Test and Automation turnkey Solution provider™

CHROMA ATE INC.

2019.1Q Earnings Conference Call

Paul Ying, CFO

30th April, 2019

Disclaimer

This presentation contains some forward-looking statements that are subject to substantial risks and uncertainties. Typically, these statements contain words such as “anticipate”, “believe”, “could”, “estimate”, “expect”, “intend”, “plan”, “forecast”, “project”, “predict”, “potential”, “continue”, “may”, “should”, “will”, and “would” or similar words. You should consider these forward-looking statements carefully because such statements are only our expectations or projections about future events, and actual results may differ materially from those expressed or implied by such statements. The forward-looking statements in this presentation include, but are not limited to, growth rates for various markets estimated by third party sources, future products and technology development, widespread market acceptance of the hosted delivery model, future revenue growth and profitability. You should be cautioned that the forward-looking statements are no guarantee of our future performance. The forward-looking statements contained in this presentation are made only as of the date of this presentation and we undertake no obligation to update the forward-looking statements to reflect subsequent events or circumstances, except as required by law.

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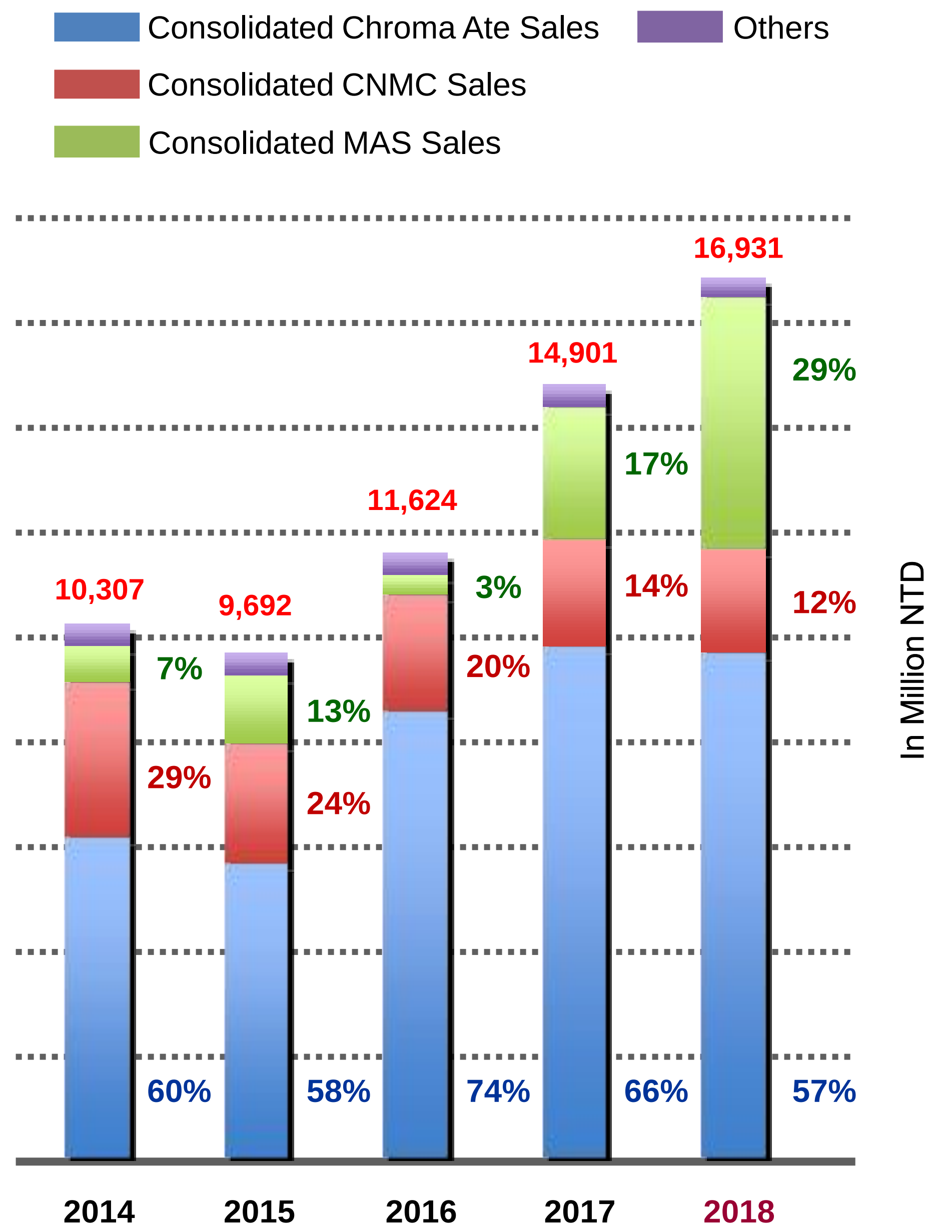
Agenda

