African HEMICAL

Sasol and Air Liquide to Launch the Renewable Energy Procurement Programme for SA Operations

ENGEN RTT to Shape the Future of RSA'S Liquid Fuels Industry



African PETROCHEMICALS IPP & Renewables

SETTING UP YOUR VALVES FOR SUCCESS

Most valve damage is caused by installation and related issues, says JP Thysse, Senior Technician at Allmech, leading South African manufacturer of boilers and supplier of water treatment components. This includes: water damage to motor and electrical components, damage caused by power spikes, debris (sand, grit or stones) stuck in the valve, erosion or other damage caused by high water turbidity and damage due to overtightening of the valves and fittings.

"These problems are often caused by poor setup," he says. "For example, we see internal damage because no water analysis has been done on the main raw water supply, or there's no pre-filtration system to remove large particles. We also see water damage occurring from installations outside, with no protection from the natural elements."

"Remember that the manufacturer's conditions for feed water supply must be met, or your warranty will be voided," Thysse says. "Before installing your valve, inspect the system and all the connection fittings carefully, making sure nothing is damaged during shipping. If any part is cracked or broken, please do not proceed with the installation."



Grit and dirt inside the valve.

F63 valve on test bench.

it. Our website also offers all our valve manuals with installation guidelines and troubleshooting."

Allmech has the country's only Runxin valve test facility, meaning the company can test and verify if Runxin valves are running within their parameters. "We can change various parameters, for example the water pressure, to see how the valve is completing its cycle," Thysse explains. "The test bench helps to determine or identify potential problems on the valve. We also carry spares for all valves supplied by us. You may need to replace just one small component (valve motor, main control board or valve body for example)."

Allmech offers a 6-month warranty on parts replaced. "Our experienced in-house team can help clients with various valves, not only the Runxin range, and we offer training for field teams too. There's even a Whatsapp group offering more technical information and solutions for various challenges other companies have overcome on site," Thysse concludes.

Expert setup advice

Thysse's top advice for valve setup includes ditching the thread tape (most control valves come with O-rings, making it easier to seal the fittings used – no tape necessary), and to avoid overtightening fittings, which can crack the valve body.

"When using copper pipe, do all the soldering before connecting pipes to the valve," he advises. "Torch heat will damage plastic parts. When using galvanized pipe onto plastic fittings, take care not to cross-thread. The brine tube and drain pipeline should not be bent or plugged, and it's important to ensure your water pressure is within the operating recommendations. Also, change the injector fittings depending on the flows and vessel sizes, and ensure the valve has 24-hour power and water supply. I also recommend that softening/filtration plants are installed inside a building or under a roof to avoid weather damage."

Finally, Thysse advises ensuring that the valve is connected correctly so that no hot water can flow back into the softener (install a non-return valve if necessary), and using a bypass valve so that the valve can be isolated if maintenance or repairs are required.

If your water pressure is not constant, you can consider installing a booster pump (to protect your softener's ability to regenerate). It's also worth installing surge protection if you are worried about dips and spikes in power supply. "Alternatively, choose a valve that has a manual override so that the unit can still change programmes when there is no power," says Thysse.

What to do if you suspect valve damage

"Contact the Allmech office," suggest Thysse. "We will try to talk you through some troubleshooting onsite to help you determine if the valve should be sent in for repairs. This could be done over the phone or in a video call. Alternatively, if that does not help, you are welcome to send it to us so we can test it and repair it if it is still under warranty. We will always quote you before going ahead with a repair. This way you can decide what would be better – to replace the valve or repair

About Allmech

Allmech was founded in 1995 and has grown over two decades to become one of South Africa's leading boiler manufacturers and suppliers to the water treatment industry. Allmech offers a comprehensive range of electrical, gas and oil-fired boilers with water treatment to suit.

With a customer base stretching from its head office in Benoni, Johannesburg, throughout Southern Africa and beyond, Allmech has become recognised as an experience end-to-end provider for clients requiring boiler plant, steam supply of all types, cooling towers, water treatment equipment and associated chemical programmes. Aside from sales to direct and distributor clients, the company's services include technical support, repairs and maintenance, and spares sales.

Allmech is also the only authorised South African agent for Runxin valves, produced by the global Wenzhou Runxin Manufacturing Machine Co., headquartered in China.

For more information, visit:

www.allmech.co.za. or https://www.allmech.co.za/wp-content/uploads/2019/11/1-F63-Softener-Valve-Installation-V1.pptx

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African PETROCHEMICALS IPP & Renewables

African Petrochemicals is published quarterly by Direct Publications cc

Quarterly Edition 18.1

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SVM provides several parameters of your sample such as kinematic and dynamic viscosity (ASTM D7042), density (ASTM D4052), viscosity index (ASTM D2270), and API grades (API 2540) from a single syringe – gone are the days of having to perform several measurements.

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The implementation of ASTM bias statements for a multitude of samples (e.g. jet fuel, diesel and biodiesel, formulated oils, residual fuels) enables you to utilize the full range of benefits that come with our smart viscometer while reporting D445 results, if required.

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Thanks to the optimized design of the measuring cell, SVM requires as little as 1.5 mL of sample and solvent for cleaning. Despite the outstanding performance, the average energy consumption of 50 W is very low compared to traditional capillary measuring systems.

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SVM is fully functional as a stand-alone, space-saving instrument in your laboratory. The embedded PC provides all necessary calculations needed for your measurements, while the integrated Peltier thermostatting technology enables temperature control without a liquid bath or counter-coolers.

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SVM features a user-friendly interface that puts 15 measuring parameters at your fingertips. The instrument is ready for use right out of the box. Simply inject the sample and start the measurement. FillingCheck™ makes sample handling easy by detecting filling errors. SVM series smart viscometers have no breakable glass capillaries and require minimal maintenance, reducing expensive downtime and making your daily work easier.

Kinematic viscometer: SVM Model options

SVM 2001 – The most economic kinematic viscometer

 $\bullet \ \ \mathsf{ASTM}\text{-}\mathsf{compliant}, automated \ \mathsf{viscosity} \ \mathsf{measurements} \ \mathsf{with} \ \mathsf{little} \ \mathsf{effort} \ \mathsf{at} \ \mathsf{an} \ \mathsf{affordable} \ \mathsf{price}$

- Temperature range from +15 °C to +100 °C
- Easy handling without leaks or breakages
- Tool-free access to measurement cell for convenient cleaning
- Highest economic efficiency thanks to low sample, solvent, and energy consumption
- · Ready to measure out of the box

SVM 3001 – Wide-range viscometer for unparalleled flexibility

- One instrument for all samples from jet fuel to waxes
- · No change of capillaries necessary
- Widest temperature range (-60 °C to +135 °C)
- Cooling down to -20 °C without external counter-cooling
- Rapid heating and cooling rates (up to 20 °C/min)
- Quick temperature scan delivering information about the temperature behavior of your sample
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SVM 3001 Cold Properties – Your all-in-one solution for low-temperature applications

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- Superior temperature performance
 - Down to -20 °C without counter-cooling
- Methanol-free cooling down to -60 °C
- Quick temperature scans for pumpability behavior of fuels
- Cleaning and drying at sub-zero temperatures without warming up inbetween

SVM 4001 – Experience "The power of two"

- Fastest viscosity index (VI) determination compliant to ASTM D2270, from the lowest sample volume
- Innovative double-cell design for simultaneous measurement of kinematic viscosity and density at any two temperatures between +15 °C and +100 °C, for example:
- 40 °C and 100 °C for viscosity index of base oils and lube blends
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- 15 °C for density and 40 °C for viscosity of fuel oils
- Convenient viscosity-temperature extrapolation according to ASTM D341

Contact:

Anton Paar Southern Africa – Product Manager for Viscometry: Rick Vosloo Email: rick.vosloo@anton-paar.com Tel: +27 82 902 7666 / +27 10 443 0950

FRONT COVER STORY



Averda's new, state-of-the-art blending facility can transform your business's hazardous liquid waste into useful fuel, ensuring zero waste to landfill and helping develop South Africa's circular economy.

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We will work with your company to ensure all your waste and environmental concerns are met. Together we can deliver your 'zero waste to landfill' and wider corporate sustainability ambitions, providing your business and stakeholders certified proof that your waste has been diverted from landfill, and reducing your downstream liability.

The unique and ATEX-rated design of our new plant allows for a fully controlled and automated

mechanical blending of hazardous liquids. It will include an on-site laboratory to mix and manage all varieties of hazardous liquid waste, including neutralization, classification and verification of suitability for transformation into waste-derived fuel. We are able to responsibly manage the risk characteristics of all waste types, whether acidic, corrosive or low ash-point, with an excellent safety record including **1400 ISO accreditation**.

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FAIR. COMPETITIVE PRICING REGULATORY COMPLIANCE EXCELLENT HEALTH AND SAFETY END-TO-END TRACEABILITY COMPLETE BENEFICIAL CO-PROCESSING OF WASTE





Sasol and Air Liquide are inviting bidders to participate in a Request for Proposal (RFP) process for the supply of renewable energy to Sasol's South African operations.

An international integrated chemicals and energy company, Sasol's core business is leveraging technologies and the expertise of its people to build and operate world-scale facilities to produce a range of high-value product streams, including liquid fuels, chemicals and low-carbon electricity. The company's largest operations are in South Africa specifically Secunda in Mpumalanga and Sasolburg in the Free State.

As communicated to the market, Sasol has set a greenhouse gas (GHG) target for our South African operations to reduce emissions by at least 10%, off a 2017 baseline, by 2030. The introduction of renewable energy will be a significant contributor to our decarbonisation efforts.

Subsequent to setting the 2030 target, Sasol entered into an agreement with Air Liquide for the sale of the Air Separation Units (ASUs) at the Secunda site. Air Liquide also committed to GHG emission reduction interventions over and above those committed by Sasol.

"Due to the highly integrated nature of the Secunda site and the footprint associated with the ASUs, collaboration between the companies is necessary to ensure optimal GHG reduction benefits," said Lebelo Lukhele, Chief Procurement Officer: Energy Business.

"It is anticipated that a collaborative approach will not only result in the original Sasol commitment for the Secunda site being met, but will also be exceeded through the combined efforts."

As a result of the sale and the collaborative decarbonisation approach, both companies will now jointly procure 900MW of renewable energy by 2030, with an end state allocation of 500MW to Sasol and 400MW

to Air Liquide, significantly increased from Sasol's originally intended 600MW. This transaction will represent the largest renewable energy procurement deal from the private sector in South Africa and is testimony to the opportunities that emanate from partnering.

"We are targeting the procurement of the first 600MW of capacity this year [around 1800 GWh per year] of which 400MW will be allocated to Air Liquide and 200MW to Sasol, with the envisaged commercial operation dates commencing in 2023," added Lukhele.

It is envisaged that the successful bidder(s) will supply energy as Independent Power Producer(s), in terms of Power Purchase Agreement(s) to be agreed between the parties.

In aligning with the Integrated Resource Plan (IRP 2019), Wind and Solar Photovoltaic (PV) technologies are favoured for the first tranche of the programme. The individual projects must demonstrate a generation capacity of at least 70MW [~200 GWh per year].

Interested bidders may apply for access to the RFP by sending their company profiles with contact details to both: renewable.energy@sasol.com and za-renewable@airliquide.com.

The closing date for submissions of expressions of interest is 23 April 2021.

Sasol is committed to further reduction opportunities to accelerate our decarbonisation efforts, aligned with our 2030 roadmap and with a focus on green hydrogen, the introduction of natural gas and energy efficiency improvement.

