



AEM

1H 2020 Results Presentation

AEM Holdings Ltd | August 4, 2020

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In this presentation, all \$ dollar amounts are in Singapore dollars unless otherwise specified



Corporate Profile

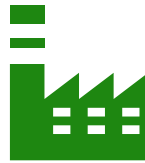
AEM is a global leader in application specific intelligent system test and handling solutions for semiconductor and electronics companies serving advanced computing, 5G and AI markets



Listed on SGX

Market Cap
~S\$1B

AEM Holdings
Limited
(AWX.SI)



Revenue

2018: S\$262.3M

2019: S\$323.1M

1H20: S\$273.7M

2020: Guidance of
S\$460M - S\$480M



Profit Before Tax

2018: S\$40.0M

2019: S\$63.7M

1H20: S\$67.3M



1H20 Financial Highlights

Revenue

1H20: S\$273.7M

S\$123.1M
+81.7%

1H19: S\$150.6M

PBT

1H20: S\$67.3M

S\$40.3M
+149.5%

1H19: S\$27.0M

PBT Margin

1H20: 24.6%

+6.7 pts

1H19: 17.9%

PAT

1H20: S\$55.3M

S\$33.0M
+147.9%

1H19: S\$22.3M

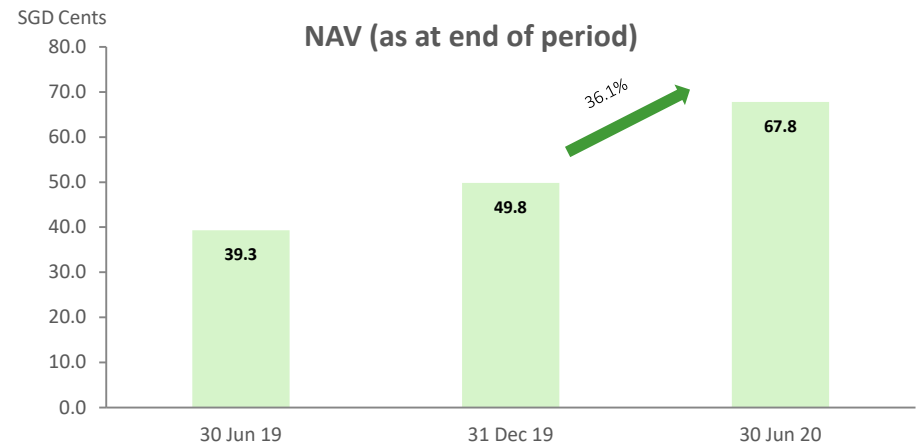
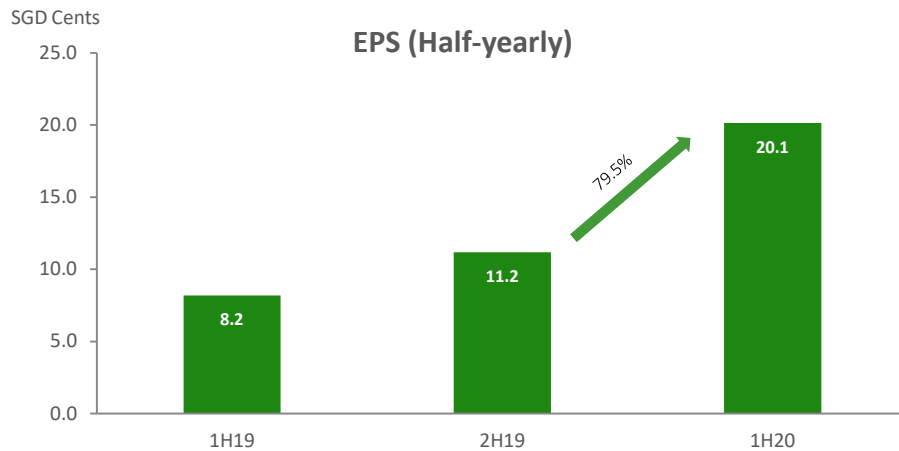
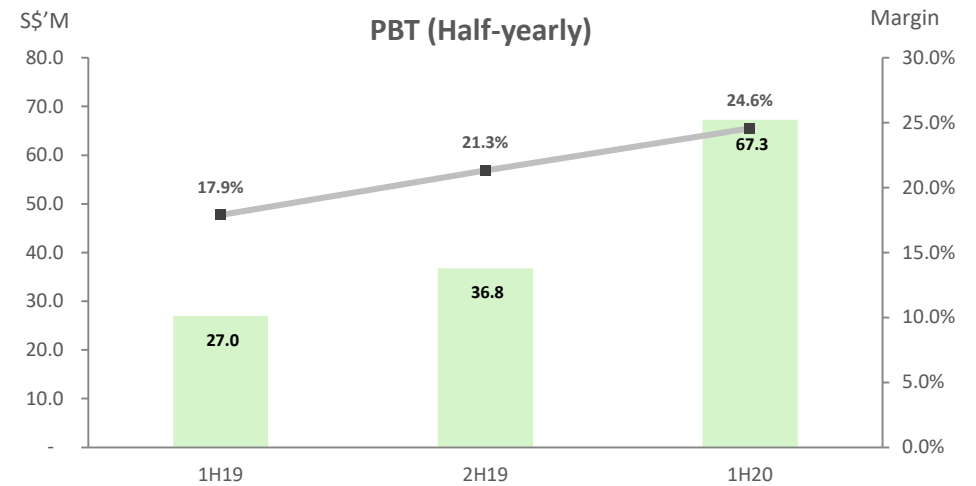
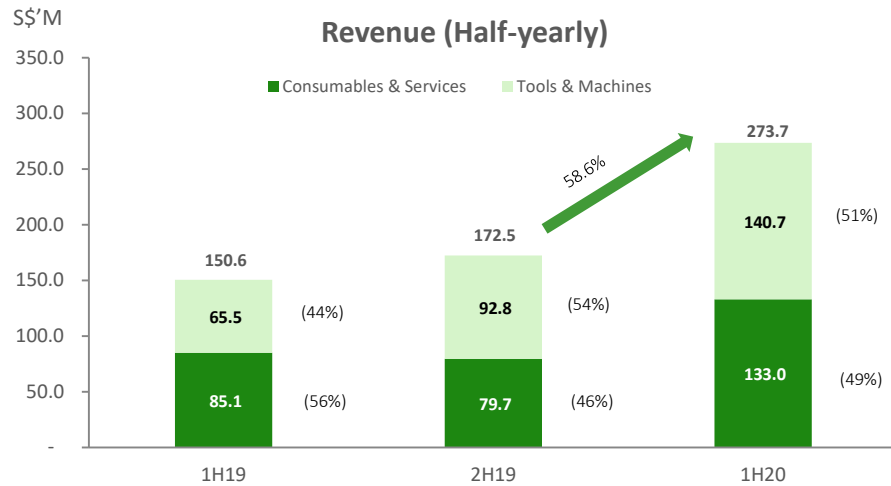
**Interim
Dividend**

