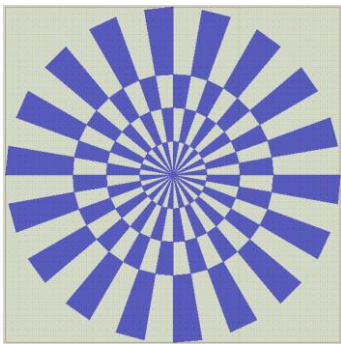
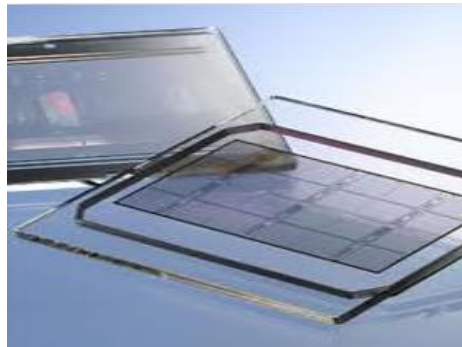


Next IJ

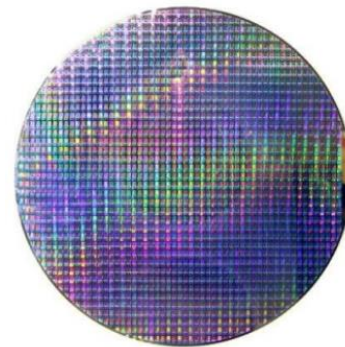
패턴 디자인(gds file), 포토마스크 제작, 웨이퍼 가공



Design



Photomask



Wafer

Homepage - <http://nextij.com>

회사 소개

- 회사 명 --- Next IJ Co. Ltd
- 회사 설립 --- 2021년 6월
- 극자외선 노광기술협의체(EUV-IUCC) 회원사 --- 2021년 11월
- 대표 --- 이인수 (michael.lee@nextij.com)
 - 세계 초 일류 포토마스크 회사 근무(기술부문)
- 대표 e-Mail/Tel(Fax) --- csr@nextij.com / [82-31-637-2226](tel:82-31-637-2226), 070-8887-2226,(Fax: 82-31-637-2232)
- 해외 Agent
 - 중국 상하이, 미국 산호제이, 베트남 하노이, 독일 함부르크, 호주 퍼스

