

MYNNews

A magazine from Mycronic

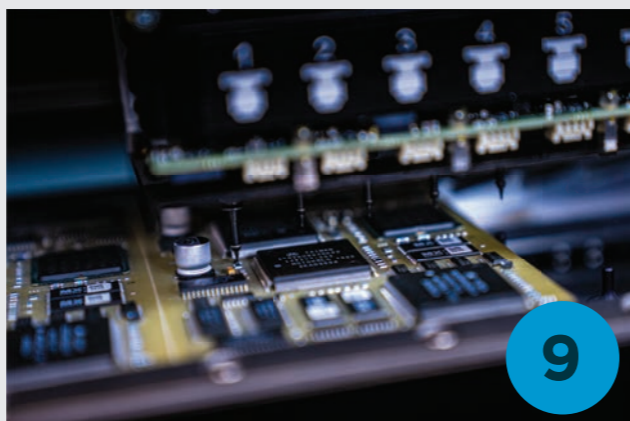
2023.03

The new MX7™ mounthead
Flexibility.
Turbocharged.

MYPro A40™
TURN UP THE VOLUME

Mission accomplished
JET PRINTING FOR COMPLEX PCBs

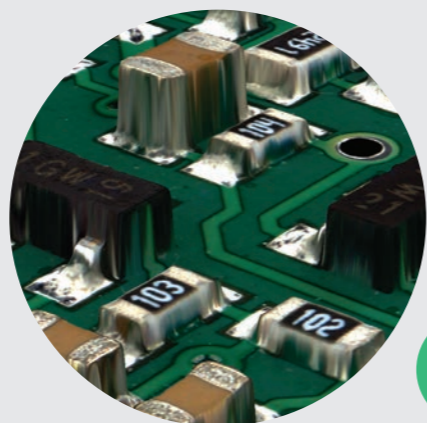
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MYCRONIC

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Exciting times lay ahead for Mycronic customers. Following recent advances in high-speed jet printing and 3D inspection, high-capacity component storage and intelligent programming assistance, the core of the Mycronic production concept is now getting its biggest upgrade in over a decade with the MYPro A40 pick-and-place. For every stage of PCB assembly, manufacturers are now well equipped for their next phase of growth.

The new MYPro A40 is the result of one of Mycronic's most ambitious technical development projects to date. To achieve it, we leveraged the full expertise of our global R&D engineers in Sweden and Japan to truly push the limits of what a high-mix platform can do. Their aim? To create an entirely new mounthead technology, servo platform and user interface capable of handling a far wider mix of components with the highest possible precision, speed and ease of use.

Needless to say, these were no simple challenges. To keep the flexible user experience Mycronic is known for. To reach entirely new levels of throughput. And to do it all without the risk of damaging, mis-picking or dropping components. Sensitivity meets speed. Complex boards meet simple execution. The art of high-mix meets the consistency and capacity of volume production. The MYPro A40 bridges these gaps like no other pick-and-place platform in the world.

In many ways, it reflects a vision to which we remain true — to meet the industry's fast-changing technologies, accelerating innovation cycles and expanding product mixes with the most agile, productive and accurate PCB assembly solutions on the market.

Thanks to the latest generation of MYPro technologies, this vision is now more complete. The MYPro I series 3D AOI has significantly lowered learning curves while boosting takt times in 3D inspection. The MYPro MY700 Jet Printer and PI series 3D SPI improve solder joint quality for even the highest volume consumer electronics manufacturers. The MYTower series X vastly expands capacity for just-in-time management of material flows. And now, the core strengths of pick-and-place productivity, easy usability and factory-wide connectivity have been strengthened like never before.

Put all these pieces together and a thrilling future begins to emerge. One where any manufacturer can embrace any product mix and respond with confidence: Bring on the change—and turn up the volume.

// Clemens Jargon
Senior Vice President, High Flex

The MYPro A40™ – Agility accelerated **Turn up the volume**

The MYPro MY300 set the benchmark for productivity in high-mix PCB assembly. Now its successor, the MYPro A40, is raising the bar even further with 48 percent faster placement speeds and an ability to mount six times larger components with the MX7 high-speed mounthead. All so you can master any product mix. And pump up production volumes to levels never seen before.

TEXT: GRANT BALDRIDGE PHOTO: MYCRONIC



MYPro A40 in brief

Boosted output: 48% higher throughput speeds

Expanded possibilities: Mount six times larger components with MX7 high-speed mounthead

Simplified workflow: New intuitive graphical user interface

Add additional machines to your line with Mycronic's scalable pick-and-place solution, the MYPro A40. The MYPro A40DX has two MX7 high-speed mountheads, and one high-precision head capable of placing components from 03015 up to 99×73×22mm.

MYPro A40DX-13: Feeder capacity up to 160×8mm reels

MYPro A40DX-17: Feeder capacity up to 224×8mm reels

As Mycronic customers continue to grow, so do their demands. Whether it's handling bulkier, odd-shaped components, scaling up to serial production or eliminating all possible machine calibration and maintenance, the obstacles often boil down to the age-old tradeoff between speed and flexibility. Now, with the all-new MYPro A40 pick-and-place, high flexibility and high-speed assembly have come together at last.


TWO AMBITIOUS GOALS

At the heart of the MYPro A40, the all-new MX7 mounthead integrates seven independent nozzles with 14 motors to unlock new levels of versatility when picking and placing a diverse range of component types. Thanks to an advanced servo

system, updating at a rate of 80,000 times per second, it ensures an unprecedented combination of control and speed by optimizing every movement across up to 224 interchangeable feeder positions and a 640×510 mm board placement area.

48% FASTER THROUGHPUT

The result is a significant increase in placement speed to 59,000 cph, compared with the 40,000 cph top speed of its predecessor, the MYPro MY300. "And this is just the IPC-rated speed," emphasizes Liam Karlsson, Product Manager Placement. "In reality, the productivity gains are even higher since a substantially wider component range can be handled without changing mountheads or introducing any other additional downtime."



The MX7 makes it possible to handle a growing array of component technologies within a single, versatile machine.

For high-mix manufacturers reluctant to take on long series production runs, this rise in output opens up far higher volume production capabilities without necessitating costly – and often idle – investments in a dedicated high-volume line.

At the same time, the MYPro A40DX gives dedicated volume manufacturers the opportunity to expand their product mix without sacrificing speed. With the industry's fastest changeovers, flexible feeders and powerful process control systems, the MYPro A40DX makes it possible to seamlessly shift between series production and single-board prototypes. This flexible production concept allows manufacturers to adapt to the accelerating innovation cycles, complex board designs and rapid prototyping demands that are increasingly driving the development of the electronics industry.

SIX TIMES LARGER COMPONENTS

One such sign of change is an expanding diversity of components, placed in increasingly dense board

designs. The trend toward just-in-time component deliveries further complicates material flows, creating new risks for supply bottlenecks and line stoppages.

The new MX7 mounthead addresses these challenges through a custom design in which each of seven nozzles moves independently in theta and Z axes. Able to pick, rotate and place individually, these extremely space-efficient nozzles significantly reduce the risk of dropping, mis-picking or damaging components. Capable of handling the industry's widest range of components - including those up to six times larger than the maximum size placed by the previous high-speed mounthead – the MX7 makes it possible to handle a growing array of component technologies within a single, versatile machine.

