[Unchanged]

Singapore Semicon Equipment Shaken, not stirred

BUY the dip; milestones intact

Observations since our sector piece "<u>Milestones on track</u>" on 10-Feb support our constructive view on AEM and UMS. AEM's key customer Intel's operations are "relatively normal", while Lam Research, the closest competitor of UMS' key customer Applied Materials (AMAT), sees no basis to change its optimistic view of 2020. UMS is trading on an attractive 6% FY20E yield, and AEM, which we view as a potential M&A play, is trading on 4.7x FY20E EV/EBITDA (Cohu bought Xcerra for 7-8x forward EV/EBITDA).

AEM - Intel 'relatively normal' amid Covid-19

Intel updated on 2-Mar that its operations, both group and in China (including a test and packaging facility in Chengdu) are "relatively normal" notwithstanding Covid-19. Intel's stability in outlook is because it entered 2020 from a position of shortage of its chips relative to customer demand. Intel maintained its plans to expand wafer capacity by 25%. Intel has so far not been able to rebuild both its own and customer inventory, although it still aspires to meet market demand within 2020. This would imply demand-supply dynamics are still in favour of Intel, in turn supportive of our view towards AEM. In late-Feb, AEM updated that it is confident of achieving its raised revenue guidance of SGD360-380m, and that components from China can also be sourced from ex-China suppliers.

UMS - Lam Research maintains FY20 outlook

Lam updated on 3-Mar that it has "heard nothing" from customers that changes its optimistic outlook for FY20. We believe this corroborates AMAT's expectation of "strong double-digit" growth for its semiconductor business in 2020 and favourable 2021 setup. Lam updated that amid the outbreak, it is currently driving alternative options throughout the supply chain. Given UMS' entrenched working relationship with AMAT, we see it as a theoretical beneficiary if AMAT decides to increase sourcing allocations away from China. In late-Feb, UMS updated that current shipment delays, amounting 1-2 weeks, should be cleared by end-1Q20.

Risks to our view

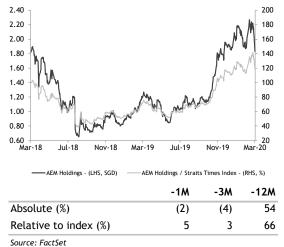
Amid a highly dynamic situation across supply chains, we believe any severe shortage of components is a key risk to our view for both AEM and UMS. Given Intel's aspirations to meet market demand for its chips, we see order cancellations at AEM as a low-probability event. For UMS, we believe a key demand risk is if a weaker economic outlook results in lower investment appetite for semiconductor equipment, and/or delayed recovery in memory investments. That said, we note various observations that server demand remains strong due to the work-from-home economy.

Analyst

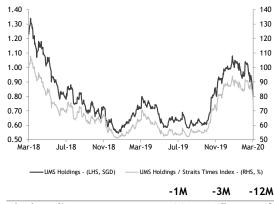
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POSITIVE

AEM's price performance



UMS' price performance



	-1M	-3M	-12M
Absolute (%)	(14)	(17)	13
Relative to index (%)	(7)	(11)	22
Source: FactSet			

Stock	Bloomberg	Mkt cap	Rating	Price	ТР	Upside	P/E	(x)	P/B	(x)	Div yl	ld (%)
	code	(USD'm)		(LC)	(LC)	(%)	20E	21E	20E	21E	20E	21E
AEM Holdings	AEM SP	362	Buy	1.83	2.82	57	8.3	7.9	2.8	2.2	3.0	3.2
UMS Holdings	UMSH SP	314	Buy	0.81	1.13	44	9.5	7.6	1.6	1.5	5.6	6.2

Additional updates

Intel (Morgan Stanley TMT conference, 2 Mar-20)

- Reminded that cloud workloads are increasingly customized. Intel is able to fulfill such requirements from its capabilities ranging from software, AI, architectural elements and memory.
- Intel believes it could achieve technological parity with its 7nm node and regain leadership with 5nm.
- As Intel meets market capacity for its chips in 2020, it aspires to win back some market share, particularly from lower performance PCs.
- Relative to demand picture, Intel observes critical shortages of NAND, which is a tailwind for NAND recovery YoY.

