



# RenoNix Company Profile

2019.03.18



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# 1-1. Company Profile

Established 04<sup>th</sup> November 2010

Business Semiconductor tools marketing, Refurbishment, Installation, Relocation, Conversion & Modification, Parts outsourcing, Technical Service, On call service & Technical Development & manufacturing

Capital 330K USD

Employee 16 Persons

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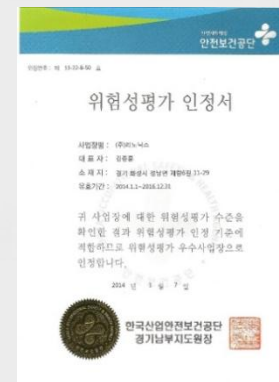
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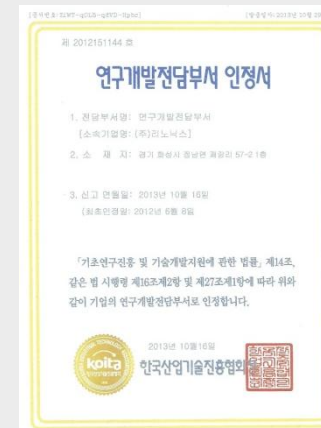
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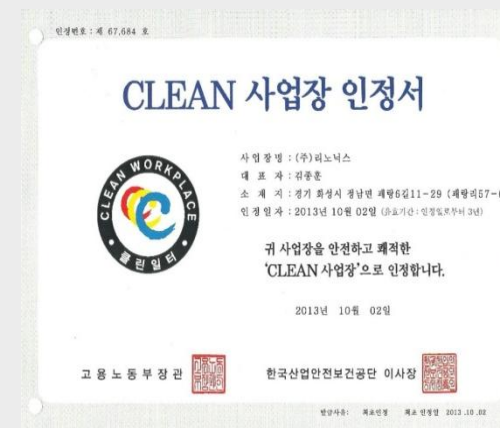
✓Enterprise Risk Management  
13-22-B-50



✓Research Institute  
2012151144



✓Clean Industry  
67,684



## 1-2. Project Recode (The Most Recent 3 Years)

Customer	Project Name	Brief Description	Q'TY	Year
O Korea	AMAT Centura TPCC DPN	Refurbishment/Start up	1	2017
S Singapore	AMAT Endura5500 Ai Cu	Refurbishment/Start up	1	2017
O USA	AMAT Centura	Refurbishment	1	2017
D Korea	AMAT Producer-S 200mm	Refurbishment	1	2017
O Korea	AMAT Endura5500 MOCVD	Retrofit & Start up	1	2017
D Korea	AMAT Centura WCVD	Refurbishment/Start up	1	2017
O Singapore	AMAT Producer-S 200mm	Refurbishment	1	2016
S China	DNS SS-3000-AR Scrubber	Refurbish & Install	1	2016
S China	TEL Telius SCCM Used Tool	Refurbishment/Start up	1	2016
S China	AMAT Emax (200mm)	Refurbishment/Start up	1	2016
S China	SCCM SE+ Chamber 1&SCCM SE	Upgrade & Refurbishment	1	2016
D Korea	AMAT Endura5500	Refurbishment/Start up	1	2016
D Korea	CVD TIN	Retrofit & Start up	1	2016
H China	Endura 5500	Relocation & Additional	1	2015
H Taiwan	Endura5500 Al,Cu System 8inch	Refurbishment/Start up	1	2015
D Korea	AMAT Endura 5500 Chamber Add	Refurbishment/Start up	1	2015
S Singapore	KLA RS75 SYSTEM	Refurbishment/Start up	1	2015
S Singapore	Labor support for RS55	Refurbishment	1	2015
H Korea	AMAT Endura5500	Refurbishment/Start up	1	2015
D Korea	AMAT Endura5500 MO-CVD	Refurbishment/Start up	1	2015
S China	200mm Producer-S	Refurbishment/Start up	1	2015

