



# **MULTOTEC**

## Company Profile





40  
years



We partner with you for the **entire lifecycle of your plant** by providing ongoing equipment refinement that is focused around **optimising plant efficiency**



## Company Profile

Established in 1973, Multotec (Pty) Ltd. is headquartered in Johannesburg, South Africa, with offices throughout Africa, and global operations through registered companies in Australia, South America, Canada and Europe.

For 40 years, the mineral processing industry specialist has provided solutions for the mining, mineral processing, petrochemical and power generation industries, with recent expansion into the process water industry. Multotec's equipment is used by mining giants throughout the world, and the company's technical expertise and extensive application knowledge of process flow sheets has enabled it to create application-specific equipment and solutions for its clients.

Multotec caters for the diverse requirements of most mineral beneficiation applications, and emphasises maintaining close client relationships and partnerships to ensure optimum solutions.

Our engineers, technicians, sales personnel and behind-the-scenes administrative workforce are committed to helping our clients achieve their mineral processing goals.

We partner with you for the entire lifecycle of your plant by providing ongoing equipment refinement that is focused around optimising plant efficiency and lowering clients' overall cost per ton.

### Multotec specialises in developing and tailoring this equipment for solutions in:

- Screening Media
- Process Equipment
- Wear Resistant Lining
- Rubber Wear Lining
- Mill & Scrubber Lining
- Solid / Liquid Separation
- Conveyor Belt Fastening Systems
- Process Water Treatment
- Pumps

# Manufacturing



Quality

With a thorough understanding of process flow sheet specifics, Multotec drives value to its clients' operations through application-specific mineral processing solutions. Customised, solutions-based products and accessories are manufactured in a combined under-roof manufacturing area in excess of 43 000 m<sup>2</sup> in Kempton Park, Johannesburg, Gauteng.

Multotec uses in-house design and manufacturing processes supported by extensive application knowledge developed over 40 years in screening media to produce world-class mineral processing solutions. We are the only manufacturer to support our customers from a specialist metallurgical perspective, and provide continual monitoring and optimisation. This reduces the risk of unplanned downtime and improves efficiency throughout equipment lifecycles – driving down operational costs and improving performance.

Quality and safety play an integral role in the company's culture. With regards to quality control, Multotec has numerous ISO 9001: 2008 certified manufacturing facilities, and quality tests every piece of equipment it manufactures to ensure compliance to the highest standards. On the safety front, a number of its products are TÜV certified.

Multotec has a combined **under-roof manufacturing area** in excess of **43 000 m<sup>2</sup>**



## Research & Development

Multotec's R&D programme is geared towards four key factors:

- Enhancing product speed to market
- High levels of product consistency and reliability
- Product recyclability
- Developing solutions for OEMs to incorporate as their own

Our cutting-edge R&D facilities – which are made available for specific research work for mining houses, plants, OEMs, individual customers and universities – play a fundamental role in product development and refinement.

Our high-quality product solutions are designed and constructed through the use of sophisticated manufacturing and engineering design technology and equipment.

Our research centre's capabilities enable our R&D department to test mineral samples received from across the globe for efficiency and effectiveness in their specific

applications. These results, and associated technical data, are disseminated in the interest of advancing the industry and relevant material sciences.

### Design

Multotec's design capabilities are of the highest standard, and aid clients in acquiring the most appropriate solution available. The company provides 3D Prototyping, Computational Fluid Dynamics, Computer Aided Drawings, Trajectory Modelling, Finite Element Analysis and Discrete Element Modelling, among others.

Glencore Xstrata, Anglo Coal, BHP Billiton, Randgold Resources, First Quantum Minerals Ltd. and RIO Tinto are just a few of the leading mining companies that rely on Multotec's equipment and support.

# Our Industry Solutions



## Screening Solutions

Our extensive range of screen panels and screening media solutions, from single panels to self-driven double trommel screens, are manufactured from high-quality rubber, polyurethane, wedge wire, steel and composite materials. Aperture sizes and panel materials are customised for all minerals from coarse, heavy-duty to ultra-fine applications.

