



PLUG AND PLAY SWITCHGEAR

Unveiling a new generation of the Recon switch perforating technologies



DETONATOR CORD DEVELOPMENT

Targeted investment in Milford Texas proves a strategic success



ASIA PACIFIC ENGAGEMENT

The regional teams have redoubled efforts with local community focused activities



THE HUNTING HORN'S FIRST FIFTY YEARS

A reprint from 1992: Revisiting a popular piece of Hunting history



CONROE CONQUEST

A move to a newly modernised facility for Hunting Specialty as it realises expansion ambitions



WELL DATA LABS TAKES STOCK

A newly formed industry alliance has significantly advanced well data analytics for completions



OUR HUNTING COMMUNITY

Taking a look at just some of the many activities and events Hunting employees are participating in around the world



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"With life returning back to a sense of normality and travel restrictions gradually lifting, the need for dependable energy remains paramount to support the recovery of economies across the globe. Against that backdrop, the Company continues to invest in the development of new technologies to assist our clients ever demanding needs for productivity and safety improvements. In this issue of the Review we have noted the latest developments of our ControlFire switch technology, the expansion of our product line with the introduction of our new detonation cord product and the collaboration with Well Data Labs. It is very encouraging as ever to see how we involve ourselves in our communities, in this focus across the Asia Pacific region. The energy and enthusiasm in such diverse aspects is rightly recognised and applauded."

Jim Johnson, Chief Executive Officer





Plug and play switchgear

Hunting Titan's perforating division continues to develop its unique Addressable technology. This allows the 'plug and perf' operator to interrogate components in the downhole tool string. The data is managed in real-time using Hunting's proprietary software on the surface and VeriFire panel to perform the firing operation safely

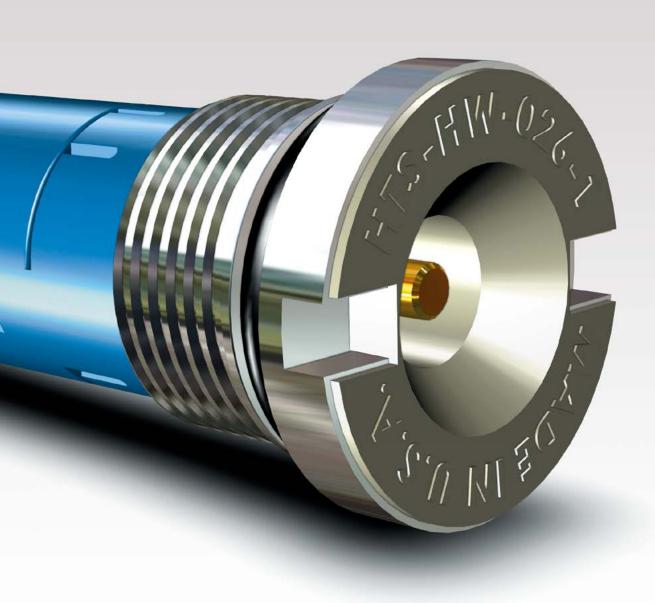
CONTROLFIRE RECON™

The division continues to offer the latest technology in select-fire perforating used for unconventional cased hole completions. Hunting has made significant advancements in its market-leading addressable switch, ControlFire®, and its software package to offer the most efficient, reliable and intuitive switch

platform on the market. In the first half of 2021, Hunting Titan commercialised a new line of products utilising ControlFire Recon switch technology, providing customers with unprecedented insight into the downhole tool string.

The ControlFire Recon switch is an inherently safe, select-fire device that allows

the user to interrogate the downhole tool string, including the resistance of each gun and plug initiator, the first switch on the market to do so. This assures that all components are in place and in working order when running in-hole, producing more confident and reliable pump down perforating operations.



CONTROLFIRE RECON CARTRIDGE

The ControlFire Recon Cartridge (Recon Cartridge) features the latest ControlFire Recon switch pre-assembled to a resistorised detonator. The compact cartridge package allows for simple, wire-free arming at the wellsite, and unparalleled safety and real-time performance during perforating operations. The Recon Cartridge is compatible for use in Hunting's plug-and-play perforating systems, and allows the user to obtain detonator resistance checks at surface or downhole.

