



ADL100 X-Ray SMD Counter

Intelligent Material Management for the Smart Factory

THE STANDARDS OF THE SMART FACTORY



Quality

Precision counting that eliminates human error and inventory variance.



Speed

High-volume throughput designed to match the pace of fast-paced electronics manufacturing.



Vision

Bringing Industry 4.0 automation to the material management floor.

Your production targets are our design philosophy.

ZERO-TOUCH INVENTORY MANAGEMENT

■ Non-Destructive Testing

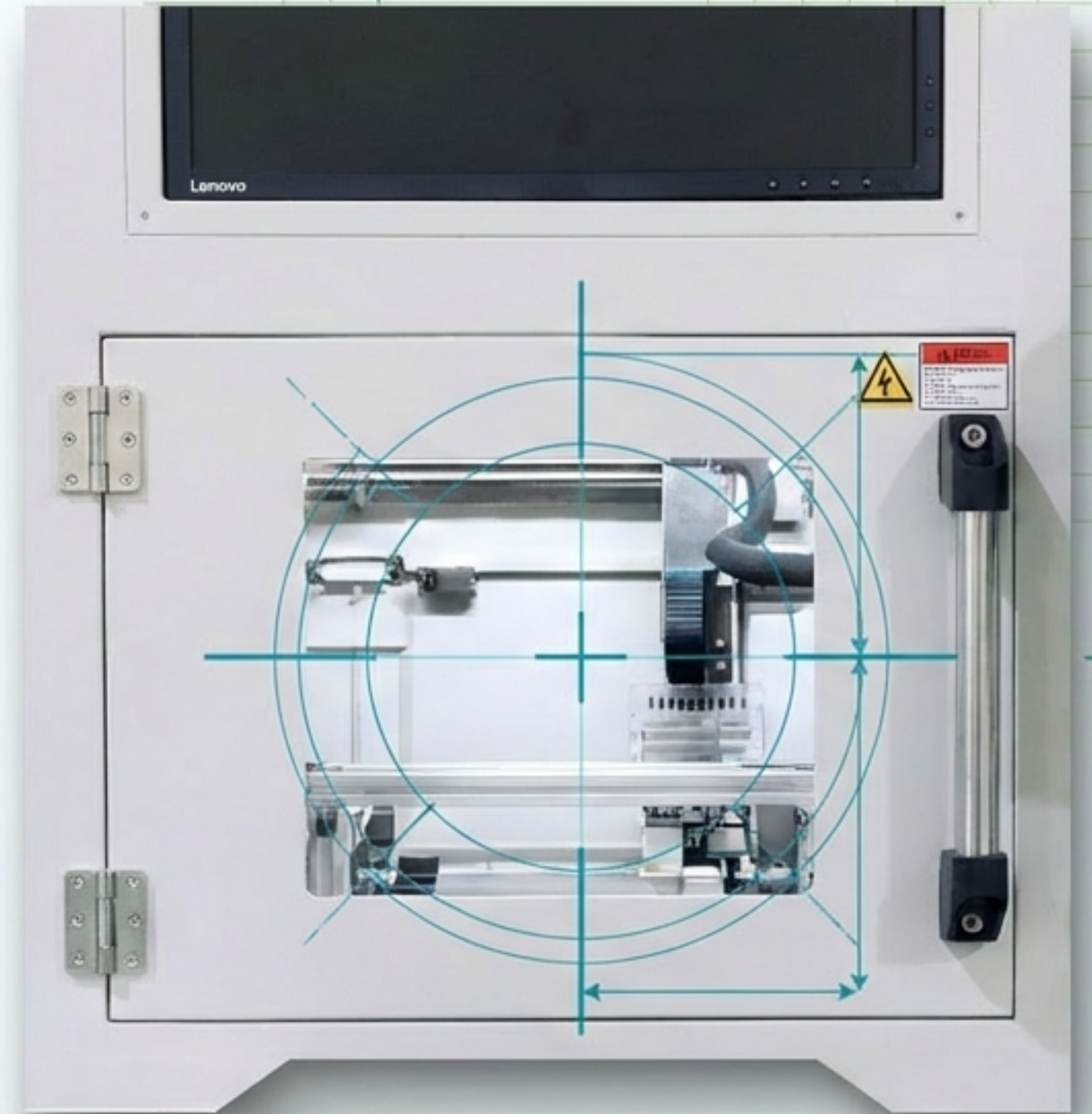
Count components without opening moisture barrier bags (MBB). Maintains component integrity and moisture sensitivity levels.

■ Labor Reduction

Replaces manual counting teams with a single automated unit.

