Investor Relations

Next Inspection Solutions for Semiconductor Applications

December 21st, 2021

Chris Park / CEO

NEXTIN Solutions

Hidden Champion 100
Materials·Components·Equipment

면책 선언

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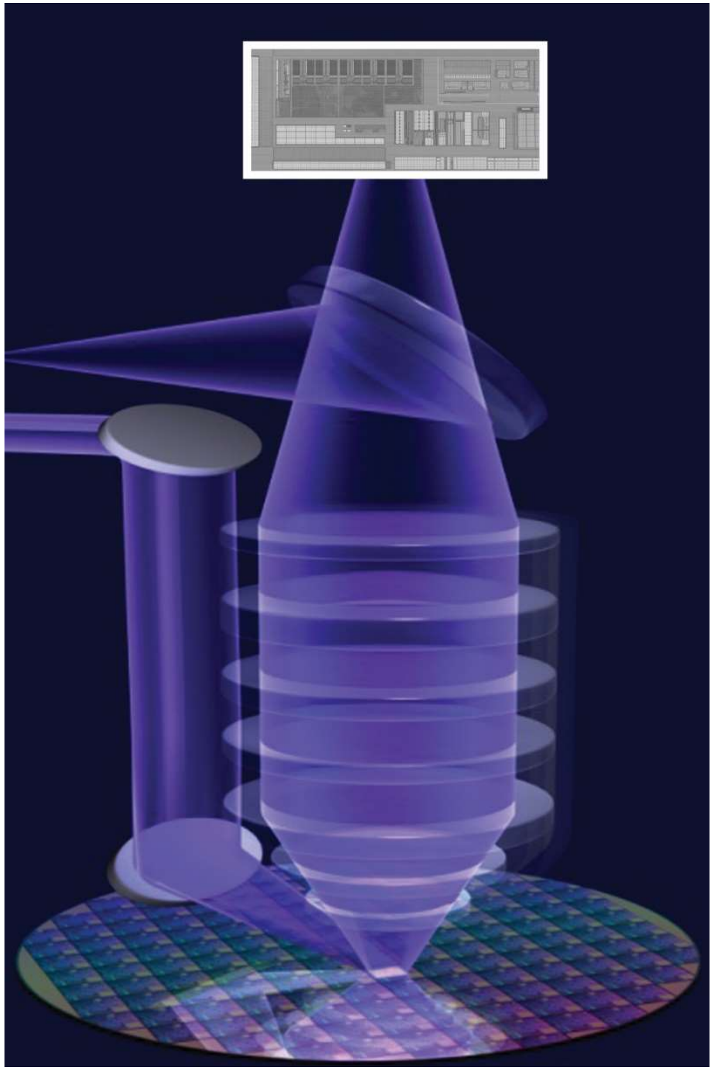
Agenda



- Wafer Inspection Equip. Market
- Company Outlook
- Technology Originality
- Future Strategy
- Q&A

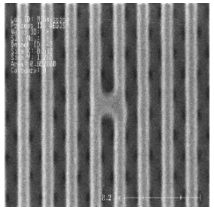
Wafer Inspection Equipment Market

NEXTIN brings Competition into the Wafer Inspection Market !!!

Playground of NEXTIN

(Optical) Inspection System

Detecting pattern defects and particles @ wafer fabrication

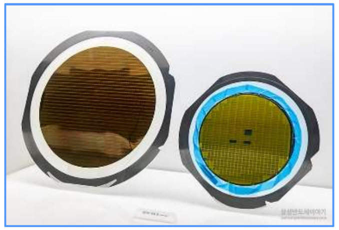


NEXTIN Solutions

반도체 검사 장비(inspection or test @ semiconductor manufacturing)

(Electrical) Tester

Testing electrical functionality @ chip package process



YIKC

EXICON

UniTest

INSIGHT DI

Machine Vision

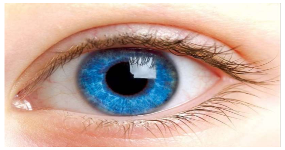
Detecting abnormal placement @ assembly process

