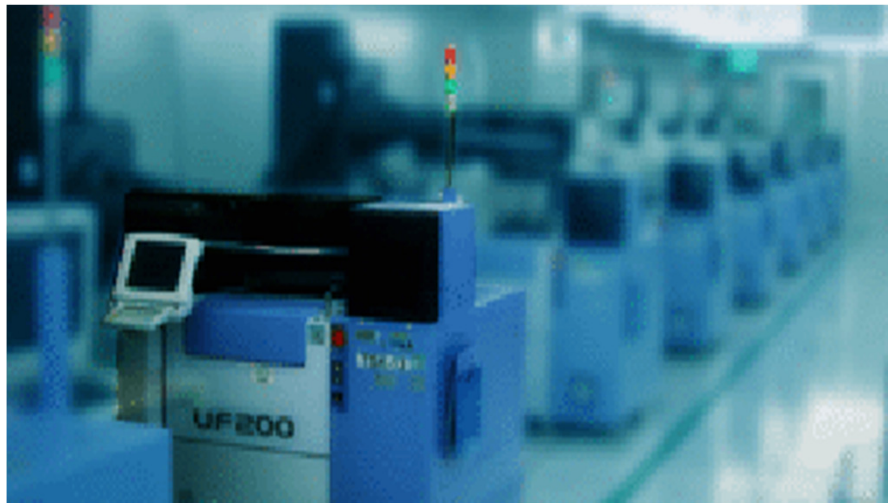
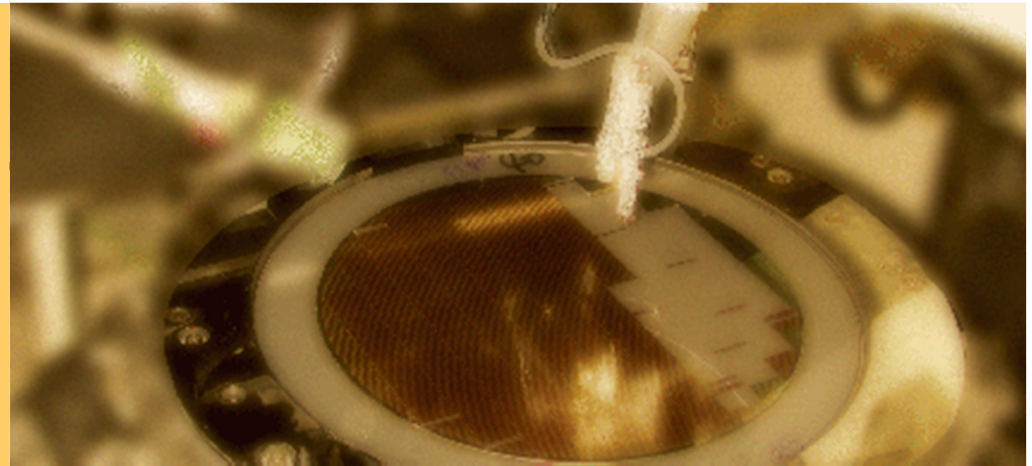




## Benchmark of The Testing Industry



**King Yuan Electronic Co., Ltd.**  
**京元電子股份有限公司**

**[TWSE: 2449]**

October, 2020

- Wafer Test Service
- Assembly Service
- Burn-In Service
- IC Test Service
- Backend Support
- Turnkey Operation



## Safe Harbor Notice

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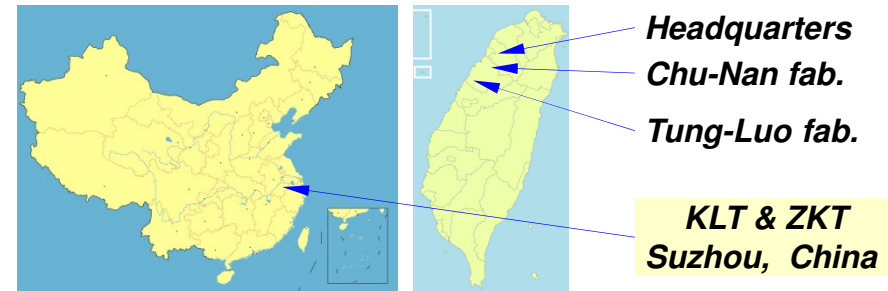
- ❖ Forward-looking statements involve known and unknown risks, uncertainties and other factors, which may cause the actual performance, financial condition or results of operations of the Company to be materially different from any future performance, financial condition or results of operations implied by such forward - looking statements. Further information regarding these risks, uncertainties and other factors is included in the Company most recent Annual Report on Taiwan Stock Exchange (Market Observation Post System).