A high precision mounthead complements the MX7 to mount chip components as small as 0.3×0.15mm (009005), and components as large as 99×73×15/22mm.

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Times are changing, and I'm confident that the MYPro A40 will open up entirely new opportunities for our customers' next phase of growth.

CLEMENS JARGON
SENIOR VICE PRESIDENT HIGH FLEX DIVISION

ALL-NEW GRAPHICAL USER INTERFACE

Any high-mix platform, of course, is only as efficient as its operator. Which is why Mycronic has devoted substantial effort into equipping the MYPro A40 with a new graphical user interface (GUI) that maximizes manufacturers' most scarce asset—operator attention. Simple, yet powerful, the new GUI provides uncomplicated step-by-step touchscreen guidance while raising visibility of the most relevant process data. In an industry with relatively high staff turnover rates, this intuitive graphical interface makes both training operators and running the pick-and-place process smoother—and more error-proof—than ever before.

A UNITED FORCE OF HIGH-MIX ENGINEERING

Behind the scenes, the development of the MYPro A40 brought together a diverse range of skills from Mycronic's global R&D resources. In Sweden, a long heritage of high-mix expertise and close customer collaboration was brought to bear on servo and software development, while a dedicated team of mechanical engineers in Japan ensured that the new MX7 mounthead reached the highest levels of technical performance.

“The MX7 launch became a reality thanks to the mixture of Swedish and Japanese cultures, and that's what I found most interesting,” says Yuji Tanaka, Group Manager Mechanical Design. “The R&D teams in Mycronic Sweden and Japan excel in different areas: the former prioritizes customer usability, while the latter strives for machine performance, such as

speed, quality and reliability. Both parties openly provided new ideas and were willing to understand how the others thought. In that sense, the MX7 is a fantastic example of leveraging one another's strengths.”

A NEW BACKBONE FOR THE FUTURE OF FLEXIBILITY

Looking ahead, the new MYPro A40 represents yet another significant milestone in the effort to bridge the gap between flexible, high-mix assembly and high-volume series production. The recently introduced MYPro I series 3D AOI with accelerated programming and takt times, the high-capacity MYTower series X material handling system, the high-volume MY700 jetting systems and a range of supporting software solutions all add to this growing list of innovations. Together, they form an entirely new generation of integrated MYPro Line assembly solutions—the industry's most state-of-the-art production solution for flexible PCB assembly.

In a world where business growth depends on the ability to profitably take on any job, any component and any batch size, the MYPro A40 adds a powerful new tool to Mycronic customers' growing arsenal. “For me,” says Clemens Jargon, Senior Vice President High Flex Division at Mycronic, “the most exciting part will be to see how customers use this to platform to scale up their production and accelerate delivery times. Times are changing, and I'm confident that the MYPro A40 will open up entirely new opportunities for our customers' next phase of growth.” ●

The master of high-mix just turned up the volume

Introducing the all-new MYPro A40™

Looking to expand your product mix and your production volumes? Now you can. With the new MYPro A40™ pick-and-place, you can boost your throughput by up to 48%. And handle a substantially wider component range. All with the same high accuracy and fast changeovers that MYPro platforms are known for. Equipped with the all-new high-speed MX7™ mounthead and new user interface, the MYPro A40™ accelerates the journey toward intelligent productivity. Learn how the next-generation MYPro A40™ can help you flex your potential at mycronic.com.



The new MX7™ mounthead **Flexibility.** **Turbocharged.**

Mount a far wider range of components at 48 percent higher top speeds. The MX7 mounthead technology is the fast-beating heart of the next-generation MYPro A40 pick-and-place machines, making it possible to simultaneously boost production volumes and take on more jobs. Driven by seven high-precision nozzles and 14 independent motors, the MX7 represents a leap forward in performance and versatility.

TEXT: GRANT BALDGRIDGE PHOTO: MYCRONIC

A new generation of flexible, high-speed pick-and-place technologies is here. The result of several years of in-house development, the new MX7 mounthead technology goes further than ever before in bridging the gap between high-mix and high-volume PCB assembly.

PARALLEL PRECISION

At the core of the MX7 are fourteen independently controlled Z and theta motors, making it one of the world's first multi-axis pick-and-place technologies. Each of these motors is individually guided, enabling much more reliable and repeatable placement in both the Z and theta axes. This level of granular control is unprecedented in the industry and opens up new possibilities for high-precision assembly.



I'm convinced the MYPro A40 and MX7 will impress the industry, taking PCB assembly to completely new heights.

YUJI TANAKA
GROUP MANAGER MECHANICAL DESIGN

MOUNT VIRTUALLY ANY COMPONENT

The MX7 mounthead takes flexibility to the next level, enabling the handling of component sizes up to 45×45×15mm or 150×40×15mm, and down to 01005 (0.4×0.2mm). This amounts to a substantial increase in the range of component types and sizes mounted by a single platform, making the MYPro A40 a versatile solution for a wide range of applications. Whether you're dealing with fine-pitch CSPs, FCs, BGAs, or larger, odd-shaped components, the MX7 can handle them all while minimizing the risk of damaging, mis-picking or dropping parts.

80,000 UPDATES PER SECOND

Increased speed was one of the key design objectives in the development of the new platform, resulting in a 48 percent increase in top placement speeds compared to previous high-speed mount-heads. This boost in performance is made possible by an entirely new servo platform, which updates at a rate of 80,000 times per second in order to optimize every movement. In combination with state-of-the-art vision and pressure sensor systems, it allows for rapid pick-and-place operations without compromising accuracy or reliability.



Highlights of the new mounthead technology

HIGHER THROUGHPUT

The MX7 enables top placements speeds for 59,000 cph for the MYPro A40DX - a full 48 percent speed increase compared to its predecessor. In beta tests, the productivity increases are significantly higher, thanks to the platform's ability to handle a wider range of components with less downtime in actual production conditions.

GENTLER PLACEMENT

To prevent component damage, each of the seven placement nozzles operates with a less than 2 Newton placement force. At the same time, they eject a highly controlled stream of air during component placement, virtually eliminating the risk of unnecessary nozzle impact.

ADVANCED ACCELERATION CONTROL

Despite its gentle touch, the MX7 mounthead unit is capable of up to 3G acceleration forces, making quick work of even the most complex board layouts.

