

Air-Vac Automation/Infotech Automation — Micro-Assembly Since 1999

Kenn Yurch, technical director for Air-Vac Automation, recently spoke with Automation Industry News and answered some questions about the company, its products, and the industries it serves.

Q: A lot of people may not have heard of Infotech/Air-Vac Automation, how long have they been in the automation busi-

ness?

A: Infotech was opened in 1999 in Solothurn, Switzerland by investors from the U.S. and Switzerland, of which Air-Vac was one of. They have since grown to over 140 employees and have over 1,900 machines on five continents. Air-Vac Automation (www.air-vac-automation.com, a division



of Air-Vac Engineering) is Infotech's North American partner. Air-Vac Engineering has been in business since 1959.

Q: What are the advantages of buying an Infotech machine over a standard P&P machine?

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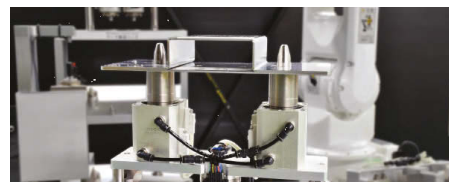
Kosmek, LTD. Launches Automated-Welding Pin Clamps Globally

New "SWP" Pin Clamps Provide Locating Functions and Reduced Footprint

LOMBARD, Ill. — Kosmek USA, LTD. announces the addition of the SWP Locating Pin Clamp to its lineup of automated-welding clamps. This new, advanced, high-performance clamping system is designed to help automated-welding systems to be consistently repeatable and rigid.

Automated-welding systems have become an ever-increasing need by welding manufacturers due to the shrinking labor availability of skilled welders. To accomplish this feat, welding manufacturers have been looking to system integrators for welding-system solutions. Automated clamping and tooling for the welding sector is a small niche and the technologies available are basic.

Kosmek SWP Pin Clamps' patent-



ed technologies have key features not available elsewhere. Unlike the competition, the Kosmek Pin Clamp prevents contaminants and spatter ingress with a movable pin cap that travels with the grippers resulting in industry-leading durability. The high-power clamping mechanism offers a mechanical lock for safety and holding force availability for heavy-duty applications. Reed-switch

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Selling Solutions, Not Products — Listening Twice as Much as Talking

Article by John Hayes

John Hayes is director of sales for Balyo USA and a widely respected thought leader regarding automation in the material handling industry for the past 20 years.

Automate will feature great products. Products are not solutions. The old model for sales was a "spec sheet," a one-page document that spelled out a product's features, advantages, and benefits. It was to distill the differentiators from competitors and any other data — such as measurements, lifting capacity, height constraints, and more. Sure, by the time a purchase order is issued, the specifications must be considered. If a product will not work in a very narrow aisle operation or if the mezzanine height exceeds equipment capacity, then a product may not be suitable.

Before the purchase order, in the true business development process, customers are experiencing some kind of pain point. The status quo isn't working. They know something is wrong, but it's the job of sales to ask questions and listen and then — and only then — should a solution be offered.

At Automate Booth #1354, we think



it is about listening.

Solution selling is born from inquiry and the Balyo team has questions to ask. We want to understand what's broken or not working optimally. Those in the manufacturing and industrial sectors are familiar with this process due to lean manufacturing principles and practices that look to eliminate waste and require ongoing continuous process improvement.

Even with other skillsets, such as lean Six Sigma, there has been an inherent laziness in selling approaches since COVID. With multiple AGV vendors at Automate we want to listen and learn

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OM70 — A High-Performance Laser Distance Sensor Family for Automation in the Automotive Industry

Final assembly lines for car manufacturing do not currently have a high level of automation. With the need to increase flexibility and reduce cost, this situation is changing rapidly. A seemingly trivial difference when detecting parts or positioning tools for process steps in final assembly is the fact that the car body is painted. Laser distance sensors, which have been in use and have worked reliably for other applications (e.g., during chassis assembly), may no longer measure reproducibly enough from one chassis to the next due to the influence of the chassis' color. The OM70 high-performance laser distance sensor from Baumer is a proven solution for this key problem: it measures accurately and repeatably on painted car bodies.