- Corporate Profile
- Financial Review
- Operation Highlights
- Q&A

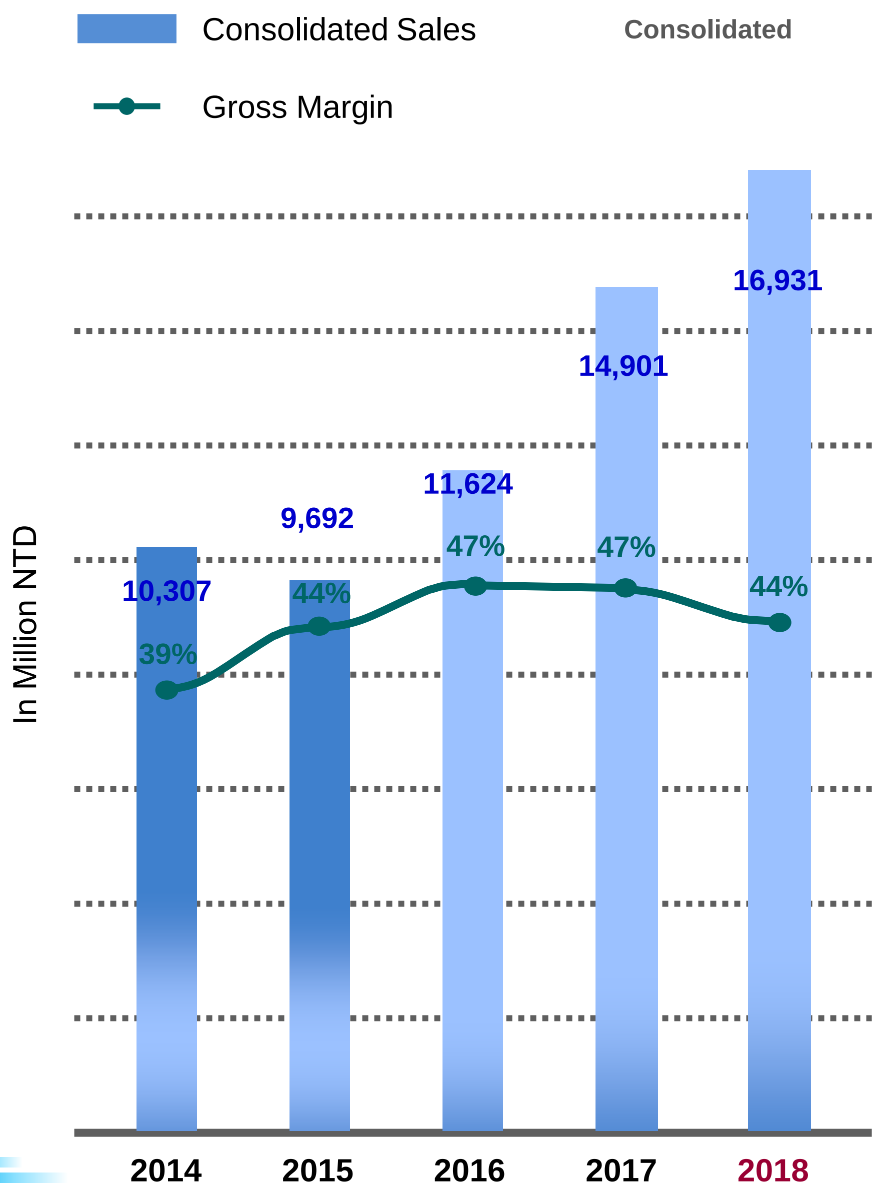
CORPORATE PROFILE

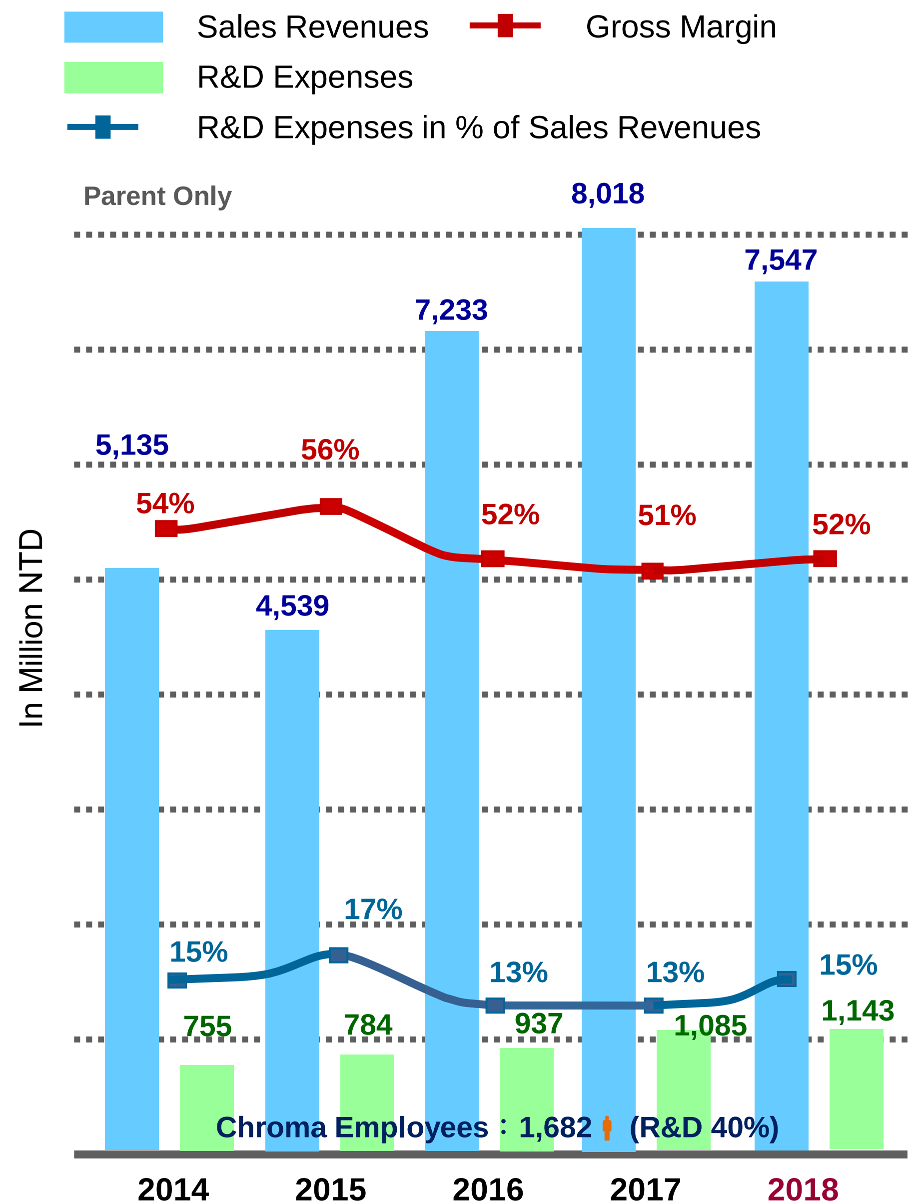
Corporate Profile

- Chroma Group founded in 1984, a world leading own brand turnkey test & automation solution provider, specialized in electronics test and measurement instruments and ATS (auto test system). Businesses cover test and measurement instruments and ATS for various industries, and a turnkey solution as an integration of Test and Measurement , Automation and MES (manufacturing execution system).
- Key success: Precision, Reliability, Innovation
- Chroma group encompass business unit of Chroma Ate Inc., Modular Assembly System (MAS) and Chroma New Material Corp (CNMC).
- 2018 Consolidated Sales : NT$ 16.9 billion
- 2018 Net Income: NT$2.5 billion
- Chroma Group total of 2,918 employees (as March, 2019)