ROBUST, LOW-MAINTENANCE CONSTRUCTION

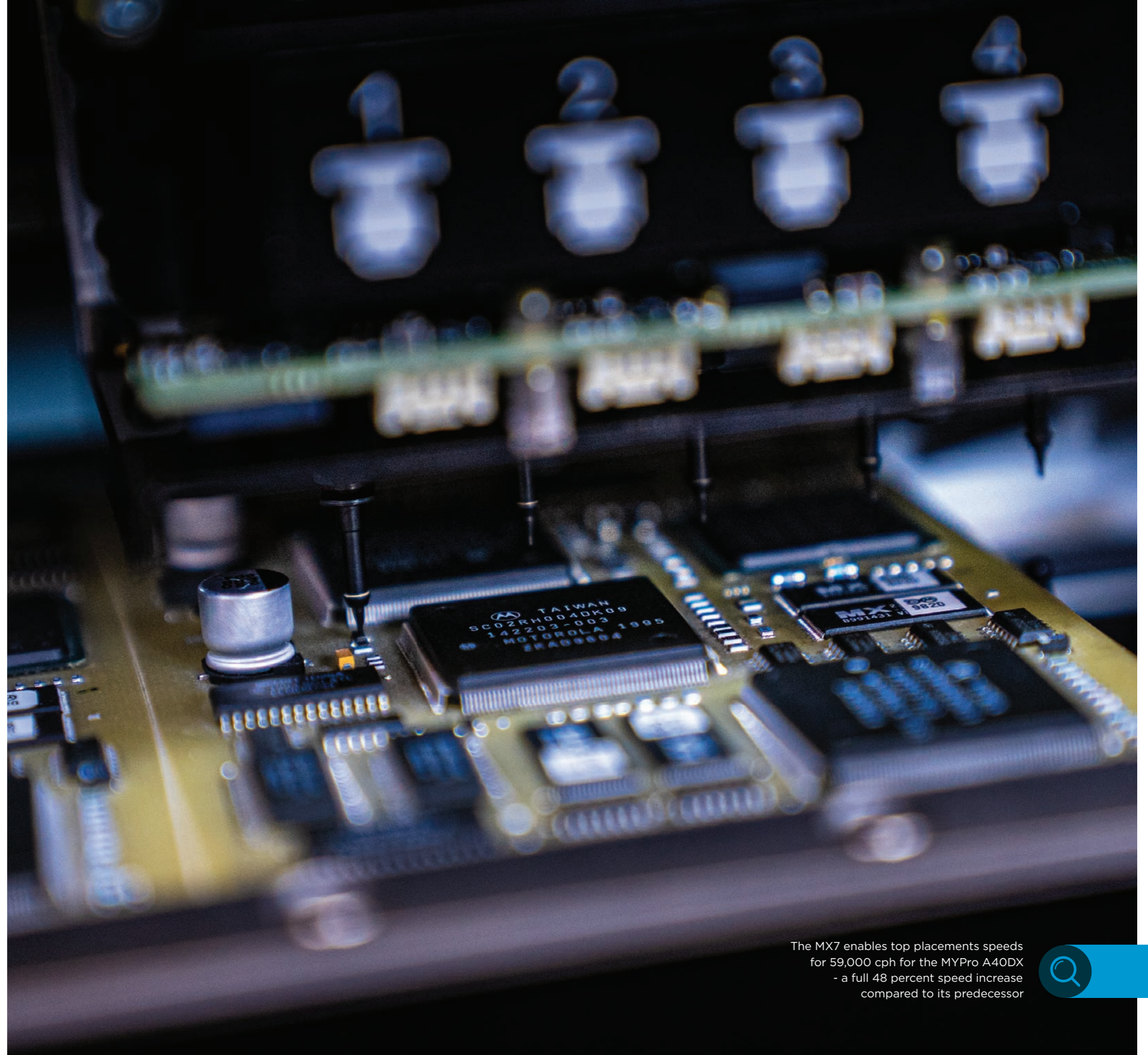
A combination of robust design, finely controlled motion systems, contributes to significantly lower maintenance and calibration requirements.

SIX TIMES LARGER COMPONENTS

Although the individual MX7 nozzles are spaced just 20 millimeters apart, the system is capable of mounting components up to six times larger than those placed by previous high-speed mountheads.

INNOVATIVE TOOLS

A new range of unique tool types on the MX7 mounthead, together with new toolbanks for tool changes, ensures more precise component handling for a wider array of applications. Each nozzle is also equipped with a unique ID to improve process traceability and analysis.



The MX7 enables top placements speeds for 59,000 cph for the MYPro A40DX - a full 48 percent speed increase compared to its predecessor





Our engineers met really tough demands in both mechanics and electronics.

