FORM 6-K

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

For the month of May 2018 No.2

TOWER SEMICONDUCTOR LTD.

(Translation of registrant's name into English)

Ramat Gavriel Industrial Park P.O. Box 619, Migdal Haemek, Israel 2310502

(Address of principal executive offices)

	Indicate by check mark whether the registrant files or will file annua	reports under cover Form 20-F or Form 40-F.						
	Form 20-F ⊠	For	orm 40-F □					
Comm	Indicate by check mark whether the registrant by furnishing the infension pursuant to Rule 12g3-2(b) under the Securities Exchange Act of		n contained in this Form is also thereby furnishing the information to	th				
	Yes □	No	o ⊠					

On May 7, 2018, the Registrant announced its financial results for the three months ended March 31, 2018. Attached hereto is the following exhibit.

Exhibit 99.1Press release dated May 7, 2018.

SIGNATURES

Date: May 7, 2018

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

TOWER SEMICONDUCTOR LTD.

By: /s/ Nati Somekh

Name: Nati Somekh Title: Corporate Secretary



TowerJazz Reports Results for the First Quarter of 2018 and Second Quarter Guidance Growth

MIGDAL HAEMEK, ISRAEL - May 7, 2018 - TowerJazz (NASDAQ: TSEM & TASE: TSEM) reported today its financial results for the first quarter ended March 31, 2018.

Highlights:

- · Revenues of \$313 million resulted in EBITDA of \$84 million and net profit of \$26 million;
- · Cash from operations of \$75 million and free cash flow of \$35 million;
- · Record net cash of \$247 million;
- · Record Shareholders equity of \$1.07 billion;
- · Received upgraded S&P rating from "ilA+ stable" to "ilAA- stable";
- · Forecast second quarter revenue growth of 7% sequentially, with a mid-range guidance of \$335 million.

Business Outlook

TowerJazz expects revenues for the second quarter of 2018 ending June 30, 2018 to be \$335 million, with an upward or downward range of 5%, representing a sequential growth of 7%.

Mr. Russell Ellwanger, Chief Executive Officer of TowerJazz, commented, "This past quarter we formally began projects and/ or were informed of wins for several varied industry defining projects with respective customer market leaders. The quarter, as forecasted, was impacted by seasonality and some activities, moving our offering to higher value richer mixes. Present customer forecasts show continued quarter over quarter growth throughout 2018, with a fourth quarter demonstrating over 25% organic business unit growth against the first quarter, and with commensurate bottom line achievements."

First Quarter 2018 Results

Revenues for the first quarter of 2018 were \$313 million, seasonally down, reflecting a 5% decrease as compared to \$330 million in the first quarter of 2017.

Gross and operating profits for the first quarter of 2018 were \$66 million and \$32 million, respectively, as compared to \$89 million and \$54 million, respectively, in the fourth quarter of 2017, and as compared to \$85 million and \$53 million, respectively, in the first quarter of 2017. This represents quarter over quarter gross and operating margins decrease of 4 and 5 percentage points, respectively, and year over year decrease of 5 and 6 percentage points, respectively.

EBITDA for the first quarter of 2018 was \$84 million, as compared to \$101 million, in the first quarter of 2017.

Net profit for the first quarter of 2018 was \$26 million, or \$0.26 diluted earnings per share, as compared to \$46 million, or \$0.45 diluted earnings per share in the first quarter of 2017.

Free cash flow for the quarter was \$35 million, with \$75 million cash flow from operations and \$40 million investments in fixed assets, net. The other main cash activities during the first quarter of 2018 were: \$15 million investment in marketable securities and other investments; \$7 million loan repayment and a positive \$5 million item due to the effect of the Japanese Yen exchange rate on the cash balance.

Cash (including marketable securities), net of gross debt, as of March 31, 2018, totaled to a record of \$247 million as compared to net cash of \$226 million as of December 31, 2017.

Shareholders' equity as of March 31, 2018 was a record of \$1.07 billion, as compared to \$1.03 billion as of December 31, 2017.

