

ASM  Pacific Technology

Q3 2020 **Results** **Presentation**

29 October 2020

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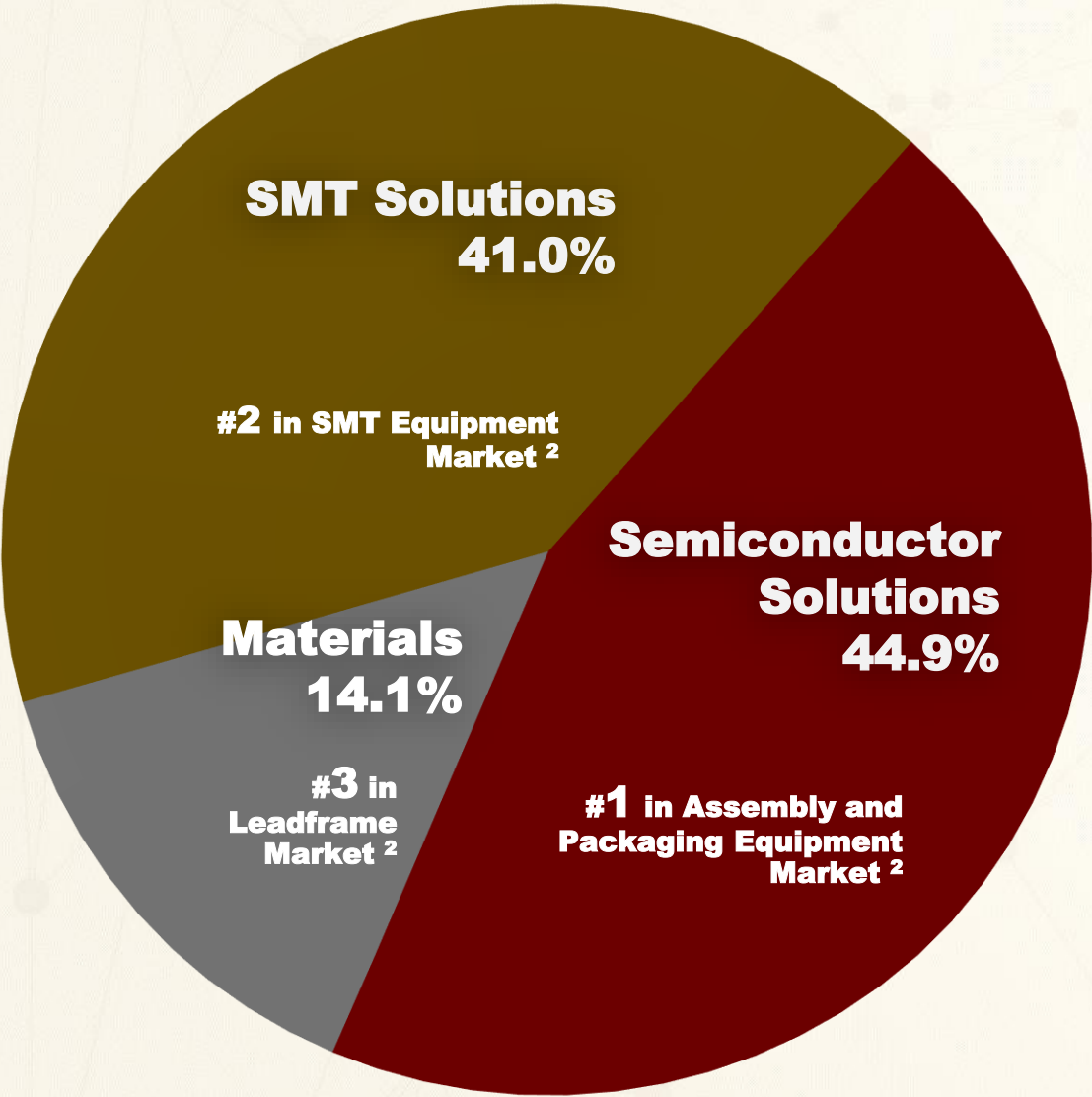
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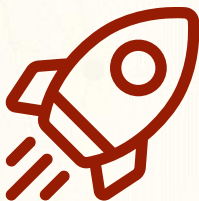
Company Overview

Company Overview

Q3 2020 Segment Revenue Contribution



We are a **leading global supplier** of hardware and software solutions in the manufacturing of **semiconductors and electronics**



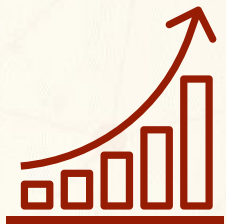
1975

Incorporated



1989

Listed in Hong Kong Stock Exchange



USD4.2 bn

Market Capitalisation¹



**2018
Top 100 Global
Technology Leaders**

*Recognised by
Thomson Reuters*

Geographical Presence





>2,000
Global R&D staff



>1,400
Patents on leading edge technologies



11
R&D centres worldwide

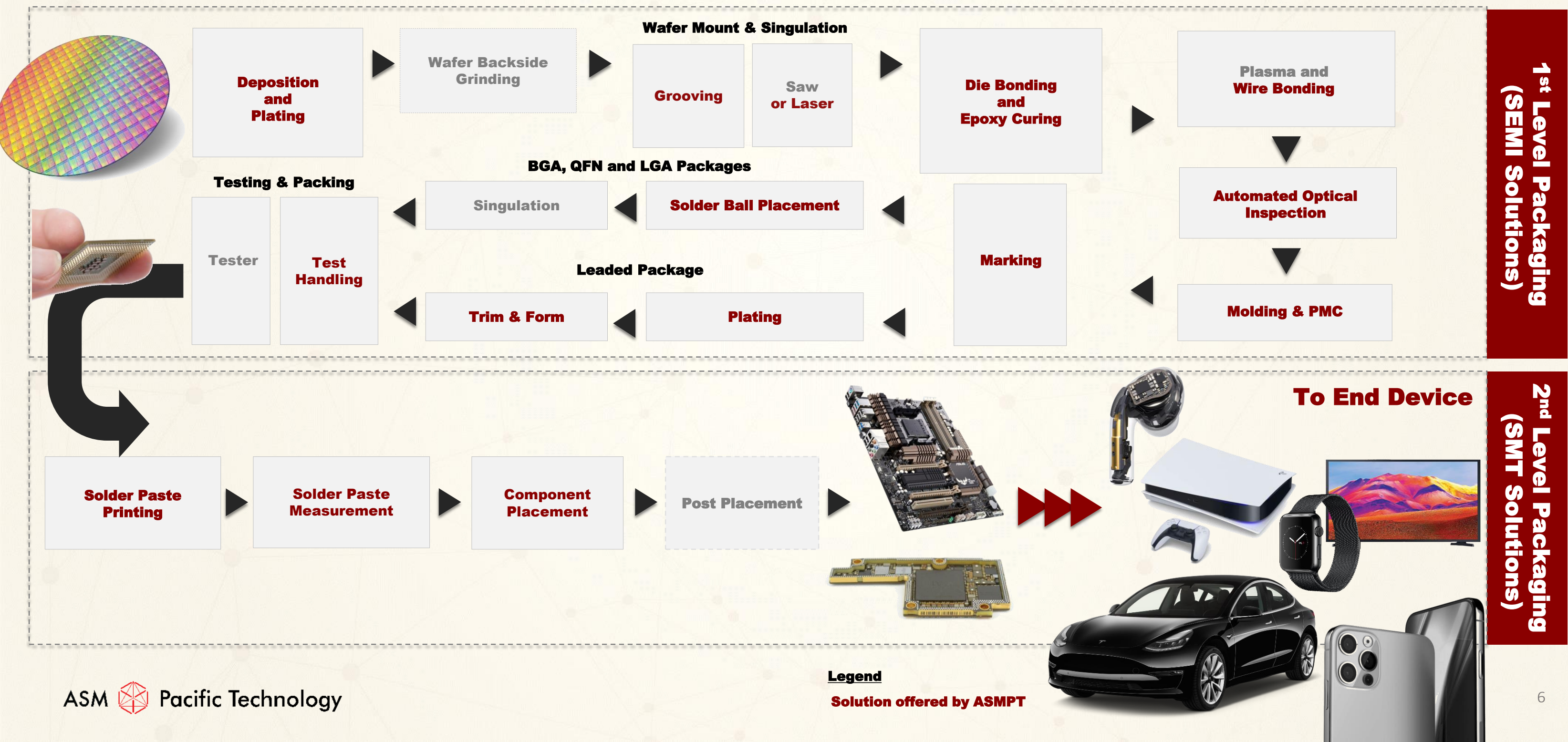


12
Manufacturing facilities

Core Capabilities

Comprehensive Suite of Packaging & Assembly and SMT Solutions
(A General Process Flow for IC and Discrete)

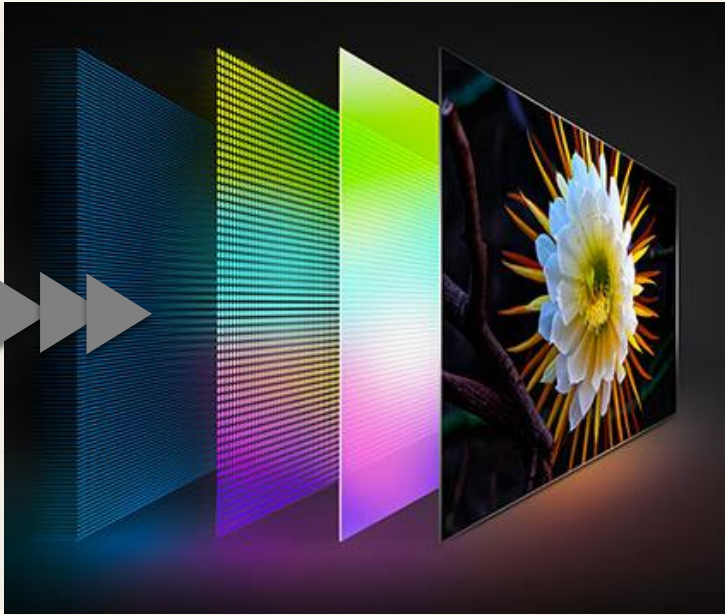
From Wafer...



