

Aquablast Completes North Sea Gas Platform Decommissioning Project, See article on page 2

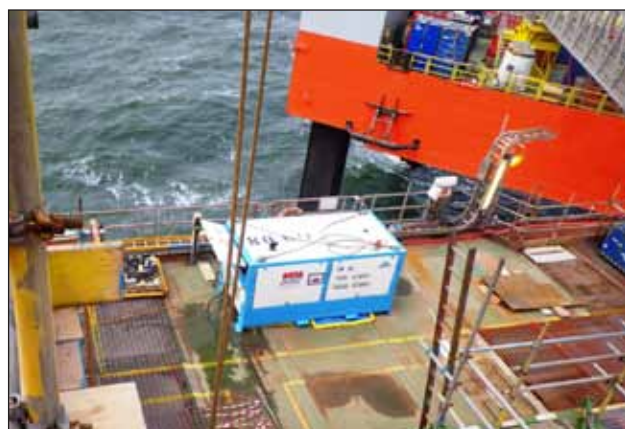


Contactor tower top section after successful waterjet cut - note two remaining towers in background.



Jet Edge Spyder set up on rigid track for vertical cut.

Photographs courtesy of Aquablast



Jet Edge 55-260DXS powering abrasive waterjet cutting offshore UK North Sea.



Jet Edge Spyder package making initial cut on contactor tower.

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As North Sea decommissioning continues, offshore operators turn to waterjet technology to safely cut apart obsolete equipment in volatile gas-laden atmospheres.

Natural gas production in older United Kingdom North Sea gas fields is tailing off and energy companies are now having to finance major decommissioning works. Platforms and all their gas processing equipment are required by British and Norwegian law to be entirely removed after shut-down right down to the seabed.

Jet Edge abrasive waterjets are perfectly suited to steel cutting in volatile gas-laden atmospheres and an increasing number of offshore operators are turning to spark-free “cold cutting” to safely carry out the removal of redundant oil and gas production hardware.

Recently, Jet Edge’s UK distributor Aquablast safely cut up obsolete contactor towers on a live gas platform operated in the 40-year-old Indefatigable Gas Field off the Norfolk coast of England.

The towers, originally used for sweetening or dewatering produced gas under high pressure, were constructed of 70 mm heavy steel plate (2¾ inches thick) and weighed in at over 300 tons. So that the platform’s own crane could lift the towers on its own, Aquablast was called in to slice the towers up into smaller cylindrical sections.

A Jet Edge Spyder abrasive waterjet unit was used to make the deep circular cuts, but first a “mailbox” cut was made to allow internal inspection to decide exactly where to make the tower separations. Abrasive water-

jet power came from a Jet Edge 55-260DXS diesel-driven mobile pump unit with specially adapted engines for hazardous area operation.

The pressure compensated hydraulic intensifier – the heart of the Jet Edge system, which can produce up to 90,000 psi operating pressures – has a major advantage over other systems in hazardous environments because safety relief valves and water dump systems are not required. In the unlikely event of a blockage the Jet Edge intensifier simply holds its pressure until the reason for the stoppage is corrected or the pressure can be safely bled off.

Aquablast modified a fleet of Jet Edge mobile intensifier pumps to comply with offshore oil and gas platform regulations by installing inlet air overspeed shutdown valves and other emergency shutdown provisions.

Donald Blair, Aquablast’s managing director and long time Jet Edge support partner in Europe, comments, “Jet Edge UHP intensifiers are extremely reliable and this is totally critical when operating on remote offshore oil and gas platforms. Equipment cannot be quickly replaced in the middle of the North Sea for logistical and often weather-related reasons and our reputation for dependability and minimal downtime is therefore vital to our customer relationships.”

The 2¾-inch-thick cuts were made at an average cutting speed of over 1¾ inches per minute with a consumption of almandine garnet abrasive of approximately 23 pounds per foot (29 kg per metre). The client declared themselves “very impressed” with the



Vertical cut in progress for “mailbox” internal inspection window.

super-thick cut and how the work was carried out in a safe manner with only minor interference to other works on a live North Sea gas installation.

The Spyder system is highly portable and quick to set up; straight or flexible track sections are secured either by suction cups, magnets or ratchet straps to curved or vertical surfaces. The cutting nozzle transport unit is pneumatically driven avoiding any risk of ignition in a volatile atmosphere.

The tower sections were safely transported to shore in England for scrapping but the three-ton cap of one of the towers was donated to Aquablast by the platform operator to enable more trials and development to be carried out in expectation of future cold cutting tasks for the Jet Edge Spyder abrasive waterjet system.

For more information, contact: Aquablast Ltd. – email: sales@aquablast.co.uk or visit: www.aquablast.co.uk, or Jet Edge, Inc. – email: sales@jetedge.com or visit: www.jetedge.com.

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OMAX® Introduces Taper-Free Cutting in Waterjet Micromachining

With its MicroMAX JetMachining Center, OMAX proves that the speed, versatility and accuracy of abrasive waterjet technology now applies to the cutting of micron-level parts or part features from a wide range of materials, including exotic metals, advanced composites, polymer thermoplastics and glass.

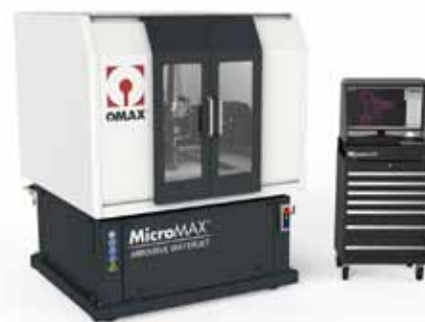
Ideal for prototype development and production runs, the MicroMAX is a highly rigid machine with a table size of 2 feet, 4 inches by 2 feet, 4 inches and an X-Y cutting travel of 2 feet by 2 feet. It utilizes advanced high-precision linear encoders, innovative vibration isolation and intuitive software control systems to achieve a position repeatability of less than 3 microns and a positioning accuracy of approximately 15 microns (0.0006 inch).

The MicroMAX comes equipped with a high precision 7/15 Mini MAX-JET5i nozzle that features a 0.007 inch orifice and 0.015 inch mixing tube combination for quickly and accurately

ly cutting delicate, complex patterns. Because it forms a jet stream carrying an extremely fine abrasive, the nozzle can produce a kerf as small as 0.015 inch. The machine also has advanced pressure controls for piercing delicate materials.

Now, a smaller version of OMAX Corporation's award-winning Tilt-A-Jet® cutting head designed specifically for its MicroMAX JetMachining Center is also available. The new Tilt-A-Jet accessory nearly quadruples the position accuracy of the nozzle, enabling the machine to achieve virtually zero taper with most materials up to 3 inches in thickness. It is also 25 percent smaller and lighter than the Tilt-A-Jet designed for OMAX's other machine models and is nearly twice as rigid for less deflection. The Tilt-A-Jet for the MicroMAX employs 10 degrees of tilt, and is fully sealed for use in the abrasive waterjet environment.

Like all OMAX JetMachining Centers, the MicroMAX is a flexible,



cost-effective and beneficial alternative to conventional machining operations. Because waterjet-based machining is a cold-cutting process, it eliminates thermal stress in the workpiece, preventing hardening and warping. The MicroMAX also enables manufacturers across all industry segments to accomplish quick turnaround of accurate parts without the hassle of tool changes or complex fixturing, as well as to achieve smooth surface finishes without the need for secondary machining.

For more information, call 800-838-0343 or visit www.omas.com.

Write for Us

Jet News accepts original industry-related articles that have not already been submitted to other publications. All submissions are subject to editorial review prior to acceptance. Once accepted, articles become the property of *Jet News* and cannot be reproduced elsewhere without permission.

What to Submit:

- Case studies detailing implementation of a new product or technique
- Articles about new and innovative applications and equipment
- Articles related to total quality management, management trends, marketing, state and federal legislative and regulatory issues, and safety issues
- Articles specific to any specialty area
- Career and student focused features

Jet News also welcomes letters to the editor.

Preparing the Manuscript

Articles should be approximately 1,000-1,500 words long and submitted via email as a Word document. Illustrations, photographs, graphics and charts are encouraged to complement the article. All accompanying materials should be labeled to provide appropriate originator credit. Suggested captions are required.

Degrees and accreditations, professional titles and current position should be included. All statements based on published findings should be referenced appropriately. References should be listed numerically within the text and at the end of the article. Articles not meeting submission criteria may be returned for reformatting at the editor's discretion.

Send submissions to wjta-imca@wjta.org, attention: George A. Savanick, Ph.D.

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Call for Nominations – 2015 WJTA-IMCA Board of Directors

Nominations for the WJTA-IMCA Board of Directors are open. The duties of the directors are truly challenging and rewarding. WJTA-IMCA members are encouraged to get involved in the election process, nominate fellow members for a seat on the board and **VOTE!**

Nominations are sought for six (6) board members who will each be elected to serve a four-year term of office beginning November 1, 2015, and one (1) board member to serve a two-year term of office beginning November 1, 2015. The board member receiving the seventh highest number of votes will serve the two-year term of office.

