

review

 HUNTING





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Hunting Titan has received targeted investment at two of its facilities in Texas to support its growing portfolio of new technologies.



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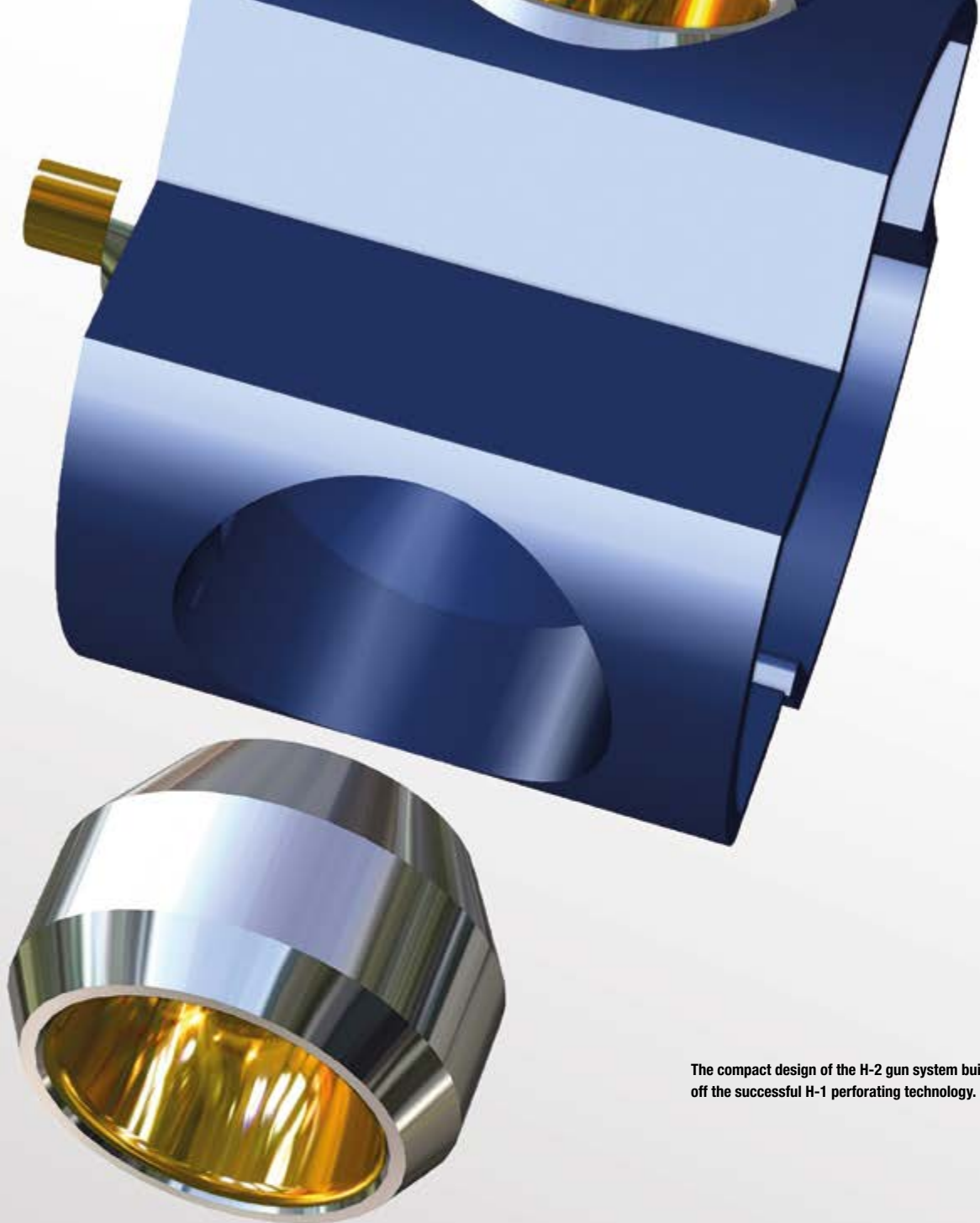
“This issue of the Hunting Review demonstrates how much can be achieved over a year. For example, the dedication and hard work shown by our staff has led to the delivery of a thriving new OCTG product line. At the same time we see the fruits of cooperation from the cross-team and inter-disciplinary collaboration of Hunting’s Advanced Manufacturing Group. This means, our customer can now single source a technically complex integrated downhole tool. As well as this new business and product range development, we are also reminded of the responsibility to always seek better ways of going about our business. No matter how seemingly small and mundane, the focus on Continuous Improvement has become engrained in our DNA, as we see here with examples from our Subsea division.

We look forward to building on these achievements together.”



Jim Johnson, Chief Executive Officer





The compact design of the H-2 gun system builds off the successful H-1 perforating technology.

Titan ramps up

The performance of Hunting Titan's H1 perforating technology in the field was met with widespread approval, reflected in the unprecedented demand that followed. Since then, incremental investment has been committed to the division's two main manufacturing sites in Texas to deliver a range of projects including new technologies and expanded facilities

MILFORD CHARGES

Hunting Titan's Milford facility in rural North Central Texas, is home to the Energetics, or downhole explosives business. It is here that the company designs and manufactures an extensive variety of shaped charges for perforating systems and other explosive products used in the oil and gas industry.

Many million shaped charges are manufactured at Milford on an annual basis, so any incremental efficiency and expansion has a large ratchet effect. This is why adding to capacity is a focus of Hunting's current capital investment programme, with an overall aim of increasing the shaped charge production capability by half as much again. When complete, Milford will be home to three new-style press stations for manufacturing the liners of the shaped charges, significantly increasing the quantity and hourly rate. The primary objective is to balance liner press capacity with the explosive press capacity while advancing manufacturing technologies.

As well as the provision of buildings to support these new activities, the expansion of the shaped charge capability also includes the extension and remodelling of the existing estate with new support facilities. The warehouse, training and meeting rooms are set to double in size, while the machine shop and quality control areas are also set for added footprint.

Pictured right: Engineer Ty Stovall presents the Power Charge family which are used in Setting Tools to set a plug before perforating and fracking a well.

