



## Pigging Industry News

*the newsletter of the Pigging Products & Services Association*

### THE PRESIDENT'S LETTER

*By Basil Hostage, 3P Services GmbH & Co. KG*

Wrapping up 2012, we can safely say that the PPSA has just completed one of its busiest years ever. I feel sure that this will also be reflected by most of our membership as the demands of an aging and expanding pipeline infrastructure absorb our energies.

We decided at our last AGM to spread our wings geographically, which we have achieved to good effect. This last year saw the PPSA present at the Fixing Pipelines Conference in Berlin in October. Earlier in September, our secretary Diane Cordell took us to the IPCE event in Calgary.

This effort is supporting our membership in a number of ways, providing greater visibility for our association and attracting new members. We would like to welcome Smith Flow Control, UK, Enduro Pipeline Services, USA, Sahara Petroleum Services Co. (SAPESCO) Egypt, Woodside Energy Ltd, Australia, Stark Pipeline Services, USA as our newest members.

Our own annual November seminar and exhibition in Aberdeen, UK, was also the most successful ever – sold out with a record number of attendees. The venue, which has served so admirably in previous years, is starting to struggle with the size of our attendance – both for the workshop and for the exhibitors. It will be a

challenge next year to maintain the atmosphere that we have all come to value. The quality of the papers presented confirmed the reputation of our event and ensured that it will continue to be a useful forum for our members and the wider pigging industry. We appreciate the effort that members have made to write and prepare their presentations.

The 2013 AGM is fast approaching, Tuesday 12 February, as usual at the Marriott Westchase Hotel in Houston, USA. A new director for the Americas will be elected to the board. Please do try to make an effort to attend. As a growing association in a dynamic industry, direct input from members concerning issues that face us is really important. As well as voting for the new director, your views on our association's use of the internet, how we can support and develop young people entering our industry, membership status of pipeline operators and other matters will help us move forward in a way that enhances our relevance and value to membership.

The day before, Monday 11 February, will be our annual Golf Tournament – a welcome fixture for many of us at the Black Horse Golf Club. The day will get an early start, with breakfast, followed by the tournament. It will be rounded off at

## NEW Members

**Full**  
**Smith Flow, Control, UK**

**Enduro Pipeline Services, Inc, USA**

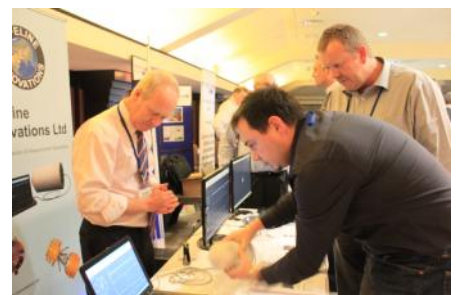
**Sahara Petroleum Services Co. (SAPESCO), Egypt**

**Associate**  
**Woodside Energy Ltd Australia**

**Stark Pipeline Services, USA**

the end of the day with a Texas BBQ and an award ceremony.

Finally, this will be my last newsletter as President of the PPSA, a position I have held with both pride and humility. Thanks are due to our other board members and, especially, to our secretary Diane Cordell for coordinating us so efficiently. I am convinced that the association will have a role of increasing importance in the coming years.



*The PPSA Seminar 2012, Aberdeen, UK*

## STATS Group Completes North Sea Isolation

**STATS Group** completed an isolation project on a 16" subsea pipeline in the Dutch sector of the North Sea on behalf of Wintershall Noordzee BV.

The isolation enabled the client to disconnect a flexible gas export pipeline so it could be replaced with a new rigid gas export pipeline. STATS deployed its Tecno Plug™ tool for the isolation which prevented a costly depressurisation of the main trunk line, and reduced environmental impact, costs and production losses.

A four module 16" Remote Tecno Plug™ was pigged by STATS' personnel from the K5-A platform to the subsea isolation position 300 metres from the platform. The Tecno Plug™ was tracked and its location confirmed using STATS' through-wall communication system via an extremely low frequency. This was carried out by a second team of STATS' technicians on-board the EDT Protea dive support vessel.