대표이사 경력

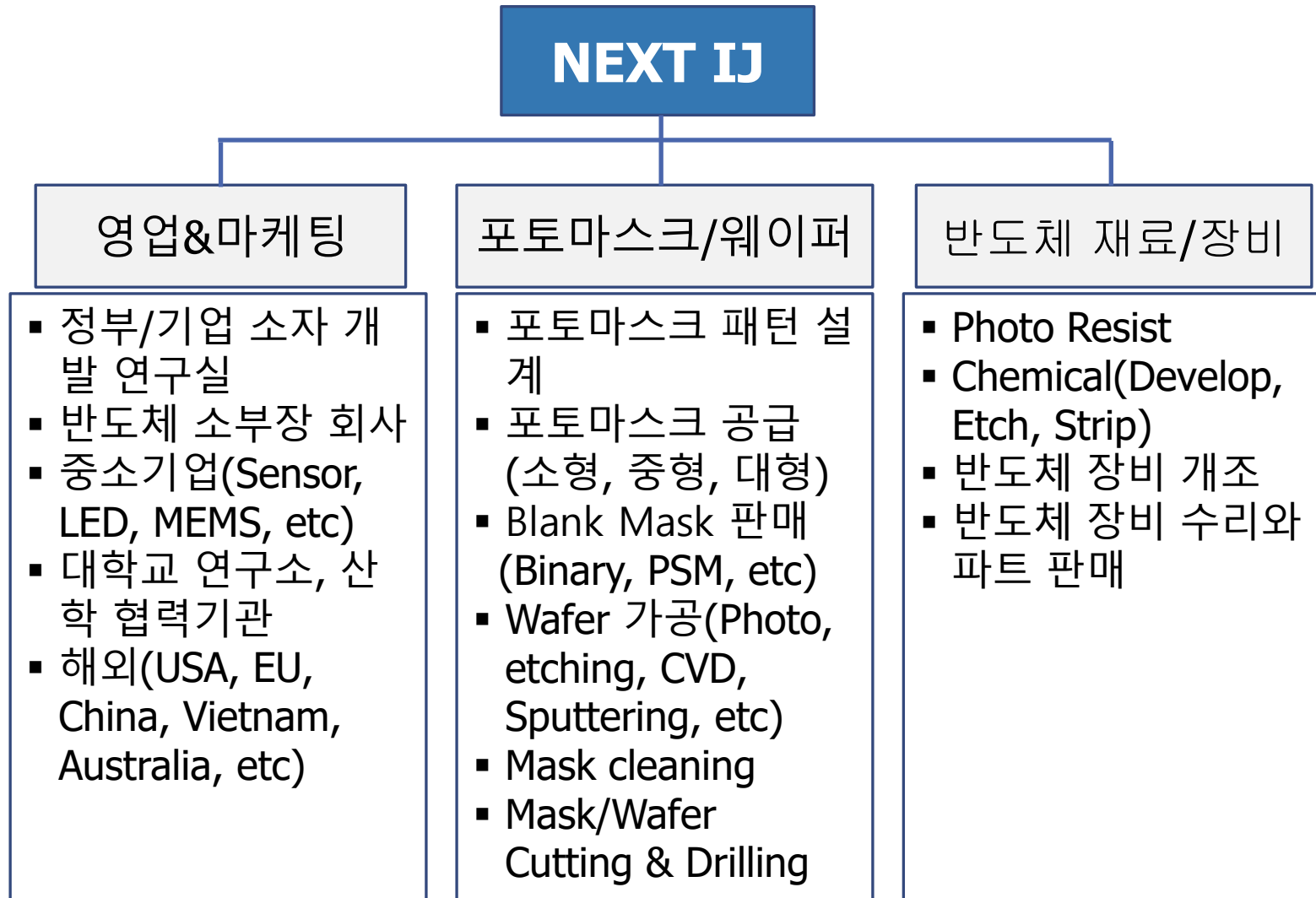
■ 학력

- O 대학 전자공학과 졸업(BS)
- O 대학원 기업경영 졸업 (MBA)

■ 경력

- (1992~1996) E.I Dupont - Laser litho & process engineering, training in Headquarter Round Rock, TX USA
- (1996~2004) DuPont Photomask – Engineering team leader, Technical support as the board member for DuPont Shanghai plant and Singapore plant
- (2004~2019) Toppan Photomask – Engineering and project leader for new process development, Technical exchange work in worldwide
- (2019~2021) Domestic Company : Project & Sales VP for Semiconductor material and equipment
- (2021 Jun~) NEXT IJ Co. Ltd, CEO

사업 부문



고객 & Market

■ 고객

반도체 소부장 회사, R&D 기관, Sensors 제조사, 중소기업, Startup 회사, 대학 연구소, 산학협력기관, 해외 R&D 기관



■ Market

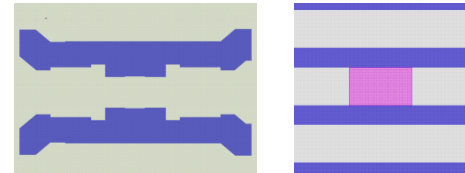
Patterning(소부장 회사)/ Bump Mask/ Display/ FETs/ Hologram/ Sensors/ Integrated Circuits/ LED/ MEMS/ Nano imprint/ Nano Technology/ Optical filters and Apertures/ Precision grid/ Precision PC board/ Renewable Energy/ Solar Devices

제품/서비스 소개

■ 포토마스크 Data 준비/제작 상담

▪ Data Preparation

포토마스크 패턴 설계(digitizing), alignment key, Data Translation (DXT, GDSII, GERBER, CiF, Mebes), Programmed defect