Many million shaped charges are manufactured at Milford on an annual basis

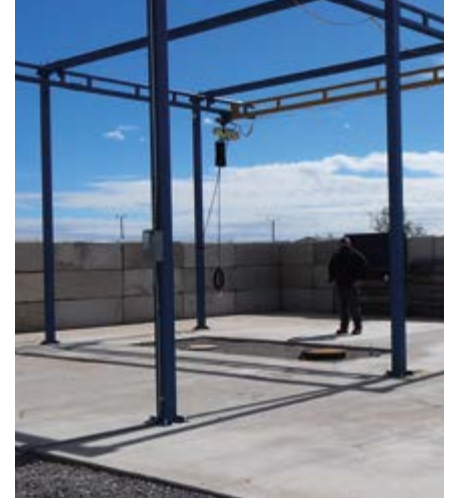
POWERING AHEAD

Introduced in 2018, Titan's Power Charge product line allows for highly automated manufacturing of its unique main propellant. This is designed for the 'Plug and Perf' market that provides isolation zones in the wellbore for frac and pumping operations with a consistent slow burn to generate the required gas. With a patent pending for the next generation of Power Charges with integrated igniter and ControlFire® technology, investment has been made to construct a highly efficient, dedicated plant. This facility will be capable of producing towards half a million units per year. To give this perspective, 225,000 were delivered by Hunting in 2017.

The Milford site will also see the introduction of a Detonating Cord Facility. The new facility will enable Hunting to deliver a sizeable proportion of all market consumption of this cord and alleviate the recent supply constraints suffered by the industry.

Additionally, the Milford site will be launching an in-house designed electric/electronic detonator, for which there is currently a patent pending. The innovative design will increase safety to the industry, provide more flexibility to the end user, and strengthen Hunting Titan's market leading ControlFire platform. →





PAMPA PERFORATING

The Titan facility in Pampa, Texas, has also been the focus of the company’s significant capital investment programme. This includes the installation of two automated perforating gun production cells, one for H1, the other for conventional guns. This will increase internal capacity, negating the need for third party work and facilitating an increasingly efficient manufacturing process.

Pictured top left: First of two Fanuc robots landed in Pampa for the new automated production cells. Each robot will be responsible for loading/unloading two production lathes.

Pictured top right: Rick Blain standing on the test pad at the new Pampa Test Site used for qualifying new gun systems.

Pictured below: H-1 Perforating Gun prepared for loading at the Pampa Test Site.

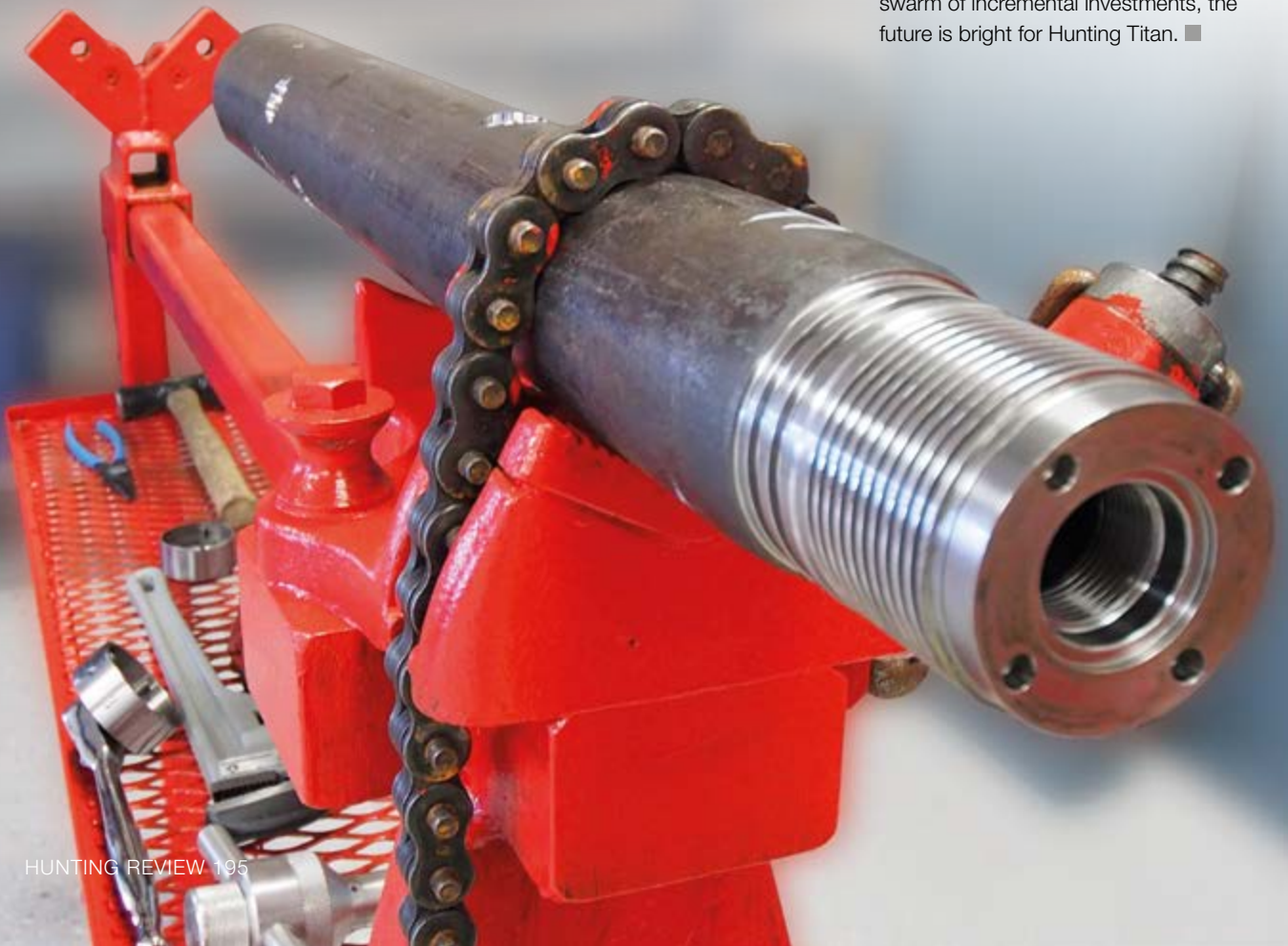
The addition of these two “robotic” cells – a first for Hunting – will boost production volume by 240,000 perforating guns per year. The reduction of a three step manufacturing process to a single step will reduce time and cost considerably.

New products have also been in development with the trend towards shortened perforation/frac intervals, which result in more perforation clusters per stage. To address this the company has developed the shortest gun on the market. Special charges, engineered in Milford, are designed to be oriented in a plane while maintaining required performance.