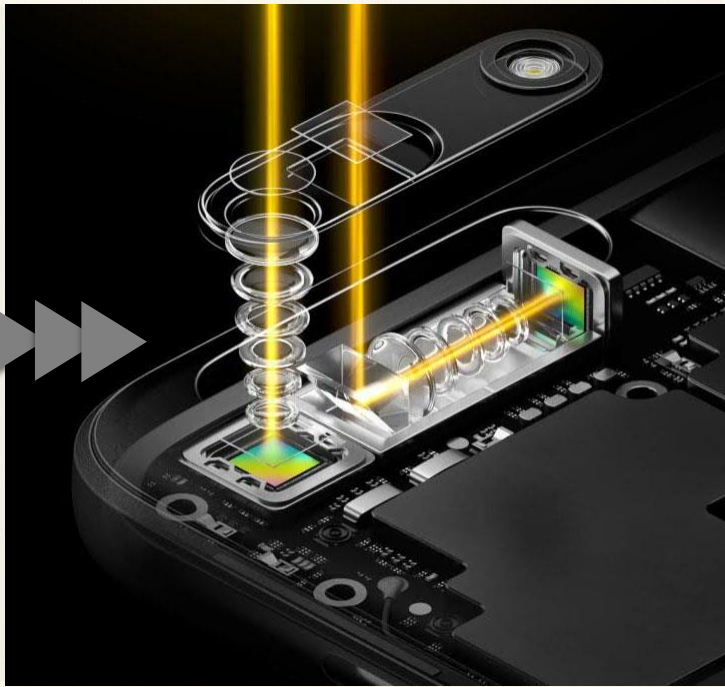
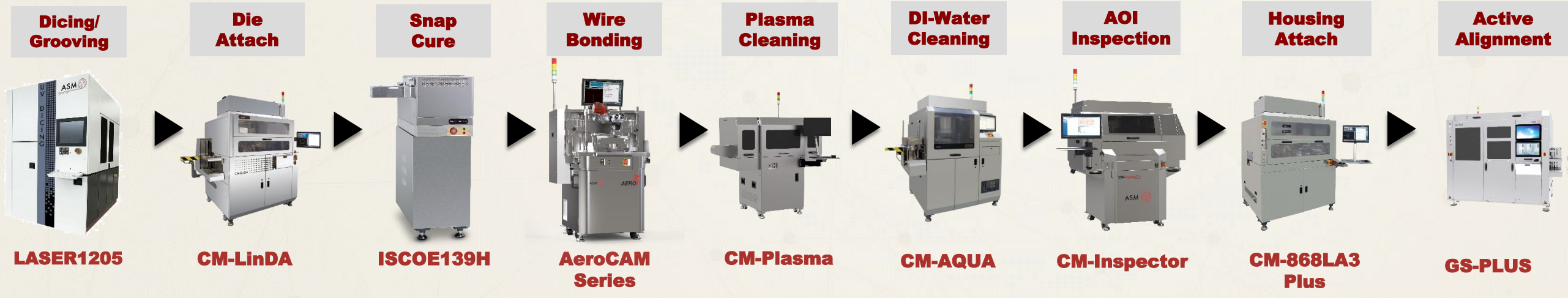
Core Capabilities

Comprehensive Suite of Packaging and Assembly Solutions
(A General Process Flow for LED and CIS)

Conventional LED Packaging Solutions



CIS Packaging Solutions

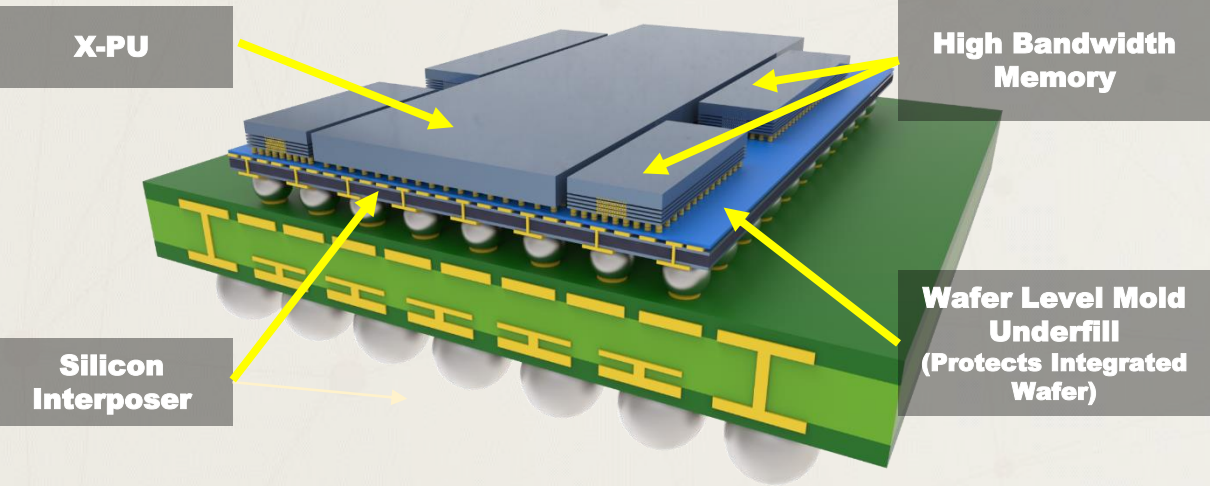


Core Capabilities

Comprehensive Suite of Advanced Packaging Solutions

Advanced Packaging Technology Enabler

Heterogeneous Integration
System-in-Package
System-on-Chip



**FIREBIRD
TCB
FLI**



**NEXX
PVD | ECD
Bumping,TSV & RDL**



**Laser1205
Laser Separation
Wafer Dicing and Grooving**



**SIPLACE CA
DIE ATTACH & SMT
Wafer and SMT Feeders**



**NUCLEUS
Pick and Place
Wafer and Panel**



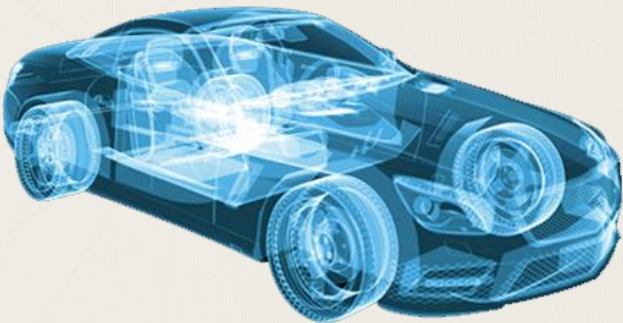
**ORCAS
Encapsulation
Wafer and Panel**

End Applications

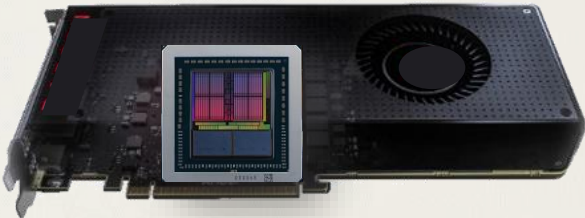
Cloud Computing,
Datacentres for
High Performance Computing



Automotive Sensors,
LIDAR, Camera, Body
Electronics, Safety
Systems, Infotainment



Graphics Processing Unit
for VR/AR & AI



IoT: Wearables



Core Capabilities

Widespread use of ASMPT Technology (Using Smartphone as an Example)

CMOS Image Sensor (CIS)

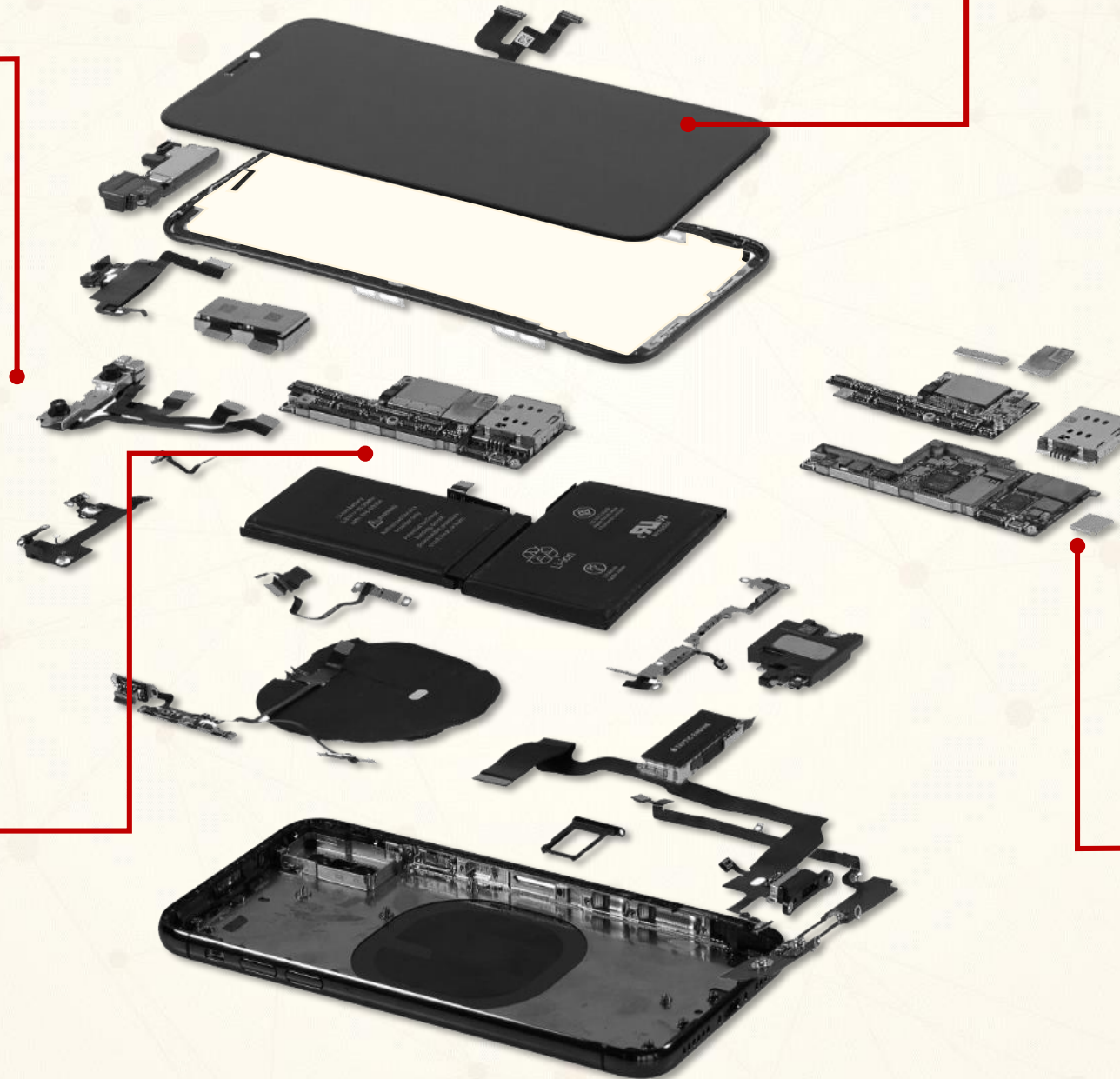
Die and Wire Bonder

Advanced Packaging (AP)

Light Emitting Diode
(LED)

Surface Mount Technology
(SMT)

System in Package
(SiP)



End-Market Applications

Wide Diversity of Semiconductor Usage

Mobility, Comm. and IT

Optoelectronics

Automotive

Power Management & Energy

Industrial

Consumer



Personal Computers
Smartphones
5G Base Stations
Micro Cells
Datacentres
HPC
Internet of Things



Virtual Reality
Autonomous Vehicles
Large Screen Display
Smartwatches
Security



LIDAR Sensors
5G communications
Entertainment
Platforms



Electric Vehicles
Automotive
Power Module
Wireless Charging



Smart Factories
Smart Offices



Consumer Electronics
Wearable Devices
Gaming Consoles
Fitness Bands



Q3 2020 Financial and Operational Highlights

Q3 2020 Group and Segment Revenue

	USD	YoY*	QoQ*
Group	551m	+2.6%	-1.2%
Semi Solutions Segment	247m	+5.0%	-11.5%
Materials Segment	78m	+22.4%	+4.8%
SMT Solutions Segment	226m	-5.1%	+10.6%