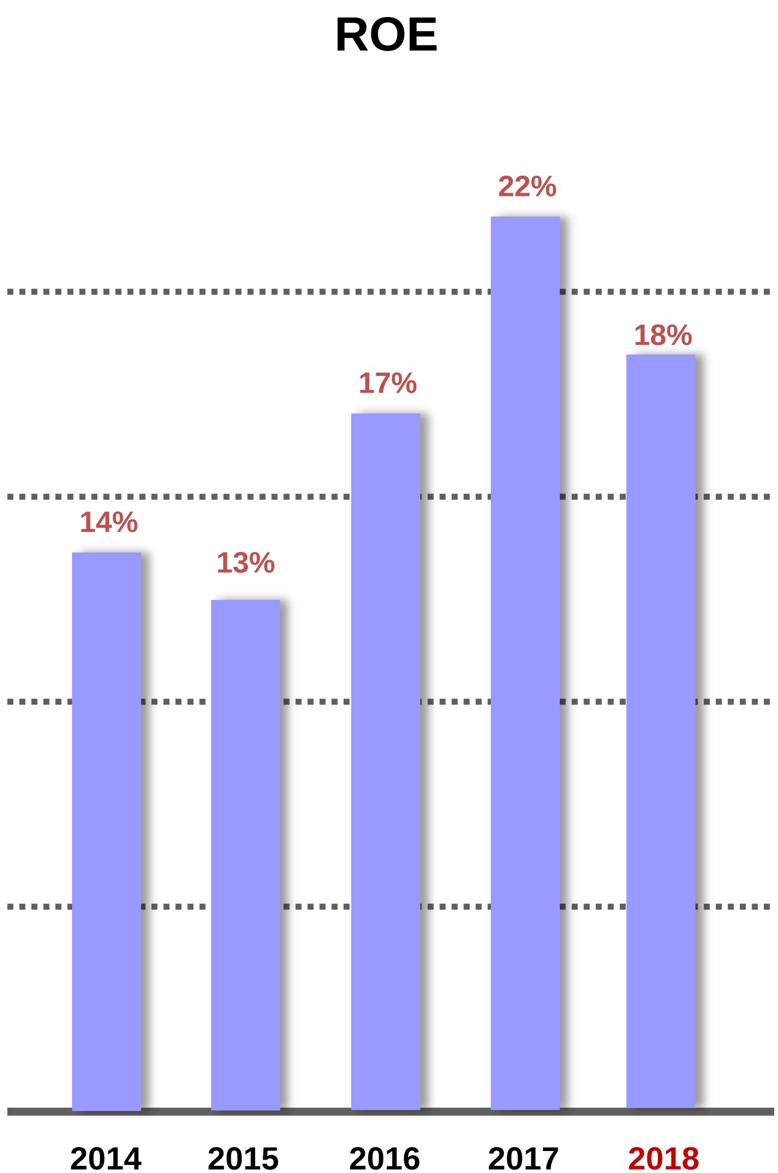


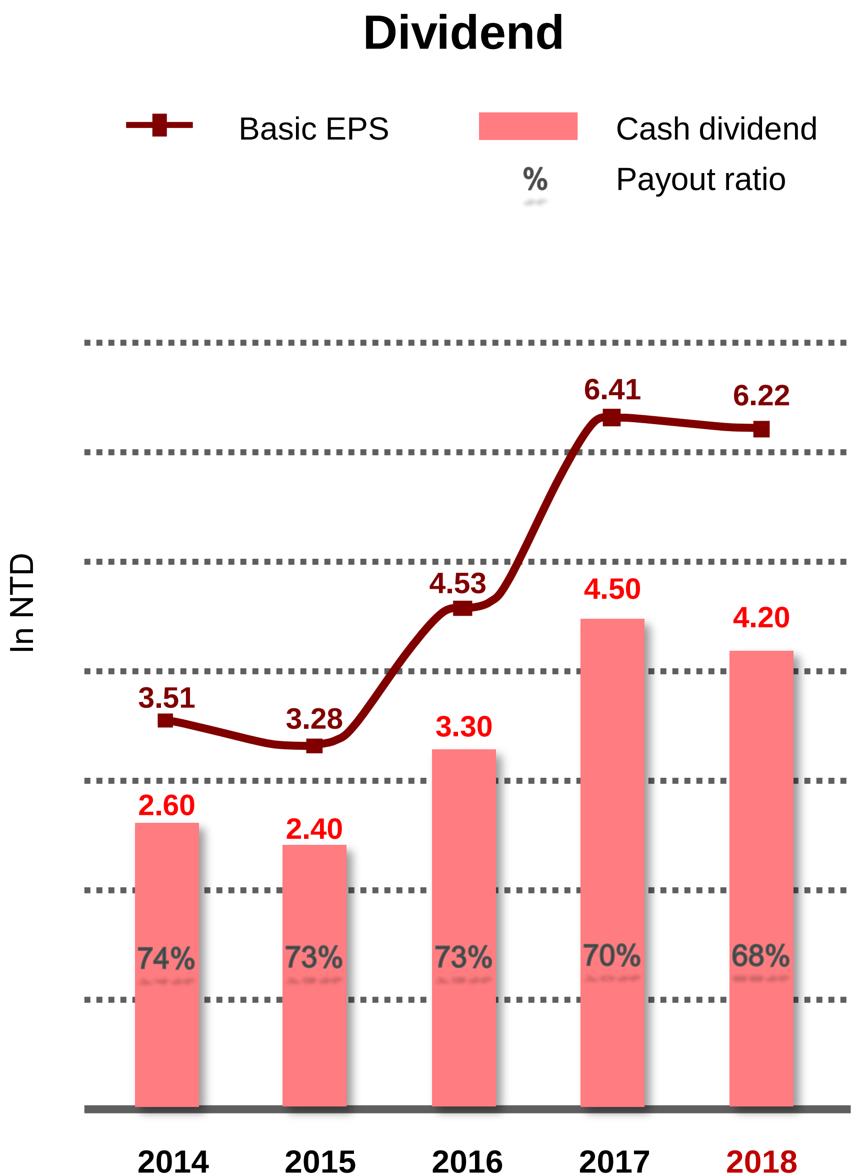
Financial Performance





Financial Performance





* The dividend will be paid out after the resolutions of Annual General Shareholders meeting.

Global Operation Sites

43 Operation Sites

93 Distributors

EST. 1999

Netherlands:
Ede

EST. 2017

Germany:
Augsburg

EST. 2008

Japan:
Shin-Yokohama/
Nagoya/ Osaka

EST. 2018

Korea:
Pangyo

EST. 1993

United States:
Irvine, CA
Santa Clara, CA
Chandler, AZ

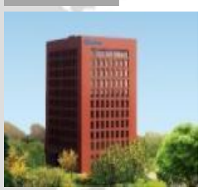
EST. 2001

United States:
Foothill Ranch, CA
Marlborough, MA
Mexico：
Ciudad Juarez

EST. 1998

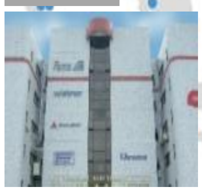
China/ Shenzhen

EST. 1999



China/ Beijing

EST. 2000



China/ Shanghai

EST. 2001

China/ Dongguan

Taiwan: Taoyuan (Headquarters)

