

TOWER SEMICONDUCTOR LTD

Form 20-F

April 25, 2019

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UNITED STATES SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, D.C. 20549

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FORM 20-F

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ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the fiscal year ended December 31, 2018

Commission File number: 0-24790

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TOWER SEMICONDUCTOR LTD.

(Exact name of registrant as specified in its charter and translation of registrant's name into English)

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Israel

(Jurisdiction of incorporation or organization)

Ramat Gavriel Industrial Park

P.O. Box 619, Migdal Haemek 2310502, Israel

(Address of principal executive offices)

Nati Somekh, +972-4-6506109, natiso@towersemi.com;

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

(Name, Telephone, E-mail and/or Facsimile number and Address of Company Contact Person)

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Securities registered or to be registered pursuant to Section 12(b) of the Act:

Title of Each Class

Name of Each Exchange on Which Registered

Ordinary Shares, par value New Israeli  
Shekels 15.00 per share

NASDAQ Global Select Market

Securities registered or to be registered pursuant to Section 12(g) of the Act: None

Securities for which there is a reporting obligation pursuant to Section 15(d) of the Act:

None

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Indicate the number of outstanding shares of each of the issuer's classes of capital or common stock as of the close of the period covered by the annual report: 104,979,407 Ordinary Shares.

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act.

Yes    No

If this report is an annual or transition report, indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934.

Yes    No

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Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days.

Yes      No

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (section 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files).

Yes      No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, or a non-accelerated filer, or an emerging growth company. See definition of "large accelerated filer," "accelerated filer," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer   Accelerated filer   Non-accelerated filer  
Emerging growth company

If an emerging growth company that prepares its financial statements in accordance with U.S. GAAP, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

Indicate by check mark which basis of accounting the registrant has used to prepare the financial statements included in this filing:

US GAAP      International Financial Reporting Standards as issued by the International Accounting Standards Board      Other

If "Other" has been checked in response to the previous question, indicate by check mark which financial statement item the registrant has elected to follow.

Item 17              Item 18

If this is an annual report, indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act).

Yes              No

## FORWARD LOOKING STATEMENTS

This annual report on Form 20-F includes certain “forward-looking” statements within the meaning of Section 21E of the Securities Exchange Act of 1934. The use of the words “projects,” “expects,” “may,” “plans” or “intends,” or words of similar import, identifies a statement as “forward-looking”. There can be no assurance, however, that actual results will not differ materially from our expectations or projections. Factors that could cause actual results to differ from our expectations or projections include the risks and uncertainties relating to our business described in this annual report in “Item 3. Key Information-Risk Factors”.

## EXPLANATORY INFORMATION

All references herein to “dollars”, "US dollars", “USD” or “\$” are to United States dollars, all references to “JPY” is to the Japanese Yen and all references to “Shekels” or “NIS” are to New Israeli Shekels.

In 2008, we completed a merger with Jazz Technologies, Inc. (“Jazz Technologies”) and its wholly-owned subsidiary Jazz Semiconductor, Inc. (“Jazz Semiconductor”), an independent semiconductor foundry focused on specialty process technologies for the manufacture of analog intensive mixed-signal semiconductor devices. As a result of this transaction, Jazz Technologies became a wholly-owned subsidiary of Tower Semiconductor Ltd. (“Tower”). In November 2015, Jazz Technologies (i) was re-named to become Tower US Holdings Inc. (“Tower US Holdings”) and (ii) transferred all of its liabilities and all of its assets, including its ownership of all of the shares of Jazz Semiconductor to Jazz US Holdings Inc. (“Jazz US Holdings”), a company registered under the laws of Delaware and fully owned by Tower US Holdings (the “November 2015 Jazz Restructure”). The November 2015 Jazz Restructure established Jazz US Holdings as an intermediate holding company, holding all of the shares of Jazz Semiconductor. Tower US Holdings remains 100% owned by Tower. As used in this report, “Jazz” refers to Jazz Technologies, including its subsidiaries, for the period preceding November 23, 2015, and to Jazz US Holdings, including its subsidiaries, following such date.

In March 2014, we acquired a 51% equity stake in TowerJazz Panasonic Semiconductor Co., Ltd., (“TPSCo”), a company formed by Panasonic Corporation (“Panasonic” or “Panasonic Corporation”), holding three manufacturing facilities in Japan. In June 2014, Panasonic transferred its shares and assigned its rights and obligations in TPSCo to its wholly owned subsidiary, Panasonic Semiconductor Solutions Co. (“PSCS”).

In February 2016, we acquired a fabrication facility in San Antonio, Texas, from Maxim Integrated Products Inc. (“Maxim”). The assets and related business that we acquired from Maxim are held and conducted through an indirect wholly owned US subsidiary, TowerJazz Texas Inc. (“TJT”). TJT is fully owned by Tower US Holdings.

The consolidated financial statements included in this annual report include the results and balances of Tower and the following companies from the applicable merger and acquisition dates: (i) Tower’s wholly-owned indirect subsidiary, Jazz, (ii) since March 31, 2014, its majority-owned subsidiary, TPSCo and (iii) since February 1, 2016, its indirect wholly-owned subsidiary, TJT.

As used in this annual report, “Fab 1” means the semiconductor fabrication facility located in Migdal Haemek, Israel that Tower acquired from National Semiconductor, Inc. (“National Semiconductor”) in 1993. “Fab 2” means the semiconductor fabrication facility located in Migdal Haemek, Israel that Tower established in 2003. “Fab 3” means the semiconductor fabrication facility Jazz operates in Newport Beach, California.. “Arai E” means the semiconductor fabrication facility TPSCo operates in Kurihara 4-5-1, Myoko-shi, Niigata, Japan. “Uozu E” means the semiconductor fabrication facility TPSCo operates in Higashiyama 800, Uozu-shi, Toyama, Japan. “Tonami CD” means the semiconductor fabrication facilities TPSCo operates in Higashi-Kaihotsu 271, Tonami-shi, Toyama, Japan. “Fab 9”

means the semiconductor fabrication facility TJT operates in San Antonio, Texas.

As used in this annual report, as of any particular date, “we,” “us,” “our,” and “the Company” and words of similar import, refer collectively to Tower and its then owned and/or consolidated subsidiaries.

Manufacturing or production capacity refers to installed equipment capacity in our facilities and is a function of the process technology and product mix being manufactured because certain processes require more processing steps than others. All information herein with respect to the wafer capacity of our manufacturing facilities is based upon our estimate of the effectiveness of the manufacturing equipment and processes in use or expected to be in use during a period and the estimated or expected process technology and product mix for such period. Unless otherwise specifically stated, all references herein to “wafers” with respect to Fab 1 capacity are to 150-mm wafers, with respect to Fab 2, Fab 3, Arai E, Tonami CD and Fab 9 capacity are to 200-mm wafers, and with respect to Uozu E are to 300-mm wafers, ranging from 0.18 micron to 0.8 micron for the manufacture of products using CMOS and analog based technologies.

JAZZ SEMICONDUCTOR® is a registered trademark of Jazz Semiconductor in the U.S.  
TPSCO® and TPSCo ® (and design) are registered trademarks of TPSCo in the U.S. and Japan.

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PART I

ITEM 1. IDENTITY OF DIRECTORS, SENIOR MANAGEMENT AND ADVISORS

Not applicable.

ITEM 2. OFFER STATISTICS AND EXPECTED TIMETABLE

Not applicable.

ITEM 3. KEY INFORMATION

Selected Consolidated Financial Data

Our historical consolidated financial statements are prepared in accordance with generally accepted accounting principles in the United States (“US GAAP”) and are presented in U.S. dollars (“USD”). The selected historical audited consolidated financial information as of December 31, 2018 and 2017 and for each of the three years ended December 31, 2018, 2017 and 2016 has been derived from, and should be read in conjunction with, our audited consolidated financial statements, and notes thereto appearing elsewhere in this annual report. The selected financial data as of December 31, 2016, 2015 and 2014 and for each of the years ended December 31, 2015 and 2014 has been derived from our audited consolidated financial statements for those years not included in this annual report.

Our audited consolidated financial statements include TJT’s results commencing February 1, 2016. Our audited consolidated balance sheets include TJT’s balances since December 31, 2016. In 2014, the operations of the facility in Nishiwaki ceased in the course of a restructuring of our activities and business in Japan and it completed its dissolution during 2016.

Due to the acquisition of TPSCo and TJT and the cessation of operations of the Nishiwaki fab, it may be difficult to perform year-over-year comparisons of our results of operations for the period subsequent to these transactions with prior periods. The selected historical consolidated financial data set forth below should be read in conjunction with our consolidated financial statements and related notes appearing in this annual report and the “Management’s Discussion and Analysis of Financial Condition and Results of Operations” appearing elsewhere in this report. Our historical financial information may not be indicative of future performance.



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	Year Ended December 31,				
	2018	2017	2016	2015	2014
	(Dollars in thousands, except per share data)				
Consolidated Statement of Operations Data:					
Revenues	\$1,304,034	\$1,387,310	\$1,249,634	\$960,561	\$828,008
Cost of revenues	1,011,087	1,033,005	946,534	755,196	764,220
Gross profit	292,947	354,305	303,100	205,365	63,788
Research and development	73,053	67,664	63,134	61,669	51,841
Marketing, general and administrative	64,951	66,799	65,439	62,793	58,783
Nishiwaki Fab restructuring and impairment cost (income), net	--	--	(627 )	(991 )	55,500
Acquisition related costs	--	--	--	--	1,229
Operating profit (loss)	154,943	219,842	175,154	81,894	(103,565)
Financing expense, net	(13,184 )	(15,447 )	(24,349 )	(123,109)	(88,813 )
Gain from acquisition, net	--	--	50,471	--	166,404
Other income (expense), net	(2,442 )	(2,627 )	9,322	(190 )	(140 )
Profit (loss) before income tax	139,317	201,768	210,598	(41,405 )	(26,114 )
Income tax benefit (expense)	(5,938 )	99,888	(1,432 )	12,278	24,742
Net Profit (loss) .....	133,379	301,656	209,166	(29,127 )	(1,372 )
Net loss (income) attributable to non-controlling interest	2,200	(3,645 )	(5,242 )	(520 )	5,635
Net Profit (loss) attributable to the Company	\$135,579	\$298,011	\$203,924	\$(29,647 )	\$4,263
Basic earnings (loss) per ordinary share	\$1.35	\$3.08	\$2.33	\$(0.40 )	\$0.08
Diluted earnings per ordinary share	\$1.32	\$2.90	\$2.09		\$0.07
Other Financial Data:					
Depreciation and amortization, including amortization of financing expenses and accretion	\$214,391	\$208,411	\$197,756	\$256,005	\$243,362

As of December 31,  
2018      2017      2016      2015      2014  
(Dollars and share data in thousands)

## Selected Balance Sheet Data:

Cash, cash equivalents and short-term interest-bearing deposits	\$505,170	\$445,961	\$389,377	\$205,575	\$187,167
Working capital	\$784,238	\$571,959	\$450,883	\$235,608	\$93,759
Total assets	\$1,789,977	\$1,673,639	\$1,379,884	\$965,368	\$884,146
Short-term bank debt and current maturities of loans, leases and debentures.	\$10,814	\$105,958	\$48,084	\$33,259	\$119,999
Loan from banks, net of current maturities	\$100,118	\$87,533	\$133,163	\$210,538	\$159,776
Debentures, net of current maturities	\$120,170	\$128,368	\$162,981	\$45,481	\$107,311
Capital leases, net of current maturities	\$36,381	\$12,822	\$--	\$--	\$--
Shareholders' equity	\$1,236,205	\$1,029,706	\$682,614	\$385,586	\$195,561
Number of shares outstanding as of December 31 of any year	104,980	98,458	92,985	82,058	58,034

## Risk Factors

Our business faces many risks. Any of the risks discussed below may have an adverse impact on our business, financial condition and operating results.

## Risks Affecting Our Business

If we do not maintain our current customers and/or financial margins, and/ or do not attract new customers, our business and profitability may be adversely affected.

Loss or cancellation of business from, or decreases in the sales volume or sales prices to, our significant customers, or our failure to replace lost business with new customers, may seriously harm our financial results, revenues and business.

We have relationships with several customers that represent a material portion of our revenues. During the year ended December 31, 2018, we had four customers that each contributed between 7% to 33% of our revenues. During the year ended December 31, 2017, we had four customers that each contributed between 7% to 30% of our revenues. During the year ended December 31, 2016, we had four customers that each contributed between 5% to 35% of our revenues. The loss or reduction in volume or sales price to any one of these customers, whether due to their insolvency or their unwillingness or inability to perform their obligations under their respective relationships with us, or if we are unable to renew our engagements with them on commercially reasonable terms, or attract new customers to replace such lost business, may materially negatively impact our overall business, revenue and consolidated financial profitability.

PSCS, a wholly-owned subsidiary of Panasonic Corporation, is a significant customer of TPSCo and Tower on a consolidated basis and comprised a major portion of TPSCo's and Tower's revenues under the five year volume manufacturing agreement with TPSCo dated March 2014. 33% and 30% of our consolidated revenues for the years ended December 31, 2018 and 2017, respectively, were generated under said agreement. The terms of the extended agreement with PSCS effective from April 2019 were significantly changed as announced by us in our March 26, 2019 press release, and are expected to result in, among others, lower revenue per quarter from PSCS, which is our biggest customer. Failure to add additional manufacturing volume and significantly utilize TPSCo's manufacturing capacity and generate sufficient revenues from new or current customers in an amount which will cover the costs of operating TPSCo, as well as being able to maintain current or similar selling prices per wafer from customers may adversely affect our revenue and profitability and may have an adverse effect on the operations of one or more of TPSCo's manufacturing facilities if its/their revenue will not cover in full its/their operating and other costs, as well as may negatively impact our revenue and profitability.

We may be required to obtain financing for strategic opportunities, which financing may not be available for us in a timely manner or on favorable terms, and which may dilute the holdings of our shareholders and/or require us to incur additional debt.

In order to invest in strategic opportunities in support of our growth plans and/or business development activities we may be required to obtain funds from financing sources, including through debt vehicles and/or re-financing, sale of new securities or other financing alternatives. There is no assurance that we will be able to obtain sufficient funding, if at all, from the financing sources detailed above or other sources in a timely manner (or on commercially reasonable terms) in order to allow us to fund our growth plans and/or business development activities, which may adversely affect our financial position and operations, may dilute the holdings of our shareholders and/or require us to incur additional debt.

Demand for our foundry services is dependent on the demand in our customers' end markets. A material decrease in demand for products that contain semiconductors may decrease the demand for our services and products and a decrease in the selling prices of our customers' products may reduce our profitability and business.

Our customers generally use the semiconductors produced in our fabs in a wide variety of applications. We derive a significant percentage of our operating revenues from customers who use our manufacturing services to make semiconductors for communication devices, consumer electronics, PCs and other electronic devices. Any significant decrease in the demand for these electronic devices or products may decrease the demand for our services and products. In addition, if the average selling prices of communication devices, consumer electronics, PCs or other electronic devices decline significantly, we may be pressured to reduce our selling prices, which may reduce our revenues and margins significantly. As demonstrated in the past by downturns in demand for high technology products, market conditions can change rapidly, without apparent warning or advance notice. In such instances, our customers may experience inventory buildup and/or difficulties in selling their products and, in turn, may reduce or cancel orders for wafers from us, which may harm our business and profitability. The timing, severity and recovery of these downturns cannot be predicted.

In order for demand for our wafer fabrication services to increase, the markets for the end products utilizing the integrated circuits that we manufacture must develop and expand. For example, the success of our imaging process technologies will depend, in part, on the growth of markets for certain image sensor product applications. Because our services may be used in many new applications, it is difficult to forecast demand. If demand is lower than expected, we may have excess capacity and our revenue may not be sufficient to cover all our costs and serve all our debt, which may adversely affect our financial results and financial position.

Over-demand for our foundry services and/or products may result in a loss of customers and revenues, which may adversely affect our profitability and business.

In periods during which demand for our foundry services exceeds our capacity and manufacturing capabilities, we may be (i) unable to fulfill customer demand in whole or in part, in a timely manner or at all; (ii) incapable to assure production of customers' next generation of products; and/or (iii) unable to provide additional capacity from any of our geographic facilities through transfer of process technologies, successful implementation and timely qualification. As a result, we could lose one or more of our current and/or potential customers, which may adversely affect our revenues, profitability and business.

The production lines of our manufacturing fabrications may stop for short or long periods of time due to high utilization in certain areas, bottlenecks, power outages, water leaks, chemical leaks or other issues, which may adversely affect our cycle time, yield, and on schedule delivery. In addition, affected customers may elect to transfer their product orders to other fabs, thereby potentially causing an immediate loss of a potentially material amount of revenues for the applicable period, which would adversely affect our revenue, profitability and financial position.