State-of-the-art injection moulding and rubber compression moulding machines are used to manufacture screening media. Eight of the world's largest press machines are used in the manufacturing process, as well as automated casting and cylindrical welding machines.

### Screening Solutions from Multotec comprise:

- Screen Panels
- Trommel Screens
- Sievebends and Static Screens
- Centrifuge Baskets
- Interstage Screening Solutions
- Frames and Rail Systems
- Screening Media Accessories
- Custom Maintenance Solutions

Our **screening media** solutions are proven to deliver **long life** and high drainage capacity



# Solutions

Our screening media aperture sizes and panel materials are customised for all minerals, from coarse, heavy-duty to ultra-fine applications.

**Our industry-specific screening media solutions include:**

- **Coal** – Polyurethane Screens, Rubber Screens and Wedge Wire Screens
- **Diamonds** – Polyurethane Screens, Rubber Screens and Wedge Wire Screens
- **Iron Ore** – Polyurethane Screens, Rubber Screens and Wedge Wire Screens
- **Copper** – Polyurethane Screens, Rubber Screens and Trommel Screens
- **Gold** – Polyurethane Screens, Wedge Wire Cylinders and Trommel Screens



# optimising

For over 40 years, we have been at the forefront of optimising the mineral processing industry, and have therefore become a leading authority in mineral processing equipment.

Our equipment range is suited for use in classification and dense medium applications in the heavy mineral and coal industries. Engineered to minimise downtime and reduce overall energy requirements, our processing equipment ensures optimised processing efficiency, ultimately lowering your plant's overall cost per ton.

Multotec clients range from power generation companies to the world's biggest mining houses. Cyclones, gravity concentrators, magnetic separators and flotation wear components are field-tested in real conditions to ensure our clients receive the best possible processing solution.

All products are **field-tested** in real conditions



## Mineral Processing Equipment

### Processing solutions:

- **Cyclones** – incorporate our leading scrolled evolute design
- **Gravity Concentration Products** – work in tandem with other product applications
- **Magnetic Separators** – provide maximum wet and dry recovery and separate magnetic media at high densities
- **Flotation Wear Components** – wet flotation wear components are hard wearing and resistant for all flotation cells



## Sampling Solutions

We have 28 years' experience in manufacturing and supplying sampling equipment, having done so under licence to German-based Siebtechnik GmbH since 1987. This has enabled us to provide accurate, unbiased samplers for all minerals and commodities, including volume characteristics and properties, while taking clients' technical and project specifications into account.

All our sampling solutions are available as comprehensive turnkey solutions and are fully customisable.

### Our sampling products comprise solutions for:

- **Wet Sampling** – achieve accurate and repeatable results
- **Dry Sampling** – complete turnkey dry sampling solutions for run-of-mine or product materials in nearly all mining and mineral processing industries
- **Ancillary Dry Sampling & Preparation** – provide secondary accurate and precise sampling solutions for conveyed and gravity flow mineral streams

Our **fully customisable sampling solutions** are also available as comprehensive **turnkey solutions**



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# durability



Multotec's wear resistant linings are synonymous with quality, durability and strength. Custom-designed to application requirements and configured to reduce wear and improve material flow, our specialisation enables us to design a multitude of configurations for application-specific wear solutions.

In order to protect your mineral processing equipment from impact wear, high-quality abrasion- and impact-resistant wear solutions are manufactured and installed to exact requirements. Multotec linings include rubber, ceramic and composite solutions that provide protection against high-velocity impact and sliding abrasion for pipelines, chambers, transfer points and chutes. Cast basalt, which offers thermal protection up to 400° C, is used for our heat-resistant abrasion solutions.