HANMI 한미반도체

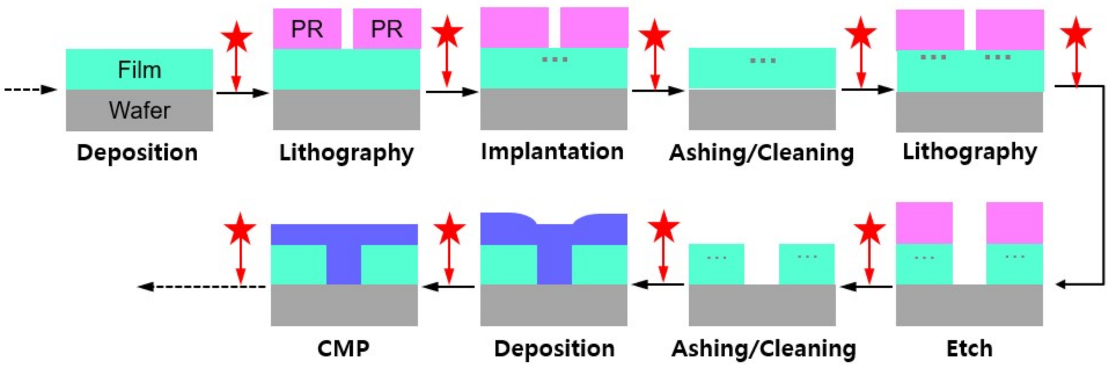
KOH YOUNG TECHNOLOGY

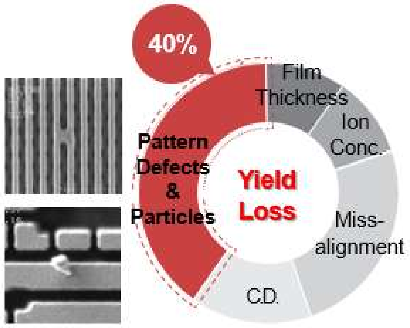
INTEK-PLUS Integrated Measurement System

MIRTEC



Wafer Inspection Process





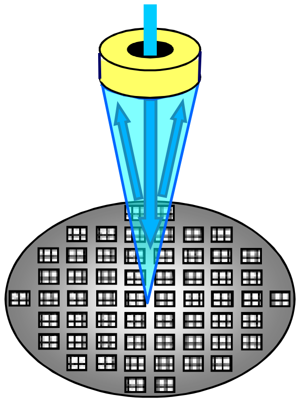
【Analysis of FEOL process failures】

- **Wafer inspection process is detecting pattern defects and particles generated on wafers during each unit process of front-end manufacturing**
- **Unpredictable and major yield-loss factors are pattern defects and particles**

Wafer Inspection Systems

- **Wafer inspection equipment comprised 6.93% of the overall market share in 2018**
- **E-beam inspection system(<18%) vs. Optical inspection system(>82%) in 2018**
- **NEXTIN plays at dark-field tool market and plans to jump in BF and macro market**

Optical inspection systems.: Mix-and-match solution (Sensitivity vs. Speed)

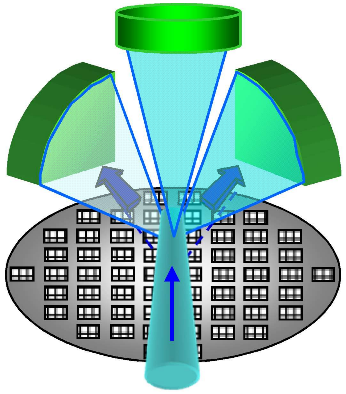


Bright-field Tool

- Reflection Beam
- DUV Illumination
- Highest Sensitivity
- Lowest Throughput
- KLA Price: $18M
- AMAT Price: $10M

Dark-field Tool

- Scattered Beam
- UV Illumination
- Medium Sensitivity
- Higher Throughput
- KLA Price: $9M
- Hitachi Price: $3M
- NEXTIN Price:

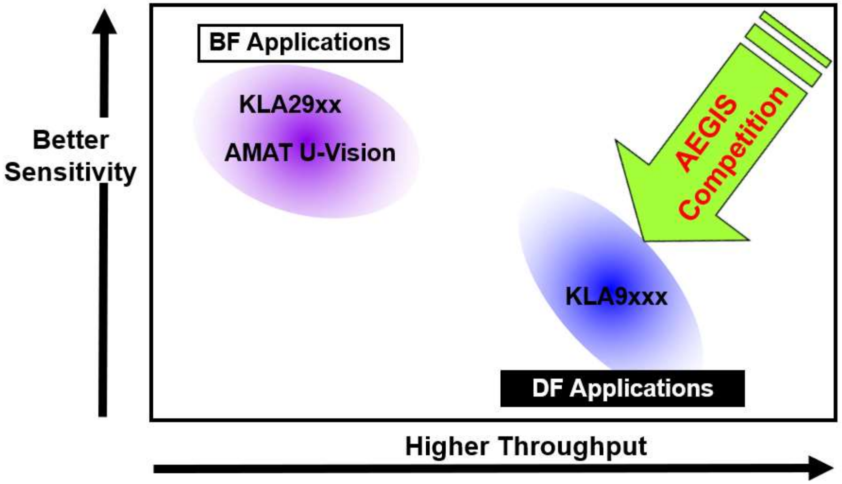


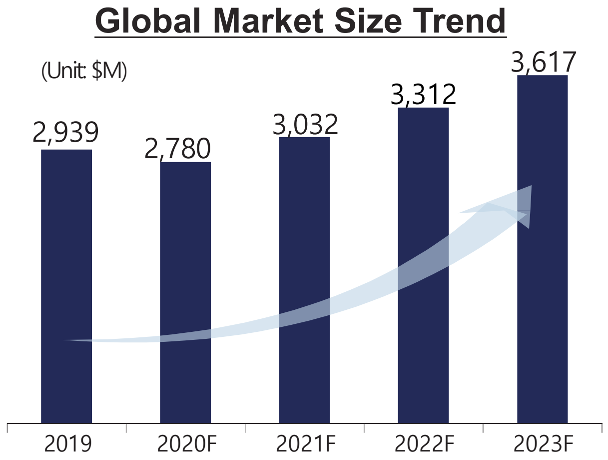
Macro Tool

- Reflection Beam
- Visible Illumination
- Lower Sensitivity
- Highest Throughput
- KLA Price: $2M
- Rudolph Price: $1.5M