Group

- Group Revenue close to top end of guidance

SEMI

- IC/Discrete
 - > Broad based demand
 - > Mobile and Personal Computing Devices, HPC applications, 5G Infrastructure
- Advanced Packaging
 - > AP Revenue 9M 2020 same level as FY19 AP Revenue
- OPTO
 - > General lighting and conventional display applications
 - > Mini LED customers started High Volume Manufacturing using our tools
- Die and Wire bonders delivered very strong YoY growth
- China localization

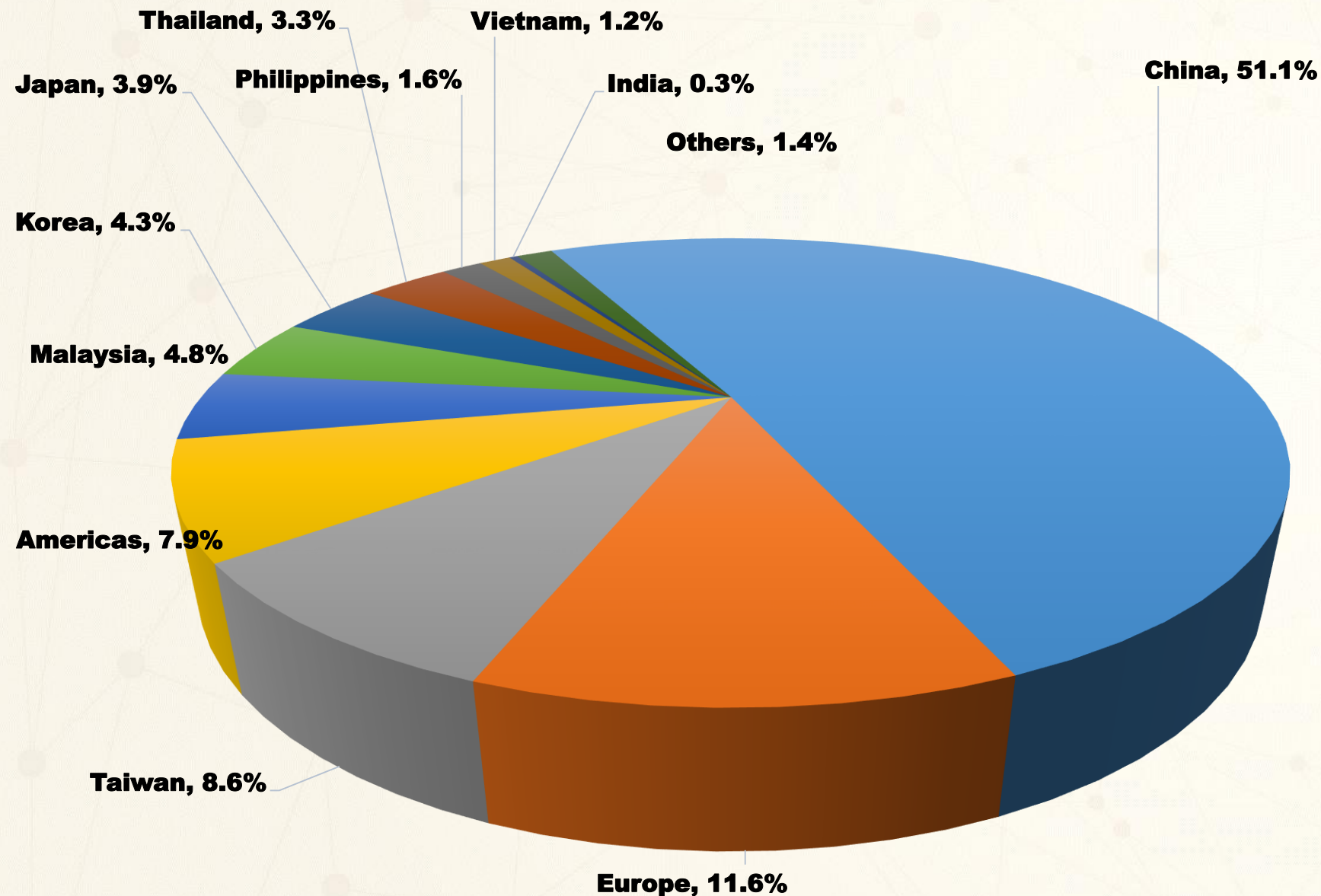
Materials

- Q3 Revenue at record high at US\$77.8M

SMT

- Driven by SiP applications for 5G-related devices, smartphones and wearables

9M 2020 Revenue Breakdown by Geography



- No single customer accounted for more than 10% of Group revenue
- Top 5 customers only accounted for 15.53% of Group's 9M 2020 revenue
- Top 20 customers include:
 - World's leading Telecommunication and Information Technology provider
 - Leading High-Density Substrate makers
 - World's leading IDMs
 - Tier 1 OSATs, major OSATs in China
 - Major camera module makers
 - Top EMS providers
 - Leading automotive component suppliers
- Among Top 20 customers of Group:
 - 3 from SMT Solutions segment
 - 7 from both Semi Solutions & SMT Solutions segment

Q3 2020 Group and Segment Bookings

	USD	YoY*	QoQ*
Group	583m	+12.4%	+23.5%
Semi Solutions Segment	288m	+8.6%	+26.8%
Materials Segment	66m	+3.6%	-15.2%
SMT Solutions Segment	229m	+20.7%	+37.3%

Group

- 2nd highest Q3 Bookings; bucking historical trend of QoQ decline from Q2

SEMI

- IC/Discrete
 - > Broad based demand
 - > Mobile and Personal Computing Devices, HPC applications, 5G Infrastructure
- OPTO
 - > General lighting and conventional displays
- CIS
 - > Strong QoQ bookings growth in Q3 (relative to lower base in Q2)

SMT

- Driven by SiP applications for 5G-related devices, smartphones and wearables.
- Some signs of improvement for Automotive and Industrial

Q3 2020 and 9M 2020 Group GM & Profitability

	Q3 2020			9M 2020	
Gross Margin	Gross Margin	YoY*	QoQ*	Gross Margin	YoY*
Group	32.9%	-182 bps	-228 bps	33.9%	-87 bps
Semi Solutions Segment	40.0%	-348 bps	-293 bps	41.4%	+17 bps
Materials Segment	19.4%	+907 bps	+250 bps	15.7%	+500 bps
SMT Solutions Segment	29.9%	-277 bps	-147 bps	31.1%	-363 bps
Group Revenue (USD)	551m	+2.6%	-1.2%	1.54b	+4.7%
Operating Profit (HKD)	354m	+1.5%	-28.5%	996m	+18.3%
Net Profit (HKD)	234m	+5.2%	-36.0%	625m	+56.0%

Group

- 9M GM ▼ slightly YoY
 - > Lower margins from SMT
- 9M Net Profit ▲ 56% YoY
 - > Higher revenue
 - > Lower expense (tight cost control & government grants)
- Q3 GM declined mainly due to lower margins from SEMI and SMT business

SEMI

- Q3 GM declined primarily due to product mix, in particular weakness in CIS product market.

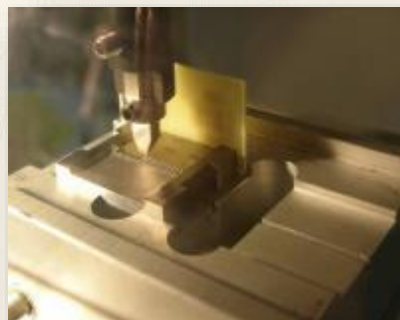
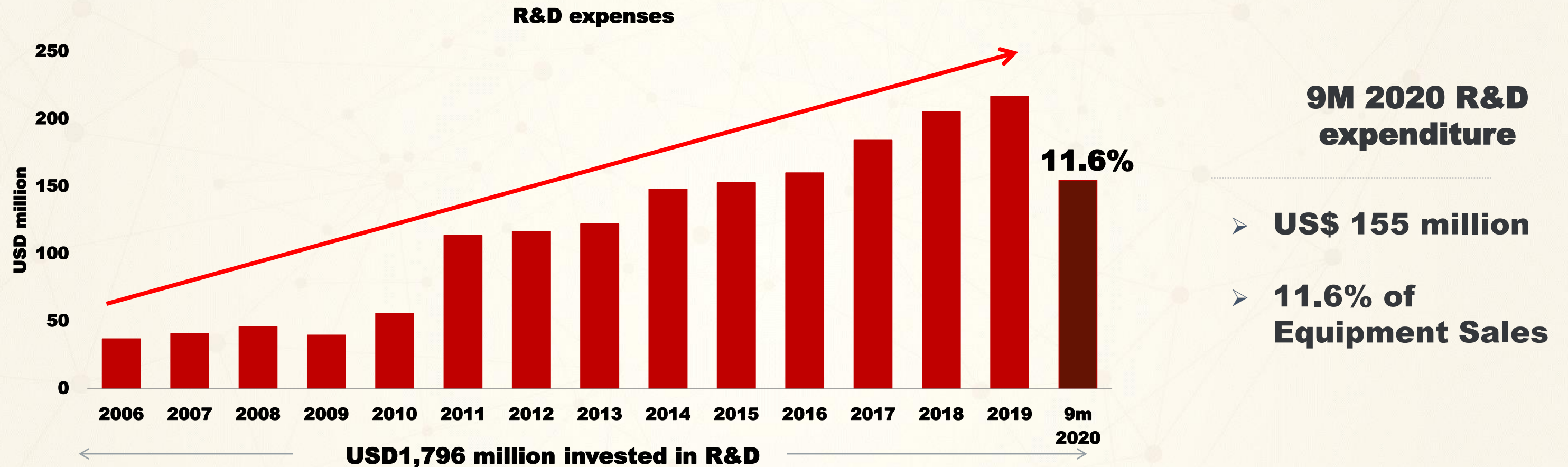
Materials

- Q3 GM improvement anchored by higher volume effects
- Q3 Gross and Segment profits at record highs

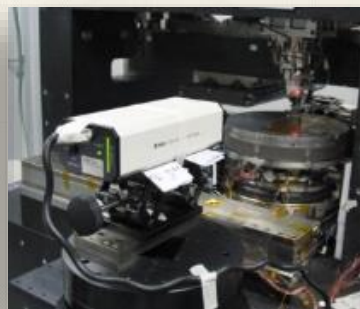
SMT

- Q3 GM declined largely due to lower revenue contribution from Automotive and Industrial, and geographical customer mix.