*High-quality abrasion- and impact-resistant **wear solutions** are manufactured and installed to **client requirements***



## Wear Lining Solutions

### Our product range comprises:

- Ceramic Wear Resistant Tiles
- Cast Basalt Wear Resistant Material
- Multoslip Low Friction Lining
- Direct Bonded Ceramic Pulley Lagging
- Epoxy Wear Linings
- Steel Liners
- Rubber Wear Plates
- Composite Liners:
  - Rubber / Ceramic
  - Polyurethane / Ceramic
  - Hardox / Ceramic



## Mill and Scrubber Linings

Designed from rubber or rubber composite liners, our mill and scrubber linings can be used in a wide range of applications. By combining the results of computer simulations and inspection data, we are able to optimise charge trajectory and wear life. Mill linings minimise gold lock-up and facilitate increased throughput by reducing blinding of the grate plates.

Ongoing design improvements and high service levels mean an improved grind for our clients' AG Mills, SAG Mills, Ball Mills and Scrubbers, and extended periods

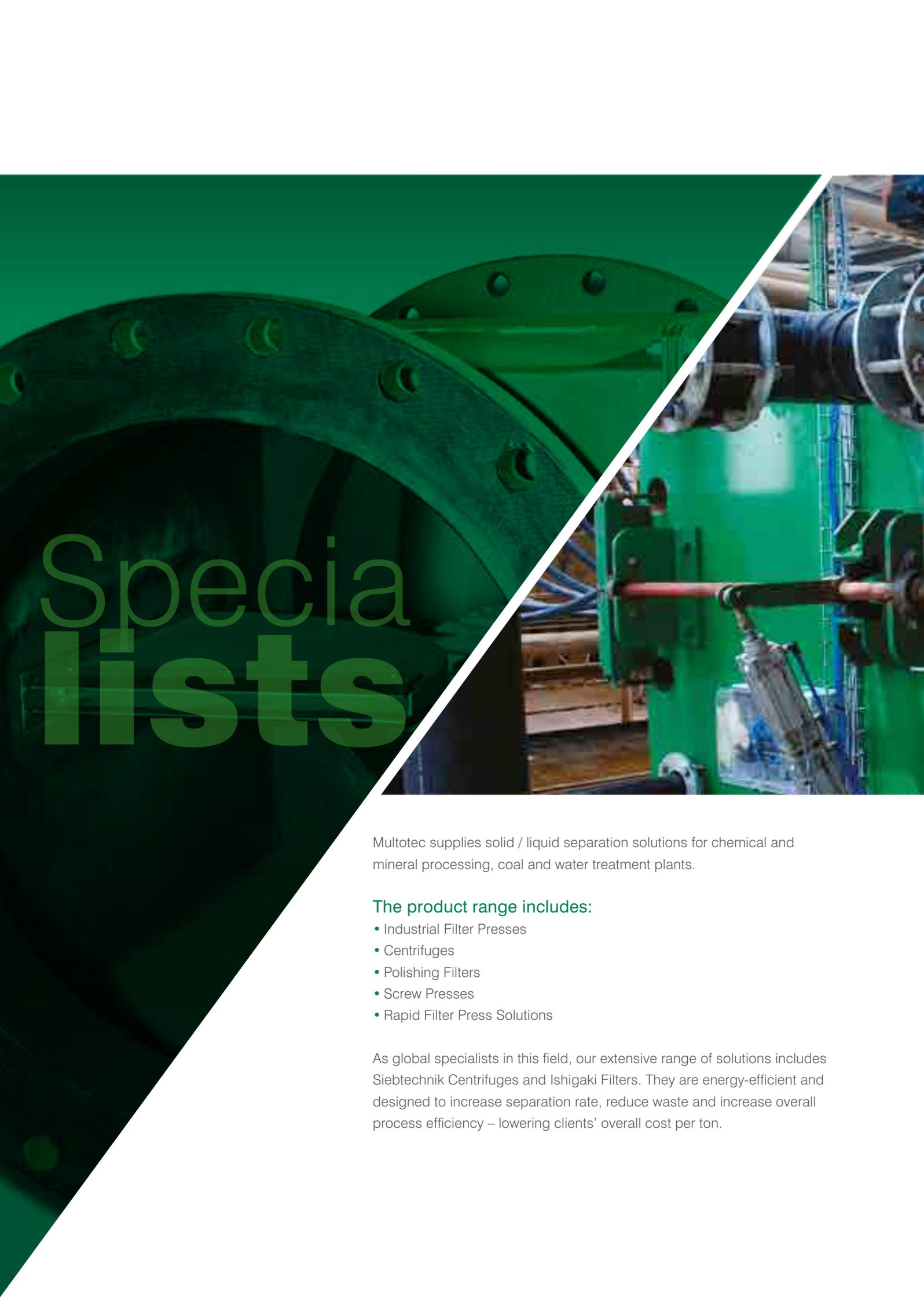
between shuts. The rubber compound used in Multotec's lining components provides a combination of good impact, cut and abrasion resistance, increasing productivity. Reduced noise levels also contribute to an improved working environment.

