

2018 Annual Results Announcement

22 February 2019



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ASMPT Recognized as TOP 100 Global Tech Leaders

ONLY Back-end Equipment Supplier Being Recognized

2018 THOMSON REUTERS

TOP 100
GLOBAL TECH LEADER

“The Top 100 Global Technology Leaders are the organizations poised to propel the future of technology”,
Brian Scanlon, Chief Strategy Officer

Thomson Reuters, 2018

The slide features a dark red background with a complex network of glowing red lines and nodes. A large, dark, semi-transparent hexagonal shape is centered on the slide, serving as a backdrop for the title text. The text 'Corporate Overview' is displayed in a bold, sans-serif font, with 'Corporate' in white and 'Overview' in red.

Corporate Overview

2018 Group Revenue
(CAGR 2008-2018 14%)

USD 2.49B

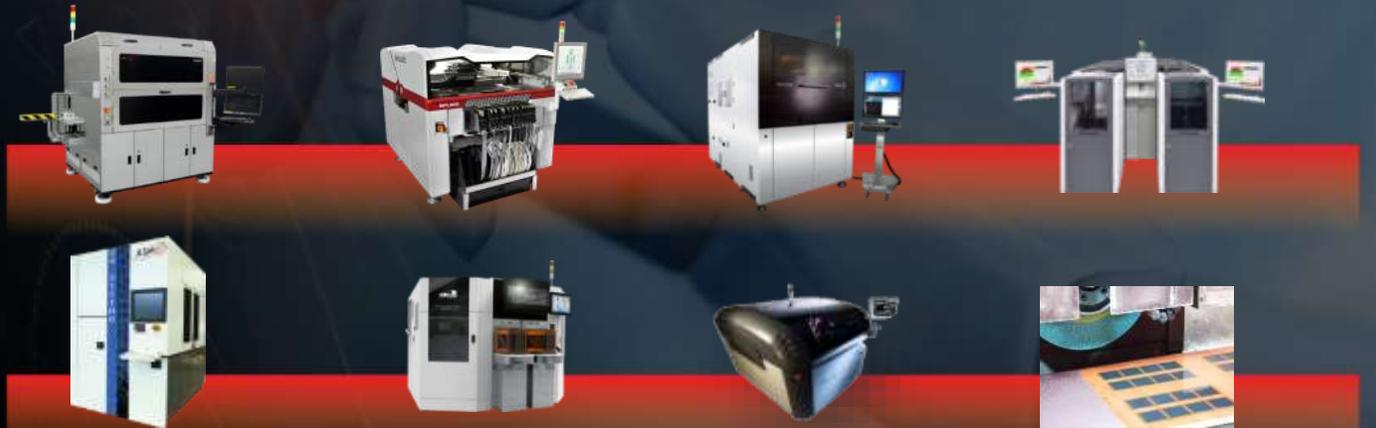
41.1%
SMT
Solutions

47.4%
Back-end
Equipment

11.5%
Materials

A World's Technology & Market Leader

- A leading Integrated Solutions Provider in the semiconductor assembly and packaging industry as well as in the SMT solutions market
- A leading player for CIS, LED, and Automotive
- Top 3 application markets accounted for 47% of group revenue in 2018



ASMPPT Global Presence



- Sales Offices
- Business Centre / R&D / Manufacturing Site



>2,000
Global R&D staff



>1,400
Patents on key leading edge technologies



10
R&D centres worldwide



12
Manufacturing facilities

ASMPT Major Facilities around the World



Hong Kong



ASM Technology Singapore



Yishun



Munich



Regensburg



Boston



Porto



Longgang (龙岗)



Fuyong (福永)



Huizhou (惠州)



Chengdu (成都)



Taoyuan



Weymouth



Beuningen



Johor Bahru



Johor Bahru Expansion
(Ready 2019)

Three Business Segments With Leading Market Positions

Worldwide Market Position & Share

**Back-end
Equipment**

#1

**Assembly & Packaging
Equipment Market**

~25%
(2018)

- #1 Die Bonders
- #2 Wire Bonders
- #1/2 Flip Chip Bonders
- #1 Thermal Compression Bonders (TCB)
- #1 LED Packaging Equipment
- #1 CMOS Imaging Sensors (CIS) Equipment
- #2 Encapsulation & Post Encapsulation Solutions
- #4 Turret Test Equipment (Test Handlers)
- #2 Laser Dicing and Grooving

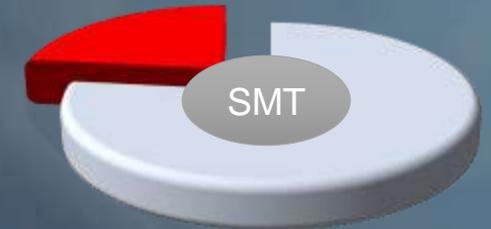


**SMT
Solutions**

#1

SMT Equipment Market

~23%
(2018)



Materials

#3

Leadframe Market

~9%
(2018)



Sources:

Market share for Back-end Equipment is based on information on packaging and assembly equipment market by VLSI, leadframe market by SEMI, and SMT market by ASMPT SIPLACE Market Intelligence



2018
Financial
Highlights

Yearly Billings

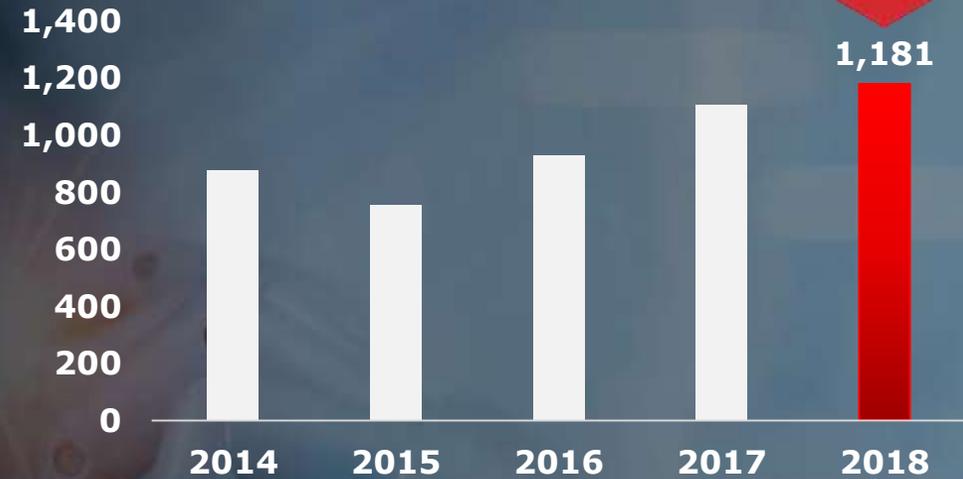
Group Billings
(US\$ m)

YoY Growth: +11.6%



BE EQT Billings
(US\$ m)

YoY Growth: +7.3%



Materials Billings
(US\$ m)

