



Seamless Automation for High-Yield SMT Production

Engineering absolute precision and throughput with the SP-1008 Automatic Screen Printer.

The Hidden Costs of Legacy SMT Printing



Precision Drift

Minor mechanical deviations across production runs cascade into severe PCB alignment errors and catastrophic yield loss.



Throughput Bottlenecks

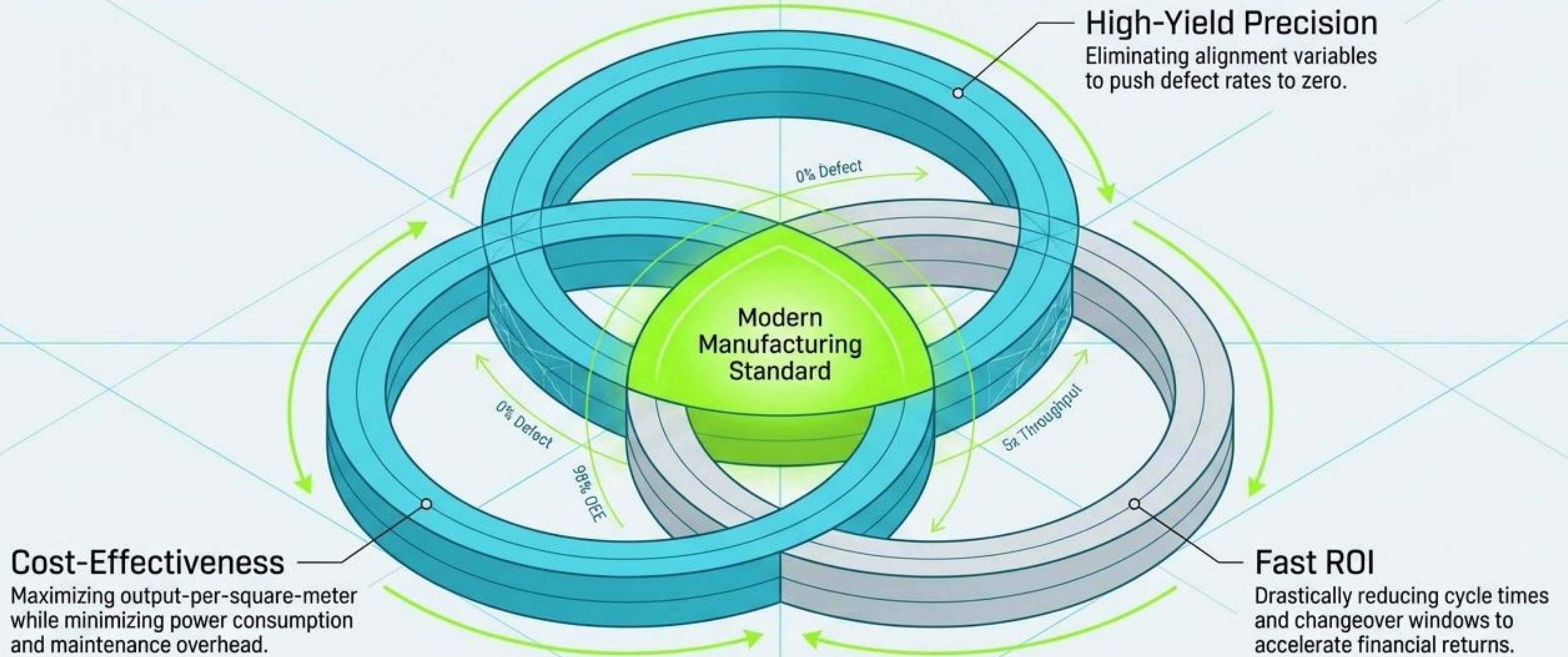
Sluggish mechanical cycling and complex, manual product changeovers cripple factory output and inflate lead times.



Maintenance Downtime

Manual stencil wiping and unreliable cleaning systems force line stoppages, eroding overall equipment effectiveness (OEE).

The Automation Imperative



True competitive advantage requires integrating all three operational pillars without compromise.

