

## Applied Materials

Ticker Site BiG	AMAT
Ticker BiGlobal Trade	AMAT
Ticker BT24	AMAT
Ticker BiG Power Trade	AMAT
P/E Ratio 2019E	17.09
P/BV Ratio	5.79
EV/EBITDA	9.95

Source: BiG Research;

## Price and Performance (Values in USD)

Price	50.73
52 week high	50.80
52 week low	28.79
YTD	54.9%
Average daily volume (un)	10,208,141
Market Capitalization (mn)	47,489
Beta	1.30
Dividend	0.70
EPS	3.27

Source: BiG Research;

## Analysts Consensus (last 3 months)

Buy	20
Hold	9
Sell	0

Source: BiG Research;

## Financial Data

Sales (USD mn)	17,253
EBITDA (USD mn)	5,253
Number of Employees	21,000
ROA	18.7%
ROE	45.7%
D/E	0.78
Dividend Yield	1.66%

Source: BiG Research;

## Notes:

All quotes were updated in Bloomberg at 09h40 of July 23<sup>rd</sup>, 2019.

## Relevant Information:

Use the following link to view our most recent publications:

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## Applied Materials (Ticker: AMAT US)

### Description

Applied Materials is a US based company that is divided in 3 main segments of semiconductor industry: Semiconductor Systems, Global Services and Display and adjacent markets. Through these segments it provides equipment and software to chips, display, solar photovoltaic manufacturers.

Applied Materials trades in the NYSE with a market capitalization of USD 47.5 bn.

### Investment Case

Chips industry (datacenters, cloud, IoT etc) is growing at a high rate, however, the different changes in trends and technologies may pose a risk for companies like Applied Materials which need to be constantly updated. The impact of the fall of spending in memory is also impacting revenues of the company and current trade war situation may impact margins. Trading at a P/E of 14x we do not feel that now is the right moment to increase exposure to Applied Materials.

### Environmental, Social and Governance (ESG)

**Environment:** In 2017, Applied used 430bn BTU of gas and 3.1 bn GW of electricity, 16.8 mn liters of water and approximately 191,000 metric tons of CO2. Waste generated was around 18,000 metric tons of which 74% was recycled.

**Social:** Data is also not disclosed but it discloses support for multiple non-profit foundations and organizations related with education, art and culture, environment and civil engagement with contributions of USD 10 mn.

**Governance:** Women in board of directors represent only 22%. Training hours per employee reach 53h per year. No more ratios of diversity and inclusion are reported.

### Relative Valuation

Name	Country	Market Cap (mn)	Currency	P/E 2019E	YTD	Div. Yield	NetDebt/ EBITDA	Margin EBITDA
CABOT MICROELECTRONICS CORP	UNITED STATES	3,346	USD	17.1	20.8%	1.4%	3.7	27.5%
TERADYNE INC	UNITED STATES	8,028	USD	19.9	49.3%	0.8%	-0.9	28.8%
AMKOR TECHNOLOGY INC	UNITED STATES	1,857	USD	96.9	18.1%	0.0%	1.1	19.1%
INFICON HOLDING AG-REG	SWITZERLAND	1,373	CHF	23.6	14.6%	3.9%	-0.7	22.3%
ENTEGRIS INC	UNITED STATES	5,247	USD	20.1	38.8%	0.7%	1.6	25.2%
ASML HOLDING NV	NETHERLANDS	88,090	EUR	33.8	50.9%	1.0%	0.3	27.0%
MKS INSTRUMENTS INC	UNITED STATES	4,515	USD	16.6	28.6%	1.0%	1.2	24.8%
KLA CORP	UNITED STATES	22,166	USD	16.4	53.3%	2.2%	0.9	38.0%
LAM RESEARCH CORP	UNITED STATES	31,066	USD	14.5	52.2%	2.1%	-0.4	30.1%
APPLIED MATERIALS INC	UNITED STATES	47,489	USD	17.1	54.9%	1.6%	0.4	27.7%
Average exc. Applied Materials				28.8		1.46%	0.8	27.0%

Source: BiG Research

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Income Statement (USD mn)	2018	2017
Revenues	17,253	14,537
Cost of goods sold	9,436	8,005
Research & Development	2,019	1,774
Marketing and selling	521	456
General and administrative	481	434
<b>Operating Expenses</b>	<b>12,457</b>	<b>10,669</b>
EBIT	4,796	3,868
Interest expenses	102	137
EBT	4,694	3,731
Taxes	1,381	297
<b>Net Income</b>	<b>3,313</b>	<b>3,434</b>
<b>Earnings Per Share</b>	<b>3.27</b>	<b>3.20</b>