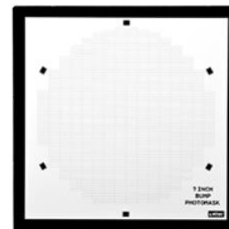


▪ Mask 제작

- 목적에 부합한 Mask 협의(최저비용, 최적 결과)
- Mask Type (Binary, PSM, Laser writer, eBeam writer, wet/dry etch, 1X/2X/4X/5X, ETC)
- 포토마스크 패턴 검토(Mask 제작 가능성 파악)

■ 포토마스크 제품 소개

■ 제품 종류



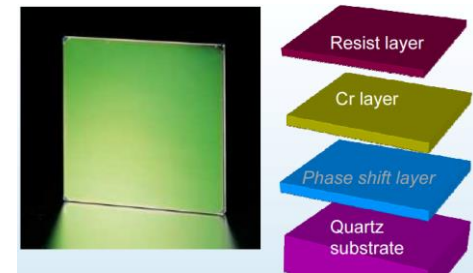
	분류	종류
Small Size (Binary, PSM)	Size(inch)	5x5, 6x6, 7x7
	두께(mm)	2.3, 3.0, 6.35
	Substrate	Soda Lime, Quartz
Large Size	Size(inch)	9x9, 13.8x13.8, 14x17, 14x14
	두께(mm)	3.0, 4.8
	Substrate	Soda Lime, Quartz

■ 기술 사양

	Small	Large
Resolution L/S(Hole)	$\geq 0.25\mu\text{m}$ (0.3 μm)	$\geq 5\mu\text{m}$ (5 μm)
CD Tol.	$\geq 10\text{nm}$	$\geq 0.5\mu\text{m}$
Registration	$\geq 10\text{nm}$	$\geq 1.0\mu\text{m}$

- 세계 일류 회사 혹은 국내 우수 회사로 Outsourcing (Photomask 제작)

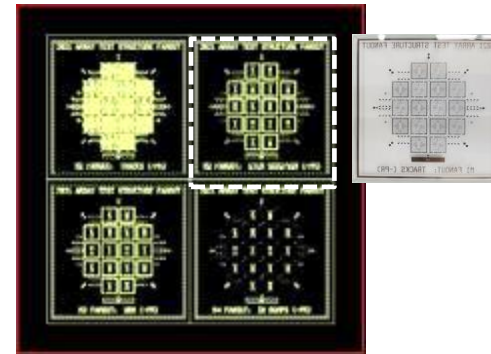
Blank Mask 제품 소개



	Binary	KrF PSM	ArF PSM	OMOG
Tech node(nm)	~150	250~90	90~32	28~7
Photo Resist	IP, FEP, AZ	Discussion	Discussion	Discussion
Metal Film	Normal-Cr / Thin-Cr	Phase Shifter: MoSi base	Phase Shifter: MoSi base	Hard Film: Cr Absorber: MoSi
Size(inch/mil)	5"90, 6"90, 6"250, 7"120, 9"120 (Qz and Soda Lime)	6"250	6"250	6"250

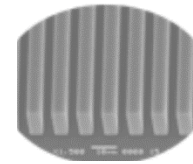
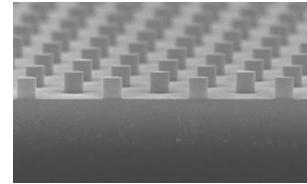
포토마스크 Cleaning/Cutting & Drilling

- Substrate: Qz and Soda Lime
- Substrate 두께: 90 mil~250mil



■ 프로세스 웨이퍼 공급

- Master Stamp (Nano imprint) : ~100nm
- Hologram (Multi photo step process)
- Tungsten Plug용 기판 : ~100nm
- Direct litho(eBeam)을 이용한 기판 제작