Optical Inspection Equip. Market

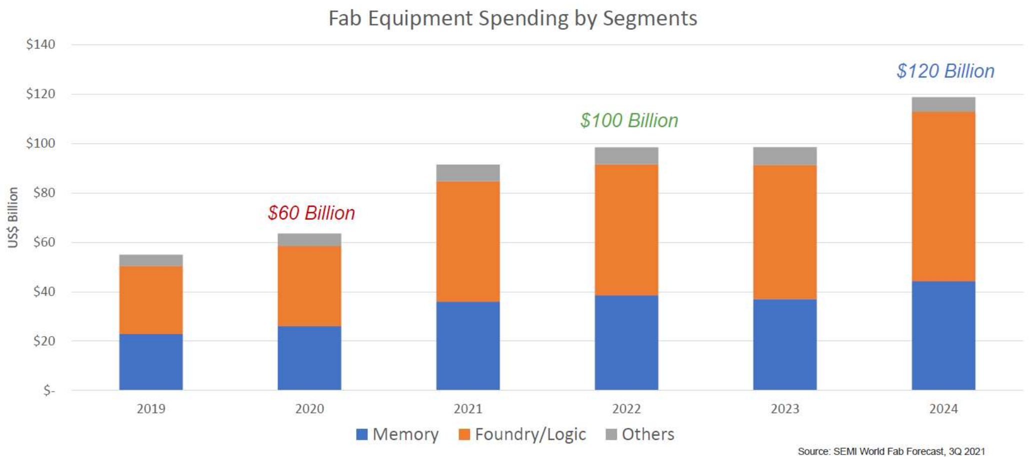
- **Global optical patterned inspection equip. market size: $2.9B (2019) → $3.6B (2023)**
- **Korea market: ~17.2% of global market ($520M @ 2018)**
- **China market: ~ 13.5% of global market ($408M @ 2018)**
- **Global market shares (based on revenue): BF(50%), DF(40%), Macro(10%)**
  - **Overseas DF equip. M/S(2020): KLA(>97%) vs. NEXTIN(<3%)**
  - **Local DF equip. M/S (Memory): KLA(>60%) vs. Hitachi(<30%) vs. NEXTIN(<10%)**
  - **Local DF equip. M/S (Foundry): KLA(>95%) vs. NEXTIN(<5%)**



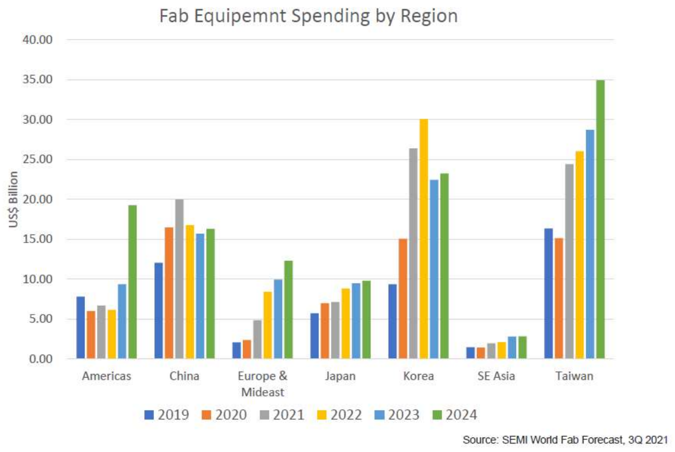


*Source: Technavio Report (Apr. 2020)

