



## 2018 Q3 Results Announcement

November 1, 2018



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# ASMPT Recognized as TOP 100 Global Tech Leaders



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

Thomson Reuters, 2018

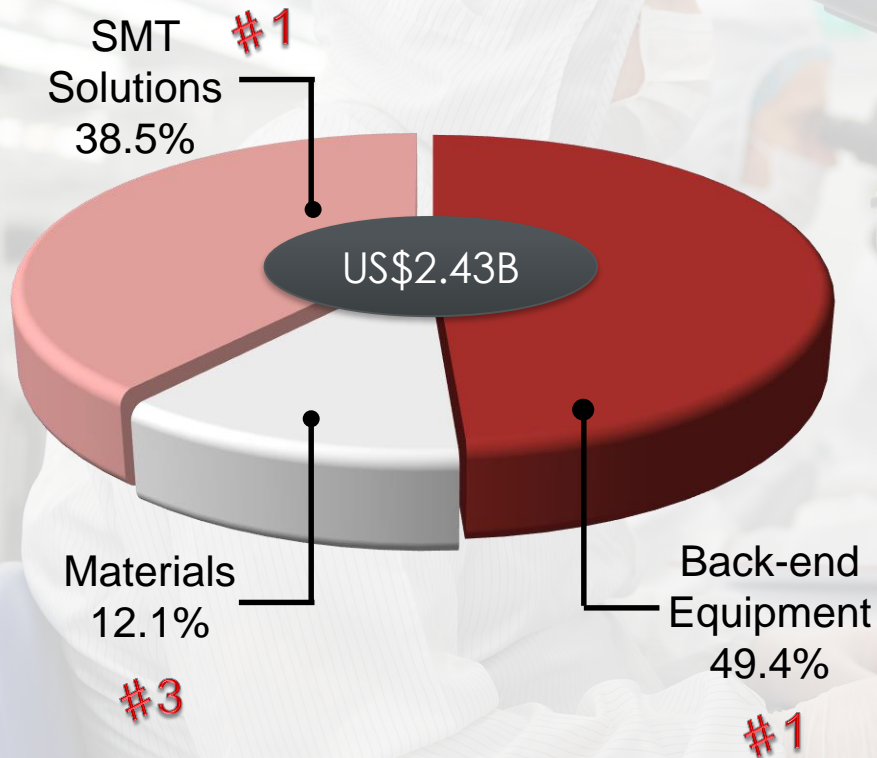
The **ONLY** Back-end Equipment Supplier Recognized

# CORPORATE OVERVIEW



# A World's Technology & Market Leader

## Q3 2018 LTM Group Revenue (CAGR 2008-Q3 2018 LTM 13.7 %)



- 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
- 3 high growth markets accounted for 48% of group revenue in first 9M 2018





# ASMPT Global Presence



Added 4 R&D Centers this year in Taoyuan, Regensburg, Porto, and Boston

 <p><b>&gt; 2,000</b> global R&amp;D staff</p>	 <p><b>&gt; 1,100</b> patents on key leading edge technologies</p>	 <p><b>10</b> R&amp;D centers worldwide</p>	 <p><b>12</b> manufacturing facilities</p>
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# ASMPT Major Facilities around the World



# Three Business Segments With Leading Market Positions

Worldwide Market Position & Share

**Back-end  
Equipment**

**#1**

**Assembly & Packaging  
Equipment Market**

**~25%**  
(2017)

- #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

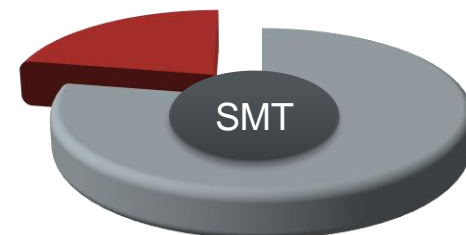


**SMT  
Solutions**

**#1**

**SMT Equipment Market**

**~22%**  
(2017)

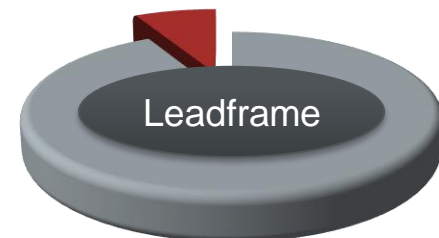


**Materials**

**#3**

**Leadframe Market**

**~8.7%**  
(2017)



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

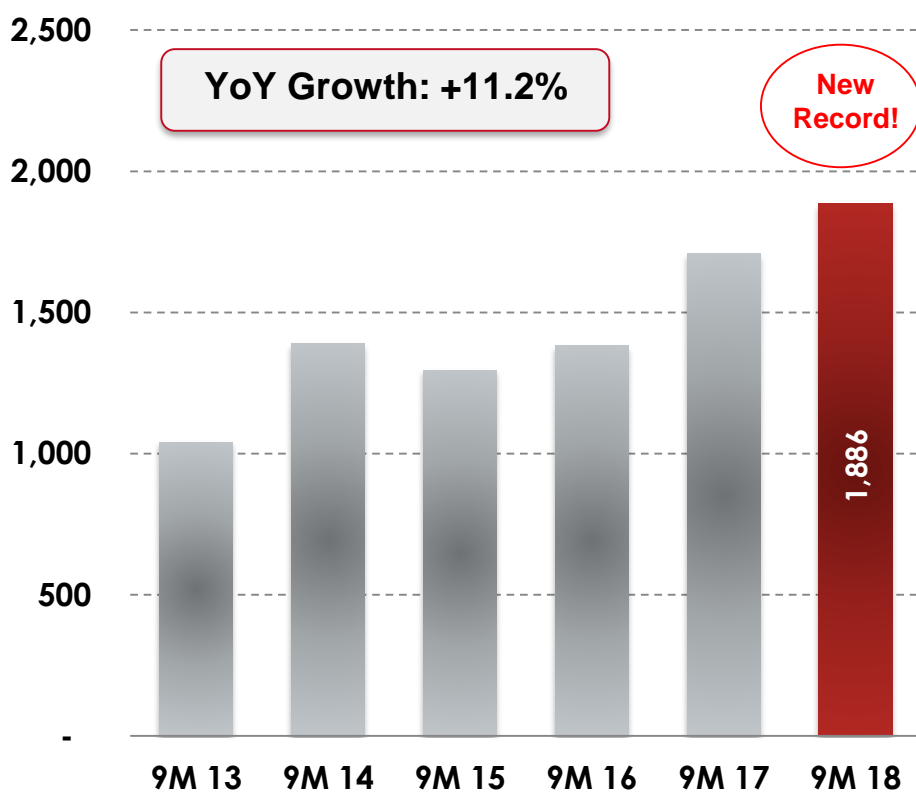


# 2018 Q3/9M Highlights

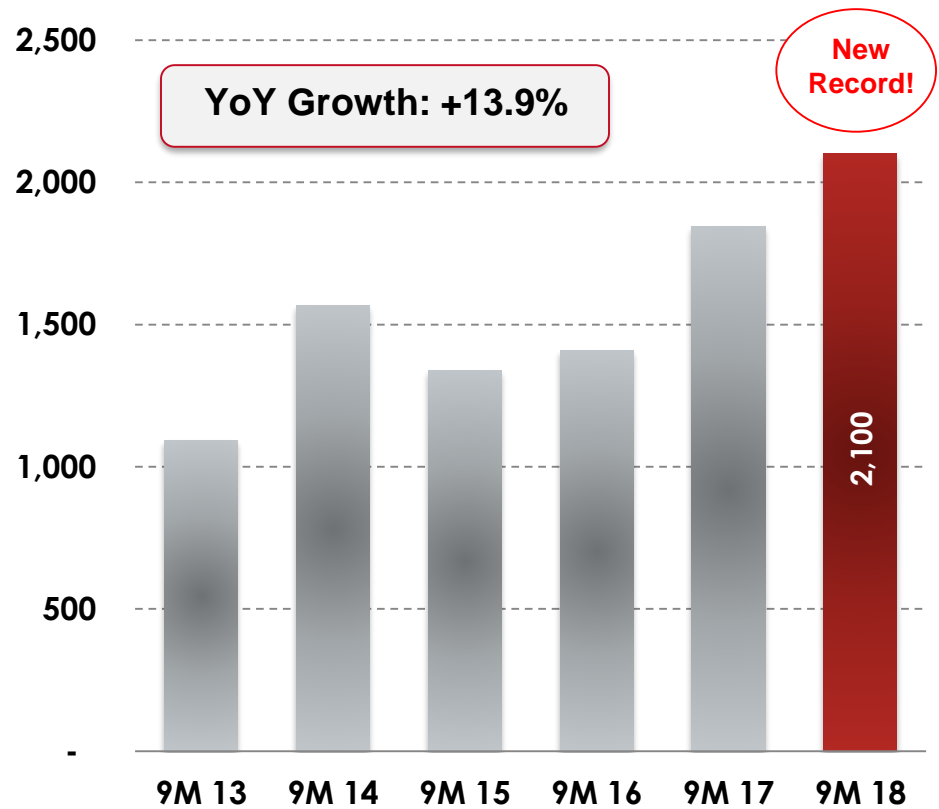


# Record 9-Month Group Bookings & Billings

















Billings (US\$ m)



Bookings (US\$ m)



# Q3/9M 2018 Group Financial Highlights














	Q3 2018		9M 2018	
	Amount	YoY	Amount	YoY
Bookings (USD)	618.6m 	 7.7%	2.1b 	 13.9%
Billings (USD)	658.3m 	 1.1%	1.9b 	 11.2%
Gross Margin	37.8%	 283bps	39.7%	 88bps
EBIT (HKD)	818.8m	 25.3%	2.7b	 2.7% <sup>^</sup>
Net Profit (HKD)	602.1m	 30.2%	2.0b	 6.6% <sup>^</sup>
Net Profit Margin	11.7%	 523bps	13.5%	 257bps <sup>^</sup>

 **New Record**

 **Highest in Q3**

<sup>^</sup>Excludes adj. of liability component of CB

## Strong Q3 Bookings led by SMT/Back-end Equipment

	Q3 Bookings		Q3 Billings	
	Amount (US\$m)	YoY	Amount (US\$m)	YoY
Group	618.6 	 7.7%	658.3 	 1.1%
Back-end Equipment	263.9	 5.8%	302.6 	 5.4%
Materials	53.9	 20.8%	76.9 	 4.1%
SMT Solutions	300.8 	 17.1%	278.8	 3.9%

 New Record

 Highest in Q3



## Strong 9M 2018 Bookings/Billings

	First 9M Bookings		First 9M Billings	
	Amount (US\$m)	YoY	Amount (US\$m)	YoY
Group	2,100.5 ★	↑ 13.9%	1,885.6 ★	↑ 11.2%
Back-end Equipment	1,024.8	↑ 13.8%	947.9 ★	↑ 11.4%
Materials	204.9	↓ 11.4%	227.9 ★	↑ 9.2%
SMT Solutions	870.8 ★	↑ 22.3%	709.8 ★	↑ 11.6%

