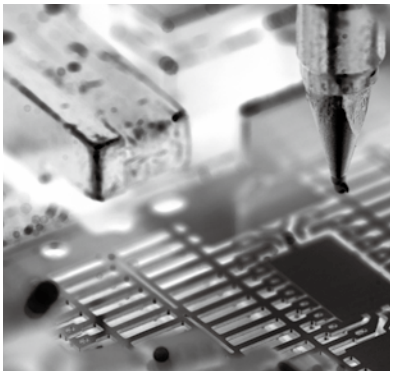
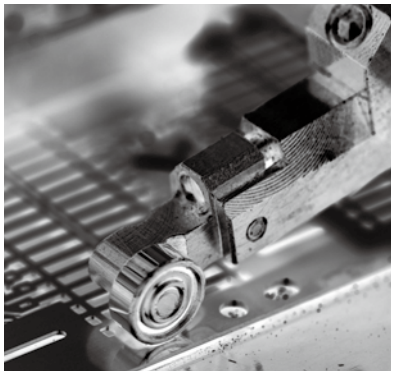
Gigalane

Equipment **Business**





2019 Gigalane Company Brochure
The Best Product & Service


GigaLane

We are a smart company pursuing **Equipment, Components, Process** convergence technology based on accumulated R&D competency since our foundation in 2000

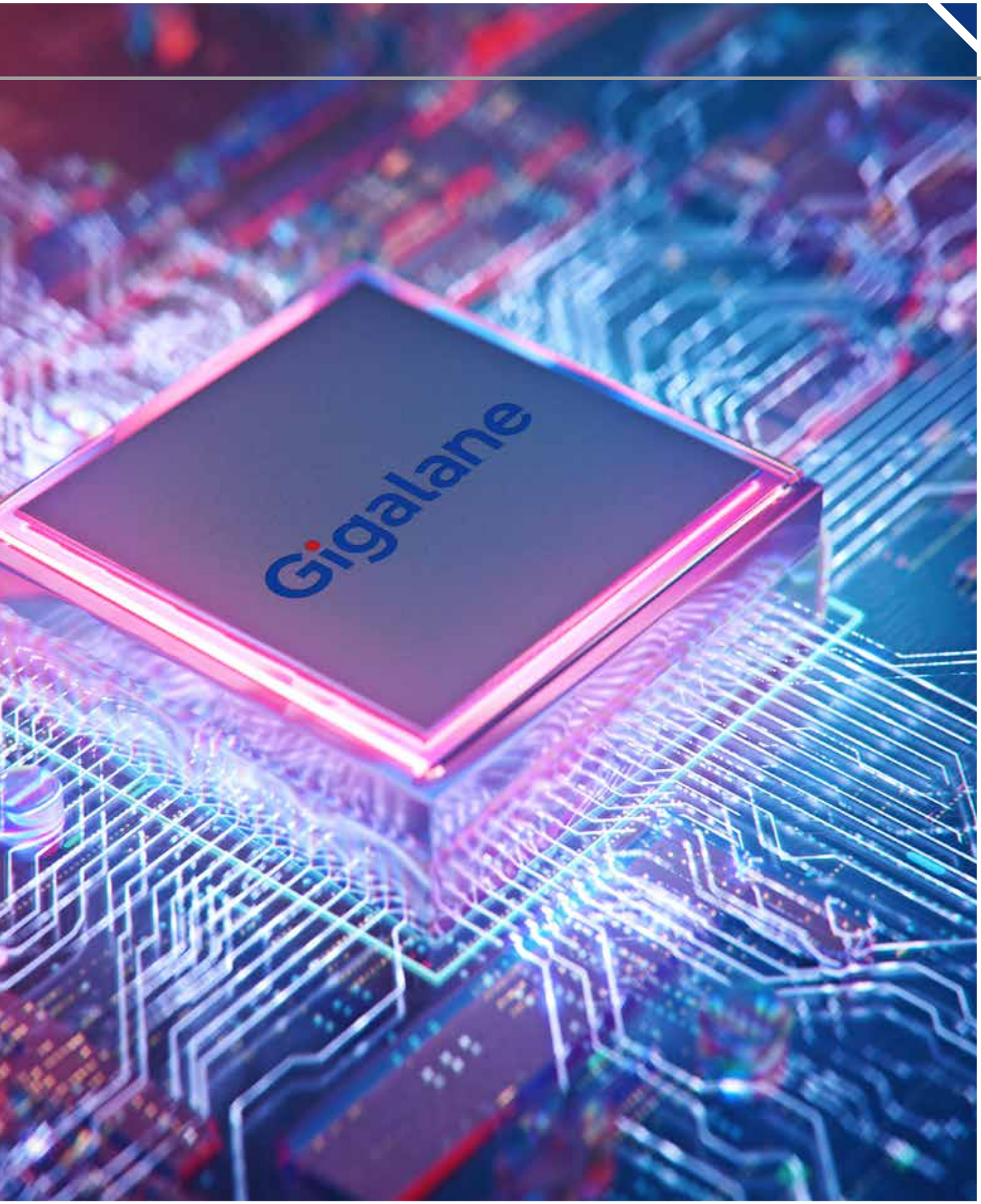
Gigalane's Plasma etcher has been evolved along with the development of semiconductor technology for about 25 years. Gigalane will lead the market of Deep silicon etcher which is core process equipment for the manufacturing of MEMS and semiconductor products, as it did in LED etcher market.

