

T2 SQUARE

SEMICONDUCTOR ENGINEERING INTELLIGENCE

UNLOCKING THE HIDDEN CAPACITY

Global Standard Service
Seoul • Silicon Valley • Hsinchu • Singapore

*"We don't supply parts.
We supply **Perfection & Predictability.**"*

T2 SQUARE

EXECUTIVE SUMMARY

Paradigm Shift: From Hardware to Intelligence

Verified in 50+ Global Projects

The Problem: "Matching Issue"

Even identical state-of-the-art equipment exhibits performance variations. Global Fabs struggle with yield inconsistencies between tools.

Our Core Value

+3%

YIELD IMPROVEMENT

Eliminating tool-to-tool variations via ML-based matching.

+5%

AVAILABILITY UP

Preventing unexpected downtime with Predictive Maintenance.

Global Capability

T2 Square provides services beyond borders. We have successfully conducted **over 50 projects** globally. With our **SROC (Secure Remote Operation Center)**, we analyze logs from Fabs worldwide in real-time, strictly adhering to **SEMI E187/E188** security standards.

6 Engineering Modules

01. Recipe Optimization

Linking process results (CD/Thickness) with sensor data to propose optimal recipes.

02. Tool Matching (ML)

Auto-calibrating parameters by learning from the 'Golden Tool'.

03. Throughput Max

Eliminating bottlenecks in transfer/pumping times to increase WPH.

04. Defect Reduction

Real-time FDC to detect micro-arcing and achieve significant **Wafer Scrap Reduction**.

Also Including:

- **05. PM Recovery Optimization:** Proven **20% reduction** in seasoning time after maintenance.
- **06. Predictive Maintenance (PdM):** Forecasting lifecycle of ESC, Heaters to prevent unpredicted stops.

APPENDIX A

Detailed Equipment Portfolio

We possess validated analysis models for the following industry-standard platforms. Our solutions have been proven in 50+ projects.

1. Applied Materials (AMAT) Support

Process	Platform (Model)	T2 Square Solution Detail
CVD	Producer (GT/XP/V) Centura	Achieved avg. 3-5% Stop-loss improvement & WPH maximization.
Epi	Centura Epi Vantage	Recipe Optimization for precise temperature control & slip line reduction.
CMP	Reflexion (LK Prime)	Real-time pad life prediction & scratch detection logic.

2. Lam Research Support

Process	Platform (Model)	T2 Square Solution Detail
Etch	Sense.i / Kiyo / Flex	Chamber Matching for critical dimension (CD) uniformity.
Deposition	Vector / Altus	Micro-arcing detection during tungsten/dielectric deposition.
Specialty	Syndion (TSV)	Deep Si Etch profile optimization for 3D packaging.

Implementation Workflow

Phase 1: Diagnosis

Site Visit • Problem ID • Data Check • Proposal & ROI Analysis

Phase 2: Execution

Secure Data Collection (SEMI E187) • Model Training • Shadow Mode Operation

Phase 3: Deployment

Sample Run Test • Quality Review • Final Handover & Monitoring

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