Source: Company's data

Free Cash Flow (USD mn)	2018	2017
<b>Operational Cash Flow</b>	<b>3,787</b>	<b>3,789</b>
Business Net Income	3,313	3,434
Depreciation and Amortization	457	407
Changes in Working Capital	-339	-252
Others	356	200
<b>Investment Cash Flow</b>	<b>571</b>	<b>-2,526</b>
Capex	-628	-413
Financial investments & others	1,199	-2,113
<b>Financial Cash Flow</b>	<b>-5,928</b>	<b>341</b>
Debt change	0	1,971
Share buyback	-5,159	-1,075
Dividends	-605	-430
Others	-164	-125
<b>Change in free cash flow</b>	<b>-1,570</b>	<b>1,604</b>
<b>Cash at the end of period</b>	<b>3,440</b>	<b>5,010</b>

Source: Company's data

Balance Sheet (USD mn)	2018	2017
<b>Assets</b>	<b>17,773</b>	<b>19,419</b>
Cash & Equivalents	3,440	5,010
Short term investments	590	2,266
Receivables	2,565	2,338
Inventories	3,722	2,930
Property and equipment	1,407	1,066
Intangible Assets & Goodwill	3,581	3,780
Other Assets	2,468	2,029
<b>Liabilities</b>	<b>10,934</b>	<b>10,070</b>
Short term Debt	0	0
Long term Debt	5,309	5,304
Deferred rev. & cust. deposits	1,347	1,665
Payables	2,721	2,450
Other liabilities	1,557	651
<b>Total Shareowner's Equity</b>	<b>6,839</b>	<b>9,349</b>
<b>Total Equity and Liabilities</b>	<b>17,773</b>	<b>19,419</b>

Source: Company's data

## Income Statement

Sales in 2018 (which for the company ended in September of 2018) increased by 18.7% and EBIT margin improved to 27.8% from 26.6% in 2017. Semiconductor systems segment increased sales by 15%, Global Services by 24% and Display and Adjacent markets by 31%. In the semiconductor systems segment, sales to foundry clients decreased -33% due to “re-prioritization of capital spending plans on longer lead-time equipment not in Applied’s product portfolio”. In terms of geography, sales increased 20% in Asia Pacific (China +86% and Japan +58%) while only +4% in US and +31% in Europe. Asia Pacific represents around 85% of total sales.

Net income in 2018 was affected by a onetime expense related to recent US Tax legislation.

## Free Cash Flow

Capex for 2018 reached USD 628mn mainly for real property acquisitions in North America and Taiwan and investments in demonstration, testing and laboratory tools. The company bought back shares in a total amount exceeding USD 5bn and paid USD 600 mn in dividends. On June 7<sup>th</sup>, 2019, the company announced the approval of a quarterly cash dividend of USD 0.21 per share. In the second quarter of 2019 (ended in March 2019) the company returned around USD 814 mn to shareholders through dividends and buybacks. At this date, the company still had USD 3 bn remaining in authorized share buybacks.

## Balance Sheet

As the company increases its dividend and share buybacks, the cash reduces. Currently net debt /EBITDA is still at reasonable levels at around 0.25x but it may be increased with the expected drop in sales for 2019 and continuous spending in buyback and dividends.

## Second fiscal quarter earnings and guidance

In the quarter which ended on 31<sup>st</sup> March 2019, sales exceeded analyst’s estimates (USD 3.54bn vs est. USD 3.49bn) as well as EPS of USD 0.70 vs est. USD 0.67. For the 3Q19 the company anticipates sales between USD 3.38bn and USD 3.68bn, vs est. USD 3.53bn.

**Semiconductor systems:** Management stated that in the last 5 years, smartphones were the major driver of semiconductor capital investments. However the industry is now changing to new drivers of growth such as cloud data centers, 5G, IoT and automotive industry. This factor is having an impact in 2019 earnings of the company.