When set, the Tecno Plug™ isolated a pressure of 70 bar. On completion, primary and secondary seal tests were carried out using full isolation pressure. The pressure between the primary and secondary seals was monitored throughout the isolation, ensuring safety critical

double block isolation. With the fully proven double block pipeline isolation in place, the section of flexible riser was safely removed, allowing a new subsea valve to be added to the pipeline behind the isolating Tecno Plug™.

Divers attached a temporary subsea receiver to the valve which allowed the Tecno Plug™ to be remotely unset and reverse pigged into the receiver. The subsea valve was then closed and tested before the temporary receiver was removed and retrieved to the Protea DVS, complete with the Tecno Plug™. The new subsea valve provided isolation while the permanent pipeline was successfully tied-in and re-commissioned.

The project faced many challenges - the Tecno Plug™ had to allow bi-directional pigging through various 5D bends and accommodate the layered helical winding present on the internal surface of a flexible pipeline. These factors were considered when designing and engineering the Tecno Plug™. ●

## Weatherford Saves Plant Shut-In Time and Associated Costs

In 2012 **Weatherford Pipeline & Specialty Services** conducted in-line inspections using intelligent pigs and pumping services on a

pipeline network in Italy, operated by eni exploration and production S.p.A, delivering product to an oil, gas and water separation plant in Trecate.

Prior to the inspections, the operator used a Weatherford-provided pumping spread to flush five pipelines, ranging from 6"-12" in diameter, with water to remove any residual hydrogen sulfide (H<sub>2</sub>S). All of the lines were pigged with a gauge plate to ensure bore passing while two of the sections also required Caliper inspections.

Weatherford used the high-resolution Magnetic-Flux Leakage (MFL) tool to conduct inspections on four pipelines, run with a corrosion inhibitor propelled by nitrogen to inert the line. Using high-resolution MFL technology enabled the operator to acquire reliable and accurate classification and characterization of pipeline anomalies and have a better understanding of pipeline integrity.

Taking into account the plant's operational needs, Weatherford was able to execute the runs in 3 months, well ahead of the allotted 2-year schedule, saving valuable plant shut-in time and associated costs. Through intensive and effective coordination with the eni team in the management and planning activities, production losses were reduced to zero. ●

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weatherford.com/pss

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## Pathfinder Caliper Inspection of 12" Refined Products Pipeline, Italy

A 12" x 3.5km refined products pipeline owned by ExxonMobil running from a dockside terminal to a tank farm on the outskirts of Naples, Italy had been decommissioned in preparation for MFL inspection. As the line had never been pigged, a standard foam pig was run through the line followed by a bi-di gauging pig. The gauging pig became stuck in the line and following cut out of the pig, it was evident that internal ring anodes had been dislodged by the gauging pig, causing it to hang up as it traversed a bend. Since the pipeline records contained no information concerning these anodes, the extent of the problem would have to be determined before running MFL or UT pigs or even a standard calliper pig through the pipeline.



*Bi-Di Pig with Dislodged Anodes*

**Pipeline Innovations Ltd. (PIL)** was approached regarding their new Pathfinder Foam Caliper tool which at this stage was in the final stages of development. As the tool had never been used on operational pipelines, PIL proposed a series of tests in their flow loop facility in the North East of England to prove

the performance of the tool in a range of pipe bores and with a simulated internal ring anode. These tests were carried out and multiple runs took place to assess wear and damage to the pig from the anode. It was confirmed that the Pathfinder was capable of detecting bore changes and pipe features including the simulated anode. The final pig design was then produced and at the request of the client, an EM transmitter was included to aid location of the pig in case it became stuck. Acceptance testing comprised witnessed tests in the loop, which had been modified with an arrangement of back to back 1.5D bends and an extra simulated anode positioned on the exit from the bend. These tests were successfully completed and Exxon agreed to run the Pathfinder tool in their line.



*Loading Caliper Cartridge and Transmitter*

The foam caliper survey was carried out in April 2012 in conjunction with Tecma Pipeline Services S.r.l, who provided the operations support for running the pig. From launch to receive, the pig run took approximately 3 hours with the pig running at an average speed of about 0.3m/s. When the pig was removed from the receiver, it was observed that the foam at the

front of the pig body had been damaged but the rear section, where the caliper system is located, was in relatively good condition. Communications were established with the caliper datapack and it was found that a full dataset had been recorded and the quality of the data was good.