Gigalane performs all activities from design to production based on its R&D skills and technology.

Gigalane looks forward to growing together with our customers by enhancing customer satisfaction through speedy supplying customized products that meet both requirements of high quality and service.

Gigalane is always on your side.

MAXIS **Maxis'" is a Brand name of equipment manufactured by Gigalane**


Gigalane

Introduction & History

GigaLane Equipment Business includes semiconductor, MEMS & LED industries. Its main product is ICP Etcher which are having Deep Silicon Etcher, LED ICP Etcher, Metal Etcher and Dielectric material Etchers. DRIE and LED Etcher especially are appreciated Equipment Division [Business] has a wealth of experience and skills in its best quality from many customers in the world.

2018 **Developed High Etchrate 8inch DRIE(MAXIS200+)**
Developed RTP Imprinter for display application

2017 **Developed High capacity facedown LED Etcher(MAXIS800L)**
Developed Nano Imprinter [CITUS6000] for wafer processing

2016 **Developed ICP Metal Etcher & VDS Asher**

2015 **Developed 12inch DRIE [NeoGENIII - MAXIS300]**

2014 **Developed 8inch DRIE [NeoS/NeoGEN/NeoGEN II- MAXIS200]**

2013 **Imprinter process in development**
- KOSDAQ enlisted ('13.12)

2012 **Merged with Maxis Co., Ltd. ['12.08]**
- Developed fine pitch probe unit for display
- First domestic production & supply of hermetically sealed RF cable

2011
- Technology transfer contract with ETRI [Eletronics & Telecommunications Research Institute]
- Strategic alliance with Molex(US) : overseas supply chain secured Contract with TICN

2010 **Developed ICP Etcher & built PSS Lab.**
- Registered as partner of Samsung Electronics [Mobile Division]
- Designated as Advanced Technology Center (ATC) [Ministry of Knowledge economy]

2009
- Supplied SCMP, SCMJ for mobile phones

2008
- Developed new type hybrid RF cable & next generation
- HOS cable (High density & speed)

2006 **Developed 8inch DRIE Etcher, MAXIS200A**
Constructed MEMS Fab.

2003 **Developed CCP type Oxide Etcher**
- Developed Korea's first DC-40GHz band connector [Korean/Overseas Patent]

2001 **Developed RIE Etcher**
- Company/Research Lab. established

Vision

STRONG COMPANY

Long living company with sustainable growth

COMPANY with PROMISING VISION

Company with happy customers, shareholders & employees

COMPANY with PRIDE

Workplace good enough to work with our children

Smart Working Self-determined & focused working

Speed

Speed is the most important factor [Fast Execution]

Cost Saving

TQRDC · high efficiency-low cost structure

Communication

Reduce blind-spots through horizontal communication

Creativity

Creativity = Future Competitiveness

Respect · Care

Sophisticated culture as a 2.0 smart company

Corporate Culture

People First

- Gigalane's Asset ›› Human Resource
- Talented Human resource is not recruited but cultivaed

Strategic Thinking

- Think & Work : Always think of BETTER, MORE improvement
- Creativeness is Competency : R&D ›› l&D [Idea & Development]

Technology Pursuit

- Pursue fundamental tech, production tech, quality tech
- Develop competitive state-of-the-art convergence/niche tech

Self-Determined

- Voluntary working through ommunication & teamwork
- Everyone is a leader No dependency on one certain person

Owenership

- Passionate working & pursuit for happiness
- Cultivate people with a beating heart as leaders [Sincere & Self-Motivated]

Business Area

At any time, to serve to the needs of our customers,
Gigalane is always on your side.