With a repeat accuracy of down to 0.3 micrometer, measurement distances from 30 to 1,500 millimeters, and point and line beams for stable measurement on any surface, it's a powerful solution for distance measurement. The built-in web interface makes getting up and running a piece of cake. It provides all the flexibility needed to easily parametrize the sensor and obtain optimal performance for the application.

The OM70 ensures highly stable positioning of robots and, thereby, enables



fully automated processes, regardless of material properties and environmental conditions. With ambient light immunity of up to 150 kLux, even a roof hatch or LED lighting above the robot won't throw the OM70 off its game when it's mounted at the end of the robot's arm. The all-in-one design without any additional controller unit needed has very low space requirements for easy mechanical integration, particularly critical for positioning robots.

An integrated Ethernet interface ensures easy integration into different levels of the automation pyramid. State-of-the-art protocols like Ethernet/IP, PROFINET (Class B), Modbus TCP, OPC-UA, or UDP streaming are available out of the box.

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NovaStar Solutions — You Design, Build, and Test the Best Products; We Provide the Tools

Article Courtesy of NovaStar Solutions

Since 1998

For over 20 years, Novastar has served hundreds of businesses in the manufacturing, automotive, aerospace, medical, power generation, and university sectors. Located in Livonia, Michigan, our growth has been fueled by excellent service and high customer satisfaction. As a leading provider of IT hardware, IT asset management, engineering software, equipment calibrations, and 3D printer

sales and service, Novastar provides best-in-class tools for our customer's success in the product development lifecycle.

Calibration Services

Novastar's Calibration Laboratory is ISO certified, and A2LA accredited to provide a broad scope of instrument calibration services. Our calibration team focuses on customer satisfaction, maintains a standard turnaround time of one week, and provides a complimentary customer portal for asset management. Discover why

AIR-VAC

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A: Our machines are custom designed and built to meet the customer's specific needs/applications. We don't say 'Buy our machine and you can make it work for your application.' We ask, 'What is your application?' And we'll build a machine specifically for it.

Q: We hear this a lot. Machine support comes directly from the manufacturer, yet these manufacturers are located in time zones all over the world. Do you offer support from right here in the U.S.?

A: Yes! All technical support — both process and machine related — comes from here in the U.S., in Connecticut to be exact.

Q: How accurate are your machines?

A: That's a loaded question. It always depends on the parts being assembled and the processes we are performing! But to answer your question, all our machines must pass a capability test before being delivered to our customer. Our assembly cells are capable of at least +/- 0.010 millimeters at 3σ over the entire assembly area of the machine. If we localize this large area, we have achieved much better.

Q: What kinds of components can your equipment assemble?

A: We can handle almost any shape parts ranging in size from 0.100 to over 100 mm. I have worked on everything from munition fuse assemblies to sorting wheat seeds! Yes, we can do typical SMT component placement, but we also handle a diverse range of applications from blood analyzers to mechanical watch assembly.

Q: How fast are your machines?

A: Our robots are capable of speeds of over 2 meters per second. A typical pick and place routine (including machine vision) can be done under one second.

Q: Some customers have specialized test equipment or third-party peripherals that are required for their current manufacturing processes. Can these be incorporated into your machines?

A: Of course! While Infotech has a machine component matrix of almost 1,000 peripherals (most of which are of their own design), we do occasionally have customer requests that we can't satisfy from our matrix. We have integrated everything from spectrometers to 3D mapping technology. We pride ourselves on providing solutions for our customers' challenging assembly requirements. We want to be the 'go-to' company when other manufacturers tell customers that their machines 'Can't do that.' Visit our Booth #1005 to learn more!

BAUMER

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For more information on Baumer's OM70 laser sensor, be sure to stop by Booth #5250 or visit www.baumer.com/om70.

About the Baumer Group

The Baumer Group is one of the world-wide leading manufacturers of sensors, encoders, measuring, instruments and components for automated image processing. Baumer combines innovative technologies and customer-oriented service into intelligent solutions for factory and process automation and offers an unri-

valled wide technology and product portfolio. With around 2,700 employees and more than 40 subsidiaries in 19 countries, the family-owned group of companies is always close to the customer. Baumer provides clients in most diverse industries with vital benefits and measurable added value by worldwide consistent high quality standards and outstanding innovative potential. Learn more at www.baumer.com on the internet.