■ 반도체 재료 공급

- Photo Resist: P-type, N-type, eBeam용
- Chemical: Developer, PR Stripper, Metal Etchant

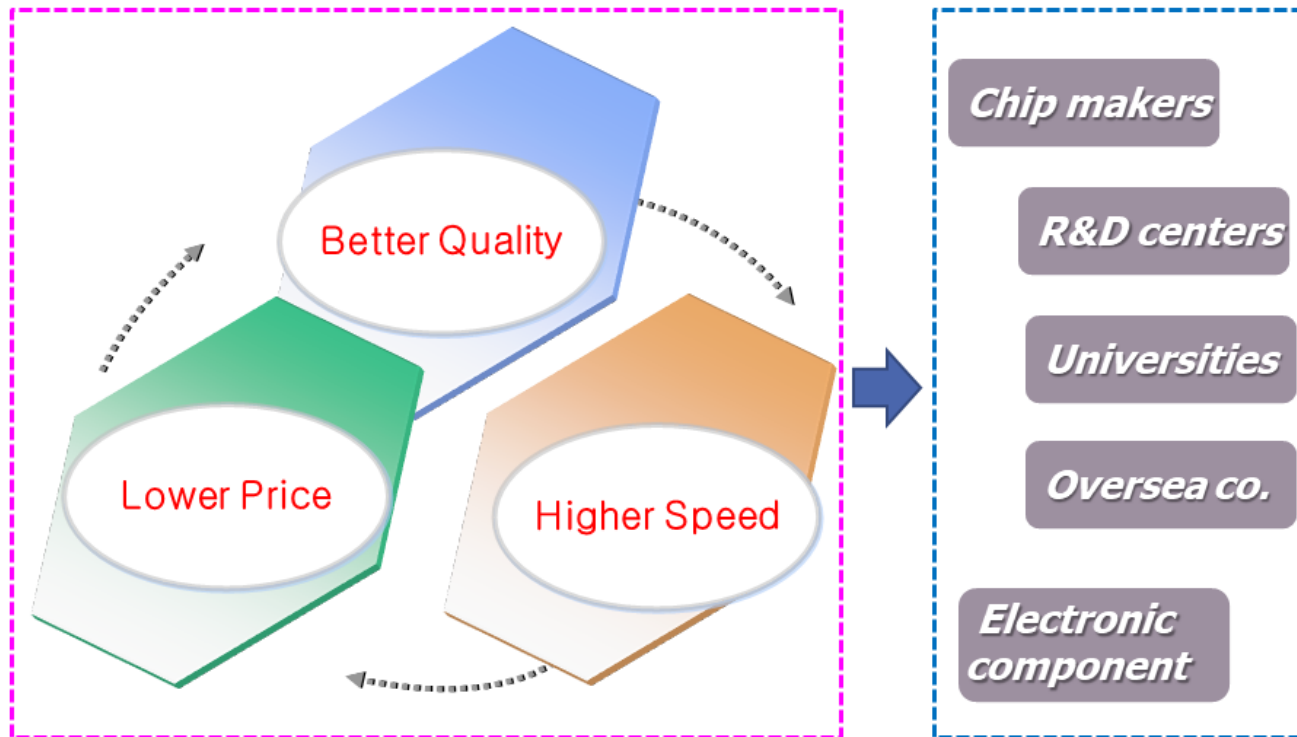
■ Refurbished 설비/부품 판매

- Photomask 제조 설비
- 부품 공급



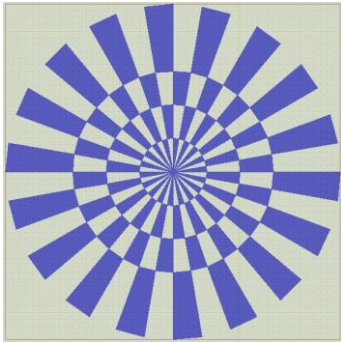
Next IJ 는?