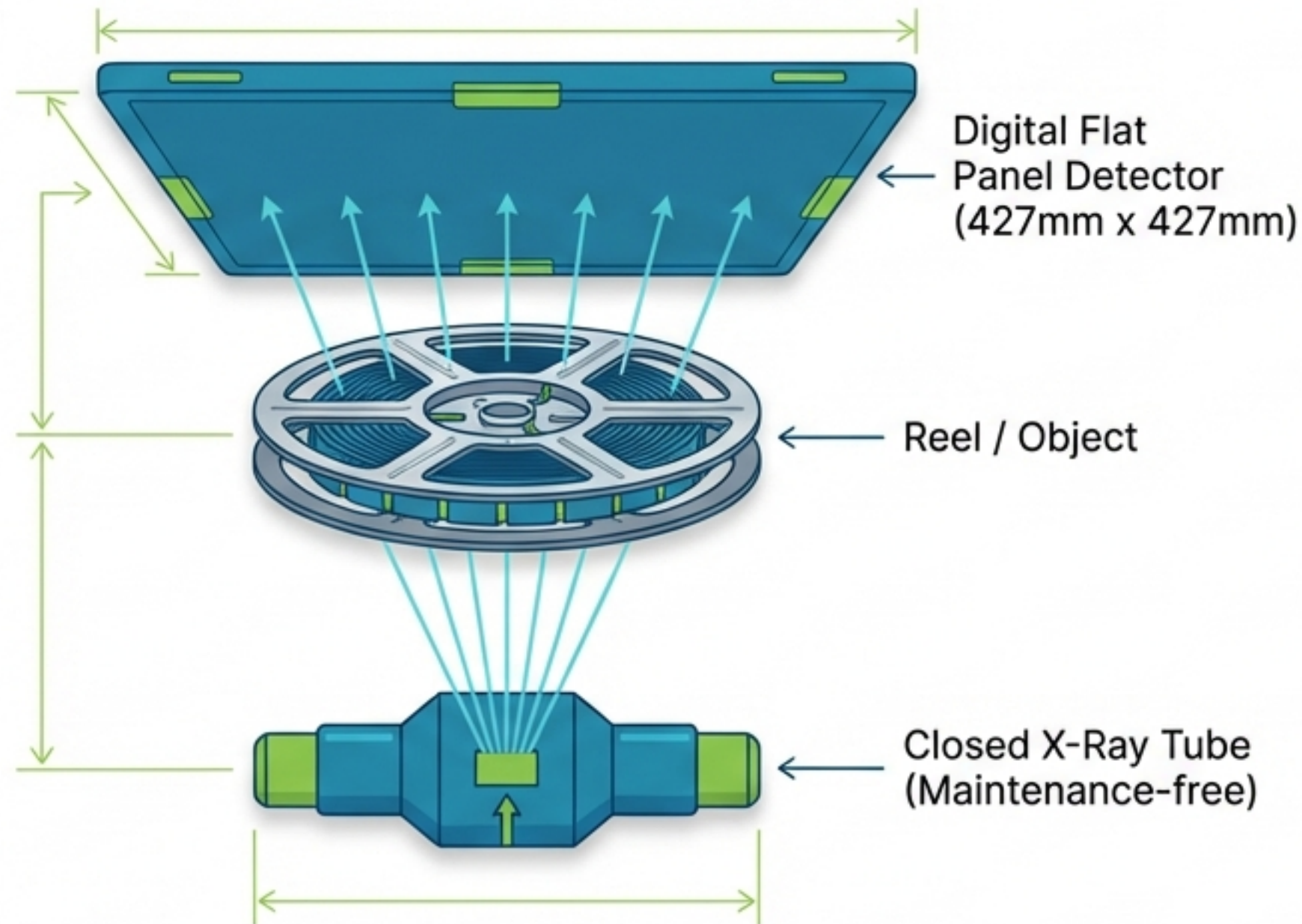
■ Space Efficiency

One machine replaces multiple manual counting stations.



Your production targets are our design philosophy.