Sasol may, in this document, make certain statements that are not historical facts that relate to analyses and other information which are based on forecasts of future results and estimates of amounts not yet determinable. These statements may also relate to our future prospects, developments and business strategies. Examples of such forward-looking statements include, but are not limited to, statements regarding exchange rate fluctuations, volume growth, increases in market share, total shareholder return, executing our growth projects (including LCCP), oil and gas reserves and cost reductions, including in connection with our BPEP, RP and our business performance outlook. Words such as "believer," anticipate", "expect," "intend", "seek", "will", "plan", "could," "may," "endeavour", "target", "forecast" and "project" and similar expressions are intended to identify such forward-looking statements, but are not the exclusive means of identifying such statements. By their very nature, forward-looking statements involve inherent risks and uncertainties, both general and specific, and there are risks that the predictions, forecasts, projections and other forward-looking statements will not be achieved. If one or more of these risks materialise, or should underlying assumptions prove incorrect, our actual results may differ materially from those anticipated. You should understand that a number of important factors could cause actual results to differ materially from the plans, objectives, expectations, estimates and intentions expressed in such forward-looking statements. These factors are discussed more fully in our most recent annual report to n Form 20-F filed on 28 August 2018 and in other filings with the United States Securities and Exchange Commission. The list of factors discussed therein is not exhaustive; when relying on forward-looking statements to make investment decisions, you should carefully consider both these factors and other uncertainties and events. Forward-looking statements apply only as of th

Please note: One billion is defined as one thousand million. bbl – barrel, bscf – billion standard cubic feet, mmscf – million standard cubic feet, oil references brent crude, mmboe – million barrels oil equivalent. All references to years refer to the financial year 30 June. Any reference to a calendar year is prefaced by the word "calendar".



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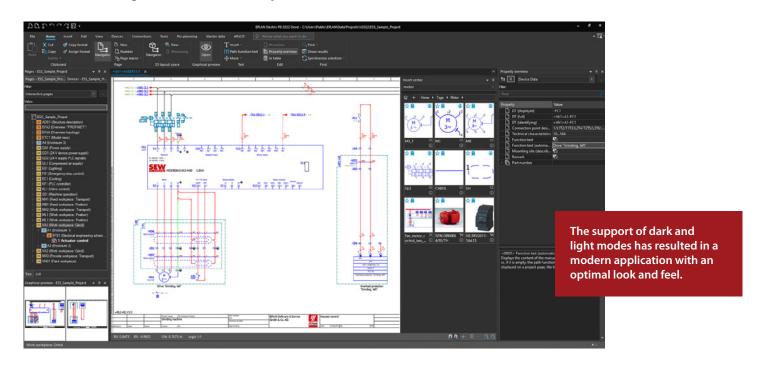


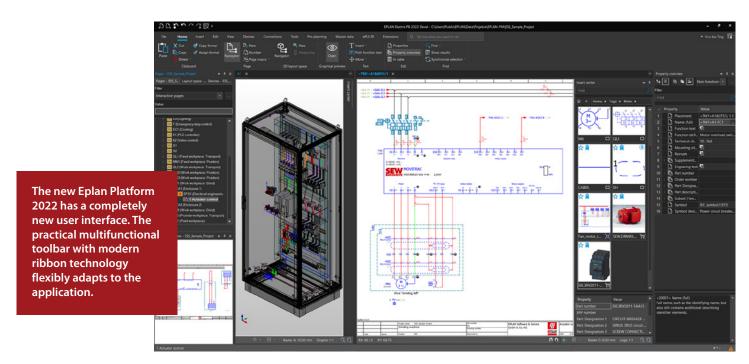




SNEAK PREVIEW OF THE EPLAN PLATFORM 2022

At the Hannover Messe Digital Edition, solutions provider EPLAN presented a first look at the coming EPLAN Platform, being launched in summer. A completely new user interface with ribbon technology and dark mode is in tune with current software trends and further ensures ease of use. The new 2D graphic module and central device management provide optimum performance. And yet another practical plus: the cloud service EPLAN eManage ensures integrated engineering with the combination of on-premise and cloud. The changeover to the new subscription model will make the use of the software even more flexible.





Monheim, Germany, 12 April 2021 – The highlight of the EPLAN Platform 2022 is a completely new user interface that significantly improves the overall ease of use. The focus here is on simplicity and clarity, with optics and functionality based on state-of-the-art apps for mobile devices and internationally established desktop applica-tions. Variable tabs give users direct access to important and often-used functions. The practical multifunctional toolbar with modern ribbon technology flexibly adapts

to the application, for instance when switching from 2D to 3D. It also combines different menus and toolbars into one, making daily work easier for experienced users while at the same time enabling an efficient (re)introduction to the software. Furthermore, EPLAN has completely redesigned the user interface for both 2D and 3D engineering. The overall result is a modern application with an optimal look and feel, not least via the support of dark and light modes.







Strong performance even for large projects

A completely new graphics module in the 2D area ensures optimal performance, even for large projects. Processing has been significantly accelerated, particular-ly when importing DXF or DWG files. The new central-ised device management also serves as a performance driver and additionally offers more flexibility for converting device data by way of object-oriented data management. The integrated variant management allows users to save all device properties with the individual variant. Now devices can easily be assigned different macros in no time at all – for easy processing of external device data, even in combination with Excel.

Good overview at the project level

The new Backstage view lets users edit all aspects of an EPLAN Project from a central location – for instance opening and creating projects, importing DWG files, and exporting PLC or manufacturing data. A list of the recently used projects provides an excellent overview – as does the logical organisation of all project-related actions. And the newly integrated insertion centre unifies all the functions for inserting symbols, macros and devices, including a graphic preview – everything that is needed for efficiently creating schematics. Frequently used components can be marked as favourites and tagged for individual workflows.

EPLAN eManage combines Platform with the cloud

The new EPLAN Platform 2022, which is being launched this summer under the motto "It's in your hands", features many more innovations. One of them is the direct connection of on-premise and the cloud. Now with EPLAN eManage, projects from the EPLAN Platform can be uploaded directly into the cloud environment and be shared and managed from there. The free version has been available since mid-March. The fact that the EPLAN Platform 2022 is being offered exclusively as a subscription once again underpins the clear focus on the future. Especially in volatile times, the investment risk for companies is reduced by way of low entry prices and more flexible planning options for individual software use.

Find out more at:

https://www.eplan.co.za/solutions/eplan-platform/eplan-platform-2022/

About EPLAN

EPLAN provides software and service solutions in the fields of electrical, automation and mechatronic engineering. The company develops one of the world's leading design software solutions for machine and panel builders. EPLAN is also the ideal partner to streamline challenging engineering processes.

Both standardised as well as customised interfaces to ERP and PLM/PDM systems ensure data consistency along the whole value chain. Working with EPLAN means boundless communication across all engineering disciplines. No matter whether small or large enterprises: Customers can apply their expertise more efficiently. EPLAN wants to grow further with customers and partners and pushes integration and automation in engineering forward. Worldwide, EPLAN supports over 58,000 customers. "Efficient engineering" is the focus.

EPLAN was founded in 1984 and is part of the owner-operated Friedhelm Loh Group. The Friedhelm Loh Group operates worldwide with 12 production sites and 96 international subsidiaries. The entire group employs 12.100 people and generated revenues of around €2,6 billion in 2019. For the twelfth time in succession, the family business has won the accolade "Top German Employer" in 2020. In addition Friedhelm Loh Group was recognized as "Top vocational trainer" according to a study of Deutschland Test and Focus Money.

For more information visit:

www.eplan.co.za and www.friedhelm-loh-group.com

HOW A BIG BUSINESS BUILT A SMALL ONE: VERIGREEN PACKAGING – A DURBAN SUCCESS STORY

Pinetown-based Verigreen Packaging Pty Ltd is a thriving small business and managing director Gareth Elcox says it represents a textbook example of how big businesses can partner with smaller ones for everyone's benefit.

Founded in 2016, Verigreen Packaging now employs 20 people and produces millions of lubricants' packs every year.

The key catalyst in its development was entering into an Enterprise Supplier Development (ESD) programme with local fuel refiner and retailer Astron Energy,which holds the Caltex license in South Africa and Botswana. Astron Energy's, Lubricants Laboratory Lead, Meshach Soonpall says that, in 2014, they were looking for a new supplier for lubricants' packaging: "The market needed a niche player who could produce small packs and kick up levels of innovation and delivery in an industry dominated by the big players."

Elcox and his partners, with decades of experience between them, had identifiedoil lubricants as possible base for starting a new 51% black-owned packaging enterprise. He says startups were almost unheard of in the industry because of the massive capital investment required in machinery and moulds that can cost more that R10m each. They approached Astron Energy (then trading as Chevron)and received a guaranteed contract and preferential funding which enabled them to begin operations in July 2016. Their equipment is state-of-theart and uses sustainable technology.

Soonpall describes the relationship with Verigreen Packaging as a true partnership which delivers 200ml, 500ml, one-litre and five-litre extrusion blow-moulded containers for Caltex lubricants and private labels: "They have added massive value and are our 'go to' people for any specialised requirements or for problem solving on other product lines".

Elcox says that smaller businesses like Verigreen Packaging cannot gain significant traction and growth solely on a tender basis because the bigger and more established operators will always have lower costs: "This kind of programme is essential to enable SMEs to get guaranteed work which allows for capital investment." He describes the Astron Energy procurement process and team as one of the most sophisticated and mature in the country.

Astron Energy CEO Jonathan Molapo believes it is an obligation on every big enterprise to make building up smaller suppliers a core part of their business model. He says the Enterprise Supplier Development programme has provided more than R100m in interest-free loans and credit lines since its inception in 2015: "It's a genuine winwin; the small enterprise gets a foundation on which to invest and develop, and we get a sustainable, transformed

local partner."



WEST COAST MINER INSTALLS SLURRYSUCKER FOR POND DREDGING TRONOX: Heavy minerals company Tranox Mineral Sands took delivery of a SlurrySucker dredging unit from Integrated Pump Rental.

A SlurrySucker dredging unit, locally manufactured by Integrated Pump Rental, will ensure optimal operation of Tronox's dams at the heavy mineral miner's operation on the West Coast of South Africa.

Following a successful one-week trial, heavy minerals company Tronox Mineral Sands took delivery of a SlurrySucker dredging unit from Integrated Pump Rental.

The SlurrySucker will remove sand from the process dams near the Tronox mining operation on South Africa's West Coast. This installation enhances the safety and efficiency of the dredging process, which previously had to be carried out manually by a team of underwater divers.

"The pumping capacity of the dredging unit will ensure optimal operation of Tronox's dams which need to be kept at the required storage volumes at all times," says Ruaan Venter, rental development manager at Integrated Pump Rental.

The dredging unit will assist Tronox to regularly clean sediment from our process dams, reducing the risk of pump blockage or failure. This solution aims to provides rapid results on a cost-effective basis, while the remote operation raises safety levels.

To withstand the corrosive effects of salt water, the SlurrySucker has been equipped with a stainless steel casing as well as stainless steel components including wear plates and impellers. The units were manufactured locally at Integrated Pump Rental's facility in Jet Park, Johannesburg.

The SlurrySucker will remove sand from the process dams near the Tronox mining operation on South Africa's West Coast.

The SlurrySucker dredging unit comprises a floating barge with an electric hoist operated from the side of the dam. This ensures a high level of safety with the barge being operated remotely, including the lifting and lowering of the pump. At Tronox, the SlurrySucker is designed to pump 150 cubic metres per hour of sediment – with a solids content of 50% – back to the thickener in the plant.