*Anode Retaining Strap Embedded in Foam Body*

Using the roll sensors, the tilt sensor and the characteristic response of the caliper sensors it was possible to identify the type and direction of a total of 80 bends in the pipeline. By reference to the strip maps of the pipeline it was possible to correlate bends identified in the data with bends indicated on the maps. As the bends were distributed along the length of the pipeline, this provided regular 'markers' in the time based data, allowing the location of other features in the line to be accurately identified. Anode features in the line were identified by comparison with the caliper response to simulated anodes in the test loop at PIL. A total of 144 internal anode features were positively identified and using the bend marker data, the location of each of the anodes on the strip maps was pinpointed. ●



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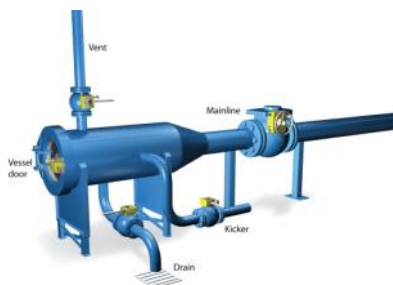


## Mechanical Safety Interlocking for Pig Traps

Pig trap accidents caused by operator error can be prevented using **Smith Flow Control's (SFC)** key interlock systems.

Mechanical key safety interlocking is the only technology that can meet the universally accepted safety requirement for loading and unloading pig traps by ensuring that the vessel is vented before it is possible to open the vessel closure. Operators cannot bypass the safety system and this eliminates the risk of 'operator error'.

SFC interlocks can be specified to ensure the minimum safety arrangement of interlocking the vent valve with the pig trap closure; this guarantees that the vent is open and depressurised before the operator is permitted to open the closure door.



Pig trap with SFC interlocks (in yellow)

Motor operated valves (MOV's) are frequently used and interlocked as part of the pig trapping procedure because valves are too large and cumbersome for manual operations. When power actuated valves need to be interlocked with manually operated valves and the vessel closure, the key interlock system

verifies the valve's position (open and/or closed), independent of any on-board instrument indication. In the event of a power failure during these procedures, the integrity of the key sequence is maintained even if the valve is to be operated manually. This is achieved by inserting a coded key into the interlock fitted to the manual override hand-wheel assembly which engages the drive mechanism; other coded keys in the sequence are only released once the valve has completed its full stroke.

Sometimes operating sequences on launcher/receiver systems can include complex variations. The range of process applications to which SFC interlocks can be applied is unlimited and tailored systems can be designed for specific client process requirements. For example, the simplest interlock system is linear but, on occasion, non-linear sequences are necessary to incorporate the control of complex Nitrogen purging, pressure equalisation, venting and draining. For this SFC has designed a Sequence Control Unit (SCU) which is a mechanical key issuing device located close to the valve. It differs from the traditional key exchange units in that, upon inserting a permit key, a selector knob is rotated to a fixed position before the next key is issued. In this way, complex sequences can be accommodated, using the same safety principles.

The final, major part of the sequence involves interlocking the vessel door. SFC's DL3 interlock device is customised to suit any make or type of enclosure door and

completes the safety interlock solution for the safe operation of a pig launcher/receiver system. The DL3 interlock ensures total isolation before the vessel door can be opened. When the DL3 is incorporated into vessel access safety procedures, total equipment and personnel safety is assured. ●

## Weatherford's PreView Data Transfer System

One of the vital tasks after in-line inspection run completion is data transfer to the ILI vendor's analysis facility. This is especially important when conducting pipeline inspection surveys during plant shutdowns. In these situations the quick delivery of integrity reports are critical so the pipeline operator can perform any necessary maintenance during the shutdown window. To meet this demand, **Weatherford P&SS** has developed and maintains the PreView system for the fast and secure transfer of the inspection data to its analysis centers.