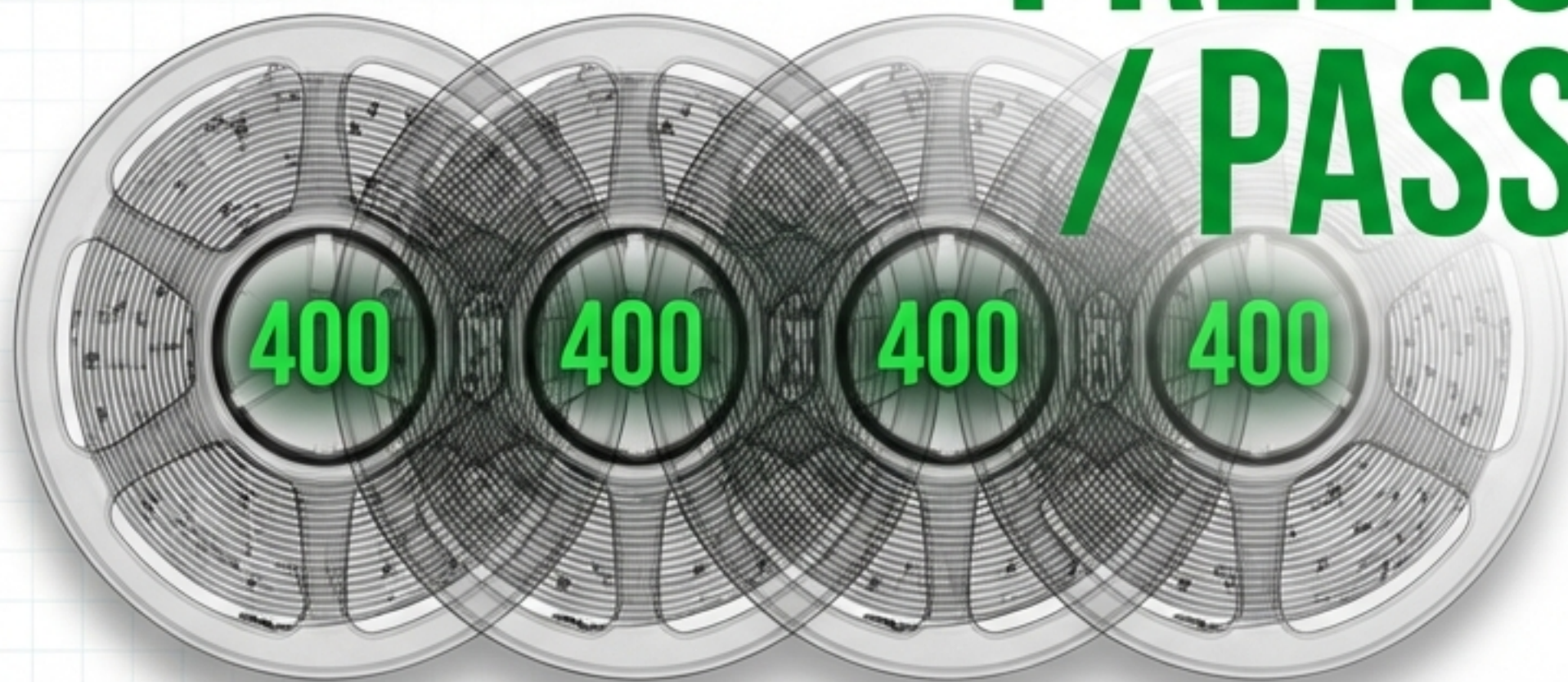
PRECISION X-RAY IMAGING TECHNOLOGY



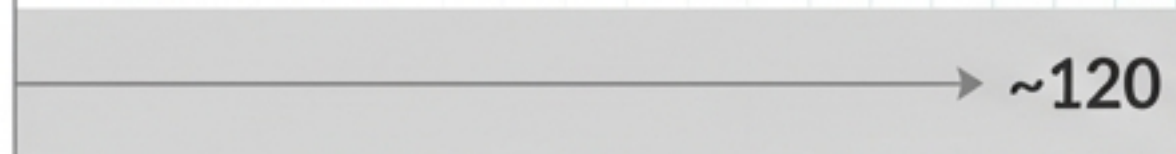
- **Source:** Closed X-Ray tube (Maintenance-free, long lifespan).
- **Detection:** High-resolution Digital Flat Panel Detector.
- **Resolution:** 3072 x 3072 Pixel Matrix with 140um pixel size.
- **Mechanism:** AI Deep Learning Algorithms convert density data into precise component counts.