EST. 2003

Taiwan: Hsinchu

EST. 2009

Taiwan: Kaohsiung

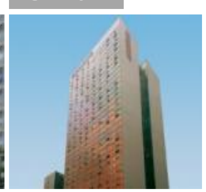
EST. 2006

China/ Suzhou

EST. 2011

China/ Xiamen

EST. 2011



China/ Chongqing

EST. 2016

Quantel：Singapore

Others:
India: New Delhi/ Mumbai/ Bangalore
Thailand: Bangkok
Vietnam: Hanoi/ Ho Chi Minh
Malaysia: Kuala Lumpur/ Penang
Philippines: Manila/ Cebu
Indonesia: Jakartar

Others: Qingdao/ Zhengzhou/ Xian/Hefei/ Chengdu/ Wuhan/ Hangzhou/ Guangzhou/ Hong Kong

FINANCIAL REVIEW

Year 2019.1Q Condensed Consolidated Income Statement

Chroma

Condensed Consolidated P&L (In Million NTD, except for EPS in NTD)	2019.1Q	%	2018.1Q	%	YoY %
Net Sales	**2,742**	**100%**	**3,466**	**100%**	**(21%)**
Consolidated Sales of Testing Equipment Business	2,023	74%	2,358	68%	**(14%)**
Consolidated Sales of MAS	274	10%	605	18%	**(55%)**
Consolidated Sales of New Material	395	14%	426	12%	**(7%)**
Others	50	2%	77	2%	**(35%)**
Cost of Goods Sold	(1,425)	(52%)	(1,902)	(55%)	**(25%)**
Gross Profit	**1,317**	**48%**	**1,564**	**45%**	**(16%)**
Operating Expenses:					
General & Administration	(733)	(26%)	(702)	(20%)	**4%**
Research & Development	(295)	(11%)	(302)	(9%)	**(2%)**
Operating Income	**289**	**11%**	**560**	**16%**	**(48%)**
Non-Operating Income (Expenses), net	72	2%	17	1%	**324%**
Income (Loss) Before Tax	361	13%	577	17%	**(37%)**
Income Tax	(64)	(2%)	(155)	(5%)	**(59%)**
Net Income	**297**	**11%**	**422**	**12%**	**(30%)**
Other Comprehensive Income (Losses)	67	-	23	1%	**191%**
Comprehensive Income	**$ 364**	**13%**	**$ 445**	**13%**	**(18%)**
Net Income (Losses) Attributable To:					
Shareholders of the Parent	296	11%	431	12%	**(31%)**
Noncontrolling Interests	1	-	(9)	-	**n/a**
	$ 297	**11%**	**$ 422**	**12%**	**(30%)**
EPS (Basic)	**$ 0.72**		**$ 1.06**		**(32%)**
EPS (Diluted)	**$ 0.71**		**$ 1.03**		**(31%)**

Balance Sheet Highlights & Financial Ratio

Chroma

Consolidated (In Million NTD)	2019. March	2018. Dec	+ / - %
Balance Sheet Highlights			
Cash & Short Term Investments	4,843	4,689	3%
Inventory	2,498	2,417	3%
Short Term Debt	486	821	- 41%
Long Term Debt	2,146	1,954	10%
Shareholders Equity	15,125	14,690	3%
Total Assets	**23,327**	**23,202**	**1%**
Inventory Turnover (Day)	155	93	
AR Turnover (Day)	177	104	
AP Turnover (Day)	209	123	
Net Debt to Equity (%)	Net cash	Net cash	
ROE (%) ●	**8%**	**18%**	
ROA (%) ●	**5%**	**11%**	

Cash Position	2019.1Q	2018.1Q	YoY
EBITDA	486	661	(26%)
Cash Flow from Operation	500	20	n/a
Free Cash Flow ●●	**388**	**(777)**	**n/a**

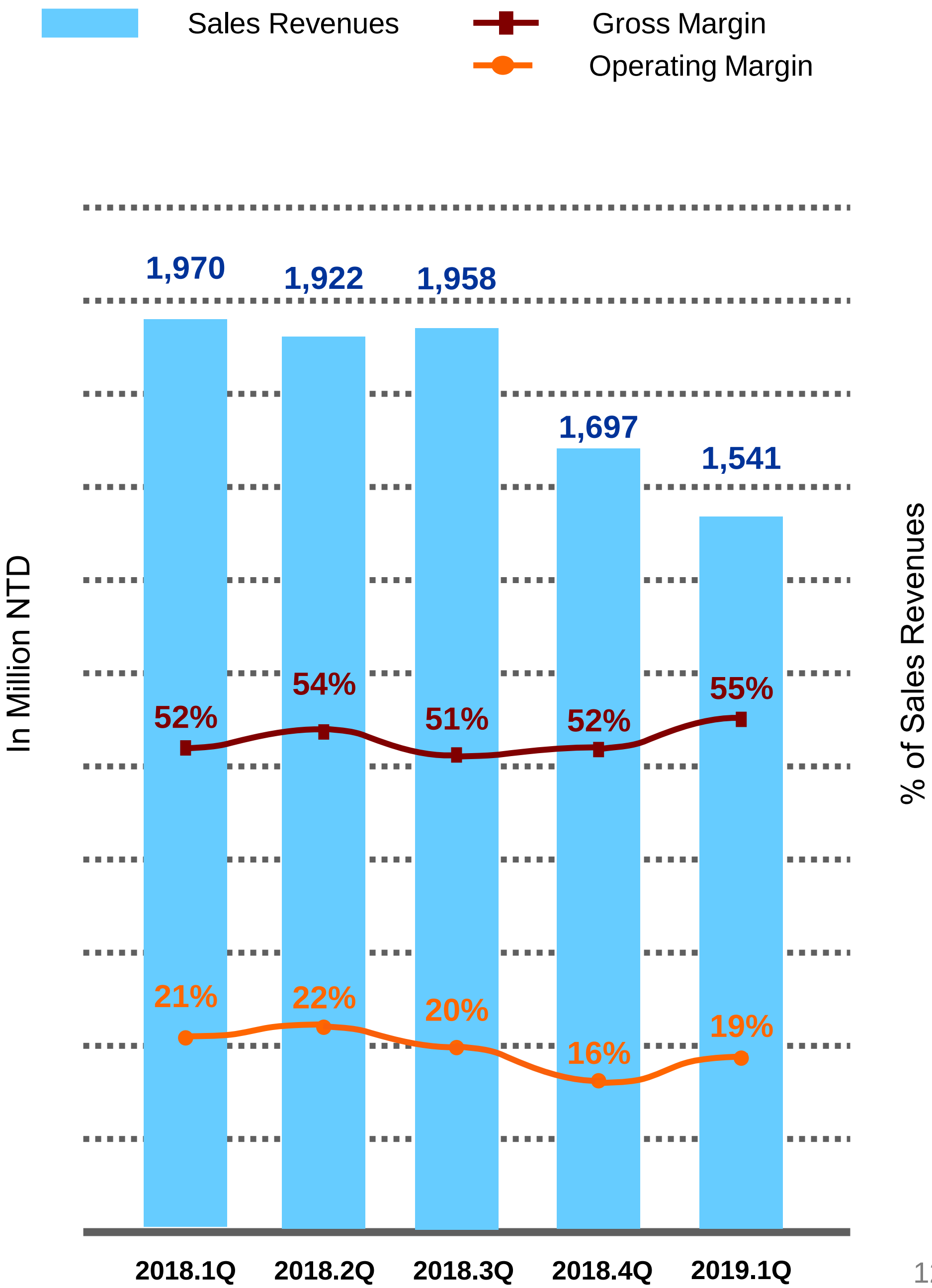
● All ROE + ROA has been annualized.