Rating

On April 30, 2018, the Company received an upgraded rating from Standard & Poor's Ma'alot (an Israeli rating company which is fully owned by S&P Global Ratings). Its previous rating was "ilA+ with a stable horizon" and the new upgraded rating is "ilAA-, with a stable horizon".

Teleconference and Webcast

TowerJazz will host an investor conference call today, May 7, 2018, at 10:00 a.m. Eastern time (9:00 a.m. Central time, 8:00 a.m. Mountain time, 7:00 a.m. Pacific time and 5:00 p.m. Israel time) to discuss the Company's financial results for the first quarter 2018 and its outlook.

This call will be webcast and can be accessed via TowerJazz's website at www.towerjazz.com, or by calling 1-888-668-9141 (U.S. Toll-Free), 03-918-0609 (Israel), +972-3-918-0609 (International). For those who are not available to listen to the live broadcast, the call will be archived on TowerJazz's website for 90 days.

The Company presents its financial statements in accordance with U.S. GAAP. The financial information included in the tables below includes unaudited condensed financial data. Some of the financial information in this release, which we describe in this release as "adjusted" financial measures, is non-GAAP financial measures as defined in Regulation G and related reporting requirements promulgated by the Securities and Exchange Commission as they apply to our Company. These adjusted financial measures are calculated excluding one or more of the following: (1) amortization of acquired intangible assets; (2) compensation expenses in respect of equity grants to directors, officers and employees; (3) non-recurring items related to long-term investments, (4) income tax benefit resulted from Israeli deferred tax asset realization following valuation allowance release; and (5) income tax benefit related to U.S. tax reform. These adjusted financial measures should be evaluated in conjunction with, and are not a substitute for, GAAP financial measures. The tables also present the GAAP financial measures, which are most comparable to the adjusted financial measures, as well as a reconciliation between the adjusted financial measures and the comparable GAAP financial measures. As used and/or presented in this release, as well as calculated in the tables herein, the term Earnings Before Interest Tax Depreciation and Amortization (EBITDA) consists of net profit in accordance with GAAP, excluding interest and other financing expense, net, other income, net, taxes, non-controlling interest, depreciation and amortization expense and stock-based compensation expense. EBITDA is reconciled in the tables below from GAAP operating profit. EBITDA is not a required GAAP financial measure and may not be comparable to a similarly titled measure employed by other companies. EBITDA and the adjusted financial information presented herein should not be considered in isolation or as a substitute for operating profit, net profit or loss, cash flows provided by operating, investing and financing activities, per share data or other profit or cash flow statement data prepared in accordance with GAAP. The term Net Cash, as used and/or presented in this release, is comprised of cash, cash equivalents, short-term deposits and marketable securities (in the amounts of \$590 million and \$560 million as of March 31, 2018 and December 31, 2017, respectively) less the outstanding principal amount of bank loans (in the amounts of \$138 million as of March 31, 2018 and December 31, 2017), the outstanding principal amount of capital leases (in the amounts of \$25 million and \$16 million as of March 31, 2018 and December 31, 2017) and the outstanding principal amount of debentures (in the amount of \$180 million as of March 31, 2018 and December 31, 2017). The term Net Cash is not a required GAAP financial measure, may not be comparable to a similarly titled measure employed by other companies and should not be considered in isolation or as a substitute for cash, debt, operating profit, net profit or loss, cash flows provided by operating, investing and financing activities, per share data or other profit or cash flow statement data prepared in accordance with GAAP. In addition, the term Free Cash Flow, as used and/or presented in this release, is calculated to be cash from operating activities (in the amounts of \$75 million, \$85 million and \$82 million for the three months periods ended March 31, 2018, December 31, 2017 and March 31, 2017, respectively) less cash for investments in property and equipment, net (in the amounts of \$40 million, \$41 million and \$40 million for the three months periods ended March 31, 2018, December 31, 2017 and March 31, 2017, respectively). The term Free Cash Flow is not a required GAAP financial measure, may not be comparable to a similarly titled measure employed by other companies and should not be considered in isolation or as a substitute for operating profit, net profit or loss, cash flows provided by operating, investing and financing activities, per share data or other profit or cash flow statement data prepared in accordance with GAAP.