Headquarters / Equipment BU
61, Dongtansandan 10-gil, Dongtan-myeon, Hwaseong-si, Gyeonggi-do, Korea

Vietnam Gigalane
Lot C1-2, Que Vo Extension Industrial Zone, Phuong Lieu Commune, Que Vo District, Bac Ninh Province, VIETNAM

Faithtek Limited
Room 607、305-306, NW-02 building, Nanopolis Suzhou, 99 Jinji LakeAvenue Suzhou Industrial Park,P.R.China

RZCC Group, LLC
11201 Constellation Drive El Cajon, CA 92020


Hwaseong, KOR


Probe Card - FAB


Asan. KOR

Headquarters [ICP Etcher / DRIE Etcher / NIL]


Dongtan, KOR


LAB


Equipment Ass'y

RF Component Production

Vietnam Gigalane

QuantumTek Innovatives Corporation
5F., No. 158, Rd.,Sec.1, Wenxing Rd., Zhubei City, Hsinchu County 302, Taiwan

M/S Edge Tech Scientific Pvt. Ltd.,
Unit No. 302, 3rd floor, LSC, D.D.A. market, E-block, Vikas puri, New delhi-110018, India

Thin Film Equipment Srl
Viale Delle Scienze, 23 20082 BINASCO(MI)

ICP Etcher

MAXIS300L/MAXIS800L

- Single Process Chamber
- Face-down Etching(MAXIS800L)
- 2-6 inch Substrate on Tray
- PSS, GaN, ITO, SiO_2, etc.

NeoSYS MAXIS300L/NeoSYS MAXIS800L

- Cluster backbone of 2 MAXIS300L/MAXIS800L process modules
- 2-6 inch sapphire substrate
- PSS, GaN, ITO, SiO_2, SiC, etc.

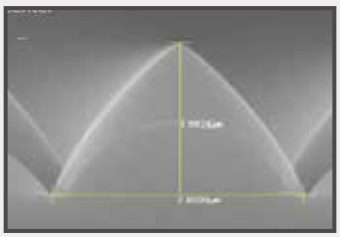
Overview

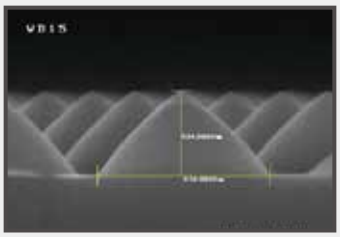
- 2inch-8inch Sapphire, Si, SiC, GaAs, LN/LT Substrate
- PSS, GaN, SiC, GaAs, Polyimide, Metal, Dielectric films, Etc.
- Tray Type(Conventional/Face Down)
- Standalone(ESC, In-line Asher Optional)

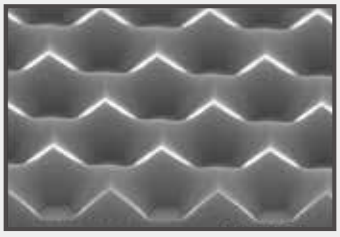
Performance

- PSS Lens : Symmetric Pyramidal Shape, (Height, Width) ±0.05㎛
- Face-down Chamber(MAXIS800L) : Particle free, High throughput
- Throughput (MAXIS300L/MAXIS800L): Tray Type (2, 4, 6, 8inch)
- Dual Chiller and Dual Gas Flow (MAXIS800L)
- Standalone_4,6,8 inch, ESC/Mechanical Clamp available (MAXIS200L)
- In-line VDS Asher for Metal Etcher (NeoGEN MAXIS200L_RADIION200)
- ESC for Piezoelectric Substrate of SAW filter
- SiC Trench or TSV Etching

▸ LED Device







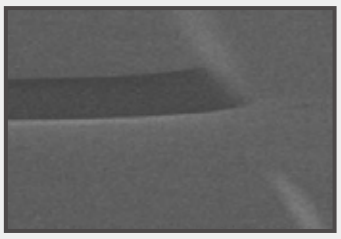
NeoGEN MAXIS200L_RADIION200

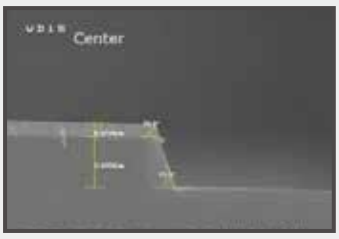
- Standalone ICP Etcher with in-line Asher Automatic Single wafer Transfer
- 4-8 inch substrate
- Metal, PSS, GaN, GaAs, SiC, polyimide