Introducing the SP-1008 Automatic Screen Printer



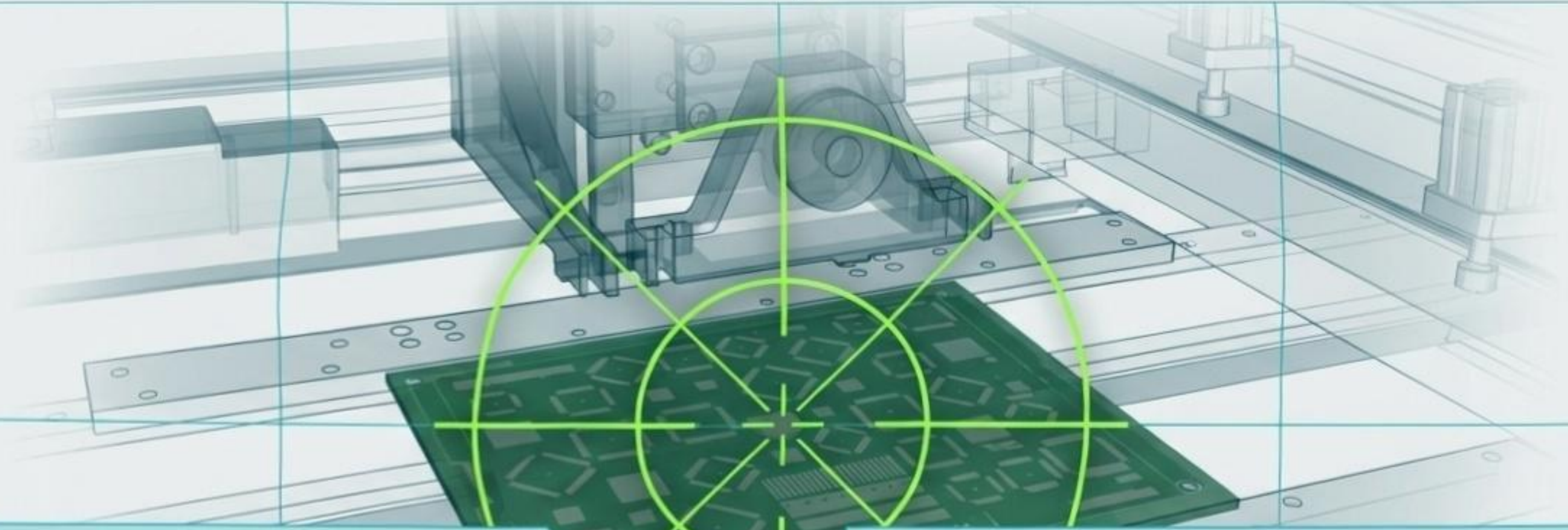
Rapid-access chassis engineered for <5min product changeovers.

Real-time process monitoring via industrial control interface.

1000kg high-stability architecture eliminating mechanical vibration.

Designed by Southern Machinery to deliver an unmatched balance of high-speed efficiency and microscopic accuracy.

Absolute Precision & Vision Alignment



The Mechanics

- Accurate CCD vision positioning system locking onto standard geometric datums or welding plates.
- Z-axis lifting combined with CCD profile pulsating CVT mode to guarantee absolute machine stability and accuracy.

The Metrics



Repeat Position
Accuracy:
 $\pm 0.01\text{mm}$



Printing
Accuracy:
 $\pm 0.025\text{mm}$

PCB Warpage Tolerance: <1%
(Diagonal length as benchmark)

Throughput & Changeover Dynamics

SPEED

**< 9 Seconds
Cycle Time**



(Excluding printing and cleaning)

Maximizes parts-per-hour, ensuring the screen printer never bottlenecks the downstream pick-and-place systems.