Photo: One sensor family, diverse surfaces, changing colors: Reliable measurement with high-performance laser distance sensors OM70 for automation in automotive

well over 500 companies, government agencies, and universities trust their calibration needs to Novastar.

3D Printers

HP 3D Printers are leading a new era of digital manufacturing. Create functional prototypes, manufacturing aids, or scale to mid-volume production with best-in-class economics and a growing portfolio of HP 3D materials.

Design and Simulation Software

Novastar has been a Dassault Systèmes partner since 2011, offering our customers the best in class CAD/CAE/PLM software — delivered on the 3DEXPERIENCE platform.

IT Products and Services

Novastar offers a complete IT Lifecycle solution by managing new asset acqui-

sitions, logistics, imaging, installation, maintenance, and end-of-life (or off lease) options for your retired IT assets. We recover value whenever possible throughout the process and maintain R2 Recycling Certification so you can rest easy knowing every asset has a known end-point.

Novastar Support Cycle

We provide the tools to help you design, build, and test the best products: HP Engineering workstations paired with Dassault design and simulation software. Prototyping and low-to-mid volume parts production are facilitated through an assortment of HP 3D Printers. Product quality is supported through equipment testing, certification, and dimensional inspection by our calibration lab.

For more information, visit Booth #128.

PHD

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for long life and high quality.

Our wide product range, unique options, and make-to-order manufacturing processes set us apart in the industry. PHD products have a reputation that precedes them. They're built to last for maximum efficiency, low cost of ownership, reduced downtime, and repairability. We also have the engineering expertise and factory capability to customize solutions across industries and applications. Our job is to improve the way manufacturers do theirs.

Behind nearly every product is a carefully engineered manufacturing operation where elements are produced, pieces come together, and products keep rolling off the line.

From our highly precise product and customization capabilities to our superior engineering expertise, we provide automation solutions that enhance your capabilities and competitiveness. Our solutions fuel breakthroughs, innovation, and success in achieving what once seemed unachievable.

Our Mission and Values

We move the world forward by empower-

ing our partners with the innovative automation solutions they need to make the products that simplify, improve, and advance people's everyday lives.

Customer Intimacy

Knowing and understanding our customer needs, goals, challenges, and pain points is key to our success.

"Never-Settle Mentality"

We're constantly moving forward, improving, and innovating. Today, we're better than we were yesterday. Tomorrow, we'll be better than we are today.

Culture of Collaboration

We leverage our collective skills, knowledge, and expertise to deliver better solutions. We're strongest as a team.

Mission-Focused

We never lose sight of our mission. Everything we do is to empower our customers so that they can empower theirs.

To learn more about PHD, Inc. and how we empower automation, be sure to stop by Booth #2418 or visit our website: www.phdinc.com.



KOSMEK

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slots for clamp and unclamp confirmation are included on each of the diamond, round, and floating locating styles to optimize repeatability and safety on any application. Backed by Kosmek's legendary reliability and customer service,

the SWP Pin Clamp is the first choice for critical automated-welding applications.

For a live demonstration of Kosmek Welding Clamps please visit Booth #818. To contact Kosmek USA, LTD. directly, email sales@kosmek.com or call 630-620-7650.

BALYO

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from attendees. Why are folks coming to the event? What problems are Automate attendees hoping to solve? What systems are failing currently?

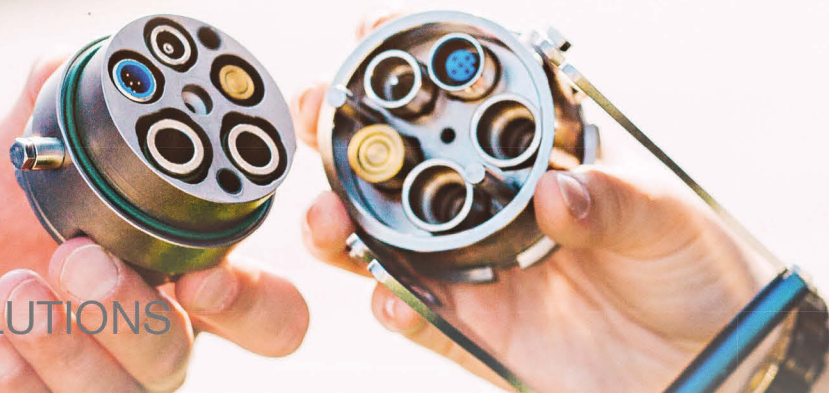
We all know the challenges in the supply chain. We all know the challenges of hiring these days. My commitment is to tell the truth. If the product we share isn't right for an attendee, I will be the first to say so.