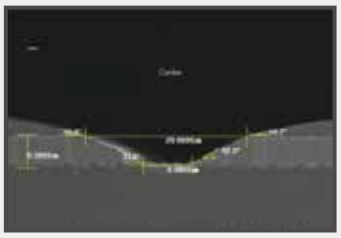
NeoS MAXIS200L

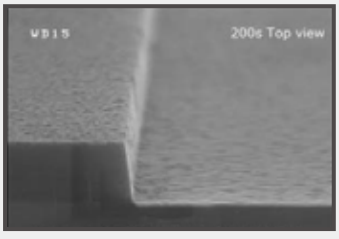
- Standalone ICP Etcher Semiauto Single wafer Transfer
- 4-8 inch substrate
- PSS, GaN, GaAs, SiC, polyimide

▸ Metal & Dielectric Film

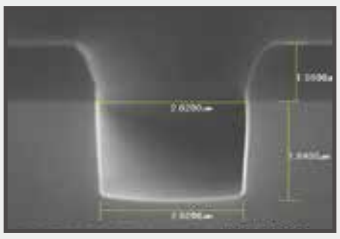


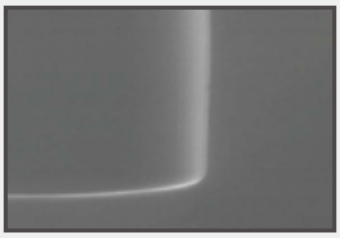


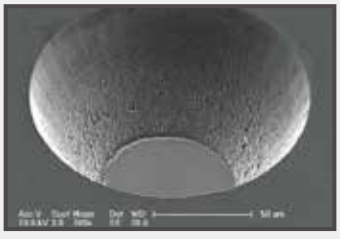




▸ SiC Substrate







Deep Si Etcher

NeoGENIII MAXIS300

- 12inch cluster backbone system, up to 4chambers
- Cycle & non-cycle process available
- Si Thinning, Si Sawing, TSV, DTI, etc

NeoGEN MAXIS200

- Standalone Backbone, Automatic Transfer
- 4-8 inch Si or Glass substrate
- Si MEMS, DTI, TSV, SiC, etc

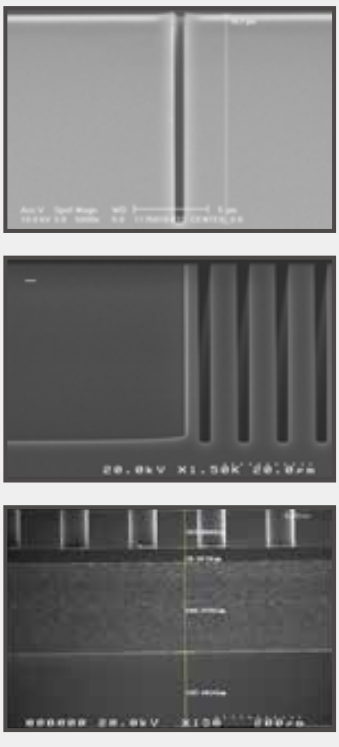
Overview

- 6inch-12inch Deep Silicon Etcher
- Shallow & Deep Si Trench, TSV (Through Si Via), Si Thinning & Sawing
- Cycle & non-Cycle Process available

Performance

- Aspect Ratio, - 60:1
- Uniformity, < ±5%
- Metal Contamination, 5×10^{10}ea/cm^2
- Damage-free, HF/LF Dual Bias (HF Bias Optional)
- Surface Roughness, min. 3nm
- Undercut-free
- Notching-free
- Loading Effect Control

▸ Semiconductor (DTI)