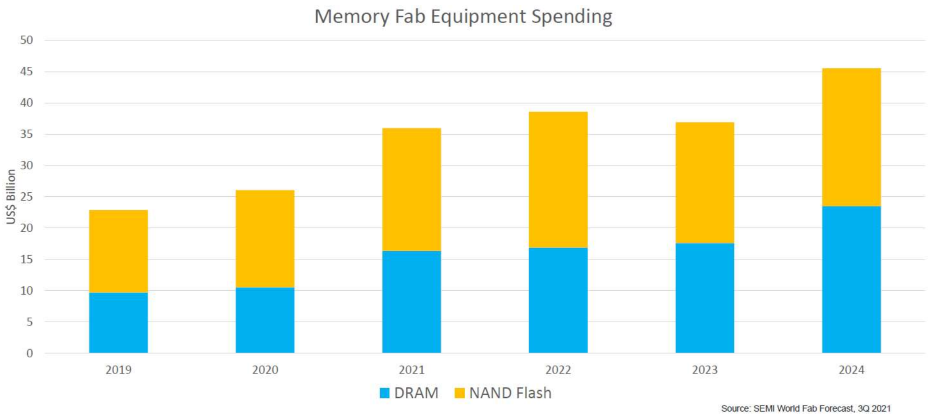
Market Trend – SEMI, 3Q 2021


Fab Equipment Spending by Segments

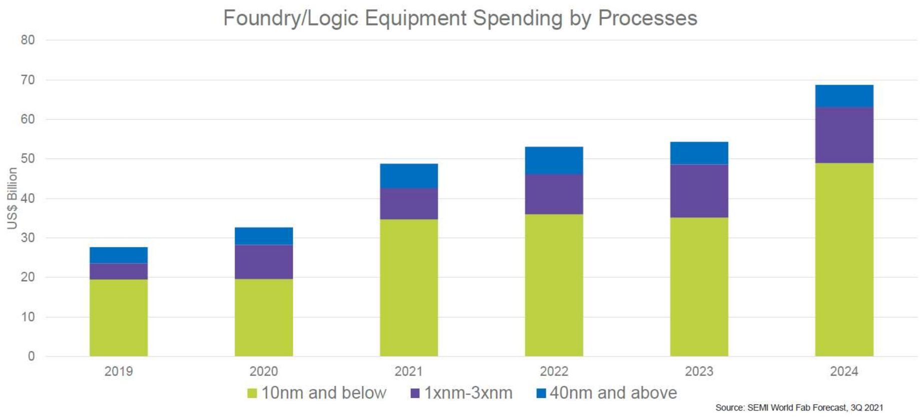
Source: SEMI World Fab Forecast, 3Q 2021


Fab Equipemnt Spending by Region

Source: SEMI World Fab Forecast, 3Q 2021


Memory Fab Equipment Spending

Source: SEMI World Fab Forecast, 3Q 2021


Foundry/Logic Equipment Spending by Processes

Source: SEMI World Fab Forecast, 3Q 2021

Company Outlook

NEXTIN brings Competition into the Wafer Inspection Market !!!

Company Highlight

COMPANY HISTORY

July 2010	NEXTIN established
Nov. 2012	Israel R&D Center set up
Oct. 2014	AEGIS inspection system released (Fraunhofer R&D)
Oct. 2015	Strategic investment agreement with AP Systems
June 2017	ISO9001 Quality Management System Certification
Oct. 2020	IPO at KOSDAQ (100th innovative tech company)

AWARDS

Designated as Innovative Tech company by Samsung (2014)

Received Jang Young Sil Tech Awards (2014 & 2017)

Selected as Top 100 Small Giant in Materials, Components & Equipment Sector (2019)

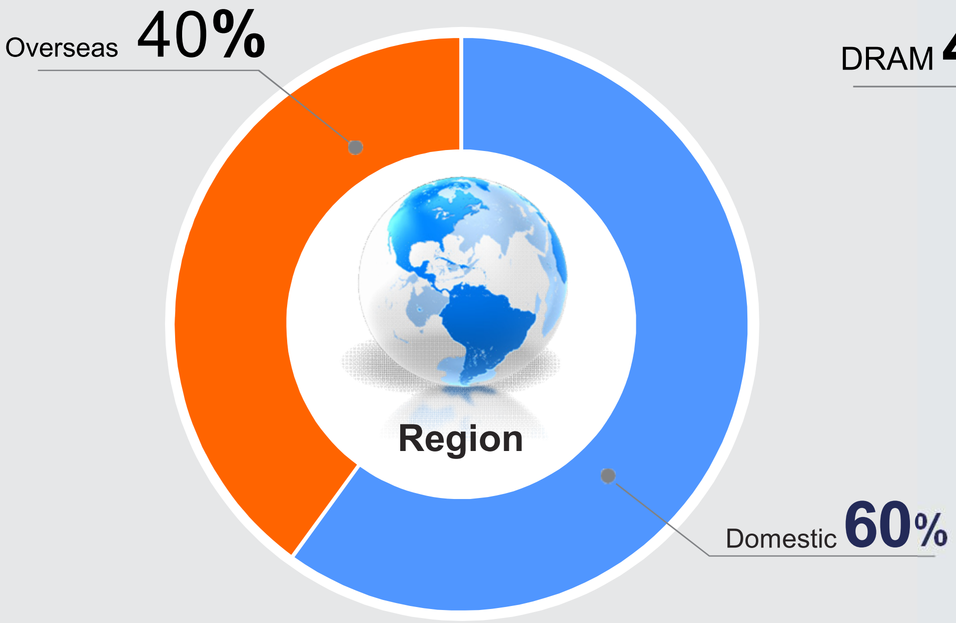
Selected as Excellent R&D and Global Small Giant 200 (2020)