- 고객 맞춤형 패턴 디자인 서비스, 포토마스크, 웨이퍼 제공
- 고객과 기술 협력, 납기, 품질을 위해 최고의 서비스를 제공

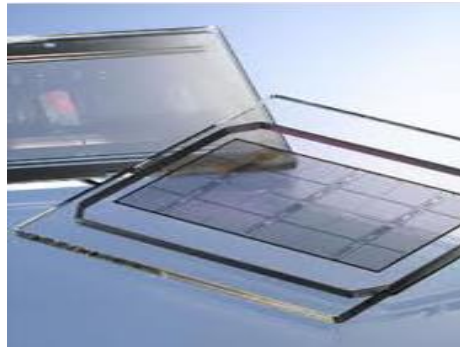


Next IJ

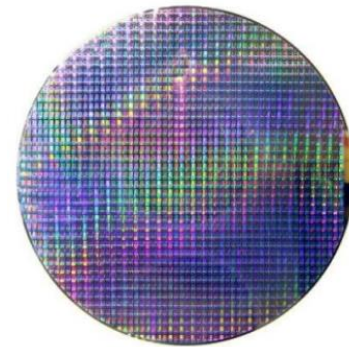
Pattern designing(gds file), Photomask & Wafer fabrication



Design



Photomask



Wafer

Homepage - <http://nextij.com>

Company Introduction

- Company Name --- Next IJ Co. Ltd
- Establishment --- Jun '2021
- The membership company of EUV Industry-University cooperation center(EUV-IUCC) --- Nov '2021
- President --- Michael Lee (michael.lee@nextij.com)
 - Photomask technology experience in a world-class photomask company
- Representative e-Mail/Tel(Fax) --- csr@nextij.com / 82-31-637-2226, 070-8887-2226,(Fax: 82-31-637-2232)
- Oversea Agent
 - Shanghai, China / San Jose, USA / Hanoi, Vietnam / Hamburg, Germany / Perth, Australia