In addition to standard rubber components, we supply MultoMet composite lifter bars, shell plates and head plates. Stock control assistance and condition monitoring services are also available.

By combining the results of **computer simulations** and **inspection data**, we are able to **optimise** charge trajectory and wear life



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per  
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# Specialists

Multotec supplies solid / liquid separation solutions for chemical and mineral processing, coal and water treatment plants.

#### The product range includes:

- Industrial Filter Presses
- Centrifuges
- Polishing Filters
- Screw Presses
- Rapid Filter Press Solutions

As global specialists in this field, our extensive range of solutions includes Siebtechnik Centrifuges and Ishigaki Filters. They are energy-efficient and designed to increase separation rate, reduce waste and increase overall process efficiency – lowering clients' overall cost per ton.

We provide solid / liquid separation solutions for **chemical** and **mineral processing, coal** and **water treatment** plants



## Solid / Liquid Separation Solutions

Our team of skilled engineers have the process flow sheet expertise to supply solid / liquid separation equipment that can be seamlessly integrated into new and existing applications. This equipment is designed for high-capacity, energy-efficient filtration and achieves effective separation in dewatering applications using far less energy.

Multotec solutions are supplied by Seprotech, a member of the Multotec Group.



# Conveyor System Solutions

Multotec markets, distributes, installs and services MATO brand products for its conveyor system solutions. MATO products are proven to reduce downtime and increase savings on overheads through lower friction, product longevity and easy belt tracking.