UNMATCHED COUNTING SPEED

4 REELS / PASS



Manual Count: ~120 Seconds



ADL100 Count:
7-15 Seconds

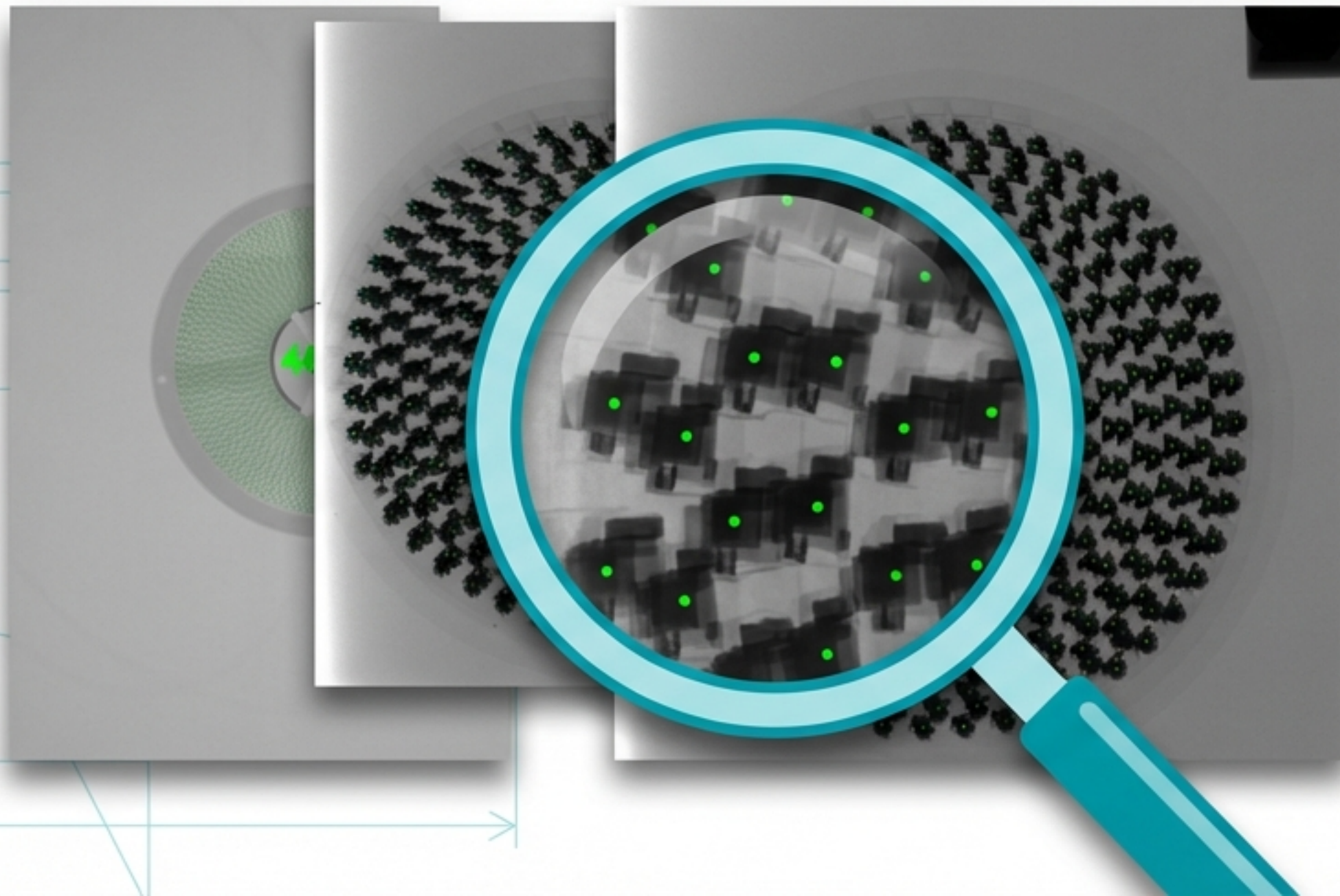
KEY METRICS:

Cycle Time: 7-15 seconds per reel.

Throughput: Fastest in class for high-mix, high-volume environments.

AI-Driven Accuracy

99.8%+ Accuracy on 01005 components.



Deep Learning:

Algorithms automatically identify component centers, visualized by Green Dots.

Versatility: Recognizes resistors, capacitors, inductors, LEDs, diodes, transistors, and multi-pin ICs.

FULLY AUTOMATED WORKFLOW

1. Auto Loading (Turntable feeder)

Automate turntable imaging unit weong the feeder to speed and turntable seann unit.