President Career

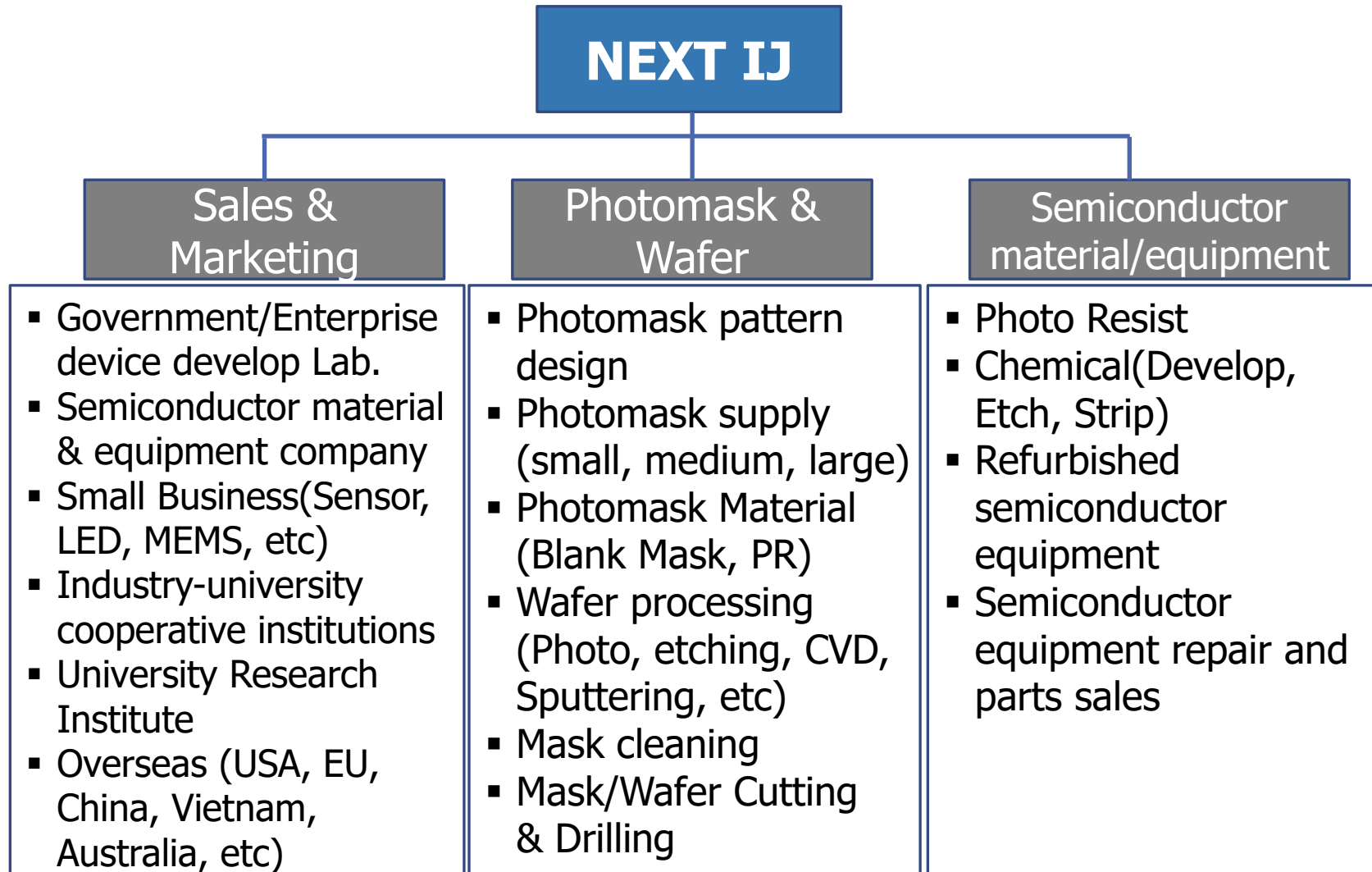
■ Education

- O University in Korea, BS in electronic Engineering
- O University in Korea, MBA (Business management)

■ Career

- (1992~1996) E.I Dupont photomask - Laser litho & process engineering, training in Headquarter Round Rock, TX USA
- (1996~2004) DuPont Photomask – Engineering team leader, Technical support as the board member for DuPont Shanghai plant and Singapore plant
- (2004~2019) Toppan Photomask – Engineering and project leader for new process development, Technical exchange work in worldwide
- (2019~2021) Domestic company: Project & Sales VP for Semiconductor material and equipment
- (2021 Jun~) NEXT IJ Co. Ltd, CEO

Business Division



Customer & Market

■ Customer

Semiconductor material & equipment company, University Research Institute, Industry-university cooperative institutions, Electronic device R&D institution, Sensors manufacturer, SME, Startup company, Overseas R&D institute



■ Market

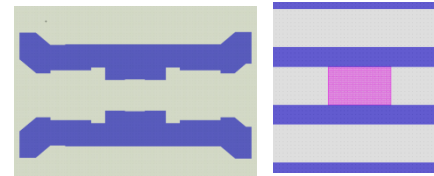
Patterning(Semiconductor material & equipment company)/ Bump Mask/ Display/ FETs/ Hologram/ Sensors/ Integrated Circuits/ LED/ MEMS/ Nano imprint/ Nano Technology/ Optical filters and Apertures/ Precision grid/ Precision PC board/ Renewable Energy/ Solar Devices

Product/Service Introduction

■ Consultation on photomask data preparation/fabrication

■ Data Preparation

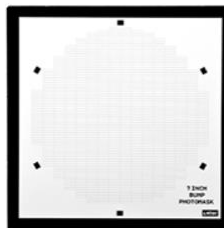
Photomask pattern design(digitizing), alignment key, Data Translation (DXT, GDSII, GERBER, CiF, Mebes), Programmed defect