# KYEC group snapshot

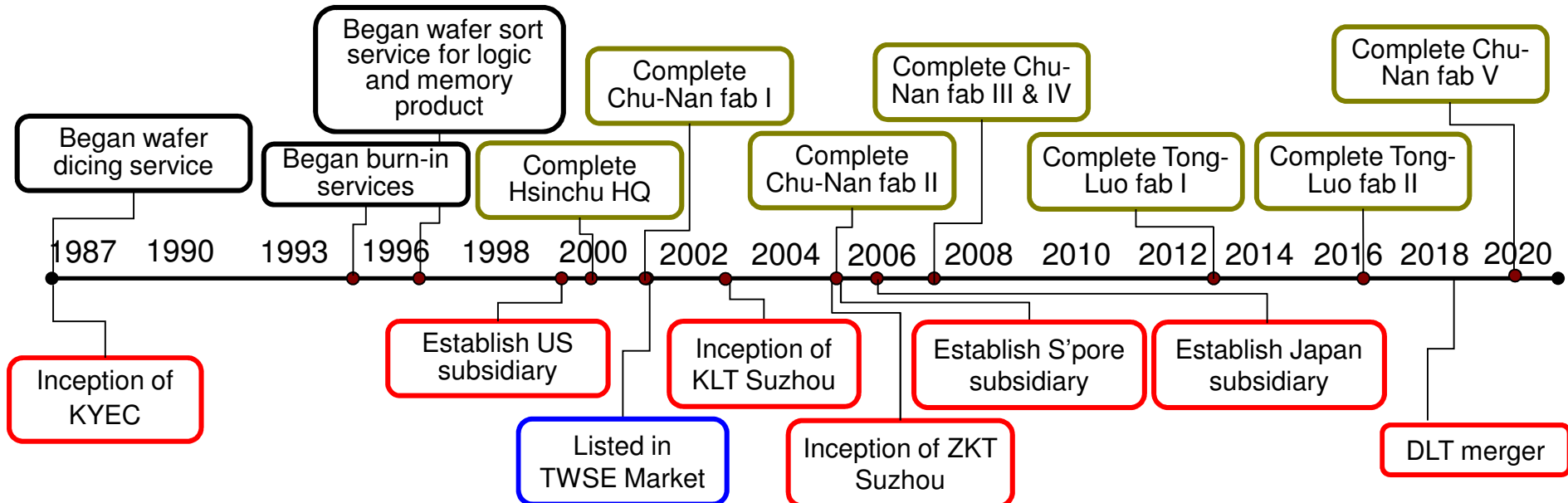
## Overview

- Established In: May 1987
- Headquarters: Hsinchu, Taiwan
- TWSE Listed: 2449.TW
- Market Cap.<sup>(1)</sup>: NT\$37,293.7 million
- Cash and Cash Equivalents<sup>(1)</sup>: NT\$8,166.6 million
- Employees<sup>(1)</sup>: 9,461

## Manufacturing footprint in Taiwan & China



## Key milestones



Note: (1) As of September 30, 2020

# **KYEC is the benchmark of semi testing industry**

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***KYEC is uniquely positioned, locally and globally, as a pure-play testing house and aiming to take advantages of the ever-growing outsourced semi testing business.***

**1**

**4,000+ sets of installed test system, including both commercial and in-house developed testers, providing testing services for various end applications**

**2**

**Optimal customer structure and balanced business exposure to maintain strong margin growth during the volatile semiconductor market environment**

**3**

**In-house test system developing and manufacturing capability as a core competence differentiate KYEC from its OSAT peers**