The system features the following capabilities:

- 24/7 access to data via secure user accounts
- Data is available for data analysts to view as soon as it has been posted from the field
- All access is secure and event logs are kept for auditing
- Multi-lingual access to the system
- Easy to use interface
- Customers are given secure access to the website so that they can download their own data ●

An advertisement for Knapp Polly Pig, Inc. The ad is split into two main sections. The left section features a blue pig trap with a yellow pig inside, labeled 'BLACKBELT'. Text includes 'KNAPP POLLY PIG, INC.', 'REMOVES TOUGH PARAFFIN', 'WON'T DAMAGE THE PIPE WALL', and 'KNAPP'S BLACKBELT PIG IS PATENTED'. The right section features a yellow pig with a red seal, labeled 'ULTRA-SEAL'. Text includes 'DESIGNED FOR DEEPWATER PIPELINES', 'ULTRA-SEAL', and 'KNAPP'S ULTRA-SEAL PIG IS PATENTED'. At the bottom, contact information is provided: '1209 Hardy St. - Houston, TX 77020 Phone: 713-222-0146 - Fax: 713-222-7403 - e-mail: knapp@pollypig.com'.



## TDW's Unique Approach to EMAT Inspection

### T.D. Williamson (TDW)

completed its first inline inspection using a unique new approach to Electro Magnetic Acoustic Transducer (EMAT) technology. The inspection took place in September on 33 miles of a 12-inch diameter pipeline in Texas. The project was successfully executed, and the data is currently in analysis.

“Leveraging our patent-pending SpirALL™ Magnetic Flux Leakage technology, and know-how from our sensor partner, TDW has developed a unique approach to EMAT technology,” said Eric Rogers, TDW director of strategy and business development for its Pipeline Integrity Solutions division. “EMAT is designed to detect cracking features such as stress corrosion cracking. It requires minimal transmitters and receivers, and is compact in design.”



TDW deploys EMAT inspection

TDW conducted hundreds of pull tests at its Global Pipeline Integrity Center in Salt Lake City, to validate

the approach. Multiple passes through its test loop in Tulsa, confirmed the technology was field ready. ●

### TDW Offshore Services completes longest ever isolation in its history

TDW Offshore has completed the longest ever pipeline isolation operation in its history for Origin Energy Limited (Origin). For 299 days, the company's remotely-operated SmartPlug® pressure isolation tool remained in the Origin pipeline network offshore Australia. The purpose was to create a double-block isolation against gas pressure to depressurize a key section of the pipeline. This was necessary in order that heavy lifting operations could be safely carried out to install a new 600-ton accommodation module as part of the Yolla Mid Life Enhancement (MLE) project. In addition, an emergency shut-down valve (ESDV) was replaced.

Due to adverse weather conditions that delayed the MLE heavy lifting operations, the isolation period was extended from six months to 10 months. “By safely isolating the Yolla A Platform from hydrocarbons, Origin was able to successfully install the extensive living quarters, secure in the knowledge that the work was being completed under safe working conditions,” said Rolf Gunnar Lie, Regional Business Development Manager – Asia Pacific for TDW.

The MLE project is situated on a

section of a 14-inch gas export pipeline that extends from the Yolla A Platform in the Bass Strait between Australia and Tasmania, to the Lang Lang Gas Processing Plant 70 km south of Melbourne, Australia. TDW isolated the line by pigging a 14-inch SmartPlug tool with nitrogen through the topside piping, and then down the riser for approximately 984 feet (300 meters) into the subsea pipeline to the set location, where a subsea communication skid had been installed. The SmartPlug tool, which has a built-in pinger system and is controlled remotely via extremely low frequency signals, was then set horizontally at the seabed in the line where it would remain until completion.

To ensure that the SmartPlug tool was accurately tracked along the pigging route and that pipeline pressure was monitored, TDW used its remotely-operated SmartTrack™ tracking and monitoring system. By using the SmartTrack system to remotely set the SmartPlug tool in dormant mode, TDW was also able to extend the battery life of the tool so that it could remain in the line, creating an effective isolation. Throughout the ESDV replacement operation, and the more complicated MLE project module installations, TDW regularly monitored the pressure and temperature in the line to make certain that the isolation was being effectively maintained. Following the scheduled shutdown and completion of this phase of the MLE project, TDW unset the SmartPlug tool and pigged it back to the launcher using gas pressure from the pipeline. ●