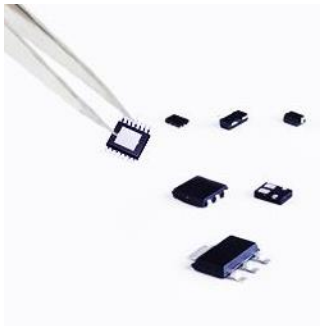
★ New Record

# Major Drivers for Q3 2018 Bookings/Billings

## Back-end

### IC / Discrete

#### Discrete Semiconductors



#### Automotive



#### Power Management

#### Consumer



#### Industrial

## SMT Solutions



### Industrial



### Automotive



### China Smartphones

# 9M 2018 Segments Highlights

9M 2018	Back-end Equipment Segment		Materials Segment		SMT Solutions Segment	
	9M 2018	YoY	9M 2018	YoY	9M 2018	YoY
Bookings (USD)	1,024.8m	↑ 13.8%	204.9m	↓ 11.4%	870.8m★	↑ 22.3%
Billings (USD)	947.9m★	↑ 11.4%	227.9m★	↑ 9.2%	709.8m★	↑ 11.6%
Gross Margin	46.6%	↓ 112bps	12.4%	↓ 152bps	39.2%	↓ 52bps
Segment Profit (HKD)	1,845.8m	↑ 5.7%	110.4m	↓ 8.6%	975.9m★	↑ 7.9%
Segment Profit Margin	24.8%	↓ 133bps	6.2%	↓ 121bps	17.5%	↓ 59bps

★ New Record

# Impacts of Trade War – Insignificant So Far

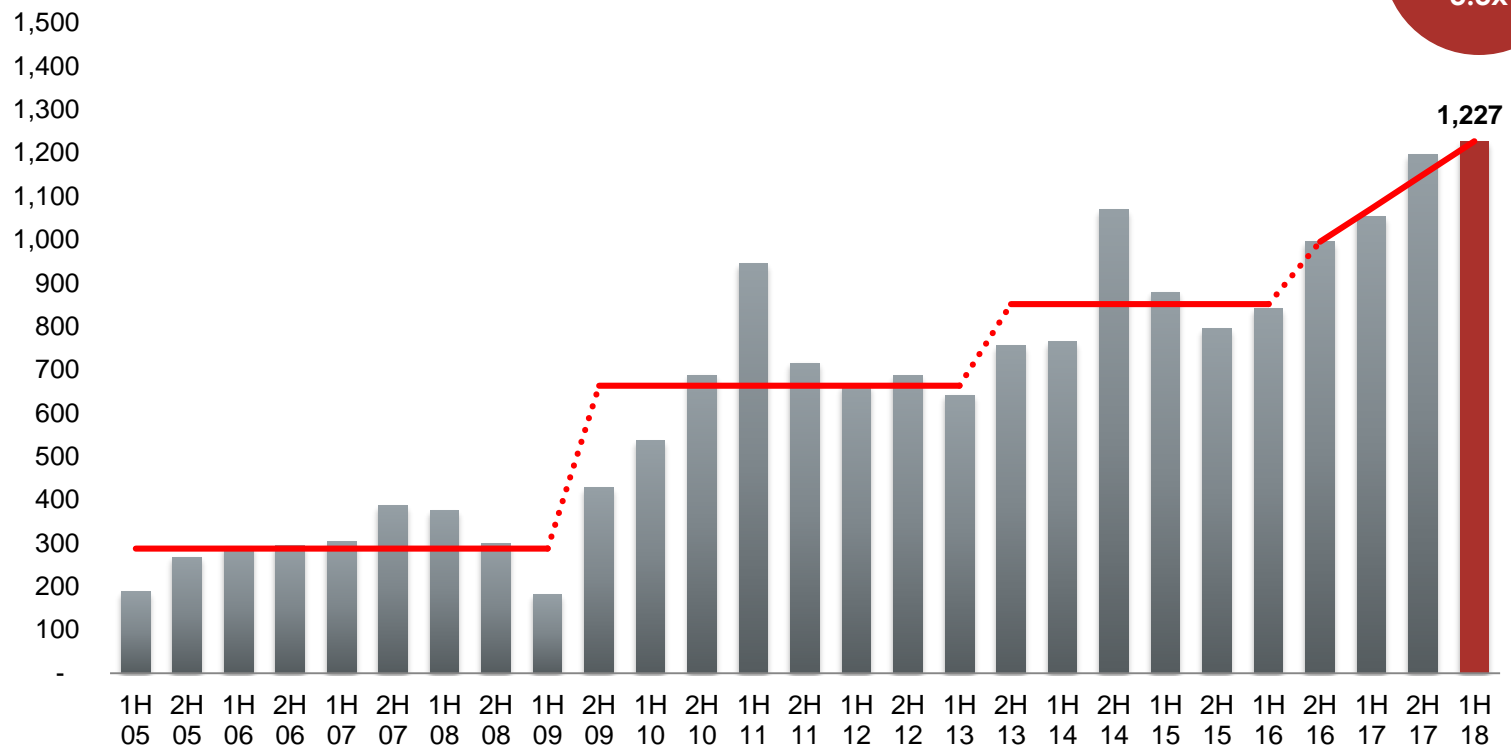
- **Direct impact:** <0.5% of Group Billing
- **Indirect impact:**
  - Export oriented customers in China: getting more cautious
  - Domestic oriented customers in China: continue to expand
  - SEA customers: Increase orders to ASMP
- **Prolonged trade war would increase market uncertainties**



# ASMPT Has Entered a High Growth Period

Group Half Yearly Billings  
(US\$ m)

1H18 Rev  
vs 1H08  
**3.3x**



# OUTLOOK

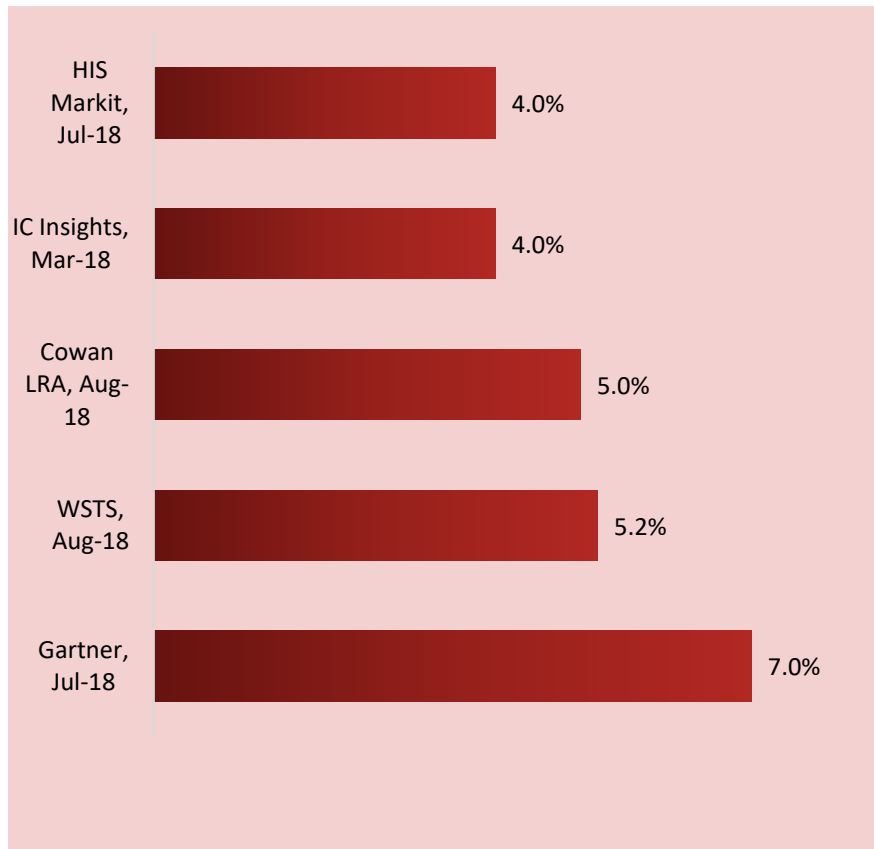


# Outlook for Q4

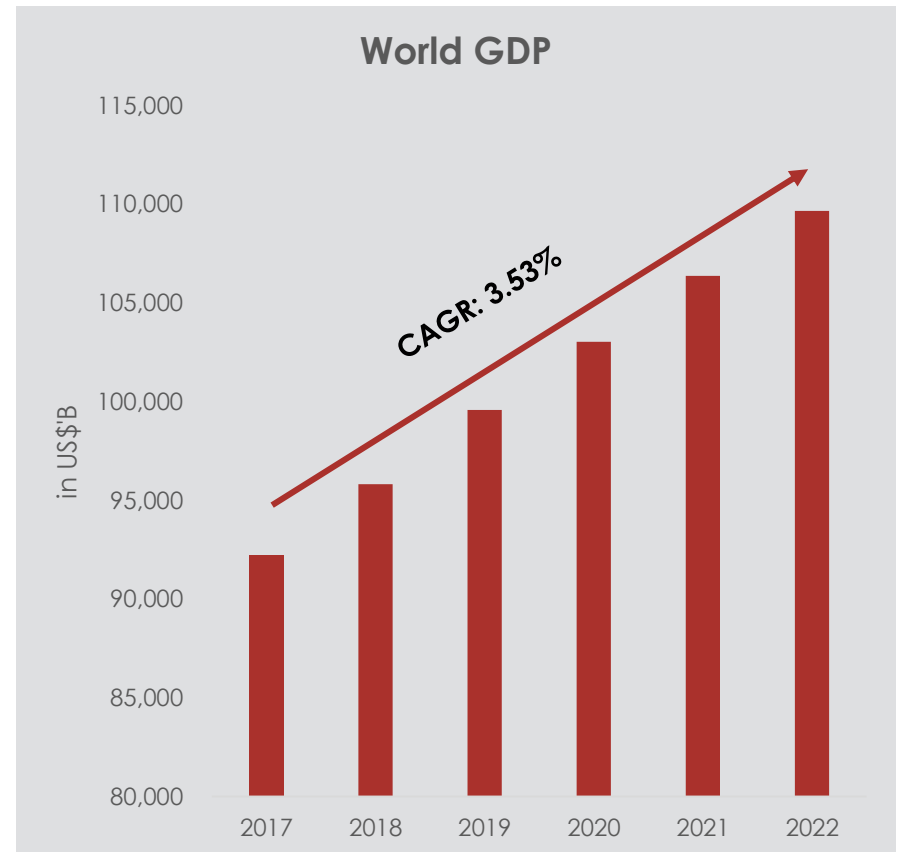
- The Group: on track to set new booking and billing records for full year 2018
- All 3 business segments: expected to set billing records for full year 2018
  - SMT solutions segment billing ~ US\$1 B
- Group billing: US\$ 550 ~ US\$ 620 million
  - SMT solutions segment: expected to achieve both QoQ and YoY growth
  - Back-end Equipment: sequential decline
  - Materials: sequential decline
- Group booking: double digit percentage decline from Q3 18