AGILITY

**< 5 Minutes
Product Changeover**

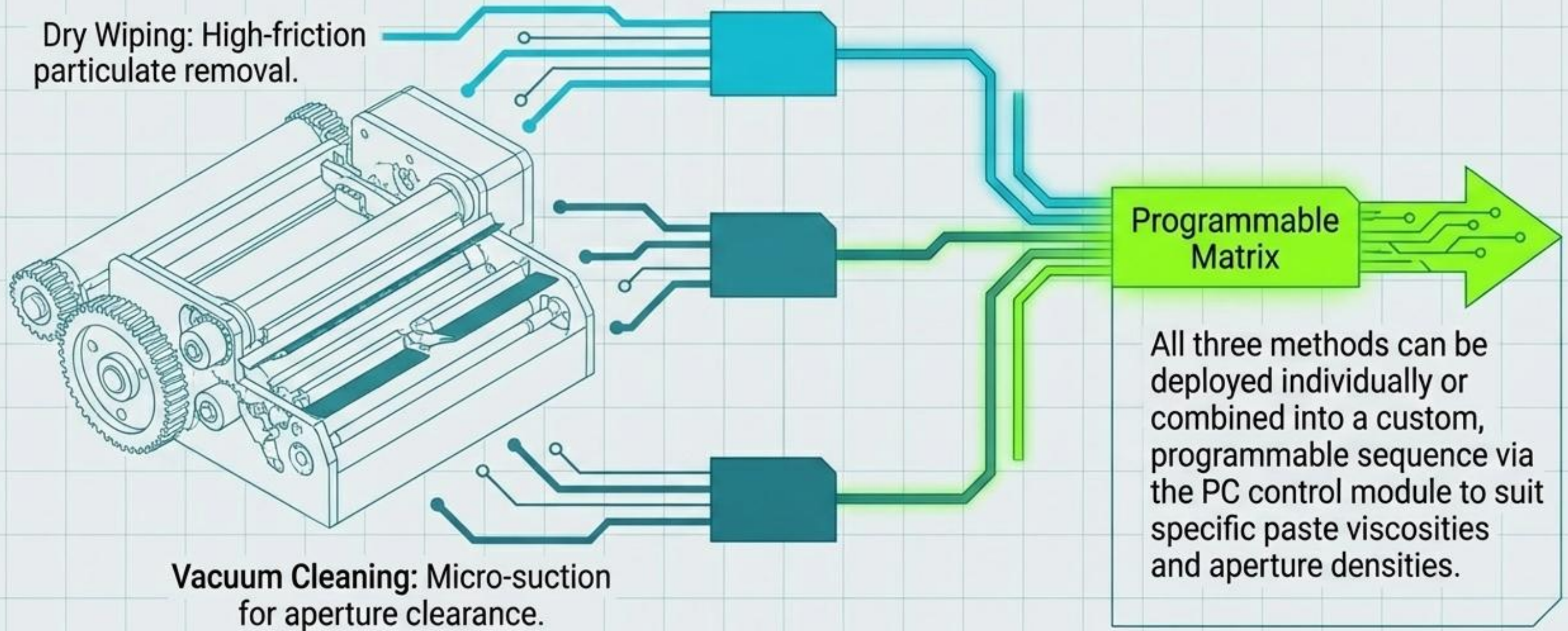


Enables high-mix, low-volume manufacturing setups without destroying daily factory throughput.

Scraper speed fully programmable from 10-150mm/sec with pressure control from 0-15 kg.

Intelligent Cleaning Architecture

Automatic and highly effective stencil wiping system designed to run without operator intervention.



The Anatomy of Reliability

Built on a foundation of the most powerful imported industrial accessories.



Component 1: Compute Layer
Advantech Industrial Computer (PC Control).
Ensures zero-latency processing for CCD vision and motor telemetry.