SHOOTING RANGE

First opened for business in 1966, the Pampa manufacturing facility now encompasses over 79,000 sq. m. However, with some 385 miles stretching between the Pampa and Milford sites, the logical step was taken to construct a specialised testing facility in Pampa. The objective of this is to increase in-house research and development capabilities, while making testing quicker to conduct and more efficient and safer to perform. Starting in July 2018, the first “shot” was fired from the new shooting range in October.

This varied range of new initiatives are already proving to increase capacity and speed of production, satisfying customer demand. Much efficiency lies in the capability afforded by semi or full automation, and with such a swarm of incremental investments, the future is bright for Hunting Titan. ■





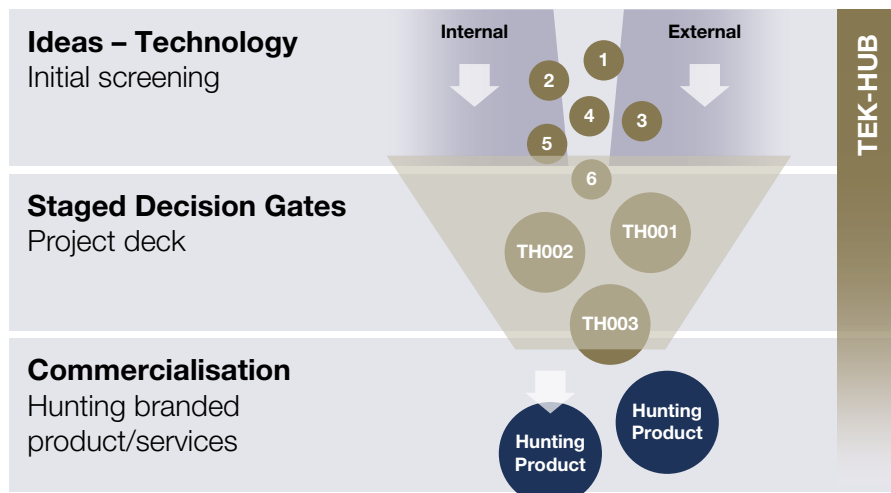
The TEK-HUB

A technology 'Hub' at Hunting's Badentoy facility in Aberdeen has been introduced to evaluate new technologies for selective commercialisation

The establishment of the TEK-Hub will encourage new sources of profitable revenue without the need for capital expenditure, utilising spare capacity in the fixed cost base.

The TEK-Hub is based on a collaborative model, working closely with third party intellectual property to bring new equipment designs and innovative technologies to market under licence. →

The strategic plan for the TEK-Hub is to add five new fully commercialised products per year to the Hunting catalogue, with TEK-Hub products contributing a significant percentage of divisional earnings by the end of 2020 including products in 'Alternate Energy' markets



INPUT AND REVIEW PROCESS

Input to the TEK-Hub comes from external contributors as well as from Hunting staff. The Hub is essentially open for business from any source, however projects submitted so far have been primarily from external innovators and small enterprises. The end to end TEK-Hub process is outlined in the graphic above.

A process has been set up to ensure that the technology being submitted and assessed passes specific criteria aligned to the company's strategy, capabilities and current product portfolio. A review team is in place, comprising key individuals with technical, business and industry knowledge to ensure that projects pass through pre-defined 'Decision Gates', reducing risk and maximising potential for the organisation.

Stage 1



Technology Screening

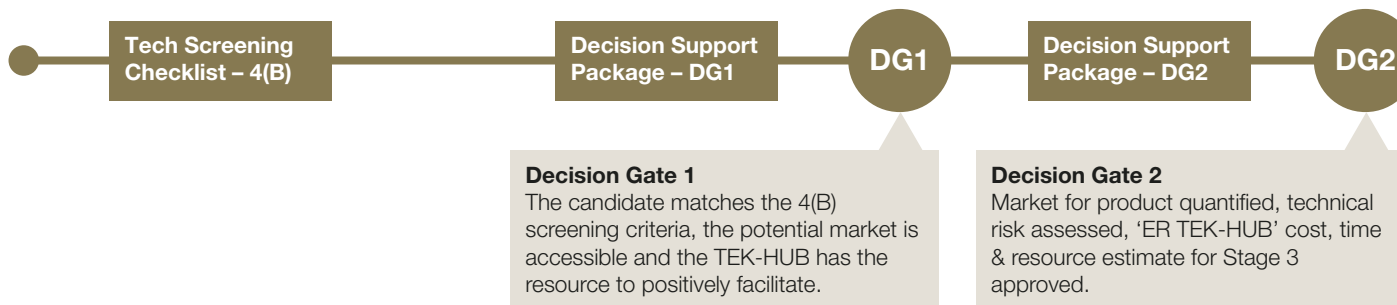
Identification of candidate technologies and equipment concepts which align to the HES production strategy have the potential to produce sustainable commercial returns after development through the 'ER Tech-Hub' process.

Stage 2



Technology Selection

Verification of the technical feasibility, market potential and commercial viability of candidate technologies and products.



CURRENT STATUS AND THE PROJECT PORTFOLIO

Currently there are more than ten projects in various stages of review in the TEK-Hub. Examples of these projects are:

- The Hunting ‘Ezi Shear Seal’ Valve – developed in collaboration with Interventek Sub-Sea Ltd, the technology provides a compact, reliable and quick mechanism for the shearing of slickline, wireline and coiled tubing then fully closing to establish isolation or sealing of the wellbore. This product is past Stage Four of the TEK-Hub process and is fully commercialised, generating revenue under licence in Europe and through the Titan distribution centres in North America. Sales and Rentals in the North Sea and Norway have been made to key customers such as Altus, Expro, Halliburton, Schlumberger and Archer.
- Hunting ‘Organic Enhanced Oil Recovery’ Technology – marketed in collaboration with Titan Oil Recovery Inc., the technology is a breakthrough in low cost, no capital required oil recovery offering oil operators an advanced, state-of-the-art secondary and tertiary



oil recovery technology. Combining petroleum engineering and breakthrough biotechnology, the process produces more oil, lowers lifting costs and allows the optimisation of a field's potential. This technology is at Stage Three of the TEK-Hub process with microbial sampling planned in 2019 or took place in 2018 with single Operators in the UK and Norway. Reservoir treatments are planned during the first half of 2018 prior to a full scale roll out in the North Sea and onshore Europe.

The ‘strategic plan for the TEK-Hub is to add five new fully commercialised products per year to the Hunting catalogue, with TEK-Hub products contributing a significant percentage of divisional earnings by the end of 2020 including products in ‘Alternate Energy’ markets.

