

# AOI Master: Quality Intelligence

Empowering Solar Manufacturing with Real-Time Data & AI



# The Manual Process Bottleneck

## Manual Segregation Failures:

- High Latency: Feedback loop takes hours or even shifts.
- Inconsistency: 10-15% error rate due to operator fatigue.
- No Traceability: Counting from bins provides zero digital audit trails.
- Throughput Cap: Manual labor cannot sustain 4,000+ wafers/hour.

# Solar Industry Priority: Why AOI Master?

## Critical Success Factors:

- Micro-Crack Detection: Preventing breakage in downstream PECVD/Diffusion.
- Color Uniformity: Automated grad
- Yield Protection: Real-time alerts



# System Facilities & Features

- **Real-Time FPY Tracking** Live First Pass Yield monitoring.
- **7-Day Trend Analysis** Predictive maintenance and shift optimization.
- **Defect Type Segregation** AI-driven categorization (Color, Edge, Chip).
- **Multi-Machine Sync** Centralize data from up to 16 cameras.
- **One-Click Compliance** Auto-generate PDF/Excel production reports.

# Business Value & Return on Investment

## Financial Impact:

- Labor Reduction: Reallocate 70% of inspection staff to technical roles.
- Yield Gains: 0.5% recovery leads to \$150k+ yearly savings per machine.
- Uptime: Faster root cause analysis reduces MTTR (Mean Time To Repair).

AOI Master: Precision at Scale.