R&D Commitment Makes Us a Preferred Partner of Choice



Package Interconnection



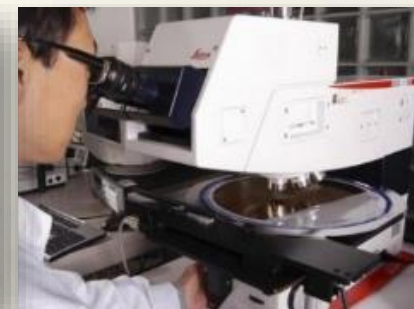
Optics precision engineering



Vibration control



Laser dicing & grooving



SMT



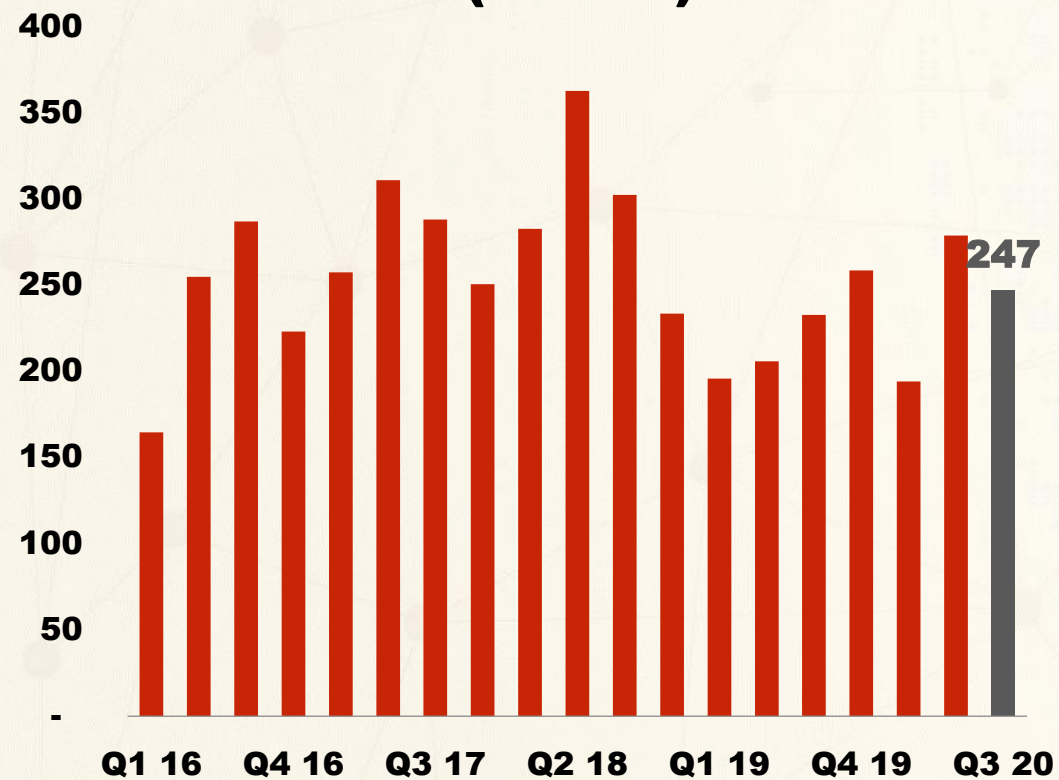
Business Segments Revenue Trend

YoY* Growth:
+5.0%

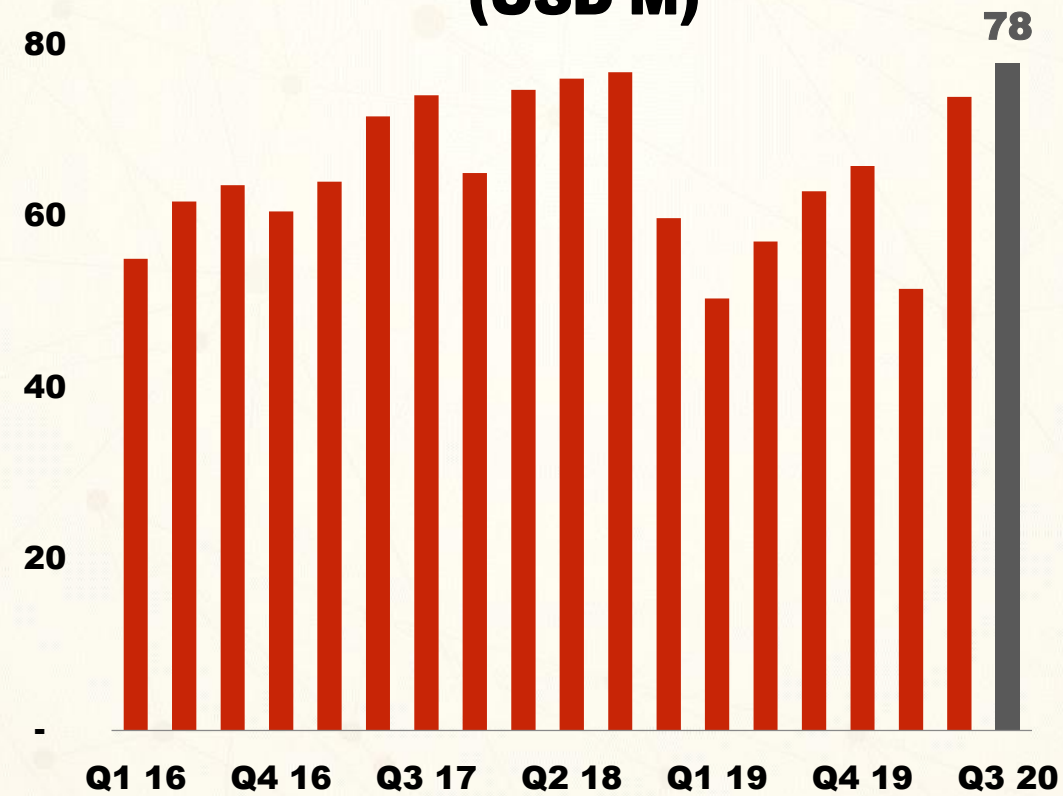
YoY* Growth:
+22.4%

YoY* Growth:
-5.1%

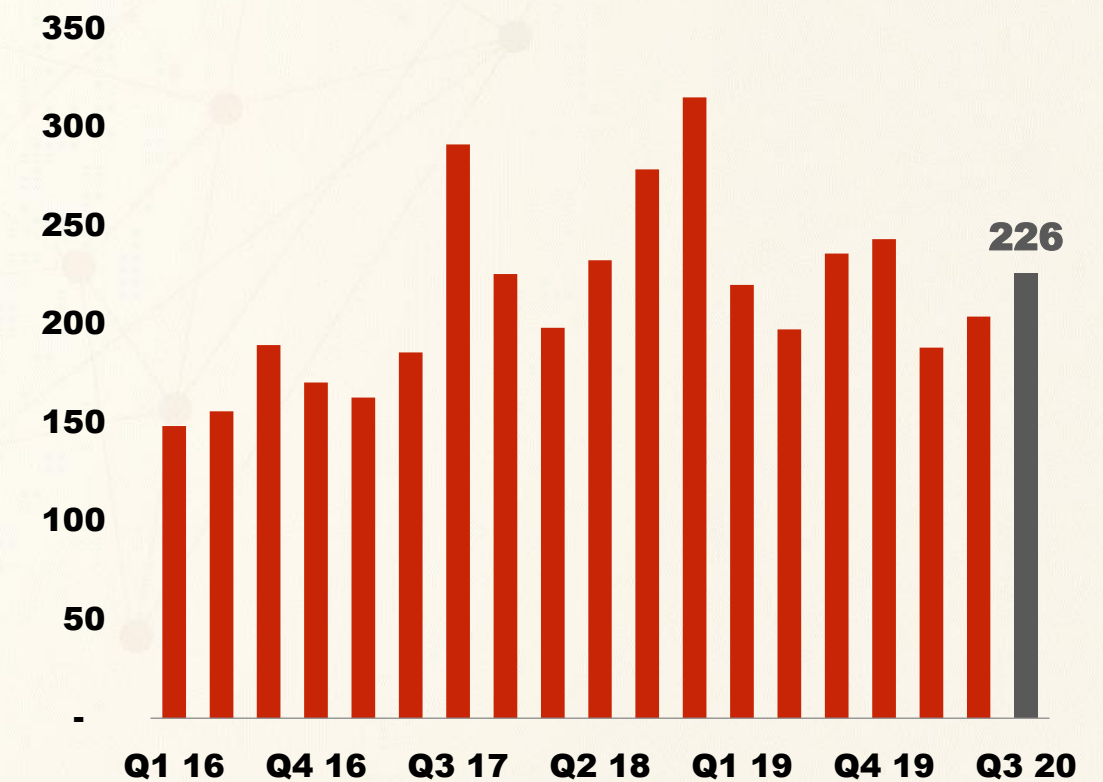
**Semiconductor Solutions
(USD'M)**



**Materials
(USD'M)**



**SMT Solutions
(USD'M)**



Business Segments Bookings Trend

YoY* Growth:

+8.6%

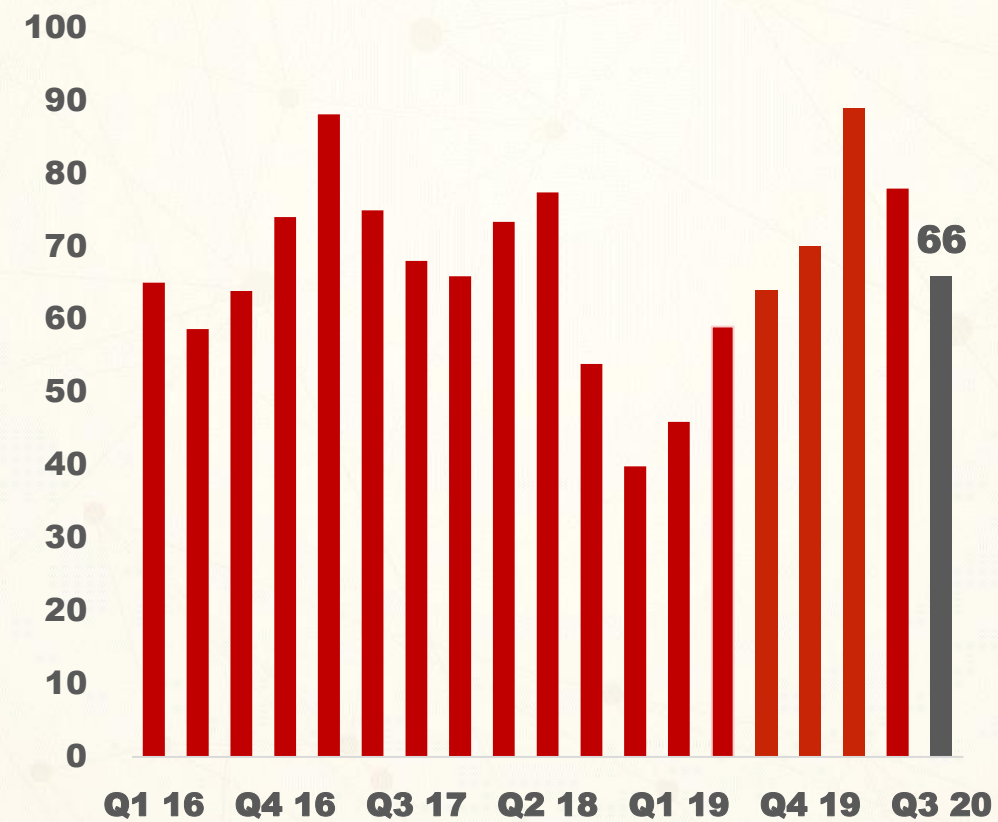
**Semiconductor Solutions
(USD'M)**



YoY* Growth:

+3.6%

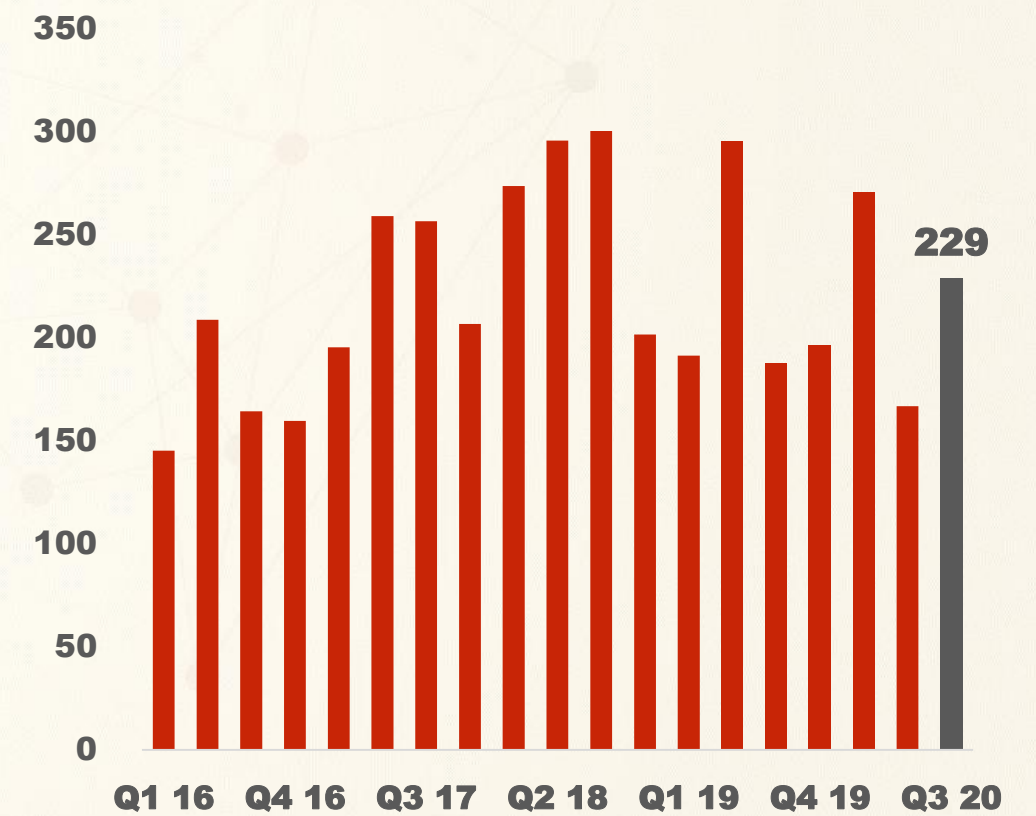
**Materials
(USD'M)**



YoY* Growth:

+20.7%

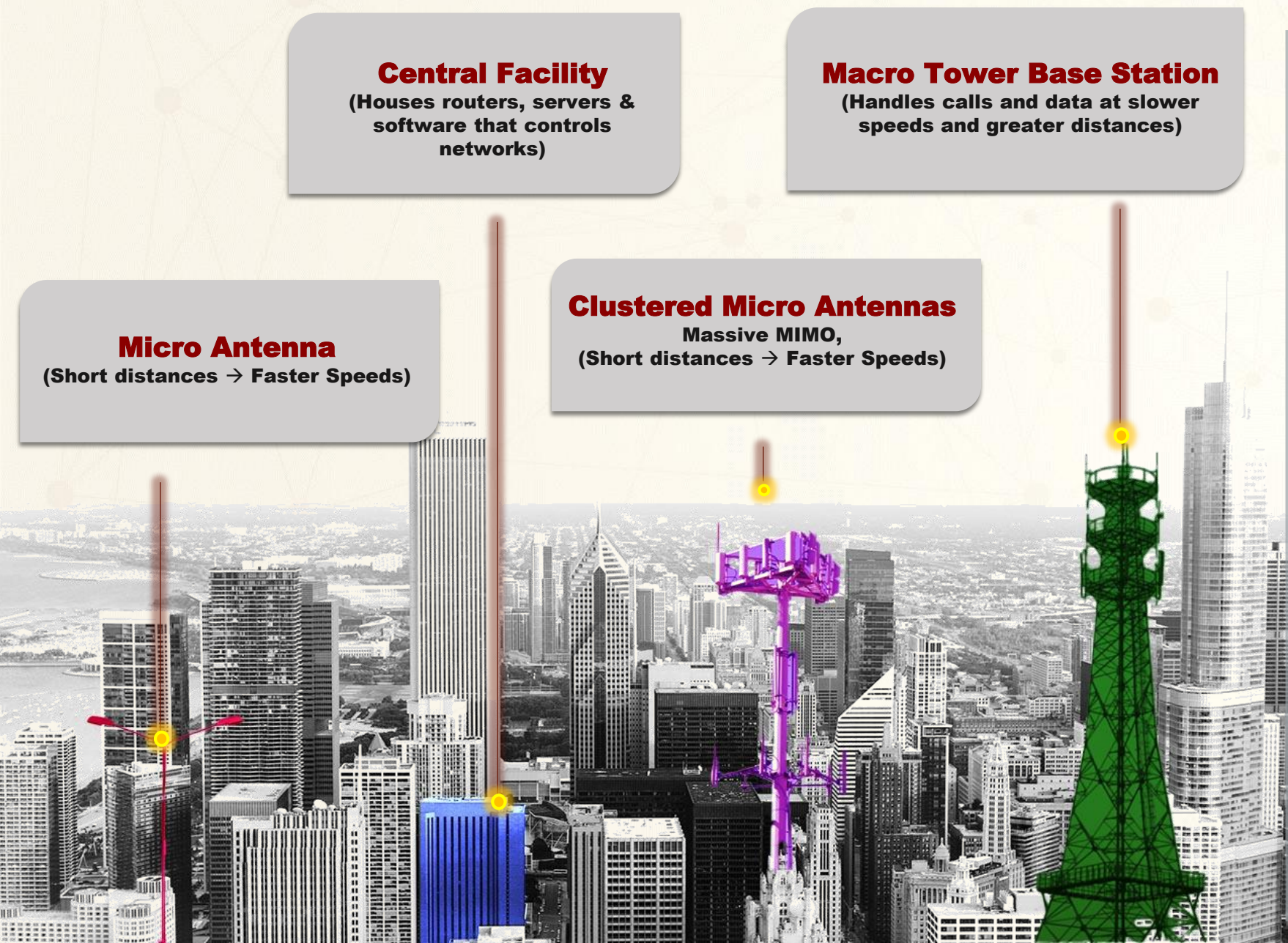
**SMT Solutions
(USD'M)**



Growth Drivers

Market Growth Driver – 5G Infrastructure

Multi-Country, Multi-Year Driver from 5G Rollout

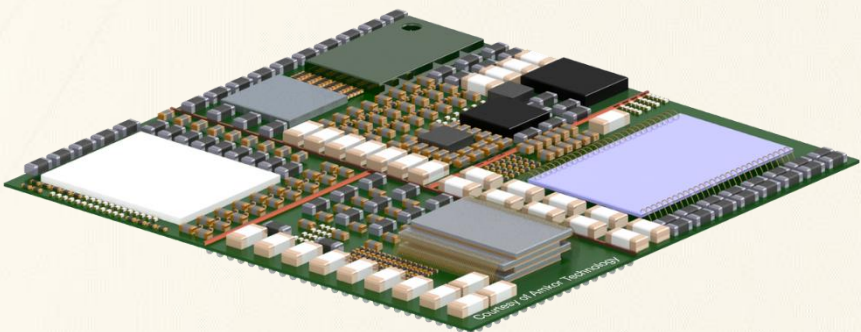


Drivers for Capacity Buys

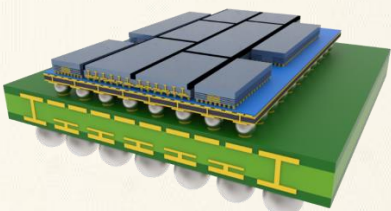
	4G Base Station	5G Base Station	Increase
Power Amplifiers	12 per Cell	96 to 192 per Cell	8x to 16x

Drivers for Technology Buys

System in Package



Advanced Packaging



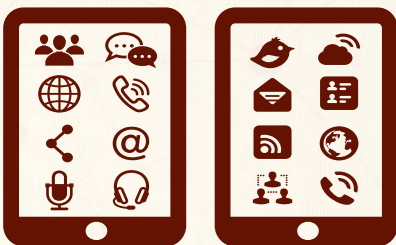
Market Growth Driver – 5G Smartphones

Greater Demand for Higher Performance End Devices



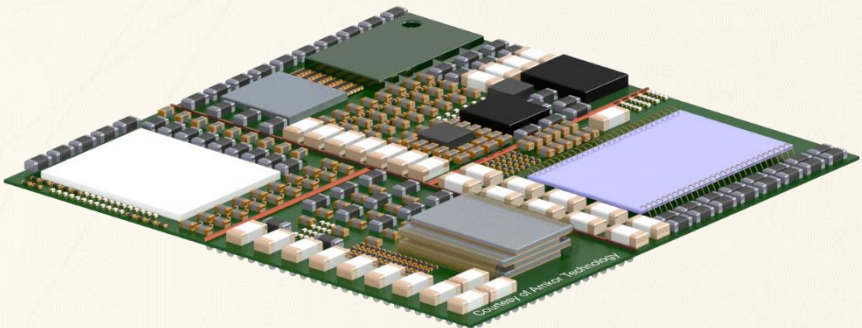
Drivers for Capacity Buys

	4G	5G	Increase
Filters:	40	70	1.75x
Bands:	15	30	2.0x
Tx/Rx Filters:	30	75	2.5x
Switch Throws:	10	30	3.0x
CA Combos:	10	200	20.0x
Sensors:	6	7	1.17x
Camera Module:	5	7	1.4x
Microphone:	2	3	1.5x