Other factor impacting the year 2019 was the memory cycle of the last couple of quarters. However recent data shows inventories of NAND (Flash) decreasing and prices stabilizing. DRAM industry still presents a high level of inventories and prices are falling. The company affirmed that this cycle is different than previous ones in the sense that fundamental dynamics of the sector are still robust and investments in capacity still exist. Applied Materials believes customers are focusing resources on advancing their technology roadmaps and overall memory spending will fall significantly vs 2018. For foundry the company expects spending to be up yoy. In total, wafer fab equipment in 2019 should see spending down mid to high teens on a percent basis.

**Display:** Applied Materials expects revenues in this segment to drop by 33% vs 2018 as customers delay investments.

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Source: Company's data

### Management Team

**Gary E. Dickerson (Chairman and CEO):** Gary was born in 1956, and previously worked at GM Electronics division and AT&T Technologies in engineering management positions. After he joined KLA – Tencor corporation and work there for 18 years, becoming its CEO. After he joined Varian Semiconductor Equipment Associates as CEO for 7 years and being acquired by Applied Materials for USD 4.9bn. He was then elected as CEO and President of Applied Materials in 2013.

In 2018 Gary received from Applied Materials around USD 14mn, including salary (USD 1 mn), stocks and options (USD 11.2mn), bonus (USD 1.4mn) and other benefits.

### Products and segments

**Semiconductor systems (FY18 sales USD 10.9bn (+15% yoy), op. income mg 33%):** This segment manufactures and sells a wide range of manufacturing equipment to fabricate semiconductor chips, also referred to as integrated circuits (IC). The technologies available are:

- **Epitaxy:** for growing silicon as uniform crystalline structure on a wafer form.
- **Ion Implant:** Used to form transistors by changing the electrical properties of the exposed semiconductor material.
- **Oxidation/Nitration:** Create isolation / Rapid Thermal Processing (RTP)
- **Depositions:** Physical Vapor Deposition (PVD) / Chemical Vapor Deposition (CVD) / Chemical Mechanic Planarization (CMP) / Electrochemical Deposition (ECD) / Atomic Layer Deposition (ALD)
- **Etch:** Process of removal of material from the wafer. Also includes Selective Removal which is a etch process but only for a specific material without damaging the rest.
- **Metrology and inspection:** Locate, measure and analyze defects.

This includes equipment for many steps of the chip making process such as:

- **transfer of patterns in to device structures:** addressing challenges from shrinking pattern dimensions and the growing complexity in vertical stacking found in today's most advanced semiconductor devices.
- **transistor and interconnect fabrication:** device scaling of 3D transistors.
- **metrology, inspection and review:** employ optical and e-beam technologies to enable self aligned double and quad patterning, extreme ultraviolet layers, measurement-intensibe optimal proximity correction mask qualification and new 3D architectures.
- **and packaging technologies for connecting finished IC die:** enables increasing integration of multiple IC dies in a single package.

**Applied Global Services (FY18 sales USD 3.8bn (+24% yoy), op. income mg 29%):** This segment provides solutions to optimize productivity, spares, upgrades, services, remanufactured earlier generation equipment and factory automation software for semiconductor, display and other products.

**Display and adjacent markets (FY18 sales USD 2.5bn (+31% yoy), op. income mg 27%):** This segment comprises technologies to manufacture liquid crystal displays (LCDs), organic light-emitting diodes (OLEDs) and other displays for tvs, monitors, smartphones etc.

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## Company strategy

Applied Materials sees a new industry playbook for semiconductor design and manufacturing that includes 5 components:

- New architectures
- 3D structures and scaling techniques
- novel materials
- new ways to shrink feature sizes
- advanced packaging including new ways to connect the chips together.

## Risks

**Changes in industry difficult to predict:** The semiconductors industry is changing constantly due to the development of new technologies and shift in consumer trends. Consequently it is difficult to accurately predict these patterns and may lead to a decrease in sales if the company products fail to address the industry needs.

**Trade Wars:** Around 30% of its sales are in China, so an escalation of trade wars and tariffs may impact directly sales and margins of the company.

Rating		
Agency	Rating	Outlook
S&P	A-	STABLE
Moody's	A3	STABLE

Source: BiG Research

## Graph



Source: BiGlobal Trade (partner Saxo Bank); BiG Research

## Calendar

**August 15<sup>th</sup>, 2019:** 3Q19 earnings

**August 21<sup>st</sup>, 2019:** Ex-date quarterly dividend

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  - Accumulate, expected absolute return between +5% and +15%;
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