# Economic Growth Drives Demand for Semiconductors

## Semiconductor Revenue Growth Forecast 2019



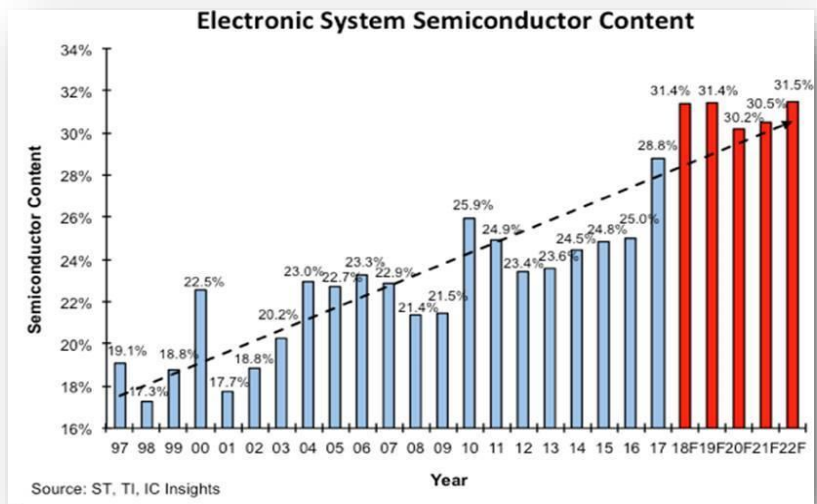
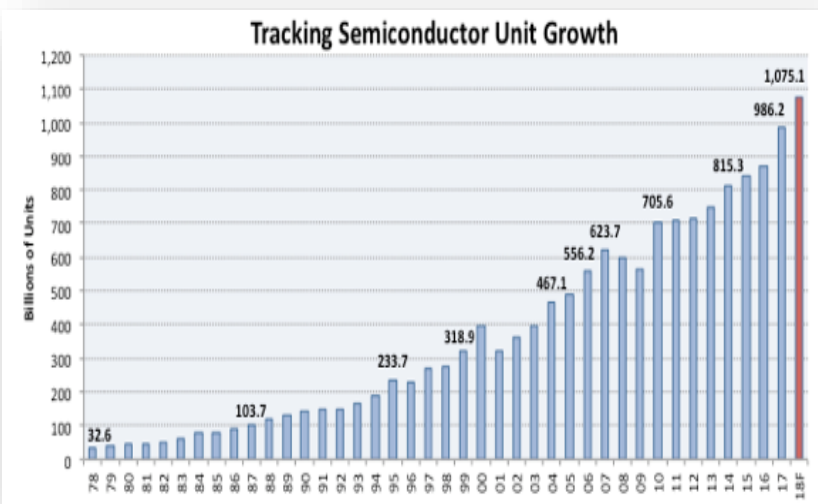
## Expected Growth in Major Economies Supporting Strong Demand



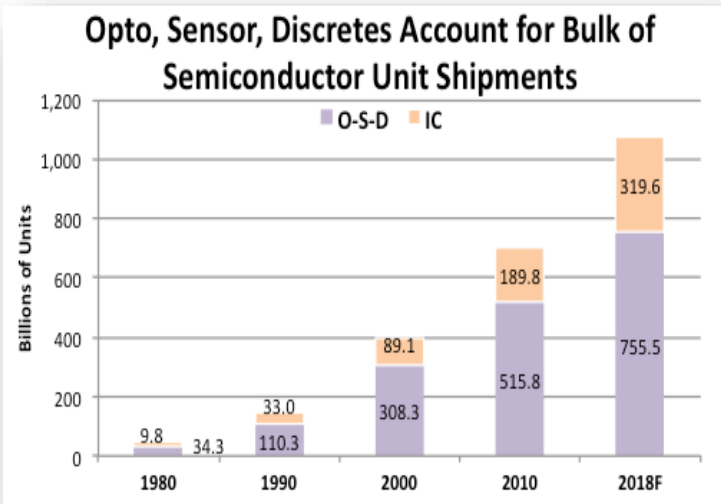
Source: OECD, Real GDP long-term forecast (indicator) Oct 18



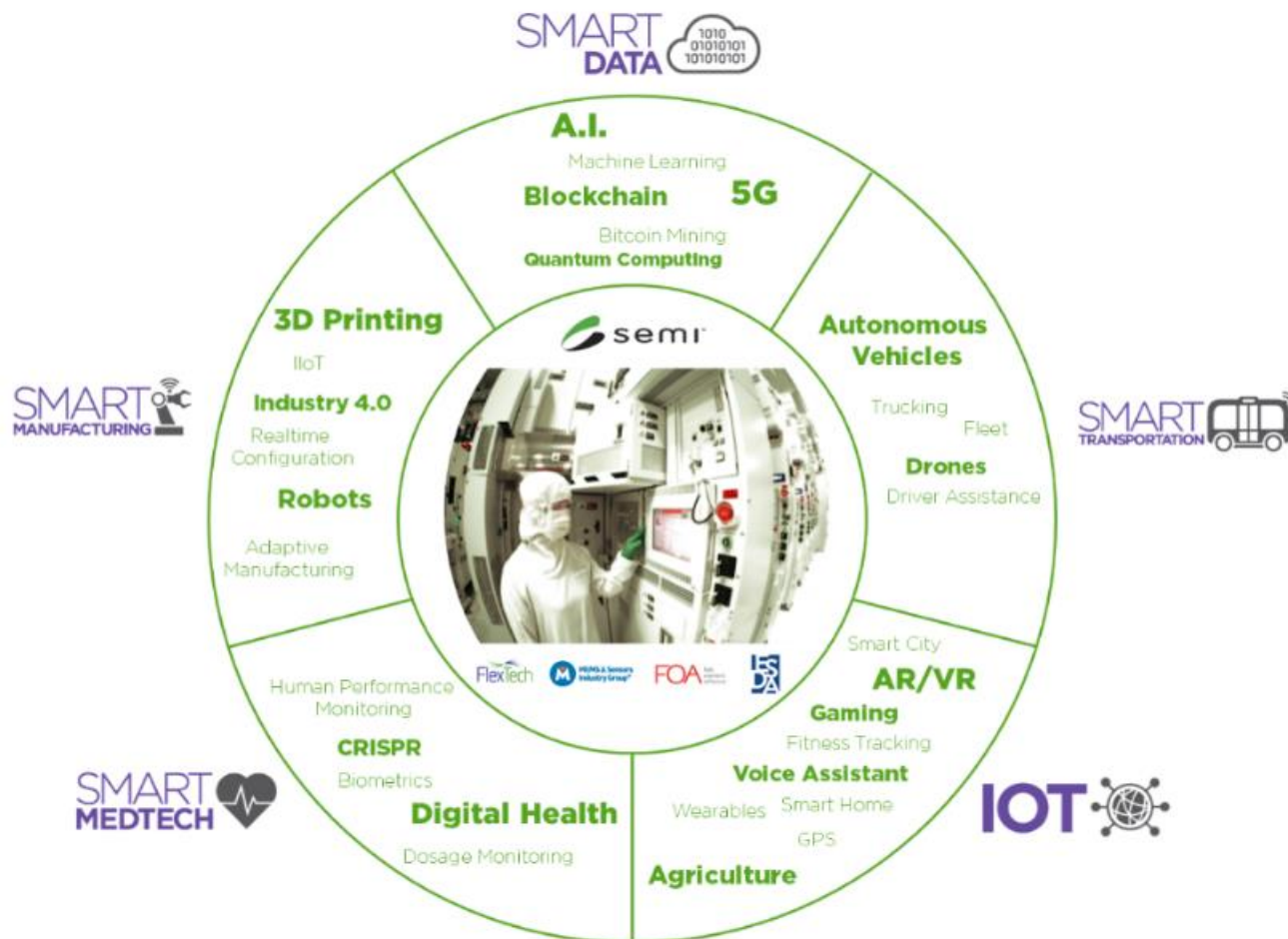
# Demand for Semiconductor Devices Remains Strong



Source: IC Insights, January 2018



# New Drivers in Data Centric Era Spurring Semiconductor Demands



\*2017 revenue for semiconductor EDA, IP, Materials, Critical Sub-Systems, and Equipment

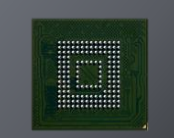
Source: SEMI, 2018

# Growth Drivers

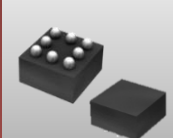


# Growth Drivers – Advanced Packaging


Applications




Memory (eMMC)




PMIC



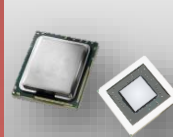
Mobile Devices



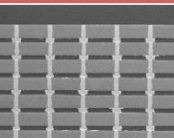
Artificial Intelligence




High Bandwidth Memory



Application Processor



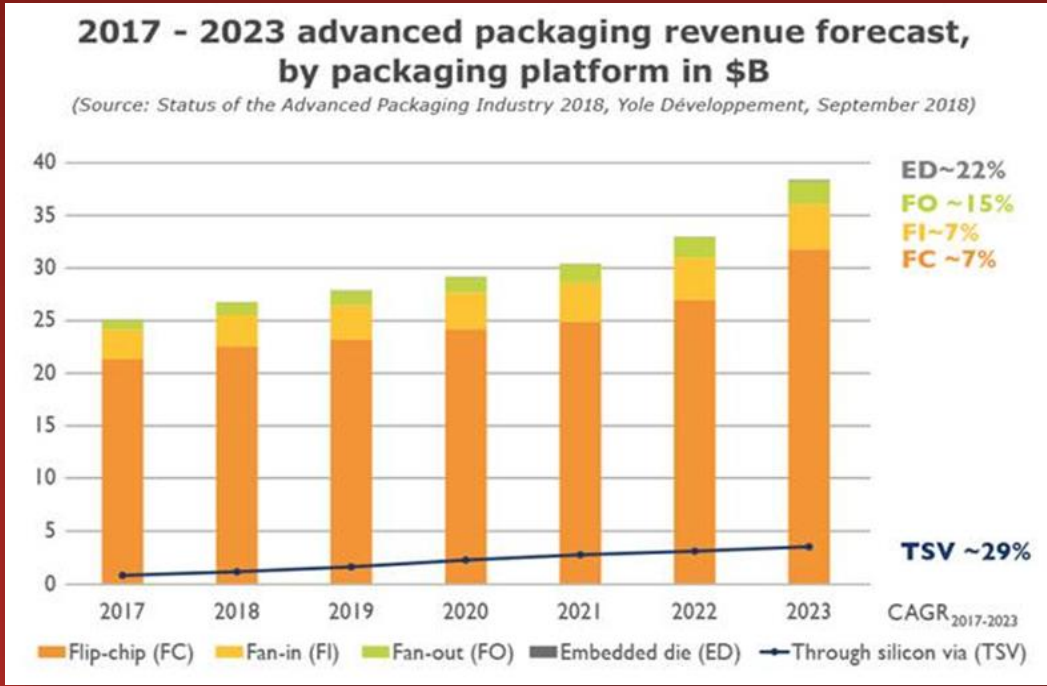
TSV Memory



IoT SiP

## Application Diversification Driving AP Growth

Advanced Packaging Types	CAGR (2017- 2023)
Embedded Die (ED)	~22%
Fan-out (FO)	~15%
Through Silicon Via (TSV)	~29%

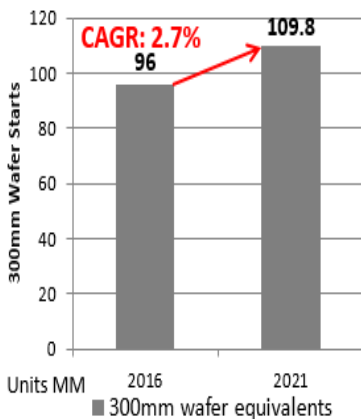




# ASMPT is Covering All Interconnection Technologies

## Wire Bond

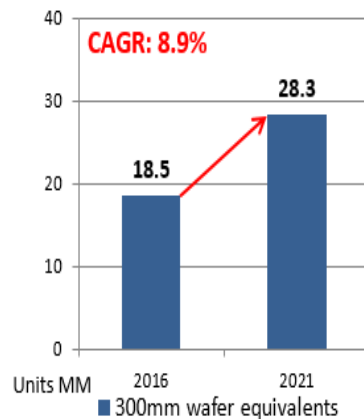
2016-2021



- Wire Bonding
- Die Bonding

## Flip Chip

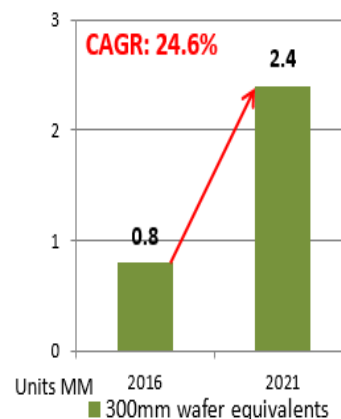
2016-2021



- Flip Chip/NOVA Plus/AFC Plus<sup>2</sup>
- TCB
- PVD<sup>1</sup>
- ECD<sup>1</sup>