**4**

**Seasoned management team with broad and deep industry experiences**

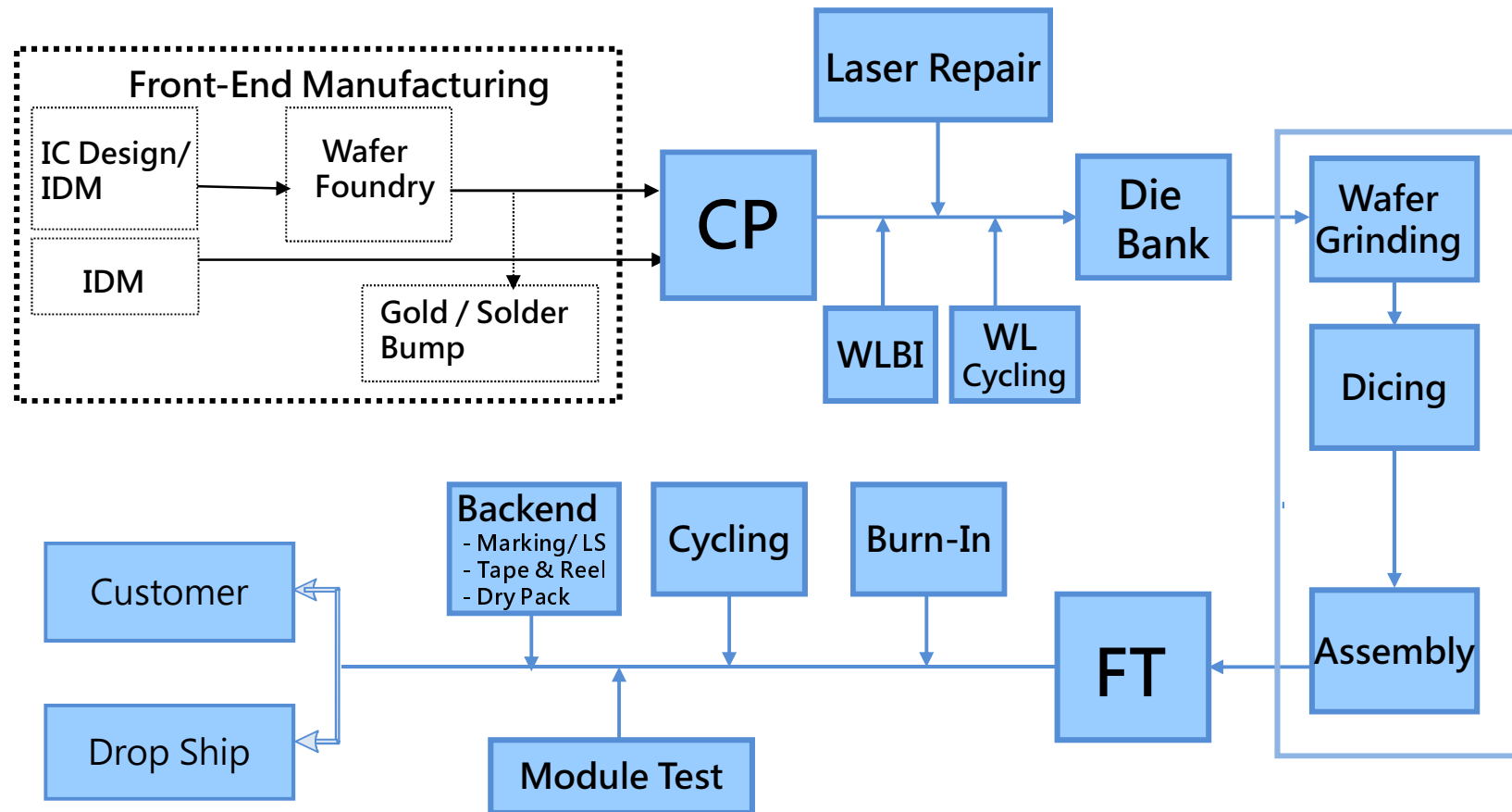
**5**

**Healthy financial structure and strong EBITDA profit to support CapEx**

**6**

**Corporate strategies dedicated to enhance shareholder's interests**

# IC manufacturing process and KYEC available services



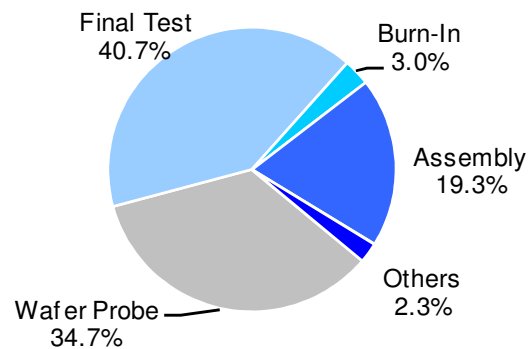
Note: Blue colors are KYEC available services

# Diversified product mix for stable, long-term growth

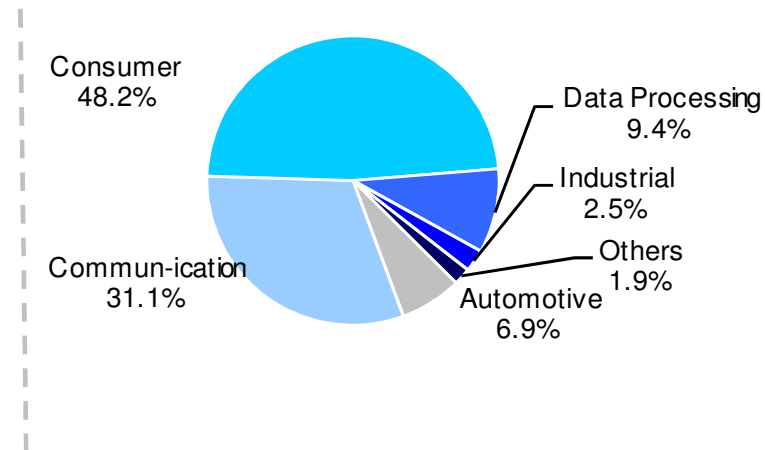
- ❑ In general, test services contributed about 78% of company's total revenue.
- ❑ Devices tested by KYEC have been widely used in various applications, including consumer, communication, automotive, data computing and industrial ... etc.
- ❑ Revenue recorded in Others included sale of equipment and tooling, lease income, and miscellaneous items.

## Revenue breakdown for Q3'2020

### By Manufacturing Process



### By Application



# KYEC services global top tier customers

- 56% of global top 50 semi companies use KYEC's test services
- Top 10 customers contributed 53.3% of revenue in Q3'20.