There are many events that may occur which may adversely affect the manufacturing process running in a facility. From time to time, we experience high utilization rates in certain of our manufacturing lines and/or areas, which cause bottlenecks in the lines and/or specific areas and/or specific machines, power outages, water leaks, chemical leaks or other issues that may adversely affect our cycle time, yield and on schedule delivery. We try to mitigate any potential damage caused by such events and have insurance coverage, which may compensate us partially or fully against certain types of damages, however, we cannot ensure that such events will not have a negative effect on the Company, such as late deliveries, which may cause customers to elect to transfer their product orders to other fabs, thereby potentially causing an immediate material loss of revenues for the applicable period, which may adversely affect our revenue, profitability and financial position.

Our operating results may fluctuate from quarter to quarter which makes it difficult to predict our future performance and such fluctuations may ultimately negatively affect our financial position.

Our revenues, expenses and operating results have varied significantly in the past and may fluctuate significantly from quarter to quarter in the future due to a number of factors, a portion of which are beyond our control. These factors include, among others:

The cyclical nature of the semiconductor industry and the volatility of the markets served by our customers;

Changes in the economic conditions of geographical regions where our customers and their markets are located;

Inventory and supply chain management of our customers;

The loss of a key customer, not attracting new designs from key customers, postponement of an order from a key customer or the rescheduling or cancellation of large orders;

The occurrence of accounts receivable write-offs, failure of a key customer to pay accounts receivable in a timely manner, the financial condition of certain of our customers and the regulatory or other payment difficulties that may be imposed in a region in which customers reside, such as China;

The occurrence of an unexpected event, such as environmental events or industrial accidents such as fire or explosions, electricity outage or misprocess, affecting the manufacturing process and our ability to recover the lost or damaged products and provide quality and timely production to our customers without charging them significant additional costs;

Completing capacity expansions and recruitment of personnel in a timely manner to address product demands by our customers;

Mergers and acquisitions in the semiconductor industry and their effect on our market share;

Our ability to satisfy our customers' demand for quality and timely production;

The timing and volume of orders relative to our available production capacity;

Our ability to obtain raw materials and equipment on a timely and cost-effective basis;

Price erosion in the industry and our ability to negotiate prices with our current and new customers;

Our susceptibility to intellectual property rights' disputes;

Our dependency on export licenses and other permits required for our operations and the sale of our products;

Our ability to maintain existing partners and to enter into new partnerships and technology and supply alliances on mutually beneficial terms;

Interest, price index and currency rate fluctuations that were not hedged;

Technological changes and short product life cycles;

Timing for the design and qualification of new products; and

Changes in accounting rules affecting our results.

Due to the factors noted above and other risks discussed in this section, a portion of which are beyond our control, it may be difficult to predict our future performance and any such fluctuations may ultimately negatively affect our operating results and financial position.

Our financial position and operations may be affected as a result of our long term debt.

As of December 31, 2018, we had approximately \$272 million of consolidated long term debt outstanding, comprised as follows: (1) Tower had approximately \$125 million outstanding principal amount of debentures Series G, payable in seven semi-annual consecutive equal installments from March 2020 to March 2023; (2) TPSCo had loans amounting to approximately \$111 million comprised of (i) approximately \$100 million principal amount provided by JA Mitsui Leasing, Ltd., Sumitomo Mitsui Trust Bank, Limited (SMTB) and Sumitomo Mitsui Banking Corporation (SMBC) (“JP Loan”). The JP Loan includes a grace period through 2021 and it carries a fixed interest rate of 1.95% per annum. Principal is payable in nine semiannual payments between 2021 and 2025; (ii) approximately \$11 million principal amount provided under capital lease by JA Mitsui Leasing, Ltd. Sumitomo Mitsui Trust Bank Limited and Showa Leasing Co., Ltd., to be repaid between 2019 and 2022; and (3) certain of the Company’s subsidiaries had capital lease agreements amounting to \$36 million from JA Mitsui Leasing, repayable between 2019 and 2022. Carrying such an amount of long term debt may have significant negative consequences on our business, including:

limiting our ability to fulfill our debt obligations and other liabilities;

requiring the use of a substantial portion of our cash to service our indebtedness rather than investing our cash to fund our strategic growth opportunities and plans, working capital and capital expenditures;

increasing our vulnerability to adverse economic and industry conditions;

limiting our ability to obtain additional financing;

limiting our flexibility in planning for, or reacting to, changes in our business and the industry in which we compete;

placing us at a competitive disadvantage with respect to less leveraged competitors and competitors that have better access to capital resources;

volatility in our non-cash financing expenses due to increases in the fair value of our debt obligations;

fluctuations of the payable amounts in USD of JP loans or other expenses which are denominated in JPY;

potential enforcement by the lenders of their liens against our respective assets, as applicable, if an event of default occurs.

In order to service our debt, the applicable interest it carries and other liabilities and obligations and/or improve its terms and conditions and/or to invest in strategic opportunities for growth and/or business development activities, in addition to our cash on hand and expected cash flow generation from operating activities, we may decide to obtain funds from additional sources including debt vehicles and/or re-financing, sale of new securities, sale of intellectual property and/or intellectual property licensing, as well as additional financing alternatives. However, there is no assurance that we will be able to obtain sufficient funding, if at all, from the financing sources detailed above or other sources in a timely manner (or on commercially reasonable terms) in order to allow us to fund our growth plans and/or cover, in a timely manner, all our costs, capital expenditure investments and all of our scheduled debt detailed above, liabilities and obligations, which may adversely affect our financial position and operations.

There is no assurance that we will be successful in executing future acquisitions, utilizing the acquired facilities at least in an amount that may cover their costs, integrating them into our business and finding new customers and business in order to operate such acquired facilities and/or companies profitably, which may negatively affect our profitability and financial position.

We may decide to expand our business, including through acquisitions, as we have done in 2014 by acquiring a majority interest of TPSCo that holds three Japanese fabs from Panasonic and in 2016 by acquiring the San Antonio fab from Maxim, and attract new customers that will utilize our expanded capacity.

Our success at such expansion is dependent, in part, on finding suitable targets for acquisitions, successfully financing and consummating such acquisitions, integrating the acquired facilities into our business and loading them in an amount that may at least cover their operating and other costs.

Our reliance on acquisitions as a means of growth involves risks that may adversely affect our future revenues and operating results. For example:

We may fail to identify acquisitions that would enable us to execute our business strategy.

Other foundries may bid against us to acquire potential targets. This competition may result in decreased availability of, or increased prices for, suitable acquisition candidates.

We may not be able to obtain the necessary regulatory approvals, or we may not be able to obtain the necessary approvals from our lenders, and as a result, or for other reasons, we may fail to consummate certain acquisitions.

Potential acquisitions and integration require the dedication of substantial management effort, time and resources which may divert management's attention, focus and resources from our existing business operations or other strategic opportunities, which may have a negative adverse effect on our business.

We may fail to integrate acquisitions successfully in accordance with our business strategy, achieve anticipated benefits depending in part on successfully consolidating functions and integrating operations, procedures and personnel in a timely and efficient manner, expected synergies, attract sufficient business to newly acquired facilities in a timely manner or realize the anticipated growth opportunities from integrating an acquired business into our existing business.

We may not be able to retain experienced management and skilled employees from the businesses we acquire and, if we cannot retain such personnel, we may not be able to attract new skilled employees and experienced management to replace them.

We may purchase a company with excessive unknown contingent liabilities, including, among others, patent infringement or product liability.

We may not be able to obtain sufficient financing which could limit our ability to engage in certain acquisitions.

The amount or terms of financing actually required before and after acquisition may vary from our expectations, resulting in a need for more funding that may not be available to us in order to finance the operations of the target acquisition, which may negatively impact our financial position and profitability.

We cannot assure you that we will be successful in expanding our business, finding and successfully executing such acquisitions or that they will achieve the expected synergies. Further, we cannot assure you that we will increase our market presence and attract new customers and business in order to operate such acquired facilities profitably. With respect to TPSCo's three Japanese fabs, its ability to successfully operate and fund its operations and business is

dependent primarily on the following factors: (i) continuation by PSCS to order a sufficient number of wafers and manufacturing services from TPSCo; (ii) attracting new customers and successfully ramping up to production of existing and new customers' products. Failure to significantly utilize TPSCo's manufacturing capacity and generate sufficient revenues from PSCS and/or new customers in an amount which will cover TPSCo's costs, may adversely affect TPSCo's and Tower's revenue and profitability and may have an adverse effect on the operations of one or more of TPSCo's manufacturing facilities if its/their revenue will not cover its/their full operating and other costs.

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With regards to TJT's fab, Maxim is expected to remain a significant customer of TJT, based on a long term 15 year volume manufacturing agreement at gradually decreasing volumes and revenue. While we have started engaging and developing business opportunities with third party foundry customers for wafer manufacturing at our San Antonio fab, and have begun certain process technology transfers to enable ramp of customer products which currently require additional demand which cannot be fulfilled in our other facilities, implementation of new customer processes may take between one to three years to reach mass volume production, as customary in our industry. Failure to generate sufficient revenues from Maxim and/or new customers in an amount which will cover TJT's costs may adversely affect TJT's and Tower's revenue and profitability and may have an adverse effect on the operations of this facility if its revenue will not cover its full operating and other costs.

If we are unable to manage fluctuations in cash flow, our business and financial position may be adversely affected.

Our working capital requirements and cash flows are subject to quarterly and yearly fluctuations, depending on a number of factors. If we are unable to manage fluctuations in cash flow, our business, operating results and financial condition may be materially adversely affected. Factors which may lead us to suffer cash flow fluctuations include:

- fluctuations in the level of revenues from our operating activities;
- fluctuations in the collection of receivables;
- timing and size of payables;
- the timing and size of capital expenditures;
- the net impact of JPY/ USD fluctuations on our JPY income and JPY expenses;
- the repayment schedules of our debt service obligations;
- our ability to fulfill our obligations and meet performance milestones under our agreements;
- fluctuations in the USD to NIS exchange rate.

We are required to comply with the terms of the Israeli Investment Center approved plan and regulations.

In 2011, we received an official approval certificate (“ktav ishur”) from the Israeli investment center (“Investment Center”), a governmental agency, for our expansion program pursuant to which we have received approximately \$36 million to date for investments made commencing 2006 and through 2012. In December 2017, we received approval from the Israeli Investment Center for our final performance report. Under our previous program approved in December 2000, we received \$165 million of grants for capital expenditure investments made during the years 2001 through 2005. This plan was completed and approved by the Investment Center.

Eligibility for the above grants is subject to various conditions stipulated by the Israeli Law for the Encouragement of Capital Investments - 1959 (“Investments Law”) and the regulations promulgated thereunder, as well as the criteria set forth in the certificates of approval. In the event we breach the various conditions and terms related thereto, we may be exposed to significant penalties by the Investment Center. In order to secure fulfillment of the conditions related to the receipt of investment grants, floating liens were registered in favor of the State of Israel on substantially all of Tower’s assets. These liens secure the Investment Center against a breach by us of the terms of the investments grant program.

If we do not receive orders from our customers with whom we have signed long-term contracts, we may have excess capacity. Failure to receive purchase orders currently expected may adversely affect our financial results, business and financial position.

We have committed a portion of our capacity for future orders from certain customers with whom we have signed long-term contracts. If these customers do not place orders with us in accordance with their contractual loading and purchase commitments, or if we are unable to fill such unutilized capacity in a timely manner, our financial results may be adversely affected.

When our forecast with respect to customer demand is high, we may purchase machinery in order to install additional capacity and provide for expanded production. In the event that purchase orders received from customers do not meet our expected loading forecast, our business and financial position may be adversely affected.

A global recession, unfavorable economic conditions and/or credit crisis may adversely affect our results and our ability to fulfill our debt obligations and other liabilities.

The effects of a downturn or a weakness in the semiconductor industry and/or in the global economy may include global decreased demand, downward price pressure, excess inventory and unutilized capacity worldwide, which may negatively impact consumer and customer demand for our products and the end products of our customers. Such a downturn or a weakness may adversely affect our customer base and/or our customers’ products base by adversely affecting our ability to attract new customers and new business to our fabs as well as maintain current customers. Such a downturn or weakness may also adversely affect our ability to increase the utilization rates in our manufacturing facilities and maintain them at a high level that would suffice to cover our substantial fixed costs, maintain commercial relationships with our customers, suppliers, and creditors, including our lenders, and continue our capacity growth. In addition, such a downturn or weakness may negatively impact our ability to improve our future financial results and position, including our ability to raise funds in the capital markets, fulfill our debt obligations and other liabilities, refinance our debt and other liabilities and/or pay them in a timely manner. There is no assurance that such downturn will not occur.

The lack of a significant backlog resulting from our customers not placing purchase orders far in advance makes it difficult for us to forecast our revenues in future periods.

Our customers generally do not place purchase orders far in advance, partly due to the cyclical nature of the semiconductor industry. As a result, we do not typically operate with any significant backlog. The lack of a significant backlog makes it difficult for us to forecast our revenues in future periods. Moreover, since our expense levels are based in part on our expectations of future revenues, we may be unable to adjust costs in a timely manner to compensate for revenue shortfalls caused by cancellations, rescheduling of orders or lower actual orders than quantities forecasted. Rescheduling may relate to quantities or delivery dates, and sometimes relates to the specifications of the products we are shipping. Consequently, we cannot be certain that orders on backlog will be shipped when expected or at all.

We expect that, in the future, our revenues in any quarter will continue to be substantially dependent upon purchase orders received in the immediately preceding quarter or two. We cannot assure you that any of our customers will continue to place orders with us in the future at the same levels as in prior periods. For these reasons, our backlog at any given date may not be a reliable indicator of our future revenues.

We may manufacture wafers based on forecasted demand, rather than actual orders from customers. If our forecasted demand exceeds actual demand, we may have obsolete inventory, which may have a negative impact on our financial results.

We target manufacturing wafers in an amount matching each customer's specific purchase order. On occasion, we may produce wafers in excess of a customer's orders based on forecasted customer demand, because we may forecast future excess demand or because of future capacity constraints. If we manufacture more wafers than are actually ordered by customers, we may be left with excess inventory that may ultimately become obsolete and must be scrapped or sold at a significant discount. Significant amounts of obsolete inventory may have a negative impact on our financial results.

Our financial results may be adversely affected if we are unable to operate our facilities at utilization rates that are high enough to reach revenue levels that would cover our costs and result in operating and net profits.

As is common in our industry, a large portion of our total costs is comprised of fixed costs, associated mainly with our manufacturing facilities, while our variable costs are relatively small. Therefore, during periods when our facilities manufacture at high utilization rates, we are able to cover our costs. However, at times when the utilization rate is low, the reduced revenues may not cover all of the costs since a large portion of them are fixed costs which remain constant, irrespective of the fact that fewer wafers were manufactured. In addition, our depreciation costs and capital expenditure investments, as common in our industry, are high. If customer demand for our products is not sufficient to enable us to operate our facilities consistently at high utilization rates, we may not be able to fully reach revenue levels that would cover all of our costs and result in operating and net profits, as currently expected.

Our sales cycles are typically long, and orders ultimately received may not meet our expectations, which may adversely affect our operating results.

Our sales cycles, which we measure from first contact with a customer to first shipment of a product ordered by the customer, vary substantially and may last as long as two years or more, particularly for new technologies. In addition, even after we make initial shipments of prototype products, it may take several more months to reach full production of the product. As a result of these long sales cycles, we may be required to invest substantial time and incur significant expenses before receiving any product order and related revenue. If orders ultimately received are significantly lower than our expectations, we will have excess capacity that we may not be able to fill within a short period of time, resulting in lower utilization of our facilities. This may adversely affect our operating results and

financial condition considering that in addition to the revenues loss, we may be unable to adjust our costs in a timely manner to align with the lower revenue, since a large portion of our cost is fixed cost, which remains constant irrespective of the number of wafers actually manufactured.

The cyclical nature of the semiconductor industry and any resulting periodic overcapacity may lead to erosion of sale prices, may make our business and operating results particularly vulnerable to economic downturns, and may reduce our revenues, earnings and margins.

The semiconductor industry has historically been highly cyclical and subject to significant and often rapid increases and decreases in product demand. Traditionally, companies in the semiconductor industry have expanded aggressively during periods of decreased demand in order to have the capacity needed to meet expected demand in future upturns. If actual demand does not increase or declines, or if companies in the industry expand too aggressively, the industry may experience a period in which industry-wide capacity exceeds demand. This could result in overcapacity and excess inventories, potentially leading to rapid erosion of average sales prices. The prices that we can charge our customers for our services are significantly related to the overall worldwide supply of integrated circuits and semiconductor products. The overall supply of semiconductor products is based in part on the capacity of other companies, which is outside of our control. In periods of overcapacity, despite the fact that we utilize niche technologies and manufacture specialty products, we may have to lower the prices we charge our customers for our services which may reduce our margins and weaken our financial condition and results of operations. In addition, we cannot give assurance that an increase in the demand for foundry services in the future will not lead to under-capacity, which could result in the loss of customers and materially adversely affect our revenues, earnings and margins. Analysts believe that such patterns may repeat in the future. The overcapacity, under-utilization and downward price pressure characteristic of a downturn in the semiconductor market and/or in the global economy, as experienced several times in the past, may negatively impact consumer and customer demand for our products, the end products of our customers and the financial markets, which may adversely affect our business and financial position.