## Fan Out

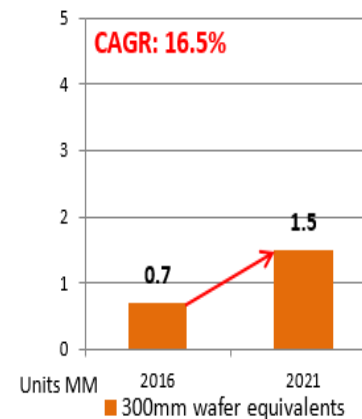
2016-2021



- NUCLEUS/NOVA Plus Fan Out<sup>2</sup>
- ORCAS
- SUNBIRD
- Laser
- CA
- PVD<sup>1</sup>
- ECD<sup>1</sup>

## 3D TSV

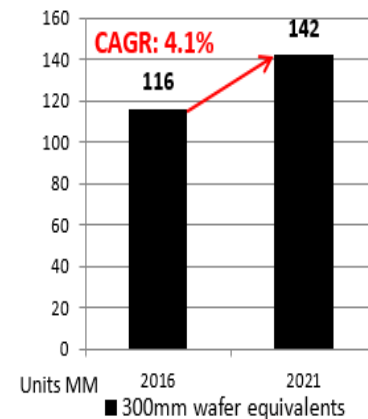
2016-2021



- TCB
- Laser
- PVD<sup>1</sup>
- ECD<sup>1</sup>

## Total Semi. Wafers

2016-2021



Source: Prismark Wafer Starts, 2017

<sup>1</sup> NEXX Product  
<sup>2</sup> AMICRA Product

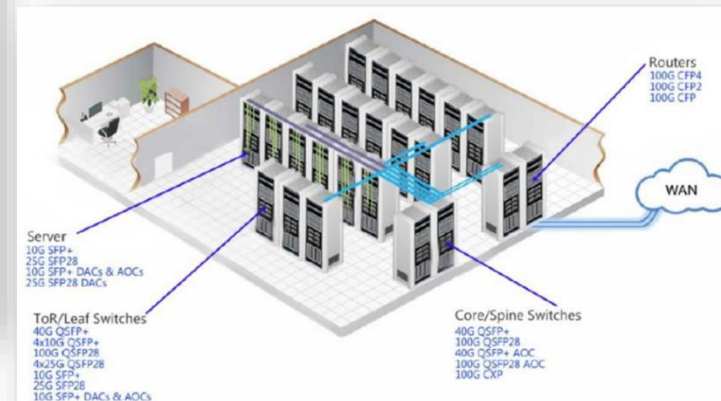
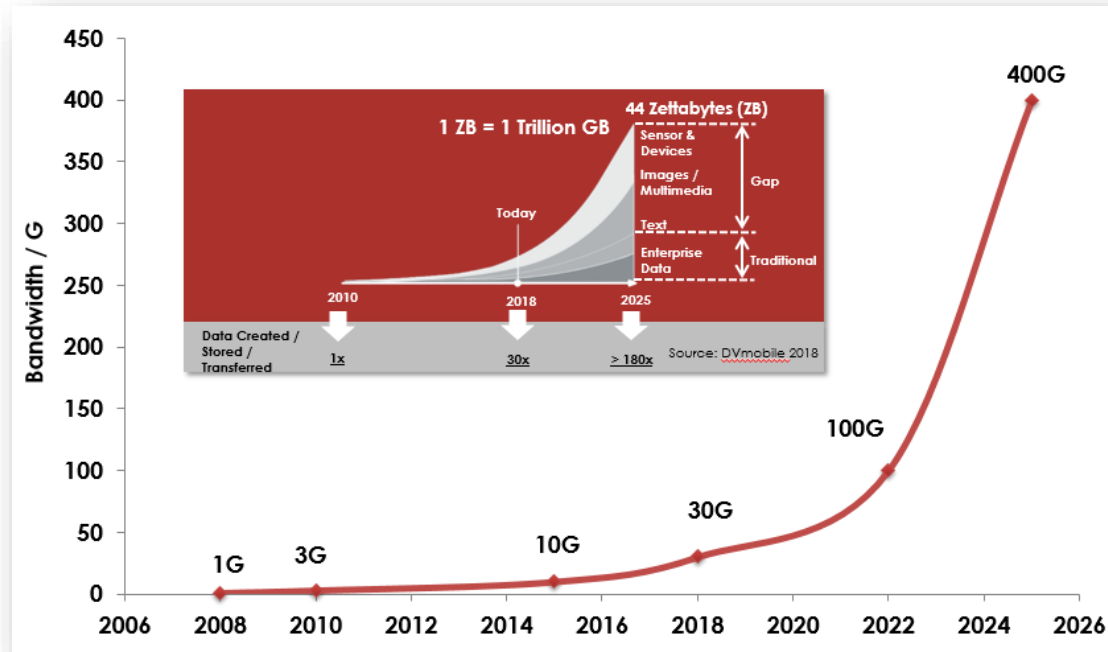
# New Drivers in Data Centric Era Spurring Semiconductor Demands

**Data is the New Oil!**



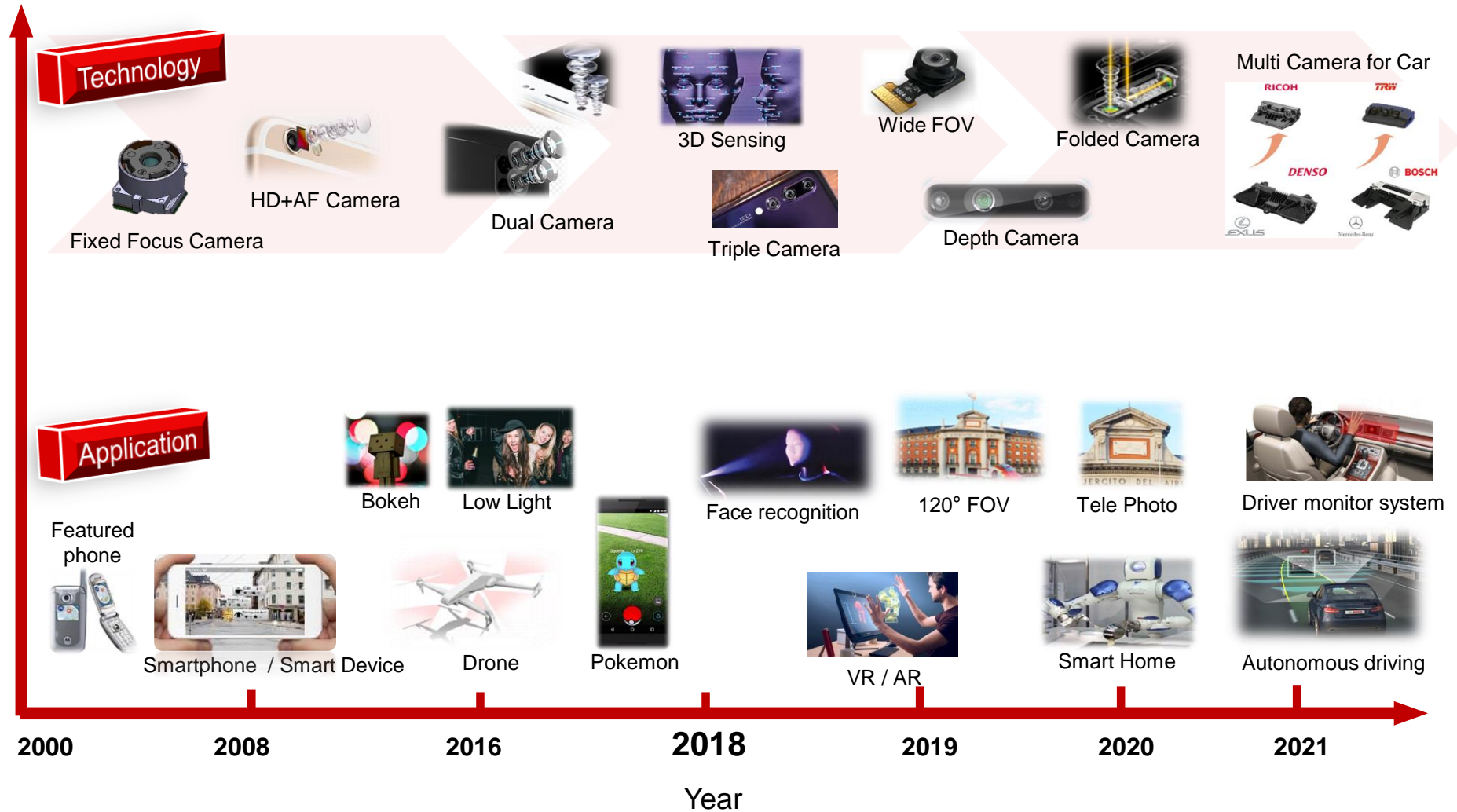
# Growth Drivers – Data Centres

**Si-Photonics is Key Enabling Technology for High Speed Data Transfer within and between Data Centres**



**Photonics is the enabling technology for 100G / 400G data communication within data centers.**

# Growth Drivers – Smartphone Innovations & 5G

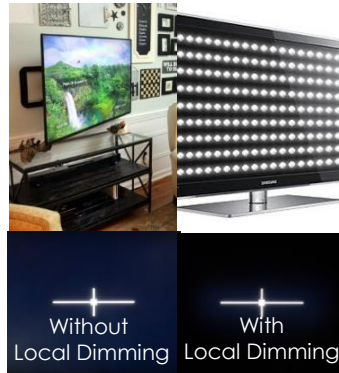




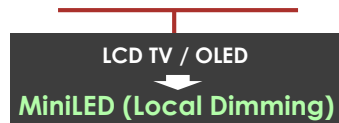
# Growth Drivers – Mini/Micro LED Displays



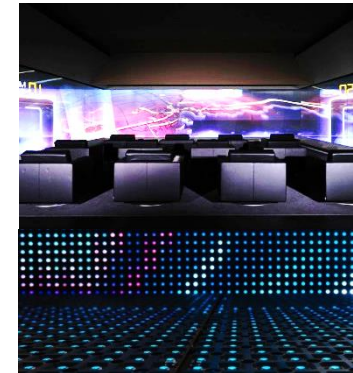
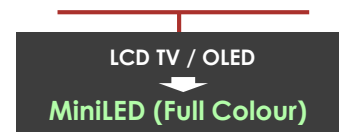
**Wearables  
Smartphones | Tablet  
Mobile Gadget**



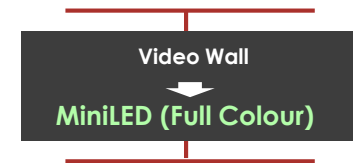
**Small – Mid Size  
Displays Backlight  
Local Dimming**