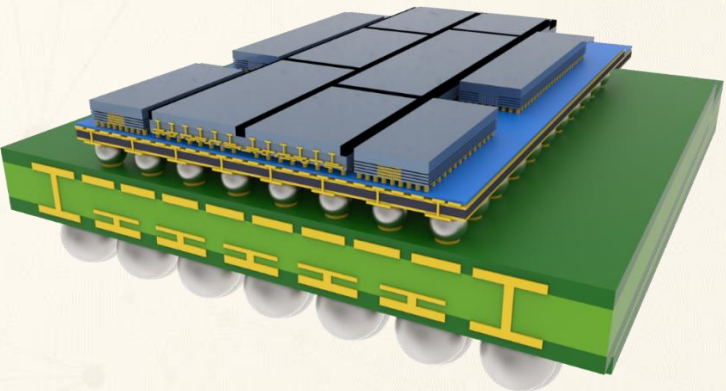


Drivers for Technology Buys

System in Package

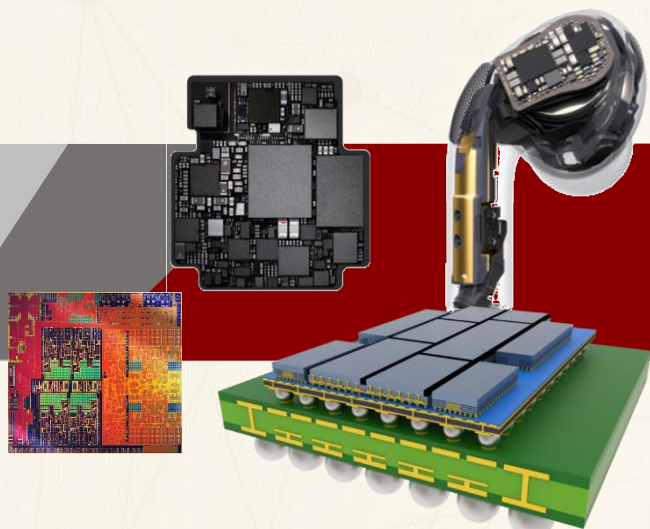


Advanced Packaging



ASMPT Growth Enablers

Well Positioned to Capture Growth



Advanced Packaging Solutions (AP)

Comprehensive suite of AP Solutions

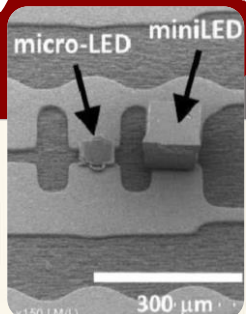


Silicon Photonics Solutions

Sub-micron placement accuracy bonding capabilities

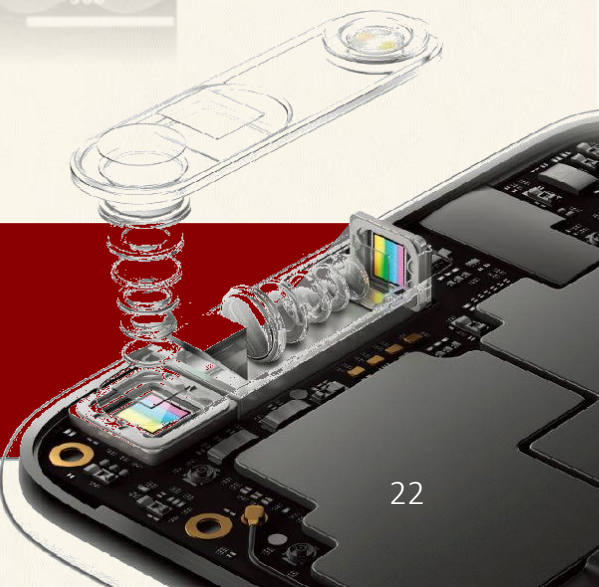
Light Emitting Diode Solutions (LED)

Key engagement with major mini and micro LED customers



CMOS Image Sensor Solutions (CIS)

Winning automatic in-line solutions capabilities

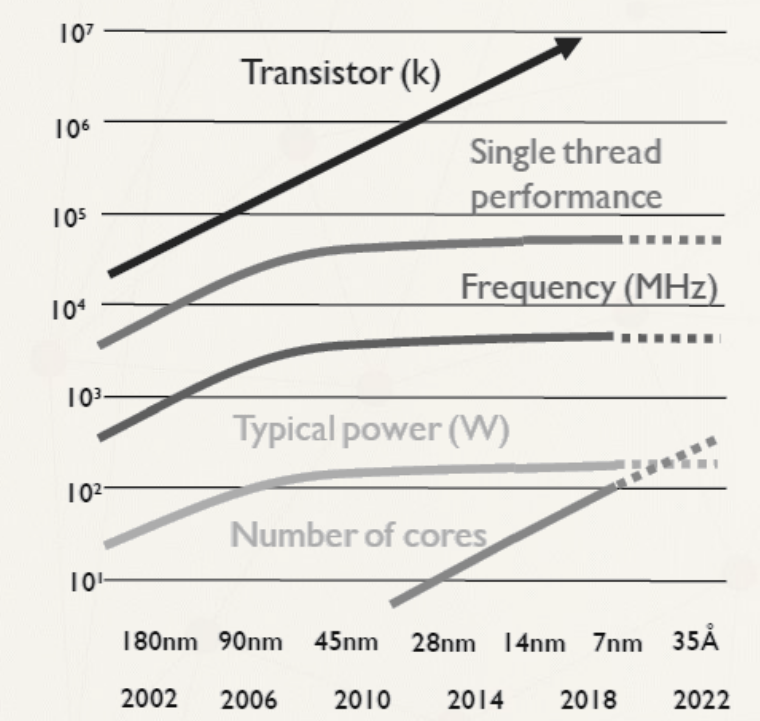


Market Enabler – Advanced Packaging

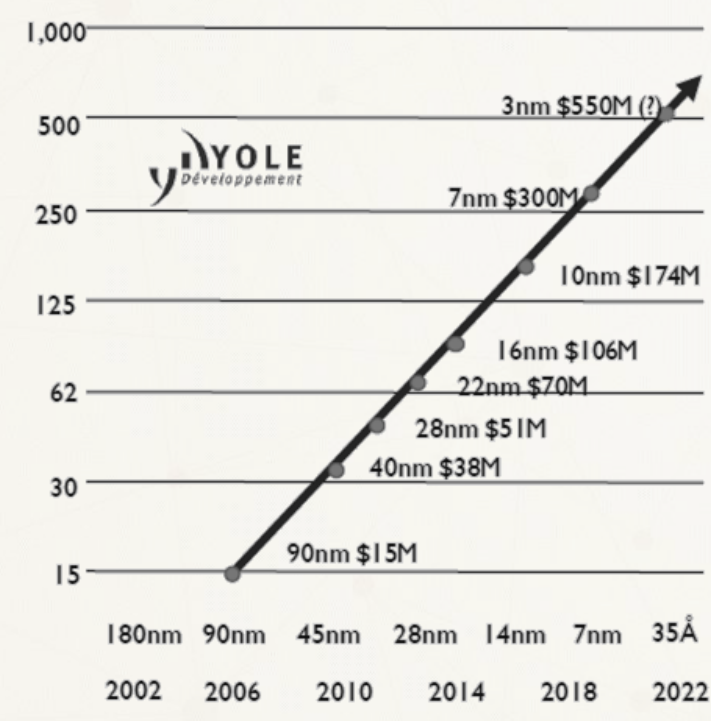
The Growing Advanced Packaging Market Fuelled by Need to Enhance System Performance, Reduce Design Costs and Shorten Time to Market

Design costs continue to increase with greater demand for improved device functionality and performance

Microprocessor performance (FLOPS)

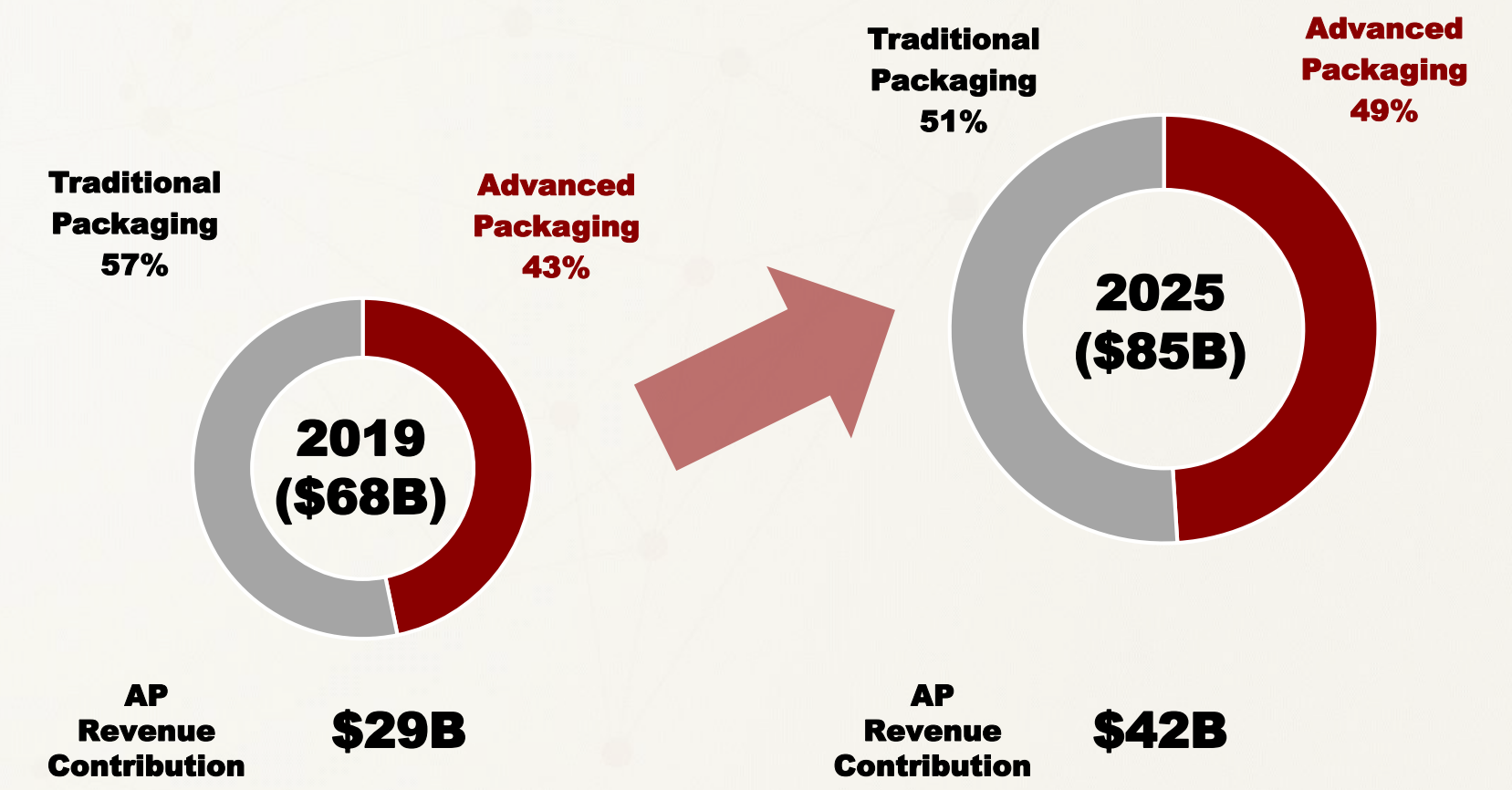


Design Cost (\$M)



