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PRECISION AND PARTNERSHIP: SEMI-KINETICS JOURNEY AND THE HANWHA EDGE

WITH MICHAEL LEEDOM,
PRESIDENT & CEO,
SEMI-KINETICS



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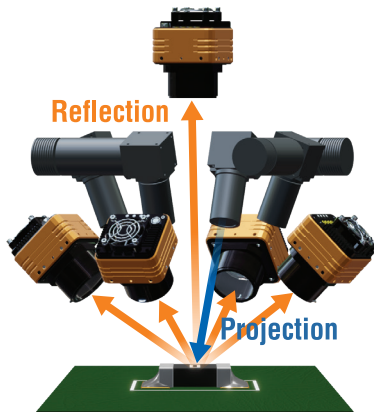
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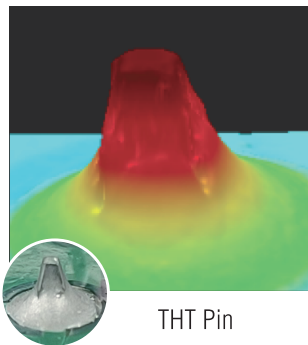
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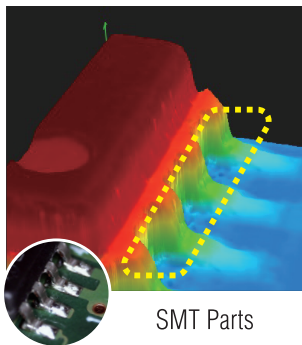
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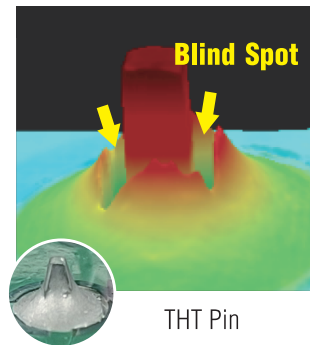
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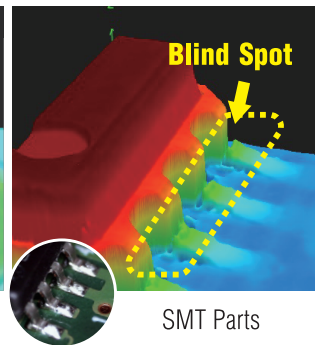
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Electronics Beyond Content.



Hello and Welcome to Issue 73 of SMT Today!

Schools are out, sun is shining and we have so much packed into our Summer Issue of 2025. This month we have so many companies AND individual employees celebrating milestones, we decided to include an additional anniversaries section in this issue. Congratulations to employers and employees alike.

Our front cover is graced this time round with Mr Michael Leedom, President & CEO of Semi-Kinetics, located in Lake Forest, California. Michael took some time out his busy schedule to chat to us about how the company - a leading provider of electronics manufacturing services - has grown over the years, and how Precision and Partnership with companies such as Hanwha Semitech, is one of the main contributing factors as to what makes Semi-Kinetics who they are today.

We also have some other excellent reads including an article from Yamaha Motor Europe, NV on "Surface-Mount Innovations Delivering More for Less," Fuji Corporation talk about "Smart Factory Evolution: Fuji's Innovations in Automated Production" and a piece on Koh Youngs "Solutions for Precision Inspection of High-Reliability Pin Interconnections" by Brent A. Fischthal.

All this along with our usual Industry News and Red Carpet Sections, makes it an issue not to be missed.

Our next Issue 74 will be focusing on the SMTA Guadalajara show. If you wish to advertise with us, contribute articles, news or high profile press releases for this issue, please submit to hello@smttoday.com on or prior to August 1st 2025.

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Take Care,

Wendy

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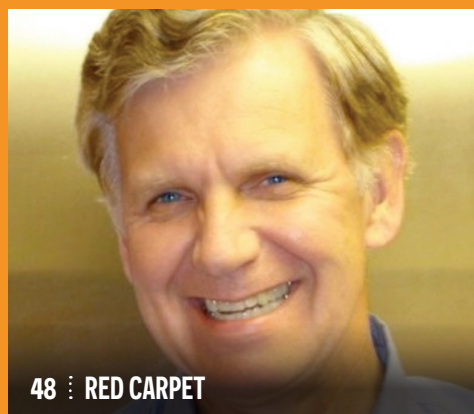
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NEXT EDITION
Issue 74 - SMTA Guadalajara

Deadline for content:
August 1st 2025



director spotlight

PRECISION AND PARTNERSHIP: SEMI-KINETICS JOURNEY AND THE HANWHA EDGE

AN INTERVIEW WITH
MICHAEL LEEDOM, PRESIDENT
& CEO, SEMI-KINETICS

Michael Wayne Leedom didn't just take the helm of an electronics manufacturing firm – he reinvented it. When Leedom became President & CEO of Semi-Kinetics in 2018, he brought new life to a legacy business. Fueled by a passion for precision and a vision for unparalleled craftsmanship, he transformed Semi-Kinetics into a high-reliability powerhouse serving demanding industries like medical, aerospace/defense, semiconductor, and industrial sectors.

Today, Semi-Kinetics stands out as a comprehensive electronics manufacturing services (EMS) provider with a state-of-the-art 35,000 sq. ft. facility, an experienced team, and a reputation for quality and innovation. In this exclusive interview-style feature, Leedom shares his personal and professional journey and reveals how strategic investments – especially a partnership with Hanwha Semitech Americas – have fueled Semi-Kinetics' growth and set it apart from the competition.

Semi-Kinetics was originally founded in 1979, building a solid foundation over decades before Leedom's tenure. By the time Leedom acquired and rebranded the company in 2018, it was clear that a fresh strategic vision was needed to thrive in the modern electronics industry. Leedom, a Southern California native with deep experience in manufacturing, embraced the challenge. "Building exceptional products requires a blend of experience, commitment, and an unwavering dedication to quality," he says, reflecting on Semi-Kinetics' core philosophy developed over more than four and a half decades.

Under Leedom's leadership, Semi-Kinetics quickly refocused on high-reliability manufacturing – the kind of work "where reliability is a must and failure is not an option," as he puts it. The company expanded its services to offer complete turnkey solutions from printed circuit board assembly (PCBA) through system-level "box build" integration. It also pursued rigorous industry certifications (ISO 9001, AS9100D for aerospace, ISO 13485 for medical) to back up its quality-first claims. "With a focus on innovation, continuous improvement, and total customer satisfaction, we pride ourselves on standing as a trusted partner in the ever-evolving landscape of electronics manufacturing," Leedom emphasizes. His words are backed by action: Semi-Kinetics methodically built out capabilities

in surface mount technology (SMT), through-hole assembly, cable harnesses, functional testing, and more – evolving into a one-stop manufacturing powerhouse.

Behind this transformation lies Leedom's personal journey of resilience and vision. Having seen the electronics industry from the ground up (and even navigating personal challenges, such as a family battle with pediatric cancer that spurred him into philanthropy), he developed a leadership style grounded in empathy, empowerment, and forward-thinking. "Year after year we have an extremely high retention rate of world-class customers, and it is thanks to our exceptional longstanding employees and a leadership team that has been with us since day one," Leedom notes, highlighting the importance of people in the process (and indeed, many Semi-Kinetics employees have decades-long tenures). By 2021, Semi-Kinetics was turning heads in the industry for its revival; In 2024 they were awarded a prestigious 2024 Global Technology Award in the category of Contract Manufacturers – \$15-50 Million. This year, they won the Orange County Emerging Growth Award, an honor Leedom attributes to "the passion and hard work of our entire team" and the conscious decision to "invest heavily in advanced technology, staff development, and process automation to better serve our customers".

Leedom's business strategy centers on one key principle: never stand still. In the fast-paced world of electronics, he believes continuous improvement is the only way to survive. "We understand that to remain competitive in evolving markets, we must be open to supporting industry-changing and market-disrupting companies, and adapt to new and innovative process changes..." Leedom explains, discussing Semi-Kinetics' willingness to take on cutting-edge projects and complex R&D-intensive programs. This forward-looking approach means investing ahead of the curve. "This has demanded updated factory equipment, software, and automation inside our premier Lake Forest facility," he says – a deliberate strategy to ensure Semi-Kinetics can meet the needs of next-generation technologies.

From advanced 3D printing capabilities to automated optical inspection and X-ray systems, Semi-Kinetics has steadily upgraded every aspect of its operation. Nowhere is this more evident than on the SMT production floor. The company today runs six fully-automated SMT lines, each loaded with modern screen printers, reflow ovens, and high-speed pick-and-place machines. These investments have enabled Semi-Kinetics to support a wide range of high-mix, low-to-medium volume production programs – exactly the kind of flexible manufacturing that sectors like aerospace and medical devices demand. Leedom points out that the company's willingness to embrace new technology also attracts clients on the cutting edge: "We must be open to tremendous amounts of R&D projects with our strategic partners and cutting-edge customer technology," he says, indicating that Semi-Kinetics often works closely with innovators, helping to bring novel designs to life. In turn, those collaborations push Semi-Kinetics to continuously elevate its own capabilities.

This cycle of innovation and improvement has paid off. Semi-Kinetics not only delivers products with unmatched precision and efficiency but has also achieved notable growth. "We've invested heavily in advanced technology, staff development, and process automation to better serve our customers and our local communities – and it's exciting to see this growth acknowledged," Leedom remarks, after Semi-Kinetics was honored by the ACG Orange County for its rapid emergence as a regional leader. Indeed, few competitors in the mid-tier EMS space can claim the combination of industry experience, cutting-edge equipment, and agile culture that Semi-Kinetics now has. Leedom's vision has effectively future-proofed the company, creating a platform for continued expansion.

One of the smartest moves Leedom made early on was to partner with Hanwha Semitech Americas for his SMT assembly equipment. Semi-Kinetics had used various machines in the past, but Leedom recognized that Hanwha's cutting-edge pick-and-place technology could give his company a decisive edge. Over the last few years, Semi-Kinetics has steadily built up its arsenal of Hanwha SMT placers – and today it runs a total of 10 Hanwha placement machines on the factory floor. This includes five units of Hanwha's flagship DECAN S1 chip moulder and five of the workhorse SM482 model. "With ten Hanwha machines on our production floor, we are well-equipped to deliver high-quality assemblies quickly and efficiently," Leedom says, noting that this major investment reflects Semi-Kinetics' commitment to staying ahead of customer needs.

The Hanwha DECAN S1 in particular has been a game-changer for Semi-Kinetics. Introduced as Hanwha's next-generation placer, the DECAN S1 is known for its exceptional performance and versatility.

“**Year after year we have an extremely high retention rate of world-class customers, and it is thanks to our exceptional longstanding employees and a leadership team that has been with us since day one**”



Its specifications speak for themselves, and illustrate why it's given Semi-Kinetics a production advantage over many competitors:

- **High Throughput:** Capable of placing up to 47,000 components per hour (CPH), the DECAN S1 delivers blistering speed for high-volume assembly. Semi-Kinetics immediately felt the difference – “We enhanced our production capabilities with the installation of the DECAN S1 from Hanwha,” Leedom notes, as even complex boards that once took hours to populate can now be assembled in a fraction of the time.
- **Precision & Accuracy:** With a placement accuracy of $\pm 28 \mu\text{m}$, the DECAN S1 ensures extremely precise component positioning. This level of accuracy is crucial for the high-reliability products Semi-Kinetics builds (where a misaligned 0402 capacitor or BGAs on a mission-critical device can spell failure). The DECAN S1's consistency helps Semi-Kinetics maintain the stringent quality standards its aerospace, defense, and medical customers expect.
- **Large Board Capability:** The machine accommodates PCB sizes up to 510 x 510 mm (20" square) as standard and even handles oversize boards up to 1500 x 460 mm with an optional configuration. This versatility allows Semi-Kinetics to take on unique projects – from long LED lighting strips to large-format backplane assemblies – that many competitors simply can't build in-house.

- **Optimized for Complex Components:** The DECAN S1 isn't just fast on paper; it excels at real-world production challenges. It improves placement speed for odd-shaped and large components up to 28% compared to previous-generation machines. This is a big advantage for Semi-Kinetics, which often assembles high-mix boards with varied component sizes and shapes. Even odd-form parts (connectors, modules, etc.) can be placed faster and more reliably, boosting overall throughput.
- **Intelligent Efficiency:** Hanwha's machine features advanced real-time communication between the placement head and feeders, automatically arranging feeder pocket positions for optimal component pick-up. In practice, this means the DECAN S1 maximizes simultaneous component pickups and minimizes idle head movements. The result is smoother, more efficient assembly and lower component loss rates – saving time and reducing waste.

“This state-of-the-art SMD placer enables us to further optimize our manufacturing processes, increase productivity, and maintain our commitment to delivering high-quality electronic products to our customers,” Leedom says, praising the DECAN S1's impact on the production line. By deploying five DECAN S1 machines across its lines, Semi-Kinetics can tackle complex boards faster and more accurately than ever before – a capability few other EMS providers of Semi-Kinetics' size can claim. In fact, the DECAN S1 boasts “the highest performance among mounters in its class,” according to Hanwha, combining speed and precision in a way that clearly sets it apart from competing platforms. For Semi-Kinetics, this means a real competitive advantage: the company can take on projects with challenging assembly requirements or tight deadlines and execute them with confidence.

Beyond raw specs, what truly makes Hanwha a strategic partner for Semi-Kinetics is the holistic solution it provides. Hanwha's equipment comes bundled with advanced software and integration capabilities – essentially “smart factory” tools – that amplify the benefits of the hardware. For instance, Hanwha offers a software suite aptly called T-Solution, which enables real-time line monitoring, data analysis, and process optimization across the SMT line. By leveraging this platform, Semi-Kinetics can gather actionable analytics from its Hanwha machines to continually improve yield and throughput. “Hanwha SMT is ready to meet these challenges. The T-OLP and T-IT modules within the T-Solution S/W Suite provides real-time monitoring, analysis, and optimization of the SMT production process,” a Hanwha spokesperson explains – and Semi-Kinetics is putting those capabilities to work on its production floor.

Additionally, Hanwha's solution integrates seamlessly with third-party factory systems. Semi-Kinetics has capitalized on features like real-time machine-to-MES communication and offline programming. The DECAN S1 line, for example, supports direct integration with Aegis FactoryLogix – a leading manufacturing execution and NPI (New Product Introduction) software – which allows Semi-Kinetics to import design data, program the machines offline, and ramp up new builds rapidly with minimal downtime. The Hanwha platform also includes feeder verification systems, ensuring that each reel is properly loaded and the correct component is picked every time. These kinds of smart features reduce human error and enhance traceability, which is particularly vital for aerospace and medical builds where every component must be accounted for. In short, Hanwha's equipment was “smart factory ready” out of the box – aligning perfectly with Leedom's automation and quality objectives.

Leedom is the first to acknowledge the role Hanwha's team has played in Semi-Kinetics' success. More than just a vendor, Hanwha Semitech Americas has been a true partner, providing training, technical support, and expertise as Semi-Kinetics



“

By staying true to our core values and embracing partnerships like the one we have with Hanwha, we've built a foundation that positions us and our customers for success.

expanded its capabilities. When Semi-Kinetics moved to install its eighth Hanwha placer in mid-2024, Hanwha's engineers helped ensure a smooth integration. And when two more DECAN S1 units were added in early 2025, effectively doubling Semi-Kinetics' high-speed placement capacity, Hanwha's support was instrumental in getting them production-ready quickly. "This investment reflects our commitment to staying ahead of our customers' needs," Leedom said at the time, "and Hanwha has been there with us every step of the way". By standardizing on Hanwha equipment, Semi-Kinetics also benefits from a unified platform – operators and technicians can flex across lines, spare parts and feeders are interchangeable, and the learning curve for new technology is shorter. All of this adds up to agility, allowing Semi-Kinetics to scale up or shorten lead-times even for new products.

The results of Semi-Kinetics' technology-forward strategy are evident. Over a roughly 12-month span, the company went from eight to ten SMT placement machines, effectively boosting throughput by 25% and adding significant extra capacity for new business. This expansion has enabled Semi-Kinetics to take on more projects and shorten lead times, directly contributing to its revenue growth. Just as importantly, the quality and consistency of output have remained impeccable – a non-negotiable factor for the high-reliability markets Semi-Kinetics serves. Leveraging the precision of Hanwha's equipment and the intelligence of its software tools, Semi-Kinetics has kept defects minuscule and customers happy. It's not surprising that the company boasts a near-perfect record of on-time deliveries and an excellent customer retention rate.

Additionally, Semi-Kinetics' recent expansion includes the establishment of a sister facility in Idaho, designed to mirror their California operations. This strategic move allows them to double their capacity, introduce new technologies, and offer vertical integration to our customers. The Idaho facility will focus on conformal coating and box build electromechanical assemblies, complementing their existing services and supporting their goal of a balanced revenue split between box build and PCBA.

In an industry where many contract manufacturers hesitate to invest in the latest equipment (often due to cost or risk concerns), Semi-Kinetics' bold approach has clearly set it apart. That sentiment reinforces what Leedom has demonstrated at Semi-Kinetics: that choosing the right technology partner can elevate an entire business. Hanwha's systems have given Semi-Kinetics capabilities on par with – or even exceeding – much larger manufacturers. For example, not many mid-sized EMS providers can claim the ability to build giant 1.5-meter boards or to place nearly 50k components per hour with high accuracy. Semi-Kinetics can, and it leverages these strengths in bids to win new contracts where performance and turnaround are key differentiators.

As a result, Semi-Kinetics is thriving. The external accolades are nice, but what truly excites Leedom is the road ahead. With plans to continue expanding capabilities – including further automation, potential facility growth, and ongoing refinement of processes – Semi-Kinetics is poised to keep climbing. Leedom's vision is to maintain the company's trajectory as a high-reliability expert that can tackle any challenge, from prototyping leading-edge tech to scaling up production on a moment's notice.

"We're not afraid to push boundaries," Leedom concludes. "By staying true to our core values and embracing partnerships like the one we have with Hanwha, we've built a foundation that positions us and our customers for success." It's a formula that reads like a modern manufacturing playbook: honor your legacy but invest in the future, surround yourself with great people and great technology, and never lose sight of quality. For Michael Leedom and Semi-Kinetics, it's also the formula that turned a once-sleepy regional assembler into a rising star of American electronics manufacturing – one high-precision placement at a time.