The team is actively encouraging innovative ideas for new technologies to add to the TEK-Hub portfolio. For more information or to submit an idea for consideration please contact: Tek-hub@hunting-intl.com ■

Stage 3



Product Planning

Detailed technical & commercial product realisation schedules portfolio & market placement definitions and after sales strategies for all product elements.

Stage 4



Product Realisation

Initial production run in collaboration with ‘first use’ customers. Establish internal ownership and external marketing plans, prepare for full scale implementation.

Decision Support Package – DG3

DG3

Decision Support Package – DG4

DG4

Decision Gate 3

Working prototype tested & compliance verified. Production costings and market positioning strategy approved.

Decision Gate 4

First production batch complete. Detailed technical specification finalised. Handover to identified production & distribution.

Technology Facilitation Team

Commercial & Marketing Team

Division Executive Team

Making the connection

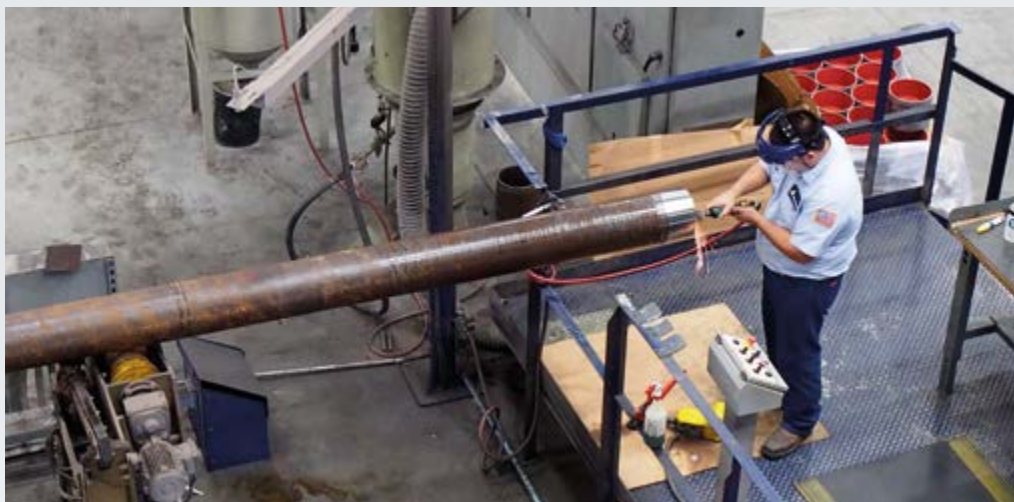
Hunting's AmeriPort facility has found a welcome market in the onshore shale sector, facilitated by the introduction of the TEC-LOCK range of semi-premium connections



The 40 acre site affords plenty of space to manoeuvre the full length tubulars and support the three manufacturing lines which are configured for high volume throughput

In response to the rising demand for high-torque connections, Hunting's tubing technology engineering team has adapted its semi-premium connections range, originally designed for the high pressure offshore environment, to be deployed in onshore shale plays. This becomes necessary as operators push to new limits in challenging reservoirs and increased lateral reach.

The same principles that were used to develop premium connections for the extreme environment in the deepwater wells of the Gulf of Mexico have now been applied to the onshore arena while keeping a critical eye on cost to ensure market competitiveness. Listening carefully to customer requirements to run increased lateral lengths that require high bending with torsional and compressive load resistance, the team created the team developed a new range that is 'best in class' in terms of performance. Working closely with the steel mills and being able to



test and certify new threading combinations for different size of pipe in-house has been crucial to this process, not least in the speed at which these developments can be brought to market. The connections are fully validated and accredited in the test chamber to ensure that they have the strength and resistance to withstand the

intense operating conditions. In addition they are subject to extreme fatigue testing to prove survivability in the multi-stage fracks that the operators employ and the typically multiple rotations that are essential to push the tubing through up to four miles in the wellbore. →





The WEDGE-LOCK family of connections destined for offshore applications are manufactured alongside the new TEC-LOCK range targeted at the onshore market

Since its introduction to the onshore sector at the end of 2017, the full TEC-LOCK range, TEC-LOCK BTC, TEC-LOCK BTC-S and flagship product TEC-LOCK Wedge, have been manufactured at AmeriPort, Hunting's facility in Baytown, Texas. The 40 acre site affords plenty of space to manoeuvre the full length tubulars and support the three manufacturing lines which are configured for high volume throughput. Two of these have state-of-art Mori Seki horizontal machine centres with tooling packages to handle 14-20in and 9 5/8-14in respectively, and are primarily dedicated to machining Wedge products of either premium or the new semi-premium range. For the latter, validation and adoption of new designs for CAL IV testing, the most popular sizes of pipe have been accredited first, with a full suite to follow.

In this short period of time, demand has grown steadily with the clear value to the operators of being able to buy what is essentially a premium designed product but at a cost effective price. Engineered for typical shale seam geology, the range has been successfully deployed in the Permian, Eagle Ford, Haynesville and Denver-Julesburg Basins, with clients appreciating the ease-of-use and operational efficiency.

This thriving new line of business is clearly reflected in the increased activity in Baytown. The AmeriPort team has moved to incorporate an increased shift pattern, with each of the threading lines operating at full capacity.

The onshore model is based on a significantly shorter cycle: just a matter of weeks from time of order to delivery into the well. This shorter turnaround time means that little product is made to stock, in comparison to the more time and cost-intensive nature of offshore operations. ■



Integrated tooling

Ever since the inception of the Advanced Manufacturing Group (AMG), the purpose was to create a capability for machining and integrating larger critical components and sub systems to make life easier for the customer with a simplified supply chain



ADVANCED MANUFACTURING

It was not initially conceived that the three companies which formed the backbone of the AMG – Dearborn, Doffing and Innova Extel – would join forces to make fully specified MWD/LWD tools. Neither was it foreseen at that stage that the collaboration would extend beyond the Group, to include expertise of the wider family of companies within Hunting. However that is what has been achieved. So Hunting Titan Division provide Gamma Ray Detectors and Hunting Energy Services Supercenter, order management and testing.

DEVELOPMENT PARTNERS

Partly as a resource issue but for also for risk management, the customer needed a strategic partner. They also encouraged a collaborative approach to developing new tools and outsourcing the manufacturing of the complete product as finished and ready to use. Few companies have the breadth of experience and expertise to handle this type of turnkey project and Hunting is unique in what it is able to offer. The plus for the customer is having the work package in one house.