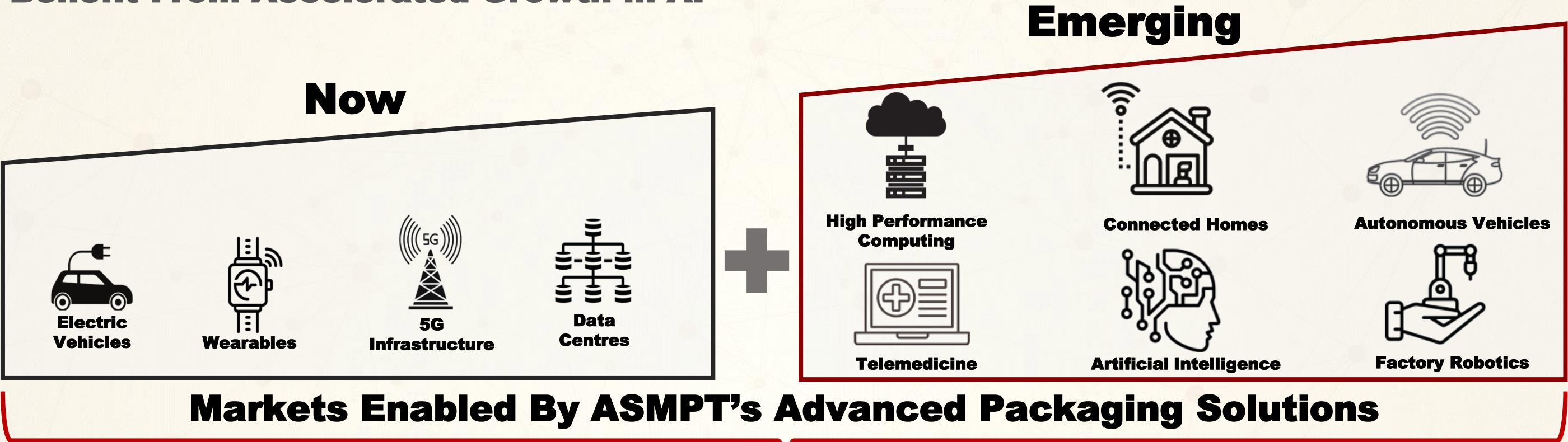
Increasing AP trend: Adoption of AP technologies in design and manufacturing will reduce cost and time to market


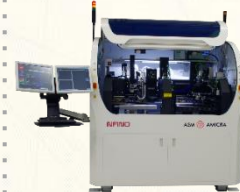

Packaging Revenue (USD)



ASMPT Advanced Packaging Solutions

Comprehensive Suite of Solutions
Poised to Benefit From Accelerated Growth in AP



AP Processes	Physical Vapor Deposition	Electro-Chemical Deposition – Wafer/Panel Lvl Plating	Laser Dicing	Wafer/ Panel Lvl Molding	Wafer/ Panel Lvl Fan Out	Ultra Precision Die Bonding (Silicon Photonics)	Mass Transfer (Mini/Micro LED)	Multi-Chip Module Bonding	Thermo Compression Bonding	Flip Chip	Wafer Level Fan In	SMT SiP Placement	Hybrid Bonding
ASMPT Solutions													Coming Soon in 2021
	Conductor	Stratus Series	Laser 1205	ORCAS	NUCLEUS	NANO	AD300 Series	VECTOR	FIREBIRD	AD8312FC	SUNBIRD	SIPLACE TX Micron	

Market Enabler - Mini and Micro LED

Mini LED

Medium to Large RGB /
BLU Display

Market Size CAGR (2019 – 2025)

~ 35%

Source: LEDInside, Sep 2019



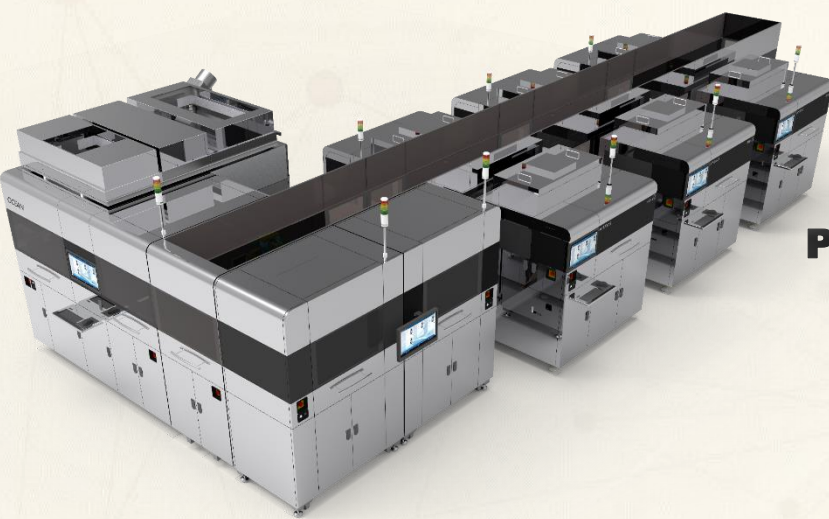
Market Size CAGR (2019 – 2025)

~ 131%

Source: LEDInside, Sep 2019



ASMPT Mini & Micro LED Solutions



Ocean Line: Fully Automatic Production Line for Micro LED





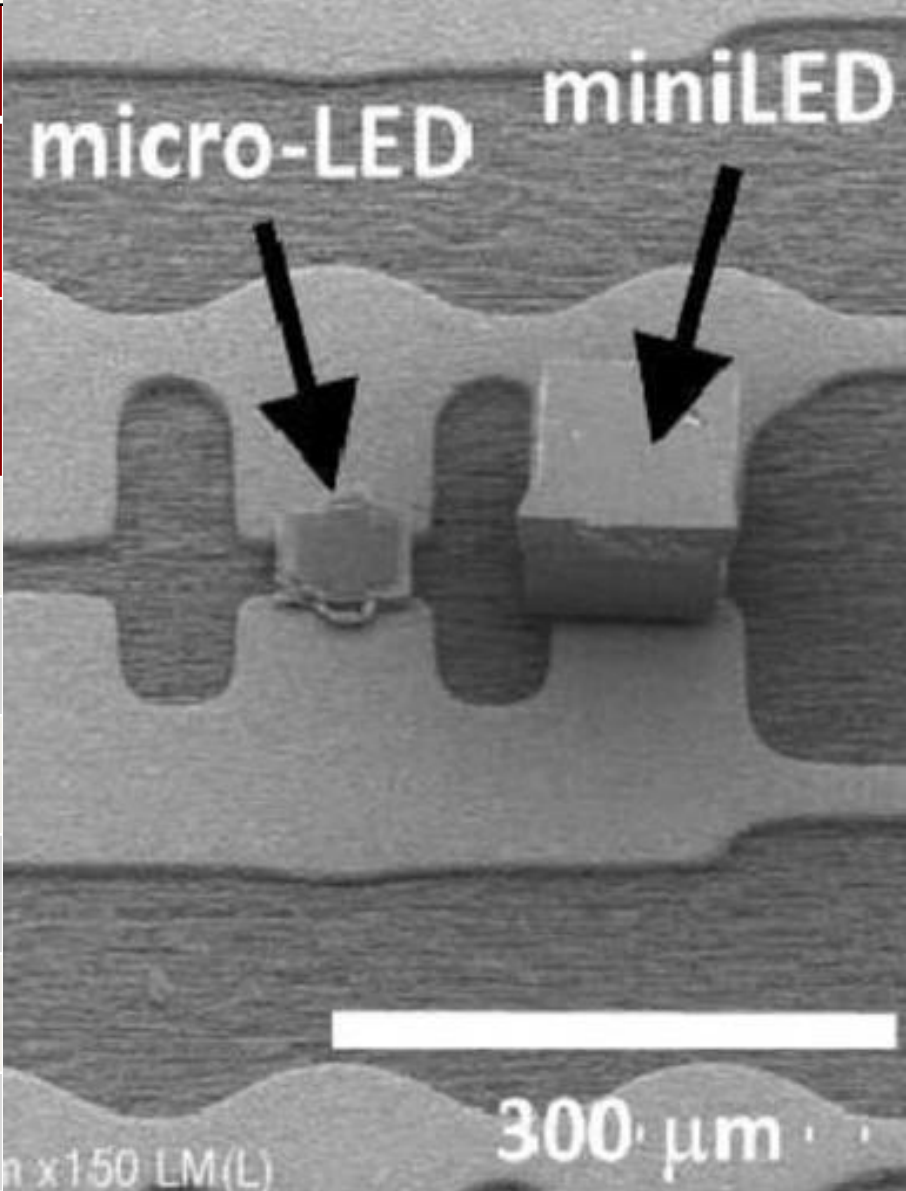
Inline Linker: Fully Automatic Production line for Mini LED

Processes

Pitch Size
Die Size

End Market Applications

Conventional	Mini LED	Micro LED
		
1.0mm to 10mm 75µm– 200µm	0.3mm to 1.0mm 50µm – 100µm	0.2mm <50µm
✓	✓	✓
	✓	✓
	✓	✓
		✓
		✓
		✓



Market Enabler – Silicon Photonics

Enabling Faster Data Bandwidth and Speed Transmission

Data Centres

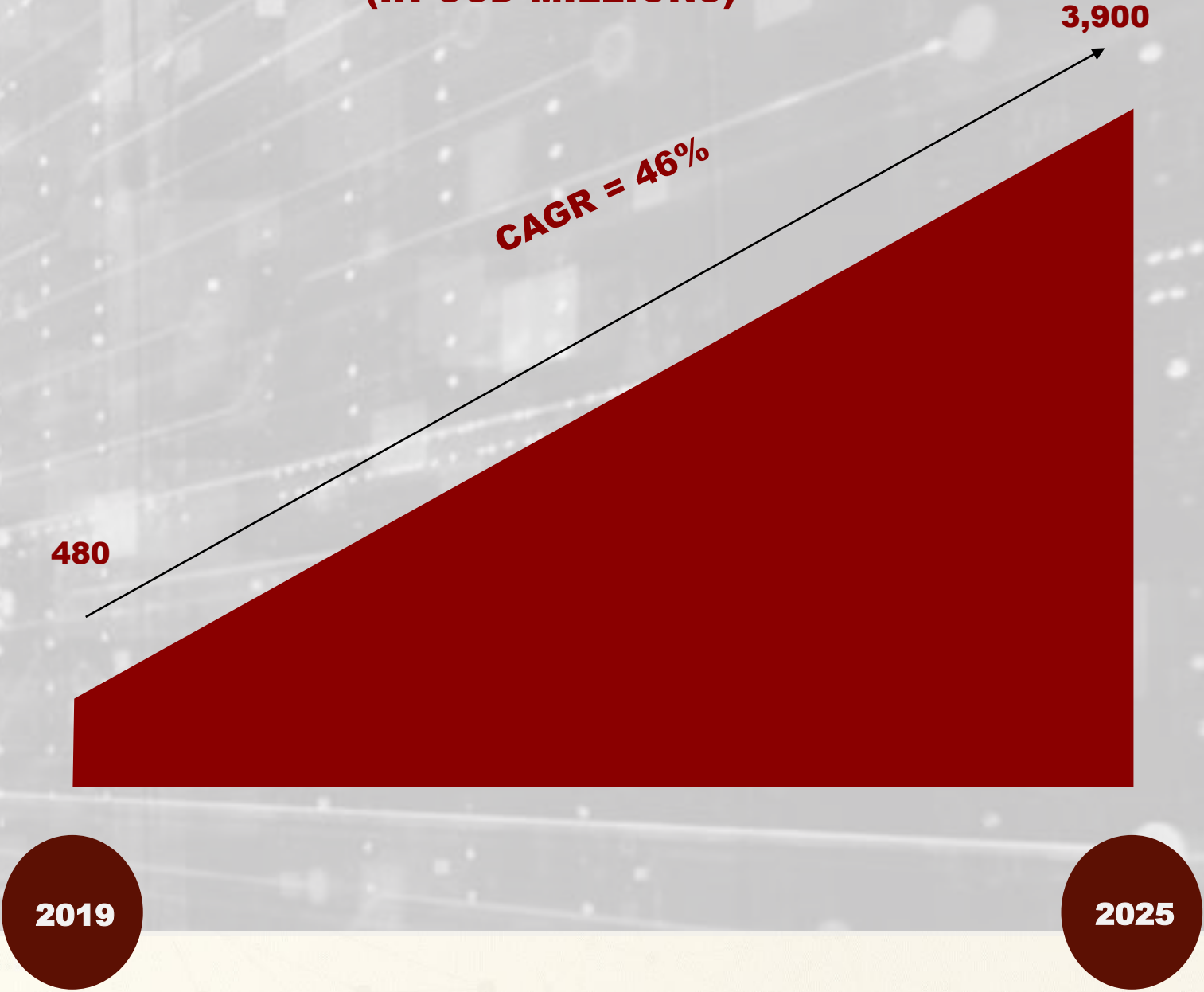
10X

Higher Data
Transmission
Speed

4X

Greater Bandwidth
100gbps ► 400gbps

SI PHOTONICS MARKET SIZE
(IN USD MILLIONS)