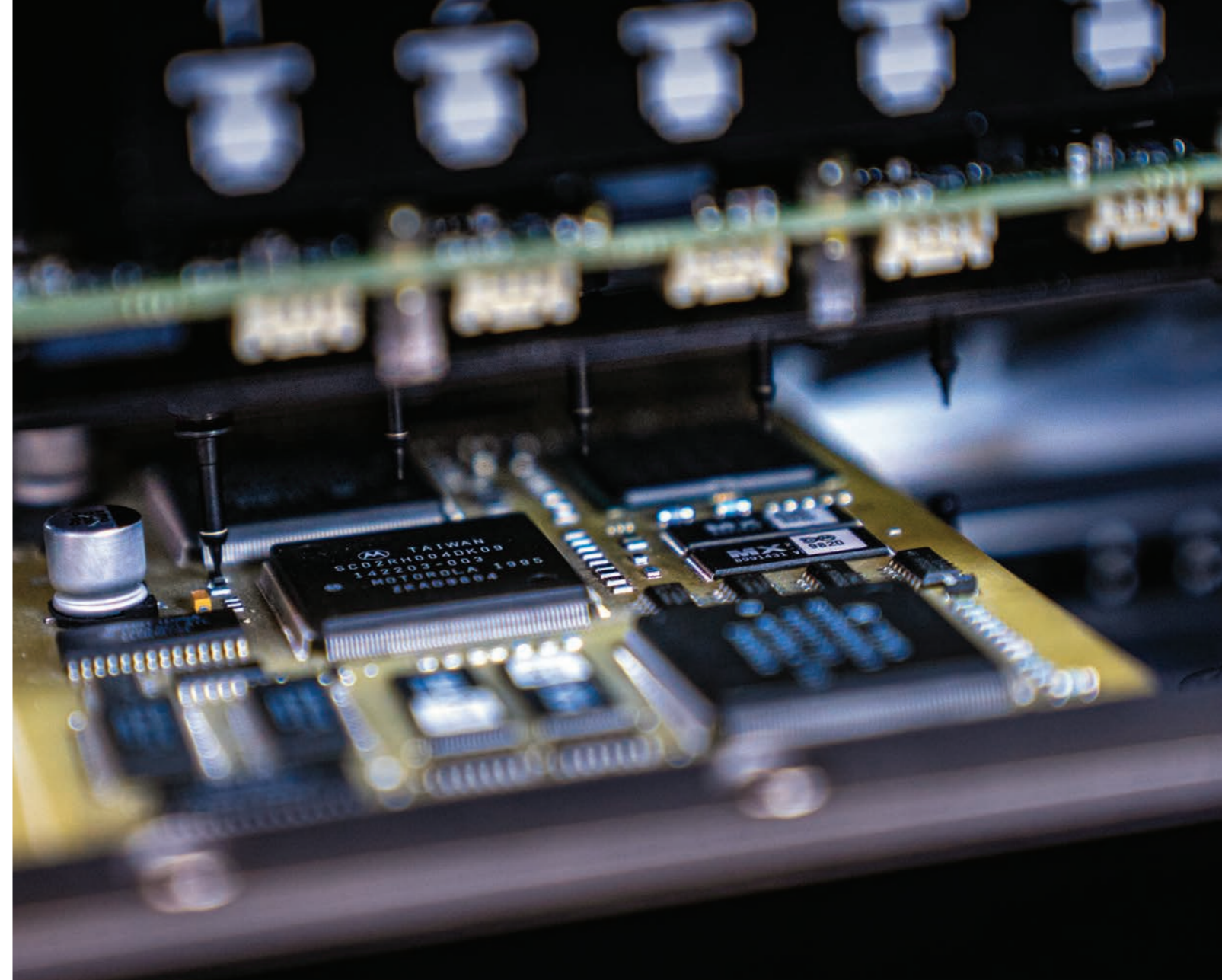
YUJI TANAKA
GROUP MANAGER MECHANICAL DESIGN

ENGINEERING A NEW GENERATION OF HIGH-SPEED ASSEMBLY

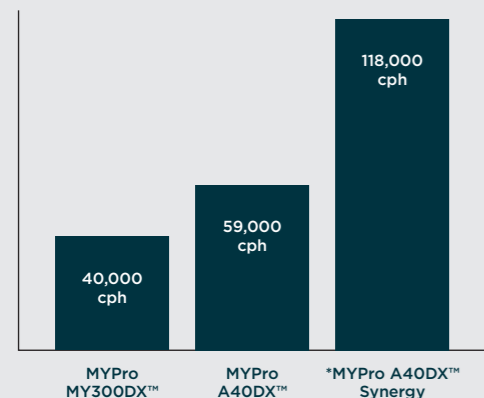
Behind the enhanced performance of the MX7 was an experienced team of Mycronic engineers in Japan and Sweden, whose R&D efforts have resulted in the new generation of MYPro A40 high-speed pick-and-place platforms. “A lot of credit goes to our engineers, who met really tough demands in both mechanics and electronics,” says Yuji Tanaka, Group Manager Mechanical Design. “For instance, at what pressure should the mounthead pick the target component? How can it place multiple components as densely as possible, at a rate of hundreds of parts per minute? And what electromechanical configuration is necessary to do all this without damaging the board or the components?”

To solve these challenges, a number of innovative engineering solutions had to be developed from scratch, explains Tanaka. “First, we had to be very disciplined in reducing the weight of all the moving parts. Then, it was even more challenging to both miniaturize and find the ideal placement for the touch detection mechanism to ensure enhanced usability: one of the real trademarks of every Mycronic solution.”

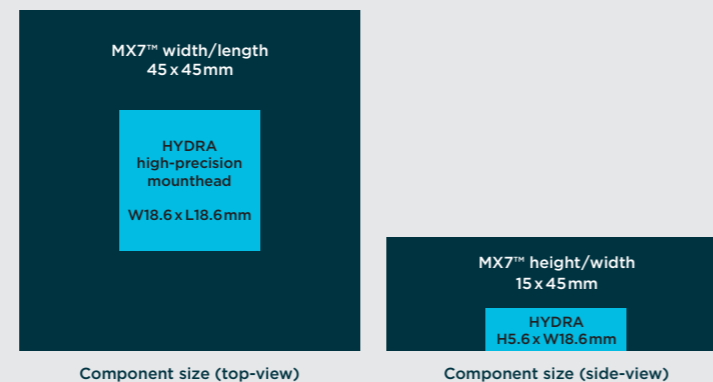
“Fortunately, every engineer on our team has more than a decade’s experience solving exactly these challenges,” he concludes. “Everyone knew how long it takes to optimize a new head and system, so we factored in all the variables prudently and executed each plan carefully. And now, it’s paying off for Mycronic customers. I’m convinced the MYPro A40 and MX7 will impress the industry, taking PCB assembly to completely new heights.” ●



Placement speed



Component range improvement for high-speed mounthead



*All MYPro A40DX models include two MX7 high-speed mountheads and one Midas high-precision mounthead.

The new MX7™ mounthead. Flexibility. Turbocharged.

Flexible assembly just got turbocharged. With the all-new MX7™ mounthead technology, you can place up to six times larger components at up to 48% higher top speeds. The MX7™ is the fast-beating heart of the new high-speed MYPro A40™ pick-and-place platform. Expanding your product mix and accelerating your throughput with seven high-precision mountheads, driven by 14 independent motors. Learn how the next-generation MX7™ can boost your productivity and open up entirely new ways to thrive on change at mycronic.com.

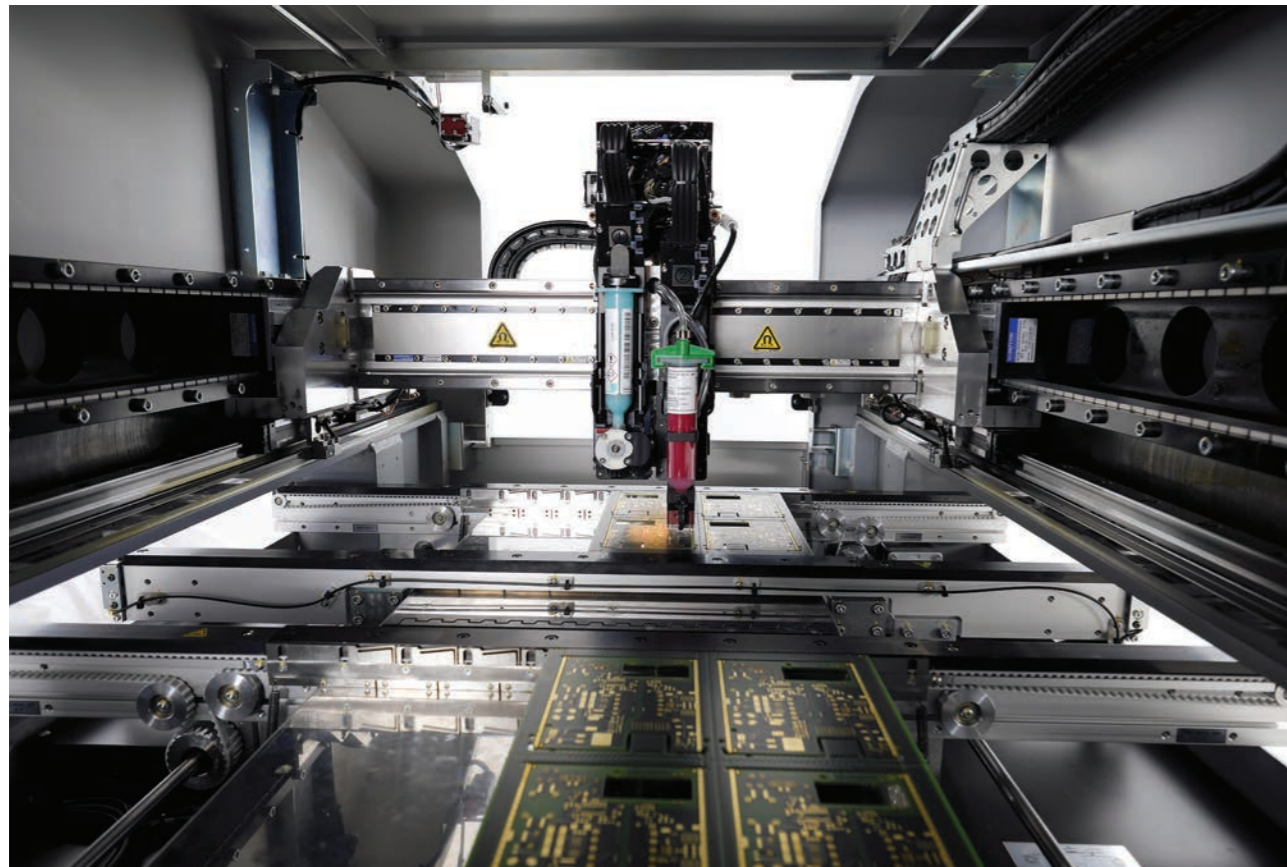
Jet printing for complex PCBs

Jetting to success on Norway's Electronic Coast

Zero changeover times, 30 percent lower rework rates, no stencils

Covering 95 percent of the solder paste printing needs of four pick-and-place machines, with more than 20 changeovers a week—including BGAs and LGAs with a 0.3mm pitch—might sound like a mission impossible. Yet, for Mectro AS it's all in a day's work, executed swiftly and efficiently using a single next-generation MY700JX Jet Printer.