"The electrically-driven unit also makes sure that there is no risk of contaminating the water in the dams with diesel or oil leakage," Venter says. The compact unit is easy to transport between the dams requiring dredging, making for optimal usage of the equipment.

With its local manufacturing capability and technical support offering, Integrated Pump Rental is well equipped to maintain the SlurrySucker out of its modern Johannesburg facility.

Contact information

Website: www.pumprental.co.za

LinkedIn: https://www.linkedin.com/company/integrated-pump-renta-/?viewAsMember=true

Facebook: https://www.facebook.com/IntegratedPumpRental/

Instagram: https://www.instagram.com/ipumprental/











A PARADIGM SHIFT IN THE MAKING FOR RENEWABLE ENERGY DEMAND?

"Renewable energy demand has grown by an impressive 8% from 2019 to 2020, during a year where energy consumption and industry output has slumped across most of Europe," says Tom Lindberg, Managing Director at ECOHZ – commenting on new statistics from the Association of Issuing Bodies (AIB). Lindberg suggests that a paradigm shift can be in the making, with reductions in the year-over-year surplus of renewable energy a likely reality.

Demand growth continues

Despite alarming predictions, the market demand for renewables has continued to grow at a steady pace during 2020. The impact of lower industrial activity as a result of COVID-19 has been limited, and the European thirst for renewables seems unstoppable. This is reflected directly in the annual market figures of Guarantees of Origin (GO), produced by the Association of Issuing Bodies (AIB).

The overall tendency in the GO market is a robust and growing market demand, coupled with a somewhat stable supply situation. The market demand has grown by an impressive 8% from 2019 to 2020. This during a year when energy consumption and industry output has slumped across most of Europe. Annual growth (CAGR) from 2008 to 2020 is a solid 17%.

Forces behind the growth

"The corporate sector's need for more renewable power is still the main thrust behind the continued increase in demand. But national energy policy change is also making a positive impact. Specifically, the implementation of full disclosure (various models) in countries like the Netherlands, Switzerland and Austria has contributed significantly. Especially in the Netherlands, with its "best practice" implementation of Full Consumption Disclosure, impacts the market in a positive fashion," says Lindberg.

It is worth noting that the Netherlands with a growing demand reaching 54.4 TWh in 2020, is only able to cover around 50% of the demand from locally originated production. It is in need of importing the rest from other European renewable sources.

Pent up surplus decreases - expiry numbers falling

Although 2020 still shows a slight aggregate surplus of GOs in the market, the trend is clearly that the market is moving toward a better balance between supply and demand. This is also supported by the falling number of GO's expiring (after 12-month validity) – three years in a row. As the market slowly moves from an annual market to monthly and daily, we may expect expired volumes to grow again. This increased market complexity and shorter matching periods may result in less buyers being matched with correct supply.

The relative share of expired GOs compared to Issued certificates during the same periods has shrunk from 8.3%, to 5.2% to 3.4% in 2020. "This is a very clear indication that the historical surplus in the market is about to disappear," states Lindberg.

Some other observations

- The AIB now includes most European countries with significant volumes of renewables – having included markets like Portugal, Serbia, and Slovakia in 2020. The number of countries still outside the AIB and aspiring to join in the next few years is limited. Their aggregate production, and thus potential new renewable supply (GO issuing) is comparably low as well.
- Technology-wise, the main trend is that the growth in wind continues to outpace all other technologies related to issuing.



Hydro is still the largest single source of renewable supply, providing more than twice the volume than wind.

- Norway seemingly has a sharp increase in demand the last 2-3
 years, but most of this increase is related to exports of GOs to the UK
 market, through the Norwegian registry. When Norway's figures are
 corrected for this export, Norway has a flat demand development of
 around 26 TWh.
- Increasingly, we have seen that countries are issuing GOs from non-renewable (fossil and nuclear) sources, but we now also see significant demand for (cancellations) for non-RES GOs. This figure reached almost 90 TWh in 2020, primarily driven by the Netherlands, Austria, Switzerland, Spain and Sweden.

Outlook for 2021 - looking promising

"The outlook for 2021 is promising in terms of market robustness. Summarized, there are four key indicators that clearly can fuel the market toward an equilibrium, or even a situation with demand outpacing supply for periods of time," says Lindberg.

- A likely economic and industrial rebound from the current "COVID-19 situation" will spur a sharp upturn in corporate demand for renewables.
- 2. The hydrological situation in the Nordic region is likely to result in lower power production levels in 2021 than in 2019 and 2020. This may result in an overall drop in the supply of Nordic GOs, with as much as a 10-15 TWh reduction just from the Norwegian market.
- 3. The move away from annual reporting schemes, towards monthly or even shorter reporting periods coming from policy makers in a select number of countries, as well as influential corporate buyers can change the market dynamics significantly.
- 4. Future supply growth is likely to taper off, and will come from new renewable production, and related GO issuing, and less from growth in new AIB memberships. Few potential AIB members have renewable production of such a size that it can influence the aggregate demand significantly.

A "wild-card" in the described market scenario is Brexit. The UK will limit the import of European GOs in 2021, and the total volume is likely to drop from the 59 TWh imported in 2020. As with many issues related to Brexit, the final outcome is not clear yet, but it does mean that a certain surplus volume will need to be transacted in Europe, if not allowed access to UK buyers. Given that the surplus volume is limited to 30-40 TWh, it is realistic to expect this to be negated by higher overall demand growth in Europe.

About ECOHZ

ECOHZ offers global renewable energy solutions to businesses, organisations and electricity providers – providing access to renewable electricity from a wide range of sources, regions and qualities. ECOHZ works with ca 20% of RE100 companies committed to 100% renewable electricity. ECOHZ provides various impact solutions such as corporate PPA facilitation, long-term EAC contracts as well as GO² - a solution combining renewable energy purchases with financing of new renewable power generation. Renewable electricity is documented with Guarantees of Origin in Europe, RECs in North America and International RECs (I-RECs) in a growing number of countries in Asia, Africa, the Middle East and Latin America. ECOHZ is among the leading independent suppliers in Europe and has offices in Norway and Switzerland. ECOHZ plays an active role in the current energy transition through its vision of "Changing Energy Behaviour".

Website:

ecohz.com

BMG'S NEW INTEGRATED GEARED MOTORS FOR HIGH EFFICIENCY

BMG's new NORD DuoDrive unit - an integrated geared unit that combines the recently launched NORD IE5+ synchronous motor and a single-stage helical gear unit in one compact housing - has been designed for optimum system efficiency.

"By installing the motor and the gear unit in one single housing, the lightweight DuoDrive offers many benefits, including high power density, low noise emissions and reduced installation space," says Deon Crous, National Product Specialist, NORD Drive Systems, Electromechanical Drives division, BMG. "With the launch of this new integrated system, NORD DRIVESYSTEMS is setting new energy efficiency standards of drive systems in food and pharmaceutical production, as well as the intralogistics sector.

"Other important benefits of BMG's new DuoDrive are fewer wearing parts, which reduces maintenance requirements and the simple commissioning of a complete solution via plug-and-play, decreases the Total Cost of Ownership (TCO) compared to existing drive systems.

"This corrosion resistant unit has an advanced wash-down design and is suitable for safe use in hygiene-sensitive and harsh environments. Because this unit is easy to wash, cleaning costs are reduced."

The DuoDrive system currently offers the highest efficiency of a gear unit/motor combination in this power class and achieves high system efficiency in the partial load range. This is an advancement on NORD's LogiDrive concept, where the IE5+ synchronous motor is combined with a NORDBLOC.1® bevel gear unit.

DuoDrive units available from BMG cover gear unit speed ratios of i=3.24 to i=16.2 and are designed for torque ranges of up to 80 Nm and speeds of up to 1,000 min-1.

As with all products in the NORD portfolio, DuoDrive is compatible with NORD drive electronics and can be equipped with common hollow shaft dimensions (20 to 40 mm) and flange versions (B5 and B14) or a torque arm. Depending on specific requirements, Harting HAN connectors, M12 round plug connectors or direct wiring are provided for the motor connection. Other options include an encoder feedback or holding brakes.

NORD DRIVESYSTEMS - developed by Getriebebau Nord and assembled locally by BMG - comprise optimum drive configurations, to ensure high-performance of mechanical speed control for specific applications, in almost every industry.

BMG's team of technicians, with extensive experience in gearing, offers a technical advisory and support service throughout Southern



BMG's new NORD DuoDrive unit - an integrated geared unit that combines the recently launched NORD IE5+ synchronous motor and a single-stage helical gear unit in one compact housing - has been designed for optimum system efficiency.

Africa, which is tailored to meet the precise specifications of contractors, designers and the end-user. Local assembly at BMG World in Johannesburg enables prompt delivery of drive systems and the quick availability of spare parts.

For further information:

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Triangle Park, Paarl

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Paarl 7623, South Africa



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ENGEN NAMIBIA RECEIVES COVETED DIAMOND ARROW AWARD

Engen Namibia received a Diamond Arrow Award, at the annual Professional Management Review (PMR) awards ceremony which was held on 15 March 2021 in Windhoek at the Safari Court Hotel.

Engen Namibia was recognised as the "The most admired petroleum/diesel brand in Namibia".

Managing Director of Engen in Namibia, Christian Li, says the award recognises the hard work, dedication and commitment of our team, and business partners together with the support of our valued customers and stakeholders.



Receiving the award, Agnetha Mouton, Engen Marketing & Convenience Manager with Christian Li, Engen Namibia Managing Director and Kim Wentworth, Engen Marketing Specialist.

"We are extremely proud to share this award and would like to thank you for your continued support."

The PMR Africa survey profiles business excellence in Namibia as a growth point and potential investment area for foreign and local developers and investors. Criteria for the award included measuring management expertise and innovation; brand awareness; the implementation of corporate governance and enhancement of economic growth and development in Namibia.

The ratings are based on the perceptions of the respondents taken from a random, national sample of 160 respondents comprising of CEO's, MD's, business owners, company directors and managers and senior government officials based in Namibia.

About Engen Namibia

Engen's presence in Namibia dates to 1897 when the first operations were set up in Walvis Bay. Today, Engen Namibia (Pty) Ltd. has a head office in Windhoek, with terminal/depots in Walvis Bay, Grootfontein, Keetmanshoop, Ondangwa, Lüderitz and Windhoek. Engen's deep roots in Namibian communities fuel its commitment to safely deliver quality petroleum products to both commercial customers and to the public at over 60 retail convenience service stations across the country.



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NOW ON BOARD AT KLINGER: THOMAS PIPE PRODUCTS COMPLETES THE

PRODUCT RANGE IN SOUTH AFRICA

Thomas Pipe Products becomes KLINGER Pipe Products. South Africa's leader in pipe repair clamps and couplings can now supply worldwide.



Sealing the deal: TPP's previous owner, Luke Thomas with Phillip Herbst (MD KLINGER South Africa, right) and Johan Smal (FD KLINGER South Africa, left), who will be taking charge at KLINGER Pipe Products (KPP) in his dual role as MD of KPP and FD of KLINGER South Africa.

On July 1, 2020, KLINGER South Africa took over Thomas Pipe Products (TPP), a local leading company specializing in pipe repair clamps and couplings. TPP's product range perfectly completes the KLINGER group's portfolio.

Growth through acquisitions has been an international long-term strategy of the KLINGER corporation. For customers it means that they have access to an ever-growing amount of expertise and quality products – all under one roof.