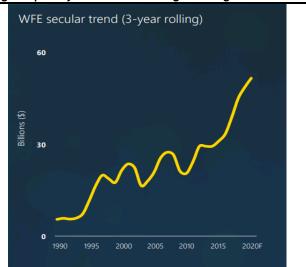
Lam Research (Investor Day, 3 Mar-20)

 Sees wafer fab equipment (WFE) market of USD60b p.a. over the next two years as a reasonable assumption. With strong growth of semiconductors, increasing manufacturing complexity and device scaling challenges, WFE levels have inflected higher from USD30b p.a. 5-6 years ago. These drivers are structural and are expected to drive sustainable growth in WFE across future cycles.

Applied Materials (1QFY20 earnings call, 12 Feb-20)

- For its semiconductor systems business, AMAT sees 1H:2H as roughly similar HoH, although 2H20 dynamics largely hinge on the rate of memory investments recovery. 2021 is seen as "up a fair amount" over 2020.
- No change to full year guidance. While some revenues are deferred in 2QFY20 in light of Covid-19, AMAT expects these to be realized in 2HFY20.
- Near term, AMAT sees recovery thesis unchanged, from robust logic/foundry spending, and memory investment recovery.
- Logic/ foundry demand drivers are from the leading edge, in relation to 5G rollout, and also from IoT, communications, automotive, power and image sensor markets.
- Sees NAND in early stages of recovery. Inventory levels were at 4-5 weeks from 8-10 weeks a year ago.

Fig 1: WFE has trended up amid growth in semiconductors, increasing manufacturing complexity and device scaling challenges.



Source: Lam Research

Fig 2: Investment theses for AEM and UMS

	Description of		
Stock	business	Thesis	Evidence that we are seeking
AEM	Semiconductor back-	AEM is beneficiary of Intel's capacity expansion in	 2020: Better than expected
(AEM SP,	end equipment	2020 and structurally increasing focus on various	order momentum/ Intel
BUY, TP	manufacturer. Owns	packaging and testing technologies. Growth	affirming capex guidance.
SGD2.82)	the IPs for its product	initiatives with new customers are also beginning to	
	portfolio.	pay off, e.g. with Huawei and new memory customer.	 2020 and beyond: Continued
			evidence that AEM's solutions
		Recent reports:	are gaining traction, e.g. new
		Continues to outperform (26 Feb'20)	customers and new products
		<u>Milestones on track (10 Feb'20)</u>	sold to Intel
		<u>Better than expected guidance (9 Jan'20)</u>	
		System level test - At an inflection point (18 Jun'20)	
UMS	Precision engineering	Beneficiary of global semiconductor capex spending	• 2020: Intel and TSMC
(UMSH SP,	and assembly for	which is still in its early innings through key customer	affirming capex guidance;
BUY, TP	front-end	Applied Materials. Drivers are sustained spending by	Applied Materials/ peers
SGD1.13)	semiconductor	logic/ foundry, and improvement in memory, led first	affirming outlook; improving
	equipment	by NAND and followed by DRAM.	dynamics for memory price and
	manufacturer		inventory, leading indicators of
		Recent reports:	memory investments.
		Beneficiary of the upswing (25 Feb'20)	2024
		<u>Milestones on track (10 Feb'20)</u>	• 2021: Recovery in memory
		Room for upside (3 Jan '20)	investments in full swing
		Earnings upcycle underway (4 Dec'19)	