The terms of office of **Fred D. Clark**, IVS Hydro, Inc.; **Luis Garcia**, Northern Safety & Industrial; **Mohamed Hashish, Ph.D.**, Flow International Corp.; **Kathy Krupp**, The Dow Chemical Company; **Larry Loper**, High Pressure Equipment Company; and **Kerry Siggins**, StoneAge, Inc., will expire on October 31, 2015. The seventh position open for nomination was formerly held by **Forrest Shook**, NLB Corporation. Mr. Shook resigned his board position effective October 12, 2014.

The WJTA-IMCA bylaws provide that no more than one of the elected board members may be from the same company or organization. Therefore, board members may not be nominated from the same company or organization already represented on the board by individuals whose terms expire in 2017, including **HydroChem LLC** (Gary Noto); **Jack Doheny, Inc.** (Kay Doheny); **Vacuum Truck Rentals, LLC** (Bill Gaff); and **Veolia North America** (Bill McClister).

According to the WJTA-IMCA bylaws, any WJTA-IMCA member in

NOMINATIONS/ELECTIONS PROCEDURES – NEW ONLINE VOTING AVAILABLE FOR 2015 ELECTION

In accordance with the bylaws of the WJTA-IMCA, revised in 2002 and 2013, nominations and elections to the Board of Directors include the following procedures:

- At least two calls for nominations to the Board of Directors will be published in the Jet News. The first call for nominations appears in this issue. A call for nominations also appears on the WJTA-IMCA website. Nominations will be accepted through March 31, 2015.
- On August 3, 2015, a list of nominees and a biographical sketch for each individual will be circulated by email to the eligible voting membership with a link to vote online via the WJTA-IMCA website.

In order to vote online, members must have an email address in their membership profile. The email address is also the user name.

Members will be able to login with their unique username and password to fill out a ballot, which will be initialed, signed, and submitted electronically through the website. Members may request a written ballot be mailed to them, which must be signed and returned to the WJTA-IMCA office by mail, fax or email. If a member returns multiple ballots (be they written or electronic), only the first ballot received will be counted. Online ballots and printed ballots must be received by the WJTA-IMCA office for tallying no later than September 21, 2015.

In the event of a tie for a position on the Board, a runoff election between the tied candidates will be conducted using the procedures outlined above over a two-week period following the initial election.

- The names of newly elected board members will be announced on the WJTA-IMCA website and in Jet News.

Only WJTA-IMCA members in good standing (2014 membership dues paid) may submit a nomination(s). A nominee who has not paid her/his 2015 membership dues by March 31, 2015, shall be declared ineligible to run for office in the 2015 election.


good standing (2014 membership dues paid) may submit a nomination(s). A nominee who has not paid her/his 2015 membership dues by **March 31, 2015**, shall be declared ineligible to run for office in the 2015 election. The deadline for making nominations is **March 31, 2015**. **Your nomination(s) should reach the WJTA-IMCA office no later than March 31, 2015.**

To submit a nomination(s), complete the Nomination Form and return, along with a biographical sketch and a statement of your nom-

inee's mission and vision for WJTA-IMCA, to: WJTA-IMCA, 906 Olive Street, Suite 1200, St. Louis, MO 63101-1448.

Remember, nominations must be submitted to the WJTA-IMCA office **NO LATER THAN MARCH 31, 2015. Nominations must be accompanied by a bio and mission and vision statement.**

See Nomination Form
on page 35



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Emerald 1530 with Shuttle Tables

WARDJet recently completed work on the latest addition to the water-only waterjet family – the Emerald 1530 with shuttle tables and roll feeding system. By working closely with the customer, a Tier 1 automotive supplier, WARDJet engineers were able to tailor this Emerald 1530 with specific features to save labor and production costs. Following are a few of the features that make this Emerald 1530 unique.

The Emerald 1530 **roll handling system** is capable of handling three rolls that weigh up to 3,500 pounds each. For the customer whose material arrives on rolls, this roll handling device is convenient for storage or can be used to join each independent roll into a single, layered sheet on the waterjet table for cutting. Options for additional rolls with greater capacity are also available.

The **pinch feed** roller works in unison with the roll handling system to make the roll material load correctly onto the cutting table. Whereas the roll handling system simply holds the material, the fully programmable servo driven pinch feed roller pulls the material on to the cutting table employing a series of rubberized rollers.

After the pinch feed roller presents the material edge, the **material gripper** “grabs” it by inflating an air bladder and, working jointly with the pinch feed roller, pulls it evenly across the length of the cutting table. After the material is in place, the material is sliced and the air bladder deflates to release the material. The material gripper then parks in its home location outside of the cutting envelope. The material gripper is the first of its kind to be designed and implemented at WARDJet.

This Emerald 1530 is outfitted with two **shuttle tables**, filled with

water-only bricks and coupled together so that they move in and out of the cutting area in unison. As a result, the customer can unload one shuttle table while the waterjet is cutting on the other shuttle table. For safety purposes, there is a light curtain on the front and back long edge of the waterjet to E-stop the machine should anything enter the cutting area while under operation.

Sheets can also be loaded easily onto the waterjet by using the shuttle tables. The Emerald 1530 has a switch on each shuttle table frame that will either release the table from a locked position or start the program loaded onto the controller for ease of operation.

The Emerald 1530 with shuttle tables has two standard cutting heads with flexible spacing set according to the customer's specifications using a spreader bar. The customer can choose to use one head or double their output by using both heads simultaneously, and additional cutting heads can be added as desired. Because of the combination of the automation components and dual-head set up, this Emerald 1530 has a 4½ feet by 8½ feet cutting envelope.

WARDJet excels at taking a standard system



The Emerald 1530 with Shuttle Tables system joins the water-only line of waterjets at WARDJet.



The roll handling system can fit up to three rolls of material to feed into the waterjet.



The pinch feed roller helps to guide the material evenly into the cutting area.

and customizing it for a specific application to suit a customer's needs, and this Emerald 1530 with shuttle tables is a prime example. For more information, contact WARDJet by email: sales@wardjet.com or visit: www.wardjet.com.



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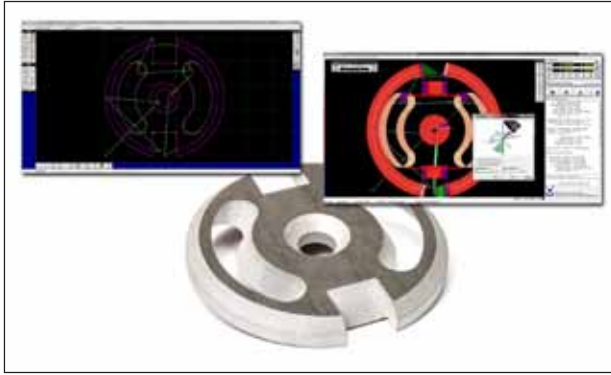
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OMAX® Intelli-MAX® 21

OMAX Corporation has expanded its Intelli-MAX Software Suite for OMAX JetMachining® Centers with the release of Intelli-MAX 21. The latest version – with a new fourth generation cutting model – not only optimizes tool paths automatically, it gives users precise predictability as to cutting speeds, taper, jet lag and other abrasivejet factors of those particular tool paths.

The cutting model within Intelli-MAX 21 builds upon years of real-world abrasive waterjet data accumulated through OMAX's first and second-generation equation-based cutting models, as well as from the massive data set of its third-generation model. The result is a cutting model that provides highly precise process and machine behavior predictions.



Intelli-MAX Software updates bring performance enhancements to the company's broad range of machine accessories. With version 21, Tilt-A-Jet® users experience increased speed and accuracy when machining inside corners and small radii, especially in thick materials.

Intelli-MAX 21 includes AutoPath command improvements, better import capabilities for DXF/DWG and PDF files, as well as enhanced memory for the 3D Path Editor.

"Whether it involves better file importing or expanding our parametric shape library for enhanced 3D cutting, we continuously update and improve our software so we can effectively support the diverse and changing needs of our customers," says Carl Olsen, lead software engineer for OMAX Corporation. "Intelli-MAX updates are free to OMAX machine owners for as long as they own their equipment."

OMAX backs all Intelli-MAX Software updates with unparalleled support. The company continuously adds to and updates its software help screens, giving users access to more than 2,000 pages of tutorials, troubleshooting guides, videos, and tips and tricks, directly at the OMAX machine controller.

For more information, visit www.omas.com or call 800-838-0343.

Banshee® Beetle™ Rotary Tube Cleaning Tool

The StoneAge Banshee line of rotary nozzles has been an industry standard for tube cleaning applications for almost a decade. Banshee tools are proven to effectively remove thin, hard scale, carbon, coke, and polymers from conduit tubing.

The powerful technology behind these elegant tools is a patented liquid bearing that replaces the ball bearings, seals or lubricant used in conventional rotary tools. Besides producing powerful high speed rotation, the liquid bearing greatly diminishes cost of ownership by reducing maintenance requirements. Unlike labyrinth seal and cross jet pattern nozzles, the Banshee tool design features a streamlined internal flow path to deliver water to the jets with the least amount of turbulence and highest quality jet power for superior cleaning.

Now the same powerful features that make Banshee tools ideal for unplugging, cleaning and polishing tubes, such as those found in industrial heat exchangers and evaporators, have been packed into the smallest Banshee tools ever engineered — the Banshee Beetle. The shorter length of the Beetle models makes them ideal for cleaning process piping, drain lines, u-tube bundles and other small ID tubes with bends and elbows that may have been inaccessible in the past.