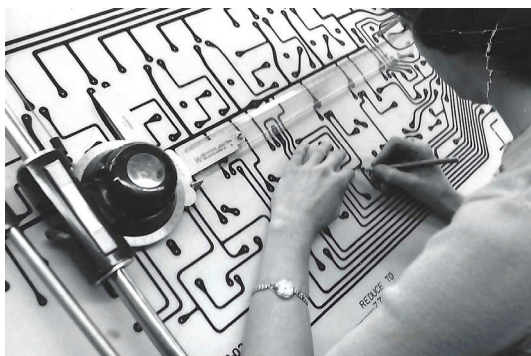
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Celebrating Years of Excellence

A reflection on the journeys that brought success—marked by innovation, passion, and unwavering commitment. In this special feature, we honor the people, stories, and achievements that have shaped the industry, while looking ahead to an exciting future. Join us in celebrating these remarkable years.

ANNIVERSARY SPECIAL



55 YEARS | DISTRON



DISTRON CORPORATION proudly marks its 55th anniversary in 2025. Since its founding in 1970, DISTRON has been a trusted partner for OEMs across critical sectors such as medical, military, clean tech, lighting, industrial electronics, and robotics.

Founded by Bob Donovan, DISTRON is a family-owned company now led by his son, Rob Donovan, who serves as Owner and CEO. As one of the region's earliest contract manufacturers, DISTRON has built a legacy grounded in precision, reliability, and deep customer relationships. Over the last five and a half decades, the company has consistently adapted to technological advancements while remaining focused on delivering high-quality solutions with a personalized touch.

"Reaching 55 years is a milestone we're incredibly proud of," said Robert Donovan, Owner and CEO of DISTRON CORPORATION. "Our longevity is a testament to the dedication of our team, the loyalty of our customers, and our commitment to evolving alongside our industry. We've never stood still – our success has come from continually investing in our capabilities and in the success of our partners."

Today, DISTRON offers full-service electronics manufacturing solutions, including SMT and through-hole assembly, inspection and testing, box build, warehousing, and fulfillment. With a campus that spans over 100,000 sq ft across three buildings, DISTRON provides the scale and flexibility to support both emerging innovators and established industry leaders.

While many manufacturers have come and gone over the past half-century, DISTRON has remained a consistent presence – growing with its customers and helping them bring complex, high-reliability products to life.

As DISTRON celebrates this important anniversary, the company looks to the future with continued investments in automation, quality systems, and customer-focused innovation.

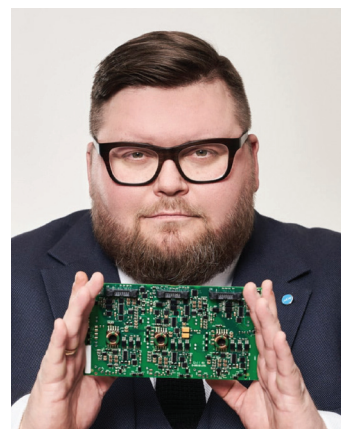
www.distron.com

40 YEARS | INCAP



INCAP CELEBRATES 40 YEARS WITH A FOCUS ON FUTURE TALENT AND COMMUNITY IMPACT

Incap Corporation celebrates its 40th anniversary in 2025 by strengthening its commitment to community engagement and youth development in the regions where it operates.



Founded in 1985 in Finland, Incap has grown into one of the 25 leading EMS companies in Europe, steadily climbing industry rankings in recent years. Its global operations serve customers across Europe, Asia, and North America. This sustained growth is built on Incap's lean decentralized organisational model, customer-focused approach, and long-term partnerships in each region where it operates.

Incap's President and CEO Otto Pukk states that the jubilee year provides a meaningful opportunity to look beyond business performance and invest in long-term initiatives that reflect the company's values and support the next generation. "We see

our 40th anniversary not only as a business milestone but as an opportunity to contribute meaningfully to the communities that support our growth,” said Pukk. “Whether through education, skills development or youth empowerment, we want to help shape the future of the electronics industry, filled with talent and innovation.”

This year, Incap organised the ‘Incap Legends’ esports event, which brought together world-class players and young talents. The event aimed to inspire youth, build bridges between generations and highlight the opportunities that lie at the intersection of technology, gaming, and future careers. In addition, Incap supported Taitaja, Finland’s largest vocational skills competition, to encourage technical excellence among young electronics professionals, many of whom represent the future of manufacturing and engineering, as well as inspiring programming and robotics tournament Innokas.



Incap’s community efforts also extend to culture and visibility on a regional level. In Estonia, the company became a key supporter of the internationally recognised Saaremaa Opera Days, the largest opera music festival in the Baltics. “Supporting events like this reflects our belief in the role of skills, talent and culture in bringing people together and strengthening local identity,” Pukk added.

Looking ahead, Incap’s focus on talent, adaptability, and long-term collaboration will remain at the core of its operations. These principles have shaped the company’s international growth journey and continue to guide its role as a responsible and forward-thinking partner in the global electronics industry. The company’s 40th anniversary year was officially opened during the Annual General Meeting on 8 May, with the actual founding date falling on 22 August. Throughout the year, Incap’s units around the world will mark the milestone in ways that reflect the values of talent development, community engagement, and lasting impact.

incapcorp.com

45 YEARS | TTCI



TTCI EXPANDS SOUTHEASTERN U.S. PRESENCE THROUGH PARTNERSHIP WITH MICROWAVE COMPONENT SOURCES

The Test Connection Inc. (TTCI) is proud to announce the appointment of Microwave Component Sources (MCS) as its official sales representative group for the Southeastern United States.

This strategic partnership comes as TTCI celebrates its 45th anniversary, marking a new chapter in expanding support for electronics and high-reliability manufacturers throughout the region. Known for its integrity, technical depth, and relationship-first approach, MCS brings over 25 years of experience representing industry-leading RF/microwave and wireless component lines. As a family-owned and operated business, MCS has built a reputation for cultivating long-term partnerships with both customers and principals. Their deep understanding of the defense, medical, and commercial sectors makes them a natural fit to represent TTCI’s specialized test engineering services.

“MCS brings a relationship-focused, technically experienced approach that complements our mission,” said Bert Horner, President of TTCI. “Their deep understanding of RF and high-reliability markets, combined with their trusted presence in the Southeast, will allow us to better serve our customers with faster response times, localized support, and enhanced collaboration.”

TTCI is trusted by manufacturers in aerospace, defense, medical, automotive, and other critical industries. The company’s ISO 9001:2015-certified and ITAR-registered solutions include in-circuit test development, boundary scan, flying probe, and functional test services—designed to ensure product quality, reduce defects, and improve manufacturing efficiency.

“As the President of MCS, I am proud to represent Bert and his exceptional team at TTCI,” said Ryan Peavey, President of Microwave Component Sources. Together, we will make a significant impact in the Southeast, driving test innovation and collaboration. We are eager to further TTCI’s mission and achieve great success.”

Based in the Southeastern U.S., Microwave Component Sources provides knowledgeable representation of RF/microwave and wireless component technologies, with a focus on long-term collaboration over transactional sales. As active members of MANA, NRA, and NBAA, MCS maintains strong connections with the technical and business communities it serves.

www.ttci.com

80 YEARS | WELLER

Weller®

WELLER CELEBRATES 80 YEARS OF INNOVATION WITH EXCLUSIVE WXSMART PROMOTION

Weller Tools is proud to celebrate its 80th anniversary by offering an exclusive promotion on its award-winning WXsmart soldering platform.

From April 28 through August 31, 2025, customers in the United States and Mexico can take advantage of a 20% discount on a range of WXsmart Kits and the new Weller Automatic Tip Cleaner — a limited-time opportunity to experience the future of soldering at exceptional value.

The WXsmart platform represents the industry’s first all-in-one smart soldering solution, delivering complete process control from

anniversary special

tip to station. Built for the demands of industries such as electronics manufacturing, aerospace, medical devices, automotive, and defense, WXsmart offers unmatched connectivity, cybersecurity, and performance.

The promotion includes:

- WXsmart Soldering Stations
- Micro/Nano and Heavy-Duty Soldering Kits
- Complete Rework Station Packages
- The New Weller Automatic Tip Cleaner (WATC100 Series)

This special 80th anniversary offer is based on pre-tariff list pricing, allowing customers to invest in cutting-edge soldering technology at a significantly reduced cost.



“For 80 years, Weller has been committed to driving innovation in soldering solutions,” said Jeff Jasuta, Channel Marketing Manager at Weller Tools. “This milestone promotion is our way of thanking our loyal customers and partners, while empowering new users to experience the advantages of WXsmart technology.”

www.weller-tools.com

**FROM COMPANIES TO CONTRIBUTORS:
MARKING EMPLOYEE ANNIVERSARIES**



20 YEARS | RICHARD GUERIN



**DISTRON CORPORATION CELEBRATES 20-YEAR
ANNIVERSARY OF TEST ENGINEERING MANAGER
RICHARD GUERIN**

DISTRON CORPORATION proudly celebrates the 20th work anniversary of Richard Guerin, Manager and Test Engineer of the company's Test Department. Since joining DISTRON in 2005, Rich has played an essential role in advancing the company's engineering and testing capabilities, becoming a cornerstone of its operational excellence.

Rich came to DISTRON seeking a contract manufacturer with a strong reputation for quality and collaboration. What he found was a team—and a mission—that aligned perfectly with his values. Over the past two decades, Rich has been instrumental in both the hands-on and strategic aspects of testing, managing a high-performing team, troubleshooting complex engineering issues, and leading production testing across a wide range of customer programs.

A certified expert in Seica Flying Probe testing—including the V8 and S20/S40 platforms—Rich has helped strengthen DISTRON's



test offerings and drive efficiency through automation. Among his career highlights, includes: earning recognition from a long-standing customer for his professionalism and leadership, and developing automated testing software that streamlined workflows and delivered measurable cost savings.

“Rich embodies the spirit of continuous improvement and teamwork that defines DISTRON,” said Rob Donovan, CEO of DISTRON CORPORATION. “His technical expertise, problem-solving mindset, and dedication to our customers have made a lasting impact on the company.”

Known for his collaborative leadership style, Rich is deeply motivated by the daily challenges of the job and by his ongoing goal to help make DISTRON the best in the business. He describes the company culture as “collaborative,” a word that reflects the cross-functional teamwork he believes is central to DISTRON's success.

As DISTRON continues to grow and evolve, the company is proud to celebrate the contributions of employees like Rich who help shape its future.

www.distron.com

25 YEARS | BRUCE HENDRICK



**RBB CELEBRATES BRUCE HENDRICK'S 25 YEARS
OF TRANSFORMATIONAL LEADERSHIP**

RBB proudly honors Bruce Hendrick, Owner and CEO, on his 25th anniversary with the company. Since joining RBB in 2000, Hendrick has played a pivotal role in shaping the organization into a leader in custom electronic assemblies for diverse and specialized applications.

When Hendrick stepped in during the early 2000s, RBB faced significant challenges, including a downturn triggered by the tech bubble collapse. Through decisive leadership and strategic vision, Hendrick stabilized the business and initiated a bold shift in 2007, focusing the company's efforts on complex, high-mix electronic production. His leadership not only revitalized RBB but also positioned it as a trusted partner for clients requiring flexibility, reliability, and exceptional quality.



A hallmark of Hendrick's leadership is RBB's "People First" culture, where trust, collaboration, and adaptability are foundational values. This employee-centered approach has fueled RBB's innovation and sustained its reputation for delivering precise, high-quality assemblies across multiple industries.

"Over the past 25 years, RBB has been blessed with your exceptional leadership, unwavering dedication, and a legacy of excellence," said Jeff Schartiger, RBB Operations Manager. "Your vision has not only shaped this organization but has

also inspired all who have had the privilege to work alongside you. Congratulations on this incredible milestone!"

Bruce's impact extends well beyond strategy—he has personally influenced the company's culture and people. "Bruce has continued to build and expand RBB's solid culture in his 25 years here," shared Carrie Guenther, Sales & Marketing Manager. "He has motivated us all to be better communicators, teammates, and people through his leadership, mentorship, and training. I'm thankful to be a part of this team."

Doug Rinearson, RBB Controller, echoed this sentiment: "I challenge everyone to cultivate a business acumen and culture as rich and successful as Bruce has done. Thank you for your 25 years of loyal service."

Beyond his work at RBB, Hendrick is the founder of Building Trust, LLC, and the author of *On My Own: Recollections of an Unlikely CEO* and *The Building Trust 60-Day Workout*. His contributions to leadership development reflect his passion for personal and professional growth and his commitment to building strong, trust-driven organizations.

As RBB marks this milestone, the company proudly celebrates Bruce Hendrick's 25 years of bold leadership, steadfast determination, and a vision that continues to shape RBB's future.

www.rbbsystems.com

20 YEARS | CHRISTY HILL 25 YEARS | FRANK HONYOTSKI



STI CELEBRATES CHRISTY HILL'S 20 YEARS AND FRANK HONYOTSKI'S 25 YEARS OF DEDICATED SERVICE

STI Electronics, Inc. proudly celebrated Christy Hill's 20th work anniversary and Frank Honyotski's 25th work anniversary, marking

two decades of exceptional service, loyalty, and leadership. Surrounded by fellow employees, Christy was honored with a heartfelt celebration that included a cake shared with her colleagues, a certificate presented by David Raby, President/CEO in appreciation of her 20 years of long-standing dedication, a monetary & PTO bonus, and a special tribute—a personalized parking space in recognition of her long-standing dedication.

Over the past 20 years, Christy has been an integral part of the team, contributing not only her professional talents but also her positive spirit and unwavering commitment to excellence. Her impact has been felt across the organization, and her milestone was met with sincere gratitude and admiration from colleagues and leadership alike.

"We're incredibly fortunate to have had Christy with us for the past two decades," said David Raby, President/CEO. "She embodies everything a company could hope for in an employee—dedication, teamwork, and a genuine passion for her work. This celebration is just a small token of our appreciation for all she's done."

The event served as a reminder of the value of long-term commitment and the strength of community within the workplace. Congratulations to Christy Hill on 20 remarkable years!



Since joining STI in 2000, Frank has played an integral role in developing and delivering world-class training programs. As a Master Instructor, his depth of knowledge, professionalism, and passion for quality have left a lasting impact on both students and the electronics industry at large.

"Frank is more than an instructor—he's a mentor, a leader, and a trusted expert," said David Raby, President and CEO of STI Electronics. "His commitment to excellence and continuous improvement has helped shape the success of our training programs and the careers of countless professionals in the field."

To honor this milestone, STI held a celebration at its Madison facility, where employees gathered to recognize Frank's achievements and enjoy cake shared with all of his colleagues at STI. David Raby, President/CEO, presented him with a certificate in appreciation of his 25 years of dedicated service along with a monetary gift.

Frank's 25 years of service reflect not only personal dedication but also the values that define STI Electronics: excellence, integrity, and a relentless pursuit of quality.

Please join us in congratulating Frank Honyotski on this remarkable achievement and in thanking him for his continued contributions to STI and the industry.

<https://stiusa.com>

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ICSN GROUP CELEBRATES 25 YEARS OF EXCELLENCE IN ENGINEERING AND MANUFACTURING

BY JOON LEE, OWNER, ICSN, INC.



ICSN Group was founded with a mission to provide top-tier engineering and manufacturing solutions to clients worldwide. Over the past quarter-century, the company has expanded its footprint across multiple sectors, driven by a commitment to excellence and continuous improvement. This dedication has propelled ICSN Group to the forefront of the industry, earning a reputation for reliability, innovation, and unparalleled service.

Reflecting on the company's journey, founder and owner Joon Lee stated, "Our 25-year milestone is not just a celebration of longevity but a testament to our unwavering dedication to excellence and the trust our clients have placed in us."

At the core of ICSN Group's success is its comprehensive range of engineering and manufacturing services. The company specializes in the following:

- Product Design & Development – Providing end-to-end design solutions, from concept and prototyping to final product realization.
- Electronics Manufacturing Services (EMS) – Delivering high-precision assembly for a wide range of electronic products.
- OEM & ODM Programs – Offering turnkey solutions for original equipment manufacturers and original design manufacturers, enabling customized product development.
- Mechanical Hardware Solutions – Designing and producing high-quality mechanical components for various applications.
- Precision Engineering & Fabrication – Using advanced machinery and technology to create components with tight tolerances and superior quality.

With these extensive capabilities, ICSN Group ensures that its clients receive customized solutions that meet their specific needs while maintaining the highest industry standards.

The company's ability to adapt and innovate has allowed it to serve a comprehensive range of industries. Its expertise spans across:

Consumer Electronics: High-quality circuit board assembly and electronic component manufacturing for consumer devices.

Automotive: Precision components and electronic systems used in modern vehicles.

Celebrating its 25th anniversary, ICSN Group has firmly established itself as a global leader in engineering and manufacturing solutions. Founded in 2000 by visionary entrepreneur Joon Lee, the company has evolved from a modest enterprise into a multifaceted organization that serves diverse industries with a steadfast commitment to innovation, quality, and customer satisfaction. With its headquarters in Corona, California, and strategically located manufacturing facilities in Vietnam and Korea, ICSN Group delivers world-class solutions tailored to the evolving needs of its clients.





Industrial Equipment: Providing durable, high-performance parts and systems for industrial machinery.

Telecommunications: Supporting the infrastructure of the rapidly growing telecommunications sector.

Banking & Finance: Delivering specialized hardware and technology solutions tailored for financial institutions.

This diversity in industry coverage is a testament to ICSN Group's ability to stay ahead of market trends and deliver solutions that drive success for its clients.

ICSN Group's global presence is a key factor in its success. The company operates manufacturing facilities in Vietnam and Korea, which are strategically positioned to meet the demands of a competitive global market.

Vietnam Facilities:

SMT House 1: Eight production lines and two wave soldering lines

SMT House 2: Four SMT production lines

These state-of-the-art facilities are equipped with advanced SMT and wave soldering capabilities, ensuring high-quality, high-volume production of electronic components.

Korea Facility:

The Korean facility further strengthens ICSN Group's manufacturing capabilities, offering additional resources and support to meet diverse client needs. With these strategically located facilities, ICSN Group ensures competitive lead times, cost-effective solutions, and superior product quality.