If we do not maintain and develop our technology processes and services, we may lose customers and may be unable to attract new ones.

The semiconductor market is characterized by rapid change, including the following:

- rapid technological developments;
- evolving industry standards;
- changes in customer and product end user requirements;
- frequent new product introductions and enhancements; and
- short product life cycles with declining prices as products mature.

Our ability to maintain our current customer base and attract new customers is dependent in part on our ability to continuously develop and introduce to production advanced specialized manufacturing process technologies and purchase the appropriate equipment. If we are unable to successfully develop and introduce these processes to production in a timely manner or at all, or if we are unable to purchase the appropriate equipment required for such processes, we may be unable to maintain our current customer base and may be unable to attract new customers.

The semiconductor foundry business is highly competitive; our competitors may have competitive advantages over us and our financial results may be adversely affected if we do not successfully compete in the industry.

The semiconductor foundry industry is highly competitive. We compete most directly in the specialty segments with certain independent dedicated foundries. We also compete with the pure play advanced technology node driven foundry service providers as they each have some capacity for specialty process technologies, and with IDMs that allocate a portion of their manufacturing capacity to foundry operations.

As our competitors continue to expand their manufacturing capacity, there could be an increase in specialty semiconductor capacity. As specialty capacity increases, there may be more competition and pricing pressure on our services, which may result in underutilization of our capacity, decrease of our profit margins, reduced earnings or increased losses.

In addition, some semiconductor companies have advanced their CMOS designs to smaller than 14 nanometer process geometries. These smaller process geometries may provide customers with performance and integration features that may be comparable to, or exceed, features offered by our specialty process technologies. The smaller process geometries may also be more cost-effective at higher production volumes for certain applications, such as when a large amount of digital content is required in a mixed-signal semiconductor and less analog content is then required. Our specialty processes will therefore compete with these more advanced CMOS processes and some of our potential and existing customers could elect to design these advanced CMOS processes into their next generation products. We are not currently capable, and do not currently plan to become capable, of providing CMOS processes at these smaller process geometries. If our potential or existing customers choose to design their products in a manner whereby the percentage of digital content in specialty designs increases significantly and requires these advanced CMOS processes, our business may be negatively impacted.

In addition, many of our competitors may have one or more of the following competitive advantages over us:

greater manufacturing capacity and /or availability of same;

a more diverse and established customer base;

greater financial, sales, marketing, distribution and other resources;

governmental funding or support;

a better cost structure; and/or

better operational performance, including cycle time and yields.

If we do not compete successfully, our business and financial results may be adversely affected.

If we experience difficulty in achieving acceptable device yields, product performance and delivery times, as a result of manufacturing problems, our business may be adversely harmed.

The process technology for the manufacture of semiconductor wafers is highly complex, requires advanced and costly equipment and is constantly being modified in an effort to improve device yields, product performance and delivery times. Microscopic impurities such as dust and other contaminants, difficulties in the production process, defects in the key materials and tools used to manufacture wafers and other factors can cause wafers to be rejected or individual semiconductors on specific wafers to be non-functional. We may experience difficulty achieving acceptable device yields, product performance and product delivery times in the future as a result of manufacturing problems. Although we continuously enhance our manufacturing capabilities and efficiency, from time to time we have experienced production difficulties that have caused delivery delays and quality control problems. Manufacturing issues we may face include the following:

- difficulties in upgrading or expanding existing facilities;
- unexpected breakdowns in our manufacturing equipment and/or related facility systems;
- unexpected events, such as an electricity outage or misprocess, affecting the manufacturing process;
- difficulties in changing or upgrading our process technologies;
- raw material shortages or impurities;
- delays in delivery or shortages of spare parts; and
- difficulties in maintenance and upgrade of our equipment.

Should such problems occur to a material degree we may suffer delays in delivery, loss of income, loss of reputation and/or a loss of customers, any of which may adversely impact our business, revenues and financial condition.

If we are unable to purchase equipment and raw materials, we may not be able to manufacture our products in a timely fashion, which may result in a loss of existing and potential new customers and may have an adverse effect on our business and financial results.

To increase the production capability and maintain the quality of production in our facilities, we must procure additional equipment. In periods of high market demand, the lead times from order to delivery of manufacturing equipment could be as long as 12 to 18 months. We also procure used equipment which can take a long time to qualify to the manufacturing process, hence potentially delaying the manufacture of our products. In addition, our manufacturing processes use many raw materials, including silicon wafers, chemicals, gases and various metals, and require large amounts of fresh water and electricity. Manufacturing equipment and raw materials generally are available from several suppliers. In several instances, however, we purchase equipment and raw materials from a single source. Shortages in supplies of manufacturing equipment and raw materials could occur due to an interruption of supply or increased industry demand. Any such shortages could result in production delays that may result in a loss of existing and potential new customers, which may have a material adverse effect on our business and financial results.

Our exposure to currency exchange and interest rate fluctuations may impact our costs and financial results.

We operate our fabs in three different regions: Japan, the United States and Israel. The functional currency of the entities operating the fabs in the United States and Israel is USD. The functional currency of our subsidiary in Japan is the JPY. Our expenses and costs are denominated mainly in NIS, USD, and JPY, our revenues are denominated mainly in USD and JPY and our cash from operations, investing and financing activities are denominated mainly in NIS, USD, and JPY. We are, therefore, exposed to the risk of currency exchange rate fluctuations in some of our entities.

The USD costs of our operations in Israel are influenced by changes in the USD to NIS exchange rate with respect to costs that are denominated in NIS. The fluctuation of USD against the NIS can affect our results of operations. Appreciation of the NIS has the effect of increasing the cost of some of our Israeli purchases and labor NIS denominated costs in USD terms, which may lead to erosion in our profit margins. We use foreign currency cylinder transactions to partially hedge a portion, but not all of this currency exposure, to be contained within a pre-defined fixed range. In addition, we executed swap hedging transactions to fully hedge our exposure to the fluctuation of USD against the NIS as far as it relates to our non-convertible Series G debentures which are denominated in NIS.

The majority of TPSCo's revenues are denominated in JPY and the majority of the expenses of TPSCo are in JPY, which limits the exposure to fluctuations of the USD / JPY exchange rate on TPSCo's results of operations as the impact on the revenues will be mostly offset by the impact on the expenses. In order to mitigate a portion of the net exposure to the USD / JPY exchange rate over the net profit margins, we have entered-into-cylinder hedging transactions which partially hedge our exposure to the currencies' fluctuation to be contained within a pre-defined fixed range.

In addition to currency exchange fluctuations, if TPSCo's respective banks incurs increased costs in financing the applicable credit facility due to changes in law or the unavailability of foreign currency, such bank may exercise its right to increase the interest rate on the credit facility or require us to bear such increased cost as provided for in the respective credit facility agreement.

We also hold a securities investment portfolio, including interest bearing bonds and notes. An increase in the interest rates globally and other market changes may result in a reduced market value of these bonds and notes, thereby creating financing losses for us if we are unable to mitigate exposure, react to the market changes promptly and adjust our securities investment portfolio components in a timely manner.

Although, as described above, we regularly engage in various hedging strategies to reduce our exposure to these risks and intend to continue to do so in the future, we are likely to remain partially exposed to exchange rate fluctuations (mainly NIS and JPY rates as compared to the US dollar), which may have a material effect on our cost and financial results.

We depend on intellectual property to succeed in our business including intellectual property owned by us as well as intellectual property of third parties. Failure to enforce our intellectual property rights as well as failure to maintain or acquire licenses to intellectual property of third parties may harm our business.

We depend on intellectual property in order for us to provide certain foundry services and design support to our customers. As of December 31, 2018, we held 285 patents in force. We intend to continue to file patent applications when appropriate. The process of applying for patents to obtain patent protection may take a long time and can be expensive. We cannot assure you that patents will be issued from pending or future applications or that, if patents are issued, they will not be challenged, invalidated or circumvented or that the rights granted under the patents will provide us with meaningful protection or any commercial advantage. In addition, we cannot assure you that other countries in which we market our services and products will respect our intellectual property rights to the same extent



as the United States. Effective intellectual property enforcement may be unavailable or limited in some countries. We cannot assure you that we will, at all times, enforce our patents or other intellectual property rights and it may be difficult for us to protect our intellectual property from misuse or infringement by other companies in certain countries. Further, we cannot assure you that courts will uphold our intellectual property rights or enforce the contractual arrangements that we have entered into to protect our proprietary technology, which may reduce our opportunities to generate revenues. In the event that we are unable to enforce our intellectual property rights, our business may be harmed.

In addition, with respect to third party intellectual property that is required for the manufacture of our products, if problems or delays arise with respect to the timely development, quality and provision thereof to us, the design and production of our customers' products may be delayed, resulting in underutilization of our capacity. If any of our intellectual property vendors goes out of business, liquidates, merges with, or is acquired by, another company that discontinues the vendor's previous line of business, or if we fail to maintain or acquire licenses to such intellectual property for any other reason, our business may be adversely affected.

From time to time, we are a party to litigation that may require management time and effort and may adversely affect us by harming our business, image and financials.

From time to time, we are a party to litigation incidental to the conduct of our ongoing business, including class actions, disputes with customers, suppliers, landlords, or other third parties. Litigation usually requires a certain amount of management time and effort which may adversely affect our business by diverting management focus from business needs and development of future strategic opportunities.

In addition, our ability to compete successfully depends in part on our ability to operate without infringing on the proprietary rights of others and defending our intellectual property rights. Because of the complexity of the technologies used and the multitude of patents, copyrights and other overlapping intellectual property rights, it is often difficult for semiconductor companies to determine infringement. Therefore, the semiconductor industry is characterized by frequent litigation regarding patent, trade secret and other intellectual property rights. We have been subject to intellectual property claims from time to time, some of which have been resolved through license agreements, the terms of which have not had a material effect on our business.

We may also be a party to infringement claims in the future. In the event any third party were to assert infringement claims against us or our customers, we may have to consider alternatives including, but not limited to:

negotiating cross-license agreements;

acquiring licenses to the allegedly infringed patents, which may not be available on commercially reasonable terms, if at all;

discontinuing use of certain process technologies, architectures, or designs, which could cause us to stop manufacturing certain integrated circuits if we are unable to design around the allegedly infringed patents;

litigating the matter in court, incurring substantial legal fees and paying substantial monetary damages in the event we lose; or

developing non-infringing technologies, which may not be feasible.

Any one or several of these alternatives may place substantial financial and other burdens on us and hinder our business. Litigation, which may result in substantial costs to us and diversion of our resources, may be necessary to enforce our patents or other intellectual property rights or to defend us or our customers against claimed infringement. If we fail to obtain certain licenses or if we will be involved in litigation relating to alleged patent infringement or other intellectual property matters, it may prevent us from manufacturing particular products or using particular technologies, which may adversely impact our business and revenues.

We could be harmed by failure to comply with environmental regulations.

Our business is subject to a variety of laws and governmental regulations in Israel, the U.S. and Japan relating to the use, discharge and disposal of toxic or otherwise hazardous materials used in Tower's production processes in Israel, Jazz's production processes in California, TJT's production processes in Texas and TPSCo's facilities in Japan. If we fail to use, discharge or dispose of hazardous materials appropriately, or if applicable environmental laws or regulations change in the future, we may be subject to substantial liability or may be required to suspend or significantly modify our manufacturing operations.

We are subject to risk of loss due to fire because the materials we use in our manufacturing processes are highly flammable.

We use highly flammable materials such as silane and hydrogen in our manufacturing processes and are therefore subject to risk of loss arising from fire. The risk of fire associated with these materials cannot be completely eliminated. Although we maintain insurance policies to mitigate any potential losses that may be caused by fire, including business interruption insurance, our insurance coverage may not compensate us fully for all losses incurred due to a fire. If any of our fabs were to be damaged and/or cease operations for a certain period of time as a result of a fire, and if our insurance proves to be inadequate, our manufacturing capacity and revenues may be adversely affected. In addition, a power outage, even of very limited duration, caused by a fire may result in a loss of wafers in production, deterioration of our fab yield, substantial downtime to reset equipment before resuming production and an adverse effect on our revenue and profits.

Possible product returns could harm our business.

Products manufactured by us may be returned within specified periods if they are defective or otherwise fail to meet customers' prior agreed upon specifications. Future product returns may have an adverse effect on our business and financial results.

We are subject to risks related to our international operations.

We generate our revenues from customers located in the US, Europe and Asia-Pacific. Because of our international operations, we are vulnerable to the following risks:

JPY fluctuations against the USD, see above risk factor "Our exposure to currency exchange and interest rate fluctuations may impact our costs and financial results";

the burden and cost of compliance with foreign government regulation, as well as compliance with a variety of foreign laws;

impact of potential new legislation under the Trump administration;

general geopolitical risks, such as political and economic instability, international terrorism, potential hostilities and changes in diplomatic and trade relationships;

natural disasters affecting the countries in which we conduct our business;

imposition of regulatory requirements, tariffs, import and export restrictions and other trade barriers and restrictions, including the timing and availability of export licenses and permits;

adverse foreign and international tax rules and regulations, such as withholding taxes deducted from amounts due to us may not be refunded to us by the tax authorities since we are not entitled to foreign tax credit in Israel;

weak protection of our intellectual property rights in certain foreign countries;

delays in product shipments due to local customs' restrictions;

laws and business practices favoring local companies;

difficulties in collecting accounts receivable; and

difficulties and costs of staffing and managing foreign operations.

In addition, Israel, the United States, Japan and other foreign countries may implement quotas, duties, taxes or other charges or restrictions upon the import or export of our products, leading to a reduction in sales and profitability in that country. The geographical distance between Israel, the United States, Japan and the rest of Asia and Europe also creates certain logistical and communication challenges. We cannot assure you that we will be able to sufficiently mitigate all the risks related to our international operations.

Our business could suffer if we are unable to retain and recruit qualified personnel.

We depend on the continued services of our senior executive officers, senior managers and skilled technical and other personnel. Our business could suffer if we lose the services of some of these personnel due to resignation, medical absence, illness or other reasons, and cannot find and integrate adequate replacement personnel into our senior management, business and operations in a timely manner. We seek to recruit highly qualified personnel and there is intense competition for the services of these personnel in the semiconductor industry. Competition for personnel may increase significantly in the future as new fabless semiconductor companies as well as new semiconductor manufacturing facilities are established. Our ability to retain existing personnel and attract new personnel is in part dependent on the compensation packages we offer. As demand for qualified personnel increases, we may be forced to increase the compensation levels, including adjustment of the cash, equity and other components of compensation we offer our personnel.

Our business forecasts are premised on the increasing use of outsourced foundry services by both fabless semiconductor companies and integrated device manufacturers. Our business may not meet our forecasts if this trend does not continue to develop in the manner we expect, which may adversely affect our business and financial results.

We operate as an independent semiconductor foundry focused primarily on specialty process technologies. Our business model assumes that demand for these processes within the semiconductor industry will grow and follow the broader trend towards outsourcing foundry operations. If the broader trend to outsourced foundry services does not prove applicable to the specialty process technologies that we are focused on, our business and financial results may be adversely impacted and may not meet our forecasts.

If we are unable to collaborate successfully with electronic design automation vendors and third-party design service companies to meet our customers' design needs, our business may be harmed.

We have established relationships with electronic design automation vendors and third-party design service companies. We work together with these vendors to develop complete design kits that our customers can use to meet their design needs using our process technologies. Our ability to meet our customers' design needs successfully, including their schedule and budget requirements, depends in part on the availability and quality of the relevant services, tools and intellectual property provided by electronic design automation vendors and design service providers. Difficulties or delays in these areas may adversely affect our ability to meet our customers' needs, thereby potentially harming our business.

Compliance with existing or future governmental regulations may reduce our sales or increase our manufacturing costs.

The export of semiconductors that we manufacture may be subject to U.S., Israeli and/or Japanese export control and other regulations established by other countries. Compliance with existing or evolving U.S., Israeli, Japanese or other applicable governmental regulation or obtaining timely domestic or foreign regulatory approvals or certificates may materially disrupt our business by reducing our sales, requiring extensive modifications to processes that we use in our product manufacturing thereby increasing our manufacturing costs, or requiring extensive modifications to our customers' products. We may not export products using or incorporating controlled technology without obtaining an export license. These restrictions may make foreign competitors facing less stringent controls on the export of their products more competitive in the global market. The relevant government may not approve any pending or future export license requests. In addition, the list of products and countries for which export approval is required, and the regulatory policies with respect thereto, may be modified from time to time.

If certain of the integrated circuits we manufacture are defective and integrated into products, we may be subject to product liability claims or other claims which could damage our reputation and harm our business.

Our customers integrate our custom integrated circuits into their products which they then sell to end users. If these products are defective or malfunction, we may be subject to product liability claims, as well as possible recalls, safety alerts or advisory notices relating to the product. We cannot assure you that our insurance policies will compensate us fully for claims that may be made against us. In addition, we may be unable to obtain insurance in the future at satisfactory rates, with adequate coverage, or at all. Product liability claims or product recalls in the future, regardless of their ultimate outcome, may have a material adverse effect on our business, reputation, financial condition and our ability to attract and retain customers.