## Our conveyor system solutions comprise:

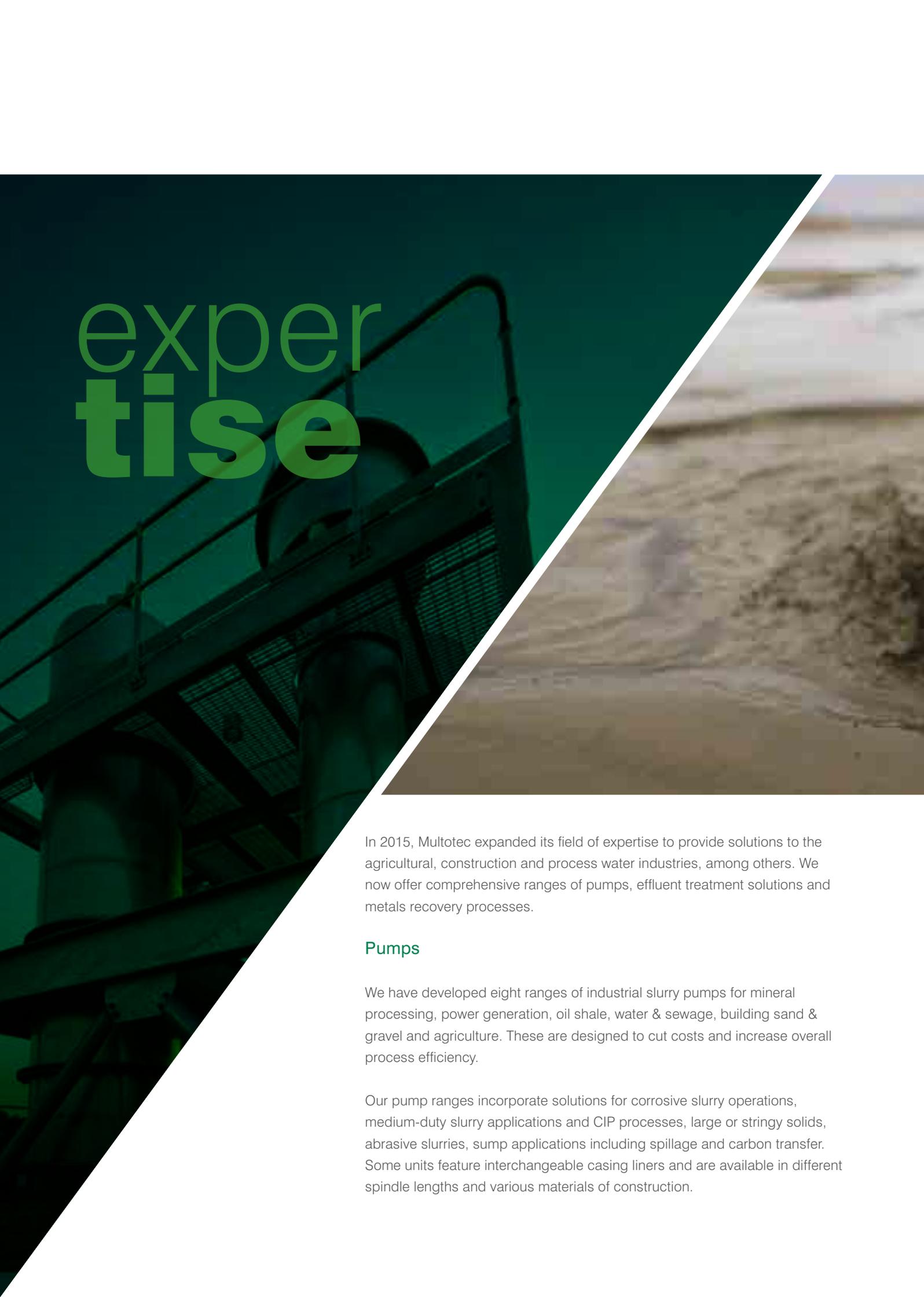
- **Multolag™ Pulley Lagging** – a bond ceramic pulley lagging system for drive and non-drive pulleys
- **Multotec Loading Points** – rubber-manufactured low-friction impact bars, compounded specifically for high-energy absorption
- **Primary and Secondary MATO Belt Cleaners** – provide high cleaning levels and guarantee smooth, efficient conveyor belt functioning
- **MATO Belt Fasteners** – high-performance fasteners and light tensile conveyor belt fasteners

Conveyor system solutions from Multotec enable **high performance** and **easy belt tracking**



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# exper tise

In 2015, Multotec expanded its field of expertise to provide solutions to the agricultural, construction and process water industries, among others. We now offer comprehensive ranges of pumps, effluent treatment solutions and metals recovery processes.

## Pumps

We have developed eight ranges of industrial slurry pumps for mineral processing, power generation, oil shale, water & sewage, building sand & gravel and agriculture. These are designed to cut costs and increase overall process efficiency.

Our pump ranges incorporate solutions for corrosive slurry operations, medium-duty slurry applications and CIP processes, large or stringy solids, abrasive slurries, sump applications including spillage and carbon transfer. Some units feature interchangeable casing liners and are available in different spindle lengths and various materials of construction.

**Multotec provides solutions to the agricultural, construction and water industries, specialising in comprehensive ranges of pumps, effluent treatment solutions and metals recovery processes**



## Pumps, Process Water Treatment and Metals Recovery

Multotec pumps ensure operators attain maximum uptime and reduce unnecessary overhead expenditure.

