

Liquidtool Manager

MONITORS COOLANTS USING INTELLIGENT TECHNOLOGY

With the Liquidtool Manager, Liquidtool Systems introduces the first intelligent, IoT-based solution for monitoring coolants. It is the first product ever to combine a plug & play solution and a cloud-based platform with intelligent, automated and reliable measurement into an innovation that takes metalworking companies a step closer to Industry 4.0. The Liquidtool Sensor, which is also available, makes data collection easy. Thanks to plug & play, sensor commissioning is simple and intuitive business: the highly integrative sensor is magnetically mounted on the machine to be monitored, connected to the company's WLAN or LAN internet connection and operated with the corresponding app via tablet, smartphone or PC.

Automatic measurement and evaluation of the coolant

The sensor for metal cutting machines is compatible with coolants of all manufacturers and monitors them automatically. The Liquidtool Sensor regularly takes coolant from the machine tank and measures the sample with the built-in refractometer and thermometer. It stores the data gathered securely on the corresponding platform, allowing deviations to be detected at an early stage. Users can add additional values such as pH, nitrite and water hardness manually. Reliable, regular measurement forms the basis for stabilizing and optimizing processes, increasing efficiency and identifying problems early on. This in turn can reduce machine downtime and contributes to a longer service life of the coolant and tools.

Cloud-based platform for maximum monitoring flexibility

The data collected by the sensor is stored and analyzed in the cloud-based Liquidtool Manager. The Manager provides secure access to all current and historical measurement data — in real-time and from various devices, such as smartphones, tablets and computers. The stored data can be displayed directly in the Liquidtool Manager via various graphics, statistics and reports. In addition, users

can exchange experiences with other users worldwide in the Liquidtool Community.

“Digital first” — including in sales

The Liquidtool Manager is developed and sold by the Swiss start-up Liquidtool Systems, a sister company of Blaser Swisslube AG, which has been a leader in the production of lubricants for over 80 years. “With the Liquidtool Manager, we are proud to offer our customers a product that makes a significant contribution to the progressive digitalization of the met-



alworking industry,” says Daniel Brawand, head of sales and marketing at Liquidtool Systems. “The Manager and the associated Sensor are installed and operated easily and intuitively, allowing users to take reliable measurements with minimal effort. Based on this, they can optimize their processes and minimize maintenance costs. We are very excited to launch the product in the spring of 2021. Our focus is also on digital technology when it comes to sales: both products will be available online via the Liquidtool website.”

www.liquidtool.com

Marposs

ANNOUNCES MERLIN PLUS STANDALONE GAUGING SOFTWARE

Marposs has announced the standalone availability of Merlin Plus gauging software. Formerly only embedded in Merlin hardware devices, this software is now offered for use on any PC running Windows 7 or Windows 10 operating system. Aimed at optimizing industrial production analysis and control, Merlin Plus software combines flexibility and ease of use for managing simple measuring and manual bench applications. It is well-suited for fixture builders and makers, as well as end-users that want to configure their own measurement applications.

Merlin Plus software offers multiple measurement and statistical displays with numeric and graphic layout, trend limits, data traceability, batch management, part counters, and data storage; exporting in CSV or Q-DAS format. It can handle up to 250 different measurements, 1,000 different part programs and offers connection to several type of devices with built-in drivers.

Merlin Plus software also comes with a free add-on called Merlin Designer, which allows users to create customized pages using graphical representations of measurements such as bars and images, as well as imported CAD, JPG, and GIF files. In manual applications this feature allows to easily guide the operator in carrying out the inspection sequence of any component.

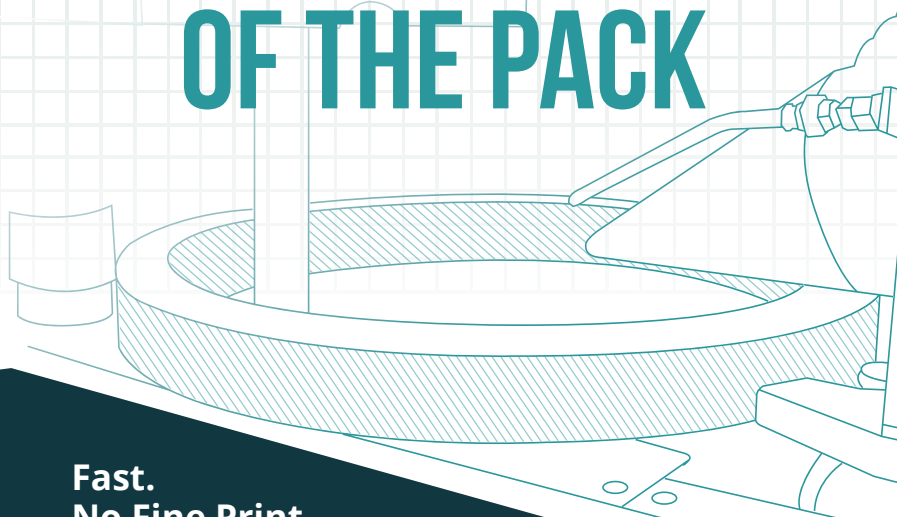
With a set of predefined I/O configurations, the Merlin Plus software can also comfortably satisfy the need of simple automatic applications requiring to interface with a PLC.