A workforce that is unionized may have adverse impact on our manufacturing costs as well as on our operations by work stoppages, strikes or other collective actions which may disrupt the fabs' production and adversely affect the fabs' performance, our customers and our operational and financial results.

A significant portion of the employees at the Newport Beach, California fab are represented by a union and covered by a collective bargaining agreement, which was renewed for three additional years, effective as of July 1, 2018. Similarly, a significant portion of TPSCo's employees at its fabs in Japan are represented by a union and covered by a collective bargaining agreement. In addition, employees at our fabs in Israel, who currently are not members of any union, may wish to join in the future. We cannot predict the effect that union representation or future organizational activities will have on these fabs' manufacturing cost and business. Specifically under TPSCo's collective bargaining agreement, the union and the company are required to first negotiate any points of dispute before taking any action such as work stoppages, strikes or other collective actions. We cannot assure you that our fabs will not experience a material work stoppage, strike or other collective action in the future, or incur increased costs in connection with the renewal of said bargaining agreements or other potential union activities, which may disrupt their production and adversely affect our fabs' manufacturing costs, operational performance metrics, our customers and our operational and financial results.

Our fabs' production performance metrics and business could be significantly harmed by natural disasters, particularly earthquakes.

Fab 1 and Fab 2 are located in an area near the Syrian-African rift valley, which is known to have seismic activity. Fab 3 is located in southern California, a region known for seismic activity. TPSCo's fabs are located in Japan, which is generally susceptible to seismic activity. Due to the complex and delicate nature of our manufacturing processes, our facilities are particularly sensitive to the effects of vibrations associated with even minor earthquakes. Our business operations depend on our ability to maintain and protect our facilities, computer systems and personnel. We cannot be certain that precautions that any of our fabs have taken to seismically upgrade the fabs will be adequate to protect our facilities in the event of an earthquake. Earthquakes may lead to fire in the fabs or other material damage, and any resulting damage could seriously disrupt production and result in reduced revenues. Although we maintain insurance policies to mitigate any potential losses that may be caused by earthquakes and other natural disasters, including business interruption insurance, our insurance coverage may not compensate us fully for all of the losses we may incur. If any of our fabs were to be damaged or cease operations, even for a limited duration, as a result thereof, and if our insurance proves to be inadequate, our manufacturing capacity and revenues may be adversely affected, thereby exposing us to third party claims. A power outage, even of very limited duration, caused by an earthquake or other natural disaster may result in a loss of wafers in production, deterioration of our fab yield and substantial downtime to reset equipment before resuming production, thereby potentially causing a material adverse effect on our business, revenue and profits.

Climate change may negatively affect our business.

There is increasing concern regarding climate change and its potential dramatic effects on human activity if no aggressive remediation steps are taken. Legislative developments with respect to reductions in greenhouse gas emissions may result in increased energy, transportation and raw material costs.

Scientific examination of, political attention to, and rules and regulations on, issues surrounding the existence and extent of climate change may result in increased production costs due to increase in the prices of energy and introduction of energy or carbon tax. A variety of regulatory developments have been introduced that focus on restricting or managing emissions of carbon dioxide, methane and other greenhouse gases. Enterprises may need to purchase new equipment at higher costs or raw materials with lower carbon footprints. These developments and further legislation that is likely to be enacted may adversely affect our operations. Changes in environmental regulations, such as those on the use of per fluorinated compounds, may increase our production costs, which may adversely affect our results of operation and financial condition.

In addition, more frequent droughts and floods, extreme weather conditions and rising sea levels may occur due to climate change. For example, transportation suspension caused by extreme weather conditions, including snow storms, may harm the distribution of our products. We cannot predict the economic impact, if any, of disasters resulting from climate change.

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Compliance with the US Conflict Minerals Requirements Enacted Pursuant to the Dodd-Frank Act may affect our ability or the ability of our suppliers to purchase raw materials at an effective cost and may adversely affect our business.

Many industries rely on materials which are subject to regulation concerning certain minerals sourced from the Democratic Republic of Congo ("DRC") or adjoining countries, which include Sudan, Uganda, Rwanda, Burundi, United Republic of Tanzania, Zambia, Angola, Congo, and Central African Republic. These minerals are commonly referred to as conflict minerals. Conflict minerals which may be used in our industry or by our suppliers include Columbite-tantalite (derivative of tantalum [Ta]), Cassiterite (derivative of tin [Sn]), gold [Au], Wolframite (derivative of tungsten [W]), and Cobalt [Co]. We are subject to the requirements under the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010, or the Dodd-Frank Act, that require due diligence and disclosure as to whether our products contain conflict minerals. The Trump administration has indicated that the Dodd-Frank Act will be under further scrutiny and some of the provisions of the Dodd-Frank Act may be revised, repealed or amended. In April 2017, the SEC announced suspension of enforcement of portions of the conflict minerals regulations enacted under the Dodd-Frank Act following a ruling by the U.S. Court of Appeals for the District of Columbia Circuit. The potential implementation of these requirements and any changes effected by the Trump administration could adversely affect the sourcing, availability and pricing of the materials used in the manufacture of components used in our products. In addition, we will likely incur additional costs to comply with the disclosure requirements, including costs related to conducting diligence procedures to determine the sources of conflict minerals that may be used in or necessary to the production of our products and, if applicable, potential changes to our products, processes or sources of supply as a consequence of such verification activities. It is also possible that we may face reputational harm if we determine that certain of our products contain minerals not determined to be conflict-free or may lose customers and adversely impact our revenue and business if we are unable to alter our products, processes or sources of supply to avoid use of such materials. We may encounter challenges in satisfying those customers that require that all of the components of our products be certified as conflict free, and if we cannot satisfy these customers, they may choose a competitor's products.

Risks relating to construction activities adjacent to Fab 3 and our Fab 3 lease.

Jazz leases its fabrication facility and offices under lease contracts that Jazz can extend until 2027, through the exercise of an option at Jazz's sole discretion to extend the lease period from 2022 to 2027. A few years ago, the landlord began a construction project adjacent to the fabrication facility. It is possible that said project may adversely impact Jazz, including temporary reductions or interruptions in the supply of utilities to the property and that a portion or all of the fabrication facility may need to be idled temporarily during development. If construction activities limit or interrupt the supply of water, gas or electricity to Fab 3 or cause significant vibrations or other disruptions, it could limit or delay Fab 3's production, which may adversely affect our business and operating results. In addition, an unplanned power outage caused by construction activities, even of very limited duration, may result in a loss of wafers in production, deterioration in Fab 3's yield, and on schedule delivery and substantial downtime to reset equipment before resuming production. These may cause customer dissatisfaction and cause customers to contemplate transferring their product orders to other fabs, which may adversely affect our revenues and financial results. In addition, the lease amendment sets forth certain obligations of Jazz and the landlord, including certain noise abatement actions at the fabrication facility. The landlord has claimed that our noise abatement efforts are not adequate under the terms of the amended lease. We do not agree with, and are disputing, these claims.



Security, cyber and privacy breaches may hurt our business and operations.

Any security breach, including those resulting from a cybersecurity attack, or any unauthorized access, unauthorized usage, virus or similar breach or disruption could result in the loss of confidential information, damage to our fab operations, damage to our reputation, early termination of our contracts, litigation, regulatory investigations or other liabilities. If our security measures are breached as a result of third party action, employee error, malfeasance or otherwise and, as a result, someone obtains unauthorized access to our, our customers' or any third party's confidential information, our reputation may be damaged, our business may suffer and we could incur significant liability.

Techniques used to obtain unauthorized access or to sabotage systems change frequently and generally are not recognized until launched against a target. As a result, we may be unable to anticipate these techniques or to implement adequate preventative measures. If an actual or perceived security breach occurs, the market's perception of our security measures may be harmed and we could lose sales and customers as well as incur operational damage to our machines and/or products.

#### Risks Related to Our Securities

Fluctuations in the market price of our traded securities may significantly affect our ability to raise new capital.

The capital markets, in general, have experienced volatility that often has been unrelated to the operating performance of the traded companies. The share price of many companies in the semiconductor industry has experienced wide fluctuations, which has often been unrelated to the operating performance of such companies. These broad market and industry fluctuations may adversely affect the market price of Tower's equity and debt traded securities, regardless of Tower's actual operating performance.

In addition, it is possible that Tower's operating results may differ from the expectations of public market analysts and investors, which may adversely affect the price of Tower's securities. Adverse impact to the market price of Tower's securities may negatively impact our ability to raise new capital in order to finance our growth plans, obligations and liabilities and/or re-finance our debt, and/or may cause us to receive less favorable terms than expected to the extent we will decide to raise any capital.

## Risks Related to Our Operations in Israel

Instability in Israel may harm our business.

Fab 1 and Fab 2 manufacturing facilities, Tower's design center and certain of Tower's corporate and sales offices are located in Israel. Accordingly, political, economic and military conditions in Israel may directly affect our business.

Since the establishment of the State of Israel in 1948, Israel has been in, and is subject to, armed conflict with neighboring states and terrorist activity, with varying levels of severity. Parties with whom we do business have sometimes declined to travel to Israel during periods of heightened unrest or tension, forcing us to make alternative arrangements where necessary. In addition, the political and security situation in Israel may result in parties with whom we have agreements claiming that they are not obligated to perform their commitments under those agreements pursuant to force majeure provisions. We can give no assurance that security and political conditions will not adversely impact our business in the future. Any hostilities involving Israel or the interruption or curtailment of trade between Israel and its present trading partners may adversely affect our operations and make it more difficult for us to do business and raise capital. Furthermore, we could experience serious disruption to our manufacturing in Israel if acts associated with said conflict result in any serious damage to said manufacturing facilities. In addition, there may also be protests against or sanctions imposed on the State of Israel which may adversely impact our business. Our business interruption insurance may not adequately compensate us for losses that we may incur, and any losses or damages incurred by us may have a material adverse effect on our business.

In the event of severe unrest or other conflict, Israeli personnel could be required to serve in the military for extended periods of time. In response to increases in terrorist activity, there have been periods of significant call-ups of Israeli military reservists, and it is possible that there will be additional call-ups in the future. Many male Israeli citizens, including most of Tower's male employees under the age of 40, are subject to compulsory military reserve service and may be called to active duty under emergency circumstances. Our operations in Israel could be disrupted by the absence, for a significant period of time, of one or more of our key employees or a significant number of our other employees due to military service. Such disruption may harm our operations and our business.

If the exemption allowing us to operate our Israeli manufacturing facilities seven days a week or our business license is not renewed, our business may be adversely affected.

We operate our Israeli manufacturing facilities seven days a week pursuant to an exemption (which we need to timely renew) from the law that requires businesses in Israel to be closed from sundown on Friday through sundown on Saturday ("Saturday Exemption"). In addition, our business license certificate issued by Migdal Ha'emek municipality needs to be renewed annually. If our Saturday Exemption or our business license are not renewed in the future, our financial results and business may be harmed.

It may be difficult to enforce a US judgment against us, our officers, directors and advisors or to assert US securities law claims in Israel.

Tower is incorporated in Israel. Most of Tower's executive officers and directors are not residents of the United States (excluding the employees of its U.S. subsidiaries), and a majority of Tower's assets (excluding its U.S. subsidiaries and their assets) are located outside the United States. Therefore, a judgment obtained in the United States against Tower or any of our executive officers and directors, including one based on the civil liability provisions of the U.S. federal securities laws, may not be collectible in the United States (except to the extent that it relates to Tower's US subsidiaries, its assets or employees) and may not be enforced by an Israeli court. Additionally, it may be difficult to enforce civil liabilities under U.S. federal securities laws claimed in original actions instituted in Israel.

Provisions of Israeli law may delay, prevent or otherwise impede a merger with, or an acquisition of, our company, which may prevent a change of control, even when the terms of such a transaction are favorable to us and our shareholders.

Israeli corporate law regulates mergers, requires tender offers for acquisitions of shares above specified thresholds, requires special approvals for transactions involving directors, officers or significant shareholders and regulates other matters that may be relevant to such types of transactions. Furthermore, Israeli tax considerations may make potential transactions unappealing to Tower or to its shareholders whose country of residence does not have a tax treaty with Israel exempting such shareholders from Israeli tax. These and other similar provisions may delay, prevent or impede a merger with or an acquisition of our company, even if such a merger or acquisition would be beneficial to Tower or its shareholders.

The rights and responsibilities of Tower's shareholders will be governed by Israeli law which differs in some material respects from the rights and responsibilities of shareholders of U.S. companies.

The rights and responsibilities of the holders of Tower's ordinary shares are governed by its articles of association and by Israeli law. These rights and responsibilities differ in some material respects from the rights and responsibilities of shareholders in typical U.S. registered corporations. In particular, a shareholder of an Israeli company has certain duties to act in good faith and fairness towards the company and other shareholders, and to refrain from abusing its power in the company. There is limited case law available to assist Tower shareholders in understanding the nature of this duty or the implications of these provisions. These provisions may be interpreted to impose additional obligations and liabilities on holders of Tower's ordinary shares that are not typically imposed on shareholders of U.S. corporations.

In the past, we received Israeli government grants for certain of our research and development activities. The terms of those grants may require us, in addition to payment of royalties, to satisfy specified conditions in order to manufacture products and transfer technologies outside of Israel, which may impair our ability to sell certain of our technologies abroad. If such conditions are not met, we may be required to pay penalties in addition to repayment of the grants.

We received grants from the Government of Israel through programs with the Office of the Chief Scientist of the Israeli Ministry of Economy and Industry, or OCS, as it was known prior to Amendment No. 7 (the "R&D Amendment") to the Israeli Law for the Encouragement of Industrial Research and Development, 1984, and related regulations (the "R&D Law"), now known as the Israel Innovation Authority (the "IIA").

The R&D Law provisions include limitations with respect to outsourcing, licensing or transferring development, IIA funded know-how (or derivatives thereof) or manufacturing activities with respect to any IIA funded (or derivatives thereof) product or technology outside of Israel. In some cases, payments are required with respect to the same. Additionally, the IIA must be notified in cases of change in control in companies which received government funding from the OCS or IIA. The R&D Law may limit our ability to sell our technology assets outside of Israel or to outsource, transfer and/or license development or manufacturing activities with respect to any IIA funded product or technology outside of Israel, or consummate a change in control in the Company.

## ITEM 4. INFORMATION ON THE COMPANY

### A. HISTORY AND DEVELOPMENT OF THE COMPANY

We are a pure-play independent specialty foundry dedicated to the manufacture of semiconductors. Typically, pure-play foundries do not offer products of their own, but focus on producing integrated circuits, or ICs, based on the design specifications of their customers. We manufacture semiconductors for our customers primarily based on third party designs. We currently offer the process manufacture geometries of 0.35, 0.50, 0.55, 0.60, 0.80-micron and above on 150-mm wafers and 0.35, 0.18, 0.16, 0.13 and 0.11-micron on 200-mm wafers and 65 nanometer and 45 nanometer on 300-mm wafers. We also provide design support and complementary technical services. ICs manufactured by us are incorporated into a wide range of products in diverse markets, including consumer electronics, personal computers, communications, automotive, industrial, aerospace and medical device products.

We are focused on establishing leading market share in high-growth specialized markets by providing our customers with high-value wafer foundry services. We manufacture standard analog complementary metal oxide semiconductor (“CMOS”) process technology, which is a widely used method of producing ICs, and we specialize in specific technologies including CMOS image sensors, wireless antenna switch Silicon-on-Insulator (SOI), mixed-signal, radio frequency CMOS (RFCMOS), bipolar CMOS (BiCMOS), and silicon-germanium BiCMOS (SiGe BiCMOS or SiGe), high voltage CMOS, radio frequency identification (RFID) technologies, MEMS and power management. To better serve our customers, we have developed and are continuously expanding our technology offerings in these fields. Through our experience and expertise gained during more than twenty five years of operation, we differentiate ourselves by creating a high level of value for our customers through innovative technological processes, design and engineering support, competitive manufacturing indices, and dedicated customer service.

Tower was founded in 1993, with the acquisition of National Semiconductor’s 150-mm wafer fabrication facility located in Migdal Haemek, Israel, and commenced operations as an independent foundry. Since then, we have significantly upgraded our Fab 1 facility, equipment, capacity and technological capabilities with process geometries ranging from 1.0-micron to 0.35-micron and enhanced our process technologies to include CMOS image sensors, embedded flash, advanced analog, RF (radio frequency) and mixed-signal technologies. Recently, we integrated advanced single Poly NVM into the Fab 1 process flows and are currently in the process of evaluating the development of GaN technological platform (GaN on Si).

In 2003, we commenced production in Fab 2, a wafer fabrication facility we established in Migdal Haemek, Israel. Fab 2 supports geometries ranging from 0.35 to 0.13-micron, using advanced CMOS technology, including CMOS image sensors, embedded flash, advanced analog, RF (radio frequency), and specifically RF switches on SOI, power platforms and mixed-signal technologies.