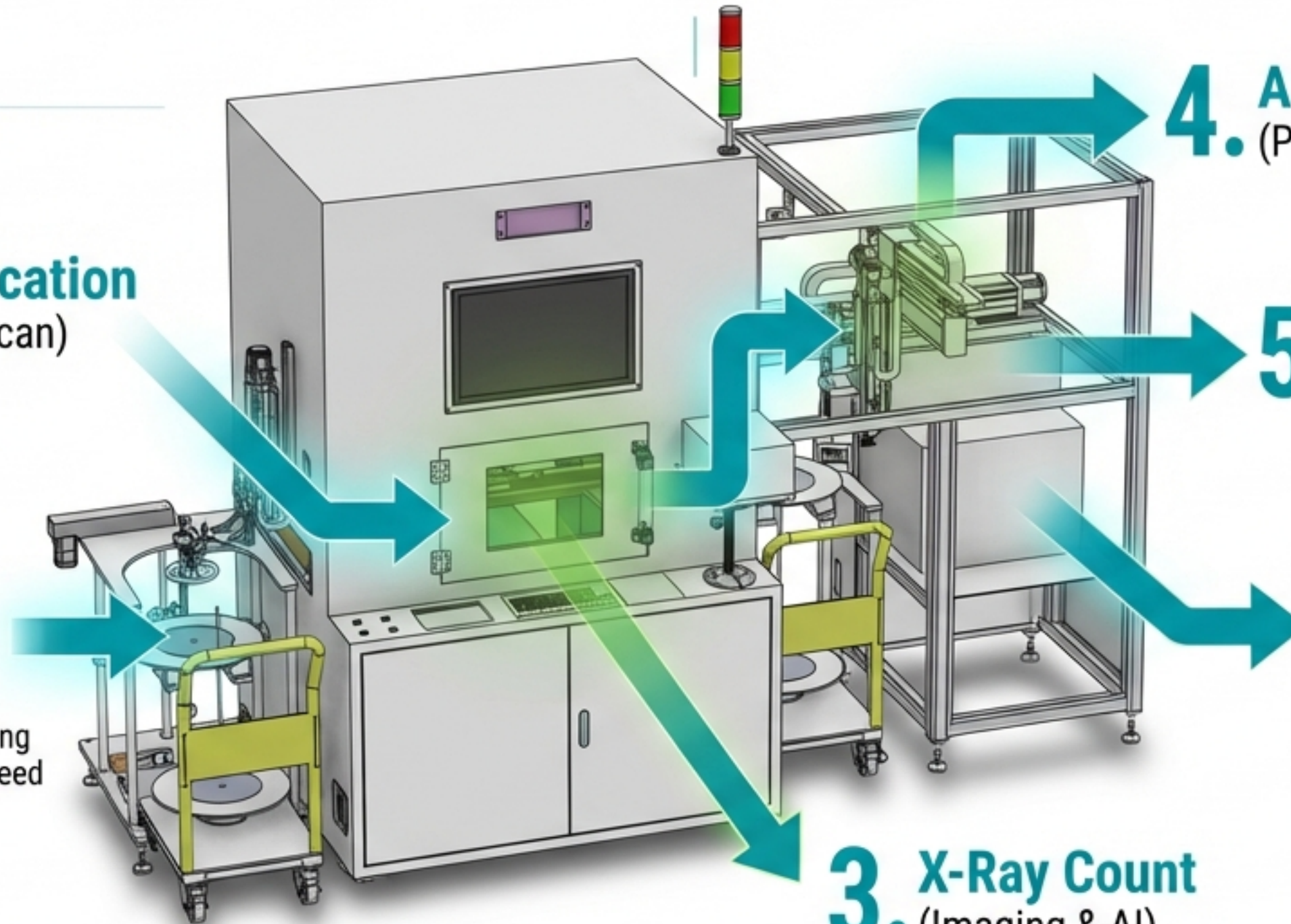
2. Identification (Reel ID Scan)