LaPlace Equipment Company in LaPlace, Louisiana, took part in field testing the Banshee Beetle tools prior to their market release. After 48 hours on a drain line cleaning operation, LaPlace's customer was very pleased with the results. "He has been able to clean lines that in the past he was only

able to poke holes in," they report, "lines are draining like no one has seen in over 20 years"



The Beetle easily pairs with automated flex lancing systems to provide a fully automated solution for pipe and tube cleaning as well as no-entry applications such as cleaning radial tubes found in mud drums of package boilers.

For more information and tool specifications, visit www.stoneagetools.com/banshee or call 1-970-259-2869 or toll free 1-866-795-1586.

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Flow Celebrating 40th Anniversary

Flow International Corporation, Kent, Washington, is celebrating its 40th anniversary this year. When the company was formed in 1974 as Flow Research, it was a small research and development contract company focused on pump technology.

Flow started looking into abrasive waterjet technology because of an idea proposed to them by a PhD student, Dr. Mohamed Hashish, now the vice president of technology at Flow. Dr. Hashish asked what would happen if he fired a pure waterjet stream through a cup filled with sand and ash: The result – a faster cutting speed.

“From the beginning, we have followed a commitment to the technology; to continue to push the boundaries



Mohamed Hashish, Ph.D.

and bring our customers the best value, and most success,” says Dr. Hashish.

Adding abrasive to high pressure water allowed Flow waterjets to cut not just a couple of materials well, but to cut virtually any material well. This development revolutionized the industry and allowed customers to break into applications for cutting

automotive glass for windshields, thin sheet metal for jet engines, difficult composite materials for aerospace and sensitive glass for space optics.

Flow has been involved with every major waterjet invention for the past four decades. From challenging pressure barriers up to 100,000 psi to revolutionary solutions like Dynamic Waterjet® and Dynamic XD^{kl}, Flow is committed to the continued advancement of waterjet.

Flow defined waterjet technology. Over the past 40 years waterjet applications have grown exponentially, making waterjet one of the fastest growing cutting machines in the machine tool industry.

For more information, visit www.flowwaterjet.com.

New 40K Badger™ Rotary Pipe Cleaning Tool

Badger pipe cleaning tools are known for effectively navigating industrial pipelines with bends, such as process piping, at pressures up to 22k psi (1,500 bar) to provide a high grade of cleanliness. Recent technological innovations have prompted StoneAge engineers to re-examine the design of the 4-inch Badger model to accommodate higher pressures suitable for removing thick, hard material like plastics and polymers from conduit.

The dominant challenge of physically fitting the functional components required for rotary operation at such high pressures into a tool compact enough to navigate tight bends in small diameter lines was an engineering opportunity StoneAge could not pass up. As a result, the 40K Badger is the only self-rotary tool available that can navigate 90-degree elbows in

pipes as small as 4 inches (102 mm) at pressures up to 40k psi (2,800 bar).

Controlled rotation is a critical factor in delivering waterjet power to the surface being cleaned. However, operating a rotary tool at such high pressures puts enormous strain on the seals and bearings. It was important for engineers to design a solution that could deliver rotation and power and still hold up mechanically to the force of high pressure water.

StoneAge drew on successful advances in speed control and high pressure seal technology developed for the Warthog WGR Magnum sewer jetting nozzle in engineering the new 40K Badger tool. The outcome was significant: a five-fold increase in tool life between maintenance intervals. “We have a really solid tool that maintains a good, consistent speed over a long period of time,” states Colton Ander-



sen, lead engineer of the 40K Badger tool.

The 40k Badger pairs effectively with the AutoBox ABX-500 hose handling system to offer a powerful, hands-free solution for rotary pipe cleaning to resolve the most difficult restricted flow problems.

For more information and tool specifications, visit www.stoneagetools.com/4in-badger or call 1-970-259-2869 or toll free 1-866-795-1586.



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Safety Meeting Topics

A mission of the WJTA-IMCA is to provide information and resources to our membership in the areas of Safety and Technology. As you have read in each issue, there are a multitude of tools manufactured by many companies as well as technical data and papers that can provide a roadmap for jetting and vacuuming applications.

While there has been significant improvement in equipment and methods, it still comes down to people applying this equipment safely in order to prevent accidents and provide maximum cleaning efficiency. Without question, safety must be at the forefront of every supervisor's and worker's focus. It is for this reason that we wish to provide our membership with real situations and incidents that have occurred as well as corrective actions to prevent reoccurrence.

Please share these with your employees as safety meeting topics, and we ask that you provide incidents, accidents, or near misses that may have involved your business to our WJTA-IMCA office. We will periodically publish these in our Jet News keeping names and companies confidential.

Below are a couple of incidents:

Incident #1: Water cut to upper ankle and shin

Sequence of events: 3-man crew consisting of a confined space attendant and 2 entrants were going to make a vessel entry to remove packing. An automated rotojet had been used earlier for the packing removal and was still hooked up inside the vessel. The supervisor in charge of the job had taken a brief break and upon returning from break had assumed that the vessel entry crew was

no longer in the vessel. Unknown to the vessel entry crew, the supervisor instructed his pump operator to re-energize the rotojet. One of the vessel entry personnel who was now inside the vessel, made an attempt to get out of the vessel upon seeing the rotojet about to be fully energized. Before the employee could get out with the help of one of the attendants, the employee's right upper ankle, up to the front of his shin bone, was struck by the H.P. jet stream with approximately 3,500 psi of water.

What could have prevented this: Better communication between the supervisor and crew as well as identifying and addressing any hazards associated with changes in a job/task to include setup or tooling changes.

Incident #2: Water puncture to hand

Sequence of events: Equipment operator was manually stiff lancing vertical tubes positioned on a scaffold using an overhead lance pulley and a 20K pump. The initial setup included a 1/8" stiff lance rod and a nozzle with an O.D. of approximately 1/2" run through an articulating arm equipped with a 3/8" horseshoe or "half-moon" lance stop for anti-withdrawal. An in-line dump valve was in place and being operated by the equipment operator. At some point during the job the supervisor changed the nozzle to a nozzle/tip with a smaller O.D. Shortly after the nozzle/tip change the stiff lance hydraulicked back out through the anti-withdrawal device and the nozzle water jet came in contact with the equipment operator's right hand resulting in three small puncture wounds.

What could have prevented this? A "donut" or full circle/moon lance stop is typically used when stiff lancing. Horseshoe or "half-moon"

lance stops are used when flex lancing. Also, before starting stiff lance operations the lance should be pulled back against the lance stop/insert to verify that it will prevent the stiff lance from being withdrawn. Finally, always identify and address any hazards associated with changes in a job/task to include setup or tooling changes.

WJTA-IMCA Safety Manuals

One of the WJTA-IMCA's primary goals is to improve safety within the industry. *The Recommended Practices for the Use of High Pressure Waterjetting Equipment* provides recommendations for the safe and efficient operation of high pressure waterjetting equipment and for use in the training of operators and new employees.

The new Spanish edition contains all the updates and revisions of the English-language 5th edition, including the new and expanded recommendations on color coding, design criteria, establishment of a hydroblasting zone, hose inspections and testing, safety shrouds, and more.

The new translated manual is ideal for sharing the safety recommendations of WJTA-IMCA with Spanish-speaking employees, colleagues, and customers.

Place your order online through WJTA-IMCA's secure online store at www.wjta.org, or contact the WJTA-IMCA office by phone or email.

Choosing the Right On-the-Job Safety Eyewear

Safety eyewear is an integral component of safety programs on job sites across the country. According to the U.S. Bureau of Labor Statistics, Americans miss nearly 37,000 days of work each year because of eye injuries. As a result, employers spend \$300 million annually in related costs, not including legal fees, productivity losses, and a variety of indirect expenses. Choosing the right safety eyewear and lens coating can improve safety, and increase functionality, employee comfort, and compliance.

Before choosing your eye and face protection, it's important to look around the work area to identify which hazards are present. Is there dust? Metal chips? Dirt particles? Liquid splash? Chemical splash? With this information, you can choose the best level of protection.

Different Types of Protection

Safety glasses are intended to shield your eyes from impact hazards, such as flying fragments, objects, large chips, and particles.

Safety goggles shield your eyes from flying fragments, objects, large chips, and particles. They fit your face immediately surrounding your eyes and form a protective seal around your eyes. This prevents objects from entering under or around the goggles. Safety goggle frames must be properly fitted to your face to form a protective seal around your eyes. Poorly fitted goggles won't offer the necessary level of protection. Safety goggles with eye cups completely cover your eye sockets, are available with direct or indirect ventilation, and may be rigid or flexible.

Direct-vented goggles prevent large particles from passing into the goggle. Indirect-vented goggles protect against liquid or chemical splash entry. Both of these styles allow airflow to pre-

Safety Corner



By Luis Garcia,
President, Gulf
Coast Region,
Northern Safety
& Industrial, and
a member of the
WJTA-IMCA Board
of Directors.

vent fogging. Non-ventilated goggles prevent splash entry and do not allow passage of air into the goggle. They may fog and require frequent lens cleaning.

Cover safety goggles may be worn over corrective eyewear without disturbing the adjustment of the eyewear. They are available in direct, indirect, or non-ventilated types, and may be flexible or rigid.