YoY Growth: +5.2%



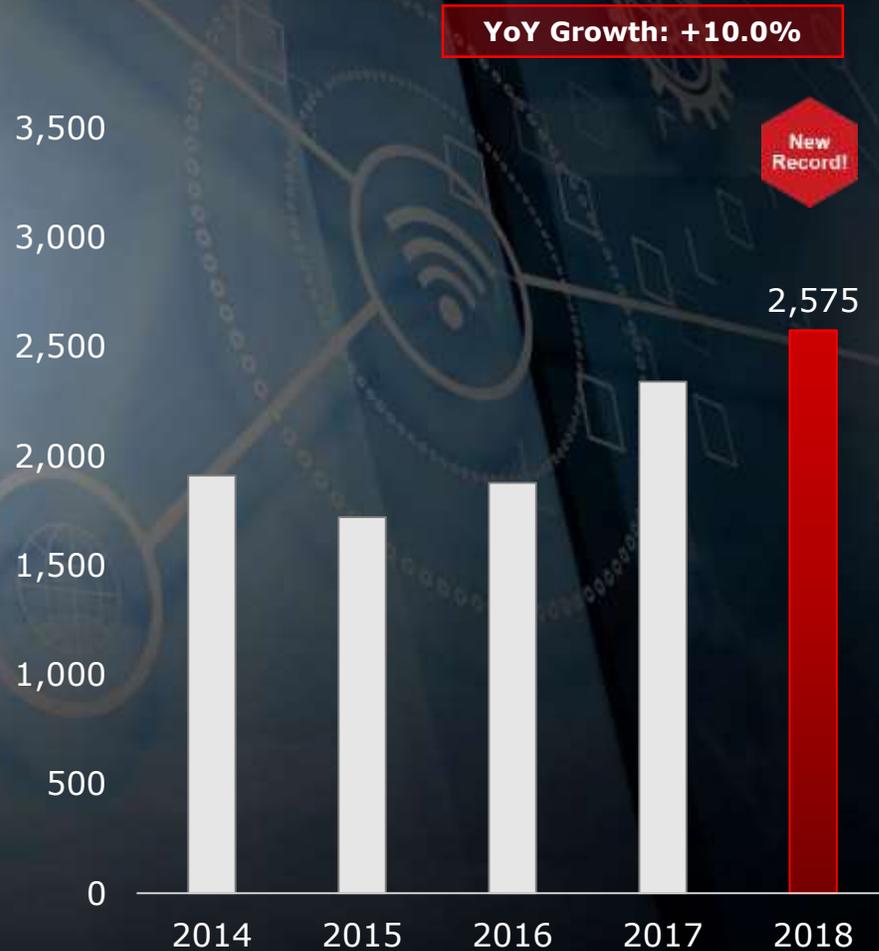
SMT Billings
(US\$ m)

YoY Growth: +19.1%



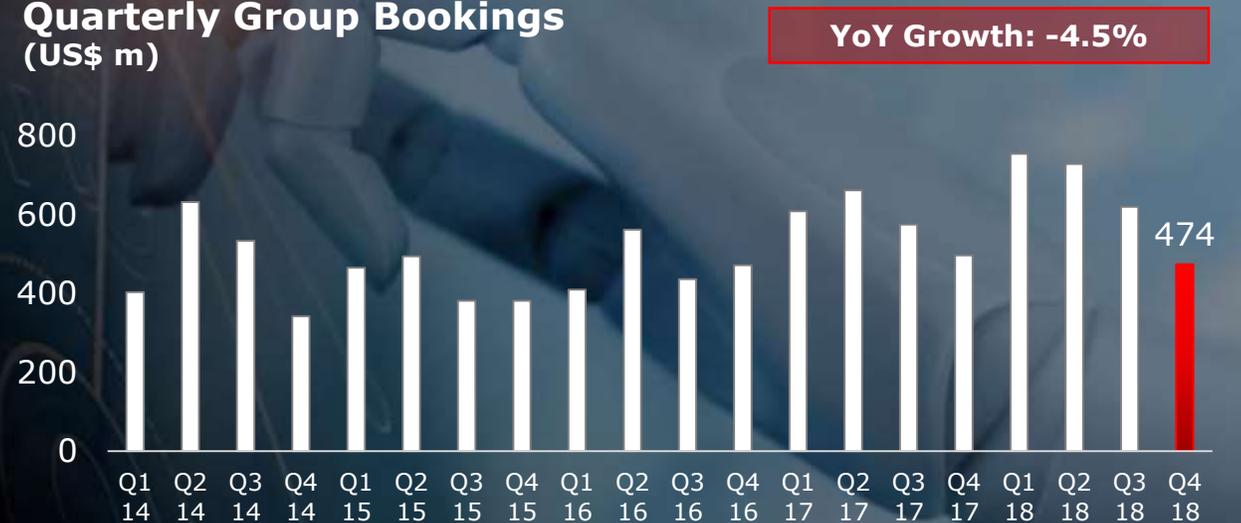
Group Bookings

Yearly Group Bookings
(US\$ m)



- Q4 Group Bookings: ▼ 4.5% YoY
- Q4 Backend: ▲ 4.0% YoY
 - Increased contribution from Advanced Packaging
- Q4 SMT Solutions: ▼ 2.5% YoY
- Q4 Group Backlog: ▲ 21.6% YoY

Quarterly Group Bookings
(US\$ m)



Major Drivers for 2018 Bookings/Billings

Back-end

IC / Discrete

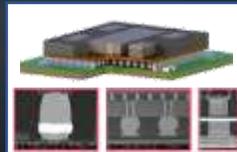
Discrete Semiconductors



RF Filters



Advanced Packaging



Automotive



Consumer



Power Management



Industrial



IoT

SMT Solutions



Automotive

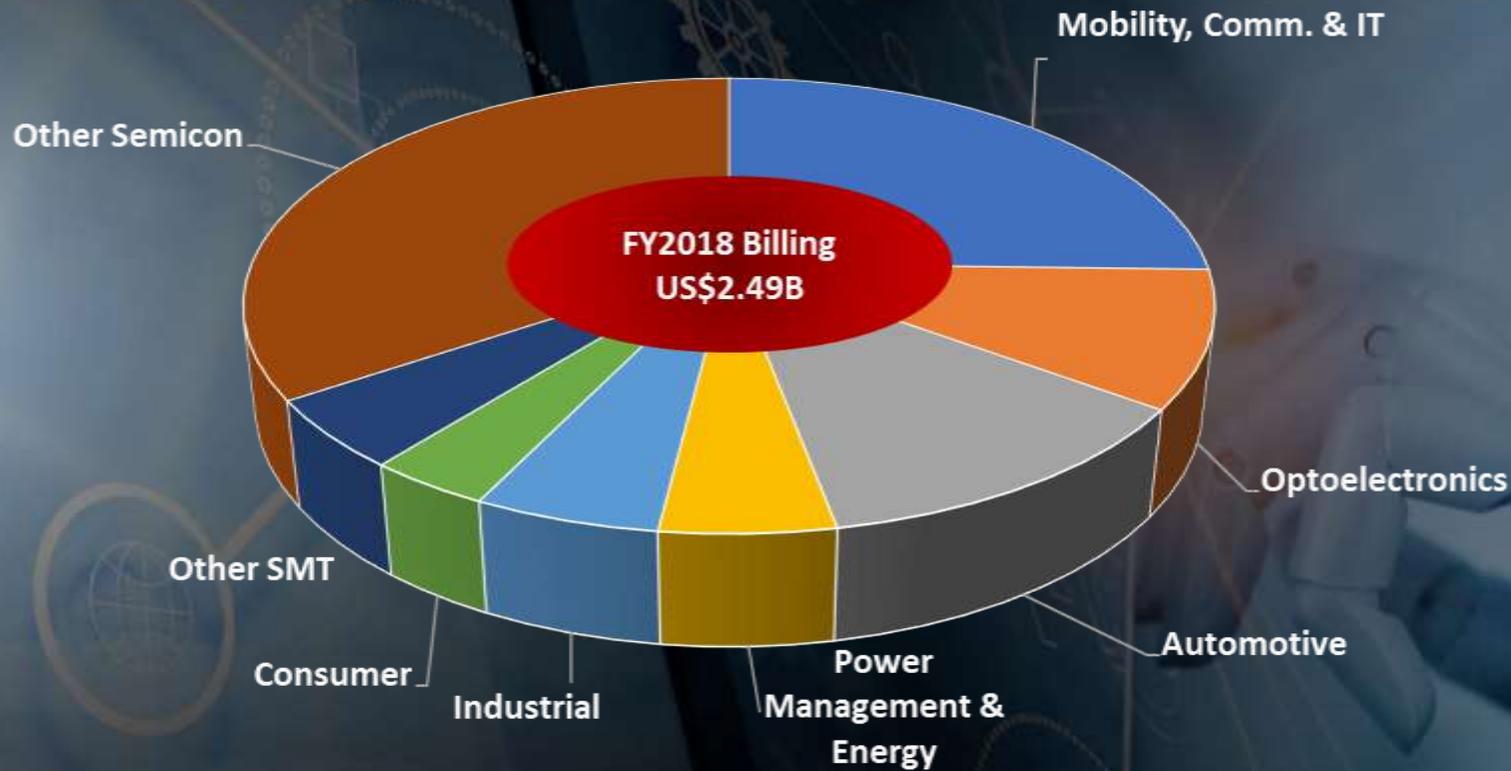


IoT

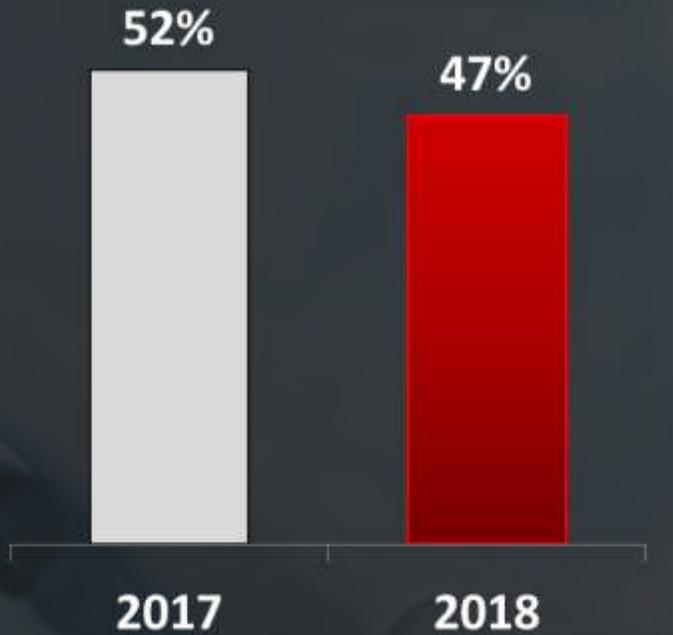


Smartphones
(China + India)

ASMPT Revenue Breakdown by Application Markets

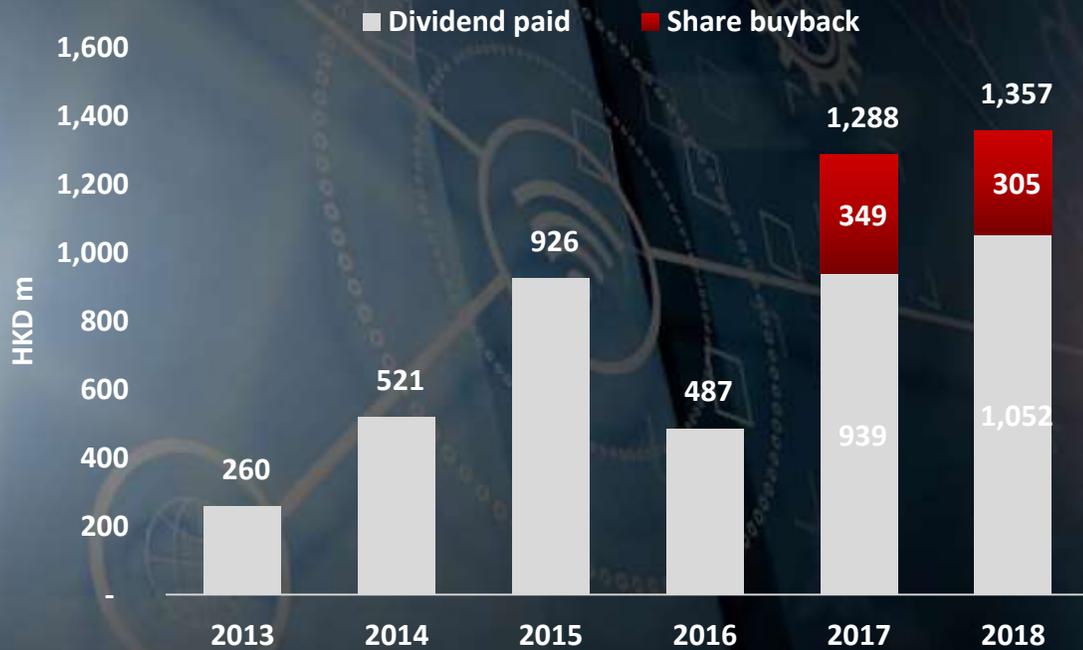


Mobility, Comm & IT, Optoelectronics and Automotive % of Group Revenue



Automotive and Industrial advanced to #2 and #4 respectively

Sustainable and Gradually Increasing Dividends

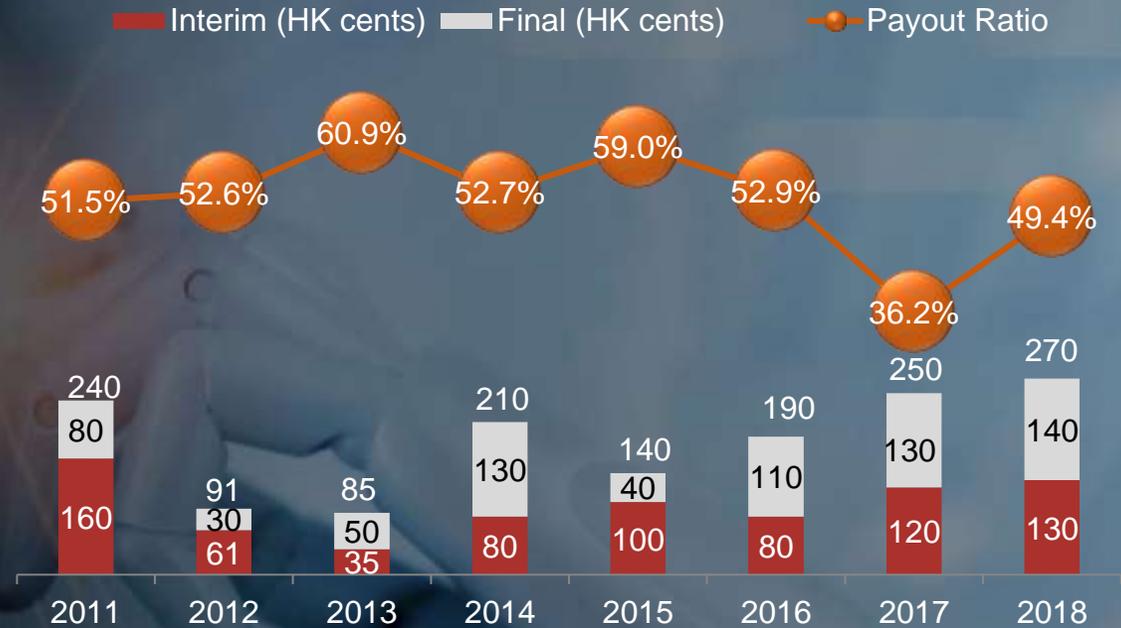


Cumulative cash returned: HKD4.8bn

Share Buyback Program

- Amount exercised HKD654.1m, 1.49% of shares outstanding at 31 December 2018

Dividend Per Share (HK cents)



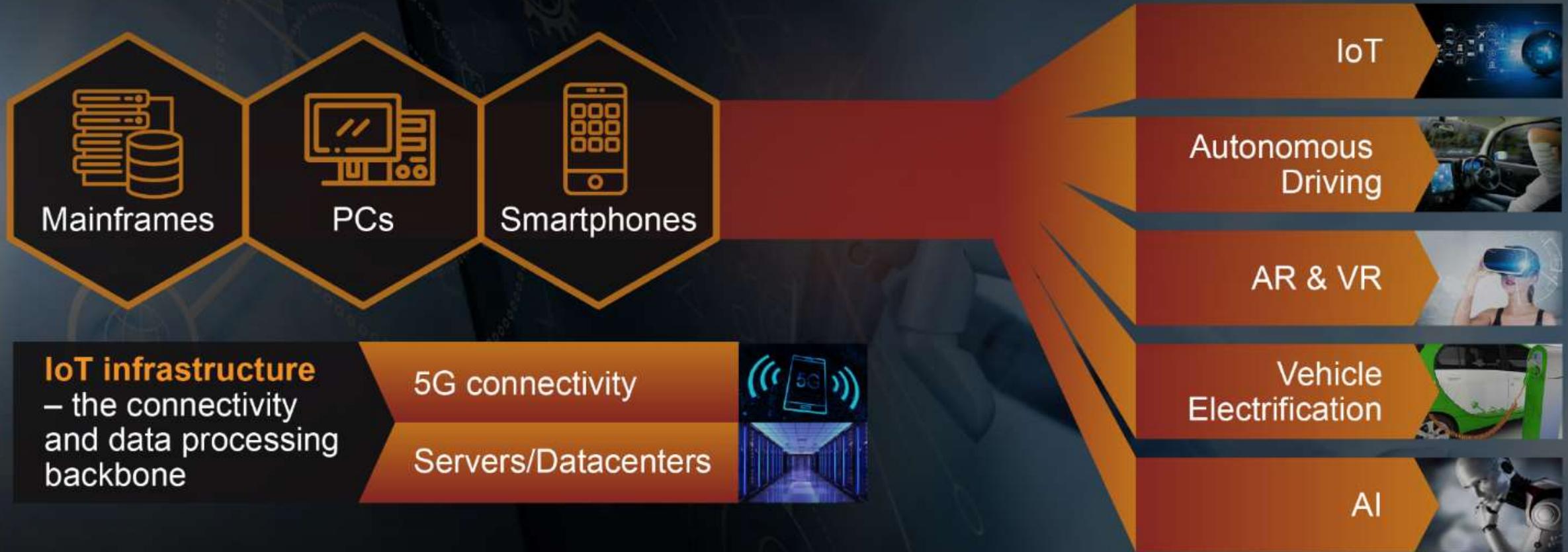
	1H 2018	2H 2018	Full Year 2018
DPS	1.30	1.40	2.70
EPS	3.46	2.01	5.47
Payout ratio	37.5%	69.9%	49.4%



**We Are
Ready to Ride the
Next Wave of
Growth**

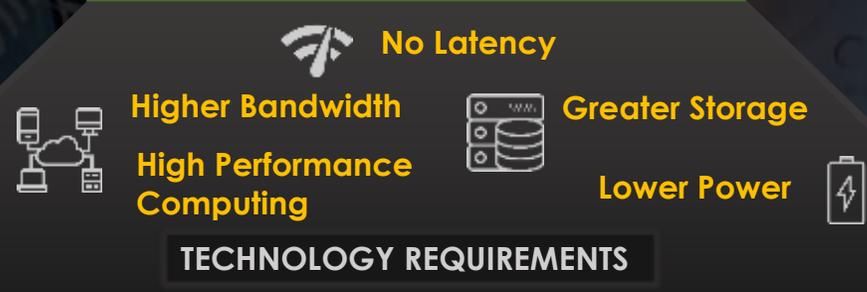
Future Is About Data and **Only Just Beginning**

No single leading driver, but a fragmented growing market!



Source: Yole Development, May 2017

Market Expansion Led by Data Explosion



Increased TAM for Back-End and SMT

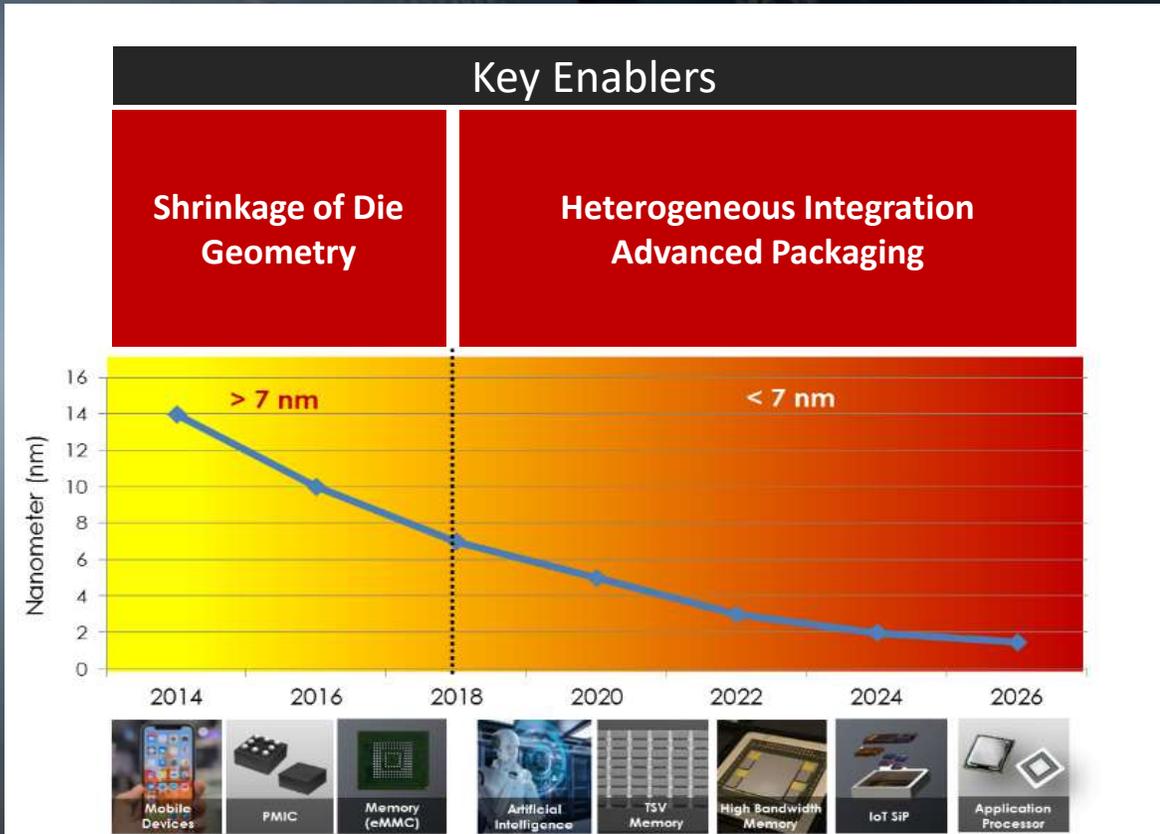


More Semiconductor Devices



Data Explosion

More than Moore: Heterogeneous Integration & Advanced Packaging Shifting the Value Chain



Advantages of Heterogeneous Integration

- Integrating multi-mode technologies to enable “More than Moore”
- Faster time to market
- Less IP issues
- Flexibility
- Cost savings

ON-PACKAGE HETEROGENEOUS INTEGRATION IS CRITICAL

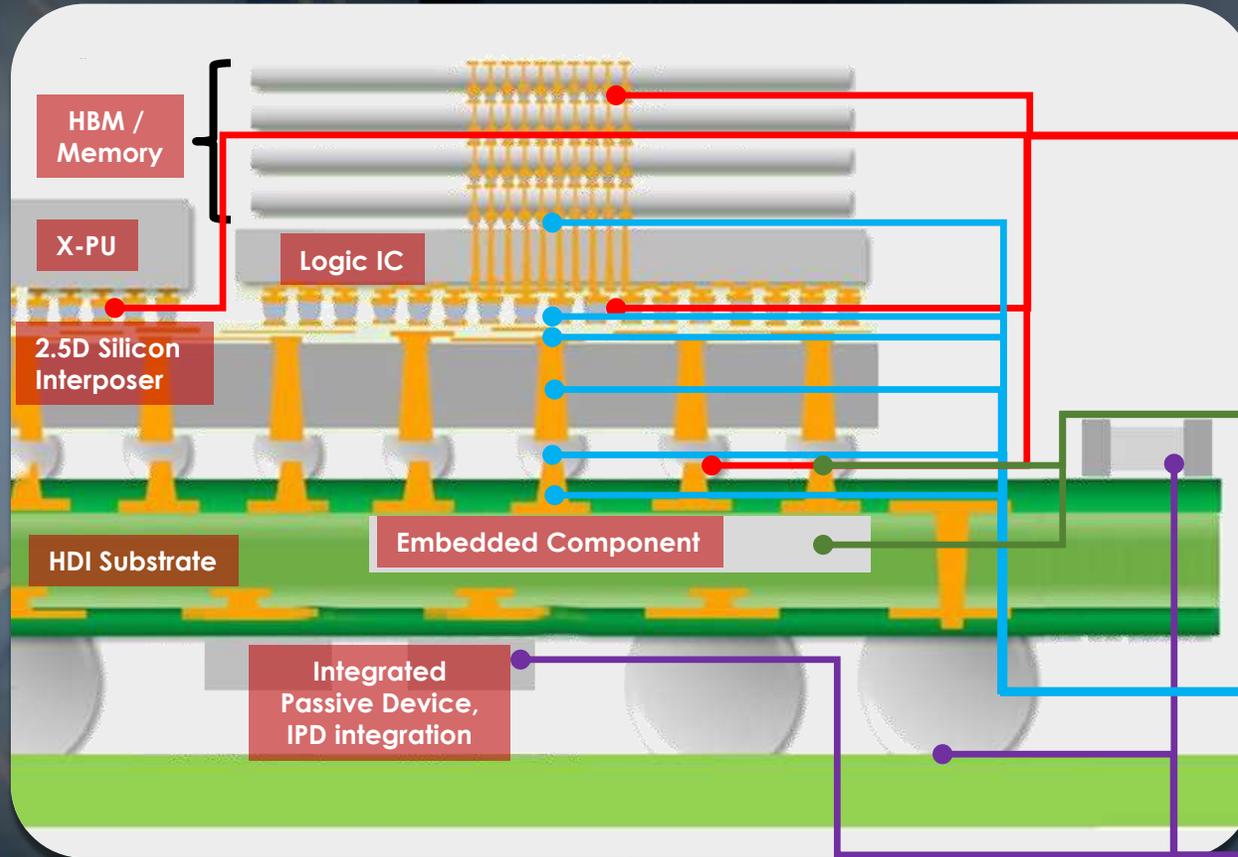


“High Bandwidth & Low Power Data Pipes **ONLY** Available On Heterogeneous Integration on Advanced Packages”

Source: Intel

Artificial Intelligence requires High Performance Computing

Advanced Packaging Contributed >10% Back-end Revenue in 2018



FIREBIRD Series (TCB)	
3D Memory / IC Stacking HI TCB Bonding Extra Large Die TCB Bonding	
NUCLEUS Series (Pick & Place)	
Extra Large Die Flip Chip Bonding Premium AP in Fan Out Technology Panel Level Active & Passive Embedding	
NEXX (PVD ECD)	
Bumping TSV in Si Interposer RDL	
SIPLACE-CA (SMT Pick & Place)	
IPD Assembly Board Level Assembly Module Level Decoupling Capacitor / Passive Component	

AP will be a significant growth driver

Applications Fueling OPTO Business Growth

MiniLED 	MicroLED 	Photonics 
 <p>Market Size CAGR 2019 – 2023 ~ 90 %</p> 	<p>MicroLED is expected to offer</p> <p>10X</p> <p>higher resolution</p>  <p>Current resolution 2160 x 1200</p>	<p>Market Size CAGR 2019 – 2025 ~ 23.4 %</p> <hr/> <p>Data Center Silicon TAM</p>  <p>Source: Intel</p>
<p>Video Walls / Large Displays</p>	<p>Display for AR / VR</p>	<p>Data Centre / Cloud Computing</p>

Source: Gamingscan, Electronics Weekly, LEDinside, ReportsnReports, Yole Development (Oct 2018)

Data Explosion to spur CIS business

Today...

Most Data are generated by Cameras



Youtube Data-Rich Video



Samsung Galaxy Fold: 6 Cameras



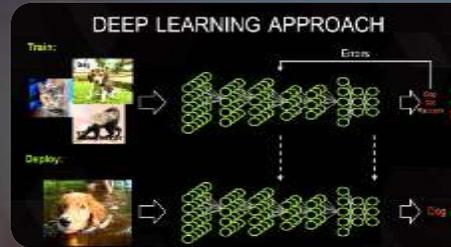
Content Creation by
Social Media "Influencers" – New Marketing Strategy



Autonomous Vehicles: LiDAR, 3D



Cameras in VR/AR



Artificial Intelligence Deep Learning
– Layered Images



Industrial Inspection



Security: Features Recognition

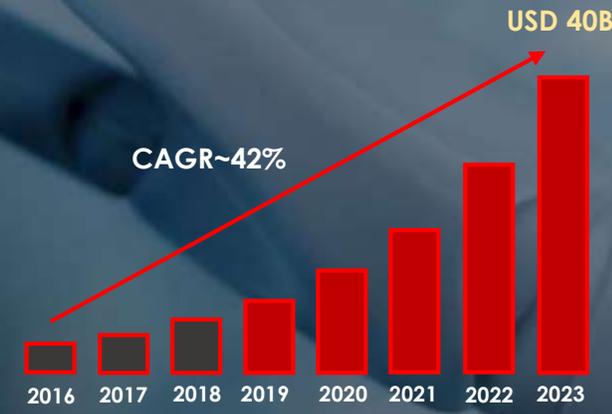
Tomorrow...

Even more Data generated from multi applications

Automotive will surpass Smartphones in Semiconductor contents



IoT Sensor Market Global Industry Forecast To 2023



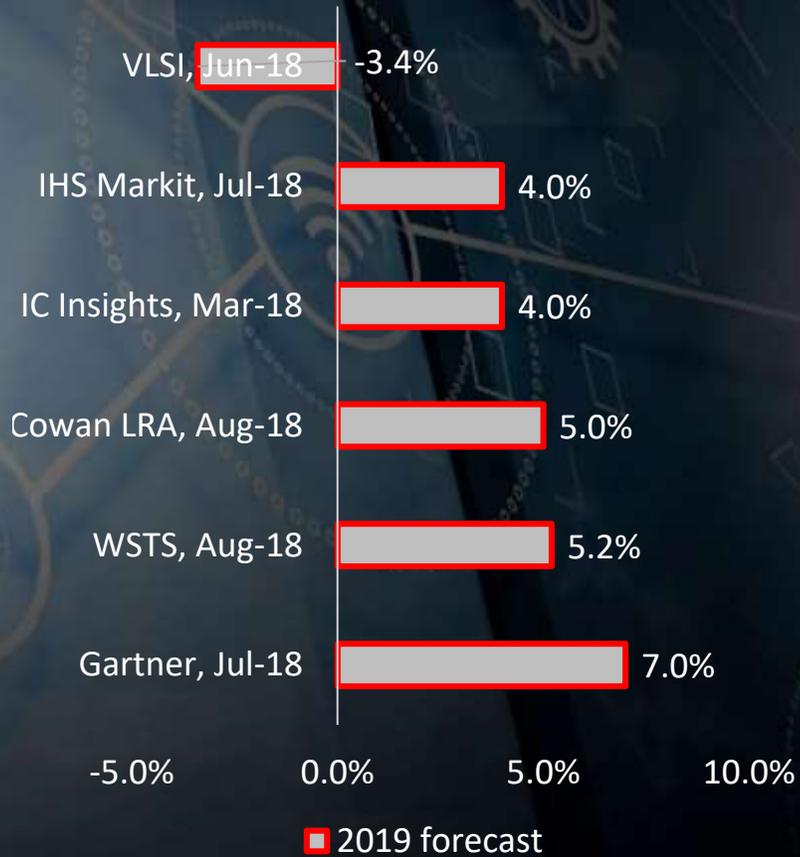
Source: Reuters (Jan 2019)



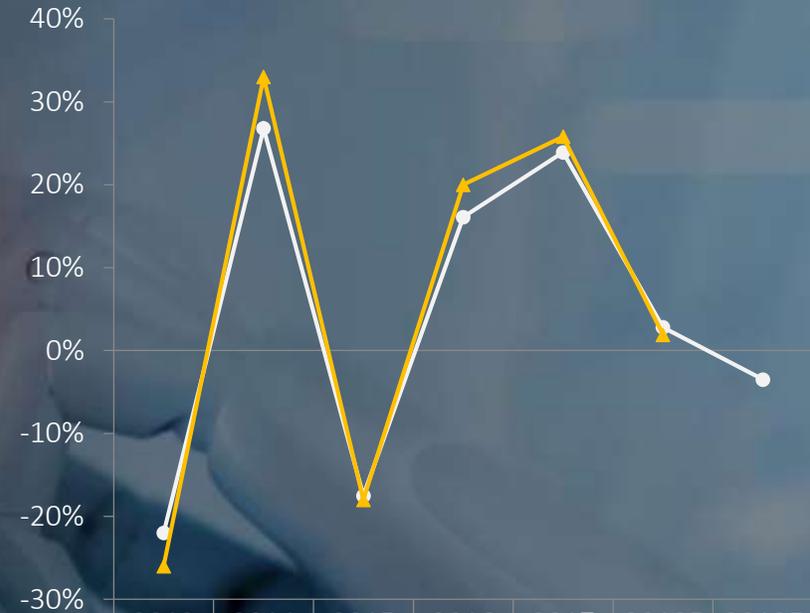
Outlook

Industry Growth Forecast (2018-2019)

Semiconductor Industry



Forecast Global Assembly & Packaging Equipment Market



	2013	2014	2015	2016	2017	2018F	2019F
—●— VLSI Assembly & Packaging Equipment (Oct-18)	-22%	27%	-18%	16%	24%	3%	-4%
—▲— SEMI Assembly & Packaging Equipment (Dec-17)	-26%	33%	-18%	20%	26%	1.9%	

Outlook

Q1 Group Billing: US\$460 million – US\$510 million

- **Back-end Equipment:** Expected to be flat or small decline QoQ
- **SMT solutions segment:** Expect QoQ ▼ , YoY ▲

Q1 Group Booking: Likely flat or rebound slightly QoQ

Q1 Group Gross Margin: Expected to be mid 30%

2019 Group Billing:

- **Expect 2019 to be challenging**
 - Expect Revenue ▼ YoY
 - Advanced Packaging revenue expected ▲

ASMPPT Has Entered Into a High Growth Period

Group Half Yearly Billings
(US\$ m)





2018
Financial Results

2018 Group Financial Highlights

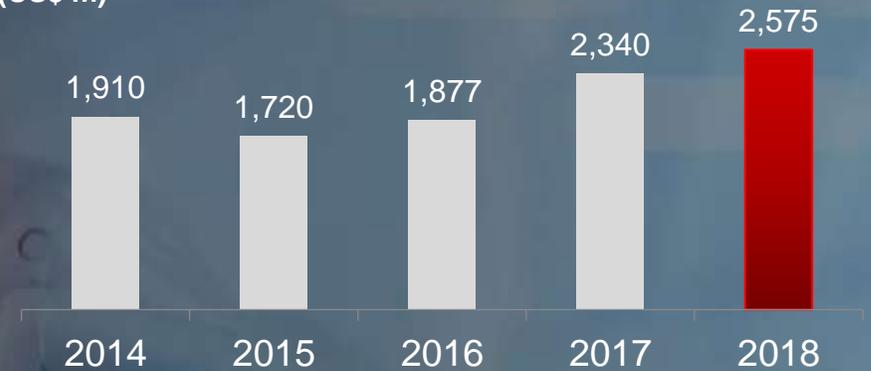
	FY2018	FY2018	2H 2018		Q4 2018	
		YoY	HoH	YoY	QoQ	YoY
Bookings (USD)	2,575m	+10.0%	-26.3%	+2.1%	-23.3%	-4.5%
Billings (USD)	2,494m	+11.6%	+3.3%	+6.4%	-7.7%	+12.8%
Gross Margin	38.0%	-220bps	-520bps	-453bps	-485bps	-629bps
Net Profit (HKD)	2,212m	-14.7%*	-41.7%	-38.1%	-64.8%	-53.2%

* Excluded liability component of convertible bonds

Bookings
(US\$ m)

YoY Growth: +10.0%

New Record!



Billings
(US\$ m)

YoY Growth: +11.6%

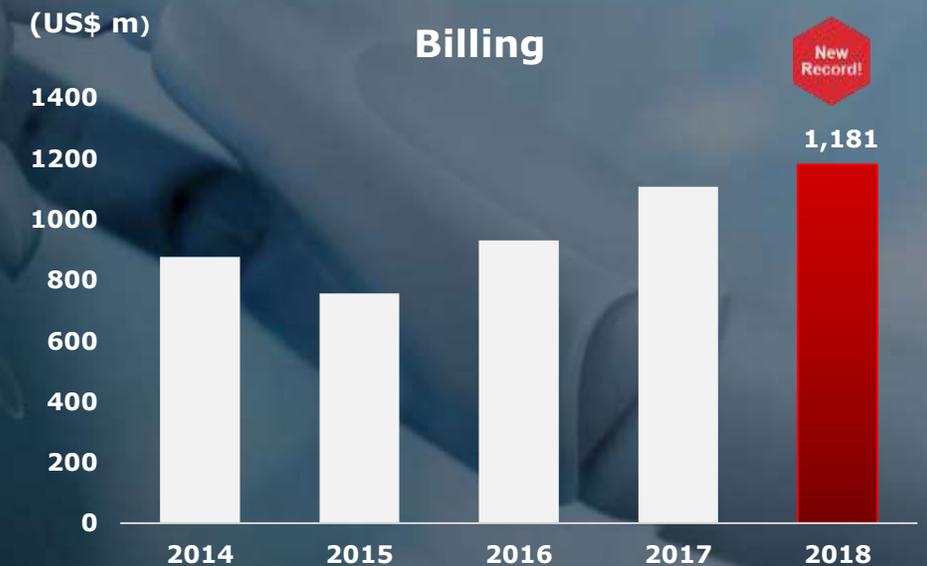
New Record!



2018 Segment Results - Back-End Equipment Business

	FY2018	FY2018	2H 2018		Q4 2018	
		YoY	HoH	YoY	QoQ	YoY
Bookings (USD)	1,257m	+11.9%	-34.8%	+5.0%	-11.9%	+4.0%
Billings (USD)	1,181m	+7.3%	-16.9%	-0.2%	-23.0%	-6.6%
Gross Margin	45.9%	-208bps	-463bps	-522bps	-47bps	-583bps
Segment Profit (HKD)	2,011m	-7.3%	-52.6%	-36.5%	-65.8%	-61.0%
Segment Profit Margin	21.7%	-342bps	-1159bps	-880bps	-1127bps	-1257bps

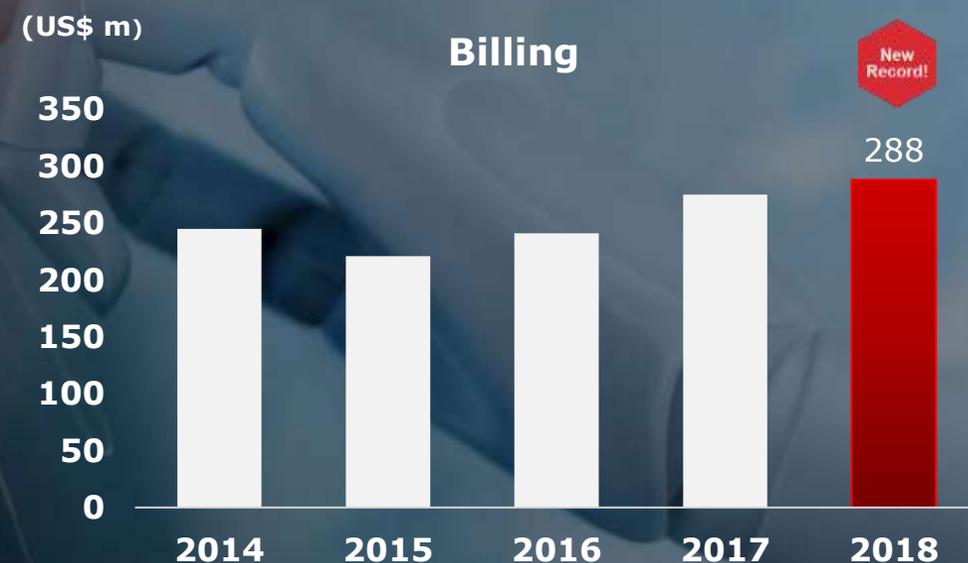
- Advanced Packaging (AP) contributed >10% of Back-end equipment revenue
- AP revenue boosted by newly acquired NEXX business
- Gross Margin ▼: Product mix and lower run rate in Q4
- Segment profit ▼: Partly due to Acquisitions



2018 Segment Results - Materials Business

	FY2018	FY2018	2H 2018		Q4 2018	
		YoY	HoH	YoY	QoQ	YoY
Bookings (USD)	245m	-17.7%	-37.8%	-30.0%	-26.0%	-39.5%
Billings (USD)	288m	+5.2%	-9.3%	-1.5%	-22.3%	-7.8%
Gross Margin	11.5%	-211bps	-368bps	-402bps	-330bps	-461bps
Segment Profit (HKD)	114m	-11.4%	-64.8%	-44.9%	-87.3%	-55.9%
Segment Profit Margin	5.0%	-95bps	-435bps	-218bps	-365bps	-78bps

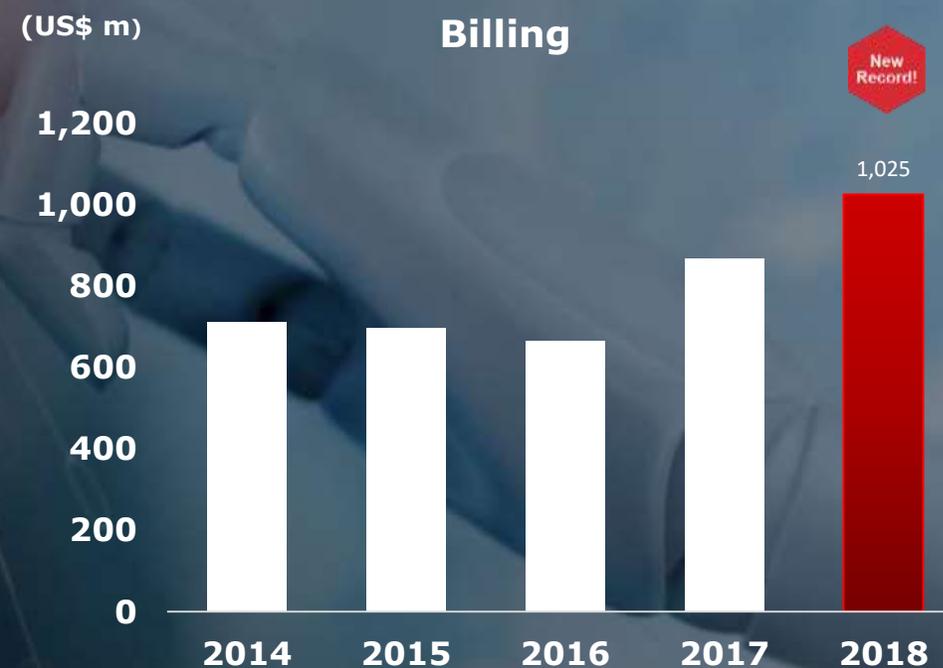
- New billing record set in 2018
- Booking reduction suggests a challenging market in 2019



2018 Segment Results - SMT Solutions Business

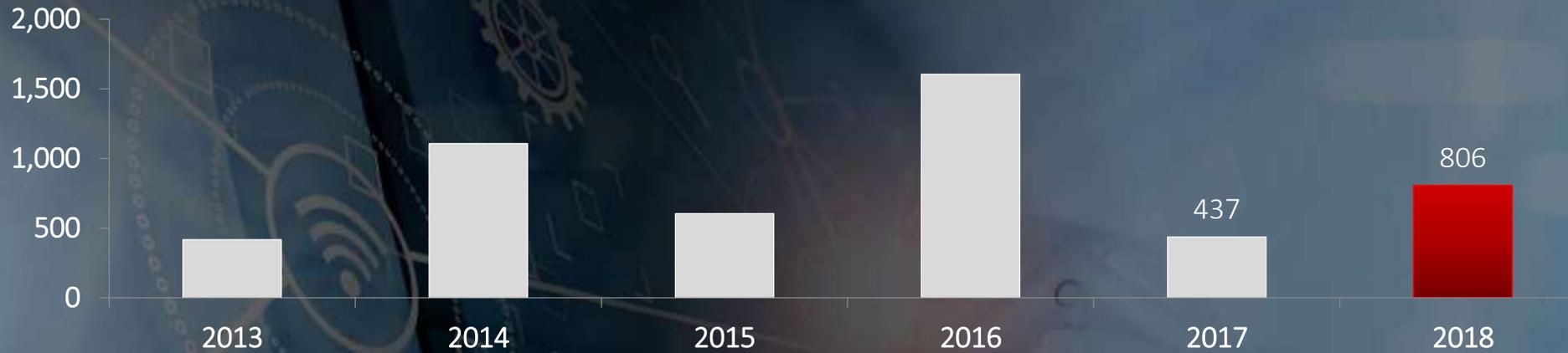
	FY2018	FY2018	2H 2018		Q4 2018	
		YoY	HoH	YoY	QoQ	YoY
Bookings (USD)	1,073m	+16.7%	-11.8%	+8.4%	-32.9%	-2.5%
Billings (USD)	1,025m	+19.1%	+37.9%	+15.3%	+12.9%	+40.3%
Gross Margin	36.5%	-238bps	-503bps	-386bps	-873bps	-603bps
Segment Profit (HKD)	1,275m	+17.6%	+36.0%	+7.2%	-31.5%	+65.7%
Segment Profit Margin	15.9%	-20bps	-23bps	-119bps	-782bps	+186bps

- Achieved US\$1B revenue in 2018
- Tremendous demand for Automotive Electronics and Industrial IoT
- HKD 93.9m charges related to discontinuing Solar Business



Free Cash Flow and Capital Investment

Free Cash Flow
(HK\$ m)



Capital Investment
(US\$ m)



Financial Metrics

Return On Invested Capital (ROIC)



Return On Equity (ROE)

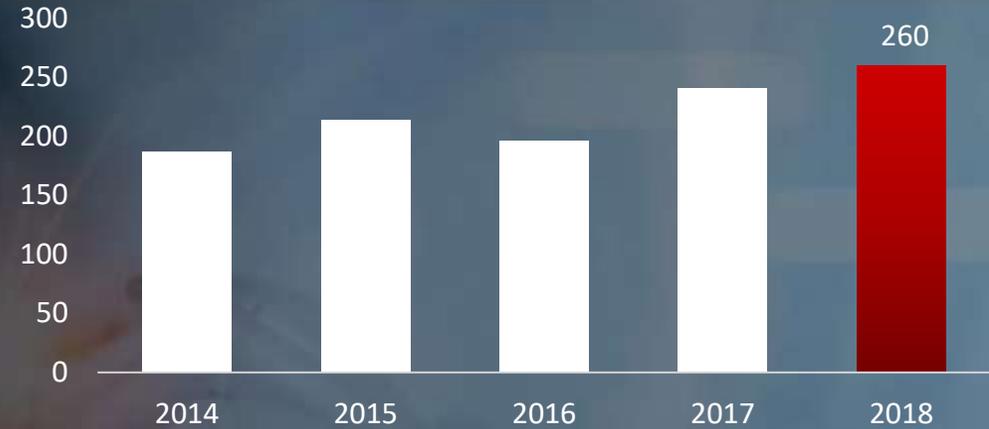


Working Capital Management

Working Capital



Cash Conversion Cycle (Days)



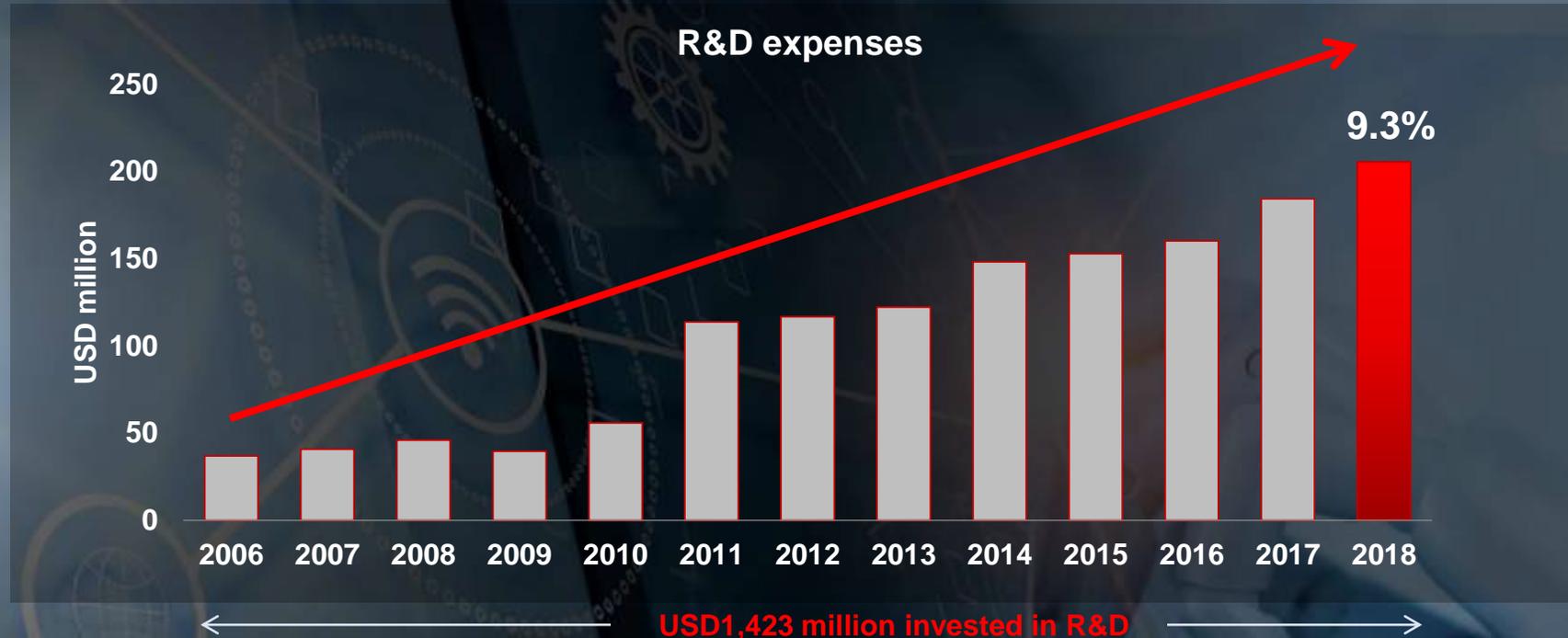
A/R



Inventory

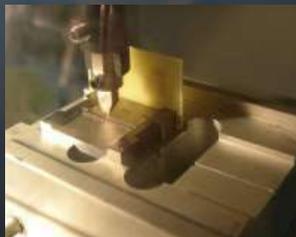


R&D Commitment Makes Us a Preferred Partner of Choice



2018 R&D expenditure

- US\$ 205 million
- 9.3% of equipment sales



Package Interconnection



Optics precision engineering



Vibration control



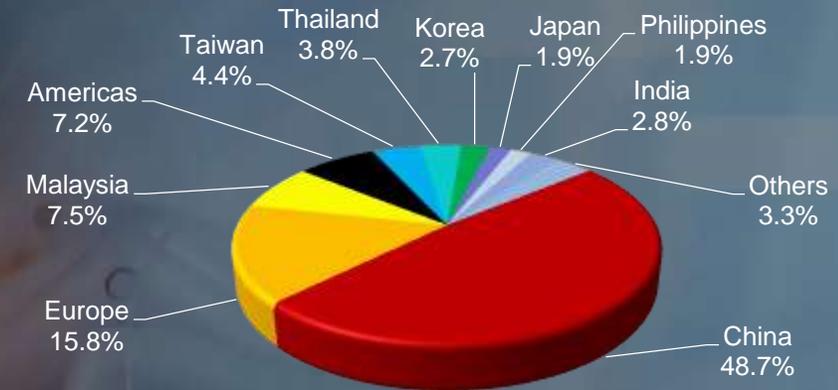
Laser dicing & grooving



SMT

An Extensive Customer Base

2018 Geographical Distribution of Revenue



2018 Revenue Contribution from Top 5 Customers



- No single customer accounted for more than 10% of Group revenue
- Top 5 customers accounted for 18% of Group's 2018 revenue
- Top 20 customers include:
 - World's leading IDMs
 - Tier 1 OSATs, major OSATs in China
 - Key LED players
 - Major camera module makers
 - Top EMS providers
 - Leading automotive component suppliers
- Among Top 20 customers of Group:
 - 4 from SMT Solutions segment
 - 5 from both Back-End Equipment & SMT Solutions segment



Awards & Recognition

Recent Awards & Recognition

- Technology Achievement Grand Award of HKIA 2017
(for the third time)
Federation of HK Industries



- Directors of the Year Awards 2017 (Collective Board)
- Directors of the Year Awards 2018 (Individual Director)
- Hong Kong Institute of Directors



- Hong Kong Outstanding Enterprises 2017-18
HK Economic Digest



- 2017 All Stars of the Semiconductor Industry
VLSI Research

VLSIresearch's 2017 All Stars

- Singapore Quality Class
Enterprise Singapore

Recent Awards & Recognition

- Factory of the Year 2016 Award (for SMT) by Produktion/AT Kearney



Ranked among Top 10 of Best Managed HK Companies

Ranked among Top 10 of Best at Investor Relations



- 2017 & 2018 “Triple Crown” with RANKED 1st/10 BEST/BEST Suppliers Awards from VLSIresearch



- 2016-17 Corporate Governance Asia – Best Investor Relations Company (HK)
- 2017 Corporate Governance Asia – Best CEO (Investor Relations)



- 2015 Hong Kong Awards for Industries: Technology Achievement Grand Award



VLSI Awards 2018



10 BEST

10 BEST Segment	Rank	10 BEST CHIP MAKING EQUIPMENT SUPPLIERS OF 2018	Rating	Stars
L A R G E	1	TERADYNE	9.25	★★★★★
	2	ADVANTEST	9.10	★★★★★
	3	ASML	9.05	★★★★★
	4	Hitachi Kokusai Electric	8.90	★★★★★
	5	TEL	8.45	★★★★
	6	APPLIED MATERIALS	7.55	★★★★
	7	ASM Pacific Technology	7.45	★★★
	8	Hitachi High-Tech	7.45	★★★
F O C U S E D	1	Plasma-Therm	9.01	★★★★★
	2	AMEC	8.95	★★★★★
	3	FORMFACTOR	8.94	★★★★★
	4	SPTS	8.90	★★★★★
	5	Xcerra	8.76	★★★★★
	6	EVG	8.42	★★★★
	7	ACCRETECH TOKYO SEIMITSU	7.22	★★★

Source: VLSIresearch Doc: THEBEST_18.05

WHAT THE BEST SUPPLIERS OF 2018 ARE BEST AT

ACCRETECH TOKYO SEIMITSU	<ul style="list-style-type: none"> Uptime Usable Performance 	ADVANTEST	<ul style="list-style-type: none"> Trust in Supplier Recommend Supplier
AMEC	<ul style="list-style-type: none"> Recommend Supplier Trust in Supplier 	APPLIED MATERIALS	<ul style="list-style-type: none"> Field Engineering Support Uptime
ASM Pacific Technology	<ul style="list-style-type: none"> Field Engineering Support Support After Sales 	ASML	<ul style="list-style-type: none"> Recommend Supplier Technical Leadership
EVG	<ul style="list-style-type: none"> Technical Leadership Trust in Supplier 	FORMFACTOR	<ul style="list-style-type: none"> Technical Leadership Recommend Supplier
Hitachi High-Tech	<ul style="list-style-type: none"> Trust in Supplier Uptime 	Hitachi Kokusai Electric	<ul style="list-style-type: none"> Field Engineering Support Process Support
JAPAN ELECTRONIC MATERIALS	<ul style="list-style-type: none"> Partnering Recommend Supplier 	Nidec SVTCL	<ul style="list-style-type: none"> Partnering Commitment
Plasma-Therm	<ul style="list-style-type: none"> Trust in Supplier Spares Support 	SPTS	<ul style="list-style-type: none"> Recommend Supplier Uptime
TECHNOPROBE	<ul style="list-style-type: none"> Support After Sales Trust in Supplier and Partnering 	TERADYNE	<ul style="list-style-type: none"> Trust in Supplier Recommend Supplier
TEL TOKYO ELECTRON	<ul style="list-style-type: none"> Trust in Supplier Uptime 	Xcerra	<ul style="list-style-type: none"> Trust in Supplier Recommend Supplier

Source: VLSIresearch Doc: THEBEST_18.05

ASSEMBLY EQUIPMENT	Rating	VLSI STARS
1 ASM Pacific Technology	7.47	★★★