●● Free Cash Flow = Net Cash Provided by Operating Activities + (Net Cash used by Investing Activities)

Quarterly Highlights

2019.1Q Key Points

- Sales Revenue: $ 1,541 million, down 9% QoQ, down 22% YoY
- Gross Margin: 55%
- Operating Margin: 19%
- Net Income: NT$ 296 million, down 38% QoQ, down 31% YoY
- 2019.1Q Highlights:
  - The first quarter sales has reflected the influences from US-China Trade war and Chinese New Year, but gross margin reached the highest in past 8 quarters.



Year 2019.1Q Condensed Income Statement

Chroma

Condensed P&L – Parent Only (In Million NTD, except for EPS in NTD)	2019.1Q	%	2018.4Q	%	QoQ %	2018.1Q	%	YoY %
Net Sales	**1,541**	**100%**	**1,697**	**100%**	**(9%)**	**1,970**	**100%**	**(22%)**
Cost of Goods Sold	(696)	(45%)	(821)	(48%)	**(15%)**	(955)	(48%)	**(27%)**
Gross Profit	**845**	**55%**	**876**	**52%**	**(4%)**	**1,015**	**52%**	**(17%)**
Operating Expenses:								
General & Administration	(291)	(19%)	(305)	(18%)	**(5%)**	(319)	(16%)	**(9%)**
Research & Development	(265)	(17%)	(293)	(17%)	**(10%)**	(275)	(14%)	**(4%)**
Operating Income	**289**	**19%**	**278**	**17%**	**4%**	**421**	**22%**	**(31%)**
Non-Operating Income (Expenses), net ●	53	3%	242	14%	**(78%)**	128	6%	**(59%)**
Income (Loss) Before Tax	342	22%	520	31%	**(34%)**	549	28%	**(38%)**
Income Tax	(46)	(3%)	(41)	(2%)	**12%**	(118)	(6%)	**(61%)**
Net Income	**$ 296**	**19%**	**$ 479**	**29%**	**(38%)**	**$ 431**	**22%**	**(31%)**
Other Comprehensive Income	66	4%	(93)	(6%)	**n/a**	24	1%	**175%**
Comprehensive Income	**$ 362**	**23%**	**$ 386**	**23%**	**(6%)**	**$ 455**	**23%**	**(20%)**
EPS (Basic)	**$ 0.72**		**$ 1.16**		**(38%)**	**$ 1.06**		**(32%)**
EPS (Diluted)	**$ 0.71**		**$ 1.13**		**(37%)**	**$ 1.03**		**(31%)**

● 100% owned subsidiaries' income - New Material: 8m (QoQ ↓ 33%, YoY ↑ 100%), MAS: (5m).

Balance Sheet Highlights & Financial Ratio

Parent Only (In Million NTD)	2019. March	2018. Dec	+ / - %
Balance Sheet Highlights			
Cash & Short Term Investment	2,093	1,867	12%
Inventory	2,002	1,897	6%
Short Term Debt	300	630	- 52%
Long Term Debt	2,000	1,800	11%
Shareholders Equity	14,853	14,410	3%
Total Assets	**19,748**	**19,327**	**2%**
Inventory Turnover (Day)	252	189	
AR Turnover (Day)	146	138	
AP Turnover (Day)	136	122	
Net Debt to Equity (%)	1%	4%	
ROE (%) ●	**8%**	**18%**	
ROA (%) ●	**6%**	**13%**	

Cash Position	2019.1Q	2018.1Q	YoY
EBITDA	402	596	(33%)
Cash Flow from Operation	451	230	96%
Free Cash Flow ●●	**428**	**(856)**	**n/a**

● All ROE + ROA has been annualized.

●● Free Cash Flow = Net Cash Provided by Operating Activities + (Net Cash used by Investing Activities)

OPERATION

HIGHLIGHT

2019.1Q Product Mix and Consolidated Sales Breakdown

(Unit: Million NTD)	2019.1Q	%	QoQ	YoY	2018	%
Test Instruments & Automatic Testing System (ATS)	943	61%	(9%)	(10%)	4,411	58%
Semiconductor / Photonics Test Solutions	384	25%	5%	(14%)	1,890	25%
Turnkey Solutions	100	7%	(50%)	(71%)	778	11%
Service & Others	115	7%	24%	(10%)	468	6%
Total of Parent Company Sales	**1,542**	**100%**	**(9%)**	**(22%)**	**7,547**	**100%**
+ Sales from Overseas Affiliates	**481**		**(30%)**	**24%**	**2,178**	
Chroma Consolidated Testing Equipment Business	**2,023**	**74%**	**(15%)**	**(14%)**	**9,725**	**57%**
MAS	**274**	**10%**	**(71%)**	**(55%)**	**4,862**	**29%**
New Material	**395**	**14%**	**(22%)**	**(7%)**	**2,005**	**12%**
Other Subsidiaries	**50**	**2%**	**(36%)**	**(35%)**	**339**	**2%**
Consolidated Sales	**2,742**	**100%**	**(30%)**	**(21%)**	**16,931**	**100%**

Year 2019 Guidance

- Chroma first quarter consolidated sales revenues have reached 2.7 billion NTD, represented a decline of 30% QoQ and 21% YoY respectively. Consolidated gross margin reached record high of 48%.