Face shields are designed to protect your entire face, or portions of it, from impact hazards, such as flying fragments, objects, large chips, and particles. When worn alone, face shields do not protect you from impact hazards. Face shields must be worn with ANSI-approved safety glasses or goggles to comply with OSHA standards.

Choosing Lenses for Safety Goggles and Glasses

Choosing the right lens coating or lens color for your safety goggles or glasses is also an important decision. What's the best lens coating for your job site? Here's a breakdown of different coatings and what they're best used for.

Anti-Fog Lens Coating: When the lenses of your safety glasses fog, it temporarily interrupts your field of vision, leading to a potentially dangerous situation. In order to minimize fogging, manufacturers apply anti-fog coatings to improve the performance of your safety eyewear.

Scratch-Resistant Hardcoat:

Scratch-resistant hardcoat provides longer life for the lens and extends visual clarity. Even with a protective hardcoat, safety eyewear is still susceptible to damage from everyday wear and tear, and should be replaced if it becomes scratched or damaged.

Mirror Coating: Mirror coatings are most often used to provide greater protection and comfort for your eyes when you're exposed to infra-



Safety glasses with mirrored lens.



Antifog goggles with clear lens.



Face shield.

(continued on page 16)

TurtleSkin WaterArmor Now Available as a Jacket-Pant Rain Suit

Warwick Mills is extending the TurtleSkin line of protective armor products to include a “rain” coat jacket and overalls to protect waterjet operators. The new armor product is an extension of the popular TurtleSkin WaterArmor modular PPE that protects waterjet operators at all pressures and specified flow rates for UHP using straight or rotary nozzles.

The WaterArmor system, which includes gaiters, chaps, front torso, arms and gloves, and now the new rain suit configuration, has successfully saved operators from serious injury for 15 years, including dozens of documented saves. The TurtleSkin WaterArmor system has been tested and approved for CE Marking certification to protect operators from accidental waterjet spray injuries from water pressures as high as 40,000 psi. WaterArmor’s protective garments have received several patents for the flexible layered system, which includes high performance para-aramid fiber used in ballistic protection combined with ceramic coatings to enhance protection and durability.

The new jacket offers protection that covers the entire front of an operator, with a center opening jacket that makes it easy to take on and off. The bib overalls protect the entire front as well, covering the center of the chest, groin, and the entire front leg area wrapping to the sides. This allows the operator excellent mobility with complete front protection. The new design incorporated features end users care about most, based on their feedback.

“We have a huge customer base that uses the traditional TurtleSkin WaterArmor modular system, which attaches with straps, and several asked if we could come up with a rain jacket combo that was easy to put on so they could just grab their coat and go,” says TurtleSkin WaterArmor Sales Manager Leslie Richardson. “We showcased

some of the rain suit’s new features at the WJTA-IMCA show in New Orleans. The response from our customers was tremendous, and they offered some great suggestions.”

This customer feedback resulted in further product extensions to allow customers to order the rain suit with the options to include neck, arm or back protection, features that are completely integrated into the rain suit. The new TurtleSkin WaterArmor Rain Suit is available through all local distributors currently selling the product line. A complete list can be found on www.turtleskin.com/WaterArmor-Distributors.aspx. For information, call:

1-603-291-1013 or visit: www.waterarmor.com.



UHP armor protection built into new TurtleSkin WaterArmor Rain Suit stopping injuries at pressures as high as 40,000 psi

Choosing the Right On-the-Job Safety Eyewear, from page 15

red radiation in hot environments. Mirrored lenses are frequently used in conjunction with a tinted lenses. They’re great for general-purpose sun and glare protection for outdoor work environments.

Indoor/Outdoor Lens: Indoor/outdoor lenses are ideal for a variety of lighting conditions. They’re perfect if you work indoors and outdoors throughout the day.

Gray Lens: Gray lenses protect against sunlight in outdoor work environments.

Amber Lens: Amber lenses are perfect for low-light work applications where you need enhanced contrast. It blocks the blue part of the light spectrum and maximizes contrast.

Vermilion Lens: Vermilion (pink) lens sharpens visual acuity. This lens is ideal for inspection and detail work.

Blue Lens: Safety glasses with blue lenses are great for use in work

conditions with sodium vapor lighting and excessive glare.

Copper Blue Block: Copper blue block lenses block glare similar to gray or mirrored lenses, but they provide a brighter field of vision than other shaded lenses.

Green Shade 3.0 and 5.0: These lenses are especially for use around welding, brazing, or cutting applications. They’re not for use when welding, however.

Polarized Lens: Polarized lenses are used to eliminate glare. These are great for outdoor workers in bright, sunny conditions.

Choosing the right eye protection keeps workers safer, minimizes eye injuries, and increases productivity. If you have questions about which lens coating or lens color is right for your job, please give the technical support reps at Northern Safety a call at 800-922-8553. They’ll give you the information you need to make the right choice for you, your co-workers and employees.

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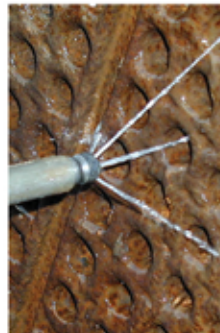


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Jet Edge Celebrates 30 Years in Waterjet Industry



Joined by Jet Edge employees and local business and government leaders, Jet Edge President Jude Lague cuts a ribbon to mark Jet Edge's 30th anniversary in the waterjet industry. The ribbon cutting was coordinated by the I-94 West Chamber of Commerce.

Waterjet systems manufacturer Jet Edge, Inc., celebrated its 30th anniversary September 3, 2014, with a special open house celebration. The anniversary event included a special ribbon cutting ceremony courtesy of the I-94 West Chamber of Commerce, a barbecue lunch, factory tours, and live 5-axis waterjet cutting demonstrations.

Jet Edge President Jude Lague and TC/American Monorail President Paul Lague were honored by St. Michael, Minnesota, Mayor Jerry Zachman. They also received recognition letters from U.S. Senator Amy Klobuchar and U.S. Representative Michele Bachmann. The event attracted more than 100 attendees including customers, distributors from around the world, vendors, and local business and government leaders.

Founded in 1984, Jet Edge entered the waterjet industry during the industry's infancy and has grown to become

one of the largest and most respected manufacturers of ultra-high pressure waterjet technology in the world. Jet Edge waterjets are used in a wide range of industries around the world, including automotive, aerospace, defense, industrial manufacturing, food production, and machine and job shops. Jet Edge's extensive product line includes precision waterjet cutting systems, waterjet pumps, and mobile waterjet cutting and surface preparation systems.

"We've come a long way since 1984," says Jude Lague, Jet Edge president. "We've seen waterjet technology evolve from its 36,000 psi (2,500 bar) water-only past to today's sophisticated and highly precise 5-axis and robotic systems that can reach pressures exceeding 90,000 psi (6,200 bar). Back in 1984, or even in 1994, waterjet was such a niche technology that many people hadn't even heard

(continued on page 38)

Jet Edge Milestones

1984 - Jet Edge, a subsidiary of Possis Corporation, enters the waterjet market with a 36,000 psi mobile line and 55,000 psi precision cutting line.

1991 - After retreating Iraqi troops set fire to Kuwait's oil fields, coalition forces use Jet Edge portable waterjet equipment to cut off oil well heads.

1994 - TC/American Monorail purchases Jet Edge from Possis Corporation

1998 - Jet Edge purchases Chukar WaterJet Gantries

1999 - Jet Edge builds a new 100,000 square-foot facility and relocates to St. Michael, Minnesota

2007 - Jet Edge introduces 90,000 psi (6,200 bar) X-Stream pressure pump

2008 - Jet Edge announces technical partnership with Michael Waltrip Racing

2010 - Jet Edge helps stop Gulf of Mexico oil spill with special underwater waterjetting equipment

2011 - Jet Edge opens sales, service and showroom office in China

2012 - Jet Edge receives Minnesota Governor's International Trade Award and appears on History's Modern Marvels

2014 - Jet Edge nominated for Minnesota Business Magazine's Manufacturing Awards.



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Faster, Smarter Programming from FlowXpert 2015

Flow International Corporation has announced an upgrade to the FlowXpert™ Software Suite, FlowXpert 2015. This release introduces significant new capabilities for 3D pathing and cutting that allow waterjet users to work more effectively in 3D, with less complexity.

FlowXpert 2015 is a robust 3D CAD/CAM software platform that expands on the 2D FlowMaster® intelligent Software Suite. The platform includes Design powered by Spaceclaim, an integrated 3D CAD/CAM programming tool with Flow Sequencer. With this release, the integrated CAD/CAM capabilities give users a seamless pathing experience. The integration with Flow Sequencer adds flexibility to users and is designed specifically for waterjet cutting, resulting in faster waterjet programming.