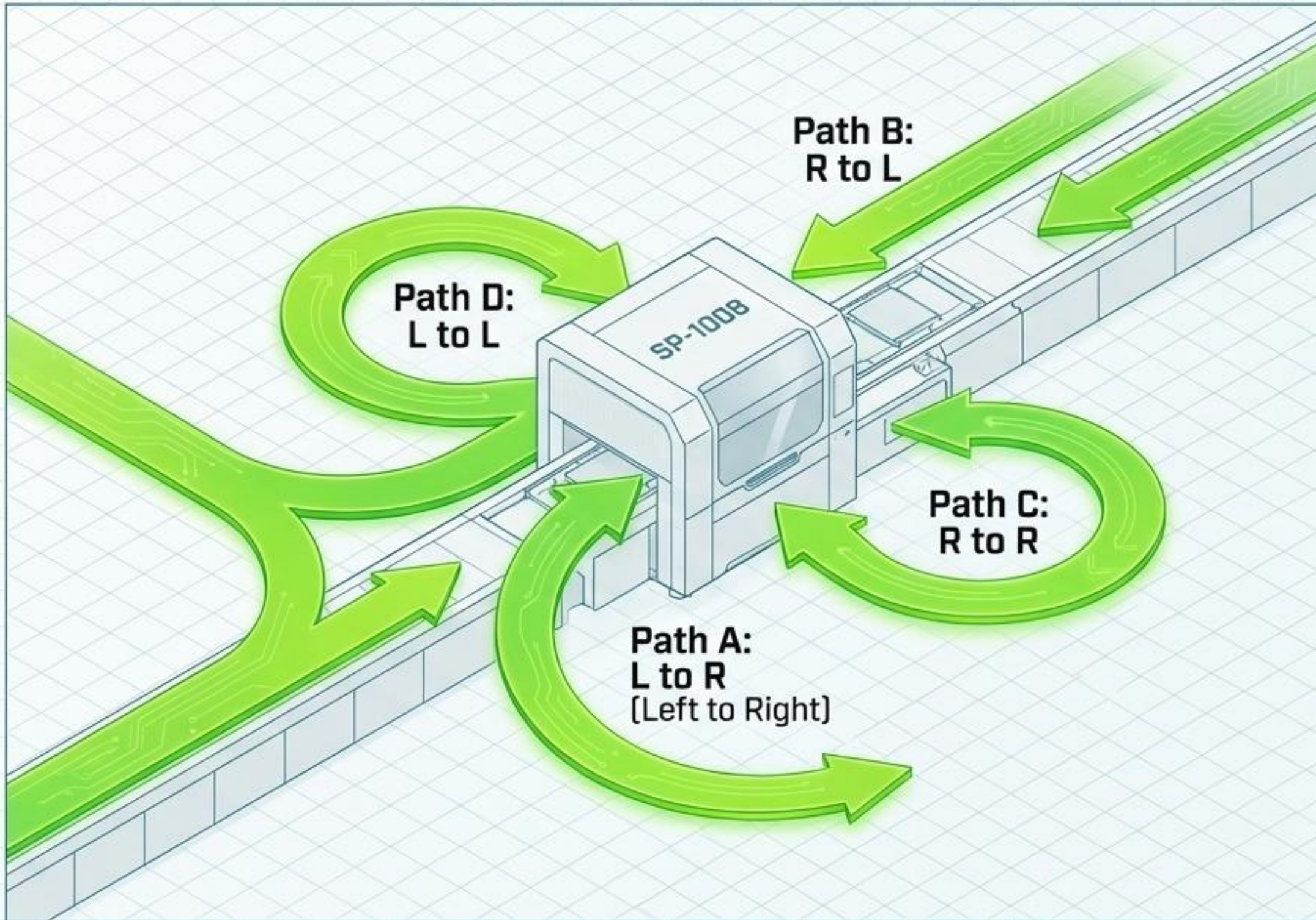


Component 2: Actuation Layer
Panasonic & MOONS' Step Motor Drivers.
Delivering fluid, stutter-free movement across all axes.



Component 3: Mechanical Layer
Japanese Kuroda Ball Screws.
Providing zero-backlash mechanical translation for strict $\pm 0.01\text{mm}$ repeatability over millions of cycles.

Seamless Process Integration



System Integration Specs

- **Transport Height:** 900 ± 40 mm [Standard SMEMA compliance].
- **Conveying System:** Programmable transport speed of 100-1500mm/sec.
- **Board Location:** Dual-mode Support system and Clamping System for absolute stability during print strokes.

The Performance Envelope

Module 1: Sizing Capabilities

PCB Size:

Max 400*310mm |

Min 50*50mm |

Thickness 20-40mm

Screen Stencil Size:

Max 737*737mm | Min 470*370mm |

Thickness 20-40mm

Edge/Bottom Clearances:

Bottom size 10mm | Edge size 3mm

Module 2: Scraper Dynamics

Print Head:

Straight association motor control
knife pressure blade.

Angle:

60° (Standard) / 55° / 45° |

Type: Steel scraper

Stencil Separation Speed:

0.01-10mm/sec

Module 3: Environment & Power

Table Adjustment:

X:±4mm ; Y:±6mm ; θ :±2°

Power:

AC:220±10%, 50/60Hz 1 Φ 2.5KW

Air Data:

4-6kg/cm² pressure | 0.07m³/min
consumption

Operating Temp:

-20°C to +45°C

The 5S Manufacturing Standard



5S Workshop Environment:

Manufactured in a rigorously controlled facility ensuring zero contamination during chassis assembly.