The South Africa branch alone has been involved in five acquisitions over the years. "We started off with Wright Seal and Plastics, then GC Baars – a valve company. Thereafter Fabcom and Furmanite were acquired," explains Phillip Herbst, Managing Director of KLINGER SA.

Phillip Herbst, MD of KLINGER South Africa, delivering a speech at the opening ceremony which took place on KPP's Johannesburg premises.

Only the best is good enough

Since 2012, KLINGER South Africa had been considering the addition of pipe repair clamps and couplings to their portfolio. And Johan Smal, Financial Director of KLINGER SA and duly appointed Managing Director of KLINGER Pipe Products, was determined to not just find any company: it had to be the right one. It was only in 2017 that first contact was made with Thomas Pipe Products, and they turned out to be exactly that: the right one!

TPP was founded by Luke Thomas in 2006 with just a few staff members. He turned the company into a very successful business that currently employs 100 people in two facilities, one in Honeydew and a smaller one in Cape Town.

When approached by KLINGER, Luke Thomas was willing to negotiate, but similar to Johan Smal, would not sell his business to just anyone! There was immediately a lot of mutual understanding and trust.

On July 1, 2020, the transaction was finally concluded and TPP became **KLINGER Pipe** Products (KPP). "Now we have pipe couplings and pipe repair clamps on board. This is very exciting as we see the product range that Thomas Pipe Products adds to the existing portfolio is in perfect synergy with what we already offer," says Phillip Herbst. "We really look forward to introducing the range to all the KLINGER companies globally and taking the products to the world."





A closer look inside the KPP manufacturing facility: KPP manufactures pipe repair clamps and couplings in Johannesburg and in Cape Town, South Africa.





3

To successfully navigate the business landscape of the future, companies need to continuously adopt new strategies to ensure they are 'future-fit': enabling resilience, agility, sustainability and longevity.

RAND-AIR'S 'FUTURE-FIT' FEMALES – SHAPING UP FOR AGILITY AND SUSTAINABILITY

These strategies include changes in work processes, the implementation of new workplace tools, improvement in communications and the empowerment of employees - both personally and professionally - to create and pursue new business and innovation opportunities.

Rand-Air – an established leader in the field of air, nitrogen, power, flow (pumps) and lighting solutions, and part of the global Atlas Copco Specialty Rental division – has always invested in people development. This year has been no different, with the company investing in Atlas Copco's corporate training and mentorship programme for female employees – 'Future-Fit Females'.

For the 'Future-Fit Females' course participants, assistant accountant Nokubonga Dlamini and seasoned sales representative at the Rand-Air Mpumalanga branch, Chantal Bekker, the 'future-fit female' embodies "a balanced, well-skilled individual, who is self-actualised and able to face any challenge with strength and confidence."

Bekker and Dlamini are among 12 women from Rand-Air and parent company Atlas Copco who are participating in this year's programme; which is being hosted in collaboration with niche training development and coaching consultancy Key Steps.

Having worked for Atlas Copco since 2012 and knowledgeable in its various divisions and solutions, Dlamini's motivation for participating in the programme stems from a need for growth, self-improvement and enhanced proficiency in communication and interaction techniques.

"I believe that 'Future-Fit Females' will provide enrichment in these skills and techniques, boost the existing rapport between Rand-Air and Atlas Copco and assist in improving self-expression and self-development," she explains.

Meanwhile, an open-mindedness to self-development turned interest into action for Bekker: "I believe one has to make changes to grow as an individual and ultimately reach one's desired goals.

Therefore, I am willing to change by learning and growing - personally and professionally. I consider that any training which provides this – allowing for growth and development - can teach me something of value."

Getting 'fit'

Conducted over nine months, (February until September), the 'Future-Fit Female' programme provides monthly training sessions which cover various themes to improve personal and professional life skills. These sessions, presented by Key Steps CEO Dr Sharon King Gabrielides, include one-on-one coaching sessions, professional business writing, constructive communication and conflict management; as well as a focus on emotional intelligence and personality, collaboration, and relationship-building, among others.

"These theme-specific sessions enable us to 'shape up' and become 'fit' for our daily interactions with customers, colleagues - and ourselves," Bekker says, adding that for her, as a sales representative it remains vital to perform professionally by using effective communication and practising positive habits such as courtesy.

"By achieving proficiency in areas such as business communication or emotional intelligence, I become empowered: not only with self-confidence, but by my resulting ability to exert an influence in driving new business strategies and achieving not only my own goals, but those of the company, too.



"It is therefore key that as the course progresses, we reflect on the content and our participation, practice what we have learnt and evaluate how these skills can be applied in any personal and professional situation," Bekker points out.

While benefitting from the skills acquired during this programme and committing to continuous communication, engagement and participation, Dlamini underscores the responsibility of contributing these skills to the rest Rand-Air team:

"These experiences of professional and personal enrichment, as well as the knowledge and skills we have acquired will be shared with our colleagues throughout the company, to facilitate their growth and development and that of the organisation as a whole."

Going for the Gold - 'in agility'

Notably, the 'Future-Fit Female' programme plays a key role in aligning Rand-Air employees' goals with the company's corporate ethos of making agility count in all aspects of the business.

While Bekker credits emotional intelligence and business writing skills as some of the tools in establishing and sustaining exceptional customer interactions, Dlamini believes a greater understanding and appreciation of customers and colleagues augments performance:

"Each person – whether a customer, supplier or colleague – is important. By personalising and adding value to each interaction, we can make agility count in a very real, practical way," Dlamini says.

Rooted in the belief that one can never lose out from taking a chance, Dlamini encourages women "to raise their hands when opportunities in career development and self-enrichment are presented."

"We are blessed to have been given this opportunity. We would therefore like to thank Rand-Air's management for this privilege. We also appreciate their support in ensuring that we have all the resources, as well as the time to participate," Dlamini says.

Bekker agrees, concluding that: "This programme is one of the best currently available, teaching us how we can enable resilience, sustainability and longevity – to make agility count for ourselves and our customers, in a 'future-fit' way!"

About Rand-Air

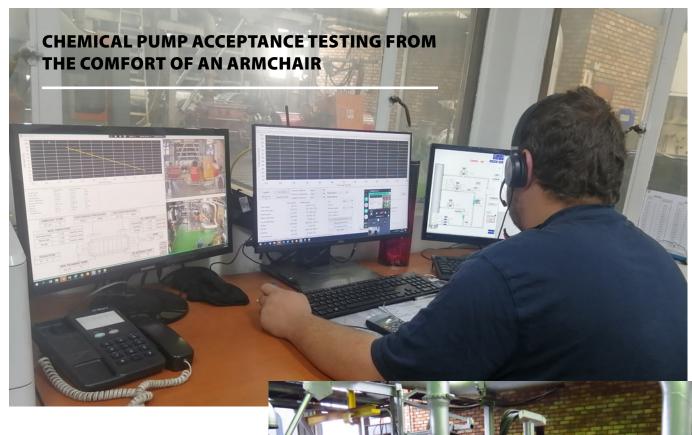
Rand-Air, part of the global Atlas Copco Group, was established in 1973. As far more than a rental equipment provider, Rand-Air is focused on making agility count for our customers: offering an adaptable, flexible and responsive partnership to address their technical and business challenges.

With a solid national footprint and serving a diverse customer base both locally and in sub-Saharan Africa, the company has a product portfolio which includes TUV-certified oil-free, diesel or electric air solutions; nitrogen solutions; power, flow (pumps) and lighting solutions.

Rand-Air is ISO-9000, 14000 and 18000-certified and is a Level 2 B-BBEE-rated company.

African PETROCHEMICALS

IPP & Renewables



Local pump manufacturer, KSB Pumps and Valves has launched an innovative online acceptance test procedure that no longer requires customers nor their engineering teams to be present when acceptance testing takes place.

The service was initially implemented to curb expenses that are usually incurred through travel and accommodation to test centres. The remote pump acceptance testing has also allowed business to continue as usual during the ongoing Covid-19 pandemic.

According to KSB Pumps and Valves technical manager, Friedrich Görgens, acceptance tests and final inspection are an essential proof of compliance when purchasing pumps and equipment to ensure the guaranteed values are met. In the past, customers always had to travel to the test facility to witness their purchased pump being tested.

Improved convenience

"Online acceptance testing is KSB's answer to improve the ease and convenience of acceptance testing. They are transmitted live via the internet and are encrypted to be accessible only to required users. It allows the customer to see a live camera view of the pump in the test facility as well as the characteristic curve being generated live from readings taken and displayed during testing.

"In addition to pressure and flow data, the test software records all further performance

KSB Pumps and Valves recently introduced remote acceptance testing for live testing of pumps and hydraulics via the internet.

data required for a measurement to inspection/testing standard DIN EN ISO 9906, enabling the derivation and assessment of the pump's efficiency. Additional measurement and recording of bearing temperature and vibration is available. These are displayed live in parallel to the performance and incorporated in the final test report.

"We provide the customer with organisational information, order data sheets and a precise description of the acceptance testing prior to the acceptance test. This includes details on the measuring instruments used including the corresponding calibration certificates. After the acceptance test KSB display the results for comment and then e-mails the customer with the certificates within minutes, says Friedrich.

Testing centres

Online acceptance testing is available at KSB Pumps and Valves South Africa's test centre in Germiston and the facilities can accommodate pump sets with a drive rating of up to 550kW and flow rates of up to 3000m³/h and discharge pressures up to 60 bar. String tests with the customer's original motors, transformers and frequency inverters can also be performed. A YouTube video is available on https://www.youtube.com/watch?v=2tHxYJGjT_s that shows the online tests in operation.

Contact:

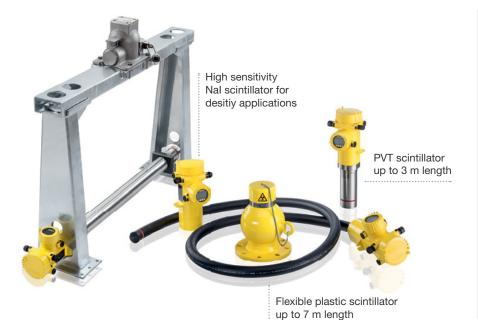
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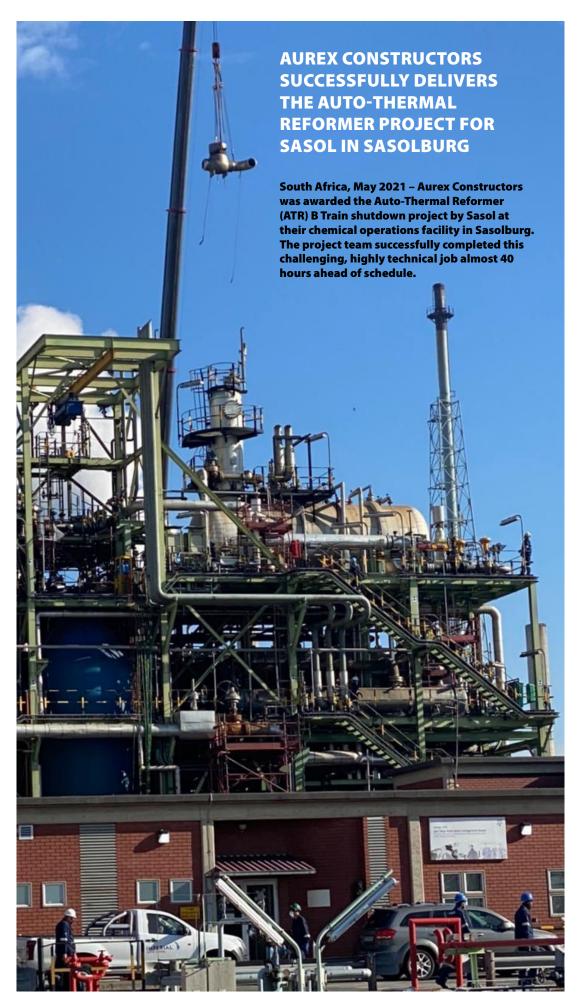
Housings

- Aluminium double chamber
- Stainless steel double chamber





IPP & Renewables



The project team executed mechanical, rigging and piping work on the ATR B train. Aurex sub-contracted services for the project that included cranage, machining, non-destructive testing, including replica testing, and heat treatment. Repairs to the 20-inch HUC line were of a highly technical nature and required welding of the heavy wall pipe in accordance with a complex welding procedure where exotic materials are involved. These periodic maintenance and repairs are scheduled to ensure the ongoing sustainability and reliability of the facility.