Quality is at the heart of ICSN Group's operations. The company adheres to rigorous quality control measures throughout every stage of production, from design to delivery. With a focus on continuous improvement, ICSN Group maintains strict compliance with industry certifications and standards, ensuring that every product meets or exceeds customer expectations.

Lee emphasized, "Quality has always been at the core of our business. It is our commitment to excellence that has earned us the trust of our clients over the past 25 years."

ICSN Group places strong emphasis on building long-term partnerships with its clients. The company's collaborative

approach ensures that each client receives tailored solutions that align with their unique requirements. By maintaining transparency, flexibility, and responsiveness, ICSN Group continues to foster trust and loyalty among its growing customer base.



As ICSN Group marks its 25th year in business, the company remains focused on future growth, technological advancements, and expansion into emerging markets. With a commitment to innovation and an unwavering focus on quality, ICSN Group is poised to continue its legacy as a trusted partner in the global manufacturing industry.

In reflecting on the future, Lee remarked, "While we have achieved a great deal over the past 25 years, we are always looking ahead. Our goal is to continuously innovate and serve our clients better, ensuring that ICSN Group remains an industry leader for years to come."

ICSN Group's 25-year legacy is a testament to its commitment to excellence, innovation, and customer satisfaction. With a robust global infrastructure, a diverse range of services, and an unwavering focus on quality, the company is well-positioned to navigate the challenges of the future and continue delivering world-class solutions to clients worldwide.

www.icsngroup.com

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HOW I.C.T BUILDS CUSTOMER SUCCESS THROUGH SERVICE

BY SHANNY TRUE, GLOBAL SALES AND MARKETING DIRECTOR, DONGGUAN ICT TECHNOLOGY CO.,LTD.



In the realm of SMT and DIP solutions, I.C.T has steadily distinguished itself not only through its advanced technology and customized production lines, but also through an unwavering commitment to customer service and localized support. For I.C.T, selling a machine is only the beginning—the real value lies in what comes after.

Under the leadership of CEO Henry Wang, the company has developed a customer-first service strategy that integrates engineering expertise with global responsiveness. Whether the client is based in Southeast Asia, Europe, or North America, I.C.T ensures they receive the same level of care and technical reliability.

A COMMITMENT TO QUALITY AND SERVICE

A recent project for a beauty electronics consumer product manufacturer in North America underscores this commitment. The entire two SMT production lines and one DIP line successfully passed the customer's rigorous Factory Acceptance Testing (FAT) before shipment. During FAT, I.C.T not only verified equipment functionality but also supported trial production, yield analysis, throughput evaluation, and CPK testing for each key machine—ensuring that performance met the highest standards.

"Our goal has always been to make high-tech manufacturing easier, faster, and more reliable for our clients. That means being present—not just at the beginning, but every step of the way," Henry explains.

END-TO-END SUPPORT: FROM INSTALLATION TO ONGOING ASSISTANCE

The project exemplifies I.C.T's dedication to operational excellence. Every machine shipped is backed by a detailed plan for installation, commissioning, training, and ongoing support. For full-line projects, I.C.T assigns experienced engineers who travel on-site to assist the customer from day one of setup through to the early phases of mass production. These engineers don't just install equipment—they transfer knowledge, optimize efficiency, and help build long-term manufacturing capability.

Beyond physical support, I.C.T offers 24/7 remote assistance, ensuring that any issues encountered during operation are addressed swiftly. This multi-layered service framework allows customers to focus on scaling their production, confident in the technical partnership that I.C.T provides.

Henry highlights, "Our team is always ready to travel globally, but our support starts long before that—through detailed planning, testing, and ongoing communication. Our customers appreciate not only the technology but also the people behind it."

GLOBAL REACH WITH A LOCALIZED TOUCH

This proactive, localized approach is key to I.C.T's reputation. From North America to Southeast Asia, customers value the personalized attention and technical expertise that I.C.T offers, reinforcing the company's position as a trusted partner in the global manufacturing landscape.

With a service model that blends technical excellence with global reach, I.C.T ensures that every customer feels supported—every step of the way.

www.smtfactory.com



Your Reliable Dearest Partner

As an electronic equipment solution provider, I.C.T is a highly influential partner in the global electronics manufacturing sector, providing entire factory equipment solutions across the whole value chain.

We have more than 25 years experience in electronics manufacturing, providing customers demand analysis, program planning, production equipment, training services, production operations, process optimization, process adjustment and other related plant operation elements, covering manufacturing process in Semiconductor, PCBA, SMT, DIP, Coating, Robot, Assembly and others.

I.C.T provides one-stop solutions and helps customers at different stages to build, upgrade, optimize and adjust their manufacturing systems from 0 to 1. By supporting more than 1600 customers from 72 countries, we have accumulated rich experience in technical strength, environmental adaptation, customer trust, industrial insight and other aspects. I.C.T dedicates to become a cross-value platform for the global electronics manufacturing industry continuously.

Overall 0-1 SMT Machine Solution For Whole Factory

SMT Line



DIP Line



Coating Line



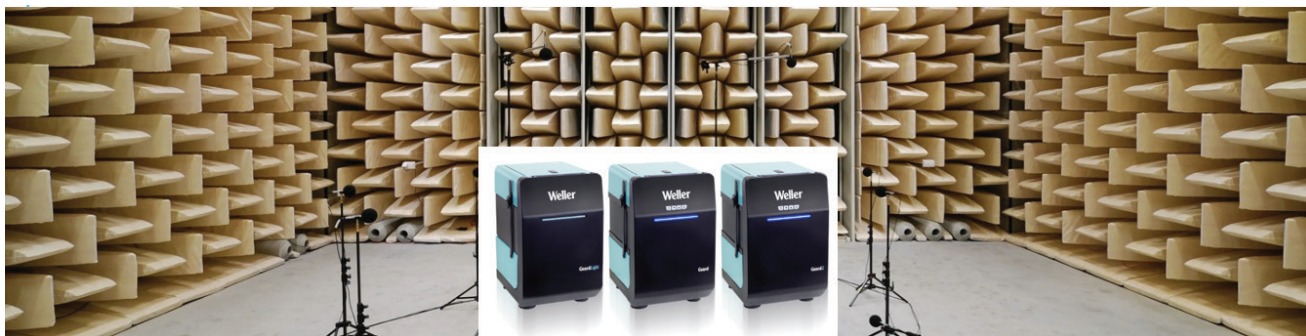
Agent Partner Wanted.
Welcome to Contact Us!

More Cases:



Smart Factory | Overall Solution | Semiconductor | SMT | THT | Coating | Assembly | Robot

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SOUND MEASUREMENT OF FUME EXTRACTORS

BY GERALD GARDENER,
GLOBAL PRODUCT MANAGER,
WELLER TOOLS GMBH

Weller®



Fume extractors are essential tools in environments where harmful airborne particles and vapors must be removed to protect users and maintain air quality. They are commonly used in electronics manufacturing, laboratories, dental clinics, soldering stations, and light industrial applications. While filtration efficiency and safety standards are key performance metrics, another crucial factor is often underestimated: noise.

Low noise levels are vital in professional workspaces where concentration and communication are critical. Excessive noise can lead to fatigue, stress, and reduced productivity. For users working long hours next to fume extractors, quieter operation contributes directly to well-being and comfort.

UNDERSTANDING DB AND DBA

Sound is measured in decibels (dB), which quantify sound pressure levels. However, not all frequencies are perceived equally by the human ear. To account for this, the dBA (A-weighted decibel) scale adjusts measurements to reflect the audible spectrum more accurately — emphasizing frequencies humans hear best (around 2,000 to 5,000 Hz) and de-emphasizing very low and high frequencies.

THE LOGARITHMIC NATURE OF DBA

The dBA scale is logarithmic, meaning every 10 dB increase represents a tenfold increase in perceived sound intensity. For example:

- 50 dBA is 10 times louder than 40 dBA.
- If two identical sound sources are running simultaneously, the combined sound level increases by approximately 3 dB.

Therefore, combining two 50 dBA sources will result in 53 dBA, not 100 dBA. This principle becomes important when multiple units operate in the same room.

SOUND POWER (LW) VS. SOUND PRESSURE (LpA)

Sound power level (Lw) represents the total energy emitted by a source and is independent of distance. Conversely, sound pressure level (LpA) is what is actually measured at a specific location, typically 1 meter from the source.

When sound disperses uniformly in all directions (spherical propagation), its intensity diminishes with distance. The inverse square law states that for every doubling of distance, the sound pressure level drops by 6 dB.

Example: If a source has an L_{pA} of 60 dBA at 1 meter, at 2 meters it will measure approximately 54 dBA:

$$L_{pA}(2m) = L_{pA}(1m) - 6 = 60 \text{ dBA} - 6 = 54 \text{ dBA}$$

CERTIFIED TESTING AND STANDARDS

Our New Guard series units were tested in a certified acoustic laboratory in accordance with:

- DIN EN 60335-1: Safety of household and similar electrical appliances.
- DIN EN ISO 3744: Determination of sound power using sound pressure in free-field over a reflecting plane.
- DIN EN ISO 11201: Measurement of noise emitted by machinery at the operator position.
- DIN EN ISO 7779: Acoustics measurement for office equipment.

These standards ensure that measurements are reliable, reproducible, and representative of real-world conditions.

SOUND TESTING ENVIRONMENT

The acoustic testing lab features an anechoic chamber designed to minimize reflections. It includes multiple calibrated microphones (typically 6 to 12) positioned in a hemispherical or cuboidal configuration around the device under test. The chamber is also equipped with vibration isolation and background noise controls to ensure accuracy.

MEASUREMENT RESULTS

The certified results for our New Guard series:

- ZeroSmog Guard Light: 44.1 dBA
- ZeroSmog Guard: 47.9 dBA
- ZeroSmog Guard 2: 52.7 dBA

NOISE LEVEL COMPARISONS

- 44 dBA is comparable to a quiet library.
- 48 dBA is similar to light rainfall.
- 53 dBA resembles a quiet conversation at home.

COMPETITOR COMPARISON

- Competitor A: 61.1 dBA
- Competitor B: 58.5 dBA



Noise is not just a comfort factor: it's a performance differentiator in the design of fume extractors. Our New Guard line not only meets international safety and performance standards but sets new benchmarks in acoustic comfort.

To match the sound level of one Competitor A unit (61.1 dBA), you could run nearly 5 Guard 2 units simultaneously:

$$52.7 + 10 \log_{10}(5) \approx 52.7 + 7 = 59.7 \text{ dBA}$$

Still quieter than a single Competitor A.

This demonstrates the efficiency of our design — lower sound means more units can be used without dramatically increasing background noise.

IMPACT OF ACCESSORIES ON NOISE

Accessories like hoses, extraction arms, shut-off valves, and funnels can increase the perceived noise by introducing turbulence or amplifying vibrations. Proper selection, such as flexible, sound-dampening hoses and aerodynamic nozzles, can significantly reduce this effect.

CONCLUSION

Noise is not just a comfort factor: it's a performance differentiator in the design of fume extractors. Our New Guard line not only meets international safety and performance standards but sets new benchmarks in acoustic comfort. In workspaces where every decibel counts, choosing quieter equipment improves health, communication, and productivity.

www.weller-tools.com



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DISTRON CORPORATION: PROVIDING EXCELLENCE IN ELECTRONIC MANUFACTURING SERVICES

BY KIM MURPHY,
VP OF SALES AND MARKETING,
DISTRON CORPORATION



DISTRON CORPORATION, based in North Attleborough, Massachusetts, has been a trusted name in electronic contract manufacturing since 1970. Founded by Bob Donovan, the company started as one of New England's earliest EMS providers and has grown into a high-reliability manufacturing partner known for its precision, flexibility, and exceptional customer service. Today, the company is led by Rob Donovan, continuing the legacy with a focus on innovation, scalability, and strategic customer alignment.

DISTRON CORPORATION offers a comprehensive range of electronic manufacturing services (EMS), making it a one-stop-shop for OEMs seeking a dependable partner throughout the product lifecycle. The company's core capabilities include:

- **New Product Introduction (NPI):** With a dedicated team and rapid prototyping services, DISTRON CORPORATION helps clients bring new products to market efficiently. Its engineers assist with early-stage manufacturability feedback to ensure seamless transitions from concept to production.
- **PCB Assembly:** DISTRON CORPORATION supports both Surface Mount Technology (SMT) and through-hole assembly. Its equipment enables precise, high-speed placement with fast setup and flexibility, accommodating both complex and low- to medium-volume production.
- **Box Build & System Integration:** The company excels in complex electromechanical assemblies, offering full system integration capabilities. From cable harnessing to mechanical enclosures, DISTRON CORPORATION ensures products meet IPC and ISO standards.
- **Inspection & Testing:** With capabilities that include automated optical inspection (AOI), in-circuit testing (ICT), and X-ray inspection, DISTRON CORPORATION designs product-specific test protocols to guarantee performance and reliability.
- **Warehousing & Fulfillment:** DISTRON CORPORATION provides integrated storage, logistics, and shipping services, allowing customers to scale without infrastructure challenges. Its fulfillment services are tailored to high-mix, low- to medium-volume environments, reducing lead times and streamlining inventory flow.

“

Each sector benefits from DISTRON CORPORATION's high-touch, customer-focused approach and its deep understanding of industry-specific standards... Quality is not just a department at DISTRON CORPORATION: it is embedded into every process and decision.





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- **Supply Chain Solutions:** Understanding the volatility of global markets, the company uses a predictive and proactive approach to manage procurement and component sourcing. Its long-term supplier relationships help mitigate shortages and reduce risk for clients.

DISTRON CORPORATION supports a diverse array of industries, each with unique challenges and regulatory demands:

Medical Devices: The company manufactures assemblies used in FDA-regulated devices, ensuring traceability, documentation, and compliance with ISO 13485 standards.

Industrial Equipment: Clients in environmental monitoring, power conversion, and automation trust DISTRON CORPORATION's robust quality systems and engineering expertise.

Robotics: With the rise of automation, DISTRON CORPORATION provides assemblies for robotic systems used in everything from healthcare to manufacturing.

Military and Defense: As an ITAR-registered manufacturer, DISTRON CORPORATION meets the exacting demands of the defense industry, producing components for secure and mission-critical applications.

Clean Tech and LED Lighting: DISTRON CORPORATION supports high-efficiency lighting systems and green energy technologies, offering binning and matching capabilities crucial to these applications.

Each sector benefits from DISTRON CORPORATION's high-touch, customer-focused approach and its deep understanding of industry-specific standards.

Quality is not just a department at DISTRON CORPORATION: it is embedded into every process and decision. The company's certifications include ISO 9001 and ISO 13485, which govern both general and medical device manufacturing. DISTRON

CORPORATION also adheres to ANSI/ESD S20.20 and IPC-A-610 Class II and III workmanship standards. The company's counterfeit parts prevention program is aligned with AS5553, reflecting a strong commitment to material authenticity and reliability.

President Rob Donovan highlights the role of technology in quality assurance, "The solutions provided by Aegis have given us significant traceability and visibility into our operations – two things that are non-negotiable in today's high-reliability markets."

DISTRON CORPORATION leverages software platforms to collect and analyze data throughout the manufacturing process, ensuring high first-pass yields and continuous improvement. This approach not only reduces rework but also builds customer confidence.

DISTRON CORPORATION operates out of a 50,000 sq ft facility equipped with modern manufacturing and inspection technology. Recent capital investments include a \$1 million headquarters renovation and a \$250,000 equipment upgrade – clear signals of the company's commitment to growth and customer satisfaction.

From state-of-the-art SMT lines to automated inspection systems, DISTRON CORPORATION's infrastructure is designed for flexibility, speed, and accuracy. The facility is also designed



The solutions provided by Aegis have given us significant traceability and visibility into our operations – two things that are non-negotiable in today's high-reliability markets.



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with lean principles in mind, reducing waste and maximizing throughput.

One of DISTRON CORPORATION's key differentiators is its balance of Tier 1 capabilities with the personalized service typical of a smaller company. Its team prides itself on being accessible, responsive, and solution-oriented.

Customers echo this sentiment. "Whenever I need something, they just make it happen. That's why I call DISTRON CORPORATION a partner, not a vendor," said one director of operations in the LED lighting industry. Another medical device client shared, "I don't even look for other vendors. I just go to DISTRON CORPORATION."

According to Donovan, this high-touch approach is intentional. He added, "We want our customers to feel that we're an extension of their team, not just a manufacturer, but a strategic partner."

This philosophy is reflected in how DISTRON CORPORATION organizes its internal teams. Cross-functional communication between sales, engineering, and operations ensures that customer needs are met quickly and holistically. It is also why so many clients, especially those in regulated or fast-evolving markets, stay with DISTRON CORPORATION for the long term.



One of DISTRON CORPORATION's key differentiators is its balance of Tier 1 capabilities with the personalized service typical of a smaller company. Its team prides itself on being accessible, responsive, and solution-oriented.

As the EMS landscape continues to evolve, DISTRON CORPORATION is strategically placed to grow alongside its customers. Investments in automation, digital traceability, and strategic supply chain management are helping clients navigate a complex global environment.

By maintaining the agility of a responsive service provider with the depth and capability of a larger manufacturer, DISTRON CORPORATION is uniquely positioned for continued success in the EMS industry.

www.distron.com



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TECHNOLOGY



NEW CLEANING TECHNOLOGY

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T-8

Variable Speed Chem Wash/Iso Module

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Step into the future with the most advanced, flexible circuit cleaning system in the world. The **TYPHOON** series modular inline cleaner is designed to tackle the simplest or the most demanding cleaning applications efficiently and effectively.

Why Choose a MODULAR INLINE CLEANER?

UNMATCHED CLEANING PERFORMANCE – Independent conveyor speed in each module allows for a slower speed in the wash for extended contact time and faster speed in the rinsing and drying module.

ZERO-DISCHARGE – Manage chemical and DI separately and efficiently.

LOWER OPERATING COSTS – Better chemical isolation saves chemistry and prolongs bed life.

LOWER EQUIPMENT COST – Buy only the modules you need now. Add more later if needed.

FASTER RINSING AND DRYING – The independent conveyor speed selection allows the most efficient rinsing and drying speeds.