1H20: 5.0 SGP cents

3.0 SGP cents

1H19: 2.0 SGP
cents

1H20 Financial Performance



Half-yearly sales improved y-o-y and sequentially mainly due to strong sales orders for test handlers, pans and kits.

Half-yearly PBT margin improved y-o-y and sequentially mainly due to higher sales, favourable product mix and operating cost efficiency



Profit & Loss Highlights

S\$M	1H year-on-year			FY2020
	1H 2020	1H 2019	%	Guidance
Revenue	273.7	150.6	▲ 81.7%	460 - 480
Material cost	(166.4)	(95.3)	▼ -74.6%	
Staff Cost	(32.5)	(19.6)	▼ -65.9%	
Depreciation & Amortisation	(4.2)	(2.9)	▼ -46.1%	
Sales and marketing expenses	(3.8)	(4.3)	▲ 10.2%	
PBT	67.3	27.0	▲ 149.5%	
PAT	55.3	22.3	▲ 147.9%	
EPS (fully diluted) in SG cents	20.13	8.18	▲ 146.1%	

Staff cost was higher mainly due to increased hiring and assumption of headcount through acquisitions.

Higher depreciation and amortisation was mainly due to higher depreciation of right-of-use assets as a result of additional leases taken up for the increase in sales and production activities and higher carrying value from renovation, equipment and computer software.

Sales and marketing expenses were lower mainly due to lower travelling, exhibition and warranty expenses offset by higher packing and delivery expenses.