PACKAGE INTEGRATION

The integrated tool is the result of four years of work and three evolving prototypes. The project has seen real cooperation between teams with the sharing of design insights and honest discussion to develop the optimum solution. Complex machining and project management were proven and during the course of the three cycles 10 feet out of 22 feet was cut from the length of the tool. This was achieved through creative engineering and radical manufacturing approaches to pack the electronics assemblies in smaller designs.



Very few companies have the breadth of experience and expertise to handle this type of turnkey project and Hunting is unique in what it is able to offer



It goes to the market now as a commercially viable MWD/LWD tool designed to bring real time data back to the surface of a well bore, conveyed on coiled tubing. Hunting has been responsible for the entire build from initial concept to final shipping as the integrator for all the major work and services provided by approved vendors. Some of the parts cost as much as \$25,000 each so there is a need for a culture of critical planning, execution and zero tolerance of quality fails, a steep hill to climb.

TEAM VIEWS

The project has engaged cross-disciplinary teams of designers, engineers, suppliers, honed processes and set a culture of open communication at all levels between companies. It has strengthened relationships and built trust in the complete manufacturing capability, regularly reviewed, to everyone's benefit.

The two key Hunting facilities that provide the bulk of the work package are the

machine shop at Sam Houston Parkway and Electronics for fibre optics, custom harnessing and of course electronics. In close proximity, they straddle the Beltway in Houston leading to quick turnaround time and easy communication. ■

Pictured above left: An Integrated Tool cased and ready for shipping.

Pictured above right: Kerry Mize (L) and Tim Riggs (R) who are crucial team members.

Pictured below: The assembly area of the Electronics plant.



Aberdeen's timely reminder

The Hunting facility at Badentoy in Scotland now boasts an impressive atrium and is the main area where customers and visitors congregate



grain of sense
great age of
start"



WONDERWALL

The atrium is a key feature within the building, giving the feeling of space and light and was purposefully incorporated into the structure to create a stimulating and dynamic environment.

The floor to ceiling wall space was originally painted pure white and although this gave the impression of a professional environment, it was an underutilised area that could have been better used to give a lasting impression of Hunting.

A brief was drawn up to create an interesting and eye catching piece of art work for the blank wall to provide information to visitors on the Hunting history and illustrate how the company had evolved over the past 130 years.

TIMELY LINES

The idea was inspired by Glasgow's Buchanan Galleries which vaunts an impressive timeline of the industrial revolution and the huge influence it had on the city's development. The Hunting timeline would cover its own rich history with forays into many industries, not just oil & gas. The company grew both organically and through acquisition which is reflected in the display, portraying the fundamentally entrepreneurial culture of the company that remains at the core today. The aim was to inform and engage Hunting's visitors and employees.

MATERIAL SELECTION

Artwork was selected from the archive provided by the London office, then printed onto wall paper and applied in a day. Additional acrylic panels were placed at strategic points of the evolving history to add depth. The whole process took just three weeks, in time to impress new members of the Hunting PLC Board in June of last year and now intriguing a constant flow of visitors. ■

Seven pillars supporting Subsea success

The seven key principles which drive business practice at Subsea are: Safety, Quality, On Time Delivery, Customer Satisfaction, Profit Awareness, Technology/Innovation, and Employee Satisfaction. These “pillars” govern the management team’s approach to the company’s success. The next step, suggested by Hunting Subsea HR Manager, Jennifer Waggoner, was to extend this to those making daily decisions and performing functions vital to the success of the company – the employees.

The intent was to educate the employees about how the Subsea Pillars should be called upon every day, to help make decisions for the best of the company and its customer base. Immediately, the Subsea Pillars was set out, framed and hung on the walls throughout the facility, as well as being emailed to all the employees. Every month, a specific pillar was featured in the division newsletter to shine additional emphasis on each principle. At the monthly Employee Social, the manager responsible for delivering each pillar arranged a team presentation to demonstrate how they had incorporated it into their business and how this contributed to wider company success.

The outcome of the presentations was tri-fold: first, the employees were shown a new level of transparency; second, the employees learned how they contribute to the success of the company; and third, it provided a form of team building, as well as encouraging some colleagues to become more comfortable with public speaking.

In addition to the monthly newsletter article and team presentations, Jennifer also decided to change their method of selecting Employee of the Month. Starting with the launch of the Subsea Pillars, nominations are now based on team members that have had a direct impact on the success of the company through the Subsea Pillars. The introduction of the Subsea Pillars programme is already a demonstrable success, encouraging employees to work together to build the achievements of Subsea for the benefit of all. The result was remarkable – employees nominated their co-workers and recognised efforts sometimes overlooked. Key examples are Walt Bryan (Weld Team Lead) and Danh Phan (Programmer). Danh Phan reprogrammed the way a part is manufactured and reduced the machine time by over 50 percent, shaving off 13

minutes, for a part that is made thousands of times during the year. This supported Innovation, Profit Awareness and On Time Delivery pillars. When the manufacturer of the sander no longer carried the guard needed, it could have meant a spend of \$1200 on replacing the entire sander. Instead Walt, redesigned and built a better, safer fully enclosed guard than the original, extending the life of the perfectly good sander. This promoted the Safety, Quality, Innovation & Profit Awareness pillars.

The introduction of the Subsea Pillars programme is already a demonstrable success, encouraging employees to work together to build the achievements of Subsea for the benefit of all. ■