- 2019 Business Outlook:

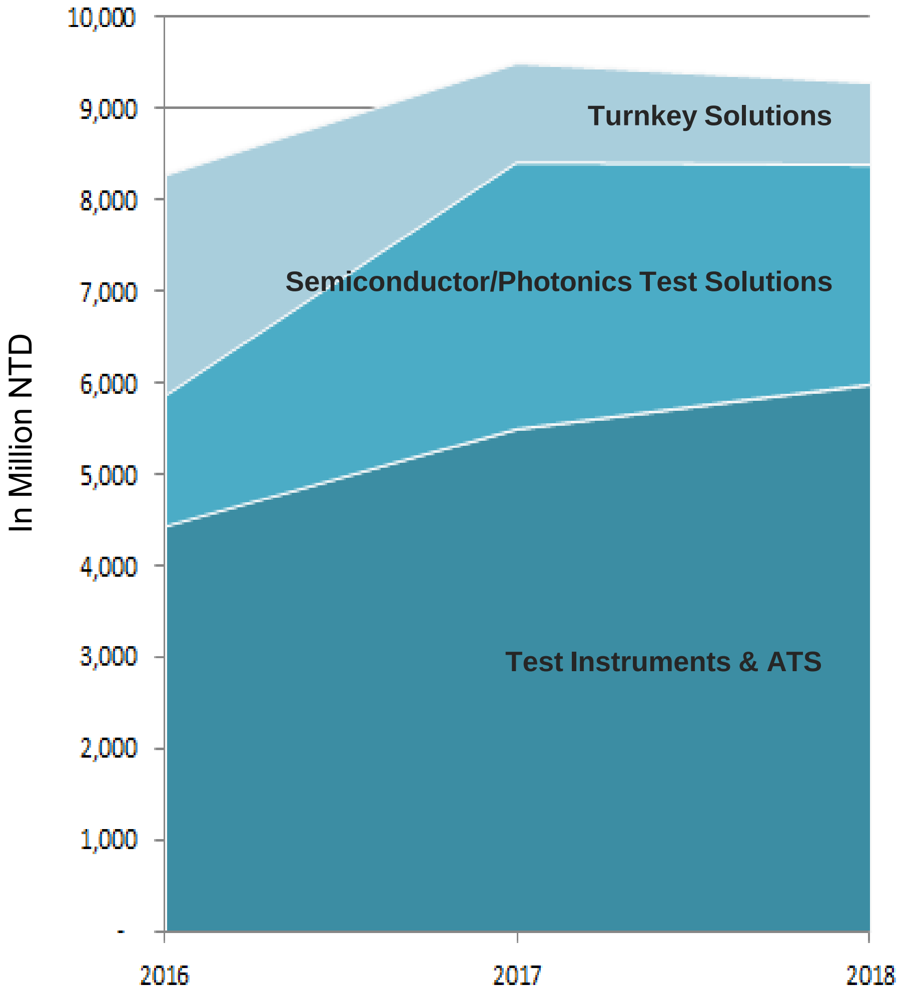
  - ✓ Testing equipment business sales will be picked up from second quarter and move into peak season.

  - ✓ The Testing equipment business expects to grow quarter over quarter. Overseas (US, Europe and Japan) markets will start to pick up from 2Q after a short term swings from US-China Trade War. Due to 5G market demand, IC System Level Testers shipments will be started to contribute in 2H, while photonics will continue to benefit from VCSEL and optical fiber demand increase. Turnkeys mostly will be mainly contributed in 2H.

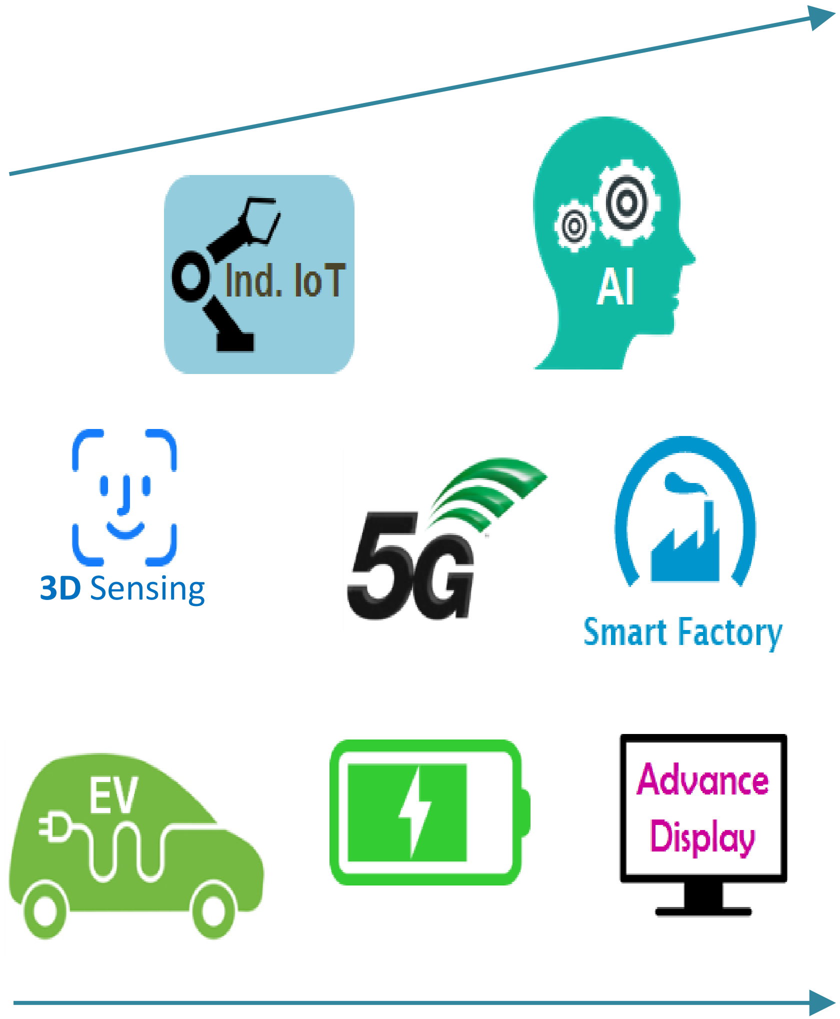
  - ✓ MAS (Automation) business will start to pick up in second half as well.