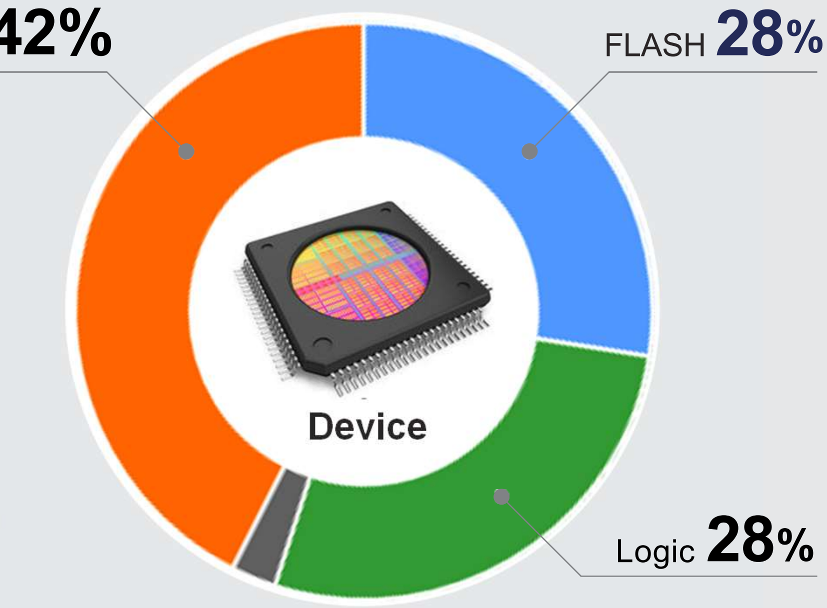
Received National Industry Award (2021)

Received $20M Export Award(2021)

Install Base (2021. 12. 21)

Cumulated Install Base





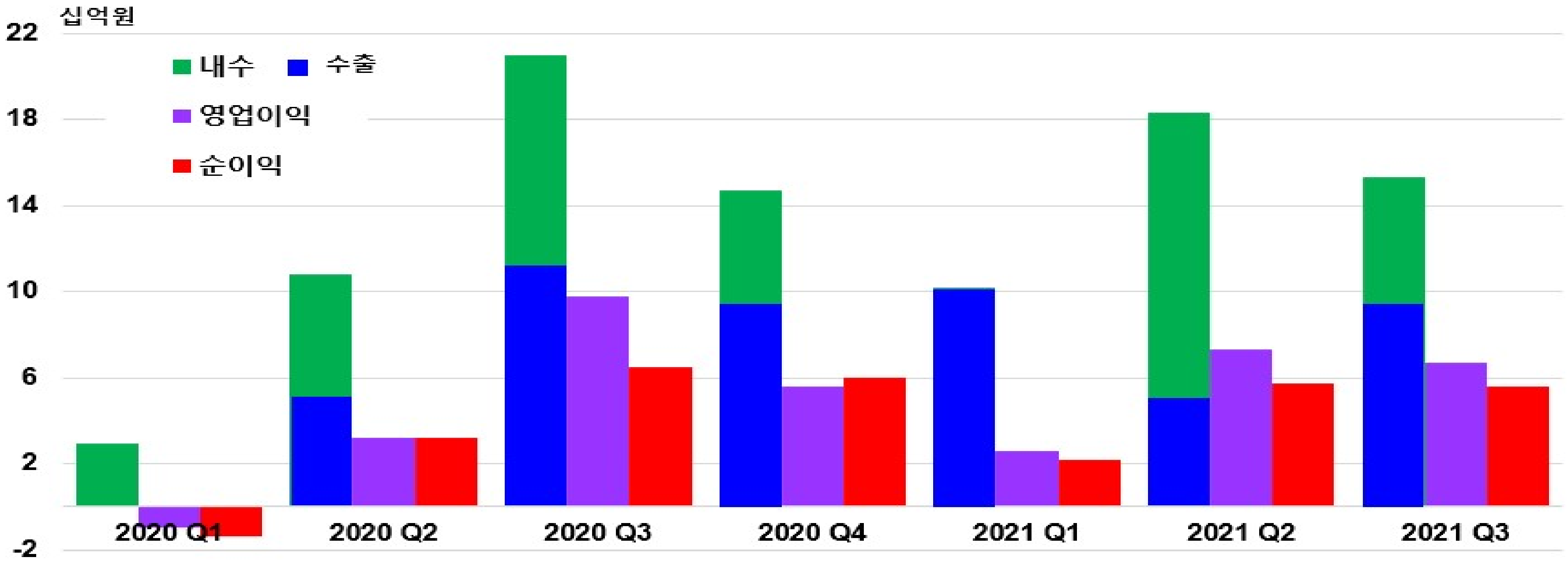
— Major Customers —

SAMSUNG ELECTRONICS
SK hynix
SK hynix system ic
Fraunhofer IPMS
KEY FOUNDRY
SMIC
JHICC 晋华
YANGTZE MEMORY

2021 Q3 Cumm. Operation Result

단위: 억원

	매출액	영업이익(율)	순이익(율)	인당매출액	인당순이익
2021Q3(누적)	435	170	139	6.9	2.2
2020Q3(누적)	347	124	66	6.8	1.6
증감율	▲25%	▲36%	▲111%	▲2%	▲34%