TEXT: DAVID GRAY PHOTO: MECTRO AS, MYCRONIC



For solder paste printing, Mectro exclusively uses its MY700JX Jet Printer.



Established in 1981, Mectro is situated 90 kilometers south of Oslo along Norway's renowned "Electronic Coast," a thriving innovation hub of tech startups. This dynamic ecosystem also boasts the presence of multinational corporations catering to prototype and low- to mid-volume production demands in sectors such as defense, marine, space and green energy. Over the years, Mectro has built a top reputation as a Nordic subcontracting partner based on its skilled engineering teams, customer focus, precision products, swift deliveries, and responsiveness to RFQs.

A STRONG 30-YEAR PARTNERSHIP

So, why did Mectro choose the next-generation MY700JX Jet Printer, and why now? Peter Sundell, Production Manager at Mectro, explains the background: "We have a 30-year partnership with Mycronic and we've been very happy with the quality and durability of their machines." He highlights their ownership of three Mycronic pick-and-place machines and two component storage towers. In 2010, they made a game-changing decision to

invest in a MY500 stand-alone Jet Printer, eliminating the need to order, install and clean screen printer stencils with every changeover.

"For many years, the MY500 and our current machine park have served us well," he says. "But today we see added pressures on costs, speed and mounting of smaller components and circuit boards. This sometimes leads to rework issues or, for example, 'tombstoning' of components."

TWO-IN-ONE SOLUTION FOR PRECISION AND EFFICIENCY

"Upgrading to the MY700JX solved these issues. It gives us an all-in-one solution for both solder paste jet printing and high-speed jet dispensing of adhesives, epoxies, UV materials and more," says Sundell. "It gives our engineers 100 percent control over the volume and shape of each solder paste deposit on every single pad, individually," he says of this compact machine, which the company purchased in 2021.



Mectro AS in brief

Founded: 1981

Location: Horten, Norway
(90 km south of Oslo)

Employees: 50

Turnover: 75 million NOK

Sectors: Marine, defense, medical, aerospace, energy (high-power resistors), miniaturized ceramic design

Specialization: EMS/SMD production/clean room die and wire bonding of ceramic and PCB; coil and transformer development; thick film circuits

ZERO DOWNTIME, 30% REDUCTION IN REWORK

Sundell continues, “The jet printing technology has dramatically increased our control on quality, while giving us really high flexibility. We use two ejectors and can switch between lead- and lead-free paste in seconds and add adhesives as needed. BGA and LGA packages with a pitch as low as 0.3mm are now within our reach. We now see 30 percent fewer boards requiring rework and zero tombstoning, thanks to a gluing process in the same pass with the second ejector. This has boosted our product yield from 80 percent to around 90 percent,” he says, adding that “The MY700 is also excellent for treating ceramic boards as it handles the boards very gently.”

EASE OF INSTALLATION AND PROGRAMMING

Ease of installation and user-friendly software have been additional benefits. Despite the challenges of Covid-19, remote installation went smoothly. Sundell praises Mycronic’s exceptional support and ease of programming and updating the machine, saying, “Today, it’s just a matter of a few clicks and you can pull up your CAD or Gerber files.”

A TECHNOLOGICAL MARVEL

“Every day, when I see our MY700 in action, I can’t help being amazed by the beauty of this jaw-dropping technology,” Sundell says. “With its ability to precision jet up to 1 million dots per hour, with consistency, day after day, to me this is truly a masterpiece of engineering—a blend of speed, accuracy, and 24/7 repeatability.” While he often considers their work an “art”, in this case he says, “it’s pure science.” ●



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I can’t help being amazed by the beauty of this jaw-dropping technology.

Discover the shortest path to a smarter future

Cut through complexity with the MYPro Line™

Wherever the future might take you, don't let change stand in your way. With the MYPro Line, you can jet print perfect solder joints at the highest speeds. Ensure non-stop production with intelligent storage and proactive replenishment. And eliminate defects with 3D inspection systems that monitor and improve your process over time. It's the best of Mycronic in a single integrated manufacturing solution for the most demanding build schedules, enabling maximum utilization for even the fastest-changing product mix. Whatever complexities tomorrow may bring, now there's a shorter path to a smarter future.



MYCRONIC



Zeal Electronics operates a fully automated 3D AOI island, configured with an automatic loader and unloader, and with an offline review station.

Total control, fewer false calls, no hidden defects **Zeal Electronics showcases the future of inspection and process control**

Trailblazing with MYPro 3D AOI • MYWizard • Escape Tracker • MYCenter Analysis

Everyone's talking about Artificial Intelligence (AI) these days. While it's not a novel concept in electronic assembly, the current buzz centers on the potential to eliminate false calls, avoid defects and boost productivity. Amid the chatter, one company is doing more than just talking: Zeal Electronics Ltd is a UK subcontractor embracing AI-powered optical inspection, as well as software analytics to increase accuracy and speed up deliveries.

TEXT: DAVID GRAY PHOTO: ZEAL ELECTRONICS LTD, MYCRONIC

Established in 1982, Zeal is nestled in the outskirts of scenic Chesterfield in the heart of East Midlands. Located a two-hour drive from London and conveniently situated near the M1 motorway and East Midlands Airport, the company has built a reputation as a trusted national leader in high-quality printed circuit boards. Zeal specializes primarily in prototypes and low to medium-volume electronics production.



Zeal Electronics in brief

Founded: 1984
Location: Chesterfield, Derbyshire, UK
Employees: 35
Turnover: 2.3 million GBP
Customers: small and larger OEMs
Sectors: Mobility, rail transport, oil, medical, road transport, domestic fuel monitoring, larger infrastructure security, domestic/commercial security, commercial home monitoring, maritime
Production: Prototyping; low and medium volume runs
Batch size: 1-1000+ boards, 8-10 changeovers/week
Specialization: PCB assembly, through hole, cable assembly, enclosure assembly, encapsulation

SERVING A DIVERSE CUSTOMER BASE

Zeal's customers represent a diverse spectrum of industrial sectors, spanning from railways, oil, mobility, medical and large infrastructure security to maritime and commercial home monitoring. The typical batch size ranges from 50 to 100 boards, with roughly 5 to 8 changeovers occurring each week. The company prides itself on fast four-day lead times from the moment inventory arrives at their facility.