3. X-Ray Count (Imaging & AI)

4. Auto Labeling (Print & Apply)

5. Data Upload (MES Integration)

6. Auto Offloading (Sorting & Stacking)

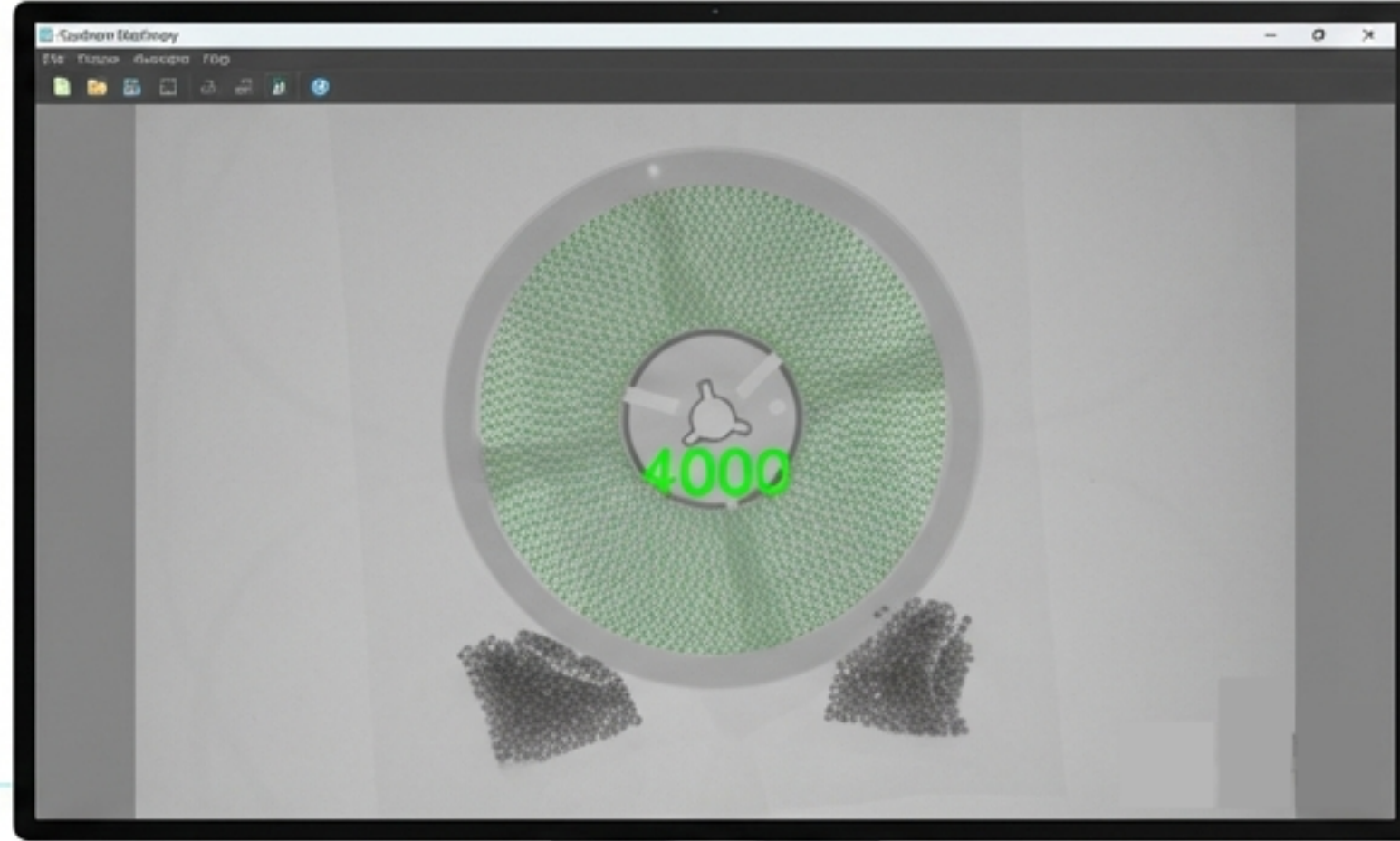


Industry 4.0 Integration & Software



MES Docking

Automatic data upload to Manufacturing Execution Systems.



Cloud Database

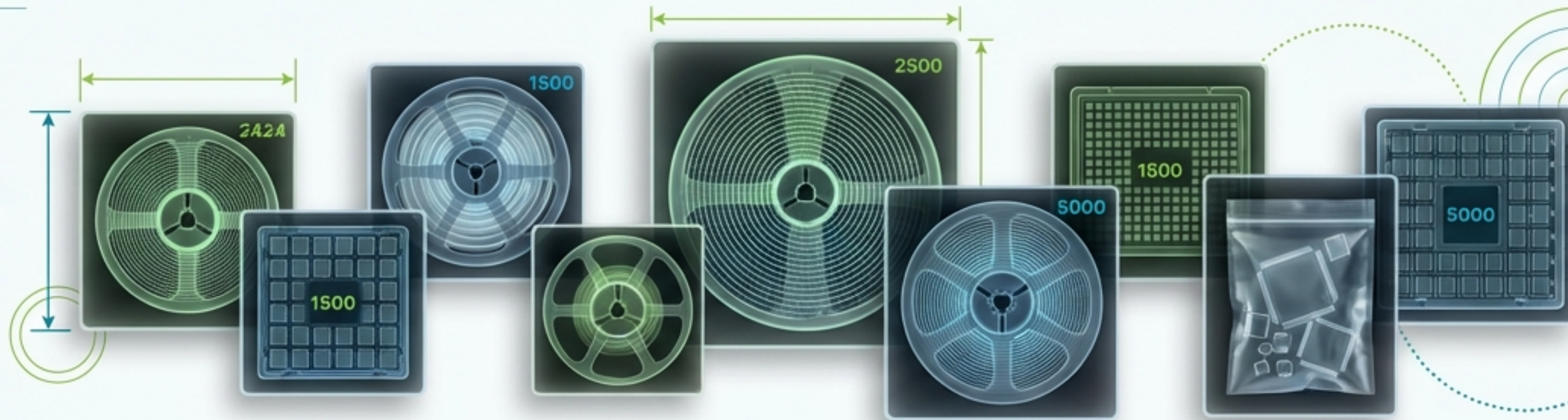
Global component library; no training needed for new parts.



Data Integrity

Automatic saving of SPC statistics and images.

Universal Compatibility



Reel Sizes

7-inch, 13-inch, and 17-inch reels.



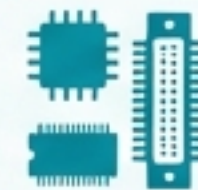
JEDEC Trays

Supports IC tray counting.