Automating hydraulic testing

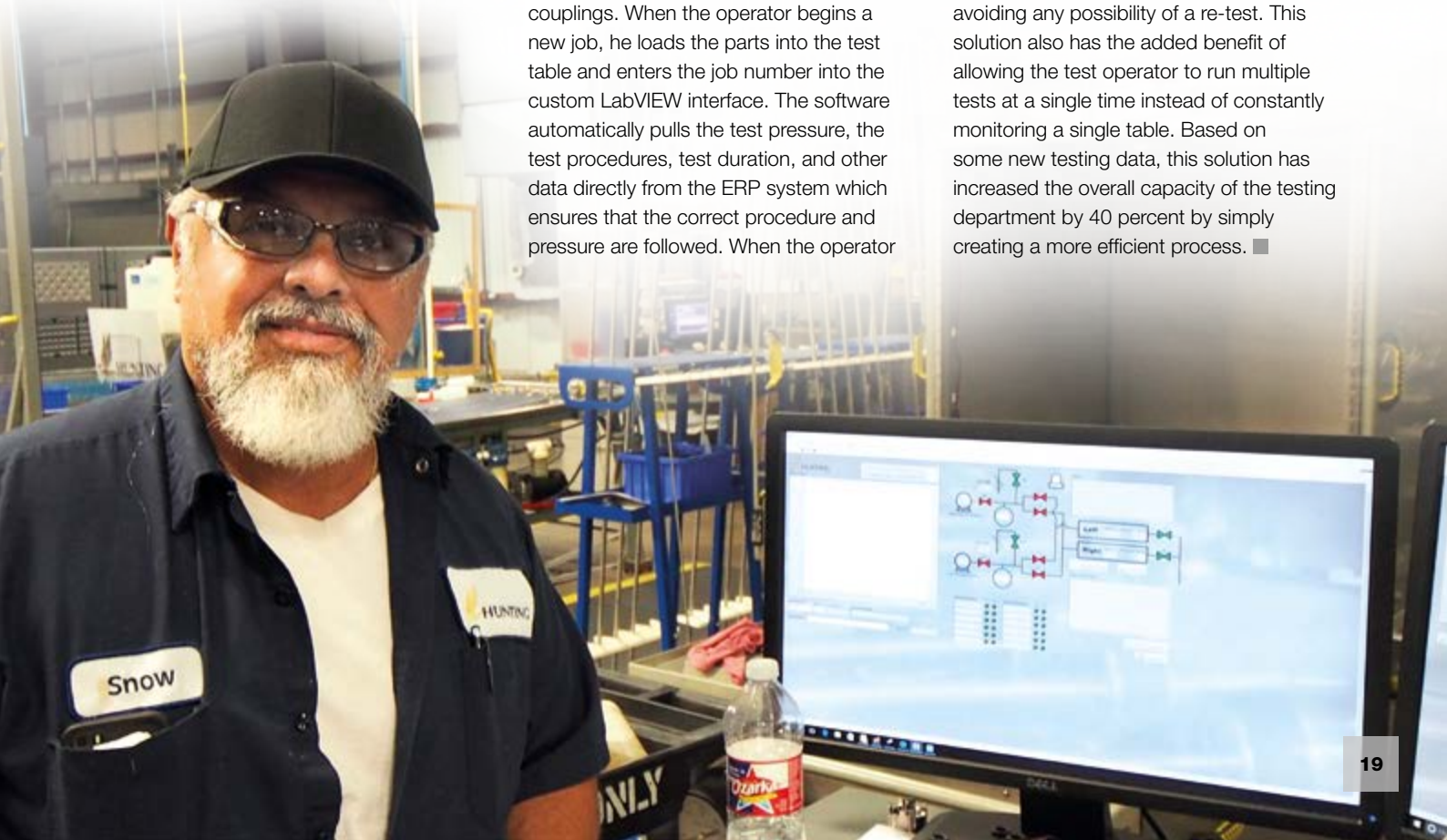
Before shipping, every coupling undergoes a hydraulic factory acceptance test to verify the integrity and functionality of the part. Most test pressures range from 12,000 to 30,000 psi with the most common testing pressures at 22,500 psi with no more than an 8 psi drop per minute. The issue with hydraulic testing at these pressures is that the fluid takes a variable amount of time to fully compress or stabilise before testing can begin. As the fluid compresses, the pressure readings continue to drop, slowing as time passes. The amount of time it takes significantly varies based on fluid volume, part geometry, pressure, air temperature, fluid temperature, and several other factors. This poses challenges for an operator to efficiently test the parts. When the data from the test department was analysed, it revealed that often the operator was waiting too long before starting the test and just as often, many of the tests were started early, meaning that it would fail by several psi and must be re-run. The solution was to introduce technology into a manual process.



The testing department supervisor, Jake Rutt, together with Mike Ross from the IT group began working towards a solution. They agreed to use LabVIEW, common testing software, as the base, but ultimately developed a custom solution and interface that was designed around the specific testing requirements and equipment. Jake's group focused on defining the process flow into very detailed steps which could be easily interpreted by Mike and programmed into the software.

The pair have since introduced a completely automated hydraulic testing for standard couplings. When the operator begins a new job, he loads the parts into the test table and enters the job number into the custom LabVIEW interface. The software automatically pulls the test pressure, the test procedures, test duration, and other data directly from the ERP system which ensures that the correct procedure and pressure are followed. When the operator

is ready to begin the testing, he clicks the start button and the software takes over. The system automatically sets the pressure, turns on the pumps, closes the valves to block off the part when the correct pressures are reached, monitors the stabilisation rate, starts the test when the decay rate is within acceptable limits, and automatically records all the testing data to the SQL database. A copy of the final test report can then be printed from the data at any point in the future. The key to this solution is the custom algorithm that constantly monitors the fluid stabilisation and starts the test immediately, while avoiding any possibility of a re-test. This solution also has the added benefit of allowing the test operator to run multiple tests at a single time instead of constantly monitoring a single table. Based on some new testing data, this solution has increased the overall capacity of the testing department by 40 percent by simply creating a more efficient process. ■



Subsea milling centre “zero-gravity” Gorbel crane



Having identified the potential for significant future growth in its valve product line, the team at Subsea took the opportunity to strengthen the capability through the acquisition of two mills. The new additions, which came from other company divisions, enabled Subsea to establish a milling cell.

This system will help improve productivity, reduce the cost of product damage, and minimise work-related injuries by enabling the moving of heavy loads with ease, security and precision

It soon became evident that a crane would be required to lift some of the larger valve blocks into place on the mills. A tombstone work-holding system was also essential for the Mazak mill. The selected system - a Gorbel G-Force Q, 600Kg unit, was capable of lifting 1,320 lbs and allows for one-handed operation. The unit has a “Free Float” mode whereby it calculates the weight and suspends the load. This allows the operator to move the part with ease using one hand or gently lower it with a slight push. This system will help improve productivity, reduce the cost of product damage, and minimise work-related injuries by enabling the moving of heavy loads with ease, security and precision.

The crane was positioned between the HAAS and Mazak mills so that it could be efficiently used on both machines. It has enabled a single operator to change out the 600 -700 lb tombstone on the Mazak. ■

Custom Crates at Subsea

As a key supplier to a global market, Hunting Subsea is reliant upon its custom-built crates, which must be certified insect free for international shipping. The size of each crate can range from eighteen inches to eleven feet long, and the average cost per crate is \$300 including labour, materials and inspection fees. The technicians tasked with building these crates are skilled workers from the maintenance team, who were often pulled away from their daily duties of keeping the plant operational. In addition, the crates also occupied valuable floor space in the maintenance wood shop and shipping area.