The software integration was engineered in partnership with Spaceclaim and takes full advantage of Flow's 40 years of waterjet application expertise. Users get faster, smarter programming that is interactive. Incorporating Flow best practices, such as waterjet application tips, material cut speed knowledge, improved pathing algorithms, and expanded lead in/out customiza-

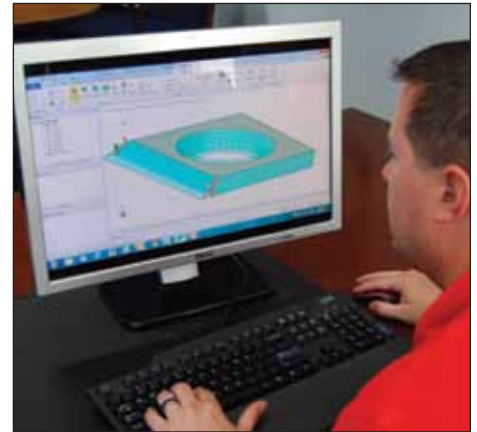
tion the program estimates what steps are needed to get the best part.

"We listened to our customers to design FlowXpert 2015," says Alex Chillman, Flow's software and cutting platform manager. "The end result is a smarter system that lets users to do their work in fewer steps, with more intuitive design practices. This is powerful, straightforward 3D, and anyone can use it."

The new FlowXpert 2015 includes functions familiar for current FlowXpert users, with a redesigned interface for intuitive 3D and 2D part programming. Users can now design a part and path it in the same program. Modifying the geometry of a part is now possible without losing the path, and in most cases the Sequencer integration will automatically update the path to accommodate the changes; a feature strongly requested by customers. In addition, the software will now detect model and path errors and suggest fixes.

New capabilities in FlowXpert include:

- Integration of CAD Design powered by Spaceclaim with CAM Flow Sequencer modules.



- Waterjet specific geometry analysis means the part is ready faster.
- 3D CAM offset capabilities.
- Custom lead in/out available or choose from an expanded lead in/out catalogue.
- Fast, versatile sheet metal processing from Spaceclaim.
- Advanced clean up tools that can be customized to each waterjet.
- Greater automation from smart pathing powered by Flow application expertise.
- Save a 3D model as a 2D programmed part.

FlowXpert 2015 will be available in early 2015 globally. Visit www.Flow-Waterjet.com for more information.

Wishing you a healthy, happy and prosperous New Year!



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- > Full 180 degrees up and down at 90%
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STUTES

Users Working with Wireless Control System Share Positive Feedback

In 2012, DERC Salotech introduced the revolutionary Wireless Wave™ Control System (WWCS) for high pressure cleaning. Several leading European companies who have been working with the system for some time have shared positive feedback regarding the use of the innovative system:



- Very flexible and safe working without signal cables
- No failures in cables, such as a broken cable
- The ergonomics of the gun
- Less vibration for the user
- Hose control safer to use and cleans as an open hose
- Foot control light and easy to use without a high pressure hose
- Significant cost savings in maintenance
- Proven technology
- ATEX Zone 2 approved

The WWCS combines wireless technology for controlling the high pressure waterjetting unit with ergonomic designs and safety features for the operators' equipment. WWCS offers innovations that benefit contractors, operators and clients alike. The WWCS can save contractors money, time and energy, and contractors can perform 15% more cost-efficiently with this system.

The WWCS basic package consists of a pump control and a master control. The extra modules are: Wireless Wave Gun, Wireless Wave Foot Control, Wireless Wave Hose Control and Wireless Wave Repeater.

The WWCS basically replaces traditional signal cables with a wireless connection up to a distance of 500 meters. Setting up this wireless connection is as easy and simple as Bluetooth.

The WWCS complies with all relevant industry and safety directives, such as ATEX/EMC, and has been awarded the Innovation Award by the independent Dutch Safety and Industrial Cleaning Institute (SIR).

The Wireless Wave Gun is one of the safest and most ergonomic guns on the market to work with. This lightweight gun for heavy duty cleaning jobs is surprisingly easy to handle. Its ergonomic design offers brand new maneuverability options, including rotating the handle 360° and the choice to activate the trigger in horizontal and vertical positions. Safety features include the trigger lock (preventing non-intended activation) and the minimization of vibration, preventing fatigue and white finger syndrome. The hand-arm vibration level of the innovative gun is a factor of 4 less.



Every operating signal first passes the Wireless Wave Master Control of the assisting machine operator. This Wireless Wave Master Control is equipped with a remote emergency stop button (pressure total down), a digital dashboard (including working pressure and engine speed) and a multi-language menu.



The Wireless Wave Foot Control has no water hose attached, which offers tremendous flexibility and increases the stability of the operator. The lightness of the foot control prevents fatigue, and the trigger lock will prevent uncontrolled activation and make every operation safer. The Wireless Wave Foot Control is connected with the Wireless Wave Master Control and activates the working pressure up or down. It is used for cleaning tubes, pipes and heat exchanger with hoses.



The Wireless Wave Hose Control handles high flows and can be used for cleaning/hosing down the working area safely. It prevents the traditional risky situations of using

(continued on page 38)

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WARDJet Hosts 2nd Annual Open House

Over eighty attendees participated in WARDJet's Second Annual Open House held October 8, 2014, at WARDJet's Tallmadge, Ohio, facility. Company representatives talked one-on-one with visitors, gave tours of the facility, and performed waterjet cutting demonstrations.

The new WARDKit line of waterjets was debuted during the event, and guests were able to see the WARDKit components firsthand, including the tank, ball screws, laptop controller, and Z-Carriage. An added bonus was the set of augmented reality glasses that instructed wearers how to assemble the Z-Carriage components step-by-step using both projected text and images. Visitors at the WARDKit booth were impressed with how WARDJet incorporated cutting edge technology into their product, and many of them tried on the glasses to experience assembly firsthand.

Guests enjoyed lunch and a valuable networking opportunity where they could informally mingle with vendors and other businesses in attendance. Representatives from Yaskawa Motoman (robots) and Hypertherm (pumps) were also available to discuss their products.

Other open house highlights were the demonstrations performed throughout the day on the Multipurpose Abrasive Waterjet Robot and the Z-2543-5, where a variety of materials were cut with 'water only' to demonstrate 5-axis capability. Tours of the production floor reflected lean manufacturing changes implemented by WARDJet's chief operating officer. By walking through welding, fabrication, assembly and shipping areas, guests were able to see how WARDJet manufactures all products in America from start to finish.

After the open house, WARDJet hosted nearly 150 friends, family, and employees for a celebration to congratulate the company on another successful event.

For more information, visit www.wardjet.com.



WARDJet's production floor featured many new systems and cutting demonstrations.



Open House guests got a feel for the assembly of the WARDKit using a pair of augment reality glasses.

Flow Launches Enhanced Parts Ordering Site

Flow International Corporation has launched a new website for online parts ordering, FlowParts.com. Designed from customer feedback, the new website is the easiest and most efficient way to order genuine Flow parts.

"We are excited to be releasing the new and improved FlowParts.com," says

Tim Fabian, director of aftermarket at Flow International Corporation. "We are able to bring our customers a solution that will put them in even greater control of their business."



The new FlowParts.com allows customers to find what they need quickly and easily, with no time wasted. There are three new ways to search: by

keyword, by system, or browse by product. Customers can create saved machine configurations, which will automatically narrow search results to show only relevant parts, allowing customers to

easily identify parts for faster ordering. Customers can quickly track the status of orders, as well as manage shipping and tracking information. With an expanded resource section,

customers can access training class information and videos, product manuals and diagrams, marketing resources, and recommended spares lists.

"Our customers can make intelligent business decisions with the insights provided from FlowParts.com" says Dick LeBlanc, president of Flow International Corporation. "We are thrilled to be bringing them a solution that provides our customers exactly what they need all in one place, FlowParts.com."

The new FlowParts.com website is available in North America only.

The Next Level of Tube Cleaning Applications

In today's ever more demanding industrial environment, it is crucial to perform tube cleaning jobs at a very fast and efficient pace, in order to reduce cost intensive downtime and to resume day-to-day duties quicker. The transported medium, while going through tubes in heat exchangers, piping systems, boilers, etc., builds up deposits over time that can result in clogging within the tubes. In the past, companies that are active in the tube cleaning business were faced with cleaning challenges of very hard to clean or impossible to clean tubes, due to the severity of the clogging or the small diameter of the tubes.

A worldwide trend in the industry has, therefore, been perceived to use 20,000 psi (1,400 bar) and 21,750 psi (1,500 bar) hose types, instead of the more conventionally

used 10,000-14,500 psi (700-1,000 bar) hose types. This shift towards using higher working pressures compensates the pressure loss that occurs in small diameter hose types.

In the past, for example, for DN 3 (1/8-inch) hoses with four steel layers, a working pressure of 29,000 psi (2,000 bar), a length of 50 feet, and a flow rate of 5 gallons per minute, a pressure drop of around 12,130 psi (836 bar) was the result.

Operators of tube cleaning systems using a standard 20,000 psi pump were most of the time not even aware that such high pressure losses were taking place, and wondered why the cleaning result was so unsatisfying.

Now, with the same parameters stated before, a DN 4 (5/32-inch) hose with two steel layers, (commonly

known as a 1/16-inch hose), equipped with 0.37-inch (9.5 mm) nozzles can clean 0.47-inch (12 mm) ID tubes with a pressure loss of only 3,090 psi (213 bar).

Significant research and engineering effort took place to provide the industry with hose types that have a higher working pressure in conjunction with a smaller outer diameter. The new tube cleaning hoses are equipped with a small coupling size and have been engineered to access even the smallest tubes. The benefits are that pressure drop is being minimized, and efficiency and productivity of the cleaning process is being maximized.