VISIT US
Booth #5418

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Flexiv Gains World's First CE and ETL Certification for a Force-Controlled Robot

SAN JOSE, Calif. — Flexiv, the world leader in general-purpose robotics, has received CE and ETL approval for their Rizon 4 robot, making it the first-ever seven-axis force-controlled adaptive robot to achieve both certifications at the same time.

Demonstrating the intrinsic safety of the Rizon 4 robot, the CE and ETL approval was awarded by the world's foremost testing, inspection, certification, and assurance provider, Intertek. Accepted in the EU and Northern America, the approval enables Flexiv to dis-

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VNA Autonomous Reach Trucks 'Driven by Balyo' at Automate

Autonomous reach trucks are most valuable in the manufacturing, distribution, and 3PL environment when embedded with infrastructure-free navigation technology. After a decade of research and development, the best-in-class reach trucks use 3D cameras to pick and drop pallets safely. The reach robot drives cost savings and quality improvements. Also, the ability to pick and drop from conveyors, gravity racks, and mobile racks add to numerous



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Rite-Hite — Always Looking Ahead

Article Courtesy of Rite-Hite

Rite-Hite is a world leader in the manufacture, sale, and service of loading dock equipment, industrial doors, safety barriers, HVLS fans, industrial curtain walls, and more — all designed to improve safety, security, productivity, energy savings, and environmental control.

History

Rite-Hite first rose to prominence as a manufacturer of loading dock equipment, including dock levelers and vehicle restraint systems. An early leader in loading dock

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Automating Weld Defect Detection With AI at ADLINK Booth #2054

The heavy equipment manufacturing industry performs multilayer welds on parts that may cost as much as \$10,000.



Porosity defects — caused by the presence of cavities in the weld metal from absorption of nitrogen, hydrogen, and oxygen in the molten weld pool — are the most common type of weld defect. When defects occur during the manufacturing process,

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New Tool Changer Model Available from Kosmek, LTD.

Kosmek USA is announcing the SWL Tool Changer for large payload robots. The SWL joins Kosmek's current SWR lineup of tool changers as one of the most accurate and rigid tool changers worldwide.



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We Are SensoPart — A Technological Leader and Innovator

Article Courtesy of SensoPart

SensoPart develops, produces, and sells a wide range of innovative sensors for factory automation.



Our main focus is on optoelectronic sensors, photoelectric sensors, and camera-based vi-

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CUBE-R™: Harnessing the Power of Automated Quality Control Has Never Been Easier

With massive labor shortages — especially with metrologists and CMM operations — and increasing demand for higher-quality products and tighter margins, more and more manufacturers are turning to automat-



ed quality control/quality assurance solutions, like Creaform's CUBE-R™.

The CUBE-R is a complete turnkey automated quality control system that

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Ready for AI: Powerful, Freely Programmable Smart Cameras With NVIDIA Jetson Modules

Baumer AX smart cameras are industrial-grade smart cameras that combine the market-leading NVIDIA



Jetson modules with powerful Sony CMOS sensors to create a compact, flexible, and freely programmable image processing platform for AI applications. As a result, a separate PC is no longer needed for image processing,

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Industry 4.0 Mechatronic Components From the Zimmer Group

Zimmer Group has consistently and successfully oriented their mechatronic component portfolio towards Industry 4.0. These range from electric grippers for standard applications to motor spindles for chipping wood, plastic, and



metal; high-end products, such as high-performance grippers with hybrid pneumatic-electric drives; and a complete human/robot collaboration (HRC) kit. This mechatronic intelligent

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RITE-HITE*(continued from page 1)*

safety, Rite-Hite introduced its groundbreaking DOK-LOK® trailer restraint in 1980. The proprietary design of the Dok-Lok, which provides protection against several types of trailer separation, quickly became the industry standard and continues to be the preferred option at the majority of installations worldwide.

