester or stainless steel. Ex db eb and Ex tb certified for installation in explosion-hazardous areas. Various contact configurations and pole numbers available



### Switches - Aluminium

A series of switch disconnectors made from aluminium. Ex d and Ex tD certified for installation in explosion-hazardous areas. Suitable for use in gas group IIC environments.



### Motor Starter

A series of motor starters made from aluminium. Ex d and Ex tD certified for installation in explosion-hazardous areas. Suitable for Ex d motors. Various power ratings available. Coil voltage 415V.

## Control Stations



### SR Station

Control stations from the SR.CS2\* series are ready for use in Class I, Division 2 environments. As all other control stations from the SR Series, these highly- flexible devices are fully customizable with accessories such as quarter turn locks, mounting brackets or gland plates.



### GR Station

A series of control stations made from glass fibre-reinforced polyester. Ex de, Ex ib and Ex tb certified for installation in explosion-hazardous areas. Up to 68 operators per control station. Modern design with high impact resistance and easy installation due to easily accessible mounting point. Customizable configuration of operators, cable entry quantities and cable gland types as per specification.

## Signaling Devices



### Beacon

An Ex d and Ex tb certified Xenon beacon for installation in explosion hazardous areas. Made from marine grade LM aluminium. Supports automatic synchronisation with systems operation. Beacons can be set to "flip-flop" alternating mode with other units on multi-beacon systems.

## ALTSA Cable Management Offering

Cable Trays

Light, Medium & Heavy Duty

Cable Ladders

Trunking Solutions

Wiring Ducts

Flex Covers

Utility Pole Systems

Conduits

## Cable Management Systems

ALTSA provides cable management solutions that can ensure cable safety as well as increasing the lifespan of materials.

Cable management systems keep your working environment safe and tidy for employees and customers and prevent liabilities like tripping hazards by using floor cord covers to anchor foot snagging to the floor.

Cord covers offer twofold protection. They prevent tripping hazards around the workplace and they also help keep valuable cables from being crushed underfoot by people walking by.

## Longevity

Cable management not only provides you with a cleaner and more organised workspace, it can also extend the life and maximise the performance of your cables.







**AL TSA**  
Leading with LED

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