# 1-3. Project Recode (The Most Recent 6 Years)

## Summary list for project

Project Name	Endura	Centura	Producer	TEL SCCM	DNS	LAM / Novellus	Other	TOTAL
Refurbishment/ Start up	17	6	2	1	1	2	5	34
Retrofit / Start up	19	5	-	-	-	-	3	27
Relocation/ Start up	1	10	-	-	-	-	4	15
Refurbishment	6	2	2	1(Upgrade)	-	-	3	14
TOTAL (90)	43	23	4	2	1	2	15	90

## Summary list for country

Country	Q'TY	Rate
Korea	43	48%
China	18	20%
Singapore	17	19%
Taiwan	8	9%
Other	4	4%
TOTAL	90	100%

# 1-4. Business Detail

## Customer Satisfaction

### Equipment Refurbish

- ✓ **AMAT PVD / CVD / ETCH, LAM / Novellus ETCH / CVD, PSK TERA / SUPRA, TEL ETCH / TRACK, DNS Scrubber, etc.**
- System Refurbishment, Modification, Relocation, Upgrade & Conversion Start-up.**

### 2<sup>nd</sup> / OPM NEW Overhaul Items

- ✓ **Electrode OPM NEW**  
(150mm / 200mm / 300mm)
- ✓ **Magnet 2<sup>nd</sup> NEW & Overhaul**  
(150mm / 200mm / 300mm )
- ✓ **Heater Bellows Overhaul**  
(200mm / 300mm)
- ✓ **Roller Follower Mech 2<sup>nd</sup> NEW**  
(EBARA 300mm)
- ✓ **Shower Head OPM NEW**  
(300mm)

### Spare Parts

- ✓ **OEM / OPM / 2<sup>nd</sup> New Parts**
- ✓ **OPM : LAM Electrode / Stud Socket / ESC / ALN Heater / Gasket etc.**
- ✓ **2<sup>nd</sup> New : Ceramic Pin.**
- ✓ **Provide process kits for PVD, CVD, ETCH process chamber.**
- ✓ **AMAT / LAM / NOVELLUS DNS / TEL etc. system part.**

# 1-5. Business Area

## THINFILM / ETCH PROCESS PVD / CVD / ETCH

AMAT  
ENDURA II  
SYSTEM



AMAT  
PRODUCER  
SYSTEM



LAM  
SYSTEM



LAM /  
NOVELLUS  
SYSTEM



TEL  
SYSTEM



Refurbished Equipment / System Relocation / Installation / Engineering Support

## 2-1. Refurbishment Business (AMAT, LAM, NOVELLUS)

### ➤ Summary list for Refurbishment, Modification, Relocation & Upgrade.

#### AMAT

- ✓ **ENDURA II** : Degas, eSIP(TTN), MO-CVD, HP AL, IMP Ti, CIPW etc. Chamber
- ✓ **ENDURA CL** : Degas, AL, IMP etc. Chamber
- ✓ **Ultima** : **Ultima Plus / TE, Ultima-X HDP** etc.
- ✓ **CENTURA (ETCH)** : **DPS G2/G5 POLY, DPS Metal, E-MaX CT+** etc.
- ✓ **CENTURA (RTP)** : ISSG Chamber.
- ✓ **PRODUCER SE/GT** : Avila TSV PECVD, LOW K, HT-SiN, PE TEOS, SA,  
LP, LT/HT ACL, HARP USG/BPSG etc. Chamber

#### LAM / NOVELLUS

- ✓ **LAM 2300** : **STAR, KIYO/FLEX 45, Exelan (Flex), Versys Strip, Poly Silicon** etc.
- ✓ **NOVELLUS Concept 3 VECTOR** : PE CVD, PE SiN, SiO<sub>2</sub>, SiN etc. Chamber  
**VECTOR Express** : PE CVD Chamber  
**Triple Speed NeXT** : HDP, Max HDP CVD Cu Chamber
- ✓ **NOVELLUS GAMMA (ASHER)** : **GAMMA 2130, GAMMA Express**



## 2-2. Refurbishment Business (DNS, TEL, PSK)

### ➤ Summary list for Refurbishment, Modification, Relocation & Upgrade.

#### DNS

- ✓ DNS SS-3000 AR (Scrubber)

#### TEL

- ✓ Telius : SCCM, SCCM TE/SE+/SiN etc.