In 1991, Rite-Hite acquired Frommelt Industries, significantly broadening its offering to include industrial power doors, cold storage doors, impact doors, dock seals, shelters, and a full complement of aftermarket products.

Rite-Hite's long-standing reputation for safety, quality, and innovation has been enhanced through the constant introduction of unique products for the industrial facility. Examples at the loading dock include: the SAFE-T-LIP® hydraulic dock leveler, the Global Wheel-Lok™ wheel restraint, the Dok-Guardian™, and the Eclipse™ loading dock shelter. Examples inside the facility include: the FasTrax® and LiteSpeed® high speed doors, the Revolution® HVLS industrial fan, Zone-Works® Industrial Curtain Walls, In-Plant Safety Barriers, and the Safe-T-Signal®. Rite-Hite has also expanded into rooftop snow removal machines for truck and bus fleets with their line of Scraper System™ FleetPlows™. Most recently, Rite-Hite introduced IIoT solutions, Opti-Vu® IIoT Platform, and software, Dok-Vu®, and

Dok-Chat®.

In 1987, Rite-Hite formed Arbon Equipment Corporation, which consists of over 700 employees focused on serving the needs of our customers in the United States, Canada, and Australia. Arbon provides expert consultation on products and services that meet the needs of customers who have one loading dock to hundreds.

An additional company that is part of the Rite-Hite family is DuctSox. DuctSox is a manufacturer of commercial and industrial fabric ductwork and diffuser systems for open/finished ceiling architecture, critical environments, and underfloor applications. DuctSox fabric systems are a cost-effective, aesthetically attractive alternative to metal ductwork and diffusers. DuctSox is based in Dubuque, Iowa.

Our Values

- We exist through the consent of our customers.
- We value and respect each individual employee as a primary asset.
- We strive for truly great versus merely good performance.
- We will be guided by honesty in deed, word and relationship.

Our Mission

To improve industrial safety, security and productivity worldwide through quality and innovation.

For more information, visit Booth #4549.

KOSMEK*(continued from page 1)*

multiple operations. However, a tool changer can also allow a specific operation to use fewer and smaller robots to perform the same jobs. The best example of this would be a single robot with access to a few small tools compared to multiple robots using large, double- or triple-sided end-of-arm tools to perform the same number of tasks.

Accuracy and rigidity are critical when mounting tooling to a robot, which is why Kosmek has packed the SWL Tool Changer with some of the

best locating technology available in the industry. The result is excellent repeatability and improved resistance to high bending and twisting moments, which means your tooling is always where the robot expects it to be. The lightweight, low-profile tool side adapter and additional attachment mounting areas make the SWL the best tool changer choice for robots that weigh 80 kilograms and up.

To see the new design, and other automation solutions, please visit Booth #818, contact Kosmek USA LTD directly at sales@kosmek.com, or call 630-620-7650.

MYTHIC*(continued from page 6)*

The M1108 integrates 108 AMP tiles, each with a Mythic Analog Compute Engine (Mythic ACE™) featuring an array of flash cells and ADCs, a 32-bit RISC-V nano-processor, a SIMD vector engine, SRAM, and a high-throughput Network-on-Chip router. In addition, four control tiles provide a high-bandwidth PCIe 2.0 interface to a system host processor. With 108 AMP tiles, the M1108 delivers up to 35 trillion operations per second, enabling the power-efficient execution of complex AI models such as ResNet-50, YOLOv3, and OpenPose Body25 on a single-chip

with extremely low latency. The typical power consumption of M1108 while running complex AI models at peak throughput is approximately 4 watts. With the inherent cost advantages of utilizing mature 40nm technology and not requiring any external DRAM or SRAM, the M1108 has up to 10-times cost advantage over comparable digital architectures.

The M1108 AMP will be available in both PCIe M.2 and PCIe card form-factors, and M1108 PCIe evaluation kits are available on request.

For more information, please stop by Booth #5149 or visit www.mythic-ai.com/product.

ADLINK*(continued from page 1)*

they create weaker, less ductile welds that cannot be shipped or pass inspection. This requires costly rework on the unit or even more costly scrapping of the entire part with the defective weld.