In September 2008, we merged with Jazz. Jazz focuses on specialty process technologies for the manufacture of analog and mixed-signal semiconductor devices, and supports geometries ranging from 0.50 to 0.13-micron. Jazz's specialty process technologies include advanced analog, radio frequency, high voltage, bipolar, SOI and silicon germanium bipolar, complementary metal oxide (“SiGe”) semiconductor processes. ICs manufactured by Jazz are incorporated into a wide range of products, including cellular phones, wireless local area networking devices, digital TVs, set-top boxes, gaming devices, switches, routers and broadband modems. Jazz operates Fab 3 located in Newport Beach, California, US.

In March 2014, we acquired from Panasonic 51% of a newly established company, TPSCo, that manufactures products for Panasonic and other third party customers, using three semiconductor factories located in Hokuriku Japan (Uozu E, Tonami CD and Arai E), which factories were established by Panasonic. Pursuant to the transaction, Panasonic transferred its semiconductor wafer manufacturing process and capacity tools (8 inch and 12 inch) at said three fabs to TPSCo, and entered into a five-year manufacturing agreement for the manufacture of products for

Panasonic by TPSCo, which has been extended in March 2019 for an additional three years, under amended terms, including a revised pricing structure.

In February 2016, we acquired Fab 9, located in San Antonio, Texas, US, from Maxim. The assets and related business that we acquired from Maxim are held and conducted through one of our wholly owned US subsidiaries, TJT. Fab 9 supports process geometries ranging from 0.80 to 0.18 for the manufacture of products using CMOS and analog based technologies.

Our executive offices and Israeli manufacturing facilities are located in the Ramat Gavriel Industrial Park, Shaul Amor Street, Post Office Box 619, Migdal Haemek, 2310502 Israel, and our telephone number is 972-4-650-6611. Our agent for service of process in the United States is Tower Semiconductor USA, Inc. located at 2570 North First Street, Suite 480 San Jose, CA 95131.

For more information about us, go to [www.towerjazz.com](http://www.towerjazz.com). Information on our web site is not incorporated by reference in this annual report.

## B. BUSINESS OVERVIEW

### INDUSTRY OVERVIEW

#### PROLIFERATION OF ANALOG AND MIXED-SIGNAL SEMICONDUCTORS AND THE GROWING NEED FOR SPECIALTY PROCESS TECHNOLOGIES

Semiconductor devices are responsible for the rapid growth of the electronics industry over the past fifty years. They are critical components in a variety of applications, from computers, consumer electronics and communications, to industrial, military, medical and automotive applications. Rapid changes in the semiconductor industry frequently make recently introduced devices and applications obsolete within a very short period of time. With the increase in their performance and decrease in their size and cost, the use of semiconductors and the number of their applications have increased significantly.

Historically, the semiconductor industry was composed primarily of companies that designed and manufactured ICs in their own fabrication facilities. These companies, such as Intel and Samsung, are known as integrated device manufacturers, or IDMs. In the mid-1980s, fabless IC companies, which focused on IC design and used external manufacturing capacity, began to emerge. Fabless companies initially outsourced production to IDMs, which filled this need through their excess capacity. As the semiconductor industry continued to grow, increasing competition forced fabless companies and IDMs to seek reliable and dedicated sources of IC manufacturing services. Use of external manufacturing capacity allowed IDMs to reduce their investment in their existing and next-generation manufacturing facilities and process technologies. This need for external manufacturing capacity led to the development of independent companies, known as foundries, which focus primarily on providing IC manufacturing services to semiconductor suppliers. Foundry services are used by nearly all major semiconductor companies in the world, including IDMs, as part of a dual-source, risk-diversification and cost effectiveness strategy.

Semiconductor suppliers face increasing demands for new products that provide higher performance, greater functionality and smaller form factors at lower prices - all features that require increasingly complex ICs. The industry has experienced a dramatic increase in the number of applications that incorporate semiconductors. Further, in order to compete successfully, semiconductor suppliers must minimize the time it takes to bring a product to market. As a result, fabless companies and IDMs have focused more on their core competencies, design and intellectual property development, and tend to outsource manufacturing to foundries.

The two basic functional technologies for semiconductor products are digital and analog. Digital semiconductors provide critical processing power and have helped enable many of the computing and communication advances of recent years. Analog semiconductors monitor and manipulate real world signals such as sound, light, pressure, motion, temperature, electrical current and radio waves, for use in a wide variety of electronic products such as digital still cameras, x-ray medical applications, flat panel displays, personal computers, cellular handsets, telecommunications equipment, consumer electronics, automotive electronics and industrial electronics. Analog-digital, or mixed-signal, semiconductors combine analog and digital devices on a single chip which can process both analog and digital signals.

Integrating analog and digital components on a single, mixed-signal semiconductor enables the development of smaller, more highly integrated, power-efficient, feature-rich and cost-effective semiconductor devices but presents significant design and manufacturing challenges. For example, combining high-speed digital circuits with sensitive analog circuits on a single, mixed-signal semiconductor can increase electromagnetic interference and power consumption, both of which cause a higher amount of heat to be dissipated and decrease the overall performance of the semiconductor. Challenges associated with the design and manufacture of mixed-signal semiconductors increase as the industry moves toward more advanced process geometries. As a result, analog and mixed-signal semiconductors can be complex to manufacture and typically require sophisticated design expertise and strong application specific experience and intellectual property. In addition, today's analog market is driven strongly by growing sensitivity to environmental requirements such as the conservation of energy, and human well-being. This is seen in applications related to the Internet of Things (IoT) in particular in products with embedded sensors, medical devices, applications focused on entertainment, infotainment and safety, all developed using analog technology.

Mixed-signal ICs are an essential part of any front-end electronic system. Our advanced analog CMOS process technologies have more features than standard analog CMOS process technologies and are well suited for higher performance or more highly integrated analog and mixed-signal semiconductors, such as high-speed analog-to-digital or digital-to-analog converters and mixed-signal semiconductors with integrated data converters. These process technologies generally incorporate higher density passive components, such as capacitors and resistors, as well as improved active components, such as native or low voltage devices, and improved isolation techniques, into standard analog CMOS process technologies.

The enormous costs associated with modern fabs, combined with the increasing demand for complex ICs, has created an expanding market for outsourced foundry manufacturing services. Foundries can cost-effectively supply advanced ICs to even the smallest fabless companies by creating economies of scale through pooling the demand of numerous customers. In addition, customers whose IC designs require process technologies other than standard digital CMOS have created a market for independent foundries that focus on providing specialized process technologies. Specialty process technologies enable greater analog content and can reduce the die size of an analog or mixed-signal semiconductor, thereby increasing the number of dies that can be manufactured on a wafer and reducing final die cost. In addition, specialty process technologies can enable increased performance, superior noise reduction and improved power efficiency of analog and mixed-signal semiconductors compared to traditional standard CMOS processes. These specialty process technologies include advanced analog CMOS, specialized RF devices on SOI, radio frequency CMOS (RF CMOS), CMOS image sensors (CIS) and other types of original sensors, high voltage CMOS, bipolar CMOS (BiCMOS), silicon germanium BiCMOS (SiGe BiCMOS), and bipolar CMOS double-diffused metal oxide semiconductor (BCD). We have mastered the skills required to work in this technology intensive environment which is rapidly changing. We work closely with our customers to provide them with unique and specialized solutions needed for their business success.

Foundries may also offer customers competitive complementary services through design, testing, and other technical services.

## MANUFACTURING PROCESSES AND SPECIALIZED TECHNOLOGIES

We manufacture ICs on silicon wafers, generally using the customer's proprietary circuit designs. In some cases, we provide our customers with third-party design elements or our own proprietary design elements. The end product of our manufacturing process is a silicon wafer containing multiple identical ICs. In most cases, our customer assumes responsibility for dicing, assembly, packaging and testing.

We provide wafer fabrication services to fabless IC companies and IDMs, as sole source or second source, and enable smooth integration of the semiconductor design and manufacturing processes. By doing so, we enable our customers to bring high-performance, highly integrated ICs to market rapidly and cost effectively. We believe that our technological strengths and emphasis on customer service have allowed us to develop a unique position in large, high-growth specialized markets for CMOS image sensors, RF, power management and high performance mixed signal ICs.

We manufacture using specialty process technologies, mostly based on CMOS process platforms with added features to enable special and unique functionality, improved size, performance and cost characteristics for analog and mixed-signal semiconductors. Products made with our specialty process technologies are typically more complex to manufacture than products made using standard process technologies employing similar line widths. Generally, customers that use our specialty process technologies cannot easily transfer designs to another foundry because the analog characteristics of the design are dependent upon the specific process technology used for manufacturing. The specialty process design infrastructure is complex and includes design kits and device models that are specific to the foundry in which the process is implemented and to the process technology itself. In addition, the relatively small engineering community with specialty process expertise and the significant investment required for development or transfer and maintenance of specialty process technologies has limited the number of foundries capable of offering specialty process technologies. We believe that our specialized process technologies combined with design enablement capabilities distinguish our IC manufacturing services and attract industry-leading customers.

We also offer process transfer services to integrated device manufacturers (IDMs) who wish to manufacture products using their own process and do not have sufficient capacity in their own fabs. Our process transfer services are also used by fabless companies that have proprietary process flows that they wish to manufacture at additional manufacturing sites for purposes of geographic diversity or require a new technology node which is very costly to build independent of other business commitments. Our process transfer services include development, transfer, and extensive optimization as defined by customer needs.

With our world-class engineering team, well established transfer methodologies, and vast manufacturing experience, we offer state of the art production lines for core bulk CMOS and specialized technologies such as RF SOI, back-end-of-line (BEOL) magnetic random access memory (MRAM) and MTJ (magnetic tunnel junction) sensors, SiGe and MEMS, among others. With a combination of well known intellectual property protection and capacity flexibility commitment, we ensure customer confidence and satisfaction for low-risk services and fast time-to-market.



We are a trusted, customer-oriented service provider that has built a solid reputation in the foundry industry over more than twenty five years. We have built strong relationships with customers. Our consistent focus on providing high-quality, value add services, including engineering and design support, has allowed us to attract customers that seek to work with a proven provider of foundry solutions. Our emphasis on working closely with customers and accelerating the time-to-market and performance of their next-generation products has enabled us to maintain a high customer retention rate, whilst increasing the number of new customers and new products for production.

We also offer from time to time a wide range of support services for the establishment of new semiconductor fabrication facilities or the ramp of existing facilities owned by third parties, based on our technological, operational and integration expertise, for which we receive payments based on the achievement of pre-defined milestones and may also be entitled to certain capacity allocation and other rights, all subject to definitive agreements underlying such projects.

We derived a very significant amount of our revenues for the year ended December 31, 2018 from our target specialized markets: RF CMOS, power IC and discrete devices, CMOS image sensors, wireless communication and high performance analog. We are highly experienced in these markets, having been an early entrant and having developed unique proprietary technologies, including through licensing and joint development efforts with our customers and other technology companies.

The specific process technologies that we currently focus on include: radio frequency CMOS (RF CMOS), CMOS image sensors (CIS) and integration of other types of sensors, advanced analog CMOS, radio frequency identification (RFID), bipolar CMOS (BiCMOS), silicon germanium (SiGe BiCMOS), high voltage CMOS, silicon-on-insulator (SOI) platforms for power management, RF and sensor applications, LDMOS transistors, power devices based on GaN (gallium nitride) technology, and sensors fabricated on GaN on silicon wafers.

#### CMOS Image Sensors

CMOS image sensors are ICs used to capture an image in a wide variety of consumer, communications, medical, automotive and industrial market applications, including camera-equipped cell phones, digital still and video cameras, security and surveillance cameras and video game consoles. Our dedicated manufacturing and testing processes assure consistently high electro-optical performance of the integrated sensor through wafer-level characterization. Our CMOS image sensor processes have demonstrated superior optical characteristics, excellent spectral response and high resolution and sensitivity. The ultra-low dark current, high efficiency and accurate spectral response of our photodiode enable faithful color reproduction and acute detail definition.

We are currently actively involved in the high-end sensor and applications specific markets, which include applications such as high end video, high end photography, industrial machine vision, dental x-ray, medical x-ray, automotive sensors, security sensors and ToF (time of flight) three dimensional sensors for entertainment and industrial applications.

We recognized the market potential of using CMOS process technology for a digital camera-on-a-chip, which would integrate a CMOS image sensor, filters and digital circuitry. Upon entering the CMOS image sensor foundry business, we utilized research and development work that had been ongoing since 1993. Our services include a broad range of turnkey solutions and services, including silicon proven pixels services, optical characterization of a CMOS process, innovative patented stitching manufacturing technique and prototype packaging. The CMOS image sensors that we manufacture deliver outstanding image quality for a broad spectrum of digital imaging applications. Following the acquisition of TPSCo we are now offering even more advanced CMOS Image Sensor technology with technologies of 110nm on 200mm wafers and 65nm on 300mm wafers with pixel sizes down to 1.12 micron utilizing dual light pipe technology.



Having this technology, we are now offering our customers state of the art pixels for a variety of new markets such as the high end machine vision cameras or the rapidly growing security camera markets.

Specifically, our CIS portfolio includes pixels ranging from 1.12 micron up to 150 micron, all developed by us. We provide both rolling shutter and global shutter pixels. The latter are used mainly in the industrial sensor and in the three dimensional sensors markets. Our advanced technology used in CMOS image sensors enables improved optical and electrical performance such as low dark current, low noise, high well capacity, high quantum efficiency and high uniformity of pixels utilizing deep sub-micron process technologies, thus enabling the manufacturing of very sophisticated and high performance camera module solutions. In addition, our advanced global shutter technology and global shutter pixels, as small as 2.5um, enable excellent performance, especially, very high shutter efficiency.

For the X-ray market, we offer our innovative patented “stitching” technology on 0.18-micron process as well as on 65nm technology on 300mm wafers and a variety of 15 to 150-micron pixels that are optimized for X-ray applications. These pixels are used by our customers in dental and other medical X-ray products as well as in the industrial NDT (Not Destructive Testing) X-Ray market. Our stitching technology enables semiconductor exposure tools to manufacture single ultra high-resolution CMOS image sensors containing millions of pixels at sizes far larger than their existing field. This technology is also used by us in the manufacturing of large sensors (up to one die per wafer) on 8” and 12” wafers and high end large format sensors with special pixels that we have developed specifically for this market.

We developed our near Infra-Red imaging technology, specially developed for gesture recognition systems designed by leading world computer manufacturers and a series of spectrally sensitive image sensors, including proximity sensors and sensors sensitive in the UV range.

We developed BSI (Backside Illumination) technology for both 200mm and 300mm wafers. For the 200mm wafers, we announced our cooperation with YCM (YuanChen Microelectronics) in China that manufactures the BSI part of the process on our wafers, using our own developed BSI technology. For the 300mm wafers, we also provide stacked wafer technology, where two wafers, one – a CMOS wafer and one - a CIS wafer, are connected electrically to provide high functionality on a CMOS Image Sensor.

In the past year, we developed SPAD (single photon avalanche detectors) for LIDAR (light detection and range) applications in smart automotive advanced driver assistance systems (ADAS) and autonomous driving (AD) vehicles. Our technology allows us to combine CMOS, image sensors and SPADs on the same chip.

## RF CMOS

In recent years, more and more designers opt to develop high frequency products based on RF CMOS technologies. The superior cost structure of CMOS technologies enables high volume, low cost production of high frequency products. We used our mixed signal expertise to leverage and develop processes and provide services for customers that utilize CMOS technologies and require high frequency performance.

Our RF CMOS process technologies have more features than advanced analog CMOS process technologies of our competitors and are well suited for wireless electronics, such as highly integrated transceivers, power amplifiers, and television tuners. These process technologies generally incorporate integrated inductors, high performance variable capacitors and RF laterally diffused metal oxide semiconductors transistors into an advanced analog CMOS process technology. In addition to the smart process features, our RF offering includes design kits with RF models, device simulation and physical layouts tailored specifically for RF performance. We currently have RF CMOS process technologies in 0.25 micron, 0.18 micron, 0.13 micron and 65 nanometer.

Further, we have versions of our RF CMOS process built on silicon-on-insulator (SOI) substrates (RF SOI). These RF SOI process technologies include devices optimized to deliver higher performance and improved isolation relative to

devices in our RF CMOS process. We currently have RF SOI process technologies in 0.18 micron, 0.13 micron and 65 nanometer lithography nodes and fabricate various devices including antenna switches with record FOM (figure of merit) and front end modules. Corresponding chips can be found in various products, including state-of-the-art smart-phones, manufactured by leading manufacturers.

### BiCMOS for RF and High Performance Analog

Our BiCMOS process technologies have more features than RF CMOS process technologies and are well suited for RF semiconductors, such as wireless transceivers and television tuners. These process technologies generally incorporate high-speed bipolar transistors into an RF CMOS process. The equipment requirements for BiCMOS manufacturing are specialized, and assume enhanced tool capabilities to achieve high yield manufacturing.