Balance Sheet at a Glance

	As at	
	Jun 20	Dec 19
	S\$'M	S\$'M
Property, plant and equipment	6.7	6.4
Right of use assets ("ROU")	6.7	2.1
Intangible assets and goodwill	25.3	16.9
Cash and cash equivalents	137.9	107.7
Current assets less current liabilities	150.8	108.3
Borrowings	1.7	0.0
Shareholder's Equity	185.9	134.3
in SG Cents		
NTA per share	58.6	43.5
NAV per share	67.8	49.8

ROU assets (S\$6.7M) increased mainly due to the Group entered into new lease agreements for its office and production space in Singapore.

Cash increased S\$30.2M mainly due to net cash generated from operating activities of S\$47.3M, offset by the cash consideration paid for the acquisition of Mu-TEST and dividend payment.

Current assets less current liabilities was higher due to higher trade receivables from higher sales in 1H2020, higher inventory builds for the fulfilment of sales orders and higher trade payables.

Borrowings (S\$1.7M) were due to loan in Mu-TEST and additional loan taken up.



1H20 Sources and Applications of Funds

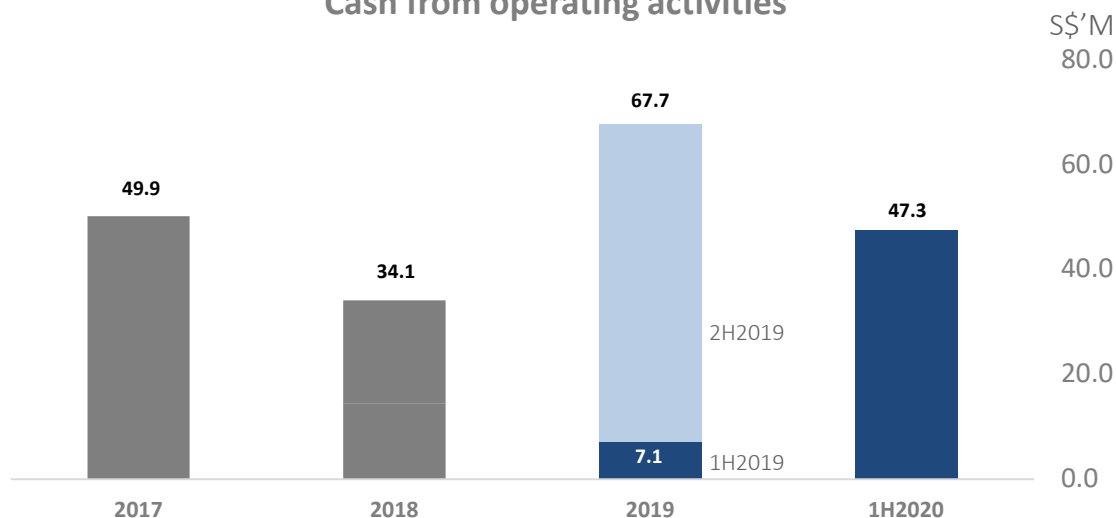
Cash increased by S\$30.2M in 1H20

	S\$M
Beginning Cash 1 Jan 2020	107.7
Operating Activities S\$47.3M	
PAT	55.3
Depre & Amort	4.2
Working capital & others	(12.2)
Investing Activities (S\$9.7M)	
Capital expenditure	(1.6)
Acquisition of Mu-TEST	(8.1)
Financing Activities (S\$8.8M)	
Share buyback	(1.8)
Proceeds from ESOS exercised	2.6
Dividends paid	(8.5)
Lease payment & other financing	(1.1)
Effect of exchange rate changes	1.5
Ending Cash 30 Jun 2020	137.9