Growth Opportunities

Testing Solution Sales



Market Applications



Test Instruments & ATS

TECHNOLOGY

Power Testing

Full Four Quadrant/Regenerative
0-500VAC,100kVA

High Voltage : 1800V
High Power Density: 18kW@3U

e-Scooter operation simulation mode
Complying with TES regulation
Up to 12kW

’H2.18

’19

MARKET

EV Market, Green Energy

Regenerative Grid Simulator
618XX

Programmable DC Source
& Solar Array Simulator
62XXXH-S

E-Scooter Charging Station ATS
8000

SOLUTION

Test Instruments & ATS

Chroma

TECHNOLOGY

Battery Testing

High Precision & Multi-current Range 6V, 30A	High Precision & Multi-current Range 6V, 12A	Max Output Voltage: 6kV Pulse Interval: 30ms~3000ms 8 Types of Judgments

Battery AOI

Cylindrical Battery Application: 18650、20700、21700 2D defect detection	Roll-to-roll Production Process App. 3D Thickness measuring Measuring range：1~300μm

’H2.18 → ’19

MARKET

Power/Green Battery

Battery Charge
& Discharge Tester
17208M-6-30

Cylindrical Battery Cell AOI System
7505-K006

Battery Charge
& Discharge Tester
17216M-6-12

Thin Film Automated Optical Metrology System
7505-K007

Battery Cell Surge Tester
19311/19311-10

SOLUTION

Semiconductor/Photonics Test Solutions

Chroma

TECHNOLOGY

IC Testing Handler

Flexible Configuration :
ATE/SLT/ATE+SLT
Max.144 Test Sites

Optical Metrology System

Wafer Surface Profile Measurement & Analysis: 12”
1um – 0.1nm Inspection Range

’18.H2

’19

MARKET

CPU/MCU/GPU, ICs, MEMS, PMIC, FPGA, Sensors

IC Wafer

FT & SLT Hybrid Test System
3200

Advanced Packaging Optical Metrology System
7505-K005

SOLUTION

Semiconductor/Photonics Test Solutions

TECHNOLOGY

VCSEL/EEL Testing

6” Photonics Wafer
LIV & NF & FF Testing

Discrete Module Testing
Parallel Test; Tiny Module Handling

Mini LED/OLED Testing

High Speed Double Side Inspection
15ms per chip

Mini LED Probing
Multi-die Parallel Test

OLED Burn-in
Full Automation System,
>500 Channel Scalable Design

’H2.18 — ’19

MARKET

3D Image Sensing, Autonomous Driving, OLED, Mini LED

Wafer → Package → Wafer/Cell

Photonics Wafer Probing Test System 58635

Wafer Chip Inspection System 7940

VCSEL/EEL Module Characterization System 58621

Mini LED Probing Test System

OLED Burn-in System

SOLUTION

Turnkey Solution

Chroma

TECHNOLOGY

OLED Module
Burn-in Automation

OLED Module Automatic Burn-in System :
Temp. up to 85 ℃, Class 1000
Fine Pitch Contact to 100 um
Multi - MIPI / eDP Signaling & Power Monitoring

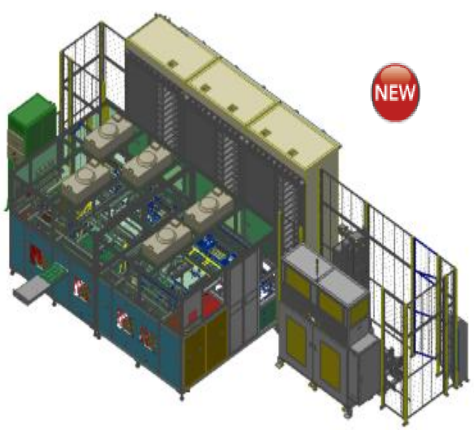
TV Automatic Test Turnkey Test :
Throughput 15sec / Each TV
Optical Pattern Inspection
Fully Function Testing with MES Management

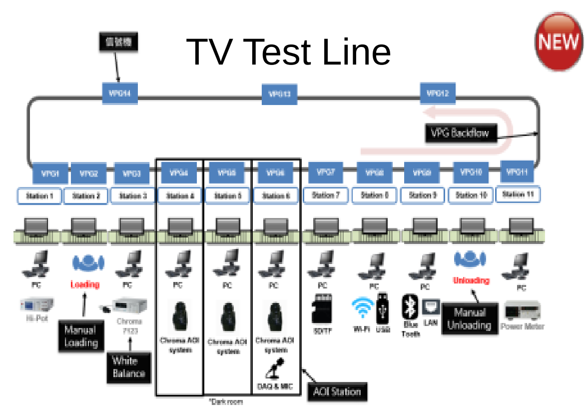
’H2.18

’19

MARKET

Flat Panel Display





OLED Module Automatic Burn-In System
5710

TV Automatic Test System

SOLUTION

In-line Nanoparticle Monitoring System

Sub
20nm

SuperSizer II
Semi S2 in Certified
Fore CMP Slurry

SuperSizer V
Semi S2 in Process
Fore high purity wet chemicals
(solvent)

Strategic Investment & Alliance with Camtek Ltd.

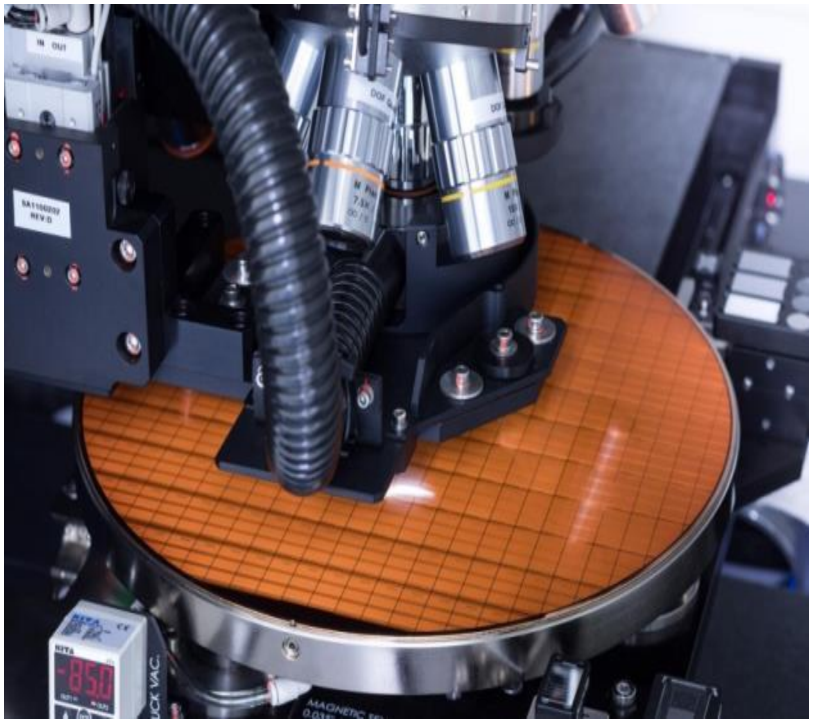
- 20.5% Stake of Camtek Ltd.
- Total Shares Transaction: 7,817,440 ordinary shares.
- Total Capital: 74 million USD (approx. 2.3 billion NTD)
- Technology: White Light Triangulation Technology (Patented)
- Application: Mainly in Semiconductor Advanced Package
- Synergies:
  - Strengthen Chroma's AOI and 3D metrology capabilities for serving of broad set of fast growing industries
  - Development of low cost solution for 2D Optical Inspection.
- Two seats on Camtek's Board of Directors