Stuart Kent, CEO of Aurex Constructors said, "This project afforded us the opportunity to expand our hot-work expertise into the Sasolburg area. Our skilled project teams demonstrated their ongoing dedication to delivering high quality work responsibly to our customer".

About Aurex Constructors

Aurex Constructors is a key player in South Africa's Construction, Turnaround and Maintenance industry with more than 40 years' experience serving a bluechip customer base in the oil & gas, mining & metallurgy, infrastructure, petrochemical and clean power sectors. Its 2 main service lines, Construction and Turnarounds & Maintenance, deliver structural, mechanical, electrical, instrumentation, piping, platework (SMEIPP), fabrication and management services for projects of all sizes and complexities.

100% Locally owned and managed with 51% black ownership and 30% black women ownership. The highly skilled workforce has a proven track record for delivering flexible, innovative and relevant project management solutions tailor- made to customer requirements. We champion excellence.

www.aurex.africa





BMG OFFERS A REFURBISHMENT, FABRICATION AND REPLACEMENT SERVICE TO SUGAR MILLS THROUGHOUT AFRICA

The BMG team works closely with sugar mill engineers in the industry's off-crop period each year, to refurbish and replace worn components in preparation for high productivity in the upcoming season.

Dorstener gearboxes have been used on diffuser drives, mill drives and feeder tables for many years and three of these planet carriers recently needed to be replaced, due to excessive bearing journal wear and cracking.

"In spite of tight time restrictions before the seasonal start-up of the mill, coupled with manufacturing challenges, BMG has designed, fabricated and installed new carriers, reducing the normal 24-week delivery period to only four weeks, with cost savings of about 7,5 times that of the OEM," explains Mike Cooper, General Manager- Engineering, BMG. "Carriers are normally manufactured by Dorstener from cast iron, which is extremely difficult to repair. In this case, there was the additional problem of bores positioned close together, with virtually no wall thickness between the bearing journals, which was where the cracking had occurred. Because of the harsh operating conditions of the mill and the high torque load of these units, we decided replacement was the preferred option over refurbishment.

"These planet carriers were re-engineered and fabricated out of 355WA steel plate, which is not only stronger than the original cast iron units, but also allowed us to manufacture these carriers in a far shorter lead time of three weeks.

The team was on a tight deadline to have drawings and designs approved to ensure highly accurate dimensions for a perfect fit with clearances to accommodate the gear mesh.

Welding challenges to maintain the structural rigidity of the system were overcome by machining interlocking tabs in the top and bottom main plates, as well as in the webs and side rings, to ensure a more precise assembly for welding, with less distortion. The webs and side plates were welded to the bottom ring and the entire assembly was then fitted fit onto the top ring, for welding into place. Slots were later filled with weld, so that the webs form an integral part of the structure.

BMG's specialist services to the sugar sector include bearing and gearbox inspection, bearing and chain refurbishment, large size bearing assembly and alignment and balancing, as well as customised product design.

The company's mobile field services team conducts breakdown and routine maintenance on plant and carries out trouble shooting to ensure the highest level of plant output and reliability.

BMG's total plant maintenance solutions service is geared to optimise productivity and enhance process plant operating reliability to make a difference to the efficiencies of every plant.

For further information:

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Tel: +27 11 620 1731

Email: mikec@bmgworld.net Web: www.bmgworld.net



Original planet carrier with bearing journals which fall out of specification.



Original planet carrier with bearing journals which fall out of specification.



On completion - carriers with bearings and gears fitted inside the housings.



On completion carriers with bearings and gears fitted inside the housings.

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If you purchase gas detectors, you're responsible for ensuring that the instruments are working properly and will alert workers to potential hazards. But it can be difficult to know when there is an issue, what the issue is, how long it could take to fix it, and how much it will cost. The good news is you have options to reduce or eliminate maintenance pains.

COMTEST, leading local distributor of test and measurement instrumentation to industry, represents Industrial Scientific, leading global provider gas solutions, who are offering iNet® Exchange, that allows customers to say goodbye to gas maintenance, warranty claims, unexpected costs, and downtime and say hello to an always-ready fleet and more time to focus on what matters.

HOW IT WORKS

iNet Exchange uses the DSXi Docking Station to predict when an instrument will need maintenance or repair,

> performing bump tests, calibrations and record keeping. Every time the monitors are docked, Industrial Scientific reviews the performance of

the monitor, sensors, the circuit board, the microprocessors, and the pump, and tells customers whether a monitor needs to be replaced soon - before it fails, and it's replaced automatically. Before you know it, an iNet Exchange box is delivered to you with a new unit. Now customers can spend more time managing their safety program and less time repairing gas detectors.

It's really easy to get started, simply contact COMTEST and one of our iNet Exchange experts will be in touch to answer any questions you may have.

Contact:

company/687586

Tel: 010 595 1821 Email: sales@comtest.co.za Website: www.comtest.co.za Facebook: https://www.facebook.com/ comtestgroup LinkedIn: https://www.linkedin.com/

S15C IN-LINE CONVERTERS

Key Benefits

Bring more operations online

Are you using IO-Link to enable OEE analytics yet still have remote pockets where critical equipment should be continuously monitored during operations? We can help.

The Banner S15C Modbus to IO-Link converters can be used at the end of a Modbus communication line, very near the IO-Link Master. Now, the 20-meter IO-Link communication line constraint is not a factor. The S15C converters make it easy to deploy both existing and new sensors to access the data that is vital to OEE initiatives. Additional converter benefits include remote configuration and more efficient sensor replacements when needed.

Models for modbus and Analog sensors

The 8 new models of the S15C Series of In-Line Converters were designed to easily re-deploy your existing Modbus and analog sensors as IO-Link devices. There are six Modbus to IO-Link converters that can be used with Banner's line of Modbus sensors including Vibration/Temperature, Temperature/Humidity, Ultrasonic, Measuring Light Curtain, and GPS. There is also a configurable generic converter that permits almost any Modbus device to be deployed as an IO-Link device. The two analog sensor models will convert 4 to 20mA or 0 to 10 V dc signals to their digital values and recast them as IO-Link data.

Small, Rugged housing for easy installation

The S15C converters are designed to plug directly into a sensor and begin operating immediately. The small, 15mm tubular design and M12 connectivity enables easy installation in tight, space-constrained deployments. The converter also uses the same power supply as the sensor, keeping wiring simple. Rugged, over-molded IP68 housing ensures reliable performance even in harsh manufacturing environments.



Applications

These converters are used where IO-Link systems are being added to existing production lines or processes for OEE initiatives or where the digital value of the analog sensor needs to be communicated via IO-Link, such as:

- · Condition monitoring
- OEE initiatives
- · Remote monitoring
- IO-Link systems

Models

Modbus Sensor-Specific and Generic Converter Models	
S15C- MVT-KQ	Vibration/Temperature
S15C- MTH-KQ	Temperature/Humidity
S15C- MGP-KQ	GPS
S15C- MUL-KQ	K50 Ultrasonic
S15C- MEZ-KQ	EZ-Array Series Measuring Light Curtain
S15C- MGN-KQ	Generic – Configurable
S15C Analog to IO-Link:	
S15C-U-KQ	0 to 10VDC
S15C-I-KQ	4 to 20 mA

With the advent of social media in 2004 and the increase in internet usage over the past few years we have embraced the change and pushed forward to incorporate digital media as a powerful marketing tool.



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- Print advertising and/or editorial in the African Petrochemicals publication
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MAKE A BOOKING: Candace Buckley, candace@africanpetrochemicals.co.za



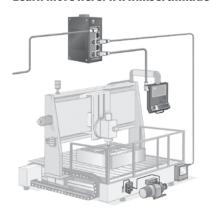


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SWITCH M08T02GSFP UND M08T02SFP



#FibreOptic cables are the right solution when it comes to large transmission rates over great distances. That's why our new managed switches have eight RJ45 ports and two SFP ports for fast #GigabitEthernet. #IndustrialCommunication

SWITCH U16T Low space requirement High port density Easy DIN rail mounting SLAPP

#IndustrialCommunication at #LAPP: The high port density of the compact U16T switch makes it especially space-saving and allows it to be effortlessly mounted on DIN top-hat rails.



Our power over Ethernet switch features four PoE ports and a fast #Ethernet port. This switch is suitable for temperatures in the range of –40 to 75 degrees Celsius and it sits in a robust metal housing designed for especially demanding environments, which can be quickly mounted on DIN rails. #IndustrialCommunication



Our Gigabit Switch E U08GT is highly robust. It easily manages data rates of up to one Gigabit per second - exactly the right thing when it comes to #IndustrialCommunication.



If you want to incorporate machines with identical IP addresses into existing networks simply and quickly, you need the ETHERLINE® ACCESS NAT/Firewall #NetworkSwitch, which is especially space-saving and requires reduced installation work. #IndustrialCommunication









SINGLE-PAIR ETHERNET SAVES EFFORT AND COSTS

The elegant solution for cabling and #downsizing – #SinglePairEthernet technology. Powerful, compact, robust, and easy to install.



Home improvement stores often use catchy slogans to encourage customers to finally try their hand at DIY – to remodel their kitchens, redesign their gardens, or even build a tool shed. Toward this end, they offer numerous "light versions" of professional devices and promise an optimal, cost-effective solution for the desired project. The downsizing trend is even showing up more and more in industrial facilities and is gaining ground where there is a potential to minimize effort, space, and costs.

Downsizing is becoming increasingly prevalent in industrial facilities where it can save on costs, space and, above all, installation effort. Many things are put to the test, including the cabling components. Instead of automatically installing the large-scale solution, the streamlined single-pair Ethernet technology is gradually becoming more attractive for data transmission – especially if the maximum possible data rate over long distances is not necessary and many sensors need to be wired. New standards are already being developed, however, that will enable 10 Gbit/s to be achieved even with single-pair lines, at least over short distances.

Single-pair Ethernet cables are more compact, lighter, cheaper, and easier to install than traditional alternatives. Instead of two or four wire pairs they have only one, hence the name "single pair." The cable is deliberately designed for compactness and simple operation. Many sensors only require low data rates to send their important information to the control unit. They don't need to be connected with a 10 Gbit/s -capable line, for example, if they only occasionally send an on/off signal. For this task, the up-to-1 Gbit/s single-pair Ethernet still offers more than sufficient capacity.

Single-pair Ethernet is a thoroughly customized solution that is precisely tailored to the needs of the customer. With the massive spread of sensors in factories, connection requirements are a major

issue. Compared to four-pair cables, the use of single-pair Ethernet cables reduces this effort by around 75 percent – an enormous time and cost factor for a few hundred cables. A further advantage is their small diameter, which also solves a growing dilemma: more and more cables have to be accommodated in ever smaller devices. After all, just as a thin tablet performs better today than a clunky desktop PC did a few years ago, the electronics in machines are becoming smaller, more powerful, and more networked.