**Large Displays with  
True RGB color**



**Extra Large Display  
Walls with True RGB  
color**



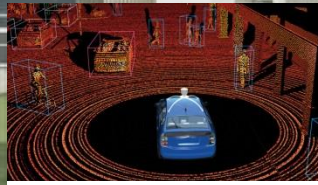
# Growth Drivers – Automotive



**Electronic Vehicles**



**Autopilot**



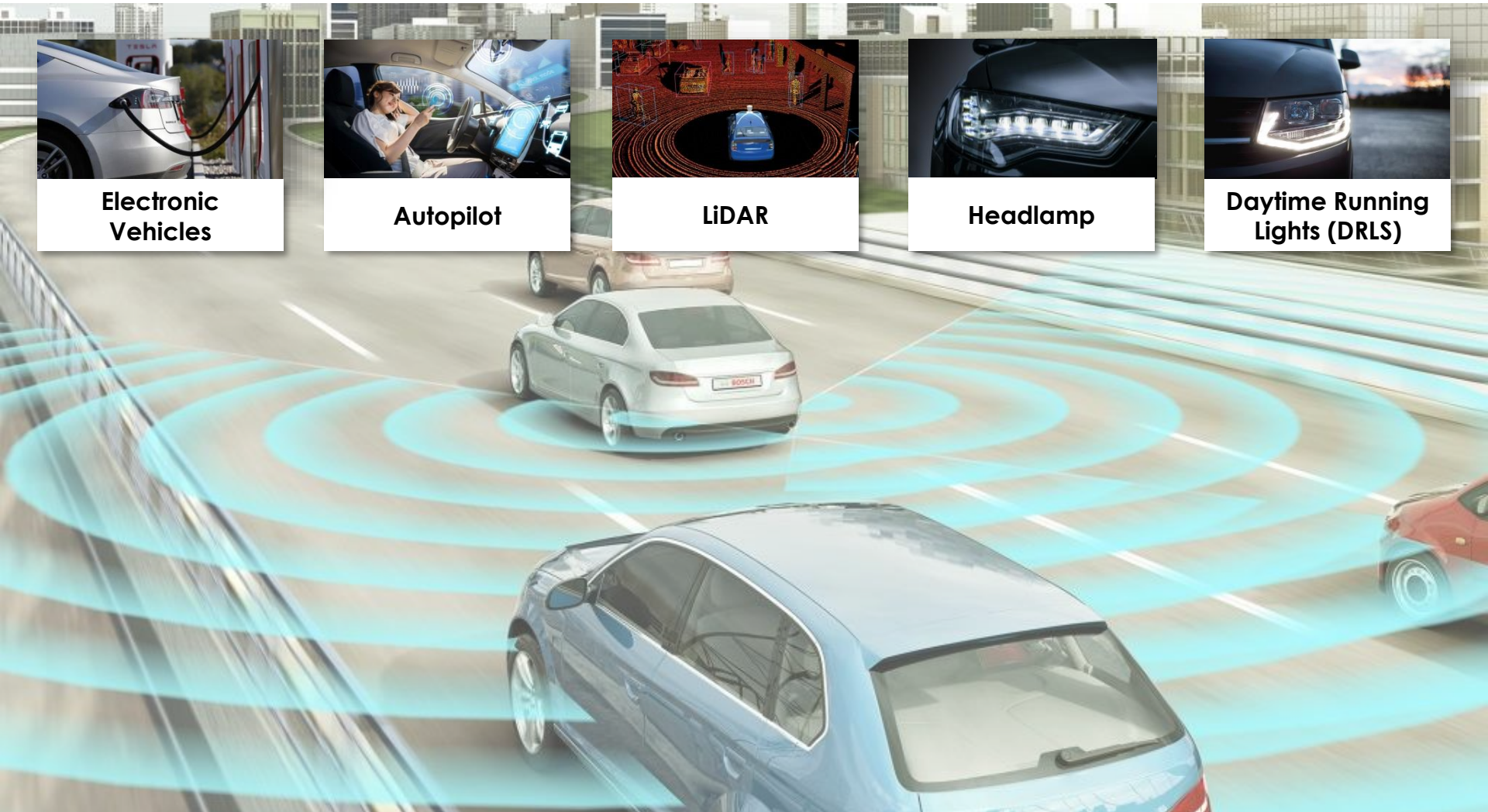
**LiDAR**



**Headlamp**

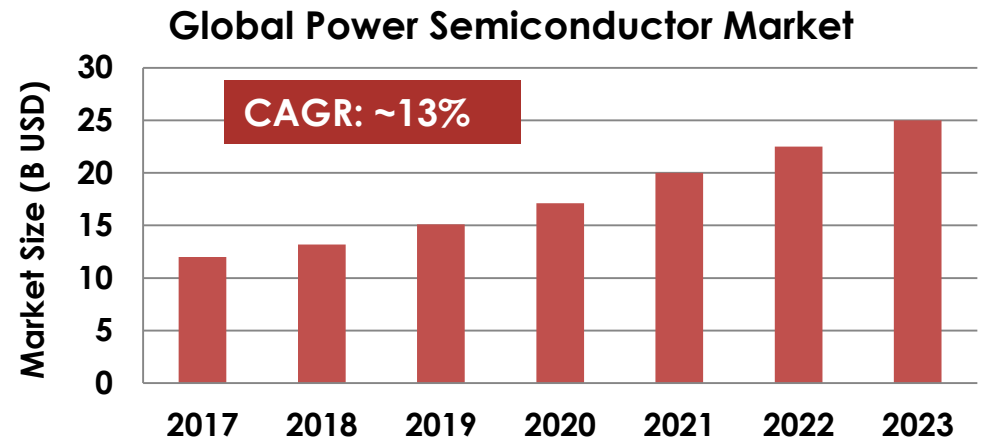


**Daytime Running Lights (DRLS)**





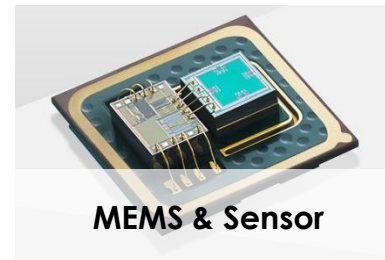
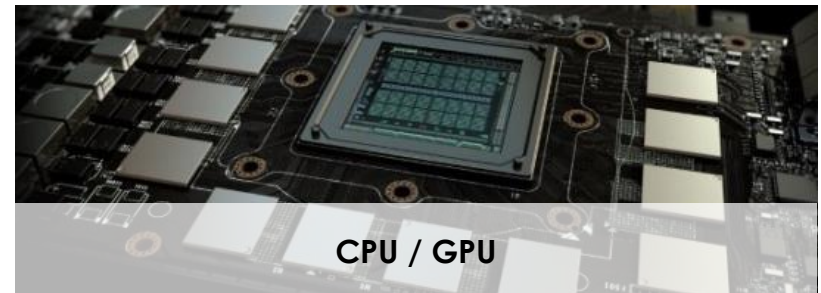
# Growth Drivers – Power Management



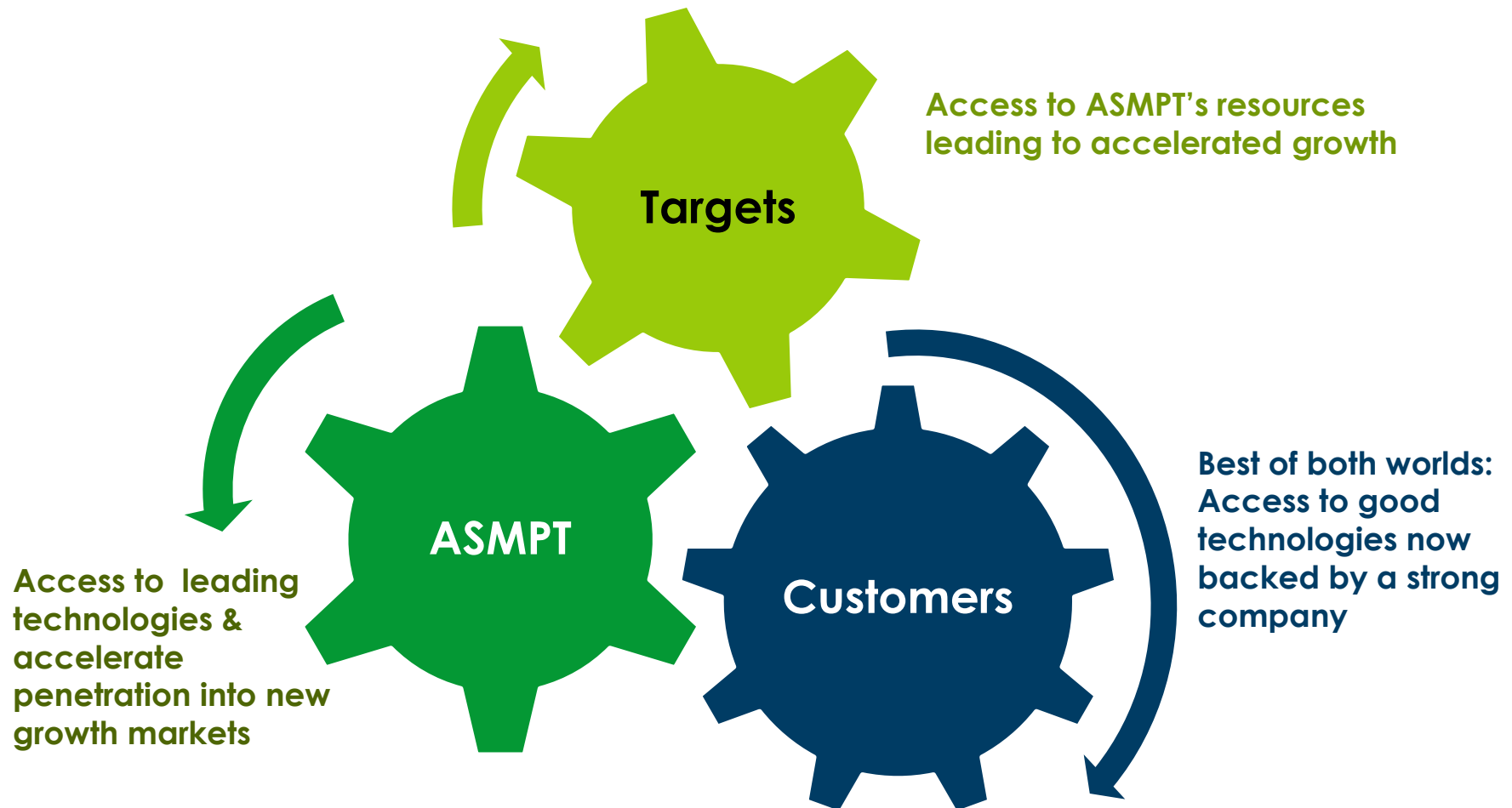
Source: Marketresearchfuture, Oct 2018



# Growth Drivers – IoT



# Growth Drivers – Strategic M&A



# Shareholder Value Creation

## ✓ Pursue Sustainable Growth & Profitability



- Wire bonding
- Die bonding
- Lead Frames
- SMT



- CMOS Image Sensor
- Automotive
- Power Management
- Advanced Packaging
- Data Communication
- Micro / Mini LED