The conventional DN 4 (5/32-inch) tube cleaning hose now has an improved working pressure of 21,750 psi

(continued on page 32)



Together, we can take tube cleaning applications to another level

With Parker tube cleaning hoses you can clean tubes in heat exchangers, piping systems or boilers more efficiently and faster.



- New hose types with increased working pressures
- Working pressures from 10,875 psi (75 MPa) up to 40,600 psi (280 MPa)
- Compatible with standard nozzles
- New DN 4 (5/32") and DN 5 (3/16") hose types have a 20% smaller OD than competitor products
- Tough Cover (TC) available – longer lifetime
- Certified according to DIN EN 1829-2.



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Kenworth and Caterpillar Chassis Options Available for Guzzler Vacuum Trucks

Guzzler Manufacturing has introduced the Kenworth T880 and Cat CT660 Class 8 truck model chassis options for the company's Guzzler® CL® and Guzzler® NX vacuum loaders and the Guzzcavator™ multi-purpose vacuum truck.

"Guzzler has been building and improving industrial vacuum equipment for more than 40 years," says Ben Schmitt, product manager at Guzzler Manufacturing. "Guzzler vacuum trucks work in very tough environments, so providing solutions that deliver enhanced operator comfort and convenience is important to our industrial cleaning customers."

"The Kenworth T880 chassis option includes a variety of features designed to improve on-road comfort, drivability, visibility and safety," Schmitt says.

Shorter bumper and axle settings on the Kenworth T880 chassis provide a tighter turning radius and greater maneuverability in confined spaces. A 45-percent larger, bonded-style windshield and cowl-mounted side mirrors provide increased visibility. Reflector-style headlights replace the seal beam-style headlamps on previous models.

A new door configuration on the T880 chassis offers greater sound attenuation and decreases the exterior noise inside the cab. The functionality of switches and gauges has been designed to help operators perform their tasks more efficiently. For operators who spend considerable time in traffic, the cab features an air-assisted, hydraulically-activated clutch.

The first vocational truck produced by Caterpillar for the American mar-

ket, the Cat® CT660 chassis is built for operator comfort and ergonomics. The chassis' rugged durability and styling is built to

work hard in the toughest applications. The Cat CT660 features a sloped hood, wraparound windshield, heated mirrors and halogen headlights. The durable aluminum alloy construction provides longer life and improved productivity.

"The Cat® CT660 chassis is an option for customers looking for improved ride quality on long hauls and in extreme conditions," Schmitt says.

The spacious interior includes such features as sound insulation, tuned cab air suspension system, and an ergonomic dash and center stack, resulting in reduced driver fatigue and enhanced driver and worksite safety. Side and rearview mirrors are designed for secondary visibility on the road and at the jobsite. Gauges can easily be viewed through the steering wheel, so the driver can locate key indicators quickly and safely to ensure all systems are operating at optimum performance.

The Guzzler CL (Classic) industrial vacuum system is designed to clean up and recover a full spectrum of materials — from solids and dry bulk powders, to liquids, slurries and thick sludge. Depending on material type, the Guzzler CL industrial vacuum loader can operate effectively in remote or inaccessible locations more than 1,000 feet away.



Built for cleanup and recovery of a wide range of materials, the Guzzler NX industrial vacuum loader features a modular design that improves maintenance accessibility and allows the customer a wide range of productivity enhancement features that can easily be added on at the factory. The exclusive Vacuum Recovery (VR) Technology system on the Guzzler NX allows for complete loading of the debris body, while a quick-access, fold-down valve assembly makes manual cleaning effortless.

The multi-purpose Guzzcavator™ vacuum truck combines the performance of the Guzzler CL vacuum loader and the Vactor HXX™ Hydroexcavator, without compromising productivity. In addition to handling a variety of wet/dry industrial cleaning applications (such as cleaning and recovering solids and dry bulk powders, liquids, slurries and thick sludge), the Guzzcavator can also perform vacuum excavation work including potholing, slot trenching, water valve box repair, locating existing fiber optic lines, cables and other utilities, and oil and gas field support.

For more information on Guzzler industrial vacuum trucks and how they can be paired with the Kenworth or Cat chassis, please contact Guzzler Manufacturing at 1-800-627-3171, or visit www.guzzler.com.

High Pressure Equipment Marks 60 Years in 2014



High Pressure Equipment Company (HiP) is proudly celebrating its 60th anniversary in 2014 with an innovative employee leadership program and a commitment to the company's long-established tradition of excellence.

Since 1954, HiP has been a leading provider of high-performance components and systems for elevated pressure applications. Today, HiP manufactures a complete line of valves, fittings and accessories designed to provide leak-free operation at pressures ranging from 10,000 psi to 150,000 psi. In addition, HiP offers a family of reactors and pressure vessels, as well as pumping systems and pressure boosters.

HiP is a preferred supplier for leaders within diverse markets such as waterjet cutting and cleaning, oil and gas, chemical and petrochemical, research and development, university, government and general industry.

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products, and special orders have short lead times. The company also provides responsive technical/engineering support and reliable on-time delivery, which has resulted in extensive customer loyalty.

This 60th anniversary year has been marked by several important events for the company. In September and early October, HiP was the featured company

on Fox Business Network's "Manufacturing Marvels." The short program highlighted HiP's operations and systems and explained how high pressure continues to be on the cutting edge.

HiP's innovative leadership training program "Everyone's a Leader" has also been making news in 2014. The companywide program, started in

(continued on page 33)

Surpass the Competition with Financing

Companies nationwide are effectively taking advantage of financing and incorporating it into the sales and buying process. Ascentium Capital, as a national direct lender, has over \$500,000,000 in lending capacity. This, combined with a commitment to the waterjet technology industry, allows equipment providers, as well as small businesses to Fortune 500 companies, to take advantage of tailored financing programs that meet the changing business requirements of this industry.

The Power of Financing

The competitive nature of the waterjet industry requires partnership with a lender who takes a consultative approach, takes time to understand their business, and offers extreme financing flexibility to meet a wide array of business needs. This industry has constantly changing technology and continually changing client behavior on how projects need to be bid and won. This is why financing flexibility is essential. This also makes the cost per use of equipment a significant aspect that must be considered to ensure profit goals are met. Affordable financing options complement the requirement for revenue-generating equipment.

Mutual Business Objectives

Equipment manufacturers and distributors use financing to enhance their sales activity, improve customer relationships and meet business goals. With the right financing partner, equipment suppliers are positioned as complete solution providers and as true partners with clients. However, for this to be impactful, the financing must also meet the exact cash flow needs required for this market. This means partnering with a lending source that specializes in this industry is critical

and several key things should be considered:

Compatible Goals: The objectives of the finance program need to be agreed upon to ensure financing is results-based and that it can assist in increasing revenue and profit.

Enhanced Client Relationships: Equipment providers should never have to worry about risking customer relationships so the funding partner needs to have business ethics that support this objective.

Industry Expertise: The financier should have in-depth understanding of the unique aspects of the waterjet technology industry. This results in a specialized understanding of their company and customers so affordable financing can be realized.

Sales Synergy: The financial product offering and the entire financing process needs to enhance sales activity and not hinder or slow the buying decision.

Sharing Successes

Much of the success that companies can capture with financing is based on Ascentium's extreme flexibility via their proprietary financing platform that produces a streamlined experience. Companies can finance nearly anything for their business including new or used equipment, technology and 100% software. With competitive financing up to \$1.5 million, Ascentium helps companies across the nation grow their business.

Ascentium Capital is proud to be part of the waterjet industry and participates and exhibits at the WJTA-IMCA Expo. With over 25 years of expertise and by incorporating the voice of



Tim Miller

the customer into their organization, Ascentium's successful approach has allowed them to obtain the ranking as the fifth largest private-independent finance company by volume in the United States. For more information, please contact Tim Miller, Regional Sales Manager at: 281.902.1959 or by email: TimMiller@AscentiumCapital.com.

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Smart Innovation Delivers Maximum Efficiency for Offshore Drill Rig Maintenance

A powerful waterjetting unit supplied by Hughes Pumps is helping deliver essential corrosion prevention maintenance to a semi-submersible offshore drilling rig that works extensively in the harsh North Sea, United Kingdom (UK), environment.

The Stena Spey is a self-propelled, semi-submersible, offshore drilling rig based in Aberdeen, and as with all offshore assets, requires constant maintenance to prevent corrosion. The Hughes Pumps Ultrabar 10 unit is being used to strip corrosion and failed coatings from the rig structure using plain water.



Stena Spey Offshore Drilling Rig

The Hughes Pumps system consists of the Ultrabar 10 EC UHP waterjetting unit with a performance of 8.3 lpm at 2,500 bar (2.2 gpm at 36,000 psi), 45 kW (60 hp) electric motor and starter panel for use in a safe area, crash-frame mounted,



Hughes Ultrabar 10 EC UHP Waterjetting Unit

1.8 m long × 1.0 m wide × 1.5 m high weighing 1100 kg (71 inches × 39 inches × 59 inches weighing 2,420 pounds). Minimal water consumption and no abrasive usage make this unit ideal for offshore maintenance.