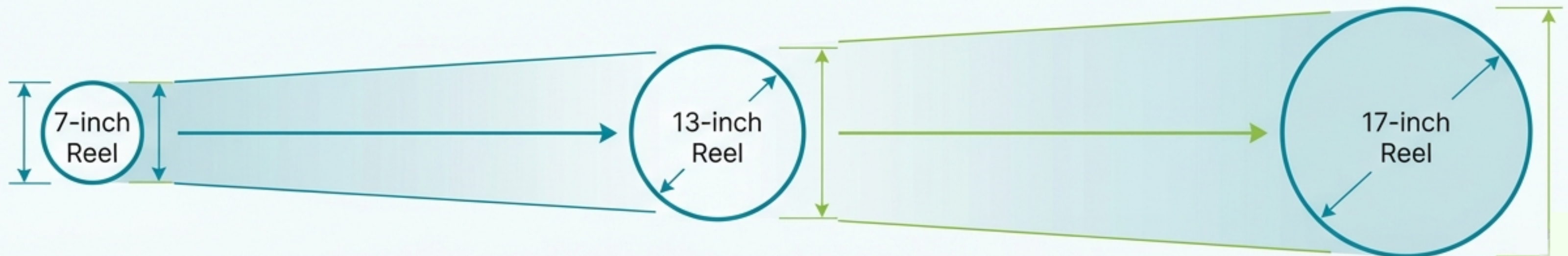
Packaging

Works through standard anti-static bags and Moisture Barrier Bags (MBB).

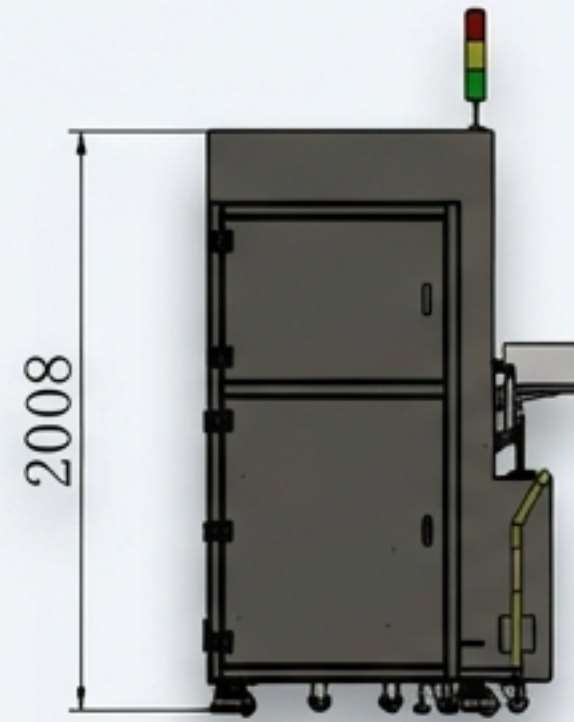
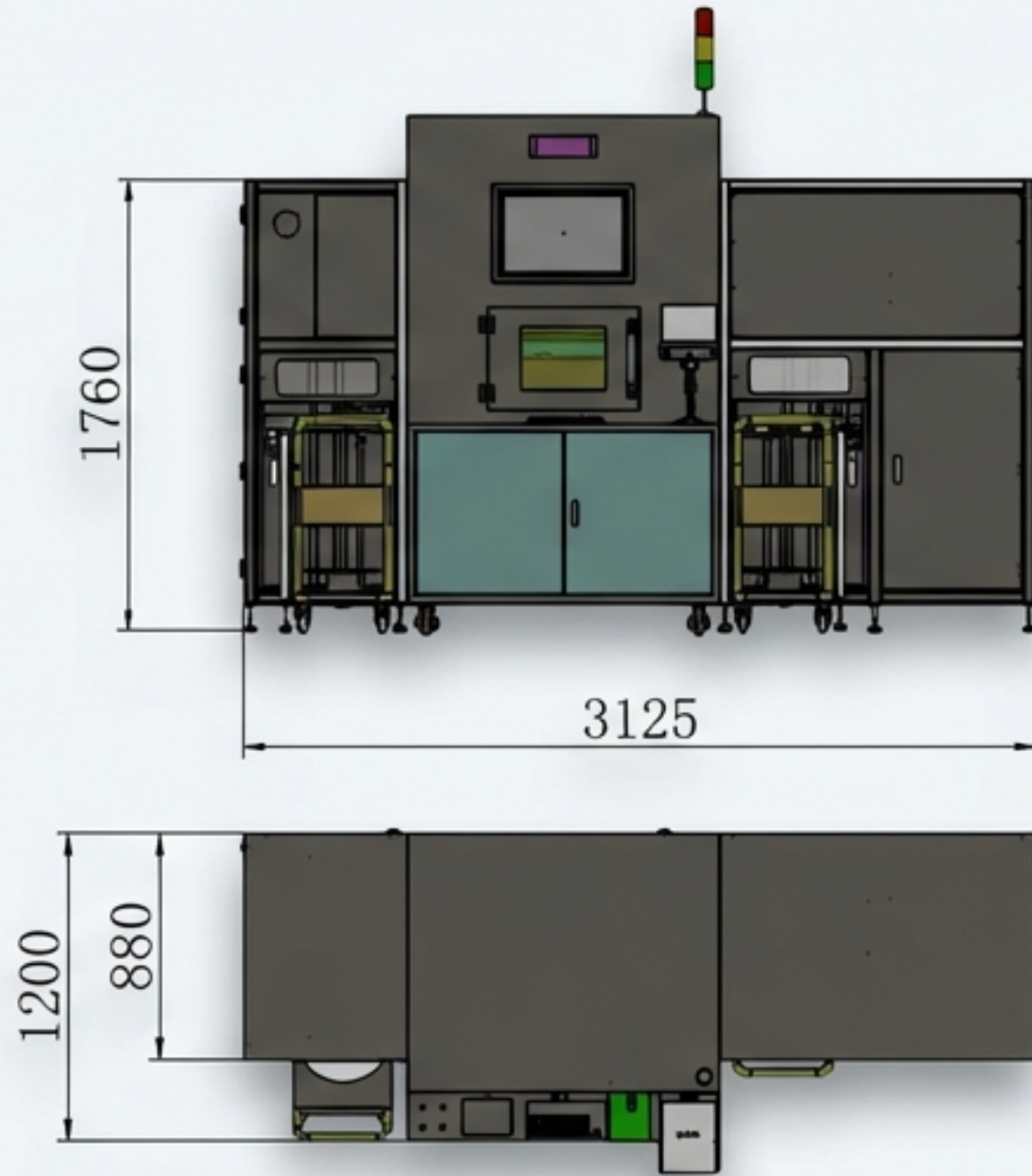