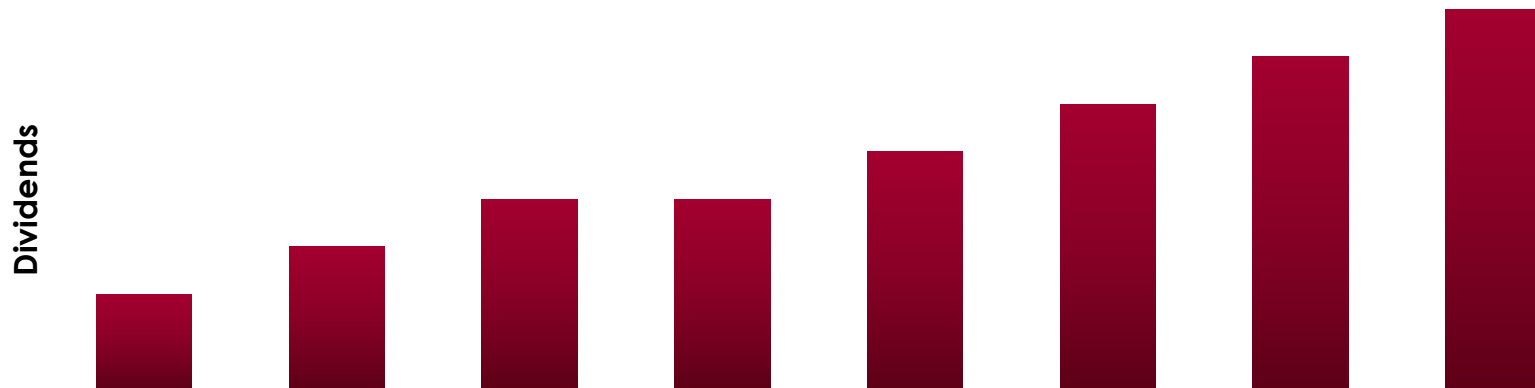


- SMT Placement
- SMT Printing
- LASER Grooving / Dicing
- MIS
- AMICRA
- NEXX

Continue to Fine-Tune Organization Structure & Business Strategies

## ✓ Share Buyback

## ✓ Sustainable and Gradually Increasing Dividends





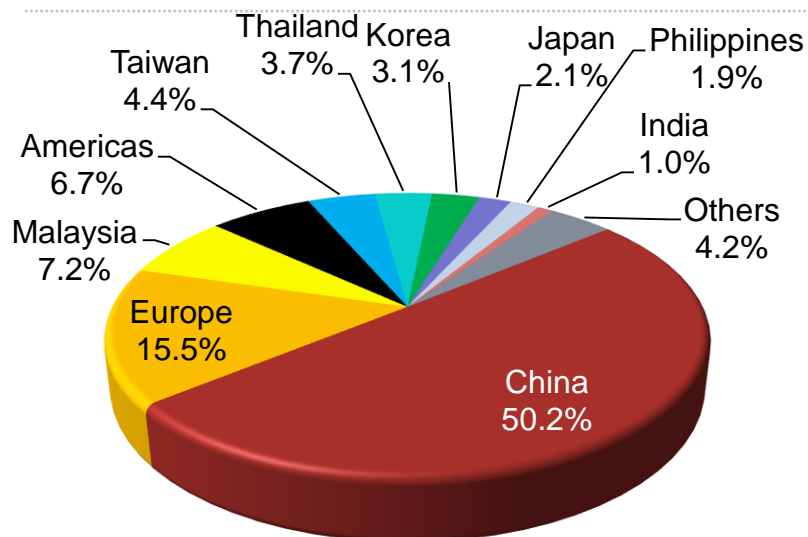
# 2018 Q3 FINANCIAL RESULTS



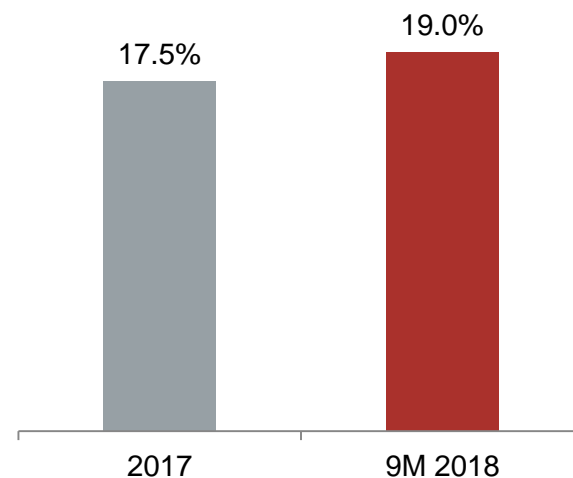
# Continue To Build Business On An Extensive Customer Base

- No single customer accounted for more than 10% of the Group's revenue
- Top 5 customers collectively accounted for 19.0% of the Group's 9M 2018 sales revenue
- Top 20 customers include world's leading IDMs, Tier 1 OSAT, major OSATs in China, key LED players, major camera module makers, top EMS providers, and leading automotive component suppliers
- Among the top 20 customers of the Group, 7 were from SMT Solutions segment, and 4 were key customers from both Back-end business and SMT Solutions segment

9M 2018 Geographical Distribution of Revenue

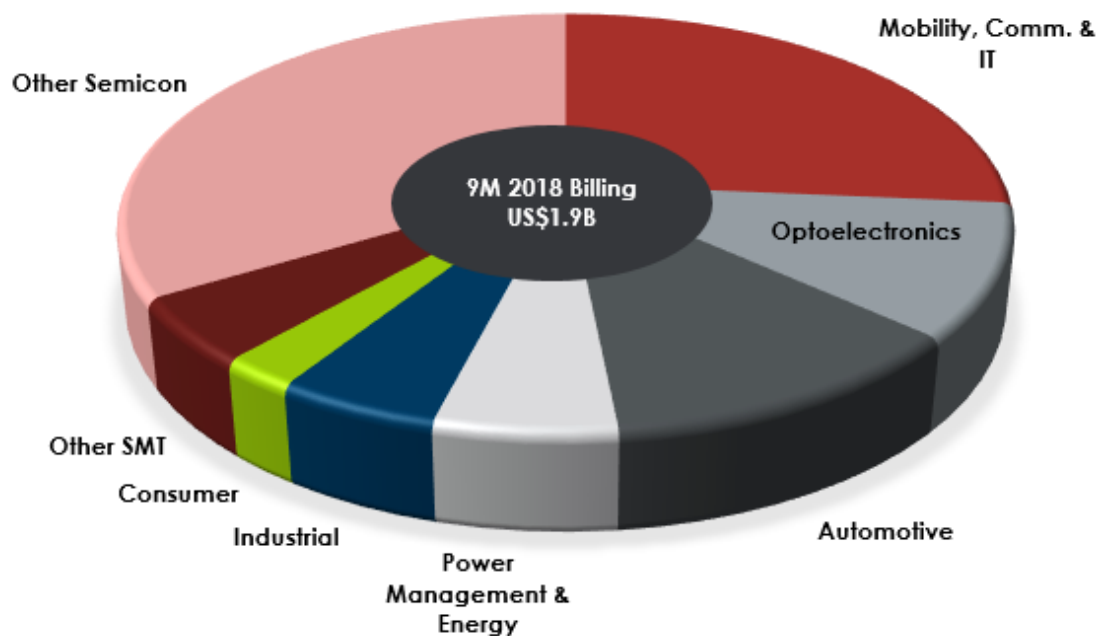


9M 2018 Revenue Contribution from Top 5 Customers

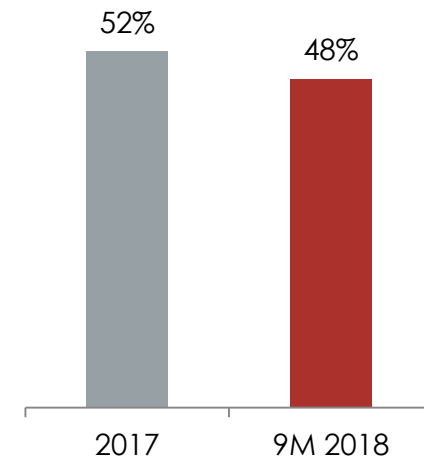




















# ASMPT Revenue Breakdown by Application Markets (9M 2018)



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



# Q3/9M 2018 Group Financial Highlights

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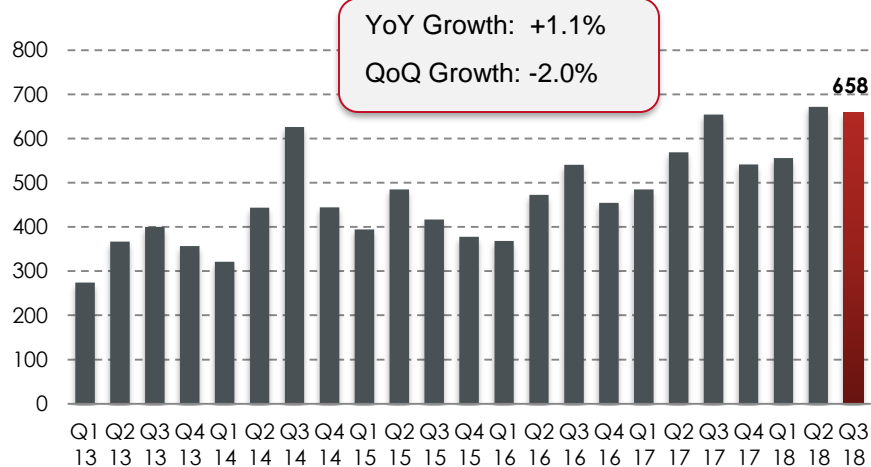
 **New Record**

 **Highest in Q3**

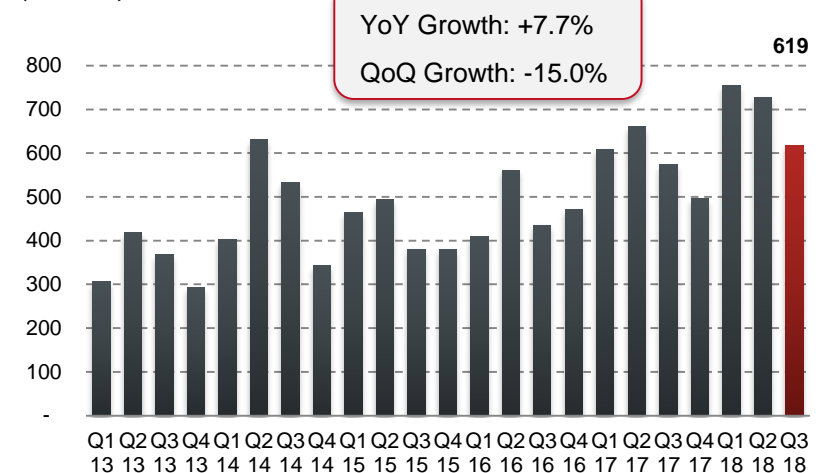
<sup>^</sup>Excludes adj. of liability component of CB

# Q3/9M 2018 Group Highlights

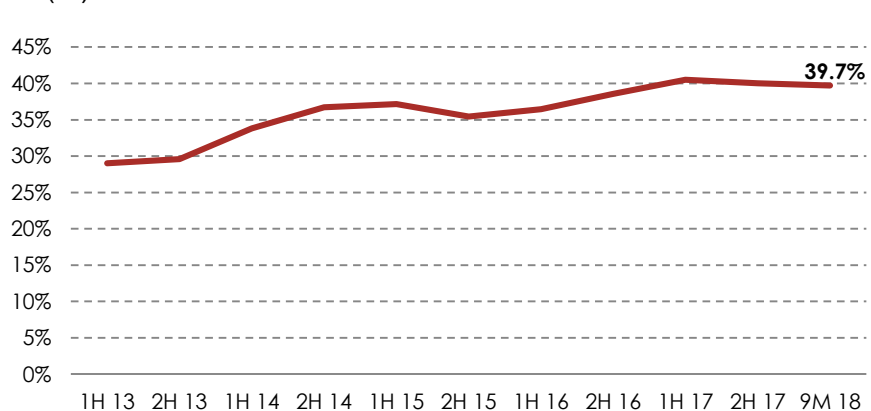
Quarterly Group Billings  
(US\$ m)