QUALITY, SPEED, SKILLED PEOPLE

While Zeal's customers are diverse, they share a common requirement—to get their boards delivered as swiftly as possible with flawless perfection. Even a small defect, which might cause a railway signal or medical device to malfunction, can have catastrophic consequences. Zeal's commitment to quality, rapid turnaround times and its skilled workforce have allowed the company to navigate the fluctuations in the market, including challenges posed by Brexit and the Covid-19 pandemic. This resilience has enabled Zeal to achieve consistent annual growth rates of 8-12 percent, with a remarkable 16 percent surge in 2016-17.

THE POWER OF ONE LINE

Traditionally, Zeal operated two production lines with Mycronic equipment. Their journey began in 2011 with the purchase of an early Mycronic pick-and-place machine, and in 2017, convinced by the brand's reliability and unique high flexibility concept, they transitioned to a MY300 supplemented by a MY600 Jet Printer—they now have two. More recently, in response to supply chain disruptions in the aftermath of Brexit and Covid, the company adopted a new strategy to refocus on one line with just-in-time sourcing. The idea was (and is) to push optimization and performance to the maximum to support their growth plans in a cost-effective way. This explains why, in 2021, they invested in a high-performing Mycronic 3D AOI system and MYCenter Analysis software.

ELIMINATING DEFECTS, WASTE, REWORK

"In light of our ambitious growth and productivity targets, we recognized that 3D AOI would be crucial to eliminating defects, reducing waste and



Currently, it takes just 40 to 60 minutes to create a new inspection program for a double-sided PCBA.

minimizing rework," says George Brewer, Process and Systems Manager at Zeal Electronics. "Our prior 2D system was very basic, offered limited checks and had a high false call rate, which took a lot of time to review."

LIMITATIONS OF 2D INSPECTION

According to Brewer, one significant limitation of 2D is the inability to thoroughly inspect the solder joint's integrity. The traditional 2D approach primarily focuses on the surface of the board, detecting missing components or misalignments. In Zeal's case, their previous machine lacked solderability checks and a central image library with real production images for verification purposes, limiting changes to be made solely through programming.

A NIGHT-AND-DAY DIFFERENCE

Comparing the older system with the new 3D AOI technology, George Brewer describes the contrast as "night and day." The previous system was slow with limited capabilities. In contrast, the new system has an AI-powered interface known as MYWizard, akin to a personal assistant, speeding up programming through swift component recognition. Currently, it takes just 40 to 60 minutes to create a new inspection program for a double-sided PCBA—a time that continues to decrease as they create around one new program a day. "On repeat jobs, the AOI can be programmed in minutes;

its speed allows us to reduce the backlog of work and shorten the time to the clearing department," George says.

DRAMATIC REDUCTION IN FALSE CALLS

Over the past nine months, Zeal Electronics has been working with the 3D AOI system following a brief training program. Today it has built up an extensive inspection library based on over 200 programs. The philosophy is simple: the more it's used, the larger the library grows, and the faster programming becomes. Quality and yield are improving, too. "Our false calls are coming down significantly," he says, adding that Zeal has been particularly pleased with the training provided by Mycronic. It now has two operators that are fully up to speed.

NOTHING GETS AWAY FROM ESCAPE TRACKER

George Brewer underscores another key asset of the system: Escape Tracker. There is currently no equivalent on the market to this self-regulating inspection feature. He explains: "Escape Tracker takes inspection performance to an even higher level. It gives us immediate updates on any errors or programming weaknesses that could potentially be an issue. Now it's much faster to fine-tune our programs without generating unnecessary false calls and escapes. It also liberates staff from manual inspection, enabling them to do other more qualified tasks on the production line."



I confess to being addicted to MYCenter Analysis, constantly checking current state of the line and estimated job completion time.



NEXT STEP - PROCESS PERFORMANCE

With inspection moving in the right direction, Zeal turned its focus to optimizing the performance of pick-and-place operations. Specifically, they wanted to drill down on the component placement process. To get a better overview and take greater control, George Brewer relies on MYCenter Analysis, a software dashboard accessible on his desktop and mobile app. The app provides actionable data to increase utilization, reduce reject rates and improve line balancing in real time.

“I confess to being addicted to MYCenter Analysis,” says Brewer. “We have customers breathing down our neck, so I’m constantly checking the current state of the line and estimated job completion times. It’s also interesting to compare the line utilization with historical data and look for ways to avoid inefficiencies.”

OPTIMIZING LINE UTILIZATION

With these tools at his disposal, George Brewer can readily communicate with operators and give advice on how to optimize equipment or settings. He can also preload jobs and see if there will be any issues, early on, before they stop the line. Since the MYCenter Analysis software was installed, line utilization rate has improved by a factor of three, he says.

ZEAL: DRIVEN BY ENTHUSIASM

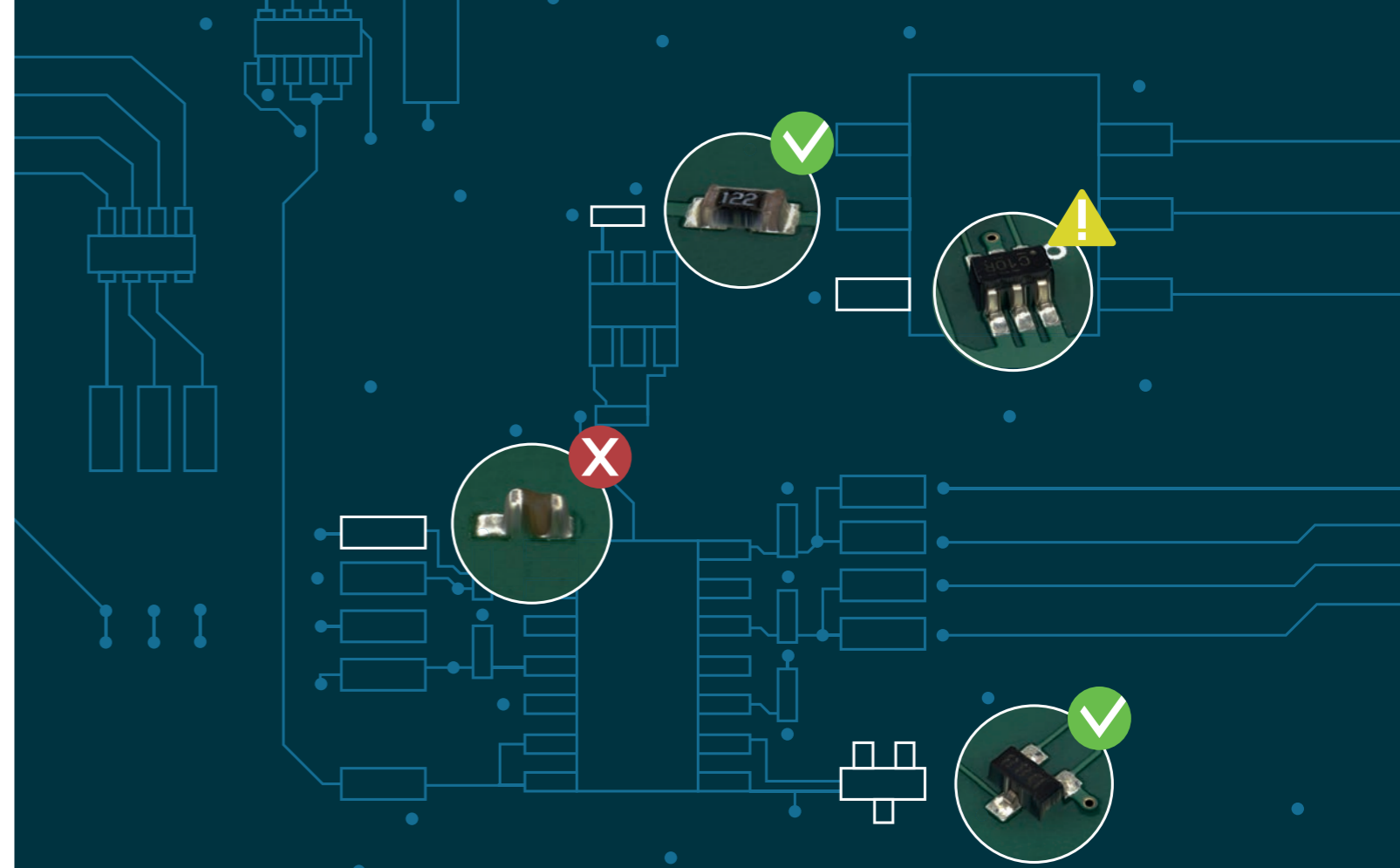
With a name like Zeal, it’s no surprise that George Brewer and his team are brimming with enthusiasm about a whole range of topics: they are passionate about serving their customers, excited about the potential of AI and, most notably, enthusiastic about anything that enhances their margins.