Our SiGe BiCMOS process technologies have more features than BiCMOS processes and are well suited for more advanced RF and high performance analog semiconductors such as high-speed, low noise, highly integrated multi-band wireless transceivers, optical networking components, television tuners, automotive radar components, hard-disk drive pre-amplifiers, power amplifiers and low-noise amplifiers. These integrated circuits generally incorporate silicon germanium bipolar transistors, which are formed by the deposition of a thin layer of silicon germanium within a bipolar transistor, to achieve higher speed, lower noise, and more efficient power performance than a BiCMOS process technology. It is also possible to achieve higher speed using SiGe BiCMOS process technologies equivalent to those demonstrated in standard CMOS processes that are two process generations smaller in line-width. For example, a 0.18 micron SiGe BiCMOS process is able to achieve speeds comparable to a 90 nanometer RF CMOS process. As a result, SiGe BiCMOS makes it possible to create analog products using a larger geometry process technology at a lower cost while achieving similar or superior performance to that achieved using a smaller geometry standard CMOS process technology. We developed enhanced tool capabilities in conjunction with large semiconductor tool suppliers to achieve high yield SiGe manufacturing. We believe this equipment and related process expertise makes us one of the few integrated circuit manufacturers with demonstrated ability to deliver SiGe BiCMOS products. We currently have 0.35 micron, 0.18 micron and 0.13 SiGe BiCMOS micron technologies available.

### Power and Power Management ICs

Our power technologies are generally divided into a low-voltage BCD offering and a 700V ultra-high voltage offering. Our low-voltage BCD process technologies have more features than advanced analog CMOS processes and are well suited for power and driver semiconductors, such as voltage regulators, battery chargers, power management products and audio amplifiers. These process technologies generally incorporate higher voltage CMOS devices such as 5V, 8V, 12V, 40V and 60V LDMOS devices, and, in the case of BCD, bipolar devices integrated into an advanced analog CMOS process. We currently have high voltage and low R<sub>dson</sub> BCD offerings in 0.5 micron, 0.35 micron, 0.25 micron, 0.18 micron and 65 nanometer. We offer a cost effective and digital intensive power management platform, based on our 0.18um technology node with advanced isolation options (in particular SOI based), that allow our customers to design high performance products as well as products with the high level of integration. We recently qualified an advanced 65nm BCD platform which is advantageous for a variety of products, such as PMICs, load switches, DC-DC converters, LED drivers, analog, digital controllers, and more. The process includes up to 16V LDMOS transistors with ultra-low R<sub>dson</sub> (less than 1m \*mm<sup>2</sup> for the 5V devices) and features very low metal resistance (single or dual 3.3um top thick copper).

Our 700V ultra-high voltage platform supports the fast growing LED lighting market as well as serving the more established AC adaptor and motor driver markets.

In addition, we have developed a unique, zero mask adder NVM solution (Y-Flash) specifically for power and power management applications in our 0.18 micron platforms. We have developed a series of Y-flash based modules with record (for the single Poly embedded MTP technologies) memory densities of up to 16kbit, which have been integrated in various power management products of our customers. We have also introduced high density single Poly silicon memory arrays of other intellectual property vendors into our CMOS process flows.

We continue to invest in technology that improves performance and integration level and reduces the cost of analog and mixed-signal products. This includes improving the density of passive elements such as capacitors and inductors, including development of the new passive elements, improving the analog performance and voltage handling capability of active devices, and integrating additional advanced features in our specialty CMOS processes. Examples of such technologies currently under development include GaN technologies for sensor applications and technologies aimed at integrating micro-electro-mechanical-system (MEMS) devices with CMOS, scaling the features we offer today to the 0.13 micron process, including the integration of advanced SiGe transistors with 0.13 micron CMOS and copper metallization and investing in development of Silicon Photonics technology.

#### CUSTOMERS, MARKETING AND SALES

Our marketing and sales strategy seeks to further solidify our position as the global specialty foundry leader, by increasing our market share at existing customers and aggressively expanding our global customer base. We have marketing, sales, design support engineers, field application engineers and customer support personnel in China, Israel, Japan, Korea, Taiwan and the United States. In selected markets, including Europe and South America, our marketing and sales staff is supported by independent sales representatives, who have been selected based on their industry experience, customer relationships and understanding of the semiconductor marketplace.

Our sales cycle is generally 8 to 26 months or longer for new customers and can be as short as 8 to 12 months for existing customers. The typical stages in the sales cycle process from initial contact until production are:

- technical evaluation;

  - product design to our specifications, including integration of third party intellectual property;

- photomask - design and third party photomask manufacturing;

- silicon prototyping;

- assembly and test;
- validation and qualification; and
- production.

The primary customers of our foundry and design services are fabless semiconductor companies and Integrated Device Manufacturers (IDMs). A portion of our product sales are made pursuant to long-term contracts with our customers, under which we agree to reserve manufacturing capacity at our production facilities for such customers. Our customers include many analog and mixed-signal industry leaders, serving a variety of end market segments. During the year ended December 31, 2018, we had four significant customers that each contributed between 7% to 33% of our revenues. During the year ended December 31, 2017, we had four significant customers that each contributed between 7% to 30% of our revenues. During the year ended 2016, we had four significant customers that each contributed between 5% to 35% of our revenues.

The percentage of our revenues from customers located outside the United States was 48%, 48% and 51% in the years ended December 31, 2018, 2017 and 2016, respectively. The following table sets forth the geographical distribution, by percentage, of our net revenues for the periods indicated:

	Year ended		
	December 31,		
	2018	2017	2016
United States	52 %	52 %	49 %
Japan	34 %	32 %	36 %
Asia, excluding Japan*	10 %	12 %	12 %
Europe	4 %	4 %	3 %
Total	100%	100 %	100 %

\* Represents revenues from individual countries of less than 10% each.

We price our products on a per wafer basis, taking into account the unique value of our technology and its ability to enable customers to differentiate their products, complexity of the technology, prevailing market conditions, volume forecasts, the strength and history of our relationships with the customer and our current capacity utilization. Most of our customers usually place purchase orders between two to six months before shipment.

To promote our products, technology offering, and services we publish press releases, articles, technology journals, and white papers. In addition, we present and participate in panel sessions at industry conferences, hold a variety of regional and international technology seminars, and exhibit at various industry trade shows. We discuss advances in our process technology portfolio and progress on specific relevant programs with our prospective and existing customers, as well as industry analysts and research analysts, on a regular basis. We publicly release any such information that we deem material or important to disclose and as required by law.

Our customers use our processes to design and market a broad range of analog and mixed-signal semiconductors for diverse end markets, including wired and wireless high-speed communications, consumer electronics, automotive and industrial applications. We manufacture products for a wide range of electronic systems, including but not limited to, high-performance applications, such as antenna switches, transceivers and power management circuits for cellular phones; transceivers and power amplifiers for wireless local area networking products; power management, audio amplifiers and driver integrated circuits for consumer electronics; tuners for digital televisions and set-top boxes; modem chipsets for broadband access devices and gaming devices; serializer/deserializers, or SerDes, for fiber optic transceivers; high end video cameras, dental and medical x-ray vision, industrial cameras, focal plane arrays for imaging applications; infra-red detectors for gesture recognition, controllers for power amplifier and switching chips

in cellular phones and wireline interfaces for switches and routers.

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## Competition

The global semiconductor foundry industry is highly competitive. We compete most directly in the specialty segment with foundries such as Powerchip, Vanguard Semiconductor, DongBu, X-Fab, and HH Semi. We also compete with the pure-play advanced technology node-driven foundry service providers such as Taiwan Semiconductor Manufacturing Corporation (“TSMC”), United Microelectronics Corporation (“UMC”), Global Foundries Inc. and Semiconductor Manufacturing International Corp. (“SMIC”). These four foundries primarily compete against one another and focus on 12 inch deep-submicron CMOS processing, though they each also have some capacity for specialty process technologies. The rest of the foundry industry generally targets either industry standard 8 inch CMOS processing or specialty process technologies. This includes existing Chinese, Korean and Malaysian foundries. We also compete with integrated device manufacturers that have internal semiconductor manufacturing capacity or foundry operations, such as ST, Intel, Samsung, and others that produce ICs for their own use and may allocate a portion of their manufacturing capacity to external foundry customers. Most of the foundries with which we compete are located in Asia-Pacific, thereby benefitting from their close proximity to companies involved in the design of ICs and the Asian customer base.

The principal elements of competition in the wafer foundry market are:

- technology offering and future roadmap;
- product performance;
- system level technical expertise;
- research and development capabilities;
- access to intellectual property;
- customer technical support;
- design services;
- product development kits (PDKs);
- manufacturing operational performance;
- quality systems;
- product quality;
- manufacturing yields;
- customer support and service;
- pricing;
- management expertise;
- strategic customer relationships;
- capacity availability; and

· stability and reliability of supply.

Some of our competitors, notably the pure-play advanced technology node-driven foundry service providers, have greater manufacturing capacity, may have greater scope of and/ or a greater number of R&D resources, better cost structure and greater financial, marketing and other resources. As a result, these companies may be able to compete more aggressively over a longer period of time than us.

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We seek to compete primarily on the basis of advanced specialty analog/mixed-signal technology, R&D, breadth of process offering, production quality, technical support, and our design, engineering and manufacturing services. We have a highly differentiated specialty offering and proven track record in analog/mixed-signal markets, which enables us to effectively compete with larger foundry service providers.

Some semiconductor companies have advanced their CMOS designs to 14 nanometer or smaller geometries. These smaller geometries may provide customers with performance and integration features that may be comparable to, or exceed, features offered by our specialty process technologies, and may be more cost-effective at higher production volumes for certain applications, such as when a large amount of digital content is required in a mixed-signal semiconductor and less analog content is required. Our specialty process technologies will therefore compete with these advanced CMOS processes for customers and some of our potential and existing customers could elect to design these advanced CMOS processes into their next generation products. We are not currently capable, and do not currently plan to become capable, of providing CMOS processes at these smaller geometries.

#### WAFER FABRICATION SERVICES

Wafer fabrication is an intricate process that consists of constructing layers of conducting and insulating materials on raw wafers in intricate patterns that give the IC its function. IC manufacturing requires hundreds of interrelated steps performed on different types of equipment, and each step must be completed with extreme accuracy for finished ICs to work properly. The process can be summarized as follows:

**Circuit Design.** IC production begins when a fabless IC company or IDM designs (or engages a third party or us) the layout of a device's components and designates the interconnections between each component. The result is a pattern of components and connections that defines the function of the IC. In highly complex circuits, there may be more than 43 layers of electronic patterns. After the IC design is completed, we provide these companies with IC manufacturing services.

**Mask Making.** The design for each layer of a semiconductor wafer is imprinted on a photographic negative, called a reticle or mask. The mask is the blueprint for each specific layer of the semiconductor wafer. We engage external mask shops for the manufacture and provision of such masks.

**IC Manufacturing.** Transistors and other circuit elements comprising an IC are formed by repeating a series of processes in which photosensitive material is deposited on the wafer and exposed to light through a mask. Advanced IC manufacturing processes consist of hundreds of steps, including photolithography, oxidation, etching and stripping of different layers and materials, ion implantation, deposition of thin film layers, chemical mechanical polishing and thermal processing. The final step in the IC manufacturing process is wafer probing, which involves electronically inspecting each individual IC in order to identify those that are operable for assembly. Our customers often use third party service providers for the performance of such services although we occasionally provide this service to certain customers.

**Assembly and Test.** After IC manufacture, the wafers are transferred to assembly and test facilities. In the assembly process, each wafer is cut into dies, or individual semiconductors, and tested. Defective dies are discarded, while good dies are packaged and assembled. Assembly protects the IC, facilitates its integration into electronic systems and enables heat dissipation. Following assembly, the functionality, voltage, current and timing of each IC is tested. After testing, the completed IC is shipped either to our customer or to their customer's printed circuit board manufacturing facility. Our customers often use third party service providers for the performance of wafer assembly and testing, and to a smaller extent part of such process is performed independently by us.

## RESEARCH AND DEVELOPMENT

Our future success depends, to a large degree, on our ability to continue to successfully develop and introduce to production advanced process technologies that meet our customers' needs. Our process development strategy relies on CMOS process platforms that we license and transfer from third parties or develop ourselves.

From time to time, at a customer's request, we develop a specialty process module, which in accordance with the applicable agreement may be used for such customer on an exclusive basis or added to our process offering. Such developments are very common in all of our specialty process technologies noted above.

Our research and development activities have related primarily to our process, device and design development efforts in all specialty areas that were mentioned above, and have been sponsored and funded by us and in certain cases with some participation of the IIA. Accordingly, Tower is subject to restrictions set forth in Israeli law, as amended, which may limit the ability of a company to transfer technologies outside of Israel, if such technologies were developed with the funding of the OCS or IIA, as set forth below.

Under the terms of Israeli Government participation, a royalty of 3% or up to 5% of the net sales of products developed from a project funded by the IIA must be generally paid. The R&D Law also imposes significant restrictions on manufacturing of products developed with government grants outside Israel and on the transfer or license to third parties of technologies developed through such projects.

Assignment of the know-how from the research and development and any derivatives thereof, cannot be transferred or licensed to non-Israeli third parties without the approval of the Research Committee at the IIA, which approval is generally contingent on payment of a significant penalty of up to six times the grant amount plus LIBOR and minus any royalties paid. In 2017, the IIA published the Rules for Granting Authorization for Use of Know-How Outside of Israel (the "Licensing Rules"). The Licensing Rules enable the approval of out-licensing arrangements and other arrangements for granting of an authorization to an entity outside of Israel to use know-how developed under research and development programs funded by the IIA and any derivatives thereof. Subject to payment of a "License Fee" to the IIA, at a rate that will be determined by the IIA in accordance with the Licensing Rules, the IIA may now approve arrangements for the license of know-how outside of Israel. This allows companies that have received IIA support to commercialize know-how.

In addition to the above, we may be required to obtain export licenses before exporting certain technology or products to any third party and may be required to comply with Israeli, U.S. and other foreign export regulations as may be applicable.

Our research and development activities seek to upgrade and improve our manufacturing technologies and processes. We maintain a central research and development team primarily responsible for developing cost-effective technologies that can serve the manufacturing needs of our customers. A substantial portion of our research and development activities are undertaken in cooperation with our customers and equipment vendors. Due to the rapid changes in technology that characterize the semiconductor industry, effective research and development is essential to our success. We plan to continue to invest significantly in research and development activities in order to develop advanced process technologies for new applications.

Research and development expenses for the years ended December 31, 2018, 2017 and 2016 were \$73.1 million, \$67.7 million and \$63.1 million, respectively, net of government participation of \$1.4 million, \$0.9 million and \$0.5 million, respectively. As of December 31, 2018, we employed 444 professionals in our research and development departments, 39 of whom have PhDs. In addition to our research and development departments located at our facilities in Migdal Haemek, Israel, Newport Beach, California, San Antonio, Texas and Hokuriku Japan, we maintain a design center in Netanya, Israel.



## PROPRIETARY RIGHTS

### Intellectual Property and Licensing Agreements

Our success depends in part on our ability to obtain patents, licenses and other intellectual property rights covering our production processes. To that end, we have obtained certain patents, acquired patent licenses and intend to continue to seek patents on our intellectual property.

As of December 31, 2018, we held 285 patents in force. We have entered into various patent and other technology license agreements with technology companies, including Synopsys, ARM, Cadence, Mentor Graphics and others, under which we have obtained rights to additional technologies and intellectual property.

We constantly seek to strengthen our technological expertise through relationships with technology companies. We seek to expand our core strengths in CMOS image sensors, embedded flash, power management, RF, SiGe, MEMS and mixed-signal technologies by continuous development in these areas. A main component of our process development strategy is to acquire licenses for standard CMOS technologies, cell libraries and specialized IPs (e.g. NVM) from leading providers, such as ARM and Synopsys, and further develop specialized processes through our internal design teams. The licensing of these technologies has significantly reduced our internal development costs.

Panasonic granted a royalties bearing license to certain process technologies to TPSCo for the manufacture of products for Panasonic and third party foundry customers. TPSCo may, in certain circumstances, sub-license such technology to Tower or to other third parties for payment of royalties. The term of the agreement was five years. In March 2019 the parties signed new agreements for a 3 year term under which TPSCo will be granted a royalty free license to manufacture for Panasonic and other third party foundry customers at the facilities of TPSCo. In connection with the acquisition of Fab 9, Maxim granted TJT a license to certain process technologies for the manufacture of products at Fab 9 by TJT, some of which can only be used for the manufacture of products for Maxim, as well as license to certain process software for the manufacture of products at Fab 9.

Our ability to compete depends on our ability to operate without infringing upon the proprietary rights of others. The semiconductor industry is generally characterized by frequent litigation over patent and other intellectual property rights. As is the case with many companies in the semiconductor industry, we have from time to time received communications from third parties asserting that their patents cover certain of our technologies or alleging infringement of intellectual property rights. We expect that we will receive similar communications in the future. Irrespective of the validity or the successful assertion of such claims, we could incur significant costs and devote significant management resources in defending ourselves from such claims.