**T.D. Williamson, Inc.**  
Pipeline Performance™

## A.Hak Opens Training and Technology Centre

In October **A.Hak Industrial Services** opened its newly constructed €multi-million Training and Technology Centre at its Tricht site, accompanied by three 200 m long test loops with 6, 8, and 12 inch diameters. This Centre has flexible and well-designed training facilities for the company's own and its client's staff, and which are also available to outside organizations. The three test loops are water powered, and have been purpose-designed to allow spools of many different configurations of geometry and diameter to be inserted. Spools with machined or actual defects can similarly be added, to allow tool performance to be verified, the company's skilled staff to be comprehensively trained, and its clients and others to become familiar with what can be achieved using the company's inspection equipment. The Centre is also the place where the company's high-tech tools are designed and assembled, and is equipped both with well-appointed design and laboratory facilities for this precision work, as well as a well-appointed storage unit for a wide range of the division's pigging equipment.



200 meter testloop facilities & workshop

The Training and Technology Centre is where the first European Practical Pigging Training Course will be held that A.Hak has developed with Penspen of Newcastle, UK, and Clarion of Houston, USA. The course, which takes place on 6-10 May, 2013, will use the test loops to demonstrate safe pigging operations ranging from launching and receipt of foam, cleaning, and calliper pigs to the use of A.Hak's own range of inspection tools. Ancillary activities such as pig tracking and data interpretation will also be included.

A Hak Industrial Services is investing in both its own and its industry's future. While the new centre certainly typifies this, it is the company's future plans that provide its further challenges. The IS Division's manager Hans Gruitroij defines these challenges as: developing technologies for deepwater pipeline inspections down to 3000m and 350 bar; how to get the tool by up to 10 km into such lines without pumping; developing crack-detection capabilities for small-diameter lines; and developing a full pipeline integrity-management service for smaller operators by bringing all inspection and analysis activities 'under one roof'.



One of the training rooms

## NDT Systems & Services Closes Five-Year Global Inline Inspection Services Contract with BP

**NDT Systems and Services GmbH & Co. KG** has signed a global pipeline inspection contract with British oil and gas giant BP.

The renewed global contract – one of four awarded by BP – is effective from 1 December, 2012. It emphasizes quality and HSE issues and significantly enlarges NDT's scope of services by providing pipeline cleaning, pipeline integrity assessment, and relevant engineering services.

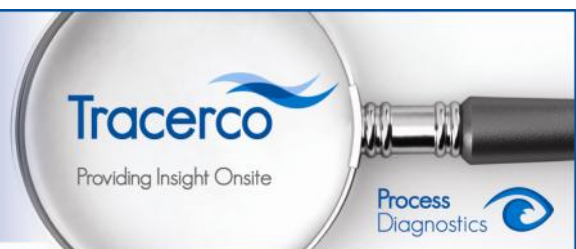
"This contract has been preceded by a thorough audit", says NDT Services EMAA Executive Vice President Ulrich Schneider. "We are proud that our long-time customer and partner BP has selected us as one of its preferred ILI partner in general, and as experts for ultrasonic inspections in offshore deepwater environments in particular".

Close cooperation with BP dates back to 2006 with the delivery of metal loss and crack inspection tools made by NDT for a deepwater project in the Gulf of Mexico. The cooperation further expanded into other platforms and regions and resulted in a first four-year inspection contract covering inspection activities in thirteen countries. ●

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## Enduro Pipeline Services celebrates 25 Years of Innovation

As a newly reinstated member of PPSA, year 2013 opens with **Enduro Pipeline Services, Inc.** celebrating 25 Years of innovation and service to the world wide pipeline industry; providing "Safety First" pipeline pigging products and in-line inspection services. As a vertically integrated company located in Tulsa, OK - Enduro offers 'experienced based' solutions through the design, manufacture, supply of "Cost Effective" pigging products. Their pipeline integrity services include: ILI surveys utilizing their fleet of high resolution MFL multiple technology tools (DfL™) currently available in pipe sizes 4-inch through to 36-inch plus several dual diameter pipe sizes. The Enduro DfL™ tool simultaneously collects five data sets – metal loss, deformation, inertial, internal/external discrimination and residual field concurrently to greatly simplify the process of identifying features and anomaly types.

PigProg II Presenter™ provides advanced analysis software to visualize, analyze, and create

interactive reports for each survey. Their in-line inspections services also include caliper / geometry surveys for new construction pipelines, including 'base line' mapping as an option. They offer Pipe Dent Strain Analysis, Pipe Bend Strain Reporting, and Historical Data Comparisons in support of customers' ongoing IMP efforts. Additional services include: project management, cleaning, AGM equipment / placement, tracking equipment / services, GPS and mapping.