Our Story – In January 2024, Austin American Technology and Aqua Klean Systems combined 63 years of cleaner design and manufacturing experience to offer the best and most complete line of circuit cleaning equipment and service in the world, effectively creating the “A” team in circuit cleaning

Ready to revolutionize your cleaning process?

Visit us online at aat-corp.com to learn more about our modular inline cleaners, batch and stencil cleaners. Don't just clean – clean smarter.



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ROBOTAS PROVIDES COST-EFFECTIVE SOLUTION TO AGING AXIAL, RADIAL, AND DIP INSERTION MACHINES

BY GEORGINA BLACKWELL,
PRODUCT DESIGN & MARKETING
ENGINEER, ROBOTAS
TECHNOLOGIES LTD.



For decades, automated axial, radial, and dual in-line package (DIP) insertion machines have been a staple in electronics manufacturing, effectively streamlining the through-hole technology (THT) assembly process. These machines provide fast turnaround times and high precision, making them invaluable for large-scale production. However, as these systems age, manufacturers increasingly face significant challenges in keeping them operational. High maintenance costs, difficulty in sourcing spare parts, and the impracticality of running these machines for small production runs have led numerous facilities to reduce their use of them or even abandon them completely.

Robotas' Mascot Systems present a highly effective, cost-efficient alternative to aging axial, radial, and DIP insertion machines. By offering a streamlined, semiautomated approach that delivers the same precision and reliability as traditional insertion equipment – at a fraction of the cost – Robotas provides manufacturers with a viable solution to sustain their THT operations.

Many electronics manufacturers still rely on their aging axial, radial, and DIP insertion machines, but maintaining these systems has become increasingly difficult. Key challenges include:

- **Obsolete and Expensive Spare Parts:** With original manufacturers discontinuing support for older models, spare parts have become scarce and costly. Sourcing necessary components often leads to extended downtimes and operational inefficiencies.
- **High Maintenance Demands:** Keeping aging equipment operational requires frequent servicing, calibration, and troubleshooting. Many companies find that their insertion machines are only operational intermittently – sometimes just once or twice a week – due to these maintenance demands.
- **Limited Justification for High Investment Costs:** While high-volume manufacturers may still benefit from traditional insertion machines, companies with lower production volumes struggle to justify the expense of replacing outdated equipment with new, fully automated systems.



Universal 88HT Machine
Photo Credit of Universal Instruments

These limitations have forced companies to either scale back their THT production or seek alternative solutions that provide the same quality and efficiency without the financial strain.

For manufacturers looking to maintain high-quality THT assembly without the excessive costs associated with aging insertion machines, Robotas' Mascot Systems provide an ideal and up to date alternative. Designed to optimize manual and semiautomated insertion processes, Mascot Systems offer a lower investment cost while ensuring precision, reliability, and ease of use. Key features include:

1. **Enhanced Component Placement Accuracy:** Robotas' Mascot Clinch Conveyor streamlines the THT assembly of PCBs using an electrostatic discharge (ESD)-safe, SMEMA-controlled motorized conveyor. The integrated clinch technology allows component leads to be bent in any direction (360°) and at various angles (from 35° to 85°), ensuring secure placement and preventing component dislodgement during the wave soldering process.
2. **Optimized Operator Guidance:** Robotas' Carousels and Dynamic Pick-to-Light Arrays automatically present required components to the operator at every step of the assembly process. The Mascot software and laser guides operators on polarity and placement, reducing errors and improving efficiency.
3. **Reduced Setup Time and Improved Flexibility:** Traditional axial and radial insertion machines require extensive setup for each PCB assembly, making them cost-effective only for large production volumes. Mascot Systems eliminate these lengthy setup times, allowing for quick changeovers and making them ideal for manufacturers with varied and low-to-medium production volumes.
4. **Automated Verification for Error Prevention:** The new Mascot Verify Camera Module captures images to verify component presence, absence, and polarity before soldering, virtually eliminating human error and reducing rework costs.



Robotas Technologies Mascot Clinch Conveyor

5. **Up to Date, Dynamic Solutions:** Robotas' Mascot systems run on up-to-date Windows 11 Pro Operating systems. Mascot Spare Parts are also readily available, making system maintenance easy and accessible for manufacturers all around the world.



By offering a streamlined, semiautomated approach that delivers the same precision and reliability as traditional insertion equipment – at a fraction of the cost – Robotas provides manufacturers with a viable solution to sustain their THT operations.

While automated insertion machines are known for their precision and speed, their high investment costs, long setup times, and maintenance challenges make them impractical for many manufacturers. Robotas' Mascot Systems provide a positive alternative by delivering the same high-quality results at a significantly lower cost. Key benefits include:

- **Lower Capital Investment:** Unlike fully automated insertion machines, which require substantial financial outlays, Mascot Systems offer a cost-effective way to maintain THT assembly operations.
- **Reduced Maintenance and Downtime:** With fewer mechanical components and simpler operational requirements, Mascot Systems minimize downtime and maintenance costs.
- **Increased Flexibility for Small Production Runs:** Companies that need to produce smaller batches of axial and radial insertion tasks can continue operations efficiently without justifying the expense of high-volume equipment.
- **Efficiency:** The intuitive, guided component placement process ensures accuracy and speed without the need for extensive training.

CONCLUSION

As aging axial, radial, and DIP insertion machines become more costly and difficult to maintain, manufacturers need an alternative that offers the same precision and efficiency without the high investment and upkeep expenses. Robotas' Mascot Systems provide a streamlined, flexible, and cost-effective solution, ensuring manufacturers can continue producing high-quality THT assemblies without having to use obsolete equipment. By leveraging advanced operator guidance, automated verification, and optimized component placement, Mascot Systems deliver a modern approach to insertion processes – helping manufacturers stay competitive while keeping costs under control.

www.robotas.com

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STI ELECTRONICS MARKS HISTORIC MILESTONE: ONE MILLION NIGHT VISION GOGGLE POWER SUPPLIES DELIVERED THROUGH L3HARRIS

BY DAVID RABY, PRESIDENT/CEO,
STI ELECTRONICS, INC



In a remarkable achievement that underscores the strength of American manufacturing and the importance of reliable defense supply chains, STI Electronics, Inc. has reached a new pinnacle: the production and delivery of its one-millionth night vision goggle power supply. Delivered via long-time partner L3Harris Technologies, this milestone reflects STI's steadfast commitment to quality, innovation, and national security.



Founded in 1982, STI Electronics is a multifaceted company based in Madison, AL. It provides a unique combination of services, including training, analytical and failure analysis, prototyping, and contract electronics manufacturing. Over the years, the company has grown to become a trusted supplier to defense, medical and industrial markets. This latest milestone – one million power supply units supporting night vision systems – cements its role as a critical player in the defense manufacturing ecosystem.

To mark this significant milestone, STI hosted a celebratory event at its Madison headquarters in April. The occasion brought together employees, company leadership, and community and industry dignitaries, including Congressman Dale Strong, Madison Mayor Paul Finley, and representatives from the Huntsville/Madison County Chamber. Executives and staff from L3Harris Technologies also attended, highlighting the collaborative nature of the accomplishment.

"This achievement speaks volumes about the skill and passion of our team," said STI President and CEO David Raby during the event. "Reaching one million units isn't just a number, it represents real-world impact. Our products help protect those who serve, and we take that responsibility seriously every single day."

Both Congressman Strong and Mayor Finley addressed the crowd, praising STI's commitment to innovation and its contribution to the local economy and national defense. "This milestone is not only a win for STI but also a win for Madison, for Alabama, and for every soldier who relies on this technology in the field," Strong said.



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Night vision goggles are essential tools for military personnel operating in low-light or high-risk environments. These systems enhance situational awareness, improve mission effectiveness, and increase safety during nighttime operations. At the heart of each unit is a power supply – small, precise, and engineered to perform under extreme conditions.

STI's power supplies are known for their ruggedness, reliability, and performance. Every unit delivered through

L3Harris supports a service member, law enforcement officer, or security professional operating in high-stakes conditions. This mission-driven focus is what motivates STI's workforce and leadership.

The night vision goggle program, in particular, has spanned several years of continuous production. Through process refinement, rigorous testing, and close communication with L3Harris, STI has built a reputation for excellence in the



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This milestone is not only a win for STI but also a win for Madison, for Alabama, and for every soldier who relies on this technology in the field.

L3Harris Technologies, a global aerospace and defense technology leader, plays a critical role in delivering these night vision systems to customers worldwide. As a long-standing STI customer and collaborator, L3Harris depends on STI's consistency and commitment to quality. This enduring partnership has been instrumental in achieving the million-unit milestone.

What sets STI apart in the competitive electronics manufacturing sector is its vertically integrated approach. The company not only manufactures electronic assemblies but also provides engineering support, analytical lab services, and technical training. This holistic offering allows STI to maintain stringent quality standards while remaining agile and innovative.

manufacturing of mission-critical hardware. This reputation is further reinforced by numerous industry certifications and a strong focus on workforce development.

“Our people are our greatest asset,” said Raby. “From our engineers to our production floor staff, every employee understands the importance of what we do. That sense of purpose drives us to deliver our best, every time.”

LOCAL IMPACT, GLOBAL REACH

While the implications of STI's work are global, the benefits are deeply felt in Madison and the surrounding region. The company has been a stable and growing presence in the community for



TEAM sti

electronics



technology today

over four decades, offering high-quality jobs, investing in local talent, and contributing to the regional economy.

Mayor Paul Finley emphasized this community connection during the event, stating, "STI represents the very best of what Madison has to offer: innovation, resilience, and a strong commitment to both our local community and our nation's defense."

The company's growth has also aligned with North Alabama's emergence as a hub for aerospace and defense innovation. Located near Redstone Arsenal and surrounded by numerous defense contractors and suppliers, STI is well positioned to continue scaling its operations and expanding its impact.

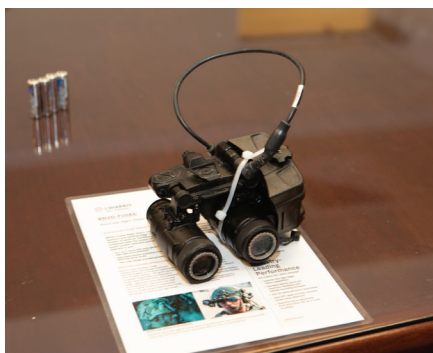
As STI Electronics celebrates this historic moment, the company remains focused on the future. With global security challenges continuing to evolve, the demand for advanced, reliable tactical technologies is expected to remain strong. STI is already

preparing for the next chapter, investing in equipment, training, and process improvements that will sustain and enhance its manufacturing capabilities.

"The one millionth unit is a proud moment, but it's also just the beginning," said Raby. "We're looking ahead to the next million – and beyond. Our goal is to keep delivering excellence, supporting our partners, and protecting those who serve."

In an industry where performance can mean the difference between mission success and failure, STI's commitment to quality and reliability stands as a benchmark. Through its partnership with L3Harris and its deeply rooted values, STI continues to demonstrate that American manufacturing is not only alive and well but indispensable.

www.stiusa.com





Experience AI-Driven Precision:

PEMTRON's Revolutionary Inspection Solutions Are Here!

PEMTRON offers the future of electronics inspection powered by AI. From defect detection to data optimization, PEMTRON's advanced technologies are tailored to meet the needs of today's fast-paced, high-quality production environments.



ATHENA TPI

Tall Part Inspection System:

- ▶ AI-driven algorithms ensure precise dimensional inspections.
- ▶ Ideal for press-fit connectors, shielding cases, and complex components.

ATHENA

3D AOI System:

- ▶ 12-way projection for minimized shadow errors.
- ▶ Simultaneous 2D and 3D inspection, delivering unmatched accuracy.

TWIN

Top & Bottom Double-Sided 3D AOI System:

- ▶ Inspects both sides simultaneously, revolutionizing double-sided AOI processes.
- ▶ Enhanced 3D imaging for accurate defect detection.

SATURN

3D Inline SPI System:

- ▶ Moire technology for detailed solder paste inspection.
- ▶ Quad projection with high-resolution cameras for precise solder analysis.

TROI-8800CIL

Conformal Coating Inspection System:

- ▶ AI-powered defect detection for coating cracks, voids, and thickness irregularities.
- ▶ Inline thickness measurement for real-time quality control.

MERCURY

Automated X-Ray SMD Counter:

- ▶ Real-time, AI-powered component counting with seamless ERP integration.
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Why PEMTRON?

- ▶ AI-Powered Precision: Increased accuracy and decision-making at every stage.
- ▶ Efficiency Boost: Speed up inspections without sacrificing quality.
- ▶ Complete Coverage: Solutions for SPI, AOI, TPI, X-ray, and more.

Visit www.pemtron.com to see how AI is transforming inspection technology and learn why PEMTRON is the industry's trusted partner for high-reliability manufacturing.



technology today

WHEN “HIGH-MIX, LOW-VOLUME” IS NOT ENOUGH

BY BRUCE HENDRICK, OWNER,
RBB AND BUILDING TRUST, LLC



In the electronics manufacturing services (EMS) industry, the term high-mix, low-volume (HMLV) describes contract manufacturers (CMs) or original equipment manufacturers (OEMs) that frequently switch production between various assemblies and processes. Unlike their low-mix, high-volume (LMHV) counterparts, HMLV operations are known for their agility and adaptability. These shops can transition between different assemblies within hours or even minutes and often do so multiple times within the same day or week. LMHV operations, on the other hand, focus on long production runs that may last weeks or months, catering to large-scale manufacturing needs. Both business models play critical roles in the electronics industry, but for some clients, these traditional approaches may fall short.

For growing companies that face unpredictable demand but still require fast and flexible production solutions, RBB offers a unique alternative. Positioned as a high-mix, low-volume operation “on steroids,” RBB specializes in handling complexity and uncertainty. Each year, the company builds hundreds of unique assemblies and often introduces multiple new ones in a single week. Unlike traditional HMLV shops, RBB rarely produces batches large enough to fill an entire production shift. Instead, they “swarm to the need,” reallocating their workforce to ensure smooth operations regardless of order size or urgency.

RBB thrives in an environment where market uncertainties, rush orders, expedited requests, and project pushouts are the norm. This capability has earned the company recognition from Circuit Assembly Magazine, which awarded RBB the Technology (2022), Best Overall (2023),

CATEGORIES OF ELECTRONIC CONTRACT MANUFACTURERS			
Criteria or Element	Low-Mix, High-Volume (LMHV)	High-Mix, Low-Volume (HMLV)	RBB
Best Client	Few assemblies, high growth	Multiple assemblies, repeating demand	Multiple assemblies, flexible demand
Operational Bottleneck	Equipment speed	Level/cost of cross-training	Changeover speed
We're more profitable with...	Fewer changeovers	More predictable scheduling	The more jobs we get to juggle
Deliverables Order	Quality, Price, Reliability, Lead Time	Quality, Reliability, Price, Lead Time	Quality, Lead Time, Reliability, Price
Minimum batch size	Large minimum	Smallest economical	1 Unit
Maximum batch size	Will add capacity to accommodate	Limited by impact on other clients	Limited by impact on other clients
Occasional demand for...	Small batches; clients may wait	Large batches; clients may wait	Large batches; get split into multiple jobs
Sales Philosophy	Full service provider for larger clients	Full service provider for smaller clients	Swarm to the need, regardless of client size
Operations Philosophy	"Keep it running"	"What's due this month?"	"Today's plan is..."

and Responsiveness (2024) Awards for its company size for the past three years. This commitment to responsiveness and flexibility has positioned RBB as a trusted partner for clients with highly variable or unpredictable production needs.

BEYOND TRADITIONAL HMLV

What sets RBB apart from other HMLV operations is its growth strategy. Many traditional HMLV shops aim to transition into LMHV operations or to be acquired by larger manufacturers. Their focus is often on scaling up production and attracting high-volume clients, which can lead to a shift away from the high-service, high-flexibility model that initially defined them. RBB, however, takes a different approach. Rather than seeking to outgrow its HMLV roots, the company pursues growth by serving an increasing number of clients and handling a broader range of assemblies, regardless of batch size. This approach ensures that RBB remains a valuable resource for companies at all stages of growth, particularly those working through early-stage production challenges or entering new markets.

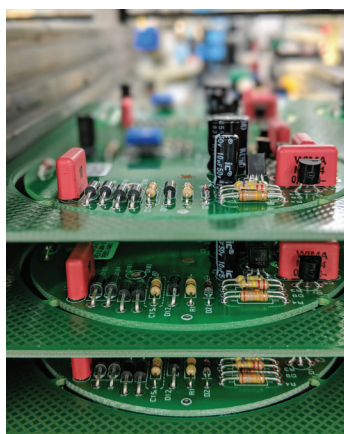
Many OEM clients and emerging applications lack a clear roadmap for scaling to high-volume production. For these organizations, RBB provides a critical bridge. By offering highly responsive and flexible manufacturing services, RBB supports clients until they reach the high-volume tipping point. This unique positioning enables OEMs to focus on innovation and market development while RBB manages the complexities of LVHM production.

THE INDUSTRY ECOSYSTEM

This market dynamic benefits all parties within the electronics manufacturing ecosystem. OEMs have access to specialized CMs that cater to their unique needs, whether those involve HMLV, or high-volume production. RBB's dedication ensures that smaller clients receive the attention and support they need, allowing them to grow without the pressure of scaling to high-volume production

too quickly. Meanwhile, traditional HMLV firms can build their customer bases and transition into higher-volume operations as their clients' needs evolve. Finally, LMHV manufacturers can focus on their strengths, confident that smaller clients are well-served by other industry players.

The result is a well-rounded ecosystem where every type of client and manufacturer can find the right fit. By sticking to its HMLV expertise, RBB continues to refine its processes and deliver exceptional value to clients. This specialization not only benefits RBB's immediate customers but also strengthens the industry by ensuring that every stage of the manufacturing lifecycle is supported.



A CULTURE OF RESPONSIVENESS

At the heart of RBB's success is its ability to adapt quickly to client needs. This adaptability extends beyond production processes to encompass workforce management and customer service. RBB's employees can pivot seamlessly between tasks, allowing the company to respond to shifting priorities without compromising quality or efficiency. This culture of responsiveness is a key differentiator in an industry where delays and lack of flexibility can be costly.