## DESIGN SERVICES

To better serve our customers' design needs using advanced CMOS and mixed-signal processes, we have entered into a series of agreements with leading providers of physical design libraries, mixed-signal and non-volatile memory design components. These components are basic design building blocks, such as standard cells, interface input-output (I/O) cells, software compilers for the generation of on-chip embedded memories arrays, mixed-signal and non-volatile memory design blocks. To achieve optimal performance, all of these components must be customized to work with our manufacturing process. These components are used in most of our customers' chip designs.

We interact closely with customers throughout the design development and prototyping process to assist them in the development of high performance and low power consumption semiconductor designs and to lower their final die, or individual semiconductor, costs through die size reductions and integration. We provide engineering support and services as well as manufacturing support in an effort to accelerate our customers' design and qualification process so that our customers can achieve faster time to market. We have entered into alliances with Cadence Design Systems, Inc., Synopsys, Inc., Mentor Graphics Corp., and other suppliers of electronic design automation tools, and also licensed standard cells, I/O and memory technologies from ARM, Synopsys, Inc., and other leading providers of physical intellectual property components for the design and manufacture of ICs. Through these relationships, we provide our customers with the ability to simulate the behavior of their design in our processes using standard electronic design automation, or EDA tools.

The applications for which our specialty process technologies are targeted present challenges that require an in-depth set of simulation models. We provide these models as an integral part of our design support. At the initial design stage, our customers' internal design teams use the proprietary design kits that we have developed to design semiconductors that can be successfully and cost-effectively manufactured using our specialty process technologies. These design kits, which collectively comprise our design library and design platform, allow our customers to quickly simulate the performance of a semiconductor design with our processes, enabling them to refine their product design to ensure alignment to our manufacturing process before actually manufacturing the semiconductor. Our engineers, who have significant experience with analog and mixed-signal semiconductor design and production, work closely with our customers' design teams to provide design advice and help them optimize their designs for our processes and their performance requirements. After the initial design phase, we provide our customers with a multi-project wafer service to facilitate the early and rapid use of our specialty process technologies, which allows them to gain early access to actual samples of their designs. Under this multi-project wafer service, we schedule a bimonthly multi-project wafer run in which we manufacture several customers' designs in a single mask set, providing our customers with an opportunity to reduce the cost and time required to test their designs. Our design center helps customers accelerate the design-to-silicon process and enhances first-time silicon success by providing them with the required design resources and capabilities. Our design support can assist in all or part of the design flow. Our in-depth knowledge of the fab and processes provide a substantive advantage when implementing designs that reach the boundaries of technology. In addition, our IP and design services can assist and relieve some of our customers' issues, providing the specific skills and expertise critical for successful implementation of our customers' design on our manufacturing process.

We believe that our circuit design expertise and our ability to accelerate our customers' design cycle while reducing their design costs represent one of our competitive strengths.

## JAZZ SEMICONDUCTOR TRUSTED FOUNDRY

In connection with Jazz's aerospace and defense business, its facility security clearance and trusted foundry status, Tower and Jazz have worked with the Defense Security Service of the United States Department of Defense ("DSS") to mitigate concern of foreign ownership, control or influence over the operations of Jazz specifically relating to protection of classified information and prevention of potential unauthorized access thereto by creating Jazz Semiconductor Trusted Foundry ("JSTF") as a subsidiary of Jazz and limiting possession of all classified information solely to JSTF. Tower and Jazz have further agreed to operate JSTF under a special security agreement signed with DSS.

## C. ORGANIZATIONAL STRUCTURE

The legal name of our company is Tower Semiconductor Ltd. Tower was incorporated under the laws of the State of Israel in 1993. Tower directly operates our Fab 1 and Fab 2 facilities in Israel. Tower's wholly-owned subsidiary, Tower US Holdings Inc. owns all of the shares of Jazz US Holdings Inc., which owns all of the shares of Jazz Semiconductor, Inc. (all three companies are incorporated under the laws of the State of Delaware), which operates our Fab 3 facility. Tower holds a 51% equity stake in TPSCo (and PSCS holds the remaining equity of TPSCo). TPSCo is incorporated under the laws of Japan and operates three fabs Arai E, Uozo E and Tonami CD located in Japan. As of February 2016, TowerJazz Texas, Inc. (the shares of which are fully owned by Tower US Holdings), operates our Fab 9 facility in San Antonio, Texas, USA.

### D. PROPERTY, PLANTS AND EQUIPMENT

#### Manufacturing Facilities

We manufacture semiconductor wafers at seven manufacturing facilities: Fab 1 and Fab 2 facilities in Israel, Fab 3 Jazz's facility in Newport Beach, California in the U.S., TPSCo's three fabs (Arai E, Uozo E and Tonami CD) in Japan, and Fab 9 TJT's facility in San Antonio, Texas, U.S. The capacity in each of our facilities at any particular time varies and depends on the combination of the processes being used and the product mix being manufactured at such time. Hence, it may be significantly lower at certain times as a result of certain combinations that may require more processing steps than others. We have the ability to rapidly change the mix of production processes in use in order to respond to changing customer needs and to maximize utilization of the fab. In general, our ability to increase our manufacturing capacity has been achieved through the addition of equipment, improvement in equipment utilization, the reconfiguration and expansion of existing clean rooms area.

Capital expenditures in 2018 and 2017 were approximately \$170 million and \$165 million, respectively, net of proceeds from sale of equipment and fixed assets of approximately \$40 million and \$20 million, respectively.

#### Fab 1

We acquired our Fab 1 facility from National Semiconductor in 1993, which had operated the facility since 1986. The facility is located in Migdal Haemek, Israel. We occupy the facility under a long-term lease from the Israel Lands Authority which expires in 2032.

Due to the sensitivity and complexity of the semiconductor manufacturing process, a semiconductor manufacturing facility requires a special "clean room" in which most of the manufacturing functions are performed. Our Fab 1 facility includes an approximately 51,900 square foot clean room.



Since we commenced manufacturing at Fab 1, we increased its manufacturing capacity and expanded the technologies qualified in the fab, including specialized processes. Fab 1 supports geometries ranging from 1.0 micron to 0.35-micron.

#### Fab 2

In 2003, we commenced production in our Fab 2, also located in Migdal Haemek, Israel. Fab 2 supports geometries ranging from 0.35 to 0.11-micron, using advanced CMOS technology, including CMOS image sensors, embedded flash, advanced analog, RF SOI, power platforms and mixed-signal technologies. We have invested significantly in the purchase of fixed assets, primarily in connection with the construction of Fab 2, technology advancement and capacity expansion.

The land on which Fab 2 is located is subject to a long-term lease from the Israel Lands Authority that expires in 2049. The overall clean room area in Fab 2 is approximately 100,000 square feet.

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### Fab 3

Jazz's manufacturing facilities and headquarters, which we refer to as Fab 3, are located in Newport Beach, California. Fab 3 supports geometries ranging from 0.80 to 0.13-micron. The manufacturing facility comprises 320,000 square feet, including 120,000 square feet of overall clean room area.

Jazz leases its fabrication facility and offices under lease contracts that Jazz can extend until 2027. In 2015, Jazz exercised its option to extend the lease term from 2017 to 2022, while maintaining the option to extend the lease term at its sole discretion from 2022 to 2027. Under Jazz amended leases, Jazz's rental payments consist of fixed base rent and fixed management fees and Jazz's pro rata share of certain expenses incurred by the landlord in the ownership of these buildings, including property taxes, building insurance and common area maintenance. Jazz and the landlord further amended the lease, setting forth certain obligations of Jazz and the landlord, including certain noise abatement actions at the fabrication facility. The landlord has claimed that our noise abatement efforts are not adequate under the terms of the amended lease. We do not agree with these claims and are disputing them.

### Uozu E, Tonami CD and Arai E fabs

In March 2014, we acquired a 51% equity stake in TPSCo, a company formed by Panasonic Corporation, to manufacture products for Panasonic and other third party customers, using three semiconductor factories located in Hokuriku, Japan, which factories were established by Panasonic. Pursuant to the transaction, Panasonic transferred its semiconductor wafer manufacturing process and capacity tools (8 inch and 12 inch) at its three fabs located in Hokuriku (Uozu E, Tonami CD and Arai E) to TPSCo. The fabs support geometrics ranging down to 45 nanometer.

### Fab 9

In February 2016, we acquired Fab 9 in San Antonio Texas, USA from Maxim. The assets and related business that we acquired from Maxim are held and conducted through a wholly owned US subsidiary, TJT. Fab 9 supports process geometries ranging from 0.18 to 0.8 micron for the manufacture of products using CMOS and analog based technologies. Under the terms of this agreement, until the termination or expiration of the supply agreement signed between Maxim and TJT, Maxim has a right of first offer to re-purchase Fab 9 in the event Tower or any of its subsidiaries sell, transfer, dispose of, cease the operations of, close, transfer or relocate Fab 9, or if Tower or its operations at Fab 9 become subject to a petition of bankruptcy or liquidation.

## ENVIRONMENTAL, SAFETY AND QUALITY MATTERS AND CERTIFICATIONS

We have placed significant emphasis on achieving and maintaining a high standard of manufacturing quality. All our facilities are ISO 9001 certified, an international quality standard that provides guidance to achieve an effective quality management system. In addition, all our facilities are IATF16949 certified, a stringent automotive quality standard.

For environmental, our operations are subject to a variety of laws and governmental regulations relating to the use, discharge and disposal of toxic or otherwise hazardous materials used in our production processes. Failure to comply with these laws and regulations could subject us to material costs and liabilities, including costs to clean up contamination caused by our operations. All of our facilities are ISO 14001 certified, an international standard that provides management guidance on how to achieve an effective environmental management system. Risks have been evaluated and mitigation plans are in place to prevent and control accidental spills and discharges. Procedures have also been established at all our locations to ensure all accidental spills and discharges are properly addressed. The environmental management system assists in evaluating compliance status with all applicable environmental laws and regulations as well as establishing loss prevention and control measures. In addition, our facilities are subject to strict regulations and periodic monitoring by government agencies. With these systems, we believe we are currently in compliance in all material respects with applicable environmental laws and regulations.

For safety, all of our facilities are OHSAS 18001 certified, an international occupational health and safety standard that provides guidance on how to achieve an effective health and safety management system. The health and safety standard management system assists in evaluating compliance status with all applicable health and safety laws and regulations as well as establishing preventative and control measures. We believe we are currently in compliance with all applicable health and safety laws and regulations.

Our goal in implementing OHSAS 18001, ISO 14001, ISO 9001 and IATF16949 systems is to continually improve our environmental, health, safety and quality management systems.

### ITEM 4A. UNRESOLVED STAFF COMMENTS

Not Applicable.

## ITEM 5. OPERATING AND FINANCIAL REVIEW AND PROSPECTS

### A. OPERATING RESULTS

#### Management's Discussion and Analysis of Financial Condition and Results of Operations

The information contained in this section should be read in conjunction with our audited consolidated financial statements for the years ended December 31, 2018 and 2017 and related notes and the information contained elsewhere in this annual report. Our financial statements have been prepared in accordance with U.S. generally accepted accounting principles ("US GAAP").

#### Critical Accounting Policies

#### Marketable securities

We account for investments in debt securities in accordance with ASC 320, "Investments - Debt and Equity Securities". The Company's management determines the appropriate classification of its investments in debt securities at the time of purchase and re-evaluates such determinations at each balance sheet date.

Marketable securities are classified as "available-for-sale" measured at fair value, based on quoted market prices. Unrealized gains and losses are reported in a separate component of shareholders' equity in accumulated other comprehensive income (loss) ("OCI"). Gains and losses are recognized when realized, on a specific identification basis, in the Company's consolidated statements of income.

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Our securities are reviewed for impairment in accordance with ASC 320-10-35. If such assets are considered to be impaired, the impairment charge is recognized in earnings when a decline in the fair value of its investments below the cost basis is judged to be other-than-temporary. Factors considered in making such a determination include the duration and severity of the impairment, the reason for the decline in value, the potential recovery period and we intent to sell, including whether it is more likely than not that we will be required to sell the investment before recovery of cost basis. For securities with an unrealized loss that we intends to sell, or it is more likely than not that we will be required to sell before recovery of their amortized cost basis, the entire difference between amortized cost and fair value is recognized in earnings.

For securities that do not meet these criteria, the amount of impairment recognized in earnings is limited to the amount related to credit losses, while declines in fair value related to other factors are recognized in OCI.

If quoted prices for identical instruments are available in an active market, marketable securities are classified within Level 1 of the fair value hierarchy. If quoted prices for identical instruments in active markets are not available, fair values are estimated using quoted prices of similar instruments and are classified within Level 2 of the fair value hierarchy.

### Revenue Recognition

Our revenues are generated principally from sales of semiconductor wafers and in addition, we also derive revenues, to a much lesser extent, from design support and other technical and support services, which are incidental to the sale of semiconductor wafers. The vast majority of our revenues is achieved through the efforts of our direct sales force.

ASC Topic 606 “Revenue from Contracts with Customers” (“Topic 606”), supersedes the revenue recognition requirements and industry-specific guidance under Revenue Recognition. Topic 606 requires an entity to recognize revenue when it transfers the control of promised goods or services to customers in an amount that reflects the consideration the entity expects to be entitled to in exchange for those goods or services. The Company adopted Topic 606 on January 1, 2018, using the modified retrospective method applied to contracts that were not completed as of January 1, 2018.

Under the modified retrospective method, prior period financial positions and results are not adjusted. There was no transition adjustment to the Company’s retained earning upon adoption.

Wafer sales are recognized at a point in time, which is upon shipment or upon delivery of the Company’s products to unaffiliated customers, depending on shipping terms. Accordingly, control of the products transfers to the customer in accordance with the transaction's shipping terms. Sales revenue is recognized for the amount of consideration that the Company expects to be entitled to in exchange for its products. Taxes imposed by governmental authorities, such as sales taxes or value-added taxes, are excluded from net sales. The Company’s contracts typically contain a single performance obligation that is fulfilled on the date of delivery based on shipping terms stipulated in the contract.

We provide for sales returns allowance relating to specified yield or quality commitments as a reduction of revenues, based on past experience and specific identification of events necessitating an allowance, which historically has been immaterial.

We provide our customers with other services that are less significant in scope and amounts for which recognition is over time when customer receives the services.

Our revenue recognition policy is significant because our revenues are a key component of our results of operations. We follow very specific and detailed guidelines in measuring revenues. Any changes in the factors affecting revenue recognition may affect mainly the timing of our revenue recognition, which may affect our financial position and results of operations.

#### Depreciation and Amortization of Fixed Assets and Intangible Assets

We are heavily capital oriented and the amount of depreciation is a significant amount of our yearly expenses. Fixed and intangible assets depreciation and amortization expenses in 2018 amounted to \$194 million. We estimate that the expected economic life of our assets is as follows: (i) buildings (including facility infrastructure) – 10 to 25 years; (ii) machinery and equipment, software and hardware – 3 to 15 years; and (iii) technology and other intangible assets – 4 to 19 years. The amounts attributed to intangible assets as part of the purchase price allocations for the acquisitions of our subsidiaries are amortized over the expected estimated economic lives of the intangible assets commonly used in the industry. Changes in our estimates regarding the expected economic life of our assets will affect our depreciation and amortization expenses.

#### Income Taxes

We account for income taxes using the asset and liability approach as prescribed in ASC 740-10, “Income Taxes”. This topic prescribes that deferred tax assets and liabilities are determined based on differences between financial reporting and tax bases of assets and liabilities. Deferred taxes are computed based on the tax rates anticipated (under applicable law as of the balance sheet date) to be in effect when the deferred taxes are expected to be paid or realized.

We evaluate the realization of our deferred tax assets for each jurisdiction in which the Company operates at each reporting date and establish valuation allowances when it is more likely than not that all or a part of our deferred tax assets will not be realized. The ultimate realization of deferred tax assets is dependent upon the generation of future taxable income of the same character and in the same jurisdiction. The Company considers all available positive and negative evidence in making this assessment, including, but not limited to, the scheduled reversal of deferred tax liabilities and projected future taxable income. In circumstances where there is sufficient negative evidence indicating that the Company's deferred tax assets are not more-likely-than-not realizable, the Company establishes a valuation allowance, see Note 18 in our annual financial statements included herein.

ASC 740-10 prescribes a two-step approach for recognizing and measuring uncertain tax positions. The first step is to evaluate tax positions taken or expected to be taken in a tax return by assessing whether they are more-likely-than-not sustainable, based solely on their technical merits, upon examination and including resolution of any related appeals or litigation process. The second step is to measure the associated tax benefit of each position as the largest amount that we believe is more-likely-than-not realizable. Differences between the amount of tax benefits taken or expected to be taken in our income tax returns and the amount of tax benefits recognized in our financial statements represent our unrecognized income tax benefits. Our policy is to include interest and penalties related to unrecognized income tax benefits as a component of income tax expense.

For Recently Issued Accounting Pronouncements see Note 2Y in our annual financial statements included herein.

## Results of Operations

You should read the following discussion and analysis of our financial condition and results of operations in conjunction with the financial statements and the related notes thereto included in this annual report. The following table sets forth certain statement of operations data as a percentage of total revenues for the years indicated.