PAYBACK ON INVESTMENT

“New investments are always a balancing act,” says Brewer. “I need to show tangible evidence to my Managing Director and our owners that we are getting a payback on our investment. Right now, they love the benefits of Mycronic systems and appreciate that the company is looking ahead, but software systems can sometimes be harder to grasp. With the advances we’re now seeing in terms of quality, speed and services, we have proof that better inspection systems and control platforms are working.”

THE FUTURE IS HERE

“Looking ahead, I’m convinced that AI-powered inspection tools are the future for the EMS industry. They represent a significant leap upward and are already taking a huge weight off my shoulders,” George Brewer concludes. ●



Eliminate false calls. Stop every escape.

Escape Tracker for 3D AOI

Until now, inspection programmers have been stuck between a rock and a hard place. Tighten up tolerances and the false calls multiply. Loosen them up and new escapes arise. With Escape Tracker, this back-and-forth fine-tuning is a thing of the past. Each time you program, it automatically checks your settings against previously certified false calls and real defects. That’s every board produced, every component inspected, and every certified classification automatically stored and updated in a unified inspection library. Always learning. Always improving. Every second of every day. Learn how Escape Tracker for 3D AOI can give your inspection programming a reality check at mycronic.com.

MYCRONIC

User-driven design

— introducing the all-new pick-and-place graphical user interface

An all-new pick-and-place graphical user interface (GUI) raises the visibility of vital process data while providing simple, intuitive touchscreen guidance. It makes operator training simple, day-to-day functions more accessible and program settings virtually foolproof.

The new GUI will be available on all MYPro A40 models, and will be retrofittable on all MY300 models with software version TPSys 6.0 or later. Contact your local Mycronic representative for more information.

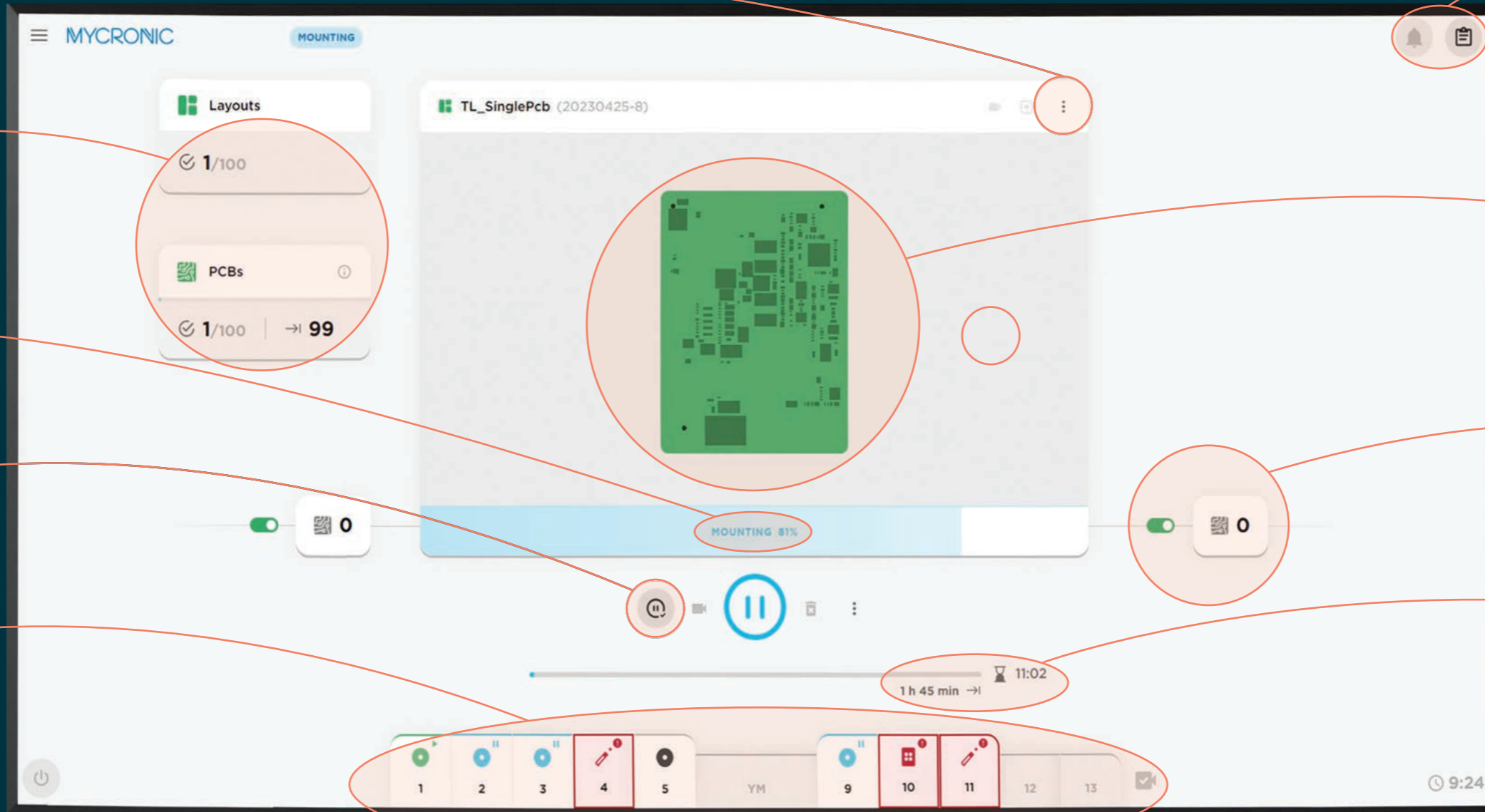
Improved feeder trimming for larger components. See multiple images simultaneously for large components.

Improved data visibility. Track the status of ongoing batches, number of boards produced and boards remaining.

Current board status. Check the status and time remaining on current boards in production.

Automatic pause. Set an automatic pause for manual removal and inspection of golden boards.

Manage material flows: Real-time information on which components and feeder types have been loaded, including reels, sticks and trays.