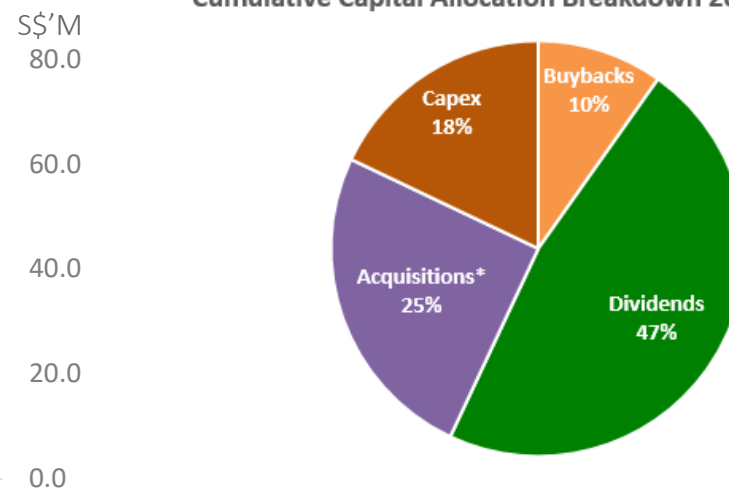


Generated S\$47.3M Cash From Operating Activities in 1H20

Cash from operating activities



Cumulative Capital Allocation Breakdown 2017 - 1H2020



S\$'M	2017	2018	2019	1H 2020	Cumulative
Buybacks	2.0	1.2	1.7	1.8	6.6
Dividends	4.5	8.4	10.5	8.5	31.9
Acquisitions*	-	8.8	-	8.1	16.9
Capex	2.5	4.7	3.3	1.6	12.1
Total	8.9	23.1	15.5	20.1	67.6
Free Cash Flow*	41.0	11.0	52.1	27.3	131.4

*Note: Free cash flow = cash from operating activities – buyback – dividends – acquisitions – capital expenditure

Acquisitions in 2018 : InspiRain S\$0.5M, Afore S\$7.8M, IRIS S\$0.5M

Acquisitions in 2019 : Mu-TEST S\$8.1M





Business & Operational Updates

1H2020 Key Updates

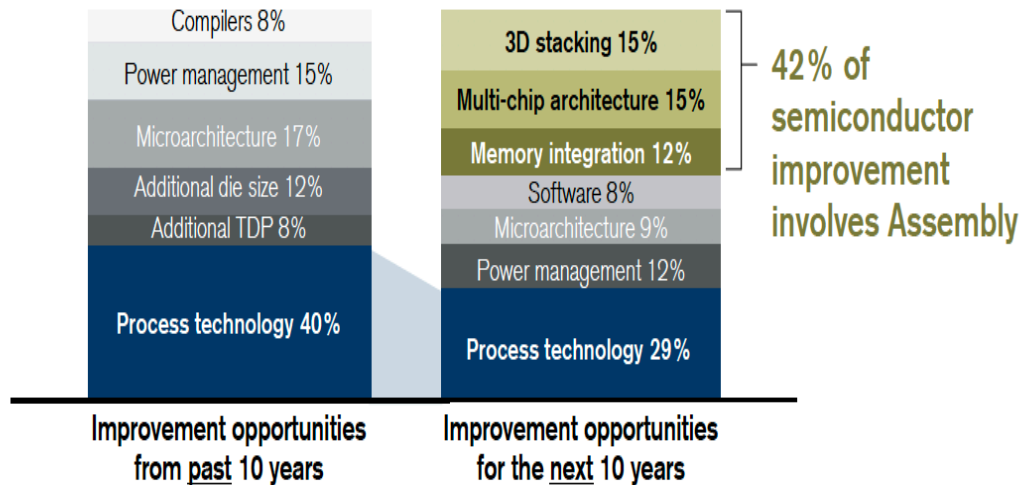
- Next generation handler for key customer is on track for FY 2021 production volume ramp
- Completed the acquisition of DB Design
 - Established developer of high specification test change kits and contactors
 - Operationally accretive to AEM's consumables business US application engineering footprint
 - Leverages AEM's consumables manufacturing capabilities across Asia
- Integration of Mu-TEST is going well
 - Building up complementary Singapore development capabilities
 - Recent collaboration with UTAC
 - Joint customer engagement with AMPS
- Afore and TMS are picking up pace post-COVID lockdowns
- M&A program continues



Semiconductor Industry is moving beyond Moore's Law – Complex IC architectures are driving demand for System Level Test

Increasing complexity of ICs and heterogeneous packaging has caused the industry to rethink the extensibility of ATE

Assembly is key to unlocking future improvement opportunities



Source: Company presentations, Gartner and Wall Street Research.
 Note: AMD & ASML investor presentations.