Component Types

From 01005 chips to large connectors.



Technical Specifications



Dimensions	3125mm (L) x 1200mm (W) x 2000mm (H)
Weight	~1200kg
Power	Single phase AC220V, 32A, 3.5KW
X-Ray Source	80KV / 1mA / 150W (Closed Tube)
Counting Time	~12s (7-inch) ~15s (13-15 inch)
Safety	Radiation Leakage <1 μ Sv/h

OPERATIONAL SAFETY & COMPLIANCE



Radiation Safety

Leakage $<1 \mu\text{Sv/h}$. Safe for general work environments.



Interlock Protection

Safety doors and sensors prevent X-ray generation if the chamber is not sealed.



Rigorous Testing

Strictly tested before shipment.
Compliance with Machinery Directive standards.

APPROVED

GLOBAL REACH, LOCAL SUPPORT



- **24/7 Availability:** Remote service via cloud technology.
- **On-Site Services:** Installation, commissioning, and operator training.
- **Spare Parts:** Global supply network for rapid replacement.
- **Maintenance:** Annual maintenance protocols and software upgrades.

THE SOUTHERN MACHINERY ADVANTAGE

Speed

- 7s/reel cycle time.

Accuracy

- >99.8% precision with AI.

Integration

- Seamless MES connectivity.



Partnership

- Global service network.



LET'S OPTIMIZE YOUR PRODUCTION LINE

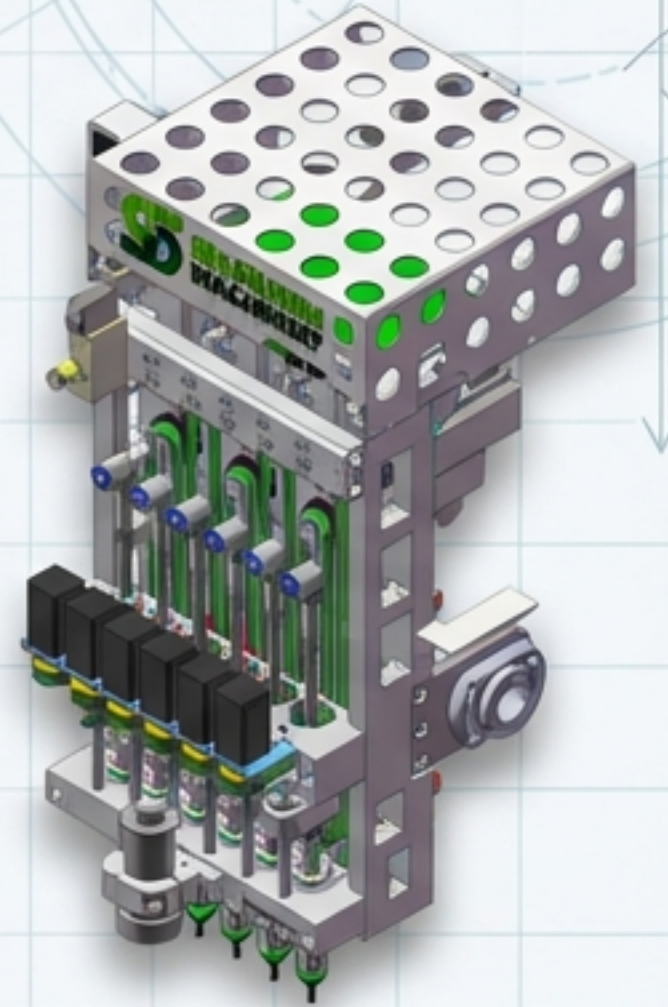


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