### Process Water Treatment Solutions

Continuous Ionic Filtration or CIF<sup>®</sup>, developed by Australian-based CleanTeQ to cater to the effluent treatment industry, forms part of Multotec's water treatment solution. CIF<sup>®</sup> is suitable for treating process water and for reducing scaling and fouling risks.

Built on the foundations of continuous counter-current ion exchange, CIF<sup>®</sup> is similar to continuous sand filtration, where ion exchange resins are used instead of sand. The process continually removes both solids and dissolved salts from water, leading to high water recovery with minimum pre-treatment requirements.

CIF<sup>®</sup> is ideal for coal seam gas, cooling tower blowdown, ground and surface water, industrial wastewater effluent and acid mine drainage (AMD).

### Metals Recovery Solutions

We combine the most efficient extraction and purification technologies with the best resin. Our metals recovery solution, CleanTeQ's Clean-iX<sup>®</sup>, is suitable for recovery of base metals, gold, uranium, rare earth elements and scandium. Through continuous counter-current ion exchange, this method targets the recovery and purification of metals from pulp and other resin-based solutions.

Clean-iX<sup>®</sup> facilitates high product recovery while ensuring products are of high purity, and also enables a reduction in the size of downstream processing units.



## Services

### Field Services

More than a process equipment supplier, Multotec's entire range of mineral processing equipment is backed by extensive field service and maintenance agreements, aimed at ensuring solution longevity and superior product performance.

Our engineers and technicians conduct onsite application-specific plant and process audits to assess site-specific needs as well as advise clients on which of our diverse range of products would best optimise their production.

We also deliver clients' optimised solutions to site and install or retrofit equipment onsite, taking the client's process flow sheets into account. Testing is conducted to ensure optimal operation and seamless integration. Multotec will partner with you for ongoing field service and maintenance throughout your equipment's lifecycle using our strategically-placed, mobile service crews.

### Condition Monitoring

Our condition monitoring products provide real-time, actionable data. They monitor product solution wear rates and compare them against productivity – alerting clients to potential problems before equipment damage or downtime is caused.

#### Our condition monitoring systems include:

- **Hawkeye™** – a web-based system that captures and records wear and life data for mill liners, screen panels and cyclone components, and indicates design improvements
- **Mill Scan** – a laser measuring device which continuously monitors the condition of liners and predicts liner life in mills
- **PIG-I (Pipeline Condition Monitoring)** – is a Pipeline Integrity Gauge that facilitates preventative maintenance and provides condition-based monitoring for pipelines



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## Design Capabilities

Our design capabilities, offered as part of our after-sales service but used primarily in the pre-manufacturing phase, include those incorporated in our manufacturing portfolio, as well as Plant & Process Optimisation and Test Work Support.

Multotec's CY-i cyclone sizing software guarantees the correct cyclone design choice according to your application requirements.

## Technical Capabilities

We provide technical support, from aiding with appropriate equipment selection through to delivery accuracy, and hot and cold commissioning. In addition, comprehensive plant, process and equipment audits are carried out on request, and retrofitting equipment is standard service.

Our audits comprise Plant & Process Audits, Screening Audits, Cyclone Audits, Spiral Audits, Milling Circuit Audits and Wear Audits. With regards to retrofitting, our available resources ensure a seamless operation. All retrofitted equipment is capable of extracting maximum value from your mineral processing application.