What's more, single-pair Ethernet is just as robust as conventional Industrial Ethernet cables. The single-pair variant also has the advantage that it can bridge significantly greater distances than four-pair cables, which are standardized for maximum lengths of 100 meters. It thus even reaches places in the production hall that are very difficult to reach by other means. Although the data rate also drops to 10 Mbit/s for single-pair Ethernet lines, this is more than adequate for infrastructure cabling such as bus systems. What matters the most is the high local coverage with a single network.

The industry, though, still lacks the necessary standards. The first series products for machines, sensors, and devices to which SPE can be connected will likely be available in one to two years. As an experienced manufacturer of cables and wires, LAPP is already well-prepared to meet the high demand.

STAFSJÖ HX THE STORY - GREATER DEMAND CALLS FOR ACTION

In 2011 Stafsjö received a request from a worldwide known OEM supplier based in the Pulp and Paper Industry. They wanted a technically fast and reliable valve capable of operating within a broad range of pressures, pulp concentrations and temperatures. The development team at Stafsjö got down to work and the story of the 20 bar/300 psi rated HX began.

We have experienced over the last few years that the production volume at pulp and paper mills across the alobe is ever increasing. new mills are being built capable of achieving new record production volumes and old plants are being converted or upgraded. As a knife gate valve supplier Stafsjö supplies a major portion of the equipment, focusing on product solutions to realize new efficiency and production goals.

Stafsjö worked in close collaboration with its customers to develop a prototype and ran a large number of in-house tests. Test units were then supplied to OEM suppliers' for more advance endurance independent tests at their own test facilities.

All the prototype tests proved successful. Stafsjö have since supplied high pressure HX valves in sizes ranging from DN 200 all the way up to DN 900 in stainless steel and also in high alloy materials such as SMO 254, titanium and duplex. The potential area of use has increased over time. Now the valve

is also used within other areas and sectors that Stafsjö had not initially anticipated. But it is within the pulp and paper sector where the application scope of HX is at its greatest – now and most likely also in the future.

The Stafsjö HX knife gate valve ensures batch digester isolation during pulp stock production

In chemical pulping, some fibre lines operate with a continuous cooking process while others operate in batch cooking. In the batch cooking process, the wood chips and cooking liquor are heated with steam under high pressure. Once the cooking process is completed, the digester is emptied through a blow valve at the digester bottom, and onward to a blow tank. During blowdown, the process equipment is subjected to high velocity, pressure, abrasion and temperature, as well as severe vibration. The batch digesters discharge to a common header, which is connected to a blow tank further downstream. When one digester is out of service for blow valve repair or other maintenance, the chemical pulp mill normally shuts down all digesters in series to ensure the work can be carried out safely. This results in a major loss of pulp production.

Stafsjö's severe service HX valve has successfully been installed as a maintenance block for complete isolation in batch digester clusters. The HX valves are placed

downstream of the blow valve, but before the common pipe or header leading to the blow tank. During regular batch cooking processes, Stafsjö's HX valves are locked open. When a digester needs to be shut down for maintenance or inspection, the HX is closed and locked, allowing that particular digester to be depressurized and the blow valve removed, or blow down piping disengaged, while the rest of the digesters continues to process pulp as normal. Stafsjö's HX provides 100 % bi-directional isolation, to prevent any back flow reaching the shut-down area. Downtime is minimized, maintenance work can be performed safely and the production levels can remain steady because the other digesters can continue to feed the mill with pulp stock while the one digester is being maintained. The Stafsjö HX valve is built to withstand the unique pressure, temperature, chemical, abrasion and vibration extremes associated with this application.

Stafsjö knife gate valves have been represented on an exclusive basis in Southern Africa for more than 25 years. The MV series is a standard stock item up to DN300 / 12".

For more information contact:

Desmond Delport, Valve & Automation Tel: 0861 103 103: +27 11 397 2833 Email: desmond.delport@valve.co.za Website: www.valve.co.za

BYPASS LEVEL INDICATORS - ALWAYS ON THE LEVEL



KOBOLD NBK bypass level indicator.

INSTROTECH offers Kobold's NBK level indicators for continuous measurement, display and monitoring of liquid levels in above- or below-ground tanks.

According to the law of communicating tubes the level in the bypass tube equals the level in the vessel. The bypass tube is attached onto the side wall of the vessel. A float, with embedded circular magnets in the bypass tube follows the liquid level and transfers it, without contact, to a display fitted outside the tube or to a monitoring device. In addition, reed contacts can be installed on the bypass to evaluate limit values or to control the filling level.

Users can choose from clearly visible magnetic roller or ball displays as well as from a range of measuring transducers enabling remote transmission or level values.

Kobold NBK features:

- Stainless steel 1.4571
- Pressure maximum: PN320

- Temperature maximum: 400 °C
- Measuring maximum: 5.5 m (if longer: 2parts)
- Electrical connection DIN flange DN15 ...DN50 & ANSI-flange 1/2" ... 2"

Kobold NBK finds application in tanks (shipping, storage and water) and agitator vessels.

Options available for the Kobold NBK are 4 -20 mA transmitter, reed contacts, and HART®, Profibus® PA, and Fieldbus®.

Contact INSTROTECH for more information on Kobold's NBK Bypass Level indicators.

Contact:

Tel: 010 595 1831 Email: sales@instrotech.co.za Facebook: https://www.facebook.com/instrotech Linkedin: https://www.linkedin.com/ company/2882787









DEKRA INDUSTRIAL'S FIVE MILLION SERIOUS INJURY-FREE MAN HOURS MILESTONE ACHIEVEMENT

DEKRA Industrial recently reached a major milestone, achieving five million serious injury-free man hours of operational safety. This milestone achievement is testament to the fact that as 96-year old global safety stalwart, the company is leading by example. And many more safe hours are on the horizon! DEKRA Industrial's Health, Safety and Environment (HSE) Manager Carina Brink-Kleinhans, discusses this very special achievement:

"We really 'walk the talk' at DEKRA Industrial! Our primary purpose is to ensure the safety, health and wellbeing of all staff and that of our valued clients too. This achievement therefore reaffirms our commitment to the utmost safety across the board, on any project or contract that we undertake," says Brink-Kleinhans.

She continues: "For our current clients, this is also a great reassurance that we are serious about their safety, and that of their staff and projects. To our future clients, it assures them that the systems we are implementing are practical and effective. In reaching the five million serious injury-free man hours milestone, we can stand up and say that we have proved our ongoing commitment!"

DEKRA Industrial achieved the five million serious injury-free hours target at the end of March 2021. Based on the golden safety rules that the Group employs worldwide, DEKRA Industrial consistently exhibits safety leadership. This includes the identification of potential hazards, defining of safety targets and developing of effective safety programmes. It also includes implementing clear organisational health and safety standards, and investing in people and training in order to ensure adherence to these on an ongoing basis.

"A great part of our success is that the people we work with are proud to be part of the DEKRA Industrial family. This has a benefical 'knock-on' effect in terms of their 'buy-in' to our safety culture, and that of our clients'. We are open about discussion, collaboration and participation from everyone involved. Our next target is six million serious injury-free man hours, which we hope to reach by the end of this year. And I am confident that our collaborative, innovative ethos will help us get there," concludes Brink-Kleinhans.

About Dekra Industrial and Dekra Institute of Learning

With 96 years in the industry through its global parent company, Dekra Industrial SA has established a formidable reputation as a leader in inspection services, non-destructive testing (NDT), material testing, laboratory services, Advanced NDT, and asset integrity services, and offers industry training through Dekra Institute of Learning. With a group presence in more than 50 countries on five continents, Dekra Industrial RSA is committed to providing professional and innovative safety solutions across a multitude of industries, including power generation, oil and gas, construction, petrochemical, manufacturing, fabrication, pulp and paper, rail, mining, steel industry and foundries, within South Africa and pan-Africa.



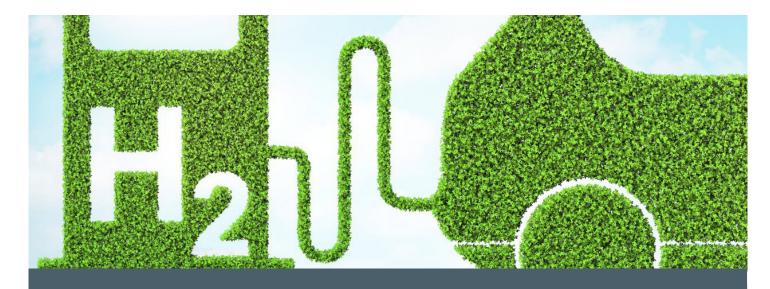
Carina Brink-Kleinhans.

Dekra Industrial RSA is Level 3 B-BBEE-compliant, with 51 percent black woman ownership, and is in the process of becoming RD 0034 compliant, an important nuclear safety compliance standard. The business is also one of the few NDT companies locally to hold ISO 45001 certification.

Dekra Institute of Learning is QCTO-accredited and delivers an internet learning service across all industries, in both public and private sectors, with training pitched to all levels of competency, focusing on HSE, ISO and CPD-aligned courses. Classroom-based and distance learning are also available.

Dekra Industrial strives to be recognised as the 'heroes of safety'.





SASOL AND TOYOTA SOUTH AFRICA MOTORS FORM GREEN HYDROGEN MOBILITY PARTNERSHIP

Sasol and Toyota South Africa Motors (TSAM) today announced the formation of a partnership to commence exploration of the development of a green hydrogen mobility ecosystem in South Africa.

Underpinning the partnership is Sasol's broad experience in the production, use and marketing of grey hydrogen and aspiration to play a leading role in the establishment of a green hydrogen economy for South Africa, combined with Toyota being a leading global supplier of zero-emission hydrogen fuel cell (FC) vehicles.

Sasol and TSAM will jointly pursue the development of a proof-of-concept demonstration for a green hydrogen mobility ecosystem. The parties intend to develop a mobility corridor and expand the demonstration to a pilot project using one of South Africa's main freight corridors, such as the N3 route between Durban and Johannesburg, for hydrogen powered heavy-duty long-haul trucks.

To initiate the project, the parties have determined that it would be appropriate to pursue the introduction of FC trucks into South Africa. This supports the available research on FC technology where it is shown that long distance mobility is better suited to FC technology compared to battery electric trucks.

In this regard, there is no current Toyota FC truck available to introduce into South Africa, as this is currently in prototype development in Japan. TSAM have therefore commenced the investigation of introducing the FC truck to South Africa as soon as available from its principals in Japan. In addition, the parties are evaluating the installation of a hydrogen refuelling station for the demonstration project. TSAM will lead investigation of the FC truck introduction, with Sasol supporting in providing the required infrastructure expertise.

An enabler for this strategic intent is the expansion of the partnership between Sasol and TSAM to include other companies and stakeholders along the hydrogen mobility value chain. This is to allow industry to gain valuable first-hand knowledge of hydrogen refuelling stations, the introduction of hydrogen into the heavy duty truck supply chains and the commercial drivers underpinning the hydrogen mobility value chain.

"To unlock green hydrogen opportunities, we are pursuing various demonstration opportunities and partnerships, as with Toyota, with the intent of enabling and taking advantage of technology developments and breakthroughs," said Fleetwood Grobler, Sasol President and CEO.