#### PSK (ASHER)

- ✓ TERA
- ✓ SUPRA

## 2-3. AMAT PVD / ETCH System

### ➤ AMAT Endura II PVD



#### CHAMBER SOLUTION

- ✓ IMP Chamber (300mm)
- ✓ MO CVD Chamber (300mm)
- ✓ Degas Chamber (300mm)
- ✓ CIPW Chamber (300mm)

eSIP



Degas



MO CVD



CIPW



### ➤ AMAT Centura ETCH



#### CHAMBER SOLUTION

- ✓ DPS G2 POLY (300mm)
- ✓ DPS G5 POLY (300mm)
- ✓ E-MaX CT + (300mm)

DPS II G2 POLY



E-MaX CT+



DPS II G5 POLY



## 2-4. AMAT / Novellus CVD System

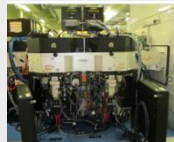
### ➤ AMAT Producer



#### CHAMBER SOLUTION SE / GT

- ✓ Avila TSV PECVD (300mm)
- ✓ HARP USG (300mm)
- ✓ PE TEOS (300mm)

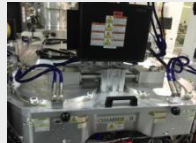
#### PE CVD



#### PE TEOS



#### HARP USG



### ➤ LAM / Novellus CVD (Concept3)



#### CHAMBER SOLUTION

- ✓ VECTOR : PE TEOS, PE CVD  
PE SiN, SiO<sub>2</sub>, SiN, etc. (300mm)
- ✓ VECTOR Express : PE TEOS (300mm)
- ✓ Triple Speed NeXT : HDP, Max HDP (300mm)

#### PE TEOS



#### Max HDP



## 2-5. LAM ETCH / Novellus ASHER System

### ➤ LAM ETCH



#### CHAMBER SOLUTION

##### LAM 2300 :

- ✓ STAR (300mm)
- ✓ EXELAN (Flex) (300mm)
- ✓ KIYO / KIYO45 / FLEX45 (300mm)
- ✓ VERSYS Metal (300mm)
- ✓ POLY Silicon (300mm)

#### VERSYS Metal    EXELAN FLEX



### ➤ LAM / Novellus ETCH



#### CHAMBER SOLUTION

##### ASHER :

- ✓ GAMMA 2130 (300mm)
- ✓ GAMMA Express (300mm)

## 2-6. DNS / TEL ETCH / PSK ASHER System

### ➤ DNS



#### CHAMBER SOLUTION SCRUBBER :

- ✓ SS-3000- AR (300mm)
- ✓ SU-3100 (300mm)

### ➤ TEL (ETCH)



#### CHAMBER SOLUTION TELIUS :

- ✓ SCCM (300mm)
- ✓ SCCM TE (300mm)
- ✓ SCCM SE+ (300mm)
- ✓ SCCM Jin (300mm)
- ✓ SCCM SiN (300mm)
- ✓ DRM (300mm)

### ➤ PSK



#### CHAMBER SOLUTION ASHER :

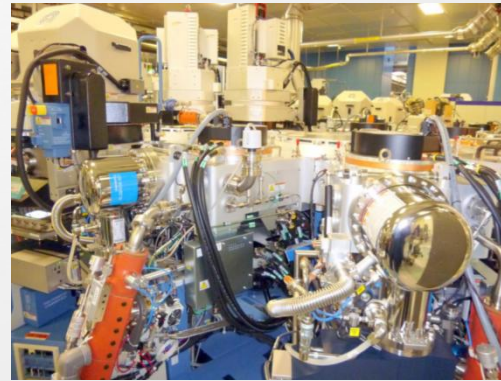
- ✓ SUPRA (300mm)
- ✓ TERA (300mm)