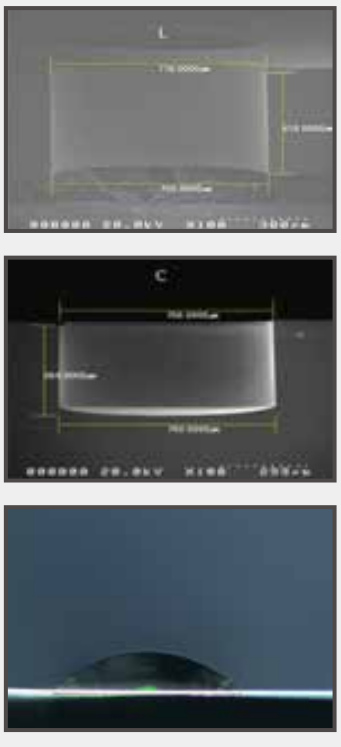
NeoGEN II MAXIS200

- 8inch cluster backbone system, up to 3chambers
- Cycle & non-cycle process available
- Si MEMS, DTI, TSV, SiC, etc

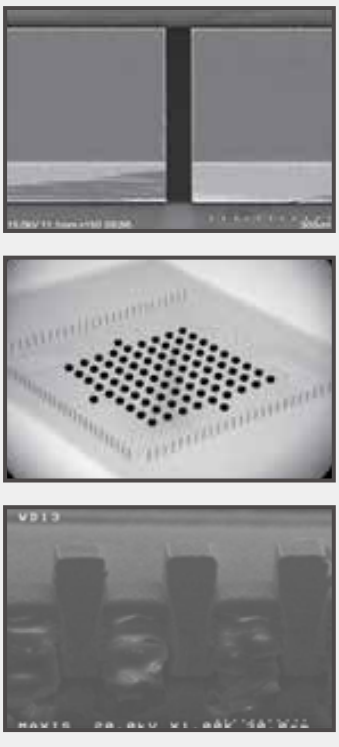
NeoS MAXIS200

- Standalone Backbone, SemiAuto Transfer
- 4-8 inch Si or Glass substrate
- Si MEMS, DTI, TSV, SiC, etc

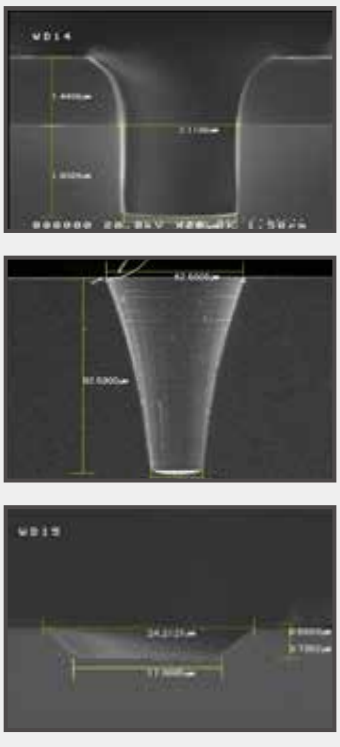
▸ Si MEMS Sensor



▸ Si Interposer



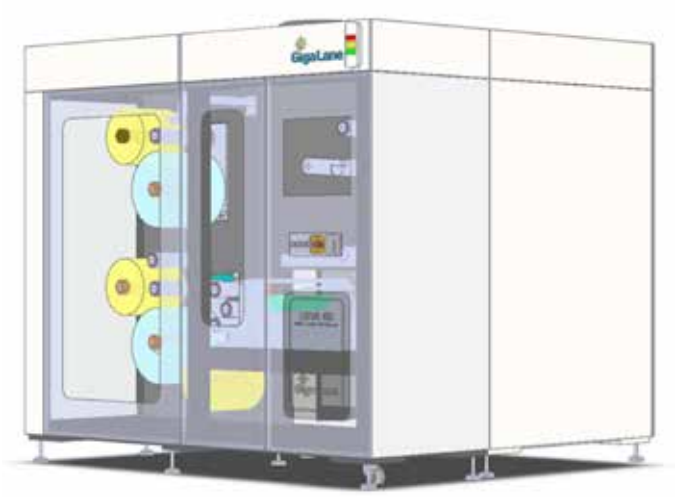
▸ SiC Trench



Nano Imprinter

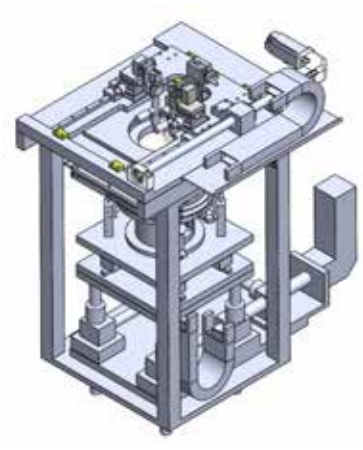
CITUS 6000

- Full Automatic Processing (Coater in-line, Spin)
- 2-6inch Substrate imprinting by soft mold
- Nano Device, nPSS, SAW filter, etc