Additionally, RBB's emphasis on flexibility and client satisfaction has resulted in long-term partnerships with a diverse range of customers. From startups to established enterprises, clients trust RBB to handle their most challenging projects with precision and care. This trust

is reflected in the company's awards and accolades, which underscore its commitment to excellence. By prioritizing flexibility, responsiveness, and client satisfaction, RBB serves a critical need within the electronics manufacturing industry. For OEMs navigating uncertainty and seeking a trusted partner, RBB offers not just a service, but a strategic advantage.

www.RBBSystems.com

industry news

HOT OFF THE PRESS

CONNECT GROUP

CONNECT GROUP EXPANDS GLOBAL FOOTPRINT WITH NEW MANUFACTURING PLANT IN THE USA

Connect Group, a leading provider of electronic manufacturing services (EMS), has announced the formation of Connect Group USA INC., headquartered in Atlanta, Georgia. This strategic expansion marks a significant milestone in the company's global growth and reinforces its commitment to serving the Americas with enhanced capabilities and proximity.



Strategic Expansion to Meet Market Demand

The establishment of the new U.S. entity is driven by growing customer demand for American-made products and the need for localized, responsive manufacturing solutions. Connect Group USA will specialize in Assembly & Module Building and After-Sales Services, supported by core functions in Sales, Test Development, Production Center Operations, and a Customer Focus Center.

The new facility is scheduled to be fully operational by Q4 2025.

"This expansion reflects Connect Group's commitment to bringing services closer to its clients and to supporting the increasing demand for products made in America," said Jeroen Tuik, CEO at Connect Group.

Georgia Chosen for Strategic Advantages

The state of Georgia was selected as the base for this expansion due to its strong infrastructure, skilled labour pool, and excellent access to key transportation networks. These factors will enhance the operational agility and efficiency of Connect Group's U.S. operations.

The new plant will maintain the operational flexibility seen across Connect Group's global sites, enabling rapid adaptation to market shifts and customer requirements.

Benefits for Clients in the Americas

Connect Group USA is positioned to deliver substantial value to clients through:

- **Reduced Tariffs and Duties:** U.S.-based assembly helps mitigate import-related costs.
- **Faster Delivery:** Domestic manufacturing allows shorter lead times for American customers.
- **Cost Optimization:** Where applicable, a hybrid approach utilizing Mexico's cost-effective PCBA manufacturing alongside U.S.-based final assembly may serve as a strategic solution to optimize both costs and compliance with local regulations.
- **Enhanced Market Access:** Products made in the USA carry significant value across a range of industries.

A Reliable Partner for Complex Manufacturing Needs

Through this expansion, Connect Group reinforces its role as a trusted EMS partner for businesses operating in regulated or technically demanding markets. Its end-to-end capabilities—from design and PCB assembly to system integration and after-sales services—allow it to adapt to varied customer requirements with speed and precision.

www.connectgroup.com



ESSEMTEC USA WELCOMES FRANK HART AS HEAD OF SALES FOR NORTH AMERICA

Essemtec USA is proud to announce the appointment of Frank Hart as Head of Sales for North America, effective immediately. With over 30 years of experience in the SMT industry, Frank brings a wealth of knowledge, leadership, and a strong track record of success to our team.



Frank joins Essemtec after an impressive tenure at Heller Industries, where he most recently served as Senior Vice President of Global Sales and Marketing. Prior to that, he dedicated nearly three decades to PVA (Precision Valve & Automation), serving as Managing Director of Global Sales and Marketing. Throughout his career, Frank has been instrumental in driving growth, developing global markets, and shaping the sales strategies of industry-leading companies in the electronics manufacturing sector.

"We are thrilled to welcome Frank to the Essemtec family," said Olivier Carnal, GM Essemtec AG. "His deep industry experience and proven leadership will be invaluable as we continue to expand our presence and support our customers across North America."

Frank Hart succeeds Bryce Timms, who is departing Essemtec to pursue a new opportunity with Aligned Solutions. We extend our sincere thanks to Bryce for his dedication and contributions over the years, and we wish him continued success in his new role.

Frank's appointment marks a new chapter for Essemtec USA as we continue to deliver

OUR FOCUS - YOUR SOLUTION

HIGH-MIX LOW-VOLUME

Ever-shrinking batch sizes and frequent product changes, efficiency & productivity of the SMT line are paramount.

Learn how Camtec improved their production line utilization by 30% with Essemtec solutions.



PRINTED ELECTRONICS

High-precision printed electronics products for flexible surface or to create button-less interface and 3D surface.

Discover how Belink utilizes Essemtec Puma machine for printed electronics.



HIGH-SPEED DISPENSING

The electronics industry has never been more complex, with higher mix, denser boards, two-sided PCBs, stacking & more.

See how the Essemtec's Tarantulas bring Endress+Hauser a competitive advantage.



COMPLEX VOLUME REPAIR

Every day, 140'000 tons of electronics are disposed of. The demand for repair and rework of PCBs is rising.

Learn how Actronics utilizes Essemtec's solutions to rework defective electronic modules in automotive.



ALL-IN-ONE NPI

Dispensing flexibility, versatile pick and place, high accuracy, best-in-class feeder spaces & more.

Check out how SpaceLab brings customer satisfaction with Essemtec's All-in-One solution.



BEYOND SMT

Micro batteries are essential components in the IoT ecosystem, enabling the proliferation of connected devices.

Uncover how Essemtec solutions support Iten in producing high-power-density SMD micro batteries for IoT.



SMART MANUFACTURING

Material variety and quantities are growing every day.

Learn how Essemtec brought cost savings and material flow optimization at Hardmeier.



innovative, high-performance SMT solutions tailored to the evolving needs of our customers. His strategic vision aligns perfectly with our mission: "Our Focus – Your Solution."

www.essemtec.com



FEDERAL
ELECTRONICS

FEDERAL ELECTRONICS ADDS AS9100 CERTIFICATION TO HERMOSILLO, MEXICO FACILITY, EXPANDING AEROSPACE & DEFENSE CAPABILITIES

Federal Electronics has officially added AS9100 certification to its Hermosillo, Mexico facility, further aligning its operations with the quality standards required by the aerospace and defense industries. This certification builds on the facility's existing ISO 9001:2015 accreditation and marks a key advancement in the company's ongoing development of parallel capabilities across both its U.S. and Mexico locations.



Since opening in 2010, the Hermosillo facility has supported OEMs with high-quality, cost-effective manufacturing for industrial and medical markets. Now equipped to meet AS9100 standards, the site is positioned to support a broader range of complex, high-reliability programs—including new opportunities across the Midwest, Southwest, and Western U.S. regions.

"This achievement is a significant step toward offering full manufacturing parity across both of our locations," said Ed Evangelista, President of Federal Electronics. "It enables us to better support aerospace and defense programs while giving customers more flexibility in choosing a location that meets their technical and logistical needs—without compromising on quality or reliability."

The Hermosillo facility employs more than 350 skilled professionals and is tightly integrated with Federal Electronics' headquarters in Cranston, Rhode Island. Both sites operate on a shared ERP and IT platform, allowing for streamlined production, efficient supply chain management, and consistent process control. Customers benefit from nearshore

manufacturing that offers responsiveness, quality assurance, and design-to-delivery transparency.

With more than 60 years of experience, Federal Electronics continues to expand its capabilities to meet the evolving needs of OEMs across a wide range of industries, including aerospace, defense, medical, and industrial electronics.

www.federalelec.com



Enjoy Testing

FULLY AUTOMATIC PROTECTIVE COATING INSPECTION NOW ALSO ON BOTH SIDES AND SIMULTANEOUSLY

EXPANSION OF THE MULTI LINE PLATFORM WITH HIGH-RESOLUTION COLOR CAMERA MODULE AND OBLIQUE VIEW CAMERAS FOR THE INSPECTION OF PROTECTIVE COATINGS (CCI)

Protective coatings ensure the reliability of electronic assemblies. Errors in the coating can therefore have serious consequences for their function. Malfunctions or field failures cannot be tolerated, especially when used under changing climatic conditions and in safety-relevant automotive, military, avionics and telecommunications applications. Painting defects and deviations from the painting plan can now be detected automatically and reliably with the new CCI inspection system from GOPEL electronic - for the first time simultaneously on both sides, which significantly reduces the inspection time in production.



The new Multi Line CCI for conformal coating inspection (CCI) extends the Multi Line machine platform from GOPEL electronic. This fully automatic CCI system can inspect both from above and optionally from below. For example, dip-coated assemblies can be inspected on both sides simultaneously without having to turn the assembly over. Fully automatic return of the assemblies below the inspection level is also possible. The CCI camera module of the Multi Line CCI is equipped with a

high-resolution color camera (resolution 8 µm/17 µm), telecentric optics and high-power UV LEDs for illumination from several directions with a wavelength of 365 nm. The camera module can also be equipped with four or eight angled-view cameras in order to inspect connector pins reliably from multiple viewing directions.

The upper component clearance is a comfortable 120 mm; assemblies weighing up to 15 kg can be transported. Inspection can therefore also be carried out directly in product carriers. For seamless protective coating inspection, fluorescent coatings are illuminated by the UV LEDs in the Multi Line CCI. In conjunction with the color camera, the high-resolution, telecentric optics provide high-contrast images and enable inspection within seconds.

Programming the CCI inspection is designed to be extremely user-friendly: The system is set up within a few minutes using CAD data and painting plans. Both the painted and unpainted areas of the assembly are inspected. The new system is based on the Multi Line platform with an operating system and housing optimized for professional production applications. The tried-and-tested Pilot 7.1 operating software now features the new CCI inspection function. This covers all requirements for an all-encompassing protective coating inspection and also enables the import of a painting plan. The overarching hardware and software platform character enables flexible employee scheduling and optimizes the exchange of knowledge within the company, as the AOI is operated centrally and almost identically on all Multi Line systems, without the need for extensive training.

www.goepel.com



INDIUM CORPORATION PROMOTES O'LEARY TO DIRECTOR OF GLOBAL ACCOUNTS

Indium Corporation announces the promotion of Brian O'Leary to Director of Global Accounts. In his new role, O'Leary is responsible for global business growth, customer engagement, and innovation. He is focused on driving impactful results for customers in transformative multinational industries, including e-Mobility (EM), automotive electrification, and high-performance computing.

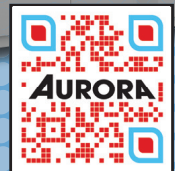
O'Leary, who joined Indium Corporation in 2014, has more than 28 years of experience in the electronics industry, with more than 14 years in leadership roles. Most recently,



AURORA™

THE POWER OF LEGACY & INNOVATION

REFLOW IN A NEW LIGHT



SCAN FOR THE
FULL STORY



COST OF OWNERSHIP



PERFORMANCE



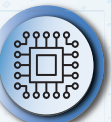
INNOVATION



SMT Reflow



Curing



Semi Pack

Aurora is leading the way to the factory of the future by seeing reflow in a new light. Aurora, the newest reflow oven platform, from BTU is designed based on years of expertise and leadership from the makers of the industry's best performing reflow ovens. As the latest in a long line of world-class thermal systems, Aurora has quality and innovation in its DNA.

Aurora systems feature a modern, fully updated user interface, integrated Aqua Scrub™ flux management technology, innovative Smart Power energy savings software, and advanced process control technologies. Aurora's combination of superior thermal performance, process flexibility, and vision for the future sets the new standard for reflow ovens today - and for tomorrow.



www.btu.com

PROUD TO BE AN **AMTECH** COMPANY



he was the company's Global Head of e-Mobility and Infrastructure, guiding customers to navigate the rapidly evolving electric vehicle (EV) market and the company's full range of products for EM, including electric cars, trucks, eVTOLs, and charging stations. O'Leary has done many interviews and presentations on EM trends and innovations.



O'Leary created and co-hosts EV InSIDER Live, a free webcast series examining the most pressing issues from across the dynamic and rapidly evolving EV landscape, with Loren McDonald, Chief Analyst at Paren, a software company focused on EM data insights. Featuring a different high-profile industry guest for each session, the series is candid and conversational, equally suitable for business executives, casual observers, and seasoned engineers.

"I am honored to step into the role of Director of Global Accounts," said O'Leary. "My journey at Indium Corporation has been driven by a deep passion for the global electronics industry and innovation. I look forward to staying on the forefront of current issues impacting our industry and leveraging my experience to continue building enduring partnerships and driving customer success on a global scale."

O'Leary earned his MBA and master's degree in international management at Thunderbird School of Global Management. As chair of the IPC e-Mobility Quality and Reliability Council, he has driven innovative initiatives in e-Mobility and automotive electrification. He regularly participates in technical conferences and has co-authored two books on thermal profiling, *Profiling Guide for Profitability* and *Profiling Guide for Six Sigma*.

www.indium.com



**IS TRAINING THE ANSWER
TO CLOSING THE ENGINEERING
SKILLS GAP?**

One of the biggest issues facing engineering businesses today is a growing skills gap across the sector. A number of factors are at play here, with an ageing workforce and not enough uptake from younger generations, there are simply not enough workers with the necessary skills available to fill positions.

Another factor is that the engineering field is in a constant state of flux with new technologies, trends, tools and techniques being introduced all of the time.

The solution is twofold; first, businesses need to invest in training and development programmes to help their engineers gain the necessary skills. Second, engineers that are both new and established in the sector need to be proactive in acquiring the skills that employers are looking for if they want to stand out in a competitive market.

By taking these steps, we can help close the skills gap and ensure that workers have the skills that they need to be successful. In this article, Martin Ahner, Head of norelem Academy, explains why engineers should turn to the norelem ACADEMY to improve their skills with specialist knowledge and hands-on learning.



A one-stop-shop

Providing a complete understanding of design engineers' current and future needs and offering specific knowledge on issues related to mechanical engineering, norelem ACADEMY is a one-stop-shop solution towards bridging the skills gap.

Regardless of your skill level or requirements, the ACADEMY offers a comprehensive approach to training with diverse courses to help students understand standardised machine elements and technical design.

Developing talent

For students who like to learn at their own pace, the ACADEMY provides a comprehensive Online Training Centre where students can access resources such as videos, webinars, tutorials and technical resources. This flexibility enables students to learn mechanical engineering principles wherever and whenever they want to.

The engineers of tomorrow

A core part of the norelem ACADEMY is its commitment to fostering young talent. Attracting approximately 2,000

participants a year across Europe, the ACADEMY provides free expert lectures on insights related to technological innovations, ensuring that students stay up to date on industry trends.

Skills fit for the future

With a full and comprehensive training offering, interactive projects and expert support, norelem ACADEMY is a career-defining launchpad for any engineer, whether they are new to the industry or looking to upskill.

To hear more stories of how the ACADEMY is helping engineers, students, and companies across the globe, or to register, head to: <https://norelem.co.uk/en/norelem-academy>

<https://norelem.co.uk/en/>



SASINNO AMERICAS EXPANDS PRODUCT PORTFOLIO WITH PRIVATE-LABELED PUREX FUME EXTRACTION SYSTEMS

SASinno Americas is proud to announce the expansion of its product offerings to include private-labeled fume extraction systems manufactured by Purex International Ltd. This strategic addition aims to provide customers with comprehensive solutions that enhance safety and efficiency in electronics manufacturing. This opportunity is facilitated by Brad Banfill, President of BSE, Inc., the exclusive distributor of Purex in North America.



The newly introduced fume extraction systems, branded under SASinno Americas, are designed to effectively remove hazardous fumes generated during soldering processes. By integrating these systems with SASinno's existing lineup

Achieve up to 90% faster kit pulling and restocking times!

Eliminate surprise shortages through real-time SMT inventory visibility.

Compact, scalable, and seamlessly compatible with MES, ERP, and Pick-and-Place systems.



Photo:
Frank Hübler



P R O V E N P R E C I S E P O W E R F U L

inovaxe.com

of selective soldering machines, wave soldering machines, and soldering robots, customers can achieve a safer and more compliant manufacturing environment.

“Our commitment to delivering top-tier soldering solutions extends beyond the machines themselves,” said Mike Young, CEO of SASinno Americas. “By offering private-labeled fume extraction systems from Purex, we provide our customers with a seamless, integrated approach to ensure both quality and safety in their operations.”

www.sasinnoamericas.com



4FRONT SOLUTIONS INVESTS IN SEICA'S PILOT V8 NEXT FLYING PROBE TESTER TO ENHANCE TEST CAPABILITIES AT DELAND, FL FACILITY



Seica, Inc. is pleased to announce that 4FRONT Solutions has purchased and installed a PILOT V8 NEXT Flying Probe Tester at its electronics manufacturing facility in DeLand, Florida. 4FRONT Solutions, a full-service Electronics Manufacturing Services (EMS) provider with locations in Erie, PA and DeLand, FL, specializes in delivering high-reliability solutions for the Aerospace, Defense, Industrial Controls and Transportation industries. 4FRONT Solutions already has a PILOT V8 NEXT system in its Erie, PA facility, further strengthening its test capabilities across multiple locations.

The PILOT V8 NEXT's vertical, dual-sided architecture enables simultaneous probing on both sides of the printed circuit board assembly (PCBA), optimizing efficiency and ensuring comprehensive, accurate test coverage. This dual-sided probing capability significantly enhances productivity while ensuring the high testing standards required for today's advanced electronics manufacturing.

With this investment, 4FRONT Solutions strengthens its test and quality assurance capabilities, aligning with its mission to provide best-in-class PCB, Cable, and System Level Assembly services to customers who demand the highest levels of reliability.

“We are excited to continue partnering with Seica as we further enhance our manufacturing and test capabilities,” said Mike Sementelli, VP Sales and Marketing at 4FRONT Solutions. “The PILOT V8 NEXT will provide the speed, flexibility, and precision necessary to meet the rigorous demands of high-reliability industries, while also supporting future growth.”

www.seica.com

www.4frontsolutions.com



STI ELECTRONICS WELCOMES JUSTIN BAIRD AS MASTER INSTRUCTOR AT THE HOUSTON FACILITY

With over 14 years of experience in the electronics manufacturing industry, Baird brings a deep expertise in manufacturing training, curriculum development, and process optimization. Throughout his career, he has successfully designed and implemented training programs that improve workforce efficiency, address skill gaps, and support operational excellence.