The standard network capabilities of a full Windows system combined with the built-in data segregation features makes it a perfect platform for efficient data collection in compliance with company standards.

www.marposs.com



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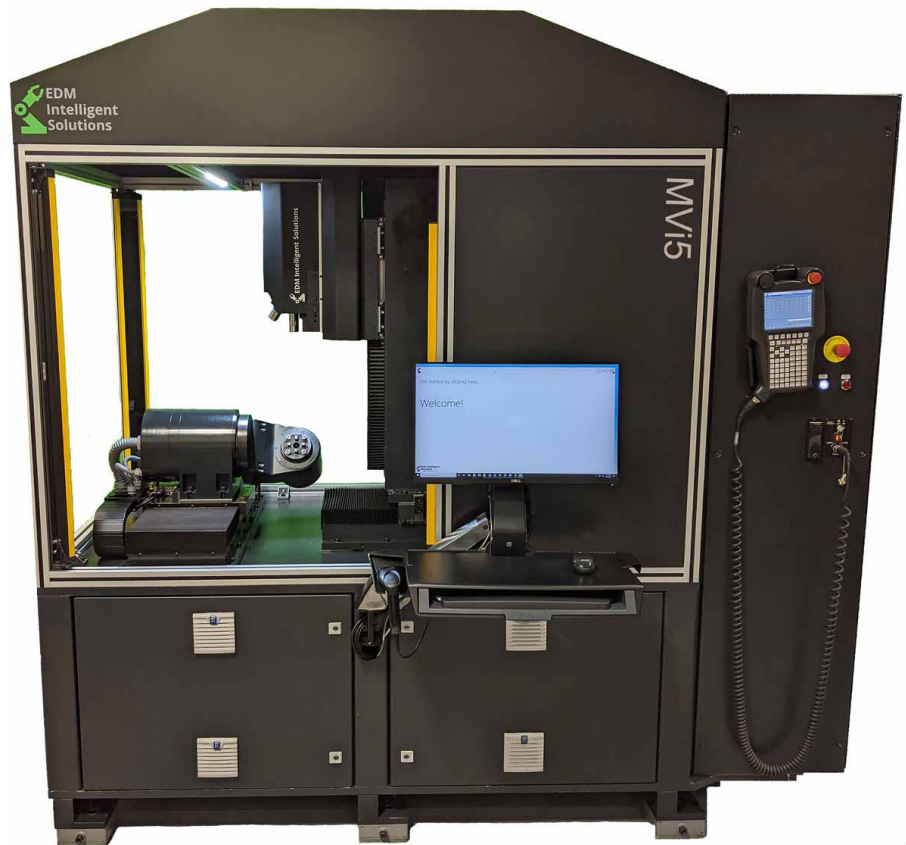
CREATES 5-AXIS 3D METROLOGY CENTER

EDM Intelligent Solutions (EDMIS) is pleased to announce the release of their new MVi5 – 5-Axis 3D Metrology Center joining FANUC CNC controls with advanced 3D metrology sensors to create an industry ready multi-sensor metrology and measurement platform. The company provides a unique level of expertise for the automation and industrial metrology requirements of OEM and research and development customers within the major aerospace, automotive, communications, defense, medical, and scientific industries.

EDM Intelligent Solutions automation group has developed a unique, 5-Axis 3D Metrology Center based on a machine tool motion system with fully integrated high-resolution 3D metrology sensors. Utilizing industry proven FANUC CNC controls and servomotors, the MVi5 offers the reliability and long-life performance that users in the aerospace, automotive, mechanical engineering, medical, plastics, and semiconductor technology industries have come to trust.