					(US\$ Millions)				
2019	Company	2018	2019	change	2019	Company	2018	2019	change
1	Intel*	66,290	67,754	2.2%	26	Marvell Technology Group*	2,800	2,655	(5.2%)
2	Samsung Electronics	73,708	52,191	(29.2%)	27	Toshiba*	5,614	2,435	(56.6%)
3	SK hynix	36,240	22,297	(38.5%)	28	Robert Bosch*	2,494	2,430	(2.6%)
4	Micron Technology	29,742	20,254	(31.9%)	29	Qorvo	2,334	2,358	1.0%
5	Broadcom*	16,261	15,322	(5.8%)	30	Maxim Integrated*	2,497	2,183	(12.6%)
6	Qualcomm*	15,375	13,613	(11.5%)	31	Cypress Semiconductor*	2,439	2,145	(12.1%)
7	Texas Instruments	14,592	13,364	(8.4%)	32	Novatek*	1,815	2,081	14.7%
8	STMicroelectronics*	9,579	9,451	(1.3%)	33	Realtek Semiconductor*	1,516	1,962	29.4%
9	NXP*	9,022	8,758	(2.9%)	34	Nichia	1,842	1,794	(2.6%)
10	Apple	7,646	8,569	12.1%	35	Nanya Technology	2,808	1,667	(40.6%)
11	Sony	6,465	8,536	32.0%	36	Osram	1,970	1,635	(17.0%)
12	Infineon Technologies*	8,748	8,471	(3.2%)	37	Nexperia	1,496	1,466	(2.0%)
13	MediaTek*	7,890	7,959	0.9%	38	Dialog Semiconductor*	1,442	1,408	(2.4%)
14	Kioxia	8,533	7,827	(8.3%)	39	Mitsubishi	1,310	1,352	3.2%
15	HiSilicon Technologies*	6,035	7,738	28.2%	40	MLS	1,198	1,318	10.0%
16	Nvidia*	8,073	7,331	(9.2%)	41	Vishay	1,551	1,289	(16.9%)
17	Renesas Electronics*	6,710	6,716	0.1%	42	Sanken	1,333	1,265	(5.1%)
18	AMD	6,295	6,591	4.7%	43	Cirrus Logic*	1,248	1,242	(0.5%)
19	Western Digital	9,078	6,252	(31.1%)	44	Winbond Electronics*	1,352	1,237	(8.5%)
20	Analog Devices*	6,207	5,831	(6.1%)	45	Denso	1,123	1,193	6.2%
21	ON Semiconductor*	5,642	5,327	(5.6%)	46	Synaptics*	1,437	1,165	(18.9%)
22	Microchip Technology*	5,154	5,161	0.1%	47	Macronix International*	1,143	1,061	(7.2%)
23	Xilinx*	2,904	3,235	11.4%	48	UniSoC Technologies	1,286	1,036	(19.4%)
24	Skyworks Solutions*	3,277	2,822	(13.9%)	49	Diodes	1,033	1,021	(1.2%)
25	Rohm*	3,025	2,768	(8.5%)	50	Socionext	996	1,008	1.2%

Note: company's names in blue \* are KYEC's customers

# KYEC retains flexible and cost effective test solutions

- ❑ Current semi testing service provider is demanding on flexibility, cost effective and various platform/capacity for servicing the small-volume business trend.
- ❑ KYEC is standing to take advantage of this market trend for its flexible in test platform choices, capacity and in-house capability.
- ❑ KYEC currently installed 4,000+ test systems on its shop floor.

	Memory	Logic / Mixed-Signal	CIS/CCD	LCD Driver	RF / Wireless	SOC
<b>Advantest</b>	T5571P / T5581H / T5585 / T5588 T5371 / T5372 / T5377S T5382A / T5771 T5335 / T5365 / T5334 / T5335P	T6672 / T6673 T6575 / T6577 T6683		T6331 T6371 T6372 T6373	T2000-RF	T2000
<b>Agilent (Verigy)</b>	V1200 / V2000 V3000 / V4400	HP93K / HP94K / HP83K	HP93KIP / 94KIP		HP93KPSRF	HP93KPS / PS1600
<b>LTX-Credence</b>	Kalos / XW Kalos II / HEX Pkalos / Pkalos II	Duo / Quartet SCX12 / ITS9KEXA / CV ITS3KEXA / ASL1K / ASL3K-MS Sapphire / D10			ASL3K-RF Fusion-CX Fusion-MX	Sapphire / D10 Fusion-MX DiamondX
<b>Teradyne</b>	M1 / M2	Catalyst / J750 J750EX / iFlex Ultra Flex	IP750 IP750EMP		Flex-RF Catalyst-RF Ultra Flex-RF	J750EX / J750 / J750HD / ETS-364 iFlex / Ultra Flex Catalyst / M1 / M2
<b>Yokogawa</b>				TS6700 ST6730		
<b>KYEC</b>	M-series tester	E-series tester	I-series tester	D-series tester	E-series tester	E-series tester

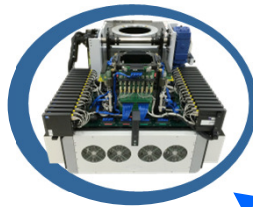


# In-house test systems widely use in mass production

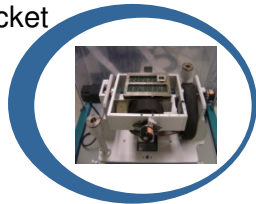
- ❑ In general, in-house test system provide a custom-tailored solution flexible in test configuration and programming for device used in various applications.
- ❑ In addition, KYEC designs and manufactures test tooling and probe card in-house.