Today – Monolithic Tomorrow – Modular

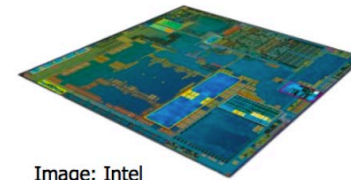
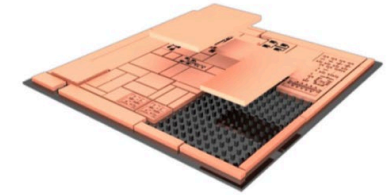
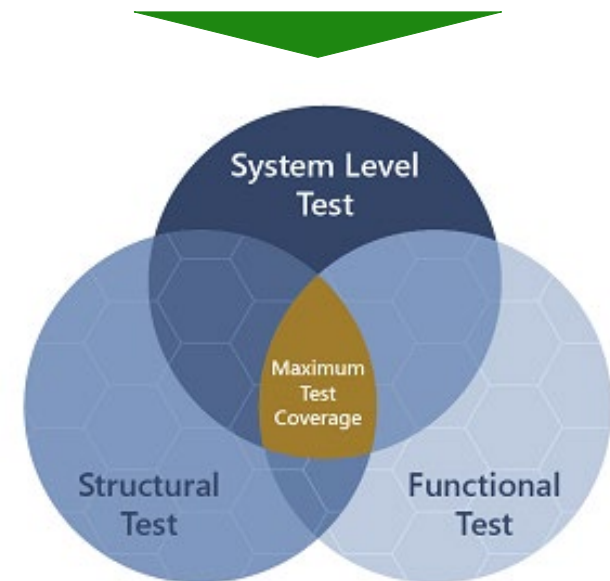


Image: Intel



Source: VLSI Research

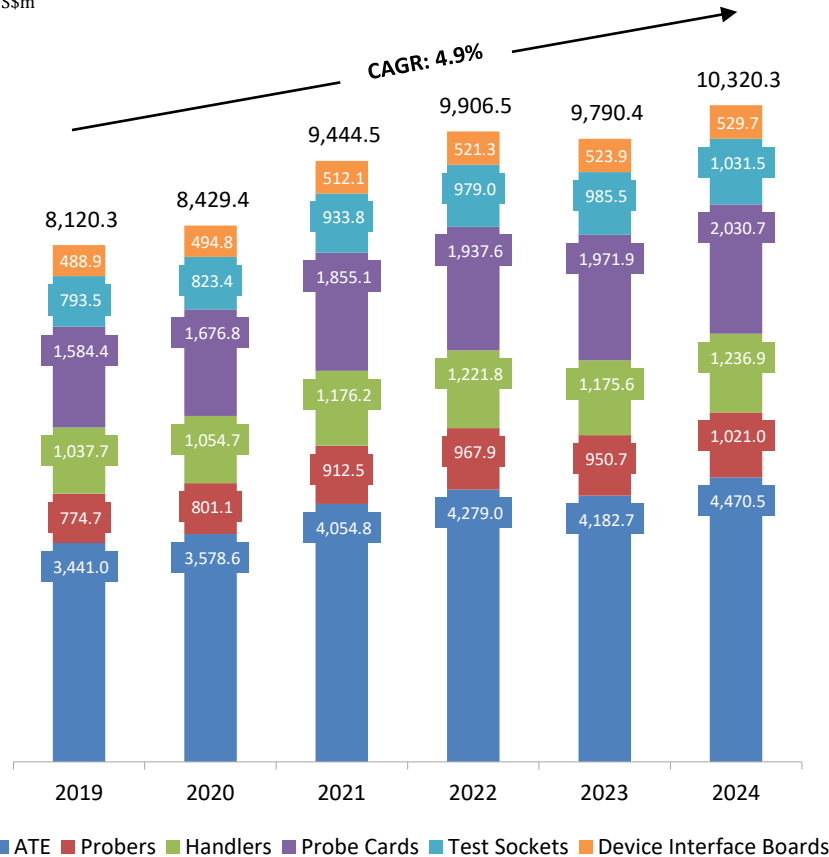


Semiconductor Back-End Market Data

Over the forecast period, SLT is expected to grow 4.4x faster than wafer sort and functional test