At a Subsea focused trade show in Houston, Jesse Renteria, the supervisor of the Coupling Assembly and Shipping/ Receiving departments came across a company that could provide a custom pre-cut cardboard crate solution, with just five minutes assembly time. Impressed,

The introduction of this new working method, opened up significant floor space, reduced the crate assembly time by 1,570 hours annually

Jesse commissioned an internal cost analysis to compare the existing system for building crates versus the new proposed crating system. This confirmed a cost reduction of over 90 percent achieved by moving to the new crating solution.

The Subsea team determined the three most common crate sizes and worked with the vendor to design a universal model to fit these specifications.



The introduction of this new working method, opened up significant floor space, reduced the crate assembly time by 1,570 hours annually, saving a substantial sum of money in the first year and enabled the team to prioritise their usual duties. ■



Our Hunting Community

APPOINTMENTS AND PROMOTIONS

Liese Borden has joined the Company as its Chief Human Resources Officer based in Houston. Liese will be responsible for leading the company's global HR strategy. Having started her career as a field engineer, Liese later moved into sales and operational management roles before entering the field of HR.

Kyle Harberd has joined Hunting as Internal Auditor, based at the Northchase, Houston office. Kyle joins Hunting following two years as an Audit Assistant and is also a certified Public Accountant.

Re-locating from his base in Houston, **Brian Autrey** is now the representative of the Subsea Technology division in Europe. Based in Badentoy, Brian's role will promote Subsea's product range, including Hydraulic Couplings, Chemical Injection Metering

Systems, Subsea Control and Pressure Relief Valves.

Rodney Borden has been promoted to Group General Manager – QA/HSE Facilities. Rodney will be responsible for implementing, managing and maintaining Hunting's corporate QMS/HSE mandate throughout the company's OCTG, Tubular, and Print/Part Accessory manufacturing facilities.

Robert Dunigan is being promoted to Group General Manager – QA Systems. Robert will be responsible for managing, maintaining, and implementing the company's TQA QMS system throughout its global facilities. In addition, Robert will act as the corporate appointment representing Hunting within API/ISO.

Gene Raines has been promoted to Group General Manager – QA/HSE Titan Division Robert will be

responsible for managing, maintaining, and implementing the company's corporate QMS/HSE mandate throughout Hunting Titan's global manufacturing facilities.

Andrea Romero has been promoted to Group General Manager – QA Products. Andrea will be responsible for implementing, managing and maintaining Hunting's corporate QMS mandate throughout its manufacturing, design, and marketing divisions owning proprietary products. In addition, Andrea will continue her role as Corporate Metallurgist and maintain her position representing Hunting within API/ISO on metallurgy.

Mike Webber is being promoted to Group General Manager – QA Processes. Mike will be responsible for implementing Best Practices and Processes throughout Hunting's

manufacturing facilities and assuring conformity to the company's corporate QMS and mandate. In addition, Mike will manage the design, control, and manufacturing of Hunting's proprietary gauges, standards, and fixtures.

Chris Venske has assumed the position of Engineering & Technical Sales Manager for the TEK-Hub in Aberdeen. Bringing significant engineering expertise from previous roles at Hunting, Chris will be focused on progressing the Organic Oil Recovery (OOR) technology to commercialisation in UK and Norwegian markets.

Grant Fuller has been appointed as the Business Development Manager. Grant is experienced in project coordination for oil and gas operators and contract providers and will focus on developing the emerging OOR business.

SUBSEA BLOOD DRIVE

Hunting Subsea has hosted its tenth semi-annual blood drive. We are proud of the big impact that this small team is making for the Gulf Coast Regional Blood Centre – in five years the team has donated 439 "products", saving an average of 1,317 lives.





CONTRIBUTING AS ONE

The Indonesian island of Palu Donggala was rocked by series of quakes and tremors over several weeks last summer. Known as the “Lombok” earthquakes, measuring between 6.4 and 7.5 in magnitude, the epicentres were north of Rinjani volcano. By the end of September, the confirmed death toll was 832, with several thousand injured, and more than 350,000 people displaced from their homes.

An organising committee was formed by Senior Manager for Administration, Sonny Ardiwiyanto, to raise funds for those in need of support. The committee was chaired by Setia Budiarto, assisted by Amri Muftadi as Vice Chairman and Renny Anggrainy as the Secretary. The fundraising team comprised Siti Aisyah,

Broto Hadi, Fajar Sidik Hartono, Liga Sandra, and Yohanes Paarangan.

Awareness of the disaster also reached other company facilities in Singapore and China, leading to cross-region fundraising efforts and local donation drives. A total of 53 million rupiah (USD3500) was raised through employee and company contributions.

Representatives from the organising committee presented the donation to the Indonesian Red Cross in November. All donations received went towards disaster recovery efforts, purchase and distribution of relief items including mats, blankets and household kits, as well as additional clean water supply for the community.



ABERDEEN HSE MILESTONE

October 2018 marked three incident-free years. This equates to an amazing one million man hours and follows the introduction of several new safety measures, including regular walkaround

and housekeeping tours, weekly safety meetings, and regular training sessions run by the HSE department. These are designed to bolster communication, and keep focus and awareness.

TEAM BUILDING

A family fun day last August provided an opportunity for staff to spend quality time with both colleagues and family. The team place a strong emphasis on collaborative workplace spirit, and the “Unity in Diversity” day at Nipah Island Resort (Batam) was made even more special

with the involvement of family members.

The event brought together 100 employees from different parts of the region to strengthen the inter-team engagement and support the achievement of personal and professional goals.





MACMILLAN BAKE SALE

The teams in Aberdeen and Fordoun held a bake sale for Macmillan Cancer Support, raising over £800. In addition to the cakes, the event included a quiz, bingo, and a raffle. Our thanks to all involved in raising this significant amount for an important cause.



STAFF APPRECIATION DINNER

Employees from Hunting Singapore's HQ, Accessory and Well Intervention business units came together last December for a staff appreciation dinner. The theme for the evening was the "Hunting Olympics", and attendees came in various sporting outfits. It was also a valuable opportunity for Asia Pacific Managing Director Daniel Tan

to highlight for the continuing journey to Vision 2020.