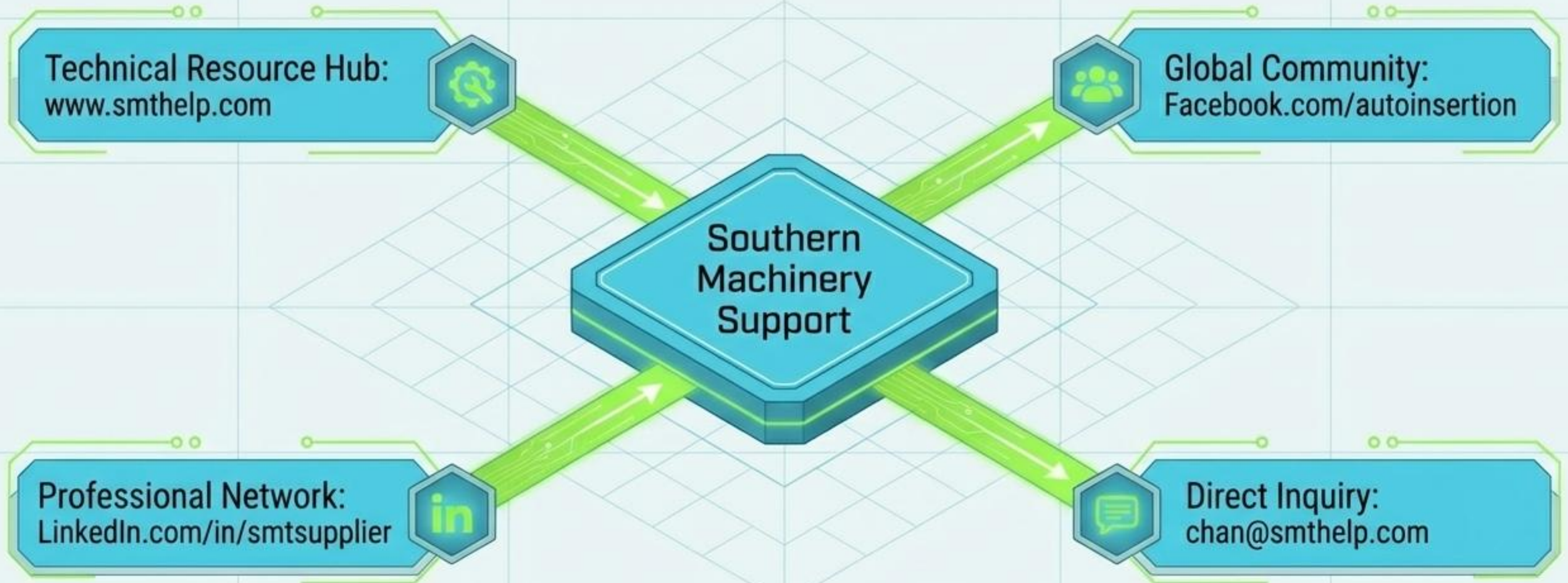


R&D & Quality Control:

Backed by strong research and development technology. Every SP-1008 unit undergoes exhaustive tolerance testing before deployment to guarantee immediate out-of-the-box performance.

Delivering a complete, end-to-end SMT solution, not just standalone hardware.

Global Support & Ecosystem



Comprehensive digital troubleshooting, global part availability, and dedicated technical teams ensure your production line never stops.

Re-engineering Factory ROI

Maximum Factory ROI

Unyielding Precision

Mechanism:
Kuroda Ball Screws +
±0.01mm CCD Vision.

Result:
Eradicates alignment
drift and drives
zero-defect
manufacturing.

Seamless Automation

Mechanism:
Programmable
Dry/Wet/Vacuum
Cleaning + **<9s cycle.**

Result:
Removes operator
intervention and
accelerates line
velocity.

Cost-Effectiveness

Mechanism:
<5min changeovers +
imported high-durability
components.

Result:
Unlocks high-mix agility
while minimizing
lifecycle maintenance
costs.



**SOUTHERN
MACHINERY**

Initiate Procurement

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Shenzhen.

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