CITUS R6000

- Roll to Plate, Full Automatic Processing (Coater optional, Spin)
- 2-6inch Substrate imprinting by soft mold
- PSS, etc



CITUS R6000 alignment

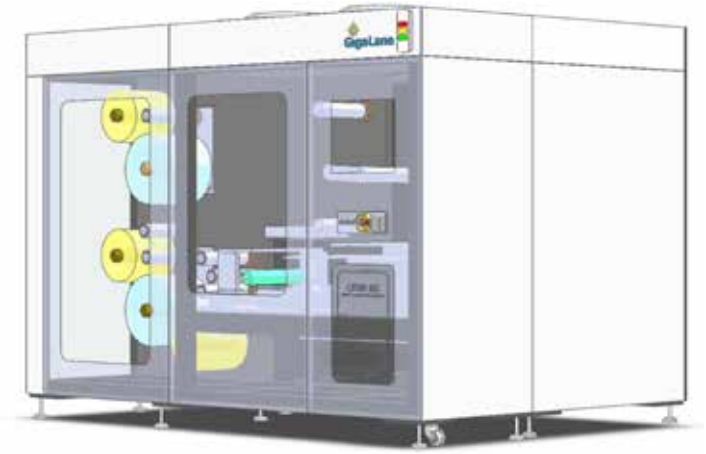
- Roll to Plate, Full auto Processing (Coater optional, Spin)
- 2-8inch Substrate imprinting by soft mold, Overlay alignment
- LED Chip, multi layer Device, etc

Overview

- 2inch-8inch, Nano to Micro Pattern
- LED, Display, Other Electric Devices
- Flexible Resin Mold
- Coater in-line or optional

Performance

- 20㎚ Pattern Resolution
- Use of Repeatable Soft Mold
- Lower CoC & CoO
- Very small foot print against Photo Litho Equipments
- Comet-free



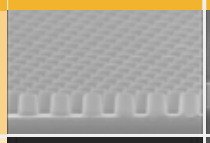
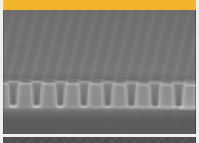
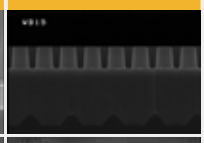
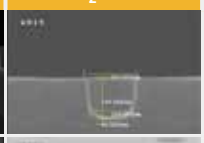
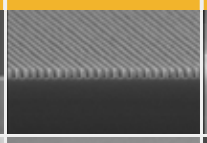
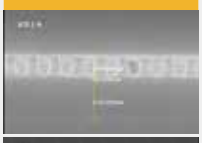
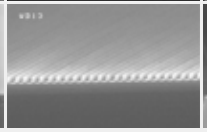
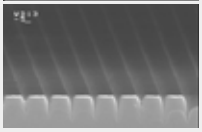
CITUS Mold Imprinter

- Roll to Plate, Full Automatic Processing (Coater in-line)
- Master wafer loading or Replica mold(sheet type) loading
- Coating : spin, ink jet, micro dispensing (coating type selectable)
- 2-8inch Substrate imprinting by soft mold
- Mold manufacturing machine for CITUS

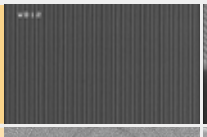
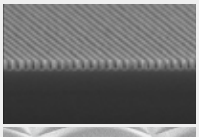
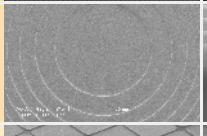
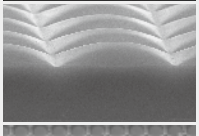
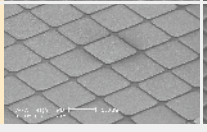
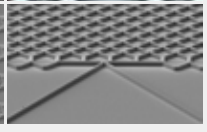
CITUS Semi-auto