## Application of in-house tester

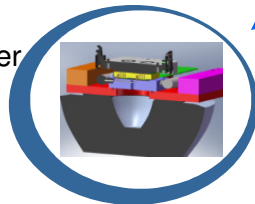
**CIS Tester**  
Integration Image  
Process & Optical



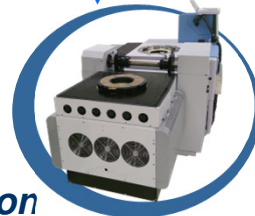
**MEMS G-sensor Tester**  
Integration of Motion & thermal  
socket



**MEMS Microphone Tester**  
Integration of  
Acoustic chamber  
& kit design



**LCD Driver Solution**



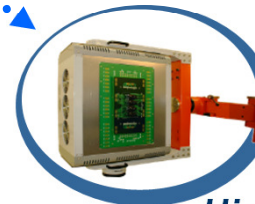
**Logic Tester**



**SOC solution**  
Integration of Analog  
module & RF module

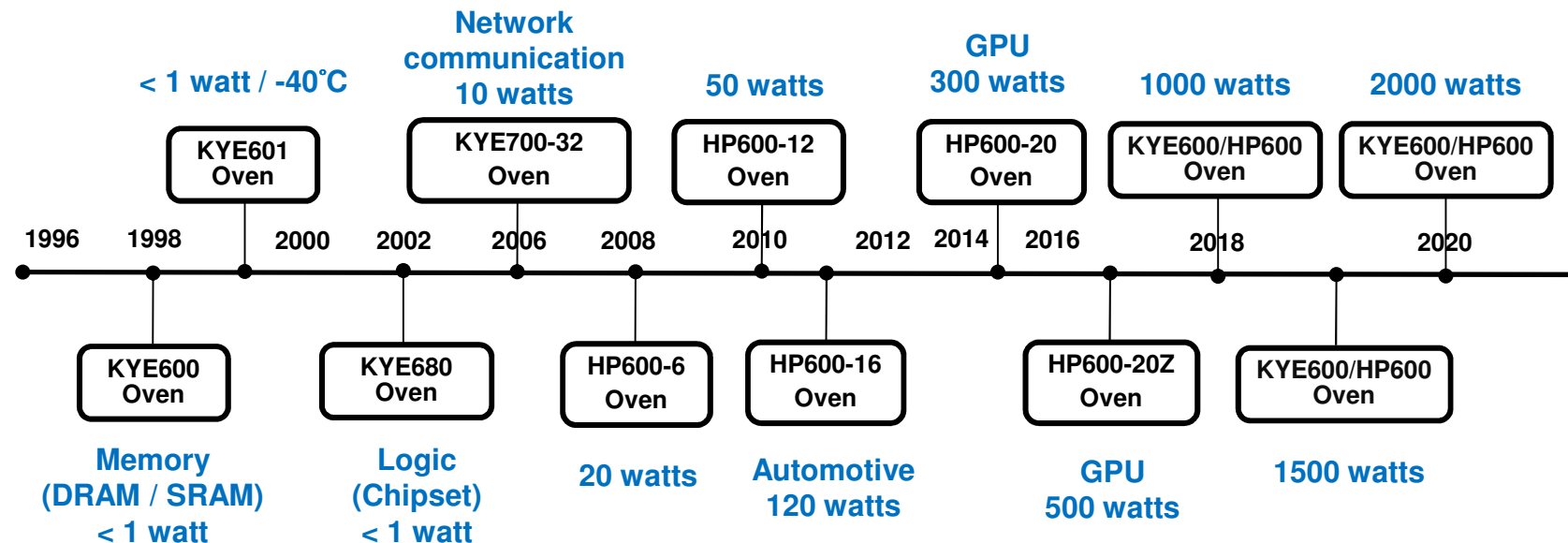


**High Power Solution**  
Integration of Hi-voltage  
module & Hi-current module



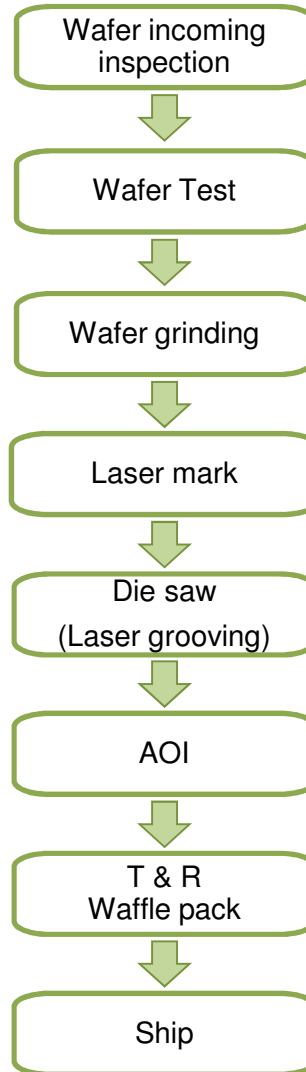
# KYEC developed ovens for burn-in test services

- ❑ In-house burn-in ovens provide flexibility, custom tailored test services.
- ❑ Our burn-in oven is able to offer testing under wide range of power/watts for products after one single test setup.
- ❑ Our high-power burn-in oven employs the air-cooling technologies instead of the water-cooling used in the market available ovens, providing advantages of cost saving and easy maintenance.