A particular "Hunting Olympics" highlight of the year was the month-long "Hunting Steps" challenge initiated by the HR team in November, in preparation for Singapore's official National Steps Challenge which runs from January to April 2019. Apart from a weekly

"Top Stepper" winner, the top five Hunting Steppers for the

internal challenge feature on the leader-board as follows:

TOP STEPPER

| | |
|--------------------------------------|------------------------|
| 1st Prize: Murali Sandanadeva | (Total: 878,855 steps) |
| 2nd Prize: Chooi Fook Wing | (Total: 876,634 steps) |
| 3rd Prize: Kelvin Tai | (Total: 829,728 steps) |
| 4th Prize: Annie Cheng | (Total: 766,435 steps) |
| 5th Prize: Zhou Xiao Jun | (Total: 723,001 steps) |

LONG SERVICE AWARDS

Steve Imray has marked his 25 year milestone with the company. We thank him for his quarter of a century of commitment and dedication and wish him all the best for his future years at Hunting.

Jeff Skinner first started work with Hunting on 2nd January 1979 as a machinist in the manual machine shop, where he stayed for 14 years. He then moved to inventory control, before moving into Sales in 1998. In the following years Jeff has held a variety of Sales roles and has recently moved back into Inventory Control. We

thank Jeff for his 40 years of services to the company.

Commencing his career at Hunting in September 1977, **Gary Niccum** started as a machinist in the RTG Gun Department running a tracer lathe. In 1988 Gary took on the challenge of set up and production of the company's first laser, rising to become the Laser Department Supervisor. In 2015 he took on the role of Supervisor of all Perforating Gun Production, in addition to overseeing the Laser operation.

Robert Dixon started his role at Titan in September

1977, aged 17 and working part time, while completing high school. In the following years Robert has worked in the Gun Department, Sub Shop, and also held the position of Production Supervisor over CNC Mills.

Gene Rains joined Hunting in 1978 as a Machine Operator. He has since assumed roles in Quality Management and Production, including in the CNC department, and the Instrumentation division in Pampa. Following this he became the Cost Analysis and Pricing Control Manager and a range of other roles in Inventory

Control and Master Production. Gene is now the General Manager for Quality Assurance for the Titan division.

The company extends its thanks to **James Lamb** for his 25 years of service at Hunting Titan in Pampa.

At a staff appreciation event in Singapore last December, special recognition was given to a veteran employee of 30 years, **Joe Chandran**. The service and contributions of the facility's production technician, Othman Bin Lasa, was also highlighted, following his retirement at the end of 2018.





MUSEUM EXCURSION

Last summer, employees in Singapore organised a trip to the Singapore National Museum for 25 elders from St John's Home for Elderly Persons.

The Hunting volunteers were joined by staff from St John's as well as members of their own families to guide the guests on a 90 minute tour of the museum.

Several of the exhibits triggered memories for the older generation, who reported that the 'Growing Up' gallery, which featured items from the 1950s and 1960s, was particularly reminiscent.

After the tour, they went back to the St John's Home for tea and games sponsored by the company. The group were joined by those not able to join the museum excursion.

Each resident was presented with a goody bag and the Home received a cheque to enable the purchase of a much-needed equipment.

A follow up note from Wilma Ng, St John's Volunteer Relations Manager, said "The Elderlies deeply appreciated all the help, patience and care while touring the museum exhibits and ensuring their safety and enjoyment. They

greatly enjoyed the delicious tea refreshments. They are also very happy to receive the transistor radio gift set, the kind and generous donation is received with much gratitude."

This event marked the fifth year of the Singapore team's Corporate Community Involvement programme with St John's Home for Elderly Persons.



BOWLING FOR A CAUSE

A group of employees recently took part in an event co-organised by Singapore's Disability Sports Council and the Bowling Association for the Disabled. The Hunting team of four, Michelle Chong, Eric Ong, Kevin Tai and Chooi Fook Wing, joined some 20 other corporate teams for an annual bowling session

designed to raise funds for a worthy cause. A game with a difference - each team was required to play with blindfolds for one round and seated for another. These "rules" were included to help raise awareness of the challenges faced by those with disabilities.



LEARNING CIRCLES

RE-MAKING TECHNICAL FORUM

Now in its fifth year, the Technical Forum has evolved from a singular annual event to an ongoing learning series. The Regional Engineering team and Hunting Training Academy (HTA) launched the inaugural Technical Forum webinar session in August 2018. Leading the presentation was K. Rajoo, Senior Technical Support Engineer and Field Running Services specialist who delivered the webinar topic "Minimising Ovality of Large OD Couplings" for the production, quality and engineering teams in Singapore, Batam and Wuxi.

Re-named as "TF Learning Circles", the inaugural session was followed by two webinars jointly facilitated by K. Rajoo and Wang Yi (Regional Engineering Manager) focusing on Frequently Asked Technical Questions, expanding the audience to customer service representatives.

The TF Learning Circles series is followed up with the year closing Technical Forum involving participants from all three locations via Video Conference. The Technical Forum publication

is expected to be released in Q1 of 2019 with the projects being evaluated for the CI & Innovation Award.

EXPANDING OUR LEARNING CIRCLES

Each webinar in the Learning Circles series was structured to facilitate bite-sized 30 minute sharing and learning session. The presentation materials from each session were then updated and deposited in our e-resource library.

In collaboration with Hunting Training Academy, the QA teams in the region experimented the webinar platform with a session on "Quality Management System – Triangular QA (TQA)". Facilitated by QA Manager Brandon Tham, the session was delivered by S. Siva, QA Engineer from the Benoi Road facility. The plan is to initiate its Quality Learning Circles in 2019 to join the Regional Engineering team in knowledge sharing within the QA community and with its extended stakeholders.

Other Learning Circles are actively encouraged and Human Resources is planning a quarterly series in 2019.



WHAT IS HTA LEARNING CIRCLES?

At Hunting, online employee communities are engaged in interactive and participatory learning with the goal of building, sharing, and expressing knowledge. This may, for example, lead to CI & Innovation initiatives with a shared outcome.

Learning Circles comprise teams of distance learners who use technology, such as webinars, to acquire a better understanding of shared interests. The objective is to balance individual/functional ownership with collective participation to help everyone learn and share knowledge.

A Learning Circle event may explore topics that are very technical or specialised that it is meant for members in the functions but could also be developed and presented

in simplified format to demystify the subject matter for inter-disciplinary sharing, and perhaps generalised or broaden for company-wide communication.

For Learning Circles to work, distributed leadership is needed where the main coordinator is engaged in leading one of the subject matter. The circles seek to build channels for collaborative work that may be task or community-based learning, from knowledge-based sharing to practice-based approach.





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