About TowerJazz

Tower Semiconductor Ltd. (NASDAQ: TSEM, TASE: TSEM) and its subsidiaries operate collectively under the brand name TowerJazz, the global specialty foundry leader. TowerJazz manufactures next-generation integrated circuits (ICs) in growing markets such as consumer, industrial, automotive, medical and aerospace and defense. TowerJazz's advanced technology is comprised of a broad range of customizable process platforms such as: SiGe, BiCMOS, mixed-signal/CMOS, RF CMOS, CMOS image sensor, integrated power management (BCD and 700V), and MEMS. TowerJazz also provides world-class design enablement for a quick and accurate design cycle as well as Transfer Optimization and development Process Services (TOPS) to IDMs and fabless companies that need to expand capacity. To provide multi-fab sourcing and extended capacity for its customers, TowerJazz operates two manufacturing facilities in Israel (150mm and 200mm), two in the U.S. (200mm) and three facilities in Japan (two 200mm and one 300mm). For more information, please visit www.towerjazz.com.

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This press release includes forward-looking statements, which are subject to risks and uncertainties. Actual results may vary from those projected or implied by such forward-looking statements and you should not place any undue reliance on such forward-looking statements. Potential risks and uncertainties include, without limitation, risks and uncertainties associated with: (i) demand in our customers' end markets, (ii) over demand for our foundry services and/or products that exceeds our capacity, (iii) maintaining existing customers and attracting additional customers, (iv) high utilization and its effect on cycle time, yield and on schedule delivery which may cause customers to transfer their product(s) to other fabs, (v) operating results fluctuate from quarter to quarter making it difficult to predict future performance, (vi) impact of our debt and other liabilities on our financial position and operations, (vii) our ability to successfully execute acquisitions, integrate them into our business, utilize our expanded capacity and find new business, (viii) fluctuations in cash flow, (ix) our ability to satisfy the covenants stipulated in our agreements with our lender banks and bondholders (as of March 31, 2018 we are in compliance with all such covenants included in our banks' agreements, bond G indenture and others), (x) obtaining new customer engagements, products qualification and production ramp-up of the TPSCo facilities and our San Antonio facility, (xi) the lease of the fab 3 facility, (xii) meeting the conditions set in the approval certificates received from the Israeli Investment Center under which we received a significant amount of grants in past years, (xiii) receipt of orders that are lower than the customer purchase commitments, (xiv) failure to receive orders currently expected, (xv) possible incurrence of additional indebtedness, (xvi) effect of global recession, unfavorable economic conditions and/or credit crisis, (xvii) our ability to accurately forecast financial performance, which is affected by limited order backlog and lengthy sales cycles, (xviii) possible situations of obsolete inventory if forecasted demand exceeds actual demand when we manufacture products before receipt of customer orders, (xix) the cyclical nature of the semiconductor industry and the resulting periodic overcapacity, fluctuations in operating results and future average selling price erosion, (xx) the execution of debt re-financing and/or fundraising to enable the service of our debt and/or other liabilities, (xxi) operating our facilities at high utilization rates which is critical in order to cover a portion or all of the high level of fixed costs associated with operating a foundry, and our debt, in order to improve our results, (xxii) the purchase of equipment to increase capacity, the timely completion of the equipment installation, technology transfer and raising the funds therefor, (xxiii) the concentration of our business in the semiconductor industry, (xxiv) product returns, (xxv) our ability to maintain and develop our technology processes and services to keep pace with new technology, evolving standards, changing customer and end-user requirements, new product introductions and short product life cycles, (xxvi) competing effectively, (xxvii) use of outsourced foundry services by both fabless semiconductor companies and integrated device manufacturers; (xxviii) achieving acceptable device yields, product performance and delivery times, (xxix) our dependence on intellectual property rights of others, our ability to operate our business without infringing others' intellectual property rights and our ability to enforce our intellectual property against infringement, (xxx) retention of key employees and recruitment and retention of skilled qualified personnel, (xxxi) exposure to inflation, currency rates (mainly the Israeli Shekel and Japanese Yen) and interest rate fluctuations and risks associated with doing business locally and internationally, as well fluctuations in the market price of our traded securities, (xxxii) issuance of ordinary shares as a result of conversion and/or exercise of any of our convertible securities, as well as any sale of shares by any of our shareholders, or any market expectation thereof, which may depress the market price of our ordinary shares and may impair our ability to raise future capital, (xxxiii) meeting regulatory requirements worldwide, including environmental and governmental regulations, (xxxiv) pending litigation, including the shareholder class actions that were filed against the Company, certain officers, its directors and/or its external auditor in the US and Israel, following a short sell thesis report issued by a short-selling focused firm, which has been dismissed and closed in the US as well as dismissed by the Israeli district court, on which the Israeli plaintiff has recently appealed to the Israeli supreme court, (xxxv) realization of the fab establishment project in China, including obtaining required project funding, negotiation and closure of definitive agreements in relation theretoto, licensing of technologies, receipt of payment milestones to Tower, qualification and ramp of process flows and products to enable mass production for customers and attain revenue to levels that would cover the facility's fixed costs, and (xxxvi) business interruption due to fire and other natural disasters, the security situation in Israel and other events beyond our control such as power interruptions.