The robust machine tool base houses a top-of-the-line motion system with linear travels of 300mm on the X, Y and Z axes along with integrated glass scales on each. The heavy-duty rotation and tilt unit features an enhanced payload of 20kg with a B-Axis tilt range of $\pm 120^\circ$ and continuous C-Axis rotation of 360° , with both axes having integrated absolute encoders.

Advanced 3D metrology sensors featuring measurement speeds of up to ≤ 1.7 million points per second and high-resolutions of 10 nm allow the MVi5 to measure form, distance, height, surface roughness, true position, scan vs. CAD model differences and scan vs. scan differences all in one rugged multi-sensor platform that is ready to be installed directly on the manufacturing production floor.



The need for hands on, complex programming of the measurement and inspection tasks have been virtually eliminated and replaced with a user friendly, menu-based programming interface found in the Foundation Programming Environment from EDMIS. Customized 3D model-based measurement and inspection programs are automatically generated off the 3D solid model design of the part to be inspected. The user simply uploads the solid model, selects the areas to measure and a program is created. Offline measurement and inspection programming is also offered through integration with various CAD/CAM software packages common within industry. Operation of the MVi5 5-Axis 3D Metrology Center

is quick and simple via the touch screen optimized EDMISi human machine interface with native barcode compatibility. User access controls and permissions allow operators to only select and run approved inspection programs while Engineering and Administration staff have full access to create and modify programs and to administer all features and functionality of the machine.

www.edmdept.com

Helios Gear Products

INTRODUCES HOBBING SOLUTIONS FOR PLASTIC GEARS

External plastic gears, like their metal counterparts, use the hobbing process for productive manufacturing. However, the difference in material leads manufacturers to key considerations to ensure successful hobbing applications. Plastic gears tend to be ultra-fine- (finer than ~64 DP) to fine-pitch (finer than 20 DP); their material strength can be compromised; order volumes tend to be high; chip evacuation requires a special system; and burr mitigation is a must. Decades of experience from Helios Gear Products address these issues as follows.

To productively manufacture fine- and ultra-fine-pitch gears + which plastic gears often are + the hobbing machine must offer high speeds. Contemporary hobbing platforms for these types of gears offer hob spindles up to and exceeding 10,000 rpm. At first thought, this may seem excessive, but speed requirements stem from surface speed requirements. For instance, when using a carbide hob,



a common starting point for speed may be 250 m/min (820 sfm). Consider that some contemporary CNC hobbing platforms offer only 2,000 rpm tool spindles; the following chart demonstrates how this limits achievable speeds when using hobs less than approximately 40 mm diameter. Thus, to ensure productive manufacturing of ultra-fine to fine-pitch

plastic gears, high-speed tool spindles are a must, such as those offered on the hobbing models Hera 30 (10,000 rpm) or the Monnier + Zahner 500 D-drive (12,000 rpm).

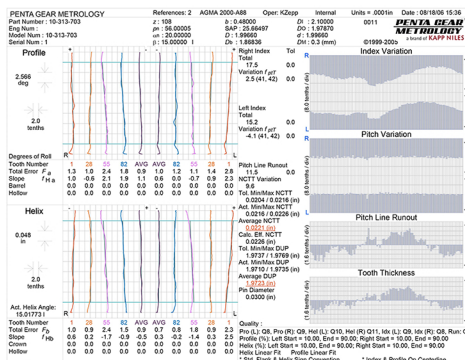
The material of small parts can be easily compromised under clamping pressure when mounted for hobbing. Hydraulic pressure is typically needed,

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but when trying to avoid part slipping, such clamping forces can crush, mushroom, or unacceptably deform a workpiece. Dual direct-drive work spindles offer help to alleviate this problem. With this ability, the machine's work spindle (headstock) and tailstock are both directly driven by CNC motors that are kept in a synchronized timing. This helps remove frictional forces during clamping, which allows easier fixturing with less clamping force. Consequently, dual direct-drive work spindles allow

fixturing of very small workpieces with reduced clamping force.

Because plastic gear orders are often large-volume, manufacturers must consider automation capabilities of the hobbing machine. Small (or very small!) workpieces require a variety of automatic loaders depending on their geometry. Although robots are prevalent today, they typically lack the dexterity and/or clearances to handle these parts. As such, manufacturers must familiarize themselves with more specialized automation

systems, such as gantries, bowl feeders, magazines, conveyors, line feeders, and more. Each system offers benefits and limitations for the manufacturer to weigh for his applications, so he must speak with the applications engineers from the machine tool's factory to learn more. Less ideally, a third party automation solution can also be considered, but this will add complexity to the hobbing solution.