Stay alert. Stay focused on the right tasks with improved operator alerts and easy message log filters. Easily find information and choose actions with active options highlighted in green while others fade to grey.

Visual board overview. Clear overview of exactly which product is running, in grey when waiting to start, in green when in active production.

Conveyor status. Easy overview of all boards and gates in the machines, including clear alerts for any errors in the IO Conveyors.

Batch time estimates. Estimates on time left to batch completion drawn from MYPlan. Follow MYPlan to stay on schedule and pair with MYCenter Analysis to easily and significantly improve machine utilization.

Printing without limit

Mycronic's stencil printing and jet printing platforms combine to produce any board at any speed.

Business is growing for high-mix manufacturers. Mycronic's new MYPro S series stencil printers answer this demand by adding new levels of throughput to the flexibility and quality of jet printing and 3D SPI.

The best of both worlds

To meet the needs of customers with mixed production strategies and growing batch sizes, Mycronic has added a screen printing solution to its portfolio of MYPro equipment for SMT production. Together with the new high-speed MYPro A40 pick-and-place and the full range of MYPro assembly solutions, the MYPro S series stencil printer contributes to the fastest full-line solution ever available to Mycronic customers.

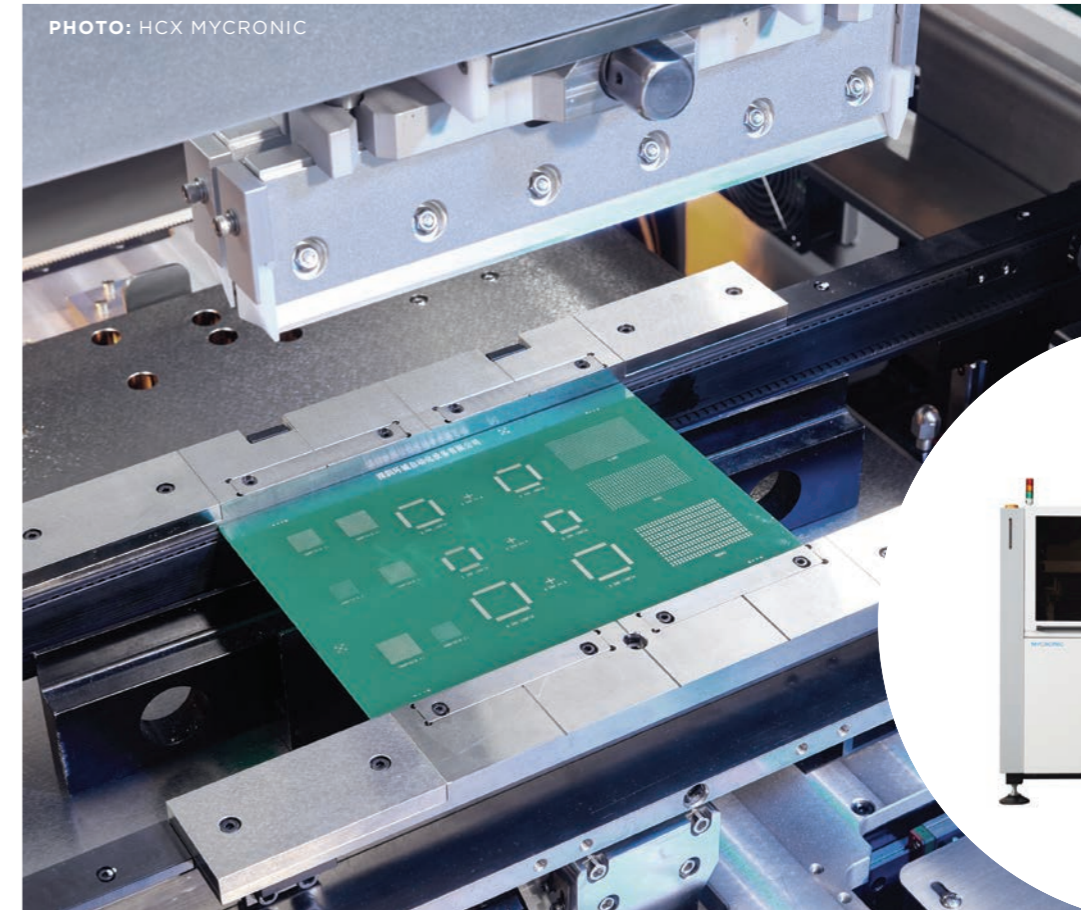
When it comes to printing solder paste, nothing beats Mycronic's Jet Printer in terms of flexibility. But when deadlines are tight and batches are larger, Mycronic's new stencil printers can be added to a Jet Printer for the ultimate in speed and reliability. Working in tandem, the stencil printer brings its unbeatable cycle time for average paste deposits, while the Jet Printer handles all deposits with non-average thickness or shape with

unparalleled speed and accuracy. Need to switch production? Simply replace the stencil and select the next jetting program.

Introducing the MYPro S series

Launched at Productronica 2023, the MYPro S series is a robust, highly accurate and user-friendly stencil printer. True to the MYPro production philosophy, it has been designed to enable the fastest possible changeovers and features all the functionalities expected from a modern screen printer.

In the MYPro S series, an advanced vision system ensures complete alignment between the stencil and PCB, while a climate control feature maintains the physical qualities of the solder paste to ensure consistent print quality. During the printing phase, squeegee pressure is permanently monitored, and any



deviation is displayed on the control screen for immediate correction. Each printed board can be 2D inspected to ensure that no deposits are missing, and after each stencil cleaning phase, the stencil itself is 2D inspected to make sure it is valid for production. Traceability, an essential feature in the manufacturing of high-reliability electronics, is assured through automated tracing of each stencil, solder reference number and operator ID.

The printer has a robust frame with a marble support beam achieving high rigidity and long-term repeat accuracy of $\pm 8\mu\text{m}$. Squeegee movement uses a ball-screw with direct servo connection which adds to long-term consistent printing. The transport rail is motorized with dual guide rails and dual ball-screw, ensuring long-term stability.

Closed-loop quality with PI series SPI

For even greater control, the MYPro S series screen printer could be interfaced with all Mycronic PI series 3D SPI models. Thanks to an optional closed loop software, the PI series 3D SPI can automatically adjust the position of the stencil in X and Y, as well as its angle of rotation. And if print quality deteriorates, the 3D SPI can be set to automatically trigger a cleaning cycle.

Available in the beginning of 2024

The MYPro S30, the first in the MYPro S series screen printers, will be commercially available in Q1 of 2024 in selected regions. To learn more, and for inquiries regarding availability and line integration services for the MYPro S series screen printers, Jet Printers and 3D SPI solutions, contact your local Mycronic sales representative or visit mycronic.com.

Expand your product mix. **Then turn up the volume.**

Discover the next generation of productivity
at Productronica booth A3.249.

A new era of agile PCB assembly has arrived. Now with faster programming, faster cycle times and high-volume inspection speeds. At Productronica, our process experts will be on hand to demonstrate how the latest MYPro assembly solutions are designed to boost your productivity, scale up production and grow your business. All so you can master any product mix. Control any process. Eliminate every defect. And turn up the volume.

**Join us in defining a new era of agility at Productronica 2023,
booth A3.249, November 14-17.**