“Justin’s background in electronics manufacturing and his commitment to continuous improvement align perfectly with STI’s mission to deliver the highest quality training and support to our customers,” said David Raby, President/CEO of STI Electronics. “His addition strengthens our Houston facility and enhances our ability to serve the growing needs of the region.”

Baird’s proven track record of fostering technical excellence and team development makes him a valuable asset to the STI team. As Master Instructor, he will lead comprehensive training sessions, contribute to curriculum advancement, and support customer success across a variety of manufacturing environments.

<https://stiusa.com>



TRI AND BOSCH PARTNER ON AI SOLUTION FOR MEMS PACKAGING

Test Research, Inc. (TWSE: 3030) is proud to announce its successful partnership with Bosch in the development of an AI visual check solution for MEMS packaging.



www.tri.com.tw

Bosch has recognized TRI’s valuable contribution to their success in MEMS packaging in 2025 with a Certificate of Appreciation. The certificate acknowledges the successful completion of the AI visual check for MEMS packaging, highlighting the strong cooperation and partnership between the two companies.

This collaboration demonstrates TRI’s expertise in AI-driven inspection solutions and its commitment to providing valuable solutions for the electronics manufacturing industry. TRI’s AI-powered solutions include the AI Defect Detection, AI Smart Programming, AI Verify Host, AI training tool, AI Station, and more.

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Fuji Corporation is committed to future-oriented technological innovations as the leading brand for factory automation processes in SMT. As industry shifts from the Internet of things, entailing machine to machine (M2M) and person to person communication, to the Internet of everything, enabling communication between people and things on a global scale, it is necessary to build more advanced systems by integrating items beyond just things, that include people, processes, and data.

SMART FACTORY EVOLUTION: FUJI'S INNOVATIONS IN AUTOMATED PRODUCTION

BY AKIHIRO SENGU,
ENGINEERING PLANNING
DEPARTMENT MANAGER,
FUJI CORPORATION

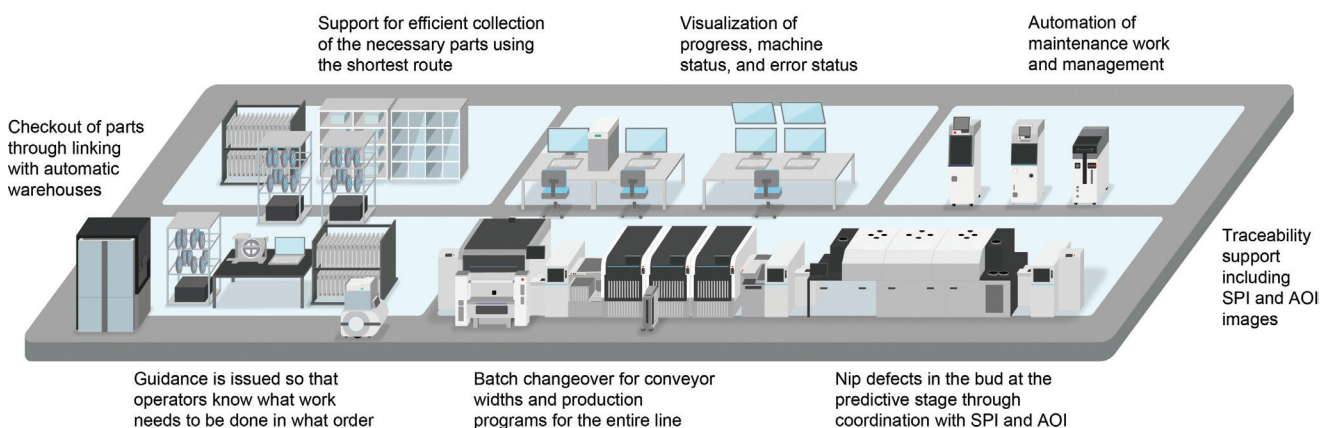


For example, changes in automotives and the use of VR and AI are revealing new possibilities. Smarter factories require production systems with integrated data linkage and automation. Systems that allow devices to share data with each other and automatically solve problems are being put to practical use as productivity-enhancing measures. Considering this, Fuji is developing "FUJI Smart Factory" smart solutions that are taking the lead toward this level of automation.

As expressed by Fuji's head of Robotic Solutions, Takeshi Sato, "Fuji is exceeding placement limits under the 'Target ZERO' concept, aiming for the ideal SMT production site. This concept encompasses 'Zero placement defects', 'Zero machine operators', and 'Zero machine stops', leading to the newly defined goal of 'Zero placement limits'. Each of these contribute directly to achieving high quality, automation, stabilization of production, and enhancement of the ability to handle complex placements, and are important pillars supporting the next generation of manufacturing.

Fuji has worked to achieve the first three zeros by developing equipment that does not permit placement defects, creating a production environment in which lines do not stop, and automating standard operations, all while sincerely addressing the problems faced on the production floor. Now, in response to the rapid changes in technology and markets, we have expanded our focus to 'Zero placement limits', with the belief that there is no placement Fuji cannot achieve.

FUJI Smart Factory has the solutions that enable these zeros. In addition to state-of-the-art equipment capabilities, the integration of advanced technologies such as AI, data utilization, and automated conveyance with AMR alleviates issues such as manpower shortages and dependency on



manual labor, enabling human resources to be focused on more creative work. This makes it possible to simultaneously maximize production and stabilize quality, to meet the diverse manufacturing needs of our customers.

Fuji continually works with customers to solve problems from the ground up and create top-quality production sites by refining its technological capabilities in an ever-evolving market.”

FUJI SMART FACTORY, THE NEXT STAGE OF FACTORY PROCESSES

In 2017, Fuji launched the FUJI Smart Factory project to develop work guidance functions and units that automate manual tasks. Starting at around the same time, Fuji also formed alliances with other equipment manufacturers that make up the SMT line (FUJI Smart Factory members) to expand M2M functions that lead to improvements in overall equipment effectiveness (OEE).

The roadmap for FUJI Smart Factory (abbreviated to FSF) was broken down into three steps.

- In FSF 1.0, the systems and machines that configure the production line are linked together, and some traditionally manual work is automated.
- In FSF 2.0, the current stage of smart factory support being provided to customers, automation and linkage extends beyond individual lines to the entire production floor.
- And in FSF 3.0, the planned next step in automation, the 5M+E data contained within the factory is consolidated to realize a factory that continues to operate through feedback cycles and analysis of differences between planned and actual production.

WHERE FSF 2.0 IS AT NOW

FSF 2.0 includes the following features for automation of the entire production floor. Collectively these features lead to increased efficiency, reduced production times, improved utilization rates, drastically reduced potential for errors, enhanced flexibility, higher quality in output, and improvements in inventory management.

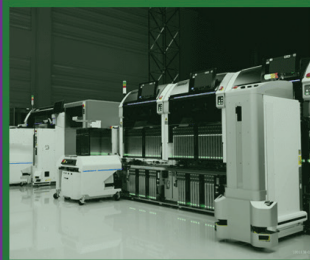
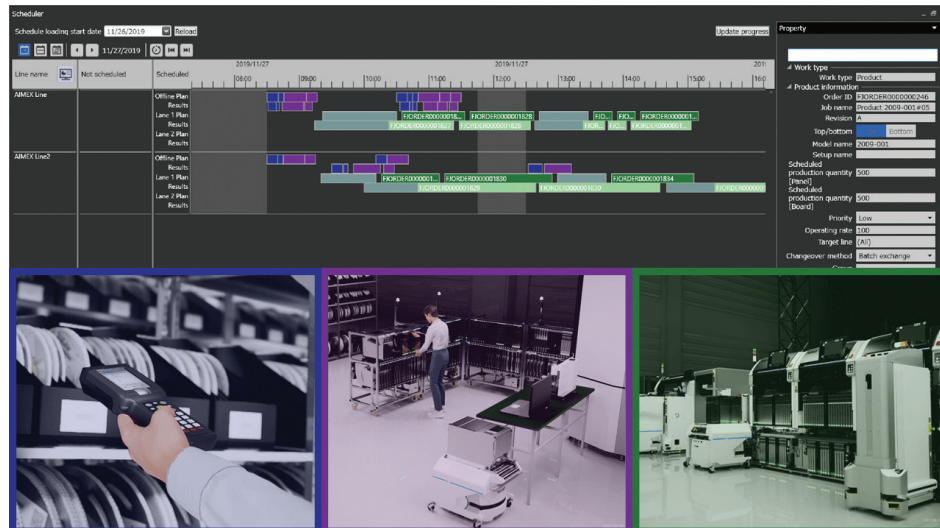
IMPROVED EFFICIENCY IN PLACEMENT PROCESSES



Part picking

The system provides guidance for which parts need to be collected at each storage location by utilizing parts location management for efficient collection of the necessary parts using the shortest route.

The host system transmits information on necessary parts to the automated warehouse, enabling reliable checkout of parts.



Production schedules

Fuji's Scheduler tool automatically creates the optimal production schedule that includes the optimal conditions for production, taking into account multiple factors including panel widths and reflow temperatures.

Parts allocation (reservation) prevents repetition of tasks due to a lack of the necessary parts after production preparation has begun.

Offline changeover

Guidance for changeover is issued by the system so that operators know what work needs to be done in what order, to ensure that the necessary parts can be supplied to the placement line without delay. LED lighting patterns provide visual indication of whether it is possible for a feeder to be used or not.

Floor logistics

AMRs automatically transport the necessary feeders, printing materials, and panels, to load and unload these items to and from the line.

Production lines

By scanning either the kanban ID or the panel ID code, production

programs can be changed from the current production to the next for all machines that configure the line.

Upon receiving inspection results from SPI and AOI, the necessary actions are performed automatically in line with any trends that indicate status changes.



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Maintenance

Automatic maintenance units clean feeders, nozzles, and heads, and check the performance of these after cleaning. Through system linking, maintenance history is recorded and guidance for when to perform maintenance is issued automatically.



Management

The system presents visual information necessary for management, including the progress status of the entire production floor, the state of production lines and equipment, and the occurrence of pickup errors.



Using the board ID or panel ID as a key, traceability data including SPI and AOI inspection images is provided immediately.

MAINTAINING STABLE PRODUCTION THROUGH ERROR DETECTION AND PREDICTIVE DETECTION

The introduction of FSF2.0 will reduce the workload of operators and enable production with fewer workers. However, some events require operator intervention to prevent productivity loss and defects due to equipment malfunctions. FSF 2.0 provides tools to alert workers when an event occurs that should be handled by operators or when signs of such an event are detected.

- **IPQC Expert** is a tool that can be used to pick up on status changes based on short-term trends, and prompt action at the stage before defects occur.
- **FSF Mobile Conductor** is a tool that sends machine error and warning notifications to mobile terminals held by operators.



IPQC Expert and FSF Mobile Conductor can be used in tandem to minimize the occurrence of defects, to minimize losses caused by errors, and to maintain productivity.

Through aggregation of data from the production floor, analysis, predictive forecasting, autonomous control, and self-diagnosis, Fuji is pursuing production process optimization.

Fuji believes that this advancement of placement technologies will not only improve manufacturing sites, but will also play a role in shaping the future of manufacturing.

Fuji will continue to open up new areas of manufacturing through technological innovations, while contributing to the development of IoT and the evolution of the SMT industry, in order to create new manufacturing values together with its customers.

<https://smt.fuji.co.jp/en/fsf2/>

No Waste, Just Results.
Target ZERO



There is no limit for placement. Fuji solves issues at production sites from the source and reduces them to zero.

More information at: <https://smt.fuji.co.jp/en/targetzero/>



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KONIG PIONEERS 3D DIGITAL PACKAGING SOLUTIONS FOR THE ELECTRONICS INDUSTRY

BY WENDY XU, MARKETING SUPERVISOR, KONIG

KONIG

Founded in 2010 and headquartered in Suzhou, China, KONIG has carved out a distinct niche in the electronics industry by redefining what's possible in packaging technology. The company specializes in advanced packaging protection for sensitive electronic products, and over the past decade, it has built a reputation for excellence, innovation, and reliability. With over 150 employees and a 9,000 sq m state-of-the-art manufacturing facility, KONIG supports its global customer base with a comprehensive suite of services centered around 3D digital packaging solutions.

At its core, KONIG exists to solve one of the most persistent challenges in electronics manufacturing: how to protect intricate, miniaturized components while maintaining production efficiency and environmental sustainability. The company's in-house development of 3D UV-curable glue deposition technology positions it at the forefront of this challenge.

KONIG's flagship solution is its 3D digital packaging system, which is an advanced method that replaces traditional manual or semi-automated conformal coating and masking procedures. This system leverages high-speed, high-precision jetting of UV glue in targeted areas to create protective three-dimensional structures. By using computer-controlled deposition and multi-layer stacking techniques, KONIG delivers a level of detail and adaptability that legacy systems simply can't match.

According to President Jason Zhu, "This technology fundamentally changes how electronics manufacturers think about protective packaging. We enable faster production, higher precision, and lower cost, all while achieving better protection performance."

KONIG's 3D digital packaging system offers key advantages that translate directly into value for manufacturers:

- Unmatched Precision: Operating at an injection resolution of 400 dpi and capable of producing layer



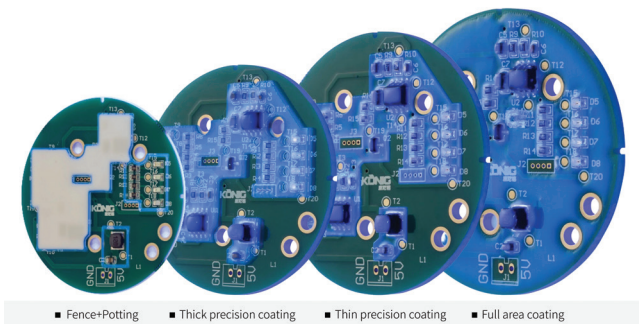
thicknesses as fine as 15 µm, KONIG's system is ideal for today's densely packed, miniaturized electronic assemblies.

- **High-Speed Production:** With a drop frequency of up to 20,000 times per second and an ability to produce fully hardened protection layers within 10-30 seconds, the system supports high-throughput production lines without sacrificing quality.
- **Cost and Labor Reduction:** By eliminating traditional masking steps and reducing material usage, KONIG's technology can lower packaging costs by more than 40%. Masking eliminates overspray, which is wasted material. The automation also reduces dependence on manual labor, contributing to more consistent quality and greater throughput.
- **Modular Design:** The digital packaging equipment can be easily integrated into existing SMT production lines or tailored into standalone solutions, offering flexibility for both high-volume OEMs and specialized contract manufacturers.



KONIG's solutions are tailored for a comprehensive range of applications across the electronics landscape. Its technology has been adopted by manufacturers in:

- **Surface Mount Technology (SMT):** Especially useful for protecting complex assemblies post-reflow without interfering with neighboring components.
- **Semiconductor Packaging:** Delicate chips and wafer-level packages benefit from KONIG's non-invasive, accurate glue application that shields without adding excess bulk.
- **Consumer and Industrial Electronics:** From smartphones to smart appliances, KONIG's solutions ensure products withstand moisture, dust, vibration, and temperature extremes.
- **Automotive Electronics:** KONIG's robust encapsulation systems meet the demands of automotive-grade electronics, including performance under high heat, humidity, and vibration.



Jason Zhu said, "Our technology is versatile. Whether our client is producing FPC boards for smartphones or modules for EVs, we deliver protection and precision that scales to their needs."

At KONIG, quality isn't an afterthought; it's built into every layer of the process. The UV glue used in the process is formulated by KONIG itself, further allowing it to control product quality and tailor materials to the unique demands of each application. These proprietary UV adhesives come in various chemistries, including epoxy, acrylic, and hybrid, and can be adjusted in terms of viscosity, curing time, and mechanical strength.

The company adheres to stringent international standards, including:

- GB/T 9286-1998 for coating adhesion performance
- IEC 60068 for high-temperature and humidity reliability
- Salt spray testing, thermal shock testing, and UV aging tests

Each of these test regimens ensures that the UV adhesive materials and finished products maintain their integrity over time and under harsh conditions. These certifications and testing protocols have become a cornerstone of KONIG's customer trust.

"In the electronics world, failures aren't just costly, they're catastrophic," added Jason Zhu. "Our goal is zero defect protection that supports reliability and peace of mind."

Environmental responsibility is an increasingly critical concern for electronics manufacturers, and KONIG's solutions are designed to support green manufacturing practices. Its digital packaging systems are solvent-free and significantly reduce material waste, energy usage, and emissions.

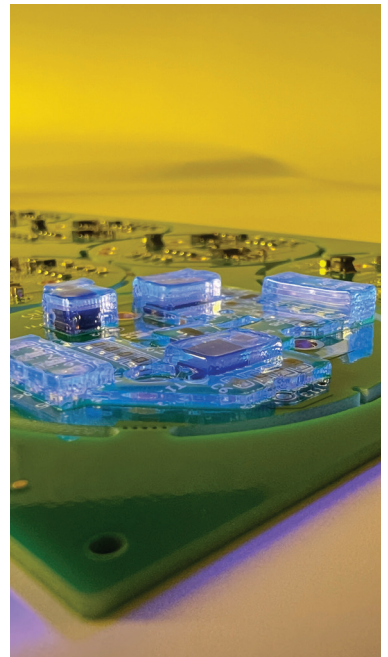
Unlike traditional coating processes that require solvent-based materials and generate substantial chemical waste, KONIG's UV adhesives are cured using energy-efficient LED UV. There's no need for masking, which eliminates waste generated from tapes and discarded protective materials.

"Every drop of glue is intentional," Jason Zhu said. "We're proving that high-performance packaging can also be clean and sustainable."

KONIG continues to invest in R&D, exploring new adhesive chemistries and refining its digital packaging equipment. Its roadmap includes smarter automation systems, AI-driven inspection modules, and expanding its material compatibility to include more exotic or flexible substrates.

As the electronics industry continues to evolve toward miniaturization, higher reliability, and smarter manufacturing, KONIG's role becomes even more vital. "Our unique combination of precision engineering, proprietary materials, and customer-centric service positions makes us not just a supplier, but also a strategic partner to some of the world's most demanding manufacturers," concluded Jason Zhu.

www.konig.hk



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SURFACE-MOUNT INNOVATIONS DELIVERING MORE FOR LESS

BY OUMAYMA GRAD, MARKETING COMMUNICATIONS MANAGER, SMT & FA SECTIONS, YAMAHA MOTOR EUROPE N.V.