(continued on page 40)



HIGH & ULTRA HIGH PRESSURE

Hughes Pumps' flange mounting option makes the pumps very simple to install and more compact than other like-for-like units, but still powerful enough for the most arduous water-jetting applications. Pumps available in 10K, 20K and 40K PSI.

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HPS650

Richard A. LeBlanc Appointed President of Flow Waterjet

Flow International Corporation has announced the appointment of Dick LeBlanc to president of Flow Waterjet, effective immediately. LeBlanc will report directly to the Waterjet Holdings president and CEO David Savage, focusing on advancing customer satisfaction and new product technologies.

"Dick is an outstanding leader committed to helping customers grow their business by leveraging Flow's expertise," says Savage. "His grassroots knowledge of the waterjet business and our customers is the perfect complement to our strategic focus on customer service and technology."



Dick LeBlanc

A 30-year Flow veteran, LeBlanc most recently served as the executive vice president of global sales and marketing for Flow, where he led the global expansion of Flow's sales and marketing excellence.

"I've always been involved in the manufacturing industry, but 30 years ago I really fell for and devoted my career to the waterjet industry," says LeBlanc. "I look forward to continue working with this great team and wonderful customers to further the waterjet industry."

LeBlanc joined Flow in 1994 as vice president of sales and has been responsible for various departments over the years including sales, technical service, project management, marketing and surface preparation. Prior to joining the company, LeBlanc was employed by the ASI Robotic Systems Division of Cargill Detroit Corporation for 10 years, which was later purchased by Flow.

For more information, visit www.FlowWaterjet.com.

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The WJTA-IMCA leadership requests that members respect the contact information of fellow members and not use that information for the dissemination of spam or junk email. Membership information is not meant to be circulated beyond the WJTA-IMCA membership.

The Next Level of Tube Cleaning Applications, from page 27

(1,500 bar) and the working pressure of the DN 5 (3/16-inch) (commonly known as a 1/8-inch hose) has been increased to 20,000 psi (1,400 bar).

Both hose types have two layers of steel wire spiraling, and are compatible with standard nozzles. The compatibility of all new hose types with nozzles ensures that the job gets done thoroughly and effectively.

A further feature of these hose types is that the outer cover is fit for harsh environments. This extremely abrasion resistant tough cover prolongs the service life of the hose and therefore reduces costs and downtime.

The hoses proved to be very effective when used in automatic tube cleaning systems. Those automated systems are gaining momentum versus manual operations on a worldwide scale. Customers from Canada that are using this hose type say that the new DN 4 (5/32-inch), 21,750 psi (1,500

bar) hose was able to unplug the tubes within minutes, whereas conventional four layer hose types used before were not able to unplug all tubes, and the cleaning process was very time consuming.

Further feedback was being received during usage in Saudi Arabia, where the new DN 5 (3/16-inch), 20,000 psi (1,400 bar) hose did not show any damage on the outer cover, even after five days of continuous use in 12 hour shifts.

Those examples demonstrate how a single highly advanced component can improve a critical and costly cleaning process. Reduction of downtimes and stable processes are often based on the quality of the equipment used. In this case, the automatic cleaning systems and the right hose choice.

For more information, email: Marketing_Polyflex@parker.com.



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Jack Doheny Companies Expands

Jack Doheny Companies (JDC), one of the top dealers in sewer cleaning equipment, vacuum trucks, and street sweepers, has experienced an extraordinary amount of growth in the past year. JDC has built its business on the belief that superior equipment combined with prompt service and customer support forms the foundation of a lasting business relationship. JDC makes it their mission to supply high quality equipment that can be trusted to perform day after day, year after year.

Steve Shafer has been named the new vice president of industrial and commercial sales and Mike Tepatti has been hired as the new strategic sales and development manager.

Jack Doheny Companies opened four new locations this year, bringing the total number of branches to 18, with 15 in the U.S. and three in Canada.



Steve Shafer



Mike Tepatti

Regional sales representatives for the newly opened branches include Jeff Walter in Joliet, Illinois; Tom Doheny in Minot, North Dakota; Rhett Petite in Gonzales, Louisiana; and Jack Burns in Orlando, Florida.

JDC locations in the U.S. and Canada:

Antioch, California – 925.777.0944
Long Beach, California – 562.436.3474
Northville, Michigan – 248.349.0904
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Alberta, Canada – 780.979.0825
Manitoba, Canada – 888.816.8862
Ontario, Canada – 905.643.3940

High Pressure Equipment Marks 60 Years in 2014, from page 29

2013, was the brainchild of company president Larry Loper and CFO Larry Serafin. Loper and Serafin wanted to strengthen HiP by investing in the heart of HiP—its employees. The company had undergone restructuring in 2013, and the two company leaders knew the time was right to make this investment. In that year, New York-based independent private equity firm Wasserstein & Co. invested in a majority ownership of the company. Under new leadership, the company moved to a much larger facility and expanded their organizational structure – almost doubling the workforce.

Details of this leadership program and its early success were featured in the August 2014 edition of *Jet News*. The feature is also slated to be published in *BIC* (Business and Industry Connection) magazine's special December issue.

Also in 2014, High Pressure acquired Staffordshire Hydraulic Services Ltd. (SHS), one of the United Kingdom's leading distributors and designers of high pressure equipment. SHS has been a key distribution partner for

HiP for over 40 years. Additionally, SHS markets its own line of standard and customized high pressure equipment with applications in the oil and gas, power generation and other industrial markets.

Success, growth, innovation, and a commitment to a tradition of quality have marked HiP's history. It's no surprise that these same qualities have made this anniversary year one to remember. For more information, visit: www.HighPressure.com or email: sales@highpressure.com.

WJTA-IMCA Conference and Expo
November 2-4, 2015 | New Orleans

Call for Papers and Case Studies

See insert in this issue of the Jet News

2014 WJTA-IMCA Expo Exhibitors

October 14-15 | Ernest N. Morial Convention Center | New Orleans, Louisiana



(continued on page 36)

2015 WJTA-IMCA Conference and Expo

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Attach biographical information with a brief statement of your nominee's mission and vision for WJTA-IMCA.

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Return completed Nomination Form and supporting information to: WJTA-IMCA, 906 Olive Street, Suite 1200, St. Louis, MO 63101-1448.

2014 WJTA-IMCA Expo Exhibitors

October 14-15 | Ernest N. Morial Convention Center | New Orleans, Louisiana, from page 34



**OMAX® Corporation
Names Kawan Lama
Exclusive Distribution
Partner for Indonesia**

OMAX Corporation has signed an exclusive distribution agreement with Kawan Lama® to market, sell and support OMAX and MAXIEM® JetMachining® Centers in Indonesia.

“The Indonesian economy is expected to pick up steam in 2015, and we anticipate demand for our products to grow accordingly,” says Steve Ulmer, vice president of international sales for OMAX Corporation. “This strategic partnership with Kawan Lama allows us to efficiently market and distribute OMAX and MAXIEM abrasive waterjet solutions to job shops and manufacturers in this very important segment of the world.”

Kawan Lama is a leading distributor of machinery and industrial equipment in Indonesia. With its main office, service workshop and showroom located in Jakarta and distribution centers in Cikarang and Surabaya that use leading-edge warehouse management and material handling technology, Kawan Lama offers more than 60,000 different products now including a complete stock of original spare parts for all OMAX and MAXIEM JetMachining Centers.

Through its strong distribution partnerships with companies such as Kawan Lama, OMAX Corporation has representation in 50+ countries, which puts engineering expertise, applications development, spare parts services and training in close proximity to its customers all over the world.

For more information, visit www.omax.com and www.kawanlama.com.