As with metal gears, burrs produced by the hobbing operation must be removed. Most hobbing machines offer a dedicated deburring disc that shears away burrs during the hobbing cycle. Because this adds no time to the machining cycle, it should be used whenever possible. However, such discs may still leave micro-burrs, which may not be acceptable for the finished gear. Thus, more sophisticated methods may be employed for deburring, such as single- and two-hob deburring. If the machine tool allows a negative center distance + i.e., the tool spindle can reach "over" the work axis + then the same hob that performed the hobbing operation can also deburr the same gear. This is performed on the hobbing machine (such as those offered by Monnier + Zahner), with the same clamping, within the same cycle, which is a huge benefit gained at the cost of a few seconds of cycle time and a bit of extra programming during setup. Machines that cannot hob "beyond zero" (for one-hob deburring) may offer sufficient hob shifting with special software to use two-hob deburring.

In this operation, two hobs are mounted on the same hob arbor, each performs a typical hobbing cycle, but the second hob cuts and feeds in an opposite direction. As a result, each hobbing pass pushes chips toward the middle of the part, thus avoiding burrs. As with one-hob deburring, two-hob deburring uses the same clamping within the same cycle as the hobbing process, so it is a very productive means of deburring plastic gears.

An example of two-hob deburring can be seen at heliosgearproducts.com/two-hob-deburring-plastic-gear-hera-30/. Other means of deburring are available but may require additional machines and/or operations. Such complexity can be avoided by choosing

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a hobbing machine with “built-in” deburring abilities.

Applications engineers from Helios Gear Products discuss the above strategies with manufacturers when they choose an optimal hobbing platform for plastic gears. Such decisions consider key factors such as the machine’s ability to effectively clamp small workpieces by using dual direct-drive work spindles. Because plastic is not a ferrous material, the hobbing platform must adequately handle chips without a traditional magnetic conveyor.

Automation systems and their versatility should be discussed for the manufacturer’s particular applications, as should deburring methods. Finally, choosing a hobbing solution with high-speed spindles will help future-proof the platform to handle a wide range of applications, and it will future-proof for tomorrow’s more aggressive cutting tool materials and coatings.

Heliosgearproducts.com

Kapp Niles Metrology

OFFERS ROUGHNESS MEASUREMENT

Discover the option of roughness measurement from Kapp Niles Metrology for determining surface roughness of gear teeth. The tactile measuring method with skid touch system works highly precise and reliable. The evaluation of all common roughness values complies with the specifications of international standards. The measured values are output via the screen display and as a printout on the gear measurement protocol. Roughness measurement is available on the following gear measuring machines: KNM 5X, KNM 9X, KNM X series, KNM C series, KNM P series.

www.kapp-niles.com



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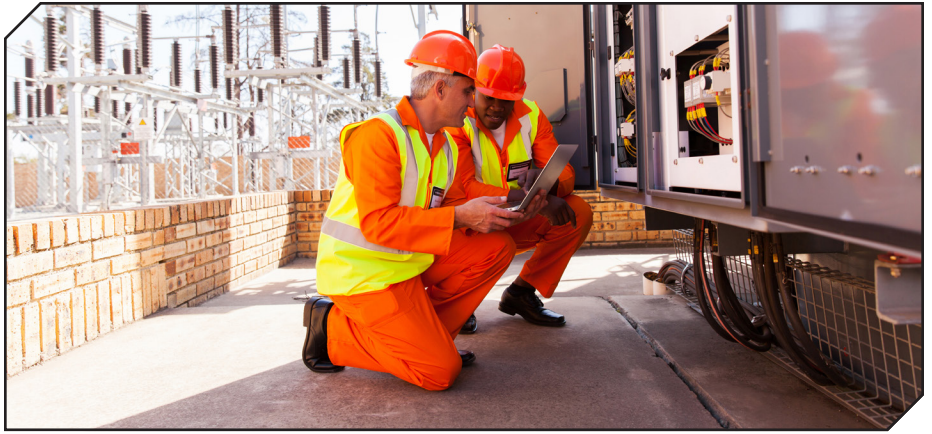
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Shell

ANNOUNCES GLOBAL PORTFOLIO OF CARBON NEUTRAL LUBRICANTS

Shell has announced it will offer customers carbon neutral lubricants across a range of products for passenger cars, heavy duty diesel engines and industrial applications. Shell aims to offset the annual emissions of more than 200 million liters of advanced synthetic



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lubricants, expecting to compensate around 700,000 tonnes of carbon dioxide equivalent (CO₂e) emissions per year, which is equivalent to taking approximately 340,000 cars off the road for one year.