# 2-7. The Way to Refurbished Equipment

**In Factory**



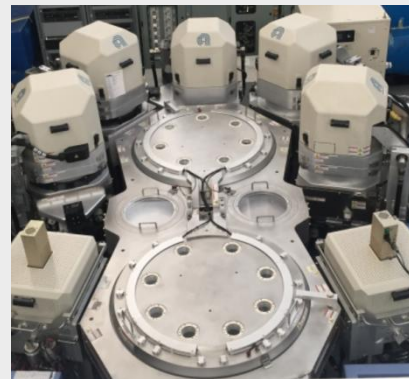
**Disassembly**



**Integration & Final Test**



**Assembly**



## High Quality Refurbishment

- ◆ Each piece of equipment goes through our superior refurbishment process
- ✓ Production Fab and refurbishment company trained engineers
- ✓ Standardized refurbishment procedures
- ✓ Remanufacturing based on the original factory specification
- ✓ Detailed inspection & installation report
- ✓ Can be support process issues



### 300mm Endura II Final Test - Operation Signoff Document

Revision	Description	Originator / Approver	Date
1	300mm Endura II Final Test		

Specification For Rebuilds (Thurs)				
Channel Function	Driver TB Positions	5in	6in	8in
Standard Liner	N/A			
High Temp. 8 Finger Heater	N/A			
STM	N/A			
Advanced ISI & B101	N/A			
RTM Heater	N/A			
PDS E-Chuck	N/A			
Chamber Bake Out Lamp	N/A			
Diagn Lamp	N/A			
Manual Bake Out Elements	N/A			
Hi-Temp. MCA, E-Chuck Outer Zone, Baseable	4 and 5			
Hi-Temp. MCA, E-Chuck Inner Zone, Baseable	7 and 8			
Hi-Temp. MCA, E-Chuck Inner Zone + Outer Zone	1 and 4			
Low Temp. Sub-arms, and Low Temp Baseable E	4 and 7			
Low Temp. Sub-arms, and Low Temp Baseable E	7 and 8			
SLT	N/A			
TaZ Heaters	N/A			

Voltage Verification Data			
Supply Type	Measured Voltage (V)	Voltage Range	In Spec (Y/N)
+6V Supply	4.86	4.86 to 6.16 V	
+16V Supply	14.55	14.55 to 16.65 V	
-15V Supply	-15.45	-15.45 to -14.55 V	
+24V Supply	23.62	23.62 to 24.48 V	
+15V EXT	14.70	14.70 to 15.30 V	
-16V EXT	-16.45	-16.45 to -14.65 V	
+6V EXT	4.86	4.86 to 6.16 V	
+8V on VME	4.95	4.95 to 5.05 V	
+12V Supply	11.76	11.76 to 12.24 V	
-12V Supply	-12.24	-12.24 to -11.76 V	
Remote generator	14.70	14.70 to 15.30 V	
Remote generator	-15.30	-15.30 to -14.70 V	

# 3-1. OEM Spare Parts

👉 More products information , Please refer to [www.irenonix.com](http://www.irenonix.com) / [renonix@irenonix.com](mailto:renonix@irenonix.com)

<p>ASS'Y, ELECT, SBC, SYNERGY CPU WITH1 0090-76133 (15ea) Good Working Condition</p>	<p>GAS DETECTOR 02-109457-01</p>	<p>AE MDX-L12M-650 RF GENERATOR 0010-21844/20225</p>	<p>8" Hi TEMP HEATER W/WELDED LUGS 0010-22012</p>	<p>Producer Ceramic Heater 0040-84051</p>
				
<p>MITSUBISHI ALL MOTOR &amp; MOTOR DRIVER</p>	<p>AMAT ENDURA ALL NEW MAGNET</p>	<p>PEDESTAL LIFT ASSY 2 STOP, SPEED 02-113291-00</p>	<p>CERAMIC, TC 15-00567-00</p>	<p>INSULATOR PINLESS 8" SNNF PRECLEAN II 0200-20426</p>
				

# 3-1. OEM Spare Parts



👉 More products information , Please refer to [www.irenonix.com](http://www.irenonix.com) / [renonix@irenonix.com](mailto:renonix@irenonix.com)


<p>ENDURA Preclean Chamber Good Working Condition</p>	<p>Edward Dry Pump</p>	<p>2 PHASE DRIVER 0870-01003</p>	<p>MAGNET ASSY DURASOURCE TTN (Overhaul) 0010-21844</p>	<p>Vexta Stepper Motor PH265-05B-C12 0090-70002</p>
				