Financial Statements (2021 Q3 누적)

B/S

(단위:백만원)

과　목	2018	2019	2020	2021.3Q
유동자산	14,240	14,699	45,336	57,207
비유동자산	4,795	3,767	8,923	14,858
자산총계	19,035	18,466	54,259	72,065
유동부채	11,569	15,323	7,638	9,839
비유동부채	4,127	1,705	734	1,062
금융부채	(8,762)	(9,114)	(117)	(0)
부채총계	15,696	17,028	8,372	10,901
자본금	1,132	1,170	1,580	4,782
이익잉여금	(10,684)	(13,397)	973	24,878
기타자본	12,891	13,665	43,334	31,504
자본총계	3,339	1,438	45,887	61,164

주:K-IFRS 연결재무제표 누적 기준

I/S

(단위:백만원)

과　목	2018	2019	2020	2021.3Q
매출액	12,929	9,394	49,445	43,520
매출원가	7,769	5,136	19,577	17,669
판매비와관리비	5,575	6,017	11,769	8,868
영업이익	(415)	(1,759)	18,099	16,983
영업외수익	4,630	555	446	1,554
영업외비용	4,410	1,275	4,363	682
법인세비용	34	118	(530)	3,950
당기순이익	(229)	(2,597)	14,712	13,905

주:K-IFRS 연결재무제표 누적 기준

Financial Statements(2021 Q3 누적)

(단위:백만원)

구 분	누적 QoQ			
	2021.3Q	2020.3Q	Change	%
매출액	43,520	34,701	8,819	25.4%
매출총이익	25,851	20,756	5,095	24.5%
판매관리비	8,868	8,323	545	6.5%
영업이익	16,983	12,433	4,550	36.6%
당기순이익	13,905	6,574	7,331	111.5%

Social Responsibility

YONHAP NEWS AGENCY

S. Korea to raise 400 bln won for tech innovation fund

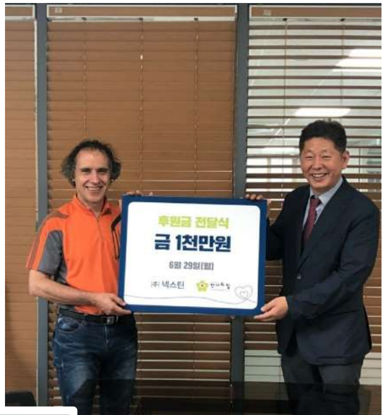
All News · 11:00 March 22, 2021

SEOUL, March 22 (Yonhap) -- South Korea said Monday it plans to raise 400 billion won (US$354 million) through 2024 to support businesses seeking to innovate their products and services by utilizing high-end technologies.

The first batch of the digital technology innovation fund, amounting to 102 billion won, will be rolled out throughout this year, according to the Ministry of Trade, Industry and Energy.

The fund, raised jointly by the public and private financial institutions, will be used to help businesses harnessing artificial intelligence, Internet of Things, cloud computing, big data and mobile technologies.

It will be managed by L&S Venture Capital and KDB Capital Corp.



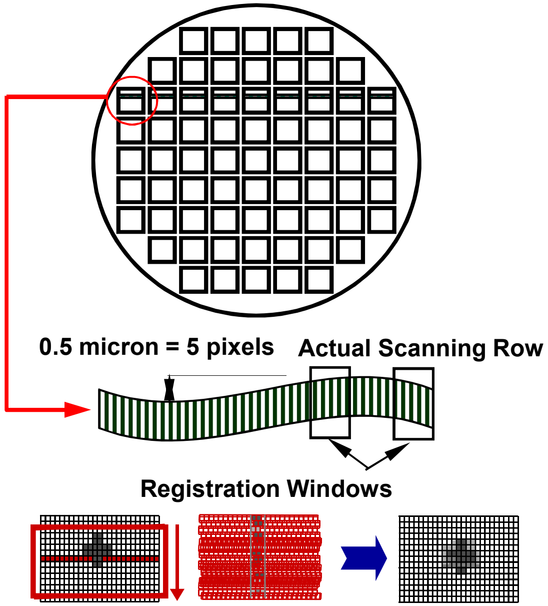
Technology Originality of NEXTIN

NEXTIN brings Competition into the Wafer Inspection Market !!!