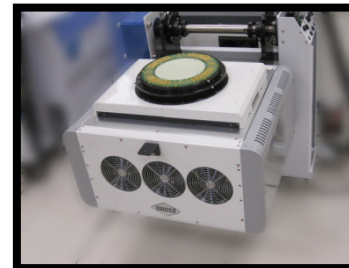
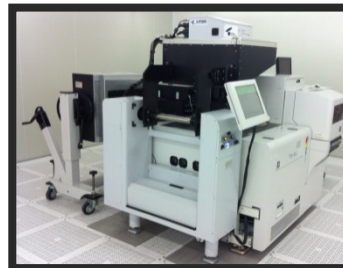


# KYEC provides turnkey WLCSP services as well

## KYEC's WLCSP process flow



- ❑ In addition to wafer testing, KYEC provides wafer grinding, die sawing/laser grooving, AOI and packing services for Wafer Level Chip Scale Package (WLCSP) as well.
- ❑ WLCSP is primarily for applications as: e-compass, accelerometer, gyroscope, pressure, humidity, microphone, power management and memory products.
- ❑ WLCSP revenue in KYEC has increased significantly over last couple years. We expects this trend to continue in the future.



# KYEC group management team with deep industry experience

## C.K. LEE - Chairman & CEO

- Over 30 Years of semiconductor industry experience
- Chairman of KLT (Suzhou) and ZKT (Suzhou)
- Former Manager of Manufacturing, United Microelectronics Corporation
- Bachelor of Department of Shipping & Transportation Management, National Taiwan Ocean University.

## Logan CHAO- CFO

- Over 20 Years of semiconductor industry experience
- Former Audit manager of KPMG
- Bachelor of Department of Accounting, Chinese Culture University. EMBA of National Tsing Hua University.

## Dr. A.H. LIU - General Manager

- Over 20 Years of semiconductor industry experience
- Former Vice President of EverLight Electronics
- Former General Manager of Intematix Company.
- Ph.D. from Graduate School of Mechanical Engineering, North Carolina State University, USA.

## Gauss CHANG - Executive VP

- 30 Years of semiconductor industry experience
- Former Manager of foundry business, Winbond Electronics Corp.
- MBA. from Saginaw Valley State University, Michigan, USA.

## Andy LIANG - Vice President

- Over 20 Years of semiconductor industry experience
- Former manager of equipment engineering, UTAC/Taiwan
- Bachelor of Department of Electronic Engineering, Minghsin University of Science and Technology. MBA from Minghsin University of Science and Technology.

## K.K. LEE - Senior VP

- Over 30 Years of semiconductor industry experience
- Former vice director of material procurement and management, United Microelectronics Corporation
- Bachelor of Department of Industrial Engineering and Enterprise Information, Tunghai University.

## Steven CHANG - Senior VP

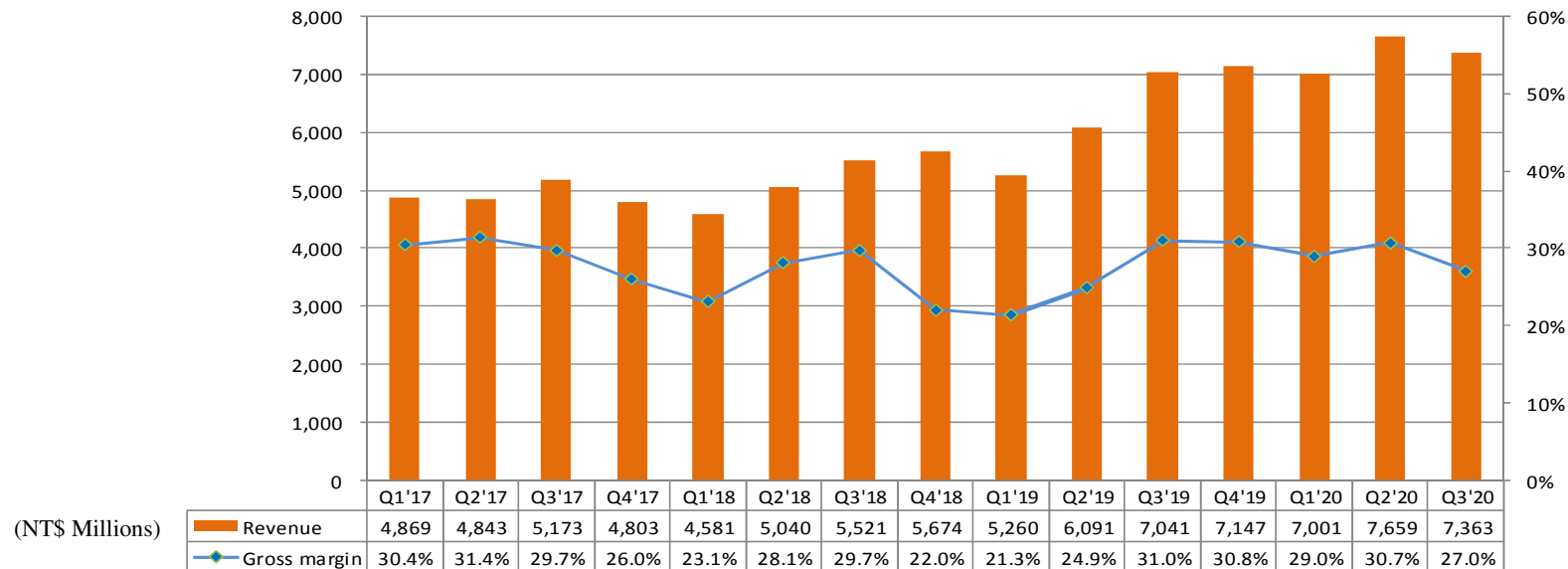
- Over 20 Years of semiconductor industry experience
- Former Manager of quality assurance, Macronix International Co., LTD.
- Bachelor of Department of Electrical Engineering, Chung Yuan Christian University. M.Sc. from Graduate School of Electrical Engineering, National Central University.