Enduro pipeline scraper products include - uni-body urethane pigs (UreCast™), metal body pigs (Advantage™, Bi-Directional and Profile), two and three section pig trains, dual and multiple diameter designs, plus they manufacture an intrusive pig passage indicator – Pig Popper™.

Custom design of pigs is a specialty service offered by Enduro. As a manufacturer, they operate a modern poly-urethane plant where they pour all urethane components using (MDI) composition poly-urethane. The result provides their customers with a superior, longer lasting product for long and multiple pig runs. ●

## Quest Integrity Group Achieves ATEX Certification for InVista™

**Quest Integrity Group's** InVista inspection technology has achieved ATEX certification in accordance with European Directive 94/9/EC. InVista is an ultrasonic in-line inspection (ILI) tool for difficult-to-inspect and unpiggable pipelines with diameters ranging from 3"-24" (76 mm - 609mm). ATEX certification validates that these tools operate without danger of directly causing or contributing to an explosion when used in explosive atmospheres.

This certification ensures that the equipment is used for its intended purpose, and adequate information is supplied indicating the safe usage of the equipment. It also ensures that Quest Integrity maintains an EC compliant quality system for production, inspection and testing. The ATEX marking on the equipment is: EX: Group II Category 3G Exm IIA T6.

"ATEX certification is a significant milestone for our company. Our clients in Europe and the Middle East require it, and our commitment to a safe working

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environment is demonstrated by compliance with the directive,” said Todd Baker, HSE and Quality Manager, Quest Integrity Group.

InVista was developed from the company’s furnace tube inspection system, a proven technology introduced by Quest Integrity in the 1990s. InVista has been successfully utilized globally in some of the most challenging operating environments. The technology is a unique ILI tool that collects both geometry and metal loss data in even the smallest diameter pipelines, and collects 100% of the data for both internal and external corrosion for the entire asset. It is ideal for space-constrained environments such as wharf lines and offshore risers, and can perform in low flow and low pressure lines.

In addition to superior navigational capabilities, the pipeline geometry inspection data InVista collects is valuable to clients. The ILI data is assessed using LifeQuest™ Pipeline fitness-for-service software, providing an integrated solution set for the industry. With a preliminary report available on-site, and a final report delivered within 30 days, the data collected by the tool allows clients to make timely, confident decisions. ●

## Continuous Expansion at Online Electronics Ltd

**Online Electronics Ltd (OEL)** is in the process of making further developments to the Company headquarters in Aberdeen. The latest extension being added to the building is an increase to workshop floor space creating 40% additional area for new personnel and increasing potential production capacity. In 2012 OEL manufactured and batched 1000 units across a diverse product range.

On the international front OEL announced the formation of OnlineElectronics Limited (DMCC Branch) based in Dubai UAE. The business will operate from a new office suite in the area of Jumeirah Lake Towers.

Even more recently OEL formed a new US subsidiary, Online Pipeline Solutions Inc. (OPS) which is located in Houston, Texas.

Tracey Hayden has joined OPS Inc as Regional Manager. Tracey from Texas brings 14 years technical sales experience gained in the Oil & Gas industry across the US Gulf of Mexico States. Tracey will be responsible for promoting all of the products and services offered by the OEL Group, which includes

specialist valves and pipeline components business, Online Valves Ltd (OVL). ●

## ROSEN Group appoints new CEO

**The ROSEN Group** has appointed Friedrich Hecker as Chief Executive Officer, effective from January 2013. Working together with Founder and President, Hermann Rosen, Friedrich Hecker will be responsible for leading the implementation of new ROSEN Group strategies whilst maintaining the Group’s culture, core principles of customer focused innovation, organic growth and operational excellence.

Herman Rosen stated, “The ROSEN Group is widely accepted as being at the forefront of technological development and added value solutions for various industries. With Mr. Hecker now leading an executive team, rich with industry knowledge and experience, we have strengthened our position for the implementation of the long term growth strategy and further build upon ROSEN’s strong reputation as the industry’s leader in innovation”. ●



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