Originality of NEXTIN Tech: AEGIS

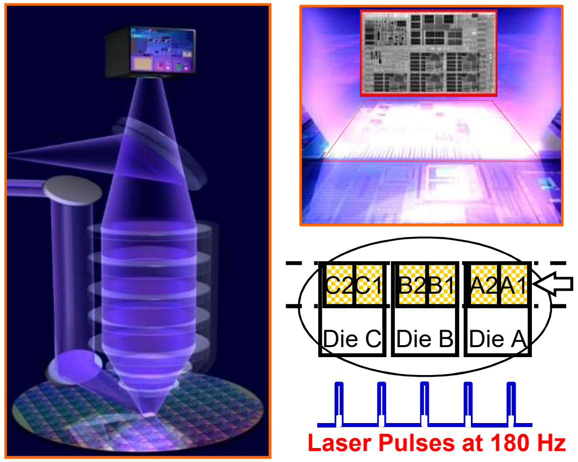
- **World's first and only 2D Imaging Tech-based Inspection: With multiple sensors, simultaneous wide-area imaging technology through spatial-partition of lights (DF & BF)**
- **Implementation of A.I. (Deep Learning) algorithms: Enhancement of selective detection of critical process defects**

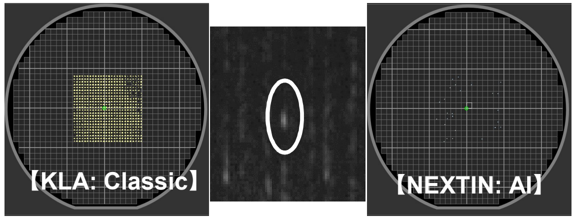
【KLA: 30-Year old spot scanning technology】



Bad signal-to-noise ratio due to snaking effect

【NEXTIN: Innovative 2D-Imaging Technology】





AEGIS Evolution

AEGIS-II

(Higher Performance Optics)

in 2020

AEGIS-DP

(New IP Engine)

in 2018

AEGIS-XT

(Higher X-put)

in 2016

AEGIS

(2-Dim. Imaging System)

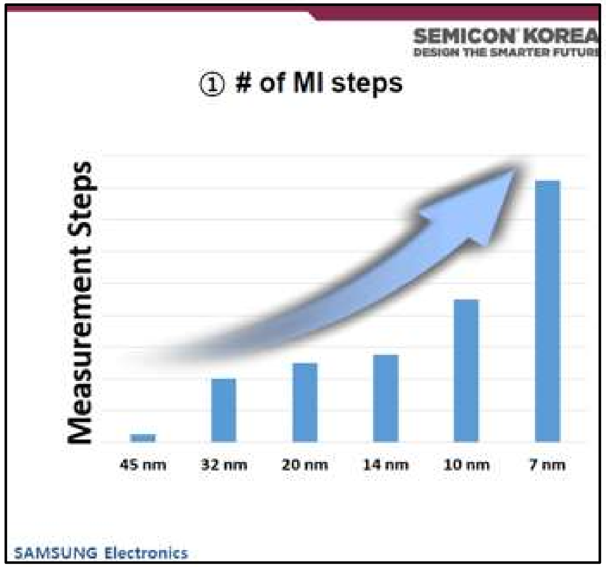
in 2014

Future Strategy

NEXTIN brings Competition into the Wafer Inspection Market !!!

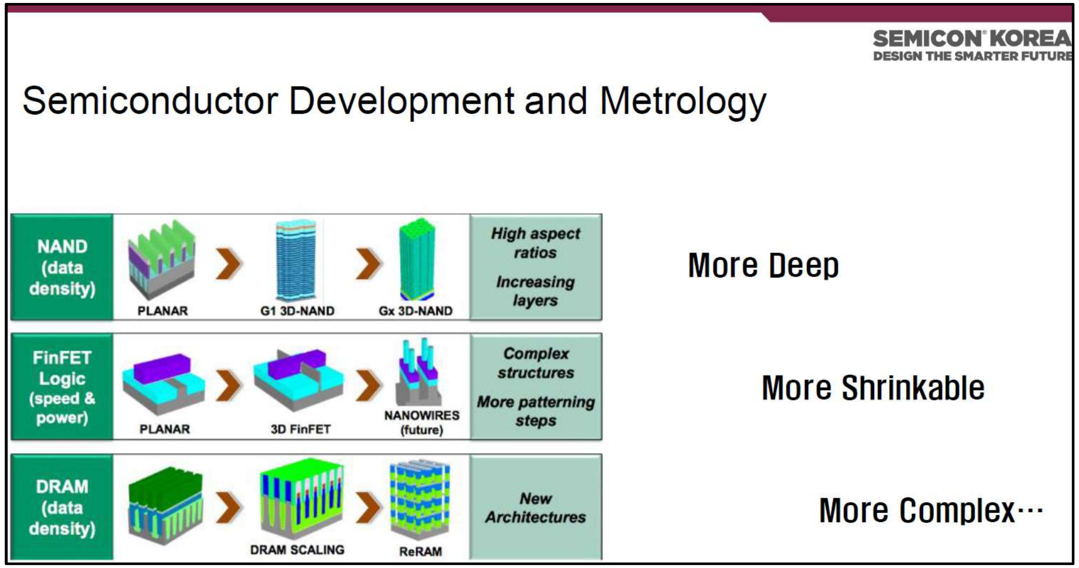
Market Requirements

- **The importance & frequency of wafer inspection is being increased in yield management as device manufacturing process is getting harder**
- **New processes for 3-dimension devices require new wafer inspection tools which can detect defects in vertical structures**