## Financial highlights

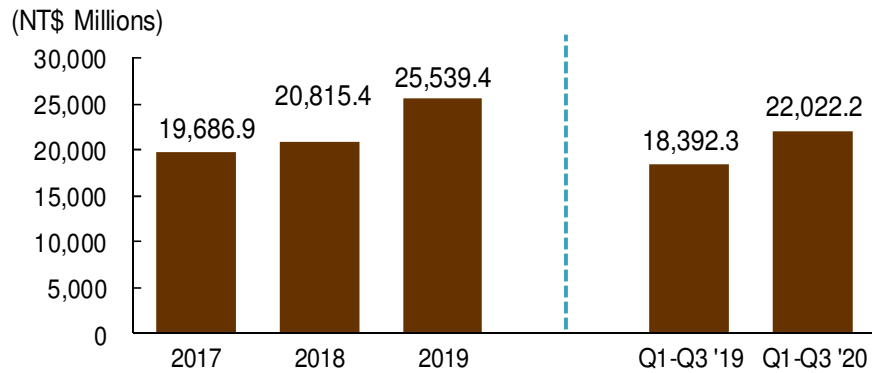
# Financial Snapshot

(NT\$ Millions)	Q2'20	Q3'20
Net Revenue	\$7,658.5	\$7,362.6
Gross Margin (%)	30.7%	27.0%
Expenses		
SG&A	\$526.6	\$533.9
R&D	\$286.6	\$317.4
EBITDA	\$3,619.1	\$3,306.8
EPS – diluted (NT\$)	\$0.88	\$0.78
EPS – basic (NT\$)	\$0.89	\$0.79