Statement of Operations Data:	Year ended December 31,		
	2018	2017	2016
Revenues	100 %	100 %	100 %
Cost of revenues	77.5	74.5	75.7
Gross Profit	22.5	25.5	24.3
Research and development expense	5.6	4.9	5.1
Marketing, general and administrative expense	5.0	4.8	5.2
Nishiwaki Fab restructuring and impairment cost (income), net	--	--	(0.1 )
Operating profit	11.9	15.8	14.1
Financing expense, net	(1.0 )	(1.1 )	(1.9 )
Gain from acquisition, net	--	--	4.0
Other income (expense), net	(0.2 )	(0.2 )	0.7
Profit (loss) before tax	10.7	14.5	16.9
Income tax benefit (expense)	(0.5 )	7.2	(0.1 )
Net profit	10.2	21.7	16.8
Net loss (income) attributable to non-controlling interest	0.2	(0.3 )	(0.4 )
Net profit attributable to the Company	10.4 %	21.4 %	16.4 %

## Year ended December 31, 2018 compared to year ended December 31, 2017

**Revenues.** Revenues for the year ended December 31, 2018 were \$1,304 million, as compared to \$1,387 million for the year ended December 31, 2017. While our average selling price per layer didn't change in 2018 as compared to 2017, our revenue were 6% lower, mainly due to lower number of layers shipped by the Company during 2018, as compared with 2017.

**Cost of Revenues.** Cost of revenues for the year ended December 31, 2018 amounted to \$1,011 million as compared to \$1,033 million for the year ended December 31, 2017. The decrease of \$22 million in manufacturing cost is mainly attributed to a lower amount of variable costs required to be spent to manufacture a lower volume of layers ordered, manufactured and shipped by the Company.

**Gross Profit.** Gross profit for the year ended December 31, 2018 amounted to \$293 million as compared to \$354 million for the year ended December 31, 2017. The decrease in gross profit resulted directly from the 6% or \$83 million revenue reduction described above, partially offset by the \$22 million cost reduction described above.

**Research and Development.** Research and development expense for the year ended December 31, 2018, amounted to \$73.1 million as compared to \$67.7 million recorded in the year ended December 31, 2017, an 8% increase which reflects our focus on enhancing our mid-term and long-term products' funnel, technology capabilities and future design wins.

**Marketing, General and Administrative.** Marketing, general and administrative expense for the year ended December 31, 2018 amounted to \$65.0 million, as compared to \$66.8 million recorded in the year ended December 31, 2017, both representing 5% of revenues.





**Operating Profit.** Operating profit for the year ended December 31, 2018 amounted to \$154.9 million as compared to \$219.8 million for the year ended December 31, 2017. The \$64.9 million decrease in operating profit resulted mainly from the \$61.4 million reduction in gross profit described above.

**Financing Expense, Net.** Financing expense, net for the year ended December 31, 2018 amounted to \$13.2 million as compared to financing expense, net of \$15.4 million for the year ended December 31, 2017. The main reason for the decrease in financing expense, net was a higher level of interest income we earned from our higher balance of interest-bearing bank deposits and our investment in marketable securities. For more details see note 17 to our financial statements included herein.

**Other expense, Net.** Other expense, net for the year ended December 31, 2018 amounted to \$2.4 million as compared with other expense of \$2.6 million in the year ended December 31, 2017.

**Income Tax Benefit (Expense), Net.** Income tax benefit (expense), net for the year ended December 31, 2018 amounted to \$5.9 million expense, net as compared to \$99.9 million income tax benefit, net in the year ended December 31, 2017. Income tax benefit, net for the year ended December 31, 2017 included mainly (i) \$82 million income tax benefit resulted from the release of valuation allowance with regards to the net operating loss carryforward in the Israeli parent company (Tower Semiconductor Ltd), since it was concluded that it is more-likely-than-not that such deferred tax assets will be realized, (see also note 18F to the annual consolidated financial statements) and (ii) \$13 million income tax benefit resulted from the US Tax Cut and Jobs Act which has been signed into law in December 2017, following which, among others, there was a reduction in federal income tax rates from 35% to 21% (see also Note 18E to the annual consolidated financial statements). Income tax expense, net for the year ended December 31, 2018, included a change in deferred tax assets, at a rate of 7.5%, as a result of utilizing our losses carried forward against current year taxable income.

**Net Profit.** Net profit for the year ended December 31, 2018 amounted to \$135.6 million as compared to a net profit of \$298.0 million for the year ended December 31, 2017. The decrease in net profit in the amount of \$162.4 million was mainly due to the decrease of \$105.8 million in income tax benefit, net as explained above and the decrease of \$64.9 million in operating profit as described above.

Year ended December 31, 2017 compared to year ended December 31, 2016

**Revenues.** Revenues for the year ended December 31, 2017 increased to \$1,387.3 million, as compared to \$1,249.6 million for the year ended December 31, 2016. The increase in revenues of \$137.7 million is mainly due to an increase in the volume of wafer shipments driven by higher customer demand to our products and higher utilization rates in our fabrication plants.

**Cost of Revenues.** Cost of revenues for the year ended December 31, 2017 amounted to \$1,033.0 million as compared to \$946.5 million for the year ended December 31, 2016. The \$86.5 million increase in manufacturing cost is due to the increased volume of wafers manufactured and shipped, directly resulting in the incremental \$137.7 million revenues, as described above.

**Gross Profit.** Gross profit for the year ended December 31, 2017 increased to \$354.3 million as compared to \$303.1 million for the year ended December 31, 2016. The \$51.2 million increase in gross profit resulted directly from the increase of \$137.7 million in revenues, partially offset by the increase in manufacturing cost of revenues, as described above.

**Research and Development.** Research and development expense for the year ended December 31, 2017, amounted to \$67.7 million or 4.9% of revenue, as compared to \$63.1 million or 5.1% of revenue recorded in the year ended December 31, 2016.



Marketing, General and Administrative. Marketing, general and administrative expense for the year ended December 31, 2017 amounted to \$66.8 million or 4.8% of revenue, as compared to \$65.4 million or 5.2% of revenue recorded in the year ended December 31, 2016.

Nishiwaki Fab Restructuring and Impairment Cost (Income), Net. Nishiwaki Fab restructuring and impairment cost (income), net, for the year ended December 31, 2016 which amounted to net income of \$0.6 million is related to the 2014 cessation of operations of the Nishiwaki Fab in Japan.

Operating Profit. Operating profit for the year ended December 31, 2017 increased to \$219.8 million as compared to \$175.2 million for the year ended December 31, 2016. The \$44.7 million increase in operating profit resulted mainly from the increased gross profit described above.

Financing expense, Net. Financing expense, net for the year ended December 31, 2017 decreased to \$15.4 million as compared to other financing expense, net of \$24.3 million for the year ended December 31, 2016. The decrease was mainly due to the 2016 financing cost related to the early repayment of the banks' loans, which was executed during 2016 and the increased level of cash and cash equivalents and short term deposits during 2017.

Gain from Acquisition, Net. Gain from acquisition, net for the year ended December 31, 2016, was recorded following the acquisition of the San Antonio fabrication facility in the amount of \$50.5 million, net.

Other Income (Expense), Net. Other expense, net for the year ended December 31, 2017 was \$2.6 million as compared with other income of \$9.3 million in the year ended December 31, 2016. The decrease was mainly due to a gain of \$6.0 million in 2016 which resulted from an earn-out mechanism related to the acquisition of Fab 9, higher capital gains of \$2.9 million in 2016 from the sales of machinery and equipment and an impairment of non-public equity investments at cost basis of \$3.0 million in 2017.

Income Tax Benefit (Expense), Net. Income tax benefit, net for the year ended December 31, 2017 amounted to \$99.9 million as compared to \$1.4 million income tax expense, net in the year ended December 31, 2016. Income tax benefit, net for the year ended December 31, 2017 derived mainly from (i) \$82 million income tax benefit resulted from the release of valuation allowance with regards to the net operating loss carryforward in Tower, since we have concluded that it is more-likely-than-not that such deferred tax assets will be realized (see note 18E and 18F to our annual consolidated financial statements for further details) and (ii) \$13 million income tax benefit resulted from the US Tax Cut and Jobs Act which has been signed into law in December 2017, following which, among others, we expect to have a reduction in federal income tax rates from 35% to 21% (see Note 18E to our annual consolidated financial statements for further details). The change in valuation allowance described above affected our effective tax rate substantially and is not representative of our expected effective tax rate in the future. For further details on the considerations to said change in the valuation allowance, see note 18 to our annual consolidated financial statements.

Net Profit. Net profit for the year ended December 31, 2017 amounted to \$298.0 million as compared to a net profit of \$203.9 million for the year ended December 31, 2016. The increase in net profit in the amount of \$94.1 million was mainly due to the increase of \$44.7 million in operating profit described above and an increase of \$101.3 million in income tax benefit, net, partially offset by \$50.5 million net gain from the acquisition of the San Antonio facility during the year ended December 31, 2016, as described above.

### Impact of Inflation and Currency Fluctuations.

The Company currently operates in three different regions: Japan, the United States and Israel. The functional currency of the United States and Israel entities is the US dollar (“USD”). The functional currency of our subsidiary in Japan is the Japanese Yen (“JPY”). Our expenses and costs are denominated mainly in USD, JPY and New Israeli Shekels (“NIS”), revenues are denominated mainly in USD and JPY and our cash from operations, investing and financing activities are denominated mainly in USD, JPY and NIS. Therefore, the Company is exposed to the risk of currency exchange rate fluctuations in Israel and Japan.

The USD costs of our operations in Israel are influenced by changes in the USD to NIS exchange rate, with respect to costs that are denominated in NIS. During the year ended December 31, 2018, the USD appreciated against the NIS by 8.1%, as compared to 9.8% depreciation during the year ended December 31, 2017.

The fluctuation of USD against the NIS can affect our results of operations. Appreciation of the NIS has the effect of increasing the cost, in USD terms, of some of the Company’s Israeli purchases and labor NIS denominated costs, which may lead to erosion in the profit margins. The Company uses foreign currency cylinder transactions to hedge a portion of this currency exposure to be contained within a pre-defined fixed range. In addition, the Company executed swap-hedging transactions to hedge the exposure to the fluctuation of USD against the NIS to the extent it relates to non-convertible Series G debentures, which are denominated in NIS.

The majority of TPSCo revenues are denominated in JPY and the majority of the expenses of TPSCo are in JPY, which limits the exposure to fluctuations of the USD / JPY exchange rate on TPSCo’s results of operations, as the impact on the revenues will mostly be offset by the impact on the expenses. In order to mitigate a portion of the net exposure to the USD / JPY exchange rate, the Company has engaged in cylinder hedging transactions to contain the currency’s fluctuation within a pre-defined fixed range. During the year ended December 31, 2018, the USD depreciated against the JPY by 2.4%, as compared to 3.8% depreciation during the year ended December 31, 2017. The net effect of USD depreciation against the JPY on TPSCo’s assets and liabilities denominated in JPY is presented in the Cumulative Translation Adjustment (“CTA”) as part of Other Comprehensive Income (“OCI”) in the balance sheet.

### B. LIQUIDITY AND CAPITAL RESOURCES

As of December 31, 2018, the Company had an aggregate amount of \$385.1 million in cash and cash equivalents, as compared to \$446.0 million as of December 31, 2017. The main cash activities during the year ended December 31, 2018 were: \$312.9 million positive cash flow generated from operating activities; \$169.7 million investment in property and equipment, net of proceeds received from sales of equipment; \$158.5 million investment in short-term deposits, marketable securities and other assets, net; \$142.3 million debt repayment and \$99.0 million debt received.

As of December 31, 2018, the outstanding principal amount of bank loans was \$100.1 million, and the aggregate principal amount of debentures was \$124.9 million, with related hedging transactions net asset fair value of \$5.0 million. As of December 31, 2018, we had a carrying amount of \$100.1 million of bank loans and \$120.2 million of debentures in our balance sheet, all presented as long term liabilities.

### Recent Financing Transactions- Capital Leases

Certain of the Company's subsidiaries entered into capital lease agreements for certain machinery and equipment required at the fabrication facilities for a period of up to 4 years with an option to buy the machinery and equipment after 3 years from the start of the lease period at 40% of their original value. The lease agreements contain an annual interest rate of 1.85%. Principal and interest are payable on a quarterly basis. The assets under the lease agreements are pledged to JA Mitsui (the lessor) until the time at which the respective subsidiary will buy the assets at agreed price. The obligations under the capital lease agreement are guaranteed by Tower except for TPSCo's obligations under its capital lease agreements. As of December 31, 2018, the outstanding capital lease liability was approximately \$47 million, of which approximately \$11 million were included in current maturities.

### Tower Debentures Series G

In June 2016, Tower raised approximately \$115 million through the issuance of long-term unsecured non-convertible debentures ("Series G Debentures") payable in seven semi-annual consecutive equal installments from March 2020 to March 2023 and carrying annual fixed interest rate of 2.79% payable in thirteen semi-annual consecutive equal installments from March 2017 to March 2023. The Series G Debentures aggregate principal amount is NIS 468 million as of December 31, 2018. The principal and interest amounts are denominated in NIS and are not linked to any index or to any other currency. The Company entered into hedging transactions to mitigate the foreign exchange rate differences on the principal and interest using a cross currency swap, see Note 10B to our consolidated financial statements for the year ended December 31, 2018. The Series G Debentures include customary financial and other terms and conditions, including a negative pledge and financial covenants. As of December 31, 2018, Tower was in compliance with the financial covenants thereunder.

### Jazz/ Wells Fargo Asset-Based Revolving Credit Line

In December 2013, Jazz entered into an agreement with Wells Fargo Capital Finance, part of Wells Fargo & Company ("Wells Fargo"), for a five-year secured asset-based revolving credit line in the total amount of up to \$70 million, maturing in December 2018.

In February 2018, Jazz and Wells Fargo signed an amendment to the credit line, under which the line is extended by five years, to mature in 2023, and the total amount remained at up to \$70 million (the "Jazz Credit Line Agreement"). The applicable interest on the loans is at a rate equal to, at lender's option, either the lender's prime rate plus a margin ranging from 0.0% to 0.5% or the LIBOR rate plus a margin ranging from 1.25% to 1.75% per annum.

The outstanding borrowing availability varies from time to time based on the levels of Jazz's eligible accounts receivable, eligible equipment, eligible inventories and other terms and conditions described in the Jazz Credit Line Agreement. The obligations of Jazz under the Jazz Credit Line Agreement are secured by a security interest on all the assets of Jazz. The Jazz Credit Line Agreement contains customary covenants and other terms, including customary events of default. If any event of default will occur, Wells Fargo may declare all borrowings under the facility due immediately and foreclose on the collateral. Jazz's obligations pursuant to the Jazz Credit Line Agreement are not guaranteed by Tower or any of its affiliates.

As of December 31, 2018, Jazz was in compliance with all of the covenants under the Jazz Credit Line Agreement.

As of December 31, 2018, borrowing availability under the Jazz Credit Line Agreement was approximately \$70 million, of which approximately \$1 million was utilized through letters of credit.

As of December 31, 2018 and 2017, no loan amounts were outstanding under the Jazz Credit Line Agreement.

#### Notes Issued by Jazz in 2014

In March 2014, Jazz, together with certain of its domestic subsidiaries and Tower entered into an exchange agreement (the “2014 Exchange Agreement”) with certain holders of Jazz notes issued in 2010 (the “2010 Notes” and “2014 Participating Holders”, respectively) according to which Jazz issued un-secured convertible senior notes maturing in December 31, 2018 (the “2014 Notes” or the “Jazz Notes”) in exchange for approximately \$45 million in aggregate principal amount of the 2010 Notes that were originally due June 2015.

In addition, in March 2014, Jazz, Tower and certain of the 2014 Participating Holders (the “Purchasers”) entered into a purchase agreement (the “Purchase Agreement”) pursuant to which the Purchasers agreed to purchase \$10 million in aggregate principal amount of the 2014 Notes for cash consideration.

Holders of the 2014 Notes could submit a conversion request with respect to their 2014 Notes to be settled at Jazz discretion through cash or ordinary shares of Tower. The conversion price was set to \$10.07 per share. Interest on the 2014 Notes at a rate of 8% per annum was payable semiannually.

As of December 31, 2017, approximately \$58 million, principal amount of these 2014 Notes were outstanding. During 2018, all the holders of the 2014 Notes converted their notes to approximately 5.8 million ordinary shares of Tower, as a result, as of December 31, 2018, no such Jazz Notes were outstanding.

#### Long Term Loan Agreement from Japanese Institutions

In June 2014, TPSCo entered into a long-term loan agreement with JA Mitsui Leasing, Ltd. and Bank of Tokyo (BOT) Lease Co., Ltd, under which it borrowed 8.8 billion Japanese Yen (outstanding principal amount was approximately \$33 million as of December 31, 2017).

In December 2015, TPSCo and JA Mitsui Leasing, Ltd., Sumitomo Mitsui Trust Bank Limited and Showa Leasing Co., Ltd