A more complete discussion of risks and uncertainties that may affect the accuracy of forward-looking statements included in this press release or which may otherwise affect our business is included under the heading "Risk Factors" in Tower's most recent filings on Forms 20-F and 6-K, as were filed with the Securities and Exchange Commission (the "SEC") and the Israel Securities Authority. Future results may differ materially from those previously reported. The Company does not intend to update, and expressly disclaims any obligation to update, the information contained in this release.

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(Financial tables follow)

TOWER SEMICONDUCTOR LTD. AND SUBSIDIARIES CONDENSED CONSOLIDATED BALANCE SHEETS (dollars in thousands)

ASSETS	March 31, 2018 (unaudited)		December 31, 2017		March 31, 2017 (unaudited)		
CURRENT ASSETS							
Cash, cash equivalents and short-term deposits	\$	464,661	\$	445,961	\$	432,113	
Marketable securities		125,105		113,874			
Trade accounts receivable		144,352		149,666		133,539	
Inventories		148,367		143,315		140,734	
Other current assets		19,175		21,516		27,235	
Total current assets		901,660		874,332		733,621	
LONG-TERM INVESTMENTS		28,798		26,073		26,661	
PROPERTY AND EQUIPMENT, NET		652,816		635,124		629,554	
INTANGIBLE ASSETS, NET		18,479		19,841		26,164	
GOODWILL		7,000		7,000		7,000	
DEFERRED TAX AND OTHER LONG-TERM ASSETS, NET		110,771		111,269		4,403	
TOTAL ASSETS	\$	1,719,524	\$	1,673,639	\$	1,427,403	
LIABILITIES AND SHAREHOLDERS' EQUITY							
CURRENT LIABILITIES							
Short-term debt	\$	114,763	\$	105,958	\$	43,331	
Trade accounts payable		116,496		115,347		104,084	
Deferred revenue and customers' advances		14,310		14,338		24,945	
Other current liabilities		64,011		66,730		65,469	
Total current liabilities		309,580		302,373		237,829	
LONG-TERM DEBT		229,013		228,723		303,152	
LONG-TERM CUSTOMERS' ADVANCES		31,224		31,908		34,369	
LONG-TERM EMPLOYEE RELATED LIABILITIES		14,517		14,662		14,447	
DEFERRED TAX LIABILITY AND OTHER LONG-TERM LIABILITIES		67,435		66,267		91,715	
TOTAL LIABILITIES		651,769		643,933		681,512	
TOTAL SHAREHOLDERS' EQUITY		1,067,755		1,029,706		745,891	
TOTAL LIABILITIES AND SHAREHOLDERS' EQUITY	\$	1,719,524	\$	1,673,639	\$	1,427,403	

TOWER SEMICONDUCTOR LTD. AND SUBSIDIARIES CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS (UNAUDITED)