"One of the focus areas for Sasol in South Africa is to provide a comprehensive and sustainable mobility solution. Hydrogen and electric vehicles with refuelling and charging infrastructure form part of this sustainable future. We believe hydrogen mobility is a real opportunity for the country to decarbonise the sectors of long-haul and heavy-duty transport, mining and others and see the creation of hydrogen hubs, or ecosystems, as a practical and affordable way to scale the deployment of hydrogen in the transport sector.

"Our partnership with Toyota, which will include other partners over time, aims to build a sustainable end-to-end infrastructure for hydrogen mobility, initially focused on piloting the concept," said Grobler.

Toyota has defined aspirations towards 2050 by way of six challenges, each of which is accompanied by globally committed stringent goals. This can only be realised by each Toyota family member around the world contributing to this. The company's biggest contributor to the realisation of the 2050 challenge is expected to come from diversification of and positioning the ideal mix of new energy vehicles powertrains.

"We are therefore pleased to hear of Sasol's aspirations and commitment to green hydrogen, as this fits in with Toyota's global agenda towards a cleaner and greener future. It also made sense to partner with Sasol, given its commitment to develop hydrogen mobility infrastructure in South Africa, which is a much needed enabler to introduce hydrogen products to the country. Toyota envisages this partnership will also create the environment for others to get involved in the hydrogen mobility value chain thereby making sustainable contributions to the South African economy," said Andrew Kirby, President and CEO of Toyota South Africa Motors.

"Toyota has been at the forefront of hydrogen technology innovation, having introduced the Mirai, the world's first commercialised hydrogen fuel cell electric sedan, in 2014. Our development of hydrogen fuel cells commenced in 1992 and has evolved to offer our system the flexibility to be used not only in cars, but to also produce zero-emission power in multiple applications – including trucks, urban bus fleets, forklifts and generators," Kirby said.

At the launch of the new-generation Mirai last year, Toyota's Chief Technology Officer, Masahiko Maeda said that at this stage, sales were not the automotive company's focus. Instead, Toyota has a larger target of contributing to the realisation of a carbon-neutral society. Toyota would like to make it easier for as many people as possible to use hydrogen in their daily lives. This supports the organisation's long-term sustainability strategy to have a deeper impact on the global Sustainable Development Goals (SDGs). The potential of hydrogen to help achieve a future zero-emission society, as set out by the SDGs, is generating fast growing interest and investment globally.

"We are excited about the partnership with Sasol, which we hope will assist in scaling up investment in critical infrastructure such as charging stations and the fuel itself," said Kirby.

On the potential for green hydrogen, Grobler said: "Green hydrogen can help tackle various critical energy challenges, and is positioned for rapid global growth as the pathway of choice to decarbonise sectors such long-haul transport, chemicals, and iron and steel, where it is proving difficult to meaningfully reduce carbon emissions.

He added that South Africa is endowed with exceptional renewable energy resources making the country ideal for green hydrogen

production, which has the potential to contribute to energy security and trade for South Africa, while facilitating a just energy transition to a lower carbon economy.

"Given Sasol's broad experience in hydrogen and R&D capabilities, combined with our Fischer-Tropsch and catalyst technologies to enable the production of sustainable synthetic fuels and chemicals, we are uniquely placed to play a leading role in the development of South Africa's hydrogen economy and just energy transition.

"The new hydrogen economy will be enabled by co-creating hydrogen ecosystems developed through partnerships. The creation of value chain partnerships will be critical to enable South Africa to be globally competitive in the green hydrogen markets.

"Through these partnerships the country needs to build capacity in key elements of the green hydrogen value chain such as renewable energy, electrolyser technology, fuel cell technology, manufacturing, hydrogen-based industrial processes, and sustainable carbon sourcing," concluded Grobler.

Sasol may, in this document, make certain statements that are not historical facts that relate to analyses and other information which are based on forecasts of future results and estimates of amounts not yet determinable. These statements may also relate to our future prospects, developments and business strategies. Examples of such forward-looking statements include, but are not limited to, statements regarding exchange rate fluctuations, volume growth, increases in market share, total shareholder return, executing our growth projects (including LCCP), oil and gas reserves and cost reductions, including in connection with our BPEP, RP and our business performance outlook. Words such as "believer," anticipater," intendr, "seek," "will," "plan," "could", "may," "endeavour," "target," "forecast," and "project" and similar expressions are intended to identify such forward-looking statements, but are not the exclusive means of identifying such statements. By their very nature, forward-looking statements involve inherent risks and uncertainties, both general and specific, and there are risks that the predictions, forecasts, projections and other forward-looking statements will not be achieved. If one or more of these risks materialise, or should underlying assumptions prove incorrect, our actual results may differ materially from those anticipated. You should understand that a number of important factors could cause actual results to differ materially from the plans, objectives, expectations, estimates and intentions expressed in such forward-looking statements. These factors are discussed more fully in our most recent annual report on Form 20-F filed on 28 August 2018 and in other filings with the United States Securities and Exchange Commission. The list of factors discussed therein is not exhaustive; when relying on forward-looking statements to make investment decisions, you should carefully consider both these factors and other uncertainties and events. Forward-looking statements apply only as of the date on w

Please note: One billion is defined as one thousand million. bbl – barrel, bscf – billion standard cubic feet, mmscf – million standard cubic feet, oil references brent crude, mmboe – million barrels oil equivalent. All references to years refer to the financial year 30 June. Any reference to a calendar year is prefaced by the word "calendar".





A much needed addition to AECI's product offering is the introduction of its Powergel X² range. The product is designed for surface mining applications where extreme blasting conditions such as hot blast holes and reactive ground, or a combination of both, exist. The product is differentiated by the fact that most competitor products available in the market cater for either reactive ground or hot holes, but not both.

Powergel X² was developed and tested by some of the most dedicated and creative minds in AECI Mining's Research and

AECI MINING EXPLOSIVES SETS A NEW BENCHMARK FOR BULK EXPLOSIVES

Following extensive research and development, AECI Mining Explosives has launched a significantly enhanced version of its bulk emulsion explosives. Appropriately dubbed Powergel X², the name indicates that the product can be used in extreme blasting conditions namely hot holes as well as in reactive ground conditions.

Development (R&D) department. "Powergel X² is an emulsion explosive employing some very clever chemistry corroborating extensive field experience and practical know-how," explains Franky Botha, Product Portfolio Manager for Explosives.

"The product is unique in that it doesn't sacrifice any performance, yet it is able to be deployed in areas where extreme ground conditions are present," says Botha, adding that the product also has excellent fume characteristics and is water resistant. Another unique feature is that Powergel X2 can be doped with technical grade ammonium nitrate (TGAN) to achieve certain required blast outcomes. This however is dependent on the level of reactivity in the rock.

"Powergel X² provides a single solution for customers who experience these extreme ground conditions," says Botha. This, he says, provides far-reaching benefits and reduced risk whilst simultaneously negating the need for high levels of inventory. It also eliminates the expensive and time consuming practice

of having to sleeve holes in reactive ground.

To prove concept, the product has already been tested by exposing it to extreme external temperatures at Alkantpan in the Northern Cape, South Africa. "The product fared exceptionally well in all the tests conducted" says Botha. Botha says in VOD tests conducted to date, the product performed beyond expectations.

In terms of targeted sectors, Botha says this product, with its heat resistance capabilities, will provide a significant advantage to clients in the coal sector by giving them a single solution for extreme ground conditions. "Its inhibitive qualities against reactive ground may certainly lead to possibilities of it being used in other sectors too," he concludes.

AECI Mining Explosives

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KSB COMMITS FURTHER INVESTMENT INTO NAMIBIA

The newly appointed managing director of KSB Pumps and Valves (Namibia) (Pty) Ltd, DeWet van Wyk will head-up the recently established KSB Pumps and Valves Namibia, a company formed out of a long history of service to Namibia's people by one of the world's leading pump manufacturers – KSB.

The evolution from a sales office of the South African operation to a fully-fledged company comes at a time when soaring demand for pumps and services necessitates a move to bigger premises with a fully stocked distribution warehouse, service and repair facilities in order to meet future growth requirements.

DeWet, who is a veteran of the Namibian pumping industry, has been involved in many pumping projects around the country ranging from the procurement and installation of KSB pumps and valves at the country's major water utilities, to large-scale mining and agricultural projects, as well as a myriad of smaller projects that have commanded equal attention through the years.

Established company

"We are fortunate that KSB has been one of the preferred pump suppliers in Namibia for decades and with our vast footprint in Namibia and the Namibian government pushing for more local content the decision was made to establish a fully-fledged Namibian company.

"Situated in the Northern Industrial area of Windhoek, the company's new premises consist of nine offices, two boardrooms, reception and fully equipped workshop area. The office block is 370m², while the workshop adds a further 420m² to the facility. The workshop has 2 big roller doors for deliveries and collections that makes access in and out easy. The location has easy access to the highway and we are fortunate that most of our key customers and suppliers are in the same area.

"Additionally, we will have a workshop and a field service team to provide maintenance, services and repairs and enough spares to cater for our footprint in Namibia. This will give us a more dedicated focus on our clients and further improve service and reliability of our supply chains. What is more, we now provide local content to the Namibian market and will not need to constantly import equipment from South Africa, which unnecessarily lengthens delivery waiting periods," says DeWet.



The KSB Namibia team are front: Johannes Andreas, financial accountant, Francois Jooste, sales engineer and Shaun Theron, service supervisor. Back: Klaus Streit, area sales manager, DeWet van Wyk, managing director and Kenneth Kasita, sales engineer.

Growing strong

The history of success has been contributed largely by Klaus Streit and that of KSB operating in Namibia for more than 31 years teaming up with Fenner in 1990 and Hydroweld two years later when Fenner changed its strategy and necessitated the move. The move to Hydroweld gave the team the room and resources to greatly expand operations in Namibia and laid the path for future business while building long-lasting relationships with the people of Namibia.

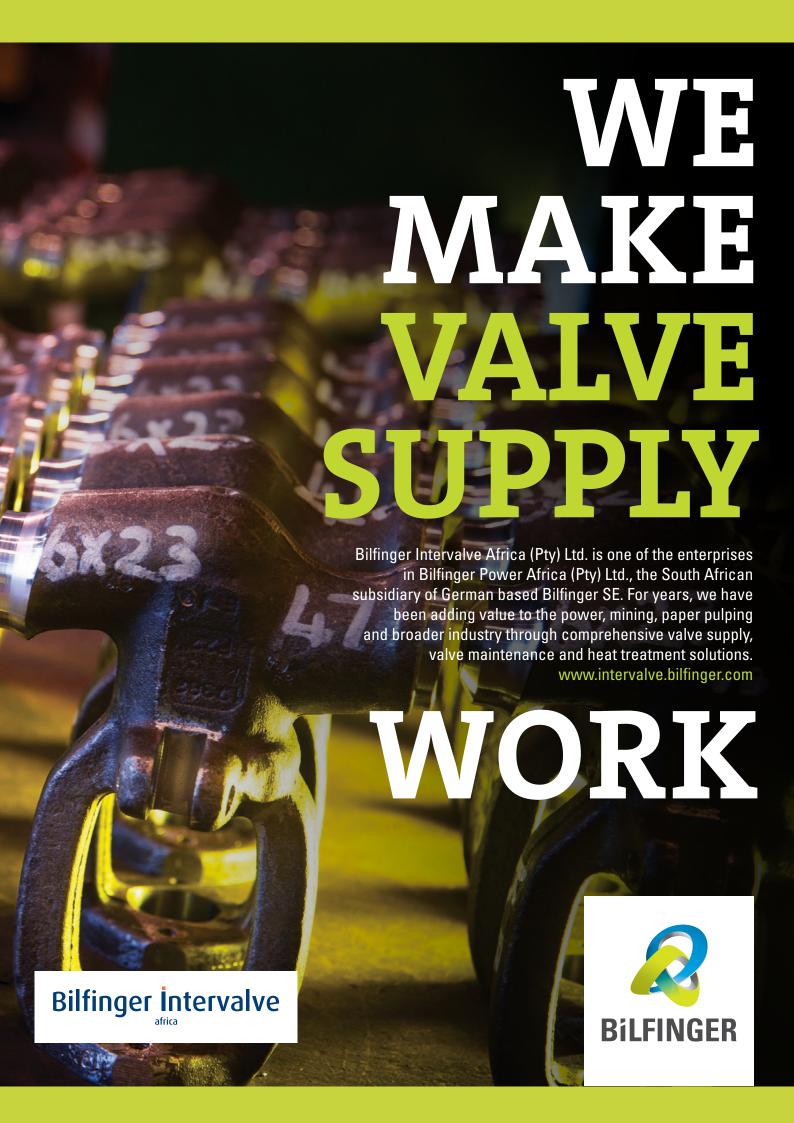
This growing success led to the operation becoming a KSB Sales Office for KSB Pumps and Valves South Africa in 2014 and effectively laid the foundation for the establishment of the new business. "The opening of the doors of the new business and new premises on 1 January 2021 marks a new milestone for KSB Pumps and Valves Namibia to grow and expand our business to all corners of the country," concludes DeWet.