ASMPT Silicon Photonics Solutions

Processes		Photonics	Silicon Photonics
Placement Accuracy Die Size		2 – 10µm 150µm – 2000µm	0.3 – 2.0 µm 150µm – 3000µm
End Market Applications	Data Centre-Cloud	✓	✓
	Telecom - 5G	✓	✓
	3D Sensing	✓	
	LiDAR	✓	✓

Outlook

Outlook

Q4 Group Revenue Guidance

- US\$530m – US\$590m

Longer Term Outlook

- Accelerating roll-out of 5G infrastructure unlocking massive possibilities for data generation:
 - Upgrade cycle for 5G devices (including Electric Vehicles / Autonomous Vehicles)
 - Ever increasing demand for High Performance Computing
 - Steady proliferation of AI and machine learning applications
- Increasingly complex, sophisticated requirements for display (LED) and camera sensor (CIS) technologies
- ASMPT is strongly positioned to further innovate and develop advanced solutions to leverage and support these megatrends

Appendix

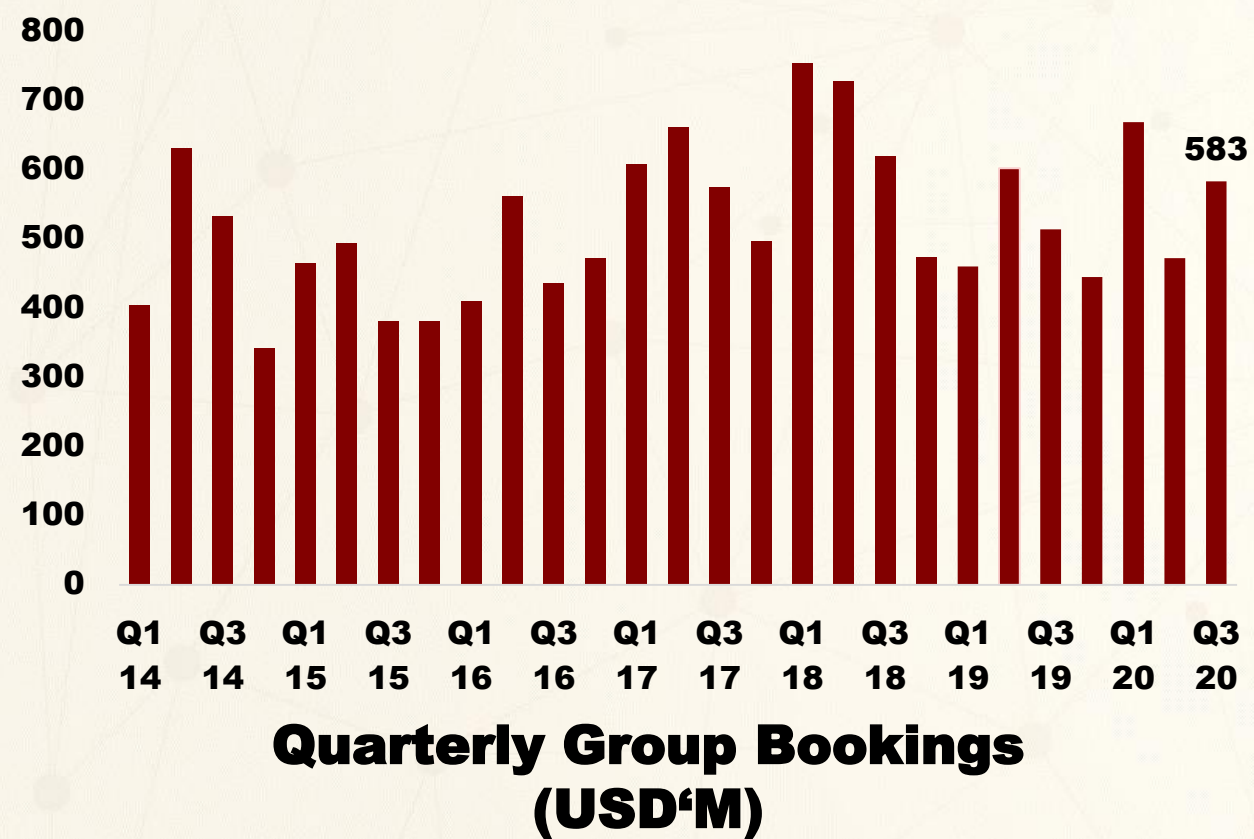
Other Q3 2020

Financial

Information

Q3 2020 Group Bookings

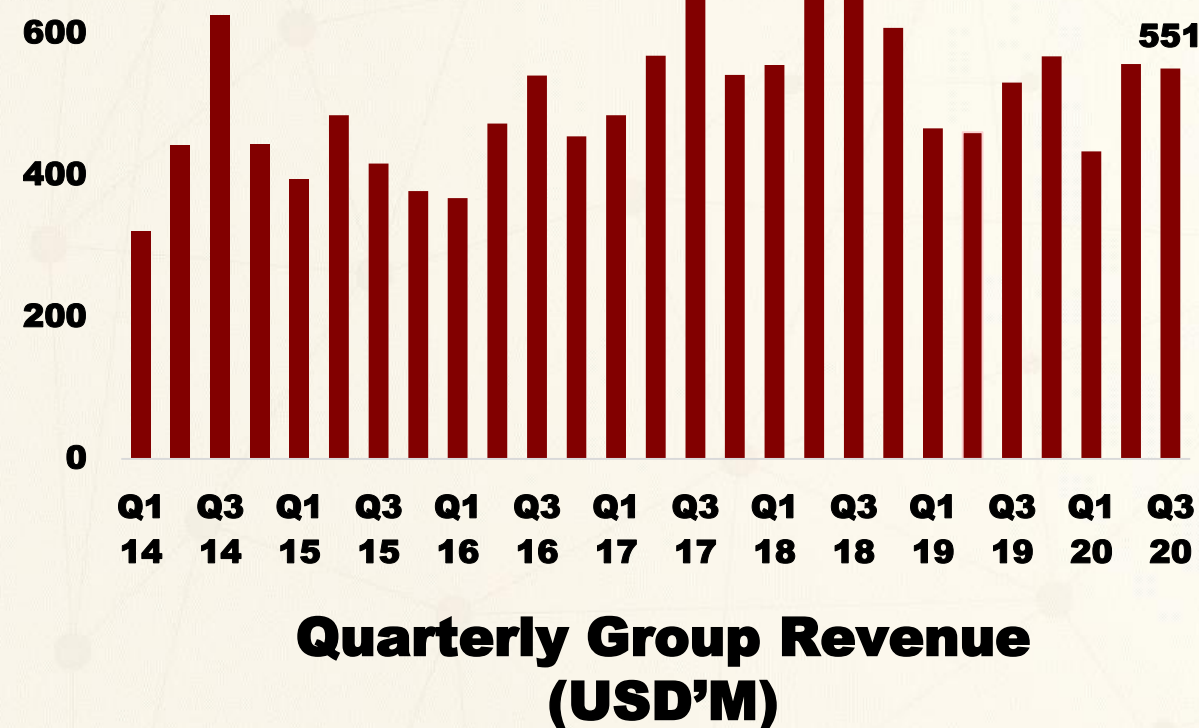
YoY* Growth:
+12.4%



	Q3 2020 Bookings		
	USD	YoY*	QoQ*
Group	583m	+12.4%	+23.5%
Semi Solutions Segment	288m	+8.6%	+26.8%
Materials Segment	66m	+3.6%	-15.2%
SMT Solutions Segment	229m	+20.7%	+37.3%

Q3 2020 Group Revenue

YoY* Growth:
+2.6%



	Q3 2020 Revenue		
	USD	YoY*	QoQ*
Group	551m	+2.6%	-1.2%
Semi Solutions Segment	247m	+5.0%	-11.5%
Materials Segment	78m	+22.4%	+4.8%
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Q3 2020 Group Financial Highlights

		Q3 2020	
		YoY*	QoQ*
Bookings (USD)	583m	+12.4%	+23.5%
Revenue (USD)	551m	+2.6%	-1.2%
Gross Margin	32.9%	-182 bps	-228 bps
EBIT (HKD)	347m	-8.7%	-24.0%
Net Profit (HKD)	234m	+5.2%	-36.0%
Net Profit Margin	5.5%	+14 bps	-298 bps

Q3 2020 Segment Results – Semiconductor Solutions

		Q3 2020	
		YoY*	QoQ*
Bookings (USD)	288m	+8.6%	+26.8%
Revenue (USD)	247m	+5.0%	-11.5%
Gross Margin	40.0%	-348 bps	-293 bps
Segment Profit (HKD)	178m	-0.6%	-47.0%
Segment Profit Margin	9.3%	-52 bps	-622 bps

Q3 2020 Segment Results – Materials

		Q3 2020	
		YoY*	QoQ*
Bookings (USD)	66m	+3.6%	-15.2%
Revenue (USD)	78m	+22.4%	+4.8%
Gross Margin	19.4%	+907 bps	+250 bps
Segment Profit (HKD)	83m	+355.7%	+43.2%
Segment Profit Margin	13.8%	+1,010 bps	+370 bps

Q3 2020 Segment Results – SMT Solutions

		Q3 2020	
		YoY*	QoQ*
Bookings (USD)	229m	+20.7%	+37.3%
Revenue (USD)	226m	-5.1%	+10.6%
Gross Margin	29.9%	-277 bps	-147 bps
Segment Profit (HKD)	172m	-24.1%	+8.3%
Segment Profit Margin	9.8%	-247 bps	-21 bps

Thank You Q&A



SINGAPORE
QUALITY
AWARD

2019 WINNER



**GRAND
AWARD**

Forbes Asia
— 2019 —

BEST OVER
A BILLION