POWERSET RECON™

Enabled by Hunting's ControlFire Recon technology, PowerSet Recon is the industry's only fully addressable power charge for plug setting tools. This advanced technology allows the user to read the PowerSet Recon resistance at any time, assuring that the power charge that actuates the plug setting tool is in working order when running in-hole. Complete with a built-in initiation device that eliminates the need for plug switches and igniters, PowerSet Recon is compatible with Hunting's T-Set setting tools. When used with ControlFire Recon, PowerSet Recon completes the first and only fully addressable plug-and-perf tool string.

CONTROLFIRE SOFTWARE

The latest edition of the ControlFire Software (Version 9.1) gives the most advanced select-fire switch on the market faster and more reliable communication protocols. Version 9.1 encompasses all previous capabilities as well as the new ControlFire Recon and PowerSet Recon functionality. It also features a "Speed Check" option. When enabled, a switch check will skip checking the detonator, the switch voltage and the delta currentallowing for even faster operations during on-the-fly perforating operations. ControlFire Software now includes Chinese and Spanish interface language options, in addition to English, to accommodate ControlFire's global adoption as the market leader in addressable switch technology.



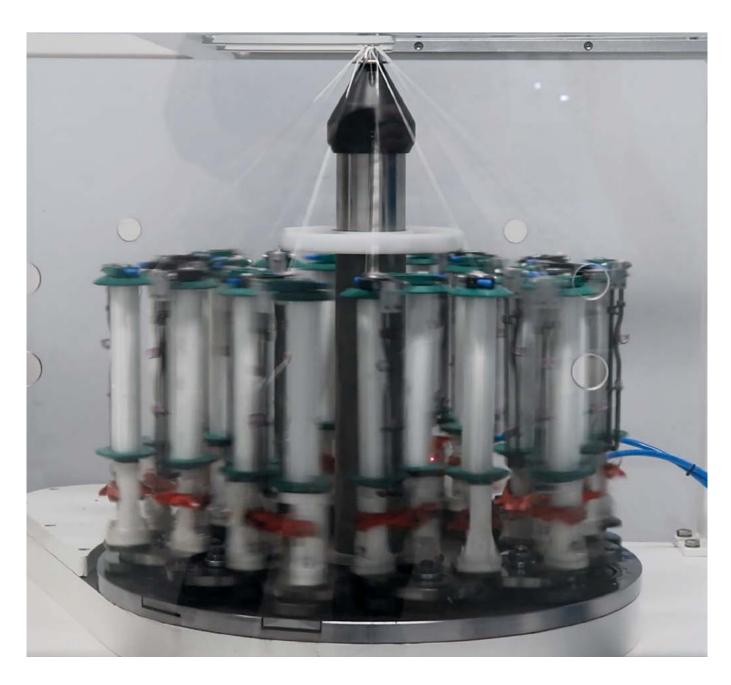
Detonator cord development

Often it is the relatively small, tightly focused investments that provide the most impressive returns, as demonstrated with the integration of a critical process at the Hunting Titan facility at Milford in northern Texas





The commissioning of the highly automated "det cord" line at Milford means the company is capable of producing circa. 900,000 metres (or three million ft) of det cord every year



At the end of last year, the Energetics team began manufacturing, selling and distributing detonating cord to the oil and gas perforating and pipe recovery markets. This new addition to Hunting's energetics business means that the company is now one of the largest manufacturers in the US and one of very few offering this capability worldwide. The commissioning of the highly automated "det cord" line at Milford means the company is capable of producing circa. 900,000 metres (or three million ft) of det cord every year. This is designed for use in the company's own proprietary perforating guns, as well as being sold as a standalone product, according to customer preferences.

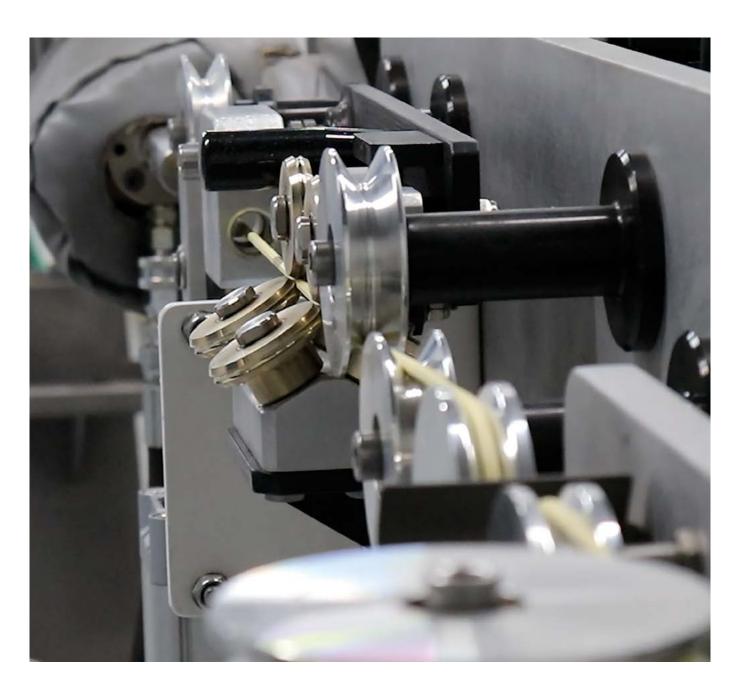
The Milford facility is home to two manufacturing groups, Energetics and TCP. Energetics designs and manufactures an

extensive variety of shaped charges and integrates ControlFire detonator assemblies, power charges, jet cutters, and now det cord. TCP designs and manufactures tubing conveyed perforating gun systems, firing heads and the T-Set line of setting tools and hardware. The manufacturing of both groups is conducted under ISO 9001 quality management certification.

The \$5m investment in the det cord line brings this critical manufacturing process in-house. It allows for full assembly of the company's range of perforating systems without the dependence on third parties, which had previously been identified as a bottleneck. The division initiated manufacturing with a standard temperature line of RDX and an elevated temperature line of HMX detonating cords. This latest addition to the Energetics line underwent

a rigorous quality and continuous testing programme through to full manufacturing, as is the standard across the business.

This targeted investment has enabled the company to take control of this key process, as well as giving it management control of Quality and the ability to maximise operational efficiencies. The investment will be recouped in short order through the efficiencies it brings. Given the need for det cord in the well completion operations, this simple addition puts the company in a competitive market position. As a strategic investment, it has strengthened the offering for a relatively small outlay. As demonstrated by the company-wide policy of 'Continuous Improvement', it is sometimes the minor changes which produce the most impactful outcomes. >>



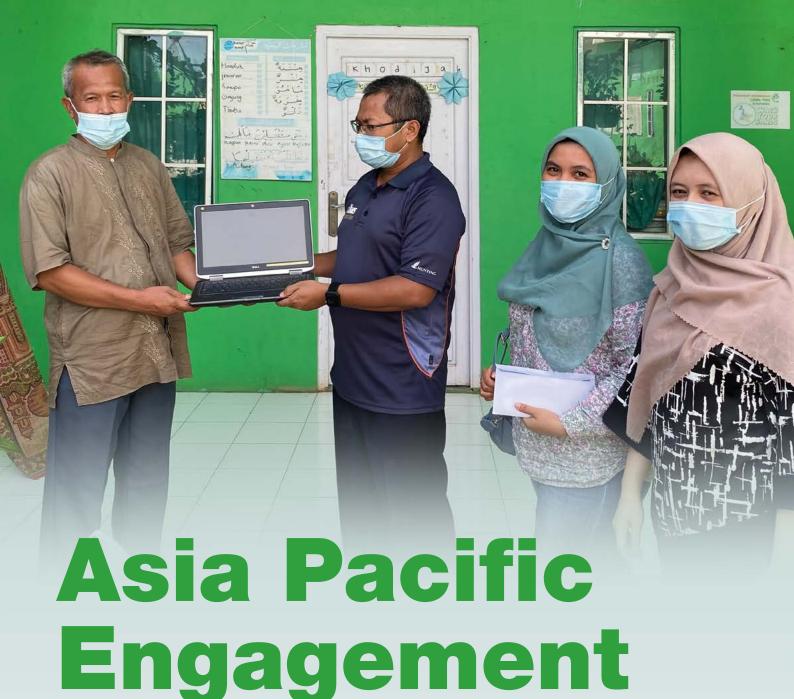


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The division has also continued to manufacture factory-loaded perforating guns for clients, and despite a drop in sales during 2020 the business has since seen a healthy growth in orders. This is partly due to the automated manufacturing cells installed in 2019, which means that the assembly of shaped charges is vastly improved.

Hunting has more than 25 years of experience advancing oilfield ballistic products. The strategy of internalising key elements of the manufacturing process has helped assure that the highest standards are maintained while supply chain inventories are met, despite volatile market shifts. The division's det cord is available through the company's network of fourteen distribution centres strategically located in Canada, Indonesia, and USA.



Part of the Hunting culture is the engagement of both our own community and those extended communities in which we work around the world. Here we look at some of the recent initiatives in our Asia Pacific operations



COMMUNITY OUTREACH

Adding to the good news, this year the Batam team in Indonesia linked up with four local orphanages to donate food as well as computers which will be used for the children to do their online schooling. The Batam employees have also gone the extra mile by helping the orphanages set up a mini hydroponic farm, providing the tools and know-how for the children to grow their own produce.





The good work was not restricted to Indonesia. Volunteers from Hunting Wuxi in China have continued to contribute to a community blood donation drive whilst also establishing an animal shelter for strays near the facility.

Hunting Singapore has collaborated with a community development welfare fund committee to distribute PPE to low income families in the Radin Mas and Bukit Merah neighbourhoods. As part of this initiative, 19 Hunting employees managed to reach out to 1,800 low income families in a single day.







As a token of appreciation for our employees sacrificing family time for public safety, food hampers were distributed among all of our colleagues who remained in Wuxi





CHINESE NEW YEAR RECALIBRATED

During the first quarter of 2021, Chinese New Year, also known as the 'Spring Festival,' was celebrated both in Singapore and Wuxi, China. In Singapore, health measures meant that the traditional buffet was replaced with individually packed Covid-safe bento boxes, and in Wuxi, employees were encouraged to remain local instead of returning home to visit their families as they have done traditionally. As a token of appreciation for our employees sacrificing family time for public safety, food hampers were distributed among all of our colleagues who remained in Wuxi. →



An expert botanist was invited to provide guidance on the best planting practices, instructing employees on the ways to preserve and nurture young pot plants

GREEN FINGERS

In Indonesia, PT Hunting Asia enjoyed a twofold celebration of International Women's Day alongside International Tree Planting Day by organising a company-wide planting session in the offices. An expert botanist was invited to provide guidance on the best planting practices, instructing employees on the ways to preserve and nurture young pot plants. The aim of the planting day was to heighten awareness, not only of the importance of planting in the protection of the environment, but also to demonstrate that even indoors, plants function as a natural air purifier, just as they do on a larger scale outdoors. A bonus is that in addition to enhancing the atmosphere of our workspaces, these plants provide a way to reduce stress and increase productivity among the employees.



The Hunting Horn's first fifty years

From a relatively obscure debut in wartime Britain, the Hunting corporate logo may have changed in detail but the essence is still that of its designer, John Leonard Jones



John Leonard Jones, designer of the Hunting winged horn symbol

People who remembered the spirit of comradeship which existed at the NECACO aircraft parts factories in North Wales during the Second World War should get in touch



"Your letter of 10 April 1991 is of even more interest to us than you would have believed possible... We had established a year or two ago that it was your father who first drew the 'Hunting Horn' emblem... but until now we have had no direct link with him or his family" wrote to Richard Hunting on 26 April to Iris Hughes at her home in Capel Curig, to the east of Llanberis in North Wales.

Thus, after 50 years, John Leonard Jones emerged from relative obscurity to take on new life through his daughter, Iris. She had responded to a paragraph in Gerald Williams' Day to Day in Wales column in the Liverpool Daily Post of 8 April, suggesting that people who remembered the spirit of comradeship which existed



at the NECACO aircraft parts factories in North Wales during the Second World War should get in touch with Leon Williams, the Hunting and Fields aviation historian.

Jack (as he was known) Jones was born in London on 11 July 1896, the son of a former Welsh seaman. Jack served in the drawing office of the Royal Naval Air Service during the First World War and, after a spell with a firm of chemical engineers, joined William Warne of Barking, rubber flooring specialists. While there he designed, amongst other things, the entrance of the Great Ormond Street Hospital for Sick Children and, in particular, the rubber floor for Boosey & Hawkes, music publishers, incorporating their logo and the musical score of the Strauss waltz, Blue Danube. →



In 1959, Mr (later Sir)
Percy Hunting and
his descendants were
granted the right to use
the Winged Horn as
their personal Badge or
Device by the College
of Arms in London

Pictured below: The Letters Patent granted to Sir Percy in 1954



Iris Hughes takes up the tale: "In late October 1940 my mother, sister and myself travelled to Capel Curig for a holiday (due to my having been poorly and spent a fortnight down our air raid shelter). Having lived close to Hornchurch aerodrome you can appreciate that Capel Curig was a paradise, and we were still here at Christmas when my father joined us for the holiday. He felt the same way as us and during his stay went for an interview to NECACO and obtained a position as head of the drawing office in January 1941."

NECACO stood for the 'North East Coast Aircraft Company', which had been incorporated by the Hunting Group before the war with the aim of constructing aircraft in the North East of England but had never operated. When the hangars of Rollason (later Field) Aircraft Services at Croydon aerodrome were heavily bombed by the Luftwaffe on the night of 15 August 1940 and again the following night, Percy Hunting set about looking for new facilities the enemy would find much harder to locate and to reach. NECACO was activated to operate part

of the disused Dinorwig slate quarry near Llanberis in North Wales as an aircraft parts and structures factory. At its peak later in the war, NECACO employed 3,000 people at Dinorwig and other plants in the area.

It was here, only five months after the Croydon bombing, that Jack Jones took up his new and very demanding job. At some time during the next two or three years, possibly as an entry for a competition to design a symbol for Hunting's budding aircraft manufacturing activities (Percival Aircraft was bought in September 1944), Jack designed the Winged Horn. The earliest printed record we have is the title page of the 1945 diary of Hunting Aviation Ltd, the new name of NECACO from October 1944.

Gradually, the Winged Horn took over from other logos used in the diverse Hunting Group. By 1951, it was combined with the Fleet Flag (in use since the 19th century) as a symbol for the whole Group. This continued until 1966 when the horn surrounded by a rectangle, sometimes also containing the word 'Hunting', became



Pictured above: Iris Hughes, daughter of the designer of the Hunting horn symbol







Various uses of the Horn from 1945 to 1965. The Fleet flag, first used in the 1870s (left); the flying horn used by the Group's aviation companies, 1945-65 (centre); the combined flag and horn was the overall Group symbol, 1945-65 (right)

the Group emblem shortly after the launch of the first large public company, Hunting Associated Industries Ltd. For a time after the Group's centenary, 'The Hunting Group Founded 1874' was often printed beneath the rectangle.

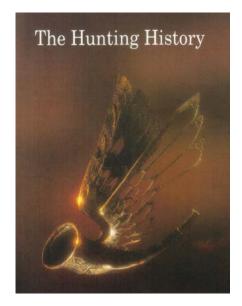
A further redesign took place in 1989 at the time of the merger of all the Hunting companies to form Hunting PLC. The horn now sits neatly in a square box but has the same basic form as the original Jones design.

The logo has served other purposes as well. In 1959, Mr (later Sir) Percy Hunting and his descendants were granted the right to use the Winged Horn as their personal Badge or Device by the College of Arms in London, though in practice it has rarely if ever been used in this role.

Iris Hughes tells us that her father, having been a drummer with his own band when a young married man, got together some of the musicians in the Llanberis works and ran dances every Saturday night. The silver and black music stands for the instrumentalists had the logo on the front.

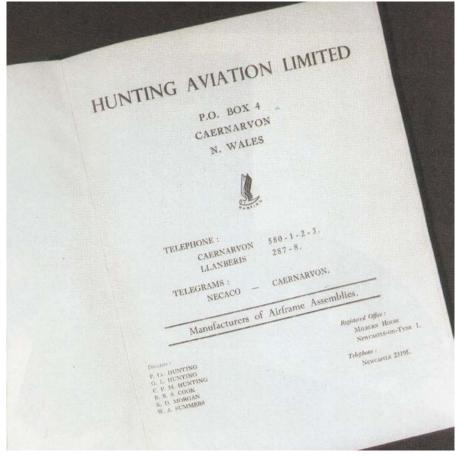
Consideration has been given from time to time to a new symbol, something more trendy than the perhaps rather dated wings which were popular in the 1930s. Each time these proposals have been drowned by the chorus of admiration and affection that so many employees have for the existing design, quite apart from the enormous financial investment the Group has made over the years in ensuring that it is a symbol of integrity throughout the world. And what of Jack Jones himself? At

the end of the war, the flow of orders to Hunting Aviation in North Wales reduced drastically and, after brave attempts to keep something going there with the manufacture of metal furniture, the facilities closed. Several of the employees moved to Luton and found jobs with Percival Aircraft. but Jack and his wife moved back to Essex as their house was still standing despite the massive wartime bombing of the area. However, they missed North Wales and moved back there in 1953. They celebrated their Golden Wedding in 1971 and, after his wife died that same year, he moved in with his daughter Iris and her husband (they met during the NECACO years). In his last years, he amused himself painting scenes of the local beauty spots. He died in March 1980 at the age of 83, but the symbol he designed some 50 years ago lives on. ■



Pictured above: The earliest recorded use of the Group symbol: the title page of the Hunting Aviation diary for 1945
Right: The cover of 'The Hunting History'

published in 1991



Conroe conquest

Opportunity finds those diligent enough to look for it. This was proven by Hunting Specialty when the need for new premises became critical











The need was established to support the evolving business model with a modern manufacturing facility, ideally located in the same quadrant north of Houston. With the sale of the majority of the HES Drilling Tools division to Rival Downhole Tools LC earlier in the year, such an opportunity to move to the recently upgraded Conroe facility was as close to a perfect fit as could be hoped for. Not entirely coincidentally, the site was first commissioned in 2011 on a ten acre plot with an initial 36,000 ft roofline. This has now been thoroughly modernised once again, customised for Specialty's particular needs. An added benefit for this Montgomery County site is that it is Hunting owned.

Founded in 2003, Specialty Supply, as it was then known, was purchased by Hunting in November 2011. The company manufactures precision machined MWD and LWD parts, used in telemetry for directional drilling around the world. These typically serve to protect the customers extremely sensitive, magnetic measuring, high temperature electronic components. They are necessary for efficient information

retrieval while drilling and surveying. The unit additionally provides a comprehensive range of running gear, adjustable contact centralisers, drill pipe screens and a complete line of downhole filter sub rentals.

As the industry evolves and the need for more innovative products emerges, Specialty scores highly as a unique provider of engineered and bespoke design solutions, rather than just a stockist of spare parts. Working with the clients' own proprietary products, this teamwork enhances the end result, and sets the industry standard. With more than a hundred years of combined field and production experience in the senior leadership team, Jason Pope, General Manager says "we know what works, how it works and when it works".

Gerald Byrd, President, enthuses: "This is great for our future and expansion ambitions. With roughly 60% of our customer base in Conroe, this really helps our competitive position, as well as serving them in minutes rather than hours. We are super excited!"

Well Data Labs takes stock

The company has formed a strategic alliance with a team of innovative downhole technology and machine learning specialists, to advance well data analytics for completions



While the industry has been collecting wellbore data for some time, silos have prevented operators from having a clear comprehensive view, making the process both unnecessarily slow and costly.

As the industry drives for higher efficiency drilling operations and faster well evaluation, access to quick data analytics is increasingly important for many operators in the completions market. In response to this growing requirement, Hunting will provide \$2.5 million in convertible capital financing to support Well Data Labs – a fast growing innovator in downhole data analytics and Artificial Intelligence. The financing will help the company's significant growth ambitions in the onshore technical well data market.

Well Data Labs was established in 2014 and has since quickly emerged as a leading provider for the sector. The business is focused on eliminating the formerly standard delays by offering a single tool that consolidates, analyses, and simplifies multiple, complex data sources into actionable, easy to understand, real-time insights. This provides a real-time flow of downhole information and well reporting, as well as optimisation solutions enabling operators to increase efficiencies.

This technology is already proving popular. In the US some 50% of wells are fracked using WDL proprietary cloud-based software, including some 30 blue-chip customers, with services in place for over 500,000 frac stages

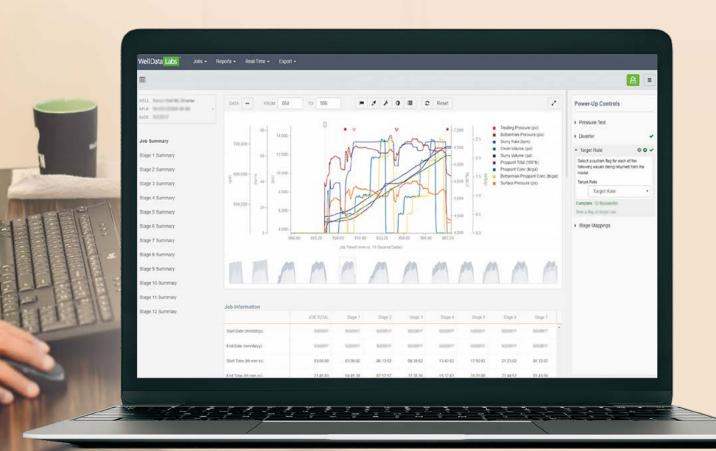
This technology is already proving popular. In the US some 50% of wells are fracked using WDL proprietary cloud-based software, including some 30 blue-chip customers, with services in place for over 500,000 frac stages. With this already impressive customer base, and a huge amount of research and development already in place, Hunting's investment is both timely and strategically significant.

Under the alliance, Hunting and WDL will seek to maximise the integration of the Hunting Titan perforating product line into WDL application set providing operators with the information needed to react and adjust the frac based on data obtained from previous stages. This is a step change in data availability eliminating the wait time associated with extracting the data after a completed job.

In turn, Hunting will bring its valuable distribution network and long-standing position as a premium provider of perforating components with industry leading technology.

As Jim Johnson, Hunting CEO, recently explained:

"The provision of this financing to Well Data Labs allows Hunting to access the key data analytics segment of the completions market. This is a critical area for many operators as the industry drives for higher efficiency drilling operations and faster well evaluation. This investment is an exciting opportunity for Hunting given the synergies with our onshore related products and services portfolio".



Our Hunting Community





RECOGNITION OF LONG SERVICE

We are very pleased to recognise the long years of service to the company for the following colleagues. A combined 165 years of service from just these six people:

Matt Gaspard, the Maintenance Manager at Trenchless in New Iberia, Louisiana, achieved his 40 years of continuous service on 6 March 2021. Ben Betjes celebrated his retirement from the Well Testing facility in Holland this year, shortly before his forty years of service. Ben started as a welder and construction fitter, moving through a number of positions, finally becoming the sales support engineer for piping, crossovers, lifting equipment and repairs.

Ian Park, Managing Director of the Group Marketing and Commercial Department in Aberdeen, for twentyfive years of service.

Daisy Thomas, with the Head Office accounting team in London, for twenty years of service.

Barry Hill, Lead Hand

- CNC Machinist in

Production Department
of OCTG in Aberdeen, for
twenty years of service.

David Walker, Group Materials and Logistics Manager in the Yard Services Department at Fordoun, for twenty years of service.













NINE YEAR CELEBRATION

This year the Indonesian team in Batam celebrated a milestone of nine accident-free years. Even for the most conscientious of facilities this is a tremendous feat and a testament not only to the rigorous measures taken to preserve the safety and health of everyone, but mainly to the collective effort of every member

of the facility's staff. Top management set a clear tone focussing on HSE, which was communicated through every level from supervisors to operators. It is only through discipline and responsible conduct that an accident-free environment can be achieved while still providing top-quality and punctual Hunting products.







FUNDRAISER SPONSORSHIP

Hunting Subsea at Stafford in Texas was a proud sponsor at the Empty Bowls fundraiser benefiting East Fort Bend Human Needs. With the hardships faced by so many families, especially during the pandemic, it is important than ever to give back to our community. The funds raised at the event help those most in need with their groceries, utilities, rent and even school supplies. The event was a huge success, raising over \$200,000.





WUXI BLOOD DONATION

Volunteers from Hunting Wuxi in China have continued to contribute to a community blood donation drive, which they have done every six months for the past two years, undeterred by the pandemic. Led by the Wuxi HR department, our colleagues at Hunting Wuxi have also established a shelter for stray animals found near the facility, providing food and sterilisation services for homeless animals.





SPECIAL EXCELLENCE AWARD

Oumer Tahir, Technical Sales (OCTG) and Business Development Manager, MEA Region, is delighted that as Chairman of the Society of Petroleum Engineers, Northern Emirates Section, they have been recognised with a Section Excellent Award.

Oumer (left) is pictured with the Global President of the SPE, Kamel Ben-Naceur (right).