Emerging opportunities in high-tech markets are driving a transformation in equipment features and value.

The smart revolution, driving more and more intelligent “things” into homes, vehicles, factories, cities, and many other aspects of life, is presenting attractive opportunities for high-tech innovators. Companies capable of conceptualising and delivering suitable products can thrive, if they can deliver at the right price. To build the hardware at the heart of these smart devices, the manufacturers need surface-mount assembly equipment that delivers premium productivity at a lower cost.

MEETING EMERGING DEMANDS

To respond, equipment suppliers need to design imaginatively. An effective approach is to draw on innovations proven in high-end platforms, reinvented in a new and more affordable form, combining these with refinements to existing features and new software-based capabilities. Yamaha created the YRP10e screen printer this way, achieving core cycle time close to some of today's fastest equipment as well as introducing inventive new features that save time and enhance productivity.

The YRP chassis used for all the latest-generation equipment is cost-effectively re-used to prevent vibrations or deflections due to movement of the printing mechanisms. Building on this, the YRP10e introduces a three-stage conveyor (figure 1) that permits efficient loading and removal of boards from the print process. With this, the core cycle time of the entry-level machine is only 6 seconds; comparable to some of today's fastest printers positioned for high-volume applications.

To maximise the advantages gained through efficiently queuing the boards, preparing each board for printing as quickly as possible upon its arrival is essential. Stopperless board transport, already proven in machines like the YRi-V AOI system, allows boards to enter the machine quickly, at speeds up to 600mm/s, while eliminating the settling time and positional errors that can occur with conventional mechanical stoppers. On the other hand, the YRP10e is equipped with the mechanical board stopper with position adjustment giving more flexibility to accommodate complex PCB outlines and different sizes.

For setting up stencils, manual systems are typical of entry-level printers. An experienced operator who is familiar with a set of stencils can quickly ensure the patterned area of the stencil is in the right position relative to the board. On the other hand, staff with less experience can take longer and errors are easily made. The universal stencil holder (figure 2), available as an option, allows one-touch automated adjustment for any standard-sized stencil and is designed to ease the operator's workload and eliminates dependence on personal judgement. This enables all operators to quickly find the best setting.

Adapting high-end features for different market levels is an approach also seen in the graphic visual alignment system that ensures the stencil and board are correctly positioned before first printing. This alignment system delivers a boost for low-volume manufacturing, by letting users avoid the teaching process after each changeover that typically requires printing five or six prints for fine-tuning. Good results can be achieved from the first print.

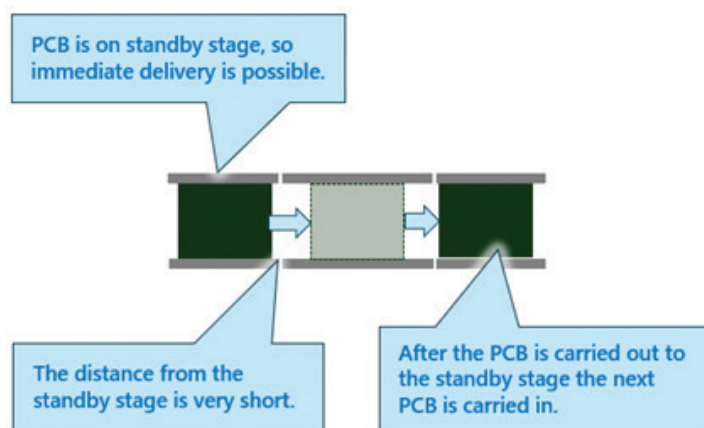


Figure 1. The three-stage conveyor ensures boards can be kept in the machine, to be loaded quickly.

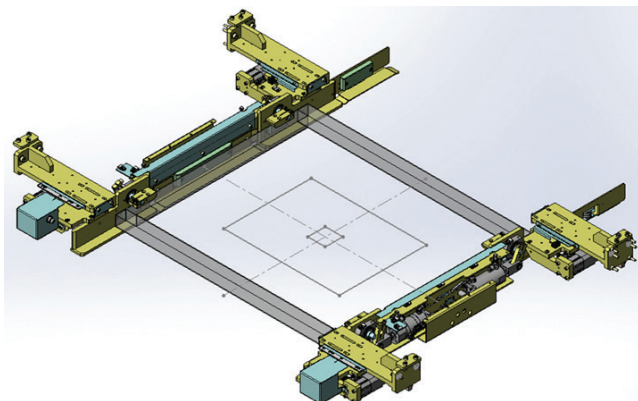


Figure 2. The universal stencil holder sets the right size with one touch.

ACCURACY AND SPEED

After the correct alignment is established, the board is fixed in position using conventional vacuum and tooling. Edge-clamp pressure is placed under software control, letting operators easily ensure a high level of uniformity and accuracy.

Then an additional vacuum jig provides further stability for the stencil. This ensures the stencil remains in its correct position as the squeegee moves across the surface and prevents unwanted variations in solder paste position, which can occur depending on the squeegee direction of movement. Although this direction-dependent variation is usually small, typically between 5-10 microns, removing this error with the stencil vacuum system enhances repeatability and minimizes the influence of PCB and stencil condition on print results. Repeatable printing has been demonstrated with a stencil-to-board gap of up to 4mm. The stencil vacuum jig is a proven feature of high-end equipment and is now available at the entry level with the arrival of the YRP10e.

In addition, two patented enhancements are included to improve print quality and ensure faster cycle time. The first takes advantage of the unique 3S squeegee head to keep the squeegee blade in contact with the paste roll at the end of each print stroke. The usual sequence, in any printer, is to raise the squeegee to a position a few centimetres above the paste roll before lowering against the other side of the paste to move in the return direction. Yamaha's patented belly-roll system rotates the squeegee over the solder-paste roll, ensuring continuous contact with the material. This shortens the excursion of the squeegee mechanism, helping reduce the time taken to change direction, as well as preventing air inclusion in the paste roll thereby preventing soldering problems due to voids.

A second new and patented technique available with this printer is overprinting, which is performed after fitting a new stencil or immediately after a long period when the line has been stopped. Taking advantage of the printer's superior positional stability, the stencil and board are separated to clean the stencil after the first pass with the squeegee. While the paste roll must conventionally be worked for a few cycles after a long stoppage, overprinting prepares the stencil apertures properly by cleaning to enhance aperture filling in the next few print cycles. Thus, satisfactory print results can be achieved from the very first print after changing the stencil, or if the line is stopped for a long period.

Other capabilities not typically provided with entry-level equipment include the 3SR stepped squeegee, with its advanced shape that increases aperture filling by 5% (figure 3) and ensures optimal paste rolling. The hardness of the steel blade is optimized to minimize wear and thus preserve the stencil condition for longer, even when squeegee pressure is set to a high value.



Figure 3. The 3SR squeegee improves aperture filling, paste rolling, and stencil lifetime.

On the other hand, the printer's software capabilities are upgraded to boost the capabilities without additional hardware. In addition to basic setup verification, typically available on all machines, high-value features such as stencil and paste lifetime checking and squeegee validation are added. Stencils that are found to be excessively worn can have their identity recorded for discarding but may be mistakenly returned to the stencil storage after use. If retrieved they can be fitted unknowingly and produce poor results. Automatically verifying the stencil identity before use, by checking the 2D barcode fixed to the stencil, effectively prevents errors like this. This system is now available as a standard feature, ensuring optimum printing and providing a failsafe backup for stencil management.

In addition, the YRP10e checks that the correct squeegee type and size are being used, as specified in the board data file, and verifies the correct paste type and lifetime management including seasoning time and open time. These safeguards have been available for high-end machines for some time and are now offered to the entry-level market.

Moreover, automatic measurement of paste-roll width assesses the paste remaining on the stencil after every second print stroke. The system compares the measured width against acceptance criteria specified in the board data file and prompts the user to replenish the paste before the paste roll reduces below the minimum value acceptable for proper aperture filling.

A QUESTION OF STRATEGY

Clearly, electronic manufacturers' needs are changing and the latest entry-level printers show how equipment suppliers are responding. On the other hand, the markets for extensively automated equipment needed for efficient high-volume manufacturing remain. Hence, while emerging entry-level equipment like the YRP10e offer one-touch stencil adjustment and clamping, automated stencil loading is reserved for its value in high-volume manufacturing. Similarly, paste-roll measurement lets entry-level equipment alert operators when replenishment is needed, although paste dispensing is not automated as with more highly specified models. Other critical features, such as automatic backup-pin exchange, remain with equipment designed from the outset for high-mix, high-volume scenarios.

CONCLUSION

Rising global demand for smart "things" is a major factor expanding opportunities for electronic manufacturers. On the other hand, costs are always under pressure and capital equipment suppliers need to respond with solutions that can effectively help their customers acquire the necessary capabilities needed on affordable terms. Through a combination of careful hardware design and re-engineering features implemented in software, new generations of entry-level surface-mount equipment are able to deliver throughput and productivity close to the levels typically associated with more expensive high-end models.

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PROMEX INDUSTRIES CEO RICHARD OTTE HONORED WITH IEEE ELECTRONICS MANUFACTURING TECHNOLOGY AWARD

*Award Recognizing Numerous
Contributions to be Presented
at ECTC 2025*

Promex Industries, Inc., a Silicon Valley-based provider of advanced design, packaging, and microelectronics assembly services, today announced that CEO Richard (Dick) Otte has received the 2025 Electronics Manufacturing Technology Award from the IEEE Electronics Packaging Society (EPS). The annual award recognizes individuals who have made impactful, sustained contributions to the field over 15 years or more, such as leading the development of major new processes in electronic manufacturing or significantly improving the yield or reliability of established processes.

“Our selection committee was very pleased to give this year’s award to Dick Otte,” said Dr. Patrick McCluskey, EPS program director, awards program. “His contributions are widely known and admired throughout our industry. From helping drive creation and advancement of the Heterogeneous Integration Roadmap, to heightening awareness of U.S.-based packaging and assembly capabilities, Dick has been a great champion for our sector and its importance for advanced electronics.”

Otte has dedicated more than five decades to advancing electronics packaging, shaping the industry with groundbreaking innovations. One of his earliest achievements was leading the development and introduction of multichip modules (MCMs) at Advanced Packaging Systems in the '90s, laying the foundation for increasingly sophisticated packaging techniques. Building on that success, Otte continued



pioneering methods for creating smaller, denser, and more complex assemblies that integrated semiconductor die alongside non-electronic components—an approach that marked the beginning of heterogeneous integration.

His contributions included supporting industry technical roadmaps: IEEE International Technology Roadmap for Semiconductors (ITRS), IEEE Heterogeneous Integration Roadmap (HI), and the iNEMI and International Photonic System Roadmaps (IPSR). The latter anticipated the integration of optical technologies to enhance data rates while reducing power consumption. Through his innovative work, Otte has contributed to advancements that have significantly improved the functionality, efficiency, and reliability of electronic devices across the medical, biotech, communications, and data processing industries—helping shape the future of smaller, smarter, and more dependable technology.

The award was presented during the EPS Luncheon at the Electronic Components and Technology Conference (ECTC) in Dallas, Texas, on May 29, 2025.

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RIVERSIDE INTEGRATED SOLUTIONS ENHANCES QUALITY AND THROUGHPUT WITH SAKI 3DI-LS3 3D AOI SYSTEM

BY SHOKO MOTODA, MARKETING DIVISION, SAKI CORPORATION

SAKI

Based in Lewiston, MN, Riverside Integrated Solutions has built a reputation as a full-service EMS partner that seamlessly combines PCB assembly, box build, cable assembly, supply chain management, and fulfillment services. With over 35 years of industry experience, RIS offers vertically integrated solutions to clients in medical, industrial, defense, and commercial sectors. The company's vertically integrated business model allows for end-to-end control of the manufacturing process—from sourcing and assembly to packaging and final shipment—ensuring consistent quality and reduced lead times.

RIS's success is grounded in its proactive investment in state-of-the-art technologies and its emphasis on operational excellence. As the complexity and volume of its customer projects increased, RIS recognized the importance of updating its AOI infrastructure to align with its quality standards and growth trajectory.

“

While our old AOI provided decent results initially, it lacked the capabilities offered by newer technology. Even a low rate of false calls was still disruptive – it required ongoing attention from our technical team and diverted resources from other critical operations.

Prior to the acquisition of the SAKI 3Di-LS3, RIS relied on an AOI platform that, while effective at the time of purchase, had become technologically outdated. The limitations of the legacy system became increasingly apparent.

“The obsolescence of our previous system, coupled with poor support from the supplier, prompted us to begin evaluating alternatives,” explained Richard Lieske, Engineering Manager at RIS. “While our old AOI provided decent results initially, it lacked the capabilities offered by newer technology. Even a low rate of false calls was still

Riverside Integrated Solutions (RIS), a trusted and established U.S.-based electronics manufacturing services (EMS) provider, has recently upgraded its automated optical inspection (AOI) capabilities with the installation of a SAKI 3Di-LS3 3D AOI system. The installation, completed in January 2025 following the purchase in October 2024, represents a pivotal step forward in RIS's continuous improvement strategy and further reinforces its commitment to delivering high-quality electronic assemblies to customers across a range of industries.





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disruptive – it required ongoing attention from our technical team and diverted resources from other critical operations.”

As part of its search, RIS evaluated multiple AOI platforms. The goal was to find a solution that would not only solve current limitations but also provide a future-looking foundation to support the company’s strategic growth.

Following an in-depth review of available systems, RIS selected the SAKI 3Di-LS3 3D AOI from Saki America Inc., a global leader in inspection technology.

“The SAKI system stood out for many reasons,” said Lieske. “Its higher-accuracy gantry system and advanced technology provide exceptional resolution and repeatability. We saw immediate improvements in inspection speed and throughput. The software is rock-solid, and the system’s ability to accurately interpret part markings is a game-changer.”

The SAKI 3Di-LS3’s ability to view any part of the circuit board at multiple heights – without physically moving the machine head – was another standout feature. This unique capability ensures comprehensive inspection coverage while reducing mechanical wear and speeding up the inspection process.

Beyond its superior hardware and software, Saki’s roadmap for AI integration aligned perfectly with RIS’s vision for intelligent manufacturing. “We were looking for a long-term partner, not just a piece of equipment,” Lieske added. “Saki offered the complete package: technical innovation, platform stability, and a clear commitment to supporting our evolving needs.”

The 3Di-LS3 3D AOI is one of Saki’s most advanced inspection systems, engineered to deliver ultra-precise, high-speed inspection in a compact footprint. It features a high-resolution 8 µm lens, dual-axis gantry, and advanced 3D imaging algorithms to ensure complete inspection coverage with sub-micron accuracy.



Its higher-accuracy gantry system and advanced technology provide exceptional resolution and repeatability. We saw immediate improvements in inspection speed and throughput. The software is rock-solid, and the system’s ability to accurately interpret part markings is a game-changer.

Key features include:

- High-speed scanning and image processing for increased throughput
- Multi-height 3D measurement for true volumetric inspection
- Advanced pattern recognition for superior part marking identification
- Seamless software interface with intuitive programming tools
- Robust data reporting and analytics for process traceability

By combining these technologies with a reliable and scalable platform, the 3Di-LS3 supports RIS's goals of minimizing defects, reducing rework, and optimizing production flow.

Since the system was released to production in January 2025, RIS has seen measurable improvements in both efficiency and quality.

"The ease of programming the 3Di-LS3 has significantly reduced our setup time for new jobs," said Lieske. "We've also seen a dramatic drop in false calls and false positives, which means our operators and engineers can focus more on value-added tasks instead of chasing down phantom errors."

The new AOI system has also improved consistency and traceability, which are critical metrics for RIS's customers in regulated industries such as medical and defense electronics. The 3D measurement capabilities of the SAKI system ensure accurate, reliable defect detection and dimensional validation, supporting RIS's efforts to maintain the highest levels of compliance and quality assurance.

RIS's positive experience didn't stop at the machine's performance. The support received from Saki America Inc. throughout the installation, training, and operational qualification process was exemplary.

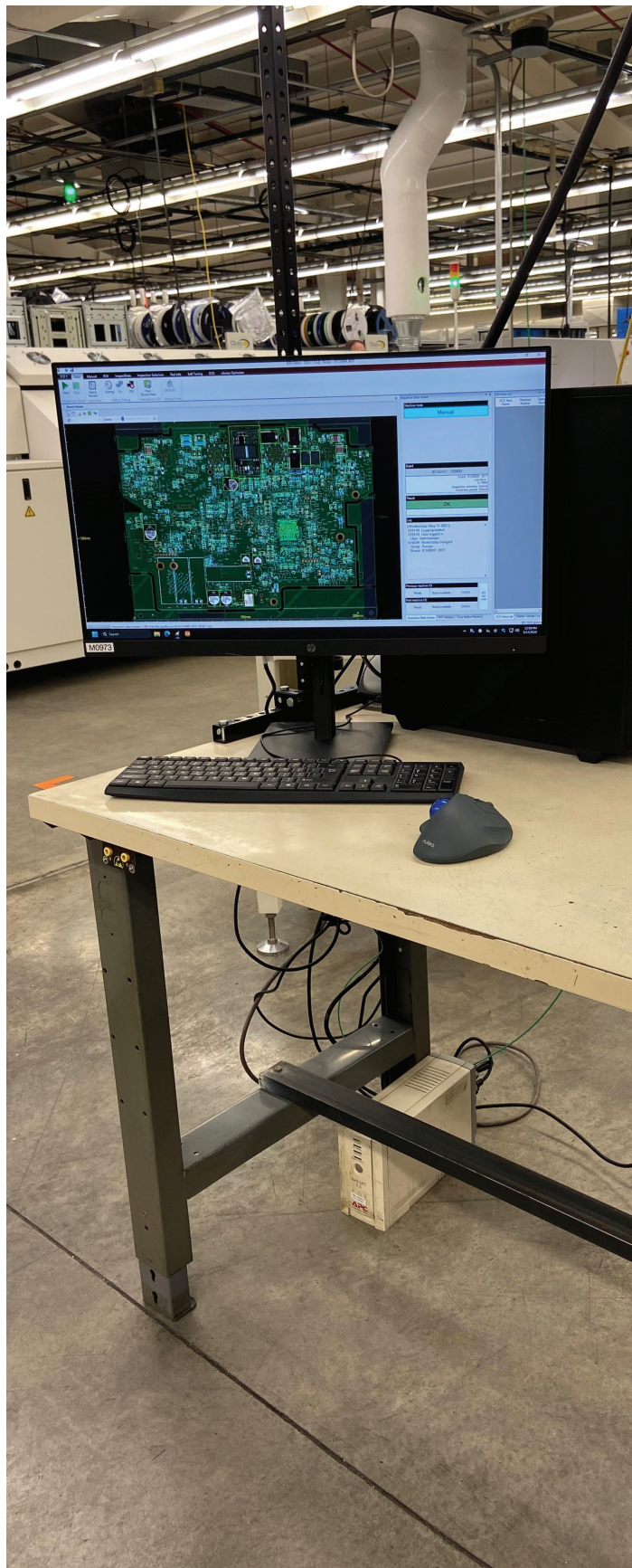
"We've been extremely happy with the high level of knowledge and professionalism from Saki's customer service team," Lieske said. "From the training we received at their Illinois facility to on-site installation and post-launch support, their communication and responsiveness have been top-notch. It's a refreshing change compared to the challenges we faced with our previous vendor."