Source: Maybank Kim Eng

Fig 3: AEM peer comparisons

			MKE								EV /EBI TDA	Div vield	ROE
Company	BBG	MKE	TP	Price	FYE	Мсар		P/E	(x)		(x)	(%)	(%)
	Code	Rec	(LC)	(LC)	mm	USDm	Act	FY1	FY2	FY3	FY1	FY1	FY1
AEM	AEM SP	Buy	2.82	1.83	12	363	9.3	8.3	7.9	7.4	4.7	3.0	37.8
Global back-end test handler peers													
Cohu	COHU US	NR		19.51	12	805	216.8	19.3	10.9	8.5	10.9	1.2	8.8
Tesec	6337 JP	NR	-	992	03	54	5.3	19.3	10.9	0.0	10.9	1.2	0.0
Chroma ATE	2360 TT	NR	-	140.00	12	1,958	31.6	20.4	16.9	14.5	16.0	3.0	16.2
Pentamaster Corp	PENT MK	NR	-	4.86	12	553	40.4	20.4	22.3	14.5	11.7	0.3	19.6
		INIX	-	4.00	12	555	70.4	20.0	15.5	13.2	13.1	2.2	17.2
Avelage							70.4	20.0	15.5	13.2	13.1	2.2	17.2
Global back-end equipment peers													
Koh Young Technology	098460 KS	NR		96,200	12	1,108	36.6	29.5	23.5	20.3	18.9	0.9	15.8
Advantest	6857 JP	NR	-	4,885	03	9,254	16.2	20.7	18.0	15.7	11.9	1.5	20.7
Vitrox	VITRO MK	Sell	6.50	8.27	12	934	36.9	48.1	31.9	26.3	39.2	0.5	-
Hirata	6258 JP	NR	-	4,835	03	494	11.0	27.4	12.9	10.1	-	0.9	3.9
ASM Pacific	522 HK	NR	-	88.25	12	4,644	58.1	23.2	15.8	14.5	11.9	-	12.3
BE Semiconductor	BESI NA	NR	-	33.41	12	3,026	31.5	25.8	18.2	14.3	16.9	3.4	31.6
KLA-Tencor	KLAC US	NR	-	155.68	06	24,406	18.4	15.4	14.0	12.8	12.2	2.1	55.6
Teradyne	TER US	NR	-	58.92	12	9,827	20.6	18.0	16.0	14.6	11.9	0.5	35.6
Average							23.2	19.0	16.0	14.3	13.0	1.7	39.3

Source: FactSet, Bloomberg, Maybank Kim Eng

Fig 4: UMS peer and supply chain comparisons

Company	BBG	MKE	MKE TP	Price	FYE	Мсар		P/E	(x)		EV /EBI TDA (x)	PBR (x)	Div yield (%)
	Code	Rec	(LC)	(LC)	mm	USDm	Act	FY1	FY2	FY3	FY1	FY1	FY1
UMS	UMSH SP	Buy	1.13	0.81	12	315	12.9	9.5	7.6	7.8	7.8	1.6	5.6
Singapore-listed semiconductor equipment makers/ suppliers													
AEM	AEM SP	Buy	2.82	1.83	12	363	9.3	8.3	7.9	7.4	4.7	-	3.0
Micro-Mechanics	MMH SP	NR	-	1.71	06	172	18.4	16.4	14.9	-	-	4.1	6.4
Average							12.5	10.4	9.1	7.5	6.0	2.5	4.7
Globally listed AMAT suppliers													
Ultra Clean Holdings	UCTT US	NR	-	20.28	12	807	22.3	11.8	10.4	15.0	-	1.7	-
MKS Instruments	MKSI US	NR	-	100.84	12	5,533	22.3	16.2	12.4	10.0	7.1	2.5	0.8
Advanced Energy Industries	AEIS US	NR	-	61.45	12	2,360	25.2	18.4	13.7	12.0	-	3.1	0.0
Brooks Automation	BRKS US	NR	-	33.75	09	2,485	43.8	28.1	20.7	16.4	-	1.8	1.2
Ichor Holdings	ICHR US	NR	-	28.69	12	649	23.0	10.5	8.8	8.8	5.9	2.6	0.0
Flex	FLEX US	NR	-	10.69	03	5,388	9.4	8.4	7.4	6.6	3.9	1.9	0.0
Celestica	CLS US	NR	-	6.44	12	707	11.9	8.4	6.8	7.4	-	-	0.0
Average							21.4	15.1	11.8	10.2	5.6	2.2	0.9
Globally listed front-end semicon equipment makers													
Applied Materials	AMAT US	NR	-	57.79	10	53,069	19.0	14.0	12.3	11.2	9.4	5.3	1.5
Lam Research	LRCX US	NR	-	294.41	06	42,851	20.2	17.8	14.5	13.0	10.8	9.5	1.6
ASML	ASML NA	NR	-	251.30	12	120,986	40.8	30.7	23.7	20.3	15.8	7.7	1.0
KLA Corp	KLAC US	NR	-	155.68	06	24,406	18.4	15.4	14.0	12.8	10.2	8.6	2.1
Tokyo Electron	8035 JP	NR	-	22,435	03	33,481	14.8	20.2	16.6	14.0	7.9	4.3	2.5
							28.2	22.8	18.3	16.0	12.4	7.2	1.5

Source: FactSet, Bloomberg, Maybank Kim Eng

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