# Industries We Service



# Know ledge

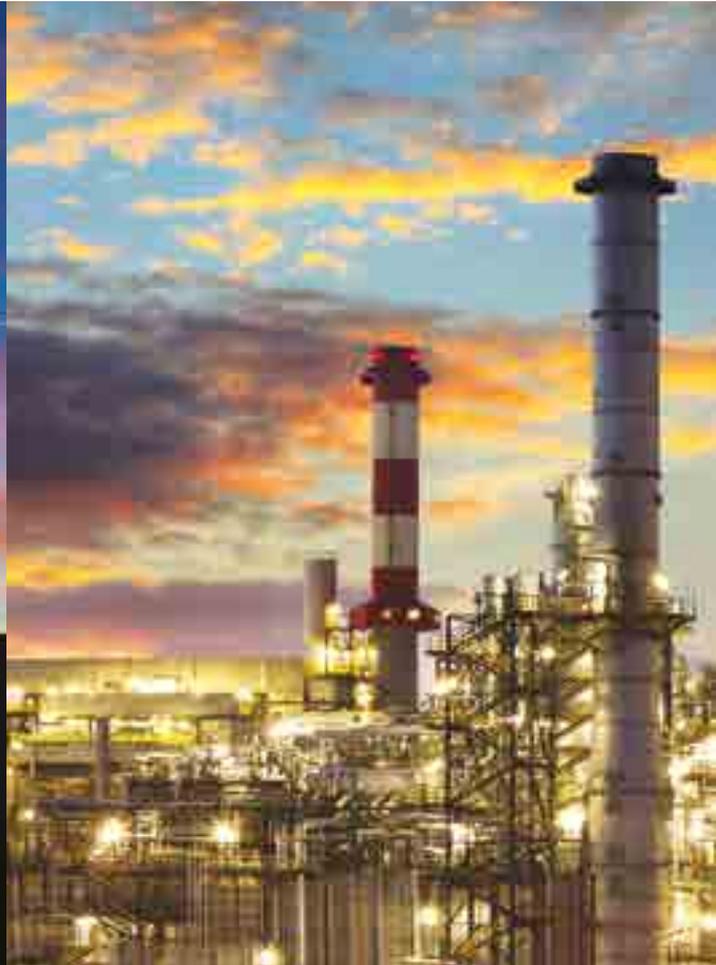
Our decades of application knowledge, paired with our teams of sales and technical engineers and dedicated, skilled employees, have allowed us to customise, redesign and retrofit our equipment for use in the world's major industries.

## Mineral Processing

Our core business revolves around the supply of products and services to the mineral processing and mining industries. The solutions we offer enable total mineral processing optimisation and increased processing plant utilisation.

We manufacture a complete range of equipment that delivers maximum-efficiency classification and separation solutions.

We **design, customise** and **retrofit** our **equipment** for use in the world's major industries



## Our solutions are used in:

### Power Generation

We enhance power generation plant performance to enable a lower unit cost through an array of robust and reliable processing solutions.

Our solutions for power generation include both raw coal transfer systems and P.F. handling equipment, which are easily installed and retrofitted as tailored process solutions.

### Process Water Treatment

We provide mineral process water treatment solutions and a range of efficient extraction and purification technologies and processes, ideal for full-scale and mobile water treatment plants.

We offer a viable alternative, or complement to, reverse osmosis desalination on a wide range of waters.

### Chemicals

We offer onsite maintenance and installation on a contract basis to some of the largest chemical manufacturers of synthetic fuels and gases in the world.

Our wear linings provide superior protection, engineered with a combination of rubber, steel, polyurethane and ceramics to form the optimal solution.

# Association Membership

Through a collaborative approach to business, Multotec remains at the forefront of altering the mineral processing industry. Multotec has enhanced operations in mining, mineral processing and power generation through high-quality process equipment for over 40 years.

## Multotec is an active member of a number of Industry Associations:

- **SACEEC** – The South African Capital Equipment Export Council
- **SAMPEC** – The South African Mineral Processing Equipment Cluster (of which we are a founding member)
- **SAIMM** – The Southern African Institute of Mining and Metallurgy
- **SACPS** – The Southern African Coal Processing Society
- **MMMA** – The Mine Metallurgical Managers' Association of South Africa
- **IOM<sup>3</sup>** – The Institute of Materials, Minerals and Mining South Africa

*Multotec has enhanced operations in mining, mineral processing and power generation through high-quality process equipment for over 40 years*



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Screening Solutions	Mineral Processing Equipment	
Sampling Solutions	Wear Lining Solutions	Mill and Scrubber Linings
Solid / Liquid Separation Solutions	Conveyor System Solutions	
Pumps	Process Water Treatment and Metals Recovery	



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