(dollars and share count in thousands, except per share data)

	Three months ended					
	M	arch 31,	D	December 31,		larch 31,
		2018		2017		2017
REVENUES	\$	312,710	\$	357,614	\$	330,080
COST OF REVENUES		246,545		268,256		245,312
GROSS PROFIT		66,165		89,358		84,768
OPERATING COSTS AND EXPENSES:						
Research and development		18,266		18,370		15,768
Marketing, general and administrative		15,994		16,502		16,237
		34,260	_	34,872		32,005
OPERATING PROFIT		31,905		54,486		52,763
INTEREST EXPENSE, NET		(598)		(1,783)		(2,211)
OTHER FINANCING EXPENSE, NET		(3,193)		(2,270)		(2,018)
OTHER INCOME (EXPENSE), NET		22	_	(3,027)		511
PROFIT BEFORE INCOME TAX		28,136		47,406		49,045
INCOME TAX BENEFIT (EXPENSE), NET		(955)	_	101,236(a)		(1,999)
PROFIT BEFORE NON CONTROLLING INTEREST		27,181		148,642(a)		47,046
NON CONTROLLING INTEREST		(1,063)	_	(1,431)		(1,537)
NET PROFIT	\$	26,118	\$	147,211(a)	<u>\$</u>	45,509
BASIC EARNINGS PER SHARE	\$	0.27	\$	1.50(a)	\$	0.48
Weighted average number of shares		98,495		98,312		93,900
DILUTED EARNINGS PER SHARE	\$	0.26	\$	1.40(a)	<u>\$</u>	0.45
Net profit used for diluted earnings per share	\$	26,118	\$	149,502(a)	\$	47,666
Weighted average number of shares		101,112	_	106,776		104,915

⁽a) Three months ended December 31, 2017 included \$82,370 Israeli deferred tax asset realization following valuation allowance release and \$12,970 income tax benefit related to U.S. tax reform.

TOWER SEMICONDUCTOR LTD. AND SUBSIDIARIES RECONCILIATION OF CERTAIN FINANCIAL DATA (UNAUDITED)

(dollars and share count in thousands, except per share data)

		Three months ended					
	M	arch 31,	December 31,		March 31, 2017		
		2018 2017		2017			
RECONCILIATION FROM GAAP NET PROFIT TO ADJUSTED NET PROFIT:							
GAAP NET PROFIT	\$	26,118	\$	147,211	\$	45,509	
Stock based compensation		3,367		3,481		2,098	
Amortization of acquired intangible assets		1,661		1,564		2,336	
Non-recurring items related to long term investments				3,009			
Income tax benefit resulted from Israeli deferred tax asset realization following valuation							
allowance release, see (a) above				(82,370)			
Income tax benefit related to U.S. tax reform, see (a) above				(12,970)			
ADJUSTED NET PROFIT	e e	21 146	ø	50.025	ø	40.042	
ADJUSTED NET PROFIT	\$	31,146	\$	59,925	\$	49,943	
ADJUSTED NET PROFIT PER SHARE:							
Basic	\$	0.32	\$	0.61	\$	0.53	
Diluted	\$	0.31	\$	0.58	\$	0.50	
Fully diluted	\$	0.31	\$	0.58	\$	0.49	
ADJUSTED NET PROFIT USED TO CALCULATE PER SHARE DATA:							
Basic	\$	31,146	\$	59,925	\$	49,943	
Diluted	\$	31,146	\$	62,216	\$	52,100	
Fully diluted	\$		\$	62,216	\$	52,100	
NUMBER OF SHARES AND OTHER SECURITIES USED TO CALCULATE PER SHARE I	DATA:	00.405		00 212		02.000	
Basic		98,495		98,312		93,900	
Diluted		101,112		106,776		104,915	
Fully diluted		107,717		107,721		107,245	
EBITDA CALCULATION:							
GAAP OPERATING PROFIT	\$	31,905	\$	54,486	\$	52,763	
Depreciation of fixed assets	Ψ	47,357	Ψ	47,741	Ψ	43,819	
Stock based compensation		3,367		3,481		2,098	
Amortization of acquired intangible assets		1,661		1,564		2,336	
Amortization of acquired intangible assets		1,001		1,304		2,330	
EBITDA	\$	84,290	\$	107,272	\$	101,016	