SEMICON KOREA
DESIGN THE SMARTER FUTURE

① # of MI steps

SAMSUNG Electronics


SEMICON KOREA
DESIGN THE SMARTER FUTURE

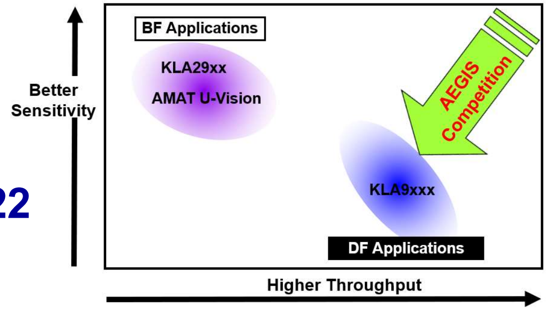
Semiconductor Development and Metrology

NAND (data density)	PLANAR	G1 3D-NAND	Gx 3D-NAND	*High aspect ratios* *Increasing layers*	More Deep
FinFET Logic (speed & power)	PLANAR	3D FinFET	NANOWIRES (future)	*Complex structures* *More patterning steps*	More Shrinkable
DRAM (data density)		DRAM SCALING	ReRAM	*New Architectures*	More Complex···

* MI FORUM(Samsung & SK Hynix) @ 2021 SEMICON KOREA

2D Process Applications

- **Keep competitive position and get new customers**
  - The new model(AEGIS-II) contributes profit improvement
  - SMIC became new customer and brings Chinese customers
  - The next model(AEGIS-III) will bring competitive edge in 2022
  - China JV will bring more price advantage in China market



- **Develop DUV BF equipment for higher-margin market penetration**
  - NEXTIN already reserved UV bright-field inspection technology

- **Fanout existing technology to the niche market b/w DF and macro**
  - Sensitivity of macro tools are behind of customers' requirement

Optical inspection systems.: Mix-and-match solution (Sensitivity vs. Speed)

Bright-field Tool
- Reflection Beam
- DUV Illumination
- Highest Sensitivity
- Lowest Throughput
- KLA Price: $18M
- AMAT Price: $10M

Dark-field Tool
- Scattered Beam
- UV Illumination
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- Higher Throughput
- KLA Price: $9M
- Hitachi Price: $3M
- NEXTIN Price:

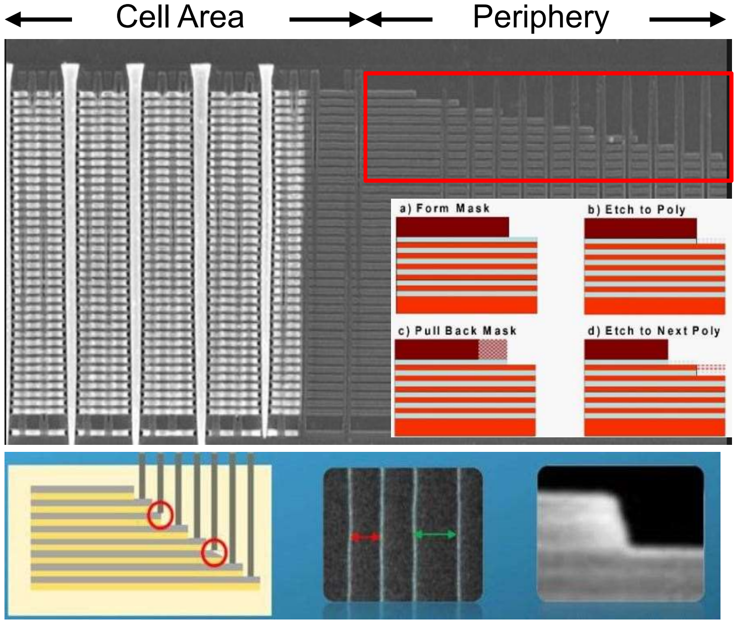
Macro Tool
- Reflection Beam
- Visible Illumination
- Lower Sensitivity
- Highest Throughput
- KLA Price: $2M
- Rudolph Price: $1.5M

3D Process Application

- **Intel proposed a 3D structure to overcome physical limitations of 2D scale-down**
- **NIST proposed a TSOM concept to overcome existing inspection limitations for 3D structure inspections**

  → 2D imaging tech-based with vertical scanning tech limitations (accuracy, speed…)
- **NEXTIN & Intel co-developed simultaneous multiple non-focal plane insp. tech. (IRIS-II)**

3-Dimensional Device Structure



Vertical Structure **Top View** **Profile**

南韓Nextin攜英特爾開發3D檢測設備

范維君 / 綜合報導 2021-03-08

南韓晶圓檢測設備製造商Nextin，傳與英特爾(Intel)合作共同開發3D檢測設備，這在相對較為封閉的南韓半導體設備業界顯得格外不尋常。南韓業界認為，如此次Nextin與英特...責任

NextIn Collaborates with Intel to Develop an Advanced 3D Inspection System

Thanks You!!

NEXTIN brings Competition into the Wafer Inspection Market !!!