While trained weld engineers can detect defects with auditory and visual inspection, these engineers are difficult to find. They may also have a difficult time hearing or seeing defects in a crowded factory floor with 50 or more robotic welding stations. Existing automated monitoring systems not based on machine vision experience a high rate of false positives, slowing production and adding to costs.

ADLINK and Intel have developed an automated defect-detection solution for robotic welding in heavy equipment manufacturing using machine vision AI to increase output, improve quality, and reduce costs. The system detects welding porosity defects and stops the welding process performed by a robotic arm. The integrated solution sends a stop command to the robot when a defect is identified — all in real-time at the edge and has proven 97% accuracy in detecting weld porosity defects.

Automating defect detection required an integrated, end-to-end system of hardware and software capable of generating insights in real time. ADLINK's Edge AI automated arc welding solution uses the well-validated EOS Series vision system featuring a 9th Gen Intel® Core™ i7-9700E processor, 4x Intel® Movidius™ Myriad™ X VPUs. The

VPU-accelerated machine vision platform runs the ADLINK Edge implementation of the Intel® Distribution of OpenVINO™ toolkit, incorporating its inference engine into the ADLINK Data River data-sharing platform. This allows analysis and inference capabilities for compute-intense vision workloads from multiple machine vision streams.

In addition to detecting defects with up to 97% accuracy, the solution automatically shuts down the weld robots with a stop command once welds have been identified as defective. Workers can also be notified of defects as they occur, so the defective weld can be corrected before parts are rendered unusable.

With this machine vision solution manufacturers can see welds up close in a way never before possible with manual inspection: frame by frame, allowing defects to be detected and acted upon in real time. Combined with an easy, flexible machine interface, the solution helps manufacturers automatically monitor and helps stop the welding process and enable revisions before a part requires scrapping.

Designed to be flexible and scalable from the start, the robotic welding solution aids additional defect detection with fast and simplified model retraining. Using the solution, manufacturers can reduce delays, waste, and costs, and increase productivity.

At the 2022 Automate show, ADLINK will be demonstrating top Smart Manufacturing and AI-enabled edge solutions. Visit Automate Booth #2054 for more info.

BAYLO*(continued from page 1)*

application possibilities.

Increasingly narrow aisle widths must be navigated allowing facility layout optimization and space savings. The autonomous reach trucks interface with machines, conveyors, WMS, and ERP software for full integration within existing operations.

New 3D Perception

Automation must never compromise accuracy, particularly in fast-moving consumer goods warehouses and distribution centers. Autonomous reach trucks offer 20 to 30 times more data than 2D perception, offering higher pick/drop accuracy (+/-10 millimeters).

Recognition is based on the 3D shape of the pallet. This considers the inside of the pallet, not just the front, and more importantly it recognizes and works with all pallet types.

Aisle Space and Performance

Companies using wide-aisle forklifts (a sit-down counter-balanced truck), generally require aisles to be 12 to 13 feet wide for standard 48-inch pallets. Narrow-aisle trucks allow the aisles to be 10 feet wide, and for very narrow-aisle (VNA) trucks they can be 6 feet or less.

Turret-type forklifts are used for operator pallet put away and retrieval, as well as order picking (case picking). A reach truck is designed for use in warehouses or 3PLs requiring high stacking in very nar-

row aisles. Few reach trucks offer integration of lasers into the chassis which make the design compact and optimizes the minimum aisle space required.

Some of the additional autonomous reach truck features must include:

- A 2D barcode reader because it triggers custom actions upon scanning and ensures product traceability.
- Energy options needed from standard lead-acid or TPPL utilizing fast-charging technology.
- Because of the wide variety of designs in 3PLs and plant floors, load overhang detection that helps continuously monitor load size and position during a pick/drop process.
- A curtain laser that automatically and dynamically is able to detect an obstacle at ground level (or at any height) maintaining optimal safety conditions.

The wheelbase of a reach truck is the same length as a normal counter-balance forklift; however, the body is more compact. When lifting a load, a reach truck moves the load back within the wheelbase. Less of the load is protruding from the reach truck, allowing it to work in much narrower aisles.

Automate Booth #1354 is the chance to explore the critical nature of VNA reach trucks. You can also schedule a Meeting with John Hayes, Sales Director, BALYO NA at Automate 2022.