“Shell has set a target to become a net-zero emissions energy business by 2050, in step with society and our customers,” said Carlos Maurer, executive vice president, global commercial at Shell. “We know our customers are looking for ways to reduce their net carbon footprint, and as the world’s leading lubricants supplier we have an important role to play. That is why I am pleased to announce the largest carbon neutral program in the lubricants industry, and one that compensates for the full life-cycle emissions of our products. From today, our consumers, commercial drivers and industrial customers can now enjoy the benefits of improved engine performance and better fuel efficiency in a carbon neutral way.”

This represents a key milestone in Shell Lubricants’ multi-year strategy to help customers manage their sustainability needs and its ambition to reduce the carbon intensity of its products by avoiding, reducing, and offsetting emissions. Since 2016, Shell has reduced the carbon intensity of its lubricants manufacturing by over 30%, and over 50% of electricity used in its lubricant blending plants now comes from renewable sources. Shell is also reducing packaging waste from lubricants products at scale by increasing the use of recycled materials and exploring more sustainable packaging solutions across its supply chains.

While measures to avoid and reduce emissions offer the best way to tackle emissions in the long term, until scalable

solutions are deployed, carbon offsetting programs provide an immediate solution to balance CO2e emissions across Shell's portfolio and value chain. Shell's global portfolio of nature-based carbon credits will compensate CO2e emissions from the entire lifecycle of these products, including the raw materials, packaging, production, distribution, customer use and product end of life.

Shell's carbon neutral lubricants will be available in key markets across Europe, Asia-Pacific, the Middle East and North America. Shell will offset the emissions from a mix of advanced synthetic lubricants in these markets, including Helix and Pennzoil for passenger cars; Rimula and Rotella for heavy duty diesel engines, and a wide range of premium industry lubricants, including Shell Omala in the wind sector, Shell's range of eco-Label products "Shell Naturelle", and the Shell Gadus greases product range.

www.shell.com/naturebasedsolutions

KISSsoft

FITS INDIVIDUAL SOFTWARE NEEDS WITH CUSTOMIZED OPTIONS

One of the key aspects in modern software development is to give end users sufficient freedom to adapt their working environment to individual needs. This ensures simple and intuitive handling, which in turn leads to efficient work processes. In KISSsoft, various options are available for personalizing the user interface and tailoring it to your own requirements.

User-defined tools and other entries can be added to the KISSsoft database, for example. Custom reports are also easy to implement or edit, and manufacturing drawings can be modified within wide limits. Creating user-defined rules and output files simplifies the entire workflow. In addition, KISSsoft calculations can be easily integrated into other programs.

www.kisssoft.com



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Weiler Abrasives

CREATES PRODUCTIVITY PROGRAM

Weiler Abrasives is offering its Weiler Consumable Productivity (WCP) program to help end users better manage their abrasives costs and increase productivity. The WCP program tests and evaluates abrasives to compare product life, reduce cycle times and increase efficiencies.

“The WCP program can bring real value to end users, especially if they are experiencing bottlenecks in their operations, have short abrasive life and want to improve performance,” says Ron McCarthy, abrasives specialist, Weiler Abrasives. “Our goal is to set them on a path of cost savings and better productivity + and we’re confident we can do that. One of our most recent WCP participants saved \$62,000 annually, so our customers are finding significant value in this program.”

The program involves time studies and observation of abrasive usage to gather quantitative data that can be measured and verified, leading to a repeatable solution. Weiler Abrasives



representatives look at how abrasives are used, how long they last and how productive they are. It involves five steps:

1. Evaluating the value related to purchasing the abrasives
2. Real-life testing at the company’s facility
3. Establishing a baseline through testing
4. Collecting data and establishing averages through product evaluation
5. Reviewing findings and creating an actionable plan

By comparing several products throughout the process, Weiler Abrasives provides a recommendation for the best, most productive abrasive for the application.

weilerabrasives.com/Multipass-Consumable-Productivity

FANUC CNC and Robotics Integration

SIMPLIFIES MANUFACTURING OPERATIONS

FANUC America introduces the next step in complete robotics and CNCs integration for more efficient operations. FANUC CNCs now have the ability to control connected FANUC robots

providing machine tending or other assistance through its Quick and Simple Startup of Robotization (QSSR).