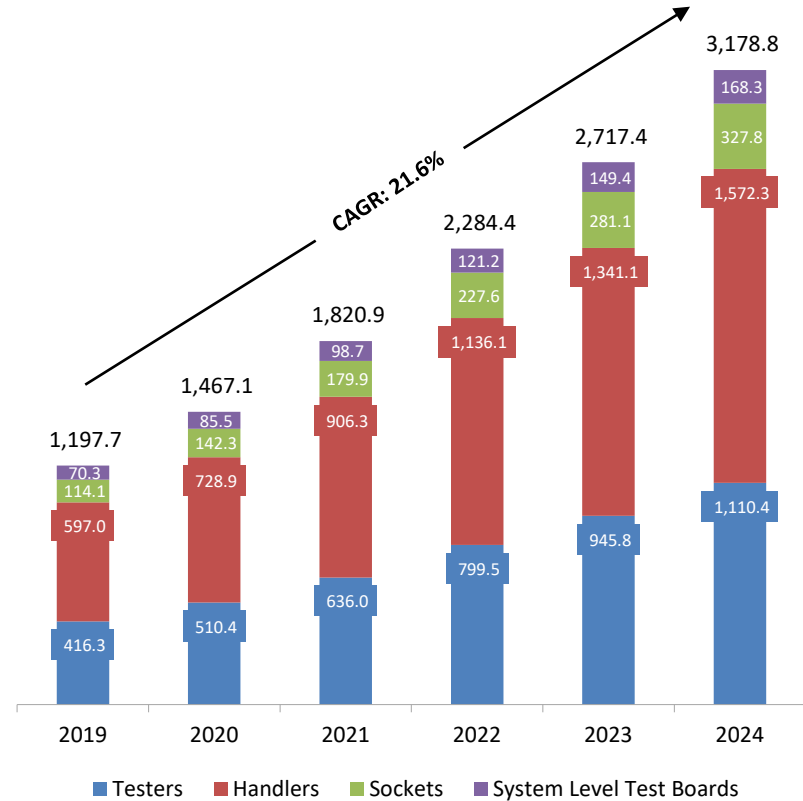
Wafer Sort & Functional Test Spend⁽¹⁾

US\$m



SLT Spend⁽¹⁾

US\$m



Note: (1) For memory and non-memory applications

Source: VLSI



AEM – Driving a Paradigm Shift From Functional to Modular Testing (SLT 2.0)

Conventional Test Cells

SOC ATE Tester with PNP handler



Modular Test Cell

AMPS Handler with multiple Modular Testers



Key advantages

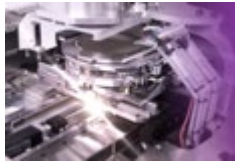
- Test Cell Cost** Reduce cell cost by up to 1/5th of conventional cell cost
- Throughput** Increases by asynchronous testing of multiple sites
- Temperature** Testing from sub zero to high temperature.

AEM's Technology Pillars Enable a Redefinition of the Test Cell

AEM's technology and product portfolio offers a diverse set of growth vectors, sector-wise, while geographically AEM is well-positioned to take advantage of the geopolitical turmoil facing the world today.

Non-Digital Probers

Pressure, Temp., Motion, Optical



MEMS, Quantum Computing

TAM: US\$50m

AEM Sales: FY19 – S\$2.8m
FY18 – S\$1.1m

Test Handlers

Wafer, Strip, Package, Module, Panel



System Level Test



MEMS Test

TAM: US\$600m

AEM Sales: FY19 – S\$177.9m
FY18 – S\$135.5m

Semiconductor Testers

Digital, Mixed Signal, Power / DPS



Low Cost ATE



Intelligent Load boards

TAM: US\$1,200m

Sales: Mu-Test (Acquired 03/20)

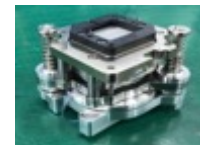
Enabling Technologies

- Multi-stimuli probers
- Wafer Level Handling, Advanced PNP
- Multi Autonomous Robotic Sys
- Active Thermal Control
- Advanced Vision
- Mixed Mode VNA
- Digital, RF test capability
- FPGA programming & IP