TOWER SEMICONDUCTOR LTD. AND SUBSIDIARIES CONSOLIDATED SOURCES AND USES REPORT (UNAUDITED) (dollars in thousands)

	Three months ended						
	March 31, 2018		December 31, 2017		March 31, 2017		
Cash, cash equivalents and short-term deposits - beginning of period	\$	445,961	\$	480,407	\$	389,377	
Cash from operations		75,001		85,285		82,140	
Investments in property and equipment, net		(40,047)		(41,349)		(40,348)	
Exercise of warrants and options, net		658		3,278		12,756	
Debt repaid		(6,656)		(16,863)		(11,805)	
Effect of Japanese Yen exchange rate change over cash balance		4,707		70		4,371	
TPSCo dividend to Panasonic						(4,378)	
Investments in marketable securities and others, net		(14,963)		(64,867)			
Cash, cash equivalents and short-term deposits - end of period	\$	464,661	\$	445,961	\$	432,113	
Free Cash Flow	\$	34,954	\$	43,936	\$	41,792	

TOWER SEMICONDUCTOR LTD. AND SUBSIDIARIES CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS (UNAUDITED) (dollars in thousands)

	Three months ended							
	M	arch 31,	Dec	ember 31,	M	March 31,		
		2018		2017		2017		
CASH FLOWS - OPERATING ACTIVITIES								
Net profit for the period	\$	27,181	\$	148,642	\$	47,046		
Adjustments to reconcile net profit for the period								
to net cash provided by operating activities:								
Income and expense items not involving cash flows:				-101 0		10 (00		
Depreciation and amortization		53,977		51,310		49,698		
Effect of indexation, translation and fair value measurement on debt		(1,740)		2,281		6,888		
Other expense (income), net		(22)		3,027		(511)		
Changes in assets and liabilities:		0.000		700		0.530		
Trade accounts receivable		8,089		788		9,529		
Other current assets		3,370		445		(4,439)		
Inventories		(2,692)		92		(1,421)		
Trade accounts payable		(6,313)		(2,786)		(4,128)		
Deferred revenue and customers' advances		(712)		(17,882)		(8,735)		
Other current liabilities		(4,219)		1,765		(9,090)		
Long-term employee related liabilities Deferred tax, net		(387)		(2,482)		(257)		
,		(1,531)	_	(99,915)		(2,440)		
Net cash provided by operating activities		75,001		85,285		82,140		
CASH FLOWS - INVESTING ACTIVITIES								
Investments in property and equipment, net		(40,047)		(41,349)		(40,348)		
Investments in marketable securities and others, net		(14,963)		(64,867)		(5,118)		
Net cash used in investing activities		(55,010)		(106,216)		(45,466)		
CASH FLOWS - FINANCING ACTIVITIES								
Debt repaid		(6,656)		(16,863)		(11,805)		
Exercise of warrants and options, net		658		3,278		12,756		
Dividend payment to Panasonic		<u></u>		<u></u>		(4,378)		
Net cash used in financing activities		(5,998)		(13,585)		(3,427)		
EFFECT OF FOREIGN CURRENCY EXCHANGE RATE CHANGE		4,707		70		4,371		
INCREASE (DECREASE) IN CASH AND CASH FOLIVALENTS		10 700		(24.446)		27 (10		
INCREASE (DECREASE) IN CASH AND CASH EQUIVALENTS CASH AND CASH EQUIVALENTS - BEGINNING OF PERIOD		18,700 445,961		(34,446) 480,407		37,618 355,284		
CASH AND CASH EQUIVALENTS - END OF PERIOD		464,661		445,961		392,902		
Short-term deposits						39,211		
CASH, CASH EQUIVALENTS AND SHORT-TERM DEPOSITS - END OF PERIOD	\$	464,661	\$	445,961	\$	432,113		