■ Mask Fabrication

- Consultation on a mask suitable for the purpose (lowest cost, optimal result)
- Mask Type (Binary, PSM, Laser writer, eBeam writer, wet/dry etch, 1X/2X/4X/5X, ETC)
- Review the photomask pattern (identify the possibility of making a mask)

■ Introduction of photomask products



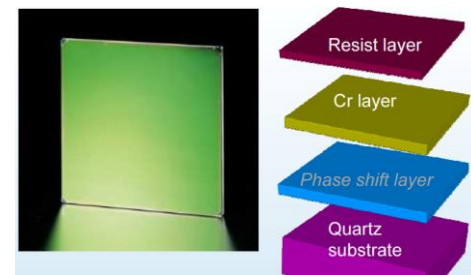
■ Product Type

	Classification	Types
Small Size (Binary, PSM)	Size(inch)	5x5, 6x6, 7x7
	Thickness(mm)	2.3, 3.0, 6.35
	Substrate	Soda Lime, Quartz
Large Size	Size(inch)	9x9, 13.8x13.8, 14x17, 14x14
	Thickness(mm)	3.0, 4.8
	Substrate	Soda Lime, Quartz

■ Technical Criteria

	Small	Large
Resolution L/S(Hole)	$\geq 0.25\mu\text{m}$ (0.3 μm)	$\geq 5\mu\text{m}$ (5 μm)
CD Tol.	$\geq 10\text{nm}$	$\geq 0.5\mu\text{m}$
Registration	$\geq 10\text{nm}$	$\geq 1.0\mu\text{m}$

■ Outsourcing to a world-class company or an excellent domestic company

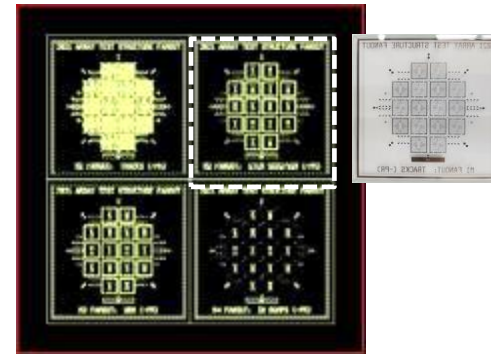


■ Introduction of Blank Mask

	Binary	KrF PSM	ArF PSM	OMOG
Tech node(nm)	~150	250~90	90~32	28~7
Photo Resist	IP, FEP, AZ	Discussion	Discussion	Discussion
Metal Film	Normal-Cr / Thin-Cr	Phase Shifter: MoSi base	Phase Shifter: MoSi base	Hard Film: Cr Absorber: MoSi
Size(inch/mil)	5"90, 6"90, 6"250, 7"120, 9"120 (Qz and Soda Lime)	6"250	6"250	6"250

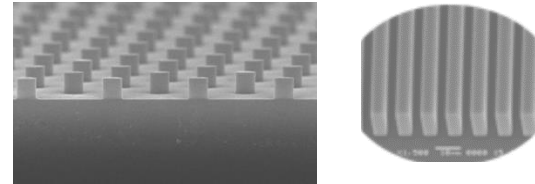
■ Photomask Cleaning/Cutting & Drilling

- Substrate: Qz and Soda Lime
- Substrate Thickness: 90 mil~250mil



■ Processed wafer supply

- Master Stamp (Nano imprint) : $\sim 100\text{nm}$
- Hologram (Multi photo step process)
- Substrate for Tungsten Plug : $\sim 100\text{nm}$
- Substrate fabrication using direct litho (eBeam)



■ Semiconductor material supply

- Photo Resist: P-type, N-type, e-Beam
- Chemical: Developer, PR Stripper, Metal Etchant

■ Sales of Refurbished Equipment/Parts

- Photomask Manufacturing Equipment
- Parts supply



What can Next IJ do?

- Providing customer-tailored pattern design service, photomask, and wafer
- To provide the best service for technical cooperation, delivery, and quality with customers