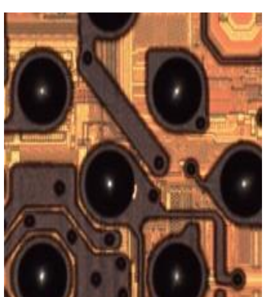
About Camtek

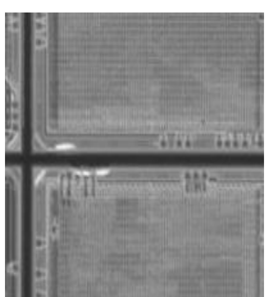
- Camtek is a leading manufacturer of metrology and inspection equipment and a provider of software solutions serving the mid end of the semiconductor industry.
- Camtek is organized in 8 subsidiaries around the world in US, Europe, Japan, China, Hong Kong, Taiwan, Korea and Singapore, with R&D and production mainly in Israel, and co-headquartered in Hong Kong.
- 2018 revenue of US$123.2 million, increase of 32% YoY. Gross profit of US$60.8m (49.4%), growth rate of 33% YoY and net income of US$18.7m (15.2%), 10 times compared to 2017. (* based on continued operations only)
- Employees: 295
- Market Cap of US$297 million as of 2018/2/13, cash US$54.9 million

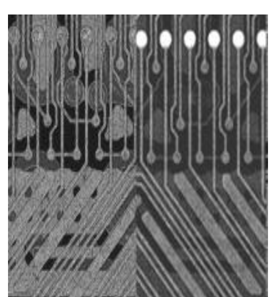
Camtek: Product

Wafer Inspection

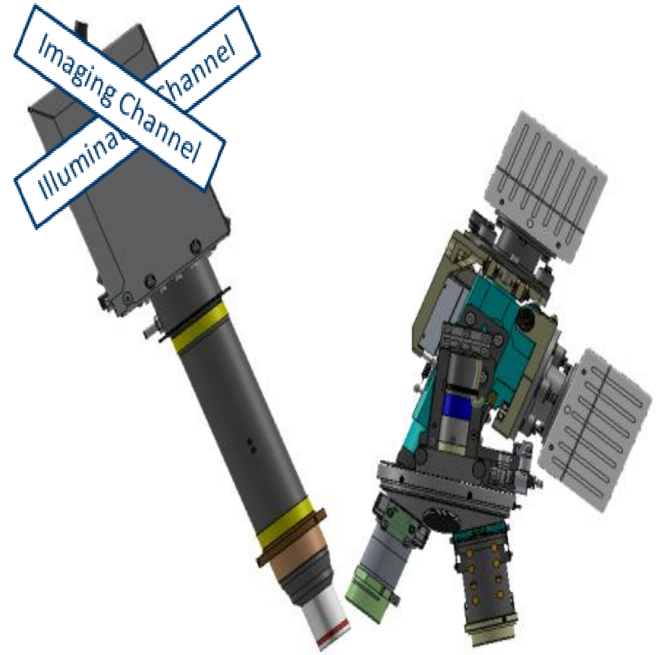


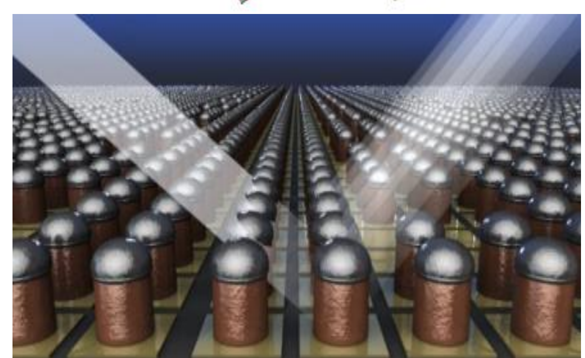






Wafer 3D Metrology





Camtek: Software Solution

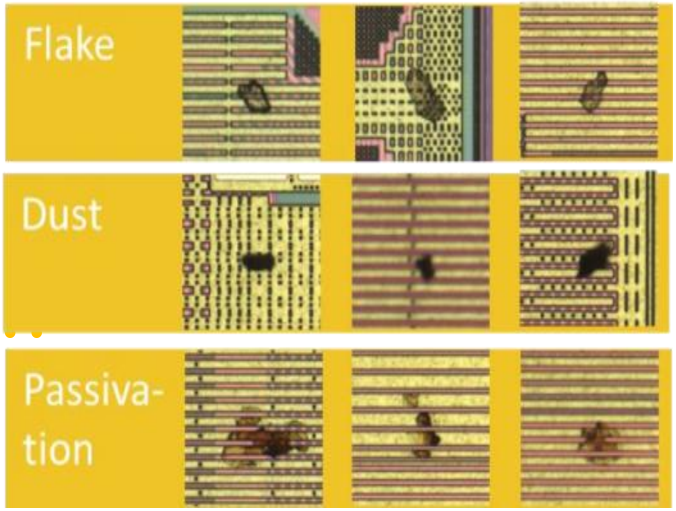
Automatic Defect Classification

Fully automated inspection process
Deep Learning based algorithms

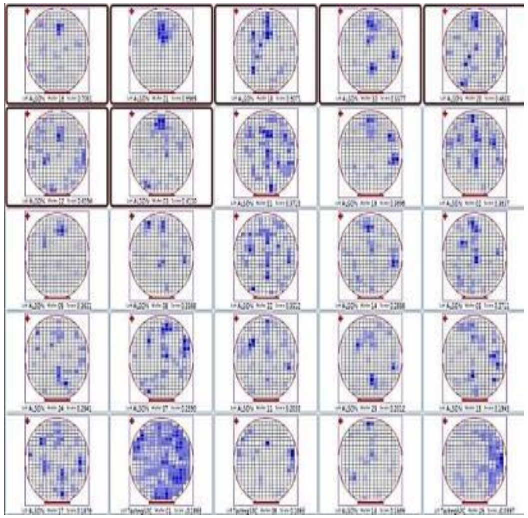
Yield Analysis

Yield enhancement
Process control
Enhanced data visualization

Defect classification



Map Analysis Pattern



Camtek: Customer Reference

Chroma

Fab & Assembly House

ASE GROUP
tsmc
Texas Instruments
SanDisk

SK hynix
Infineon
SAMSUNG
UMC

Amkor Technology
SPIL
ST
Micron

JCET STATSChipPAC A JCET Company
SMIC
SONY
PTI Powertech Technology Inc.

Thank You !