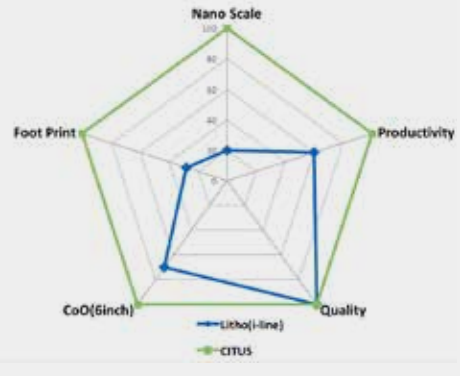
- Roll to Plate, Semi-auto Processing (Coater optional, Spin or inkjet)
- 2-8inch Substrate imprinting by sheet type soft mold, Manual mold loading & change
- PSS,WGP, Nano Device, etc

▸ SEM Data 1 (Imprinting & Etching)

	nPSS	mPSS	GaN	SiO_2 Hole	WGP	Glass
Imprinting						
Etching						

▸ SEM Data 2 (Imprinting)

WGP 50㎚ L&S			
MLA 10㎛~			
Honeycomb Barrier rib ~100㎛			



Large area imprinting machine

R t P imprinter

- Roll to Plate, Full Automatic Processing (Coater in-line, Inkjet)
- Large area imprinting(5G) by soft mold
- LCD, WGP, Nano Device, etc

Overview

- Up to 5G, Nano to Micro Pattern
- LED, Display, Other Electric Devices
- Flexible Resin Mold
- Coater optional

Performance

- RLT 50㎚ under control
- Use of Repeatable Soft Mold
- Lower CoC & CoO
- Inkjet coater

Demo Lab

Overview

- Clean Room : 1,500m², Class 10/1,000
- Demo Lab 330m²
- Assembly 1,000m²
- Warehouse 230m²

Application

LED	• PSS Etching • GaN Etching • Oxide Etching	•MAXIS300L (Tray, conventional) •MAXIS800L (Tray, face down) •NeoSYS-MAXIS300L (Cluster) •NeoSYS-MAXIS800L (Cluster) •NeoS-MAXIS200L (Single, semiauto)
	• Patterning	•CITUS6000
MEMS	• Deep Si Etching	•NeoS-MAXIS200 (Semiauto) •NeoGEN-MAXIS200 (Auto) •NeoGEN II-MAXIS200 (Cluster)
	• Metal Etching & Ashing	•NeoGEN-MAXIS200L-RADIION200
	• Compound & Dielectric Etching	•MAXIS300L (Tray, conventional) •MAXIS800L (Tray, face down) •NeoGEN-MAXIS200L(Auto)
	• Micro Lenz Etching	•NeoGEN-MAXIS200(Auto)
SEMICONDUCTOR	• Si Trench • TSV Etching • Si Thinning • Si Sawing	•NeoS-MAXIS200 (Semiauto) •NeoGEN-MAXIS200 (Auto) •NeoGEN II-MAXIS200 (8"Cluster) •NeoGEN III-MAXIS300 (12"Cluster)
Power Device	• SiC Trench Etching	•NeoS-MAXIS200L (Semiauto) •NeoGEN-MAXIS200L (Auto) •NeoGEN II-MAXIS200L (8"Cluster)
SAW Filter	• Metal Etching & Ashing	•NeoGEN-MAXIS200L-RADIION200
	•Dielectric Etching	•MAXIS300L (Tray) •NeoGEN-MAXIS200L(Auto)
GaN PA	• SiC TSV Etching	•MAXIS800L (Tray, face down) •NeoGEN-MAXIS200L(Auto)

Demo Lab

ICP Etcher Lab

- ICP Etcher(4) : MAXIS300L, MAXIS800L, NeoGEN MAXIS200L - RADIION200, NeoS MAXIS200L
- Stepper(4", 6") • Coater(4", 6")
- Wet Station

Imprinter

- CITUS6000
- RtR

DRIE Etcher Lab

- 12", NeoGEN III - MAXIS300
- 8", NeoGEN II - MAXIS200
- 8", NeoGEN - MAXIS200

Assembly

Equipment
Business

Gigalane

61, Dongtansandan 10-gil, Dongtan-myeon,
Hwaseong-si, Gyeonggi-do, Korea
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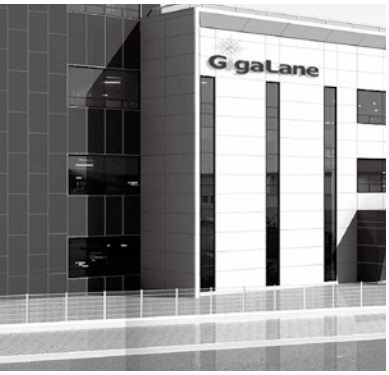

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