More manufacturing operations are taking advantage of adding more

robotics to execute repetitive tasks previously manually performed. Advanced automation offers a competitive edge and greater profit margins to shops of all sizes.

QSSR is a complete package that simplifies the connection of a FANUC robot to a FANUC controlled machine tool. The new QSSR G-code feature allows operators and machine tool builders to program robots easily through the FANUC CNC in ISO standard G-code format. Those unfamiliar with robotic programming language will no longer require additional training or specialists because the programming can be performed with G-codes. A reliance on a separate teach pendant for the robot is also greatly reduced with the capability of robotic programming and operation through the CNC user interface.

www.fanucamerica.com



Matthews Automation Solutions

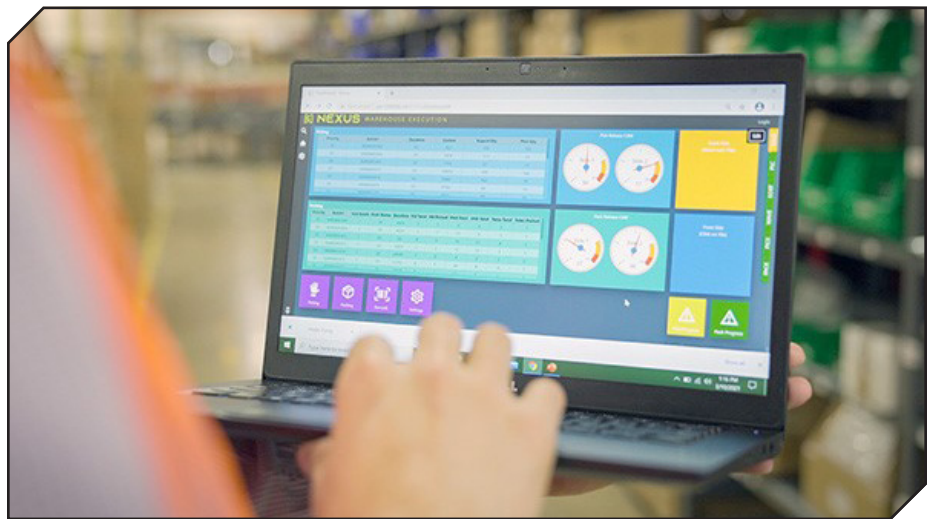
INTRODUCES WAREHOUSE EXECUTION SYSTEM SOFTWARE

Matthews Automation Solutions, a provider of warehouse automation systems and software, is introducing their new NEXUS Warehouse Execution System (WES). A warehouse execution system connects diverse automated processes in a distribution center and manages them as a centralized, integrated material handling system. Matthews NEXUS WES unifies data, operations and material handling equipment, enabling them to function collaboratively and increase throughput and material flow throughout the facility. The software features a new web-based front end for improved usability and visualization on desktop and mobile devices.

Matthews Pyramid Director and CORS (Compass Order Routing System) software platforms have helped leading brands in retail, food and beverage, parcel handling and other industries elevate their omnichannel and ecommerce order fulfillment capabilities since 1994. In 2019 the Pyramid and Compass teams joined together in Pyramid's expanded Cincinnati, OH campus. The combined teams and technologies have now produced NEXUS.

"Matthews NEXUS Warehouse Execution System dynamically balances work and synchronizes real-time resources to optimize how orders flow through a facility," shared Gary Cash, senior vice president and general manager for Matthews Automation Solutions. "NEXUS provides the visibility, flexibility and on-demand performance companies need to meet the growing volume and complexity of omnichannel and ecommerce order fulfillment."

NEXUS uses real-time data and adaptive learning to continuously monitor and adjust automated subsystems throughout the day to maintain balanced operations based on rate and projected workflow. Matthews' new WES was also



developed with a completely new web-based front end.

"The responsive user interface was designed to provide an intuitive, configurable workspace with end-to-end system visibility and control," said Dann Woellert, WES product manager for Matthews. "Being web-based, NEXUS can be accessed on all devices — from PCs to tablets to phones — regardless of operating system."

Dann continues, "The NEXUS

architecture was developed on the foundation of Matthews' proven Pyramid Director and CORS solutions, and offers more robust capabilities, improved usability and enhanced security."

Support will continue for Pyramid and Compass customer installations through Matthews' Cincinnati team, who will also offer virtual demonstrations of NEXUS to end users and partners.

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