Pans / Kits / Sockets



System Level Test Consumables



TAM: US\$300m

AEM Sales: FY19 – S\$139.5m
FY18 – S\$124.7m

Interconnect Testers



Cable Testers, Vector Network Analyzers

TAM: US\$500m

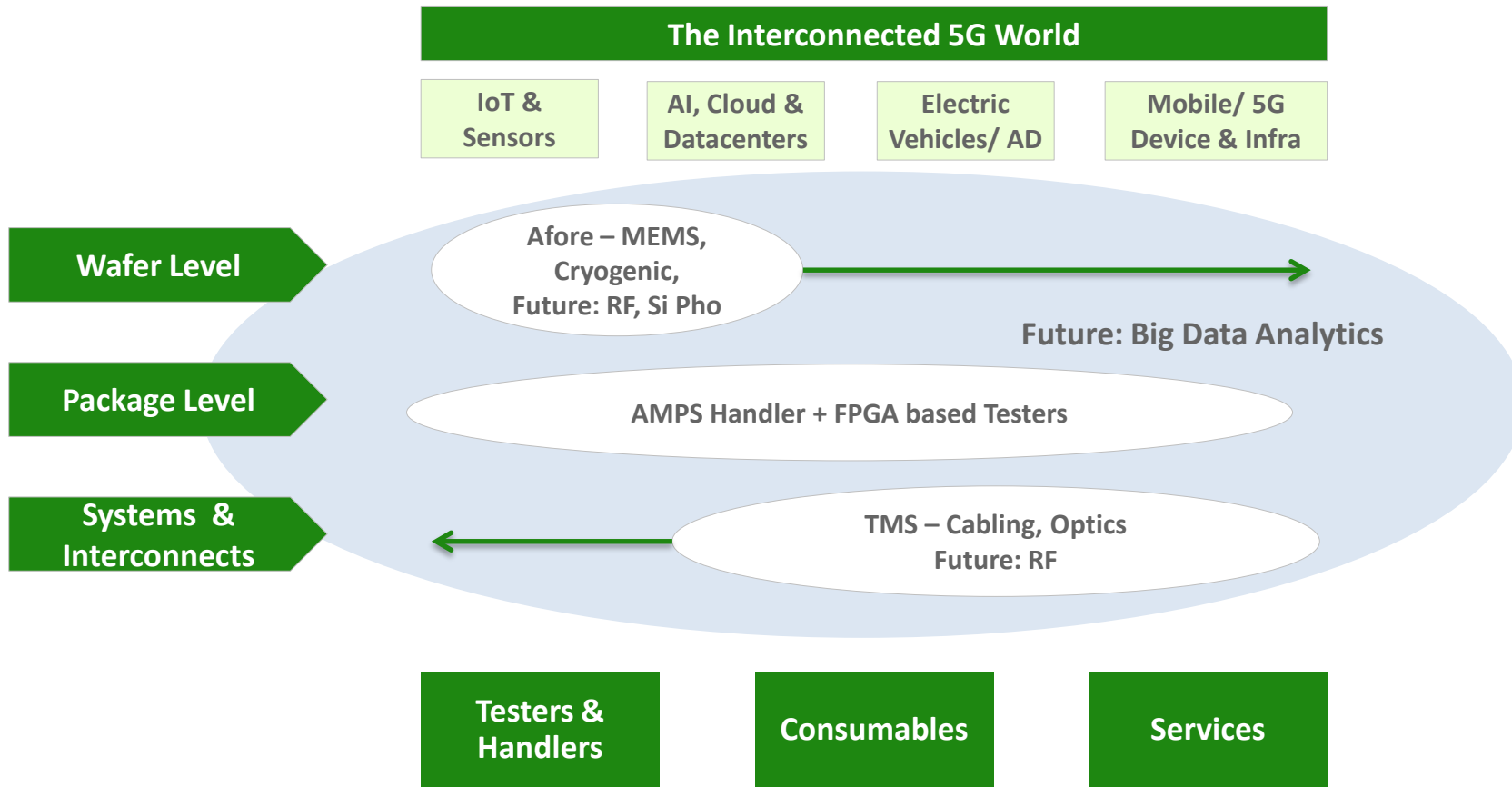
AEM Sales: FY19 – S\$2.9m
FY18 – S\$1.0m



Source: AEM analysis

A Disruptive Vision of Low-Cost Test Solutions for the 5G Economy

By designing test systems with programmable logic and rethinking test flows with Big Data, AEM now offers the lowest cost of test for MEMs, packaged ICs, and RF interconnects



Source: AEM Investor Presentation

AEM Proprietary





THANK YOU

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