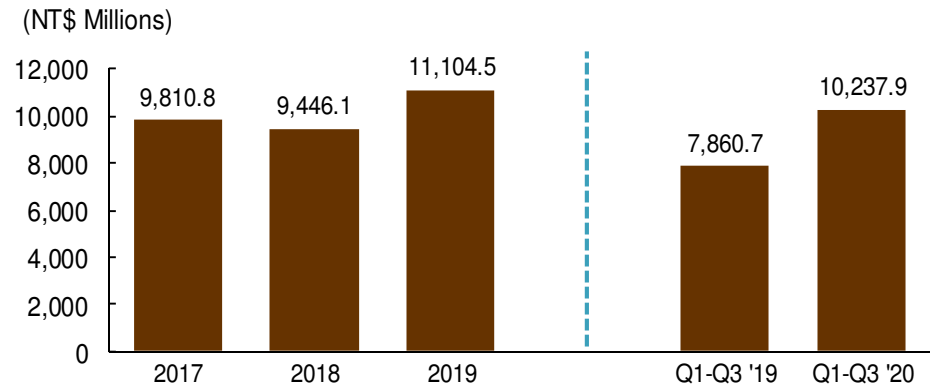


# Healthy business trends and capacity investment

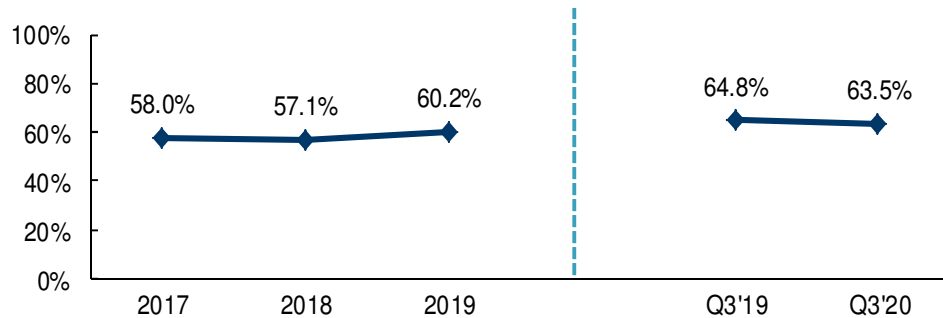
## Revenue



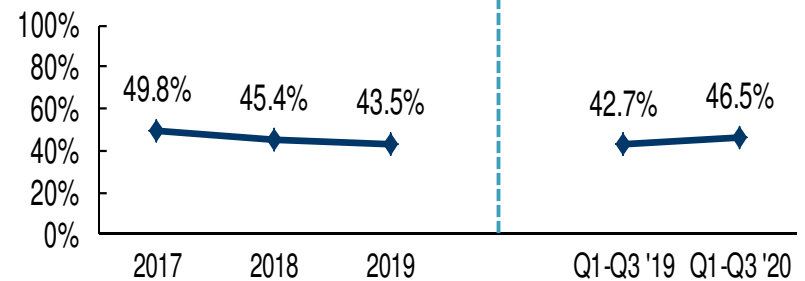
## EBITDA



## Utilization Rate

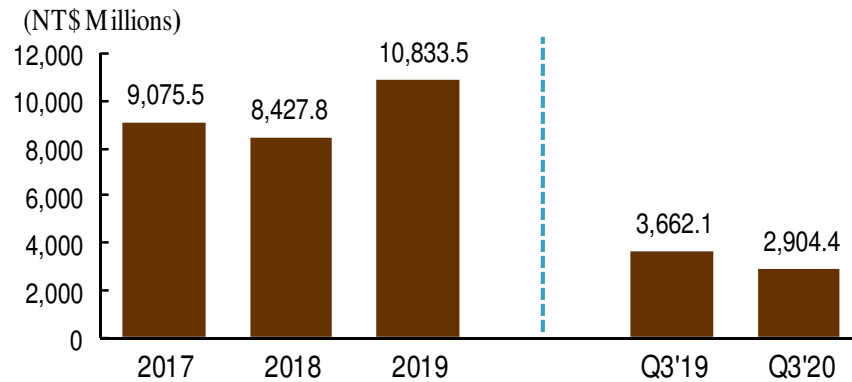


## EBITDA Margin

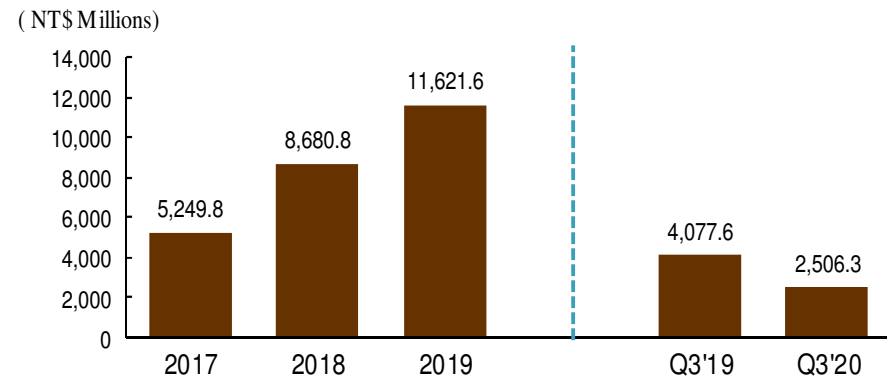


# Optimal financial leverage enhances shareholder interest

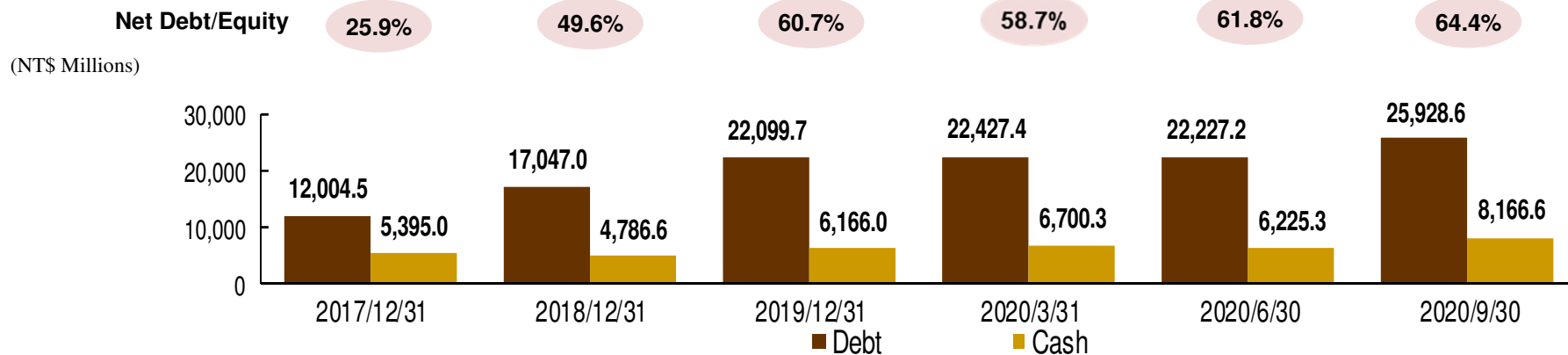
## Cash Flow from Operations



## CapEx



## Debt | Cash





## Company website

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<http://www.kyec.com.tw>