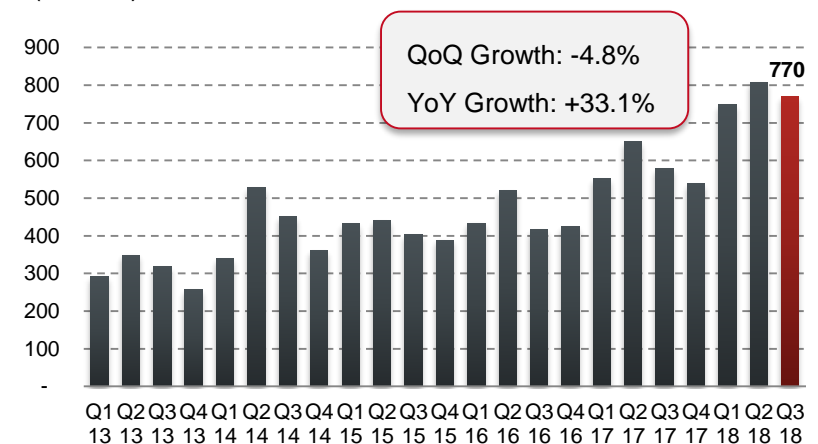
Quarterly Group Bookings  
(US\$ m)





Gross Margin  
(%)



Quarterly Group Backlog  
(US\$ m)



## Q3/9M 2018 Segment Results – Back-End Equipment Business

	Q3 2018	YoY	QoQ	9M 2018	YoY
Bookings (USD)	263.9m	↑ 5.8%	↓ 25.5%	1,024.8m	↑ 13.8%
Billings (USD)	302.6m 	↑ 5.4%	↓ 16.6%	947.9m 	↑ 11.4%
Gross Margin	43.5%	↓ 471bps	↓ 726bps	46.6%	↓ 112bps
Segment Profit (HKD)	481.8m	↓ 19.1%	↓ 44.1%	1,845.8m	↑ 5.7%
Segment Profit Margin	20.3%	↓ 616bps	↓ 999bps	24.8%	↓ 133bps

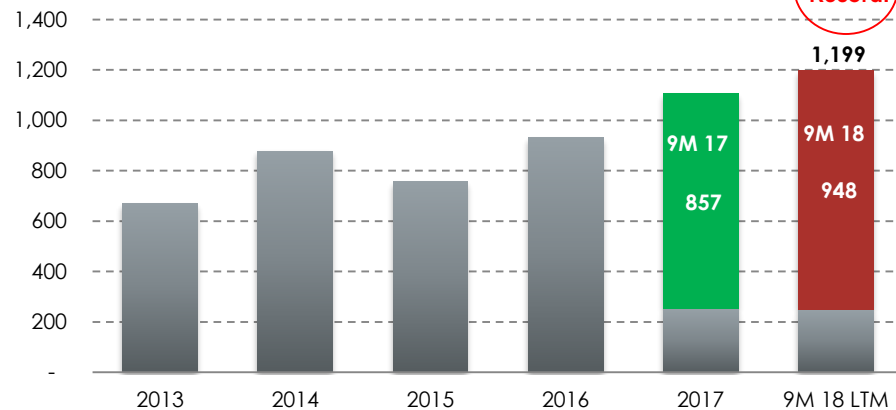
 New Record  
 Highest in Q3

# Q3/9M 2018 Segment Results – Back-End Equipment Business

Yearly Billings  
(US\$ m)

YoY Growth: +11.4%

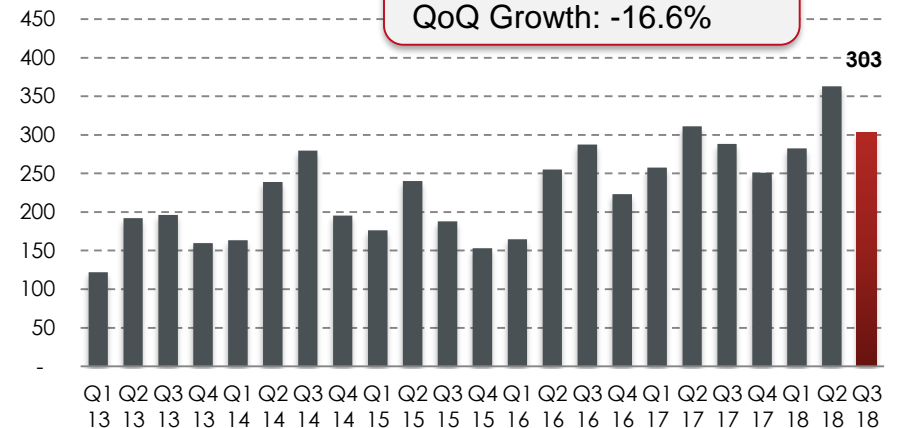
New  
Record!



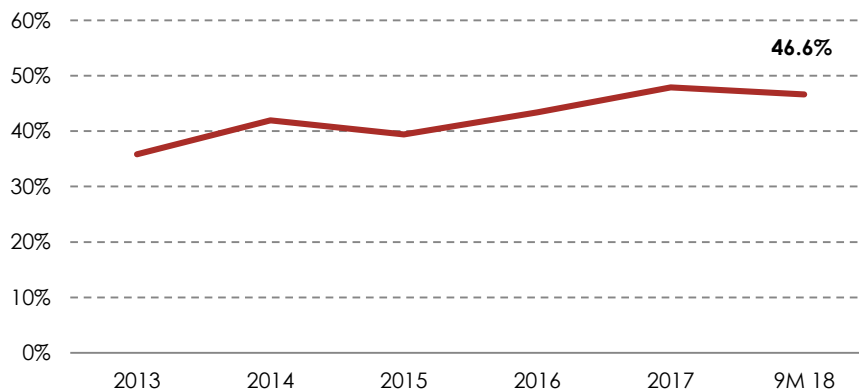
Quarterly Billings  
(US\$ m)

YoY Growth: +5.4%

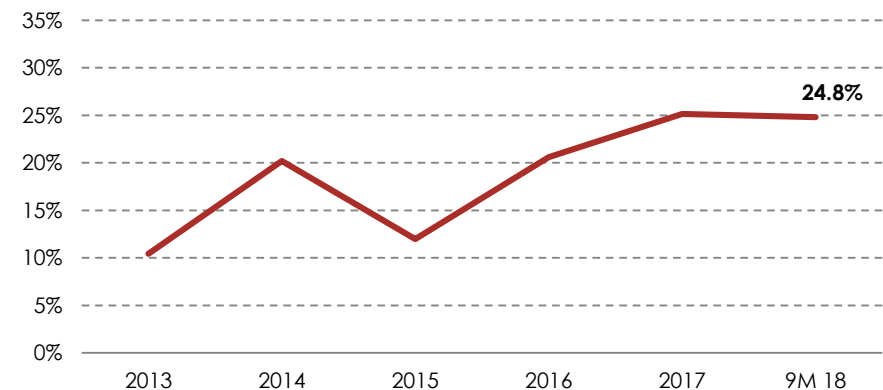
QoQ Growth: -16.6%



Gross Margin  
(%)



Segment Profit Margin  
(%)



## Q3/9M 2018 Segment Results – Materials Business

	Q3 2018	YoY	QoQ	9M 2018	YoY
Bookings (USD)	53.9m	↓ 20.8%	↓ 30.4%	204.9m	↓ 11.4%
Billings (USD)	76.9m <sup>★</sup>	↑ 4.1%	↑ 1.0%	227.9m <sup>★</sup>	↑ 9.2%
Gross Margin	11.0%	↓ 370bps	↓ 230bps	12.4%	↓ 152bps
Segment Profit (HKD)	26.3m	↓ 43.1%	↓ 41.4%	110.4m	↓ 8.6%
Segment Profit Margin	4.4%	↓ 362bps	↓ 315bps	6.2%	↓ 121bps

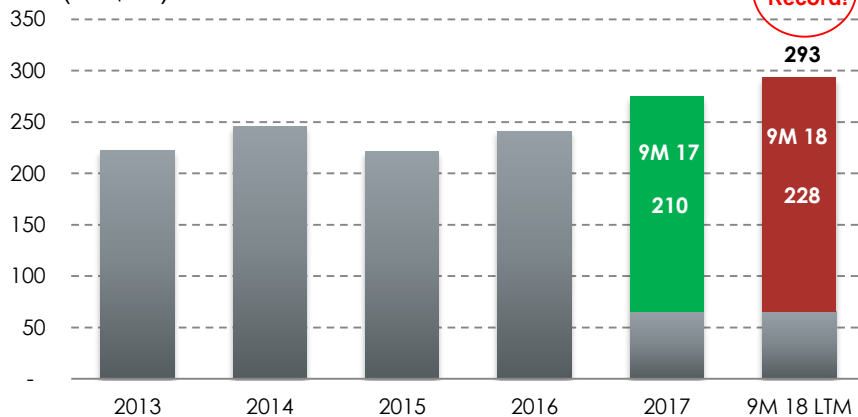
 New Record  
 Highest in Q3



# Q3/9M 2018 Segment Results – Materials Business

Yearly Billings  
(US\$ m)

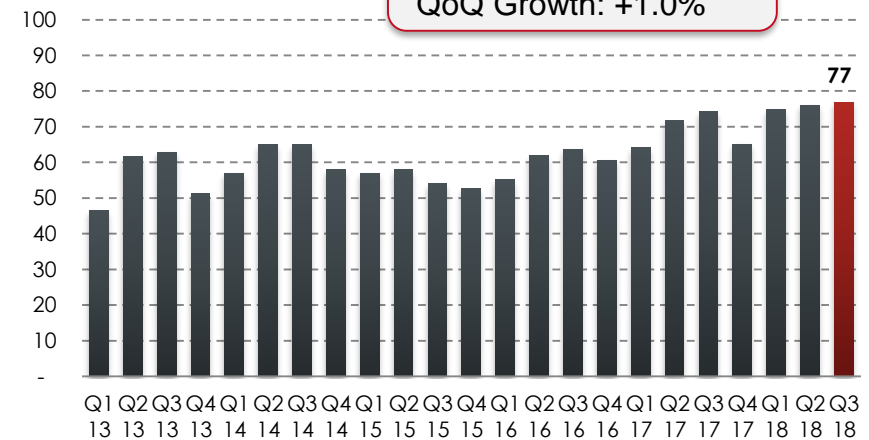
YoY Growth: +9.2%



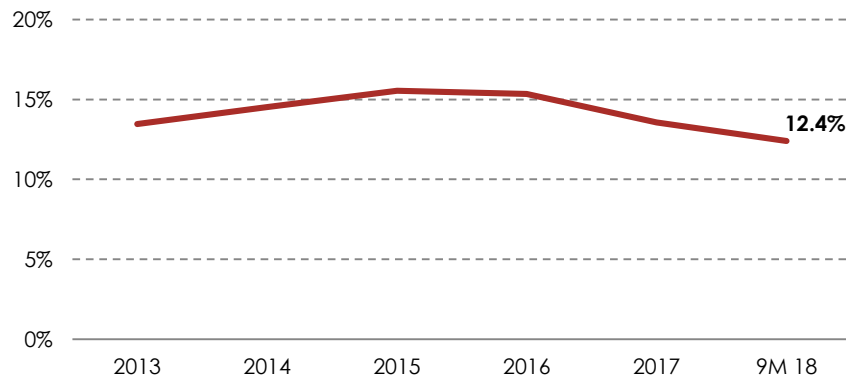
Quarterly Billings  
(US\$ m)