The new address is:

KSB Pumps and Valves Namibia (Pty) Ltd 27 Birmingham Street Northern Industrial Area Windhoek Tel: +264 61 22 12 66 Email: dewet.vanwyk@ksb.com

KSB Namibia opened the doors to its impressive new premises in Windhoek, Namibia.









ENGEN RTT TO SHAPE THE FUTURE OF RSA'S LIQUID FUELS INDUSTRY

Engen, a proudly South African brand and a progressive energy and solutions partner committed to enriching lives for a sustainable future, announced today that it will be proceeding with its Refinery to Terminal (RTT) conversion initiative. This considered decision was not taken lightly and follows an extensive strategic evaluation of Engen's refining business, in which every facet of the refinery was scrutinised and assessed against market demand, future growth potential and the ability to contribute sustainably. The substantive cost of investment for upgrades required to bring the refinery in line with evolving quality and emissions regulation, were also part of the strategic review considerations.

As a responsible business and a committed corporate citizen, Engen has engaged extensively with Government, particularly with the Department of Mineral Resources and Energy (DMRE) and the KwaZulu-Natal Provincial

Government, on the future of the refinery in its strategic review process. These engagements and the feedback received from Government have proven highly valuable and helped inform our terminal conversion proposal.

At the behest of the DMRE and as part of Engen's commitment to thorough due diligence, the company also commissioned an independent refinery viability study and an independent socio-economic impact assessment. The reports confirmed that the refinery is not financially viable and indicated relatively minor impact on overall GDP and taxes, while identifying upside benefits such as better security of supply, trade balance improvements and positive environmental impact. Engen expects the RTT to also deliver other economic benefits over the long-term.

Yusa' Hassan, Engen Managing Director and CEO, comments, "The conclusion of the strategic assessment is that the Engen refinery

is unsustainable in the longer-term. This is primarily due to the challenging refining environment as a result of a global product supply surplus and depressed demand, resulting in low refining margins, and placing the Engen refinery in financial distress. Furthermore, unaffordable capital costs to meet future CF2 regulations compliance continues to be a challenge for the long-term sustainability of the refinery.

The RTT is part of a long-term business sustainability strategy to ensure Engen is resilient against future market threats and can respond with agility to new opportunities. It also has a knock-on benefit of a reduction in emissions and carbon footprint that will contribute towards Engen's environmental stewardship commitments. The conversion will also deliver a significant drop in electricity and water consumption, which will mean more electricity and water would be available for under-served households.

Hassan continues, "The investment in new infrastructure to create a world-class import terminal as well as repurposing of the refinery site, will generate much needed economic activity in KwaZulu-Natal. In the current economic climate, this should contribute not just in terms of capital, but also in terms of job creation and skills











transfer, something that will support South Africa's post Covid-19 economic recovery. The RTT will also strengthen South Africa's longterm security of fuel supply and contribute to lower road transport emissions, with resultant health benefits, and assist the country meet its 2027 Green House Gas (GHG) targets." The RTT commissioning date is anticipated to be in the 3rd Quarter of 2023, with significant capital investments under consideration. Being a Level 1 B-BBEE contributor, Engen is committed to contributing to meaningful and sustainable transformation in the liquid fuels sector. Strategically reviewing existing proposition The Engen refinery, located in the south of Durban and commissioned in 1954, is the oldest refinery in the country and is responsible for approximately 17% of the country's fuel production. With a nameplate capacity of 120,000 barrels per day, it ranks as a low capacity, medium complexity facility with limited upgrading potential. An added consideration for any upgrades is that it sits on a restrictive plot size and is located within a residential area; of which both factors render a potential capacity modification unfeasible. The global refinery landscape has changed significantly in the past decade with the emergence of mega sized, integrated, and complex refineries, many of which operate in countries that are primary suppliers of crude, resulting in a prolonged period of ultralow refinery margins that are forecasted to persist well into the future. This was exacerbated by the onset of the Covid-19 pandemic, which resulted in further contraction of demand.

Hassan adds, "After modelling multiple scenarios in consultation with external international sector specialists, it has become very clear that the Engen refinery is not commercially viable. In view of this, company leadership has recognised that the Engen refinery cannot move forward in its current structure. We must safeguard the long-term sustainability of the Engen business; therefore, we are proceeding with the conversion to a terminal."

Throughout this review process, Engen prioritised regular communication with employees, keeping them abreast of all relevant developments. The company also engaged with employees and union

representatives to contribute inputs to the development of a well-informed, collaborative decision for the refinery's future.

"Our people are a priority during the RTT transition, and it is our firm intention to preserve as many roles as possible. We are initiating a reskilling and retooling programme, as well as evaluating the potential for some employees to be redeployed to other parts of the Engen organisation. We also expect that the repurposing of the refinery site to develop new business opportunities (e.g. a training centre, renewable energy initiatives, shared services, industrial hub etc.) will ensure that we mitigate, as much as possible, the impact on existing roles," says Hassan.

Securing the future for all

Security of supply remains an over-arching consideration as Engen looks to the future of its business. The company maintains a robust business continuity framework and, as such, through the institution of its enhanced Business Continuity Plan (BCP) following the unfortunate December 2020 fire incident and subsequent safe shutdown of the facility, has been able to continue to meet customers' core petroleum product requirements. It remains committed to maintaining a stable and secure supply of petroleum products and to managing demand fluctuations effectively and efficiently. Furthermore, exercising

Engen's option to import advanced Euro 5 specification fuels could also support the automotive industry and provide an expanded and improved mobility experience in the future.

Hassan concludes, "Engen is committed to playing a leading role in growing South Africa's future economic prosperity. Securing a sustainable Engen business provides the platform for the future development of new investment opportunities in South Africa, whilst the repurposing of the Engen refinery will serve as a catalyst for economic growth in KwaZulu-Natal, support job creation and socio-economic growth, and ensure Engen continues to be a positive contributor to both the provincial and national economies."

AIR PRODUCTS WELDING – FOCUS ON THE GAS METAL ARC WELDING (GMAW) PROCESS

The welding fabrication process takes place when two or more parts of material are fused together by using pressure, heat, or both. Creating a weldment (completed weld joint) requires specialised skills.

Welding Specialist, Sean Young, is known in the industry for his knowledge and expertise in terms of welding processes and available to assist distributors and customers with technical matters.

In this video, Sean Young shares insight on the Gas Metal Arc Welding (GMAW) process with specific focus on the Metal Inert Gas (MIG) and Metal Active Gas (MAG) welding processes. He further highlights their most important uses and benefits as well as how this specific type of welding compares to others.

Click on the following link to view the video: https://youtu.be/CdBudZdstVA

For more information on Air Products:

www.airproducts.co.za

Air Products prides on outstanding customer service, innovation and a secure supply of industrial gases, but more importantly, is the technical expertise provided to customers in terms of the application of the range of gases supplied.





Sean Young, Air Products' Welding Specialist in action.



IPP & Renewables

RICHTER - QMD™ MAGNETIC DRIVE PUMP

Richter Chemie-Technik Germany, a global leader in PFA lined pump and valve solutions for more than 60 years, recently launched the QMD™ magnetic drive pump.

The QMD series of magnetic drive pumps were designed to anticipate the fast growing Asian market. The main objective was to serve the local chemical market with a competitive pump with the typical Richter signature of high quality.



The pump series complies with the requirements of the local standard GB 5662, which can be equated with ISO 2858 and is designed for applications in the temperature range of -10°C to 100°C. The excellent chemical resistance provided by FEP lining and other high-quality materials such as silicon carbide, allows for flawless operation in applications with a performance range up to 125 m3/h and 65 m head.

A total of 8 pump sizes from 40-25-125 to 80-50-200 are available.

With the QMD series, you can count on the well-known product reliability of Richter Chemie-Technik GmbH.

Valve & Automation (Pty) Ltd are the exclusive agents for Richter in Southern Africa

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TAKE PRECAUTIONS TO PROTECT YOUR PUMPS



SCHROEDER

AUTOMATIC RECIRCULATION (ARC) / LEAK OFF VALVES

- · Protect pumps during minimum flow conditions
- · Prevent overheating and cavitation
- · Require no special maintenance
- Do not use an expensive, maintenance intensive control valve loop

SCHROEDER ARC VALVES COMBINE IN ONE VALVE:

- Flow sensing device Pressure reducing system
- Bypass control valve Check valve (non-return)



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Averda, a leading waste and recycling company operating across the emerging world, is pleased to have concluded a successful refinancing of its \$148m term loan, including a \$30m Green Loan from syndicate leader HSBC.

Green lending refers to a lending dependent on environmental criteria for the planned use of funds.

Averda's MD Justice Tootla explains there is a huge demand for these financial services in developing economies that are wrestling with the urgent need to transition to a more circular economy and balance economic growth with combatting climate change.

Tootla added that for a circular economy to become a reality, aligning the financial system with sustainable development will require actions across the entire financial system, and form part of a wider sustainable investment which aims at reducing the impact on the environment.

The \$30m Green Loan portion reflects Averda's recognised role in bringing sustainable waste management and waste-to-energy technology to the developing world. This is a growth area for the company.

This loan will be used to support a number of Averda's existing sustainable waste management projects, especially its new blending platform in South Africa. The facility was launched last year at their Vlakfontein site in Gauteng.

These new state-of-the-art Blending Platforms allow the industry to transform hazardous waste liquids into an alternate fuel for the cement industry.

Producing such fuel from waste is no small feat and requires considerable investment to do so in ways that comply with the new Waste Classification and Management Regulations, introduced in South Africa in 2019 which puts a responsibility on the waste sector to safely dispose of hydrocarbon-based materials at landfill sites. Hazardous liquid and sludge can no longer be dumped, and this is where blending platforms enter the frame.

"We hope that this kind of partnership will pave the way for more access to green financing as we further expand our sustainable waste management services. By investing in existing and new facilities this will assist in bringing circular economy principles to developing economies which has been validated and supported by HSBC," says Tootla.

IPP & Renewables



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