<p>HARNESS ASSY, 5-PHASE DRIVER TRANSFER(0140-20092)</p>	<p>HARNESS CABLE 0140-20054</p>	<p>STEC ALL Model (NEW/Overhaul)</p>	<p>MKS ALL Model GE-50A Series (NEW/Overhaul)</p>	<p>UNIT ALL Model (NEW/Overhaul)</p>
				






## 3-2. 2<sup>nd</sup> NEW Parts List

👉 More products information , Please refer to [www.irenonix.com](http://www.irenonix.com) / [renonix@irenonix.com](mailto:renonix@irenonix.com)

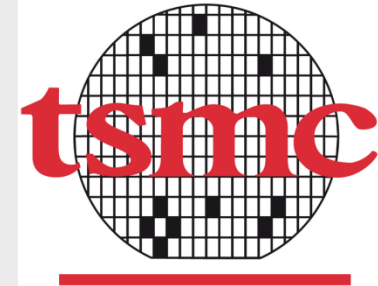
NO.	P/N	Description	Parts List
1	0041-13891	300mm HARP Face Plate	 <b>AMAT 2nd NEW Parts List</b>   <b>Producer 2nd NEW Parts List</b>
2	0040-47126	BLADE, SST, VHP ROBOT, 300MM,	
3	0021-51937	BLOCKER, DD3328, SACVD, 300MM	
4	0021-30906	CLAMP, BLADE 300MM DBR	
5	0040-03490	MANIFOLD, OUTPUT LEFT, 300MM	
6	0021-44028	NUT PLATE CLAMP HEATER 300MM	
7	0020-61271	STRAP,RF RETURN 300MM B101 HEATER	
8	0041-26882	UPPER INLET MANIFOLD, 300MM ALD TIN	
9	0020-19258	PEDESTAL TITANIUM 300MM PCII	

NO.	P/N	Description	Parts List
1	1D10-201429-15	UPPER ELECTRODE	 <b>TEL 2nd NEW Parts List</b>
2	1D10-101475-12	TAPER BAFFLE PLATE	
3	1D10-303124-14	SHIELD DEPO 85-2	
4	1D10-200733-11	RING SHIELD	
5	1D10-202204-12	UPPER ELECTRODE	
6	1D10-100854-15	BAFFLE PLATE	
7	1D10-303124-21	SHIELD DEPO 85-2	
8	1D10-201588-12	UPPER ELECTRODE	
9	1D10-202177-12	UPPER ELECTRODE	

NO.	P/N	Description	Parts List
1	713-018296-003	INJECTOR SPACER (KIYO)	 <b>LAM 2nd NEW Parts List</b>   <b>LAM OEM NEW Parts List</b>
2	720-092464-008	MOUNTING SCREW (KIYO)	
3	714-801511-002	MOUNTING PLATE LINER (KIYO)	
4	716-008608-001	SAPPHIRE WINDOW (KIYO)	
5	715-042721-810	LINER, SYM, HI FLOW, 2300	
6	714-045744-008	LINER, CANTILVR, OTR LNR	
7	839-045710-807	ASSY, SYM DOOR, 2300 (Shutter)	
8	714-045709-002	BLK, FLOW, SIM CANTILVR, 2300	
9	714-045743-809	LINER, FIXED OTR, ACME, 2300	

NO.	P/N	Description	Parts List
1	02-269293-00	SPINDLE ASSY,300MM NOVEL	 <b>NVLS 2nd NEW Parts List</b>
2	02-288189-00	ASSY 300MM LFT PIN ACTUATOR VECTOR	
3	02-312735-00	SPINDLE ASSY, C3 VECTOR	
4	02-324753-00	SPINDLE,INDEX C3 ALTUS	
5	02-326084-00	ALTUS 300MM SPINDLE	
6	02-347420-00	NOVELLUS 300MM SPINDLE	
7	17-191208-00	COVER, PLASTIC, PCB AC, C3 ALTUS	
8	17-191209-00	COVER, PLASTIC, PCB DC, C3 ALTUS	
9	16-289070-00	SHOWERHEAD,300mm ,CVD	

# RenoNix Major Customer



# Contact Point

**We're Capable of Most of service for PVD,CVD, ETCH areas.  
If you have any inquiry or interest , please feel free to contact us.**



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