YoY Growth: +4.1%

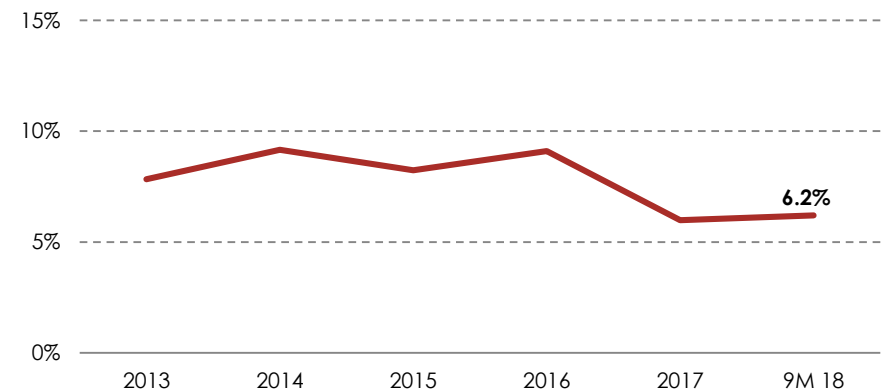
QoQ Growth: +1.0%



Gross Margin  
(%)



Segment Profit Margin  
(%)



## Q3/9M 2018 Segment Results – SMT Solutions Business

	Q3 2018	YoY	QoQ	9M 2018	YoY
Bookings (USD)	300.8m★	↑ 17.1%	↑ 1.6%	870.8m★	↑ 22.3%
Billings (USD)	278.8m	↓ 3.9%	↑ 19.8%	709.8m★	↑ 11.6%
Gross Margin	39.0%	↓ 72bps	↓ 228bps	39.2%	↓ 52bps
Segment Profit (HKD)	435.7m	↓ 13.6%	↑ 28.3%	975.9m★	↑ 7.9%
Segment Profit Margin	19.9%	↓ 224bps	↑ 132bps	17.5%	↓ 59bps

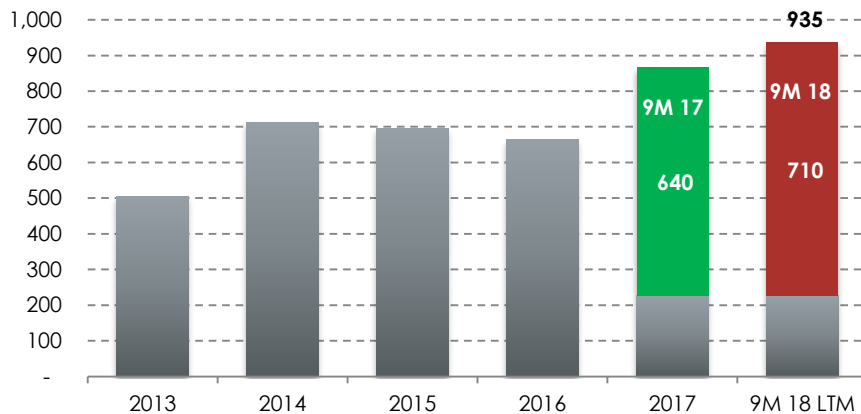
★ New Record

# Q3/9M 2018 Segment Results – SMT Solutions Business

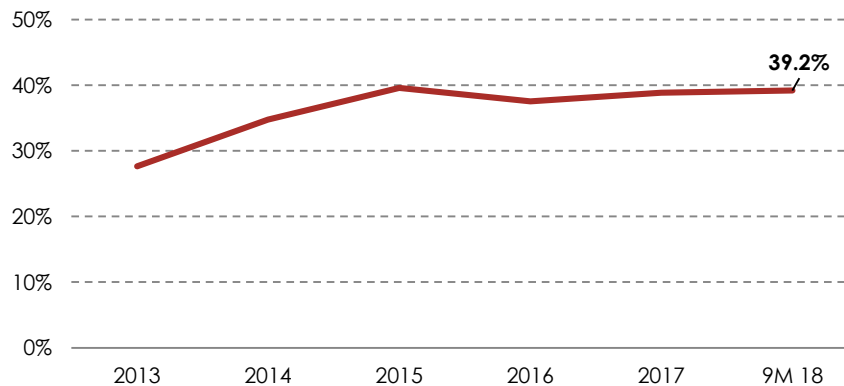
Yearly Billings  
(US\$ m)

YoY Growth: +11.6%

New  
Record!



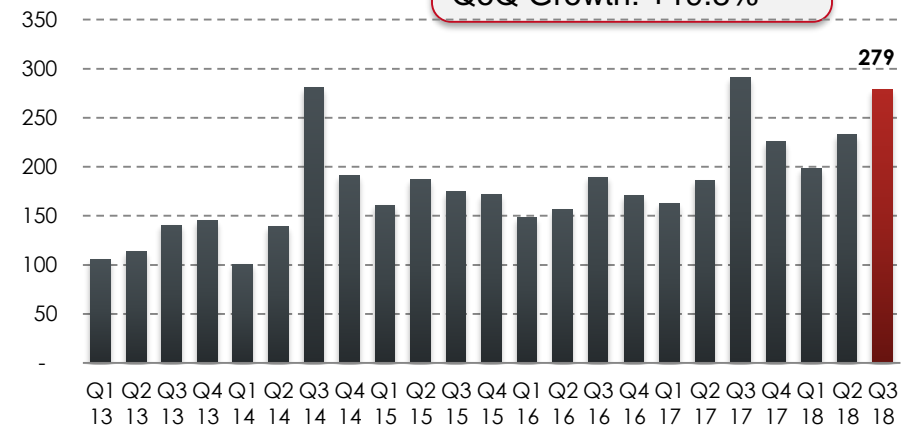
Gross Margin  
(%)



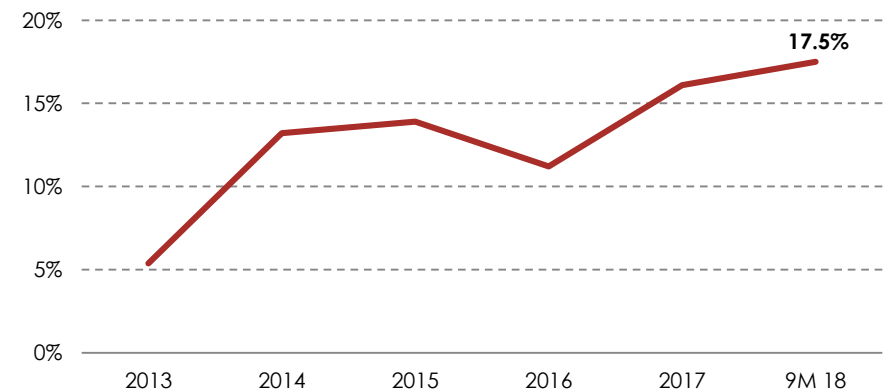
Quarterly Billings  
(US\$ m)

YoY Growth: -3.9%

QoQ Growth: +19.8%



Segment Profit Margin  
(%)



# 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  
Hong Kong Institute of Directors



- Hong Kong Outstanding Enterprises 2017  
HK Economic Digest



- 2017 All Stars of the Semiconductor Industry  
VLSI Research

VLSIresearch's 2017 All Stars

# 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 1<sup>st</sup>/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 Segment	Rank	10 BEST CHIP MAKING EQUIPMENT SUPPLIERS OF 2018	Rating	Stars
LARGE	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	★★★★
FOCUSED	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	★★★★

			WHAT THE BEST SUPPLIERS OF 2018 ARE BEST AT
ACCRETECH TOKYO SEIMITSU	<ul style="list-style-type: none"> <li>Uptime</li> <li>Usable Performance</li> </ul>	ADVANTEST	<ul style="list-style-type: none"> <li>Trust in Supplier</li> <li>Recommend Supplier</li> </ul>
AMEC	<ul style="list-style-type: none"> <li>Recommend Supplier</li> <li>Trust in Supplier</li> </ul>	APPLIED MATERIALS	<ul style="list-style-type: none"> <li>Field Engineering Support</li> <li>Uptime</li> </ul>
ASM Pacific Technology	<ul style="list-style-type: none"> <li>Field Engineering Support</li> <li>Support After Sales</li> </ul>	ASML	<ul style="list-style-type: none"> <li>Recommend Supplier</li> <li>Technical Leadership</li> </ul>
EVG	<ul style="list-style-type: none"> <li>Technical Leadership</li> <li>Trust in Supplier</li> </ul>	FORMFACTOR	<ul style="list-style-type: none"> <li>Technical Leadership</li> <li>Recommend Supplier</li> </ul>
Hitachi High-Tech	<ul style="list-style-type: none"> <li>Trust in Supplier</li> <li>Uptime</li> </ul>	Hitachi Kokusai Electric	<ul style="list-style-type: none"> <li>Field Engineering Support</li> <li>Process Support</li> </ul>
JAPAN ELECTRONIC MATERIALS	<ul style="list-style-type: none"> <li>Partnering</li> <li>Recommend Supplier</li> </ul>	Nidec SVTCL	<ul style="list-style-type: none"> <li>Partnering</li> <li>Commitment</li> </ul>
Plasma Therm	<ul style="list-style-type: none"> <li>Trust in Supplier</li> <li>Spares Support</li> </ul>	SPTS	<ul style="list-style-type: none"> <li>Recommend Supplier</li> <li>Uptime</li> </ul>
TECHNOPROBE	<ul style="list-style-type: none"> <li>Support After Sales</li> <li>Trust in Supplier and Partnering</li> </ul>	TERADYNE	<ul style="list-style-type: none"> <li>Trust in Supplier</li> <li>Recommend Supplier</li> </ul>
TEL	<ul style="list-style-type: none"> <li>Trust in Supplier</li> <li>Uptime</li> </ul>	Xcerra	<ul style="list-style-type: none"> <li>Trust in Supplier</li> <li>Recommend Supplier</li> </ul>

			RATINGS FOR THE BEST SUPPLIERS OF 2018
ASSEMBLY EQUIPMENT	Rating	VLSI STARS	
1 ASM Pacific Technology	7.47	★★★★	

The infographic poster for Marcom's technology solutions is divided into two main sections. The top section features a network of circular icons connected by lines, each representing a specific technology. The bottom section shows a cityscape with various people and vehicles (a car, a person at a desk, a person on a phone, a person with a drone, a person with a Wi-Fi signal, a person with a Li-Fi signal, a person on a scooter, a person with a robot, and a high-speed train) all connected to a central network of Wi-Fi and Li-Fi signals, illustrating the integration of these technologies into everyday life.

**Coreless Molded Interconnect Substrate Technology**

**Comprehensive LED Solutions**

**All-in-one Solution for 3D & 2D Optical Inspection**

**SIPLACE Placement Solution**

**Fully Automatic Turret Sorting Handler**

**Smart Assembly Line Solutions for Industry 4.0**

**Patented Imaging Technology for Ball Placement**

**DEK Printing Solution**

**Multibeam Laser Technology**

**Dual Directional Transducer Technology**

**Compression Molding for Wafer Level & Panel Level Packaging**

**Chip to Chip Packaging Solutions**

**Wi-Fi**

**Li-Fi**

Poster Design by ATS Marcom