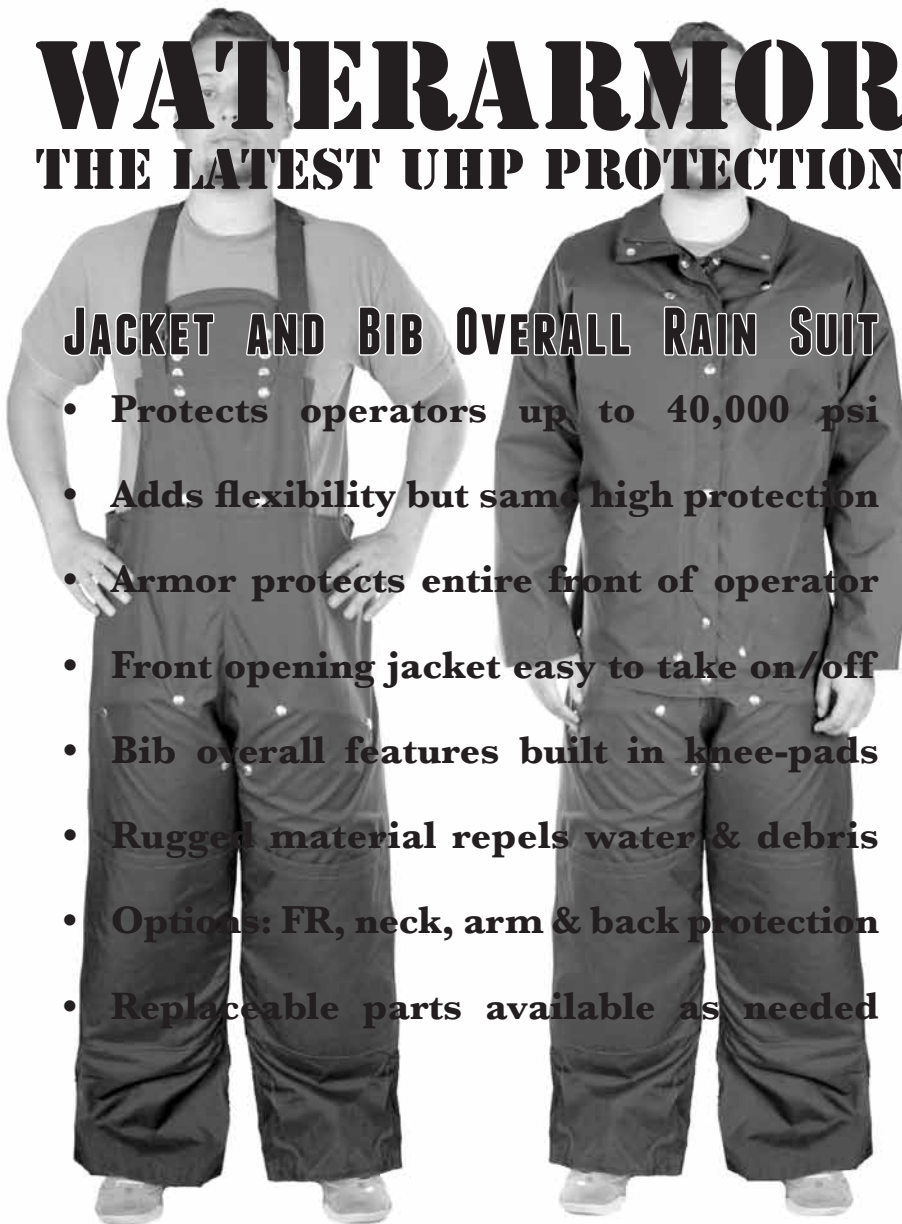


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Users Working with Wireless Control System Share Positive Feedback, from page 24

hoses over the shoulders. The gun has the same handle as the Wireless Wave Gun and is lightweight and easy to use.

The gun, hose control and foot control are also available in an electric version.

For more information about the WWCS system or electric version, visit: www.wwcs.eu or www.salotech.nl, call +31 (0)186 62 14 84, or e-mail: info@salotech.nl.



2015 WJTA-IMCA Conference and Expo

Preliminary Schedule of Events

Monday, November 2

8:00 a.m.-4:30 p.m.
Pre-conference Short Course - Basics and Beyond

Tuesday, November 3

8:00 a.m.-10:30 a.m.
Live Demonstrations

10:30 a.m.-5:00 p.m.
Exhibit Hall Open

10:30 a.m.-3:00 p.m.
Boot Camp

Time to be announced
Research Papers and Case Studies

3:00 p.m.-5:00 p.m.
Reception and Awards Ceremony in Exhibit Hall

Wednesday, November

8:00 a.m.-10:30 a.m.
Live Demonstrations

10:30 a.m.-1:00 p.m.
Exhibit Hall Open

Time to be announced
Research Papers and Case Studies



Jet Edge Celebrates 30 Years in Waterjet Industry, from page 20

of it. Today, it's as common as any machine tool, and is used to manufacture countless everyday items, from sliced fruit to titanium joint implants."

Lague credits Jet Edge's success to the company's commitment to helping customers solve their toughest manufacturing problems and willingness to engineer custom solutions.

"We were born problem solvers," Lague says. "Our company's founder Chris Possis couldn't find a satisfactory waterjet pump, so he built his own. Since then, we've had the opportunity to help hundreds of customers improve their manufacturing processes, and we've responded to some of the world's greatest crises, including the Kuwait oil fires, the Kobe earthquakes, and the Gulf of Mexico oil spill."

Lague notes that Jet Edge's success in the competitive waterjet industry would not have been possible without the support of its loyal customers, dedicated employees and industry friends.

For more information, visit www.jetedge.com, call 800-538-3343 or 763-497-8700 or e-mail sales@jetedge.com.



Jet Edge President Jude Lague cuts a cake in celebration of Jet Edge's 30th anniversary.



St. Michael, Minnesota, Mayor Jerry Zachman presents Jet Edge President Jude Lague and TC/American Monorail President Paul with a resolution from the St. Michael City Council.

Photos courtesy I-94 West Chamber of Commerce.

Hypertherm Announces New Management Team Alignments

Hypertherm, a U.S based manufacturer of plasma, laser, and waterjet cutting systems, has announced re-aligned responsibilities in its management team. With the planned yearend departure of Carey Chen, current vice president and general manager, light industrial businesses, and CIO, to become president and CEO of Cincinnati Incorporated, his responsibilities will be transitioned to two current Hypertherm management team members.

Jim Miller, current vice president of operations will assume the added responsibilities of VP/GM light industrial businesses, which includes the company's air plasma systems, torch and consumables businesses. Mary Bihrlle, current chief financial officer, will assume management team responsibility for Hypertherm's information services function. These transitions will be completed by yearend.

Mr. Miller has been with Hypertherm since 2005, first as director of operations for Hypertherm's consumable business before joining the management team in 2008 as vice president, operations. Ms. Bihrlle joined Hypertherm in 2008 as director of internal controls, then director of global finance, before being named chief financial officer in 2013.

"Jim will bring a lot to his added role, not just operational skills important to the new business development focus areas in our light industrial businesses, but also a keen sense for industrial customer applications and business drivers," says Evan Smith, Hypertherm's president. "And Mary Bihrlle is an experienced hand at IS management and will bring strong strategic integra-

tion to this new role. We're fortunate to have such a deep talent pool, not only to ensure a seamless transition, but also to bring new capabilities and potential to these strategic parts of the business."

Hypertherm designs and manufactures advanced cutting products for use in a variety of industries such as shipbuilding, manufacturing, and automotive repair. Its product line includes plasma, laser and waterjet cutting systems, in addition to CNC motion and height controls, CAM nesting software, and consumables. The New Hampshire based company's reputation for cutting innovation dates back nearly 50 years to 1968, with Hypertherm's invention of water injection plasma cutting. The 100 percent associate-owned company, consistently named one of the best places to work in America, has more than 1,300 associates along with operations and partner representation worldwide.

For more information, visit www.hypertherm.com.

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Ausjet is a member based non profit organisation. Members comprise a broad cross section from the Industrial Services industry including end users, contractors, equipment manufacturers and suppliers as well as a range of support industries.

Ausjet have recently worked with Standards Australia & Standards New Zealand to revise AS/NZS 4233 1&2 High Pressure Water Jetting Systems and Safe Work Australia in the development of the Guide to Managing Risk from High Pressure Water Jetting.

Ausjet have through their partner Industrial Foundation for Accident Prevention (IFAP) developed High Pressure Water Jetting Assistant & Operator training courses that are in accordance with the Manufacturing Skills Australia Units of Competency for High Pressure Water Jetting. Other benefits include Industry safety alerts, networking opportunities, access to our quarterly newsletter and an opportunity for website advertising and more, Ausjet invites and encourages international members to join.

Visit www.ausjetinc.com.au for information on how to become a member. All applications to be sent to support@ausjetinc.com.au

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The Hughes Pumps waterjetting system was supplied with a clever innovation. A simple dump gun with a new design of self-rotating surface preparation nozzle, especially suitable for the very low flow-rate required, was, for the first time, supplied with the smallest Ultrabar 10 pump. This innovation has resulted in a significant simplification of the unit, eliminating the need for on-site compressed air and a reduction in routine UHP accessory maintenance.

The innovation is quite a development because, until recently, complicated, maintenance-intensive, compressed air-driven rotary guns and UHP dump valves had been the only option in this type of application.

As part of the support package, six Stena Spey operators underwent Water Jetting Association (WJA)* accredited safety training at Hughes Pumps' UK factory, designed to give them knowledge of the safe way in which to use the Hughes' equipment.

For more information, email: sales@hughes-pumps.co.uk or visit: www.hughes-pumps.co.uk.

*An association headquartered in the United Kingdom.



Waterjetting being used for essential corrosion prevention maintenance on the rig structure.

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Jet Edge Launches New Website

Jet Edge, Inc., has launched a new website at www.jetedge.com, featuring multilingual content and a contemporary design that functions across devices. The new jetedge.com provides fast and intuitive access to Jet Edge's diverse product line as well as extensive information about waterjet's many applications. The content-rich website also features a resource center for waterjet operators, improved search capabilities, customer success stories and testimonials, and easy access to Jet Edge's online waterjet parts store and maintenance training registration.

"Our new website was designed with our customers foremost in mind," says Nancy Lauseng, Jet Edge marketing manager. "We are a worldwide company with growing international sales. One of our biggest priorities



was making the site available in many languages. We also wanted the site to function well on any device, be it a PC or smartphone. To improve our visitors' overall experience, we've greatly enhanced our product presentations, incorporating more photos, videos and application examples, and we've made the site easier to navigate and search. By customer demand, we have added additional resources and tech tips for Jet Edge waterjet operators."

The foreign language platform of Jet Edge's new website initially will feature foreign language translations using Google Translate. Jet Edge is developing professionally translated sites for its key international markets.

For more information, visit www.jetedge.com.





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