With the successful implementation of the SAKI 3Di-LS3 3D AOI, Riverside Integrated Solutions has further enhanced its ability to deliver high-quality products with speed and consistency. The decision to partner with Saki America Inc. reflects a shared commitment to excellence, innovation, and continuous improvement.

"This investment wasn't just about replacing a machine," said Lieske. "It was about enabling a smarter, more efficient production process. With Saki, we've found a partner that understands our goals and supports our mission to provide the best possible service to our customers."

As RIS continues to expand its capabilities and serve more complex customer needs, the integration of cutting-edge inspection technologies like the 3Di-LS3 will remain central to its strategy.

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AN INTERVIEW WITH DAVID SHARP, CEO, CALCUQUOTE

BY SMT TODAY EDITOR

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CalcuQuote provides software solutions that optimize supply chain operations across sourcing, purchasing, quoting, and supplier collaboration, serving as a strategic partner to EMS companies, OEMs, and component suppliers. The CQ platform offers access to real-time supply data and seamless API integrations, ensuring end-to-end management that significantly improves the speed, accuracy, and efficiency of supply chain processes. Founded in 2014, CalcuQuote serves hundreds of companies worldwide and has established its platform as an indispensable system for the future of the electronics industry. We recently spoke with David Sharp, CEO, to find out how the company's innovative solutions help customers stay at the top of their industries.

CALCUQUOTE HAS BEEN RECOGNIZED FOR ITS INNOVATIVE SOLUTIONS IN THE EMS INDUSTRY. CAN YOU TELL US ABOUT SOME OF THE LATEST OFFERINGS OR UPDATES IN YOUR PRODUCT LINEUP?

Absolutely. We have recently expanded our platform with three impactful features. First is our BOM Import and Scrub tool, which quickly ingests BOMs from various sources and standardizes them. This improves accuracy and significantly accelerates the quoting and procurement process. Second, in partnership with Banyan.eco, we now offer Product Carbon Footprint (PCF) measurement tools that empower customers to assess environmental impact at the component level. Third, our new Landed Cost Calculations enhancement allows users to incorporate tariffs and other fees directly into the quoting process, enabling more precise and flexible cost control.

HOW HAS CALCUQUOTE'S TECHNOLOGY EVOLVED OVER THE PAST FEW YEARS, AND WHAT ARE THE MOST SIGNIFICANT IMPROVEMENTS CUSTOMERS CAN EXPECT?

Over the years, we've moved beyond quoting to supporting comprehensive cost modeling. Our customers can now incorporate complex labor models — including capacity, depreciation, and utilization — directly into their quotes. This gives them full control over costs, pricing strategies, and metrics, allowing for quoting that aligns with their specific business logic and reporting needs. We've also scaled our capabilities to support very large projects, including those with over 100,000-line items.

WHAT ROLE DOES USER SIMPLICITY PLAY IN YOUR SOFTWARE DESIGN AND ENGINEERING?

Simplicity is essential, but never at the cost of capability. At CalcuQuote, our priority is solving real user frustrations, not just building features that look impressive. Our UX efforts focus on making powerful features intuitive and accessible, whether the user is a junior buyer or a senior engineer. We're actively revisiting many of our workflows to ensure they are usable for all levels of experience, not just power users.

WHAT SPECIFIC CAPABILITIES SET CALCUQUOTE APART FROM OTHER QUOTING AND PROCUREMENT PLATFORMS?

CalcuQuote pioneered API-based quoting in the EMS industry. Our platform now facilitates real-time collaboration with over 1,000 global suppliers, including



technology today **CalcuQuote** ELISA INDUSTRIES

distributors, manufacturers, and brokers. This enables rapid access to comprehensive, actionable pricing data right at the point of quote generation.

HOW DOES YOUR SOLUTION UNIQUELY ENHANCE EFFICIENCY, INSIGHT, AND DATA INTEGRITY ACROSS THE SUPPLY CHAIN?

It's all about volume and connectivity. To date, we've processed over 762,000 BOMs and 59 million MPNs, creating a rich dataset that fuels deeper insights and better decision-making. Our platform creates a direct bridge between EMS companies, distributors, OEMs, and PCB manufacturers, which streamlines communication and reduces data friction across the supply chain.

HOW CRITICAL IS YOUR LEVEL OF DATA RELIABILITY, AND HOW DO YOU MAINTAIN IT?

Data reliability is central to everything we do. When you're managing hundreds of millions of dollars in quotes annually, even minor errors can have major financial consequences. Our customers trust us to safeguard their data and provide accurate information in return. With over 762,000 BOMs processed and 79 million sourcing decisions supported, we've built a strong foundation of trust. We also have over 20,000 active users who rely on CalcuQuote to enhance efficiency while maintaining high data accuracy. To ensure this reliability, we continuously monitor and maintain our 40+ supplier API integrations.

HOW DOES CALCUQUOTE'S INTEROPERABILITY WITH ERP, CRM, PLM, AND MES SYSTEMS BENEFIT USERS?

We've built OpenAPIs for all core functions, allowing customers to deeply integrate CalcuQuote into their existing systems. This



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means they can automate processes ranging from CRM deal creation to ERP BOM ingestion and MRP-driven PO generation. If a system supports APIs, it can integrate seamlessly with CalcuQuote. For those that don't, we offer robust alternatives for data import and manipulation. Our flexible approach allows customers to integrate directly, partner with third parties, or work closely with us.

HOW WELL DOES YOUR PLATFORM SCALE FOR BOTH SMALL EMS SHOPS AND LARGE ENTERPRISES?

Our platform scales exceptionally well. While we initially designed the system to handle BOMs up to 12 levels deep and a few hundred lines, it has evolved into a robust solution that supports

the most complex enterprise use cases. Although 95% of BOMs have fewer than 500 lines, we've built the platform to handle over 120,000 MPNs and more than 400 BOM levels, making it ideal for large, intricate projects.

CAN YOU SHARE ANY RECENT COLLABORATIONS ENHANCING THE VALUE OF YOUR PLATFORM?

We're especially proud of our recent partnerships with Banyan.eco and Cableteque. Banyan.eco enables carbon footprint tracking across BOMs, supporting sustainability and compliance efforts. Meanwhile, our integration with Cableteque improves automation in cable and wire harness manufacturing. Beyond these, we're continually expanding our supplier network to provide customers with broader and more reliable price and availability coverage.

WHAT TRENDS IN THE EMS INDUSTRY ARE SHAPING YOUR ROADMAP?

Tariff volatility is a major factor influencing our roadmap. Our Landed Cost feature was developed specifically to help EMS companies manage these fluctuating tariffs and associated fees. It's designed to be both automated and flexible, giving users the power to control how costs are captured and applied within their quoting workflows.

HOW IS CALCUQUOTE HELPING MANUFACTURERS STAY COMPETITIVE AMID DIGITAL TRANSFORMATION AND SUPPLY CHAIN RESILIENCE EFFORTS?

We're leading the way with several key initiatives. Our BOM Health Monitoring feature helps users identify risks at both the line and BOM level, enabling proactive management of shortages and obsolescence. Our broad sourcing network of over 1,000 global providers speeds up the material sourcing process through collaboration. Additionally, our PCF tracking supports eco-design and sustainability goals without sacrificing cost efficiency or agility.

WHAT'S DRIVING CALCUQUOTE'S GROWTH, AND WHICH MARKETS ARE YOU MOST EXCITED ABOUT?

Our growth is powered by continuous product innovation and a commitment to customer-centric support. We're also expanding globally, now serving customers on six continents. If an electronics



manufacturer pops up on the seventh, we're ready to win their business too. We're also developing more solutions tailored to OEMs and component suppliers to help them manage design, sourcing, and collaboration at scale. While EMS remains our core focus, we're excited to branch into adjacent verticals facing similar supply chain challenges.

WHAT'S NEXT FOR CALCUQUOTE?

There's much more on the horizon. We're rolling out new features and forming partnerships that support our mission to reinvent the electronics supply chain. We encourage readers to stay informed by following our blog, signing up for updates, or attending one of our upcoming events. The best is truly yet to come — and we're just getting started.

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SOLUTIONS FOR PRECISION INSPECTION OF HIGH-RELIABILITY PIN INTERCONNECTIONS

BY BRENT A. FISCHTHAL,
GLOBAL HEAD OF MARKETING
COMMUNICATIONS, KOH YOUNG



Executive Summary

Electronics manufacturers demand more than speed, they require absolute confidence in every interconnection.

In high-reliability sectors like automotive, military and aerospace, telecommunications, and industrial automation, even a single bent pin can compromise an entire system.

As board layouts become denser and connectors more diverse, manufacturers are facing inspection challenges that many systems cannot solve.

Koh Young developed the KY-P3 3D Pin Inspection System specifically to address these challenges. It delivers precise, repeatable inspection across a wide range of pin types using advanced 3D metrology and intelligent data integration. Offered in both inline and standalone formats, the KY-P3 adapts to production environments from high mix to high volume, helping manufacturers raise inspection standards, minimize risk, and drive toward zero-defect goals.

PINPOINTING PRECISION

As electronics assemblies become more compact, complex, and densely populated, the role of connector pins—whether in press-fit, SMT, or other configurations—has become increasingly critical. These pins serve as both mechanical and electrical interfaces across a wide range of applications, including automotive electronics, high-speed server backplanes, telecommunications, aerospace systems, and industrial controls.

With reliability expectations at an all-time high and product tolerances growing ever tighter, the need for precise and repeatable pin inspection has never been more important. The Koh Young KY-P3 answers this need with a dedicated 3D measurement solution that helps electronics manufacturers accurately verify pin placement, height, tilt, coplanarity, and overall alignment, regardless of the connector type or board design.

IMPERATIVE INSPECTION

Modern circuit boards often feature tens of thousands of pins in a wide array of shapes and sizes. Many are embedded in complex housings or placed in high-density layouts with minimal spacing between features. At the same time, these pins are getting shorter and smaller, increasing the risk of manufacturing defects such as crushed, bent, tilted, twisted, misaligned, or missing pins.

In environments such as automotive safety systems or data center backplanes, even a single faulty pin can lead to catastrophic failure, product recalls, or compromised system reliability. Traditional inspection methods, including manual visual checks, electrical tests, or even 2D optical and x-ray inspection, lack the precision and coverage necessary to consistently identify such defects, particularly on newer assemblies that feature a mix of press-fit and SMT components.

PURPOSE-BUILT

Koh Young developed the KY-P3 specifically to address the limitations of legacy inspection tools. It delivers true 3D inspection for a wide variety of pin types, including single pins, press-fit pins, fork-type pins, and those enclosed in connector shrouds. Using Koh Young's patented shadow-free Moiré technology, the KY-P3 captures high-resolution height data across the z-axis to perform accurate and repeatable measurements of each pin's position and orientation.

To meet the complex demands of modern electronics assembly, the KY-P3 offers a range of advanced features that ensure comprehensive and highly accurate inspection across diverse pin types and configurations, including:

- **True 3D Measurement:** Unlike 2D AOI systems, the KY-P3 generates full 3D data to inspect pin height, tilt, pitch, spacing, and offset. This is essential for validating complex pins and connectors that may be partially obscured or irregularly shaped.
- **Full-Scale Linearity:** The system offers reliable pin height measurements of $\pm 0.75\%$ up to 25mm, maintaining a tight linearity specification that supports even the most demanding applications.
- **Pin Tip and Body Extraction:** The system distinguishes between the pin body and tip using adjustable height thresholds, enabling accurate identification of the measurement plane and true centerline for each pin.
- **Offset and Coplanarity Detection:** It calculates relative and absolute offsets by analyzing spatial relationships between adjacent pins, verifying that all pins fall within the intended X-Y and Z-axis tolerances.
- **Support for Complex Connectors:** The system is capable of inspecting connector pins housed in plastic or metal shrouds, as well as angled and pointed pins, making it applicable to a broad range of product designs.



MATCH PRODUCTION NEEDS

Understanding that no two factories operate alike, Koh Young offers the KY-P3 in two configurations to accommodate both high-volume and flexible manufacturing environments:

- **Inline KY-P3:** Designed for seamless integration into production lines, this configuration supports real-time, high-speed inspection of boards as they flow through the assembly process. It is ideal for manufacturers needing continuous throughput without sacrificing precision.

- **Standalone KY-P3:** For facilities requiring flexibility or off-line inspection, the standalone system offers the same inspection accuracy in an independent unit. It supports audit inspections, first-article checks, rework validation, or environments with a high product mix and varied inspection requirements. Despite being free from the line, it delivers the same level of detailed inspection as its inline counterpart.

Both systems support Koh Young's full suite of features and software integration, ensuring consistent performance regardless of deployment method.



PROCESS OPTIMIZATION THROUGH DATA

Beyond raw inspection capabilities, the KY-P3 becomes even more powerful when paired with Koh Young's KSMART factory software. KSMART transforms raw measurement data into actionable insights, enabling process engineers to monitor trends, detect anomalies, and improve process capability in real time.

- **Real-Time Monitoring:** Tracks inspection outcomes and machine performance by product, job, or fixture, helping manufacturers maintain control over Cpk values (process capability index) and process variability.
- **Statistical Process Control:** Visualizes inspection trends with detailed analytics such as PPM analysis, Gauge R&R (Repeatability and Reproducibility), and pin offset distribution, helping users optimize upstream equipment like pin-insertion or placement machines.

This integration closes the loop between inspection and process control, contributing to yield improvements, reduced rework, and lower cost of quality across the board.

ZERO-DEFECT MANUFACTURING

Whether verifying press-fit interconnects in an automotive control unit, inspecting fine-pitch SMT headers in a network switch, or ensuring alignment of power pins in an industrial connector, the KY-P3 provides the precision and reliability electronics manufacturers need to meet today's quality standards.

By combining high-resolution 3D imaging, robust inspection algorithms, and intelligent process monitoring, the KY-P3 enables users to move beyond simple defect detection toward proactive process control. Its versatile deployment options and broad inspection coverage make it an essential tool to achieve zero-defect electronics manufacturing.

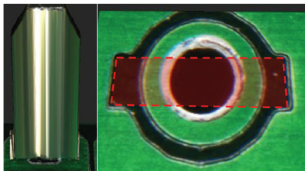
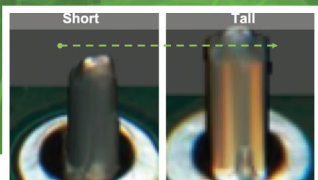
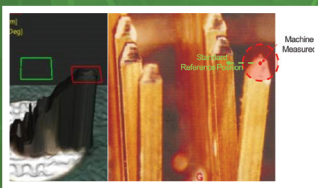
In an industry where product complexity continues to escalate and tolerance for error continues to decline, the KY-P3 stands out as a dependable solution for pin inspection. It provides the clarity and control needed to build the future of electronics, one pin at a time.

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TECHNOLOGY

True AOI Technology with AI-powered Algorithms for Through-Hole and SMT inspection



Koh Young is delivering solutions to increase production efficiency with measurement-based inspection for boards with a mix of component types. The Zenith and KY-P3 product offerings provide automated back-end solutions that combine advanced optics and innovative AI-powered vision algorithms for through-hole leads and pins, as well as traditional surface mount components on the same assembly.

Typically, manufacturers required two separate machines for surface mount and through-hole inspection, but the updates to our best-in-class Zenith and KY-P3 machines afford mixed technology capabilities that reduces capital investments by delivering machines capable of both surface mount components and through-hole leads and pins.

The traditional surface mount components and through-hole leads and pins are inspected with our multi-projection Moiré interferometry system. With proprietary, AI-powered algorithms for blow or pin holes, solder volume, bridging, insufficient, excessive, solder balls, and solder fillet, missing or offset pin, pin height, polarity, plus foreign material, the machines are more powerful than ever. When considering pin inspection challenges, the KY-P3 addresses single, array, press-fit, and fork arrangements, as well as pins within a connector shroud, inner and outer wall distances, fork pin separation, and paste height measurement to help manufacturers increase yields.

Incorporating the world's first True3D™ quad-projection probe, the systems deliver shadow-free measurement with low false calls. Additionally, the “Stop-and-Go” probe movement allows it to capture 3D measurement data without system vibration, image stitching, or data interpolation. The machines deliver True3D™ measurement capabilities for automotive electronic control units (ECMs), industrial products, and computer boards, as well as backplane and connector assemblies. Its quantitative True3D™ measurement-based approach delivers best-in-class accuracy and repeatability for electronics manufacturers.



- Algorithms for Blow or Pin Holes, Bridging, Insufficient, Excessive, Volume, Solder Balls, and Solder Fillet, Missing or Offset Pin, Pin Height, Volume, Polarity, plus Foreign Material and Debris
- Suitable for Pin in Paste, wave, and selective
- Dual Side Inspection with Integrated Flipper
- 70mm extended clearance
- Versatile substrate and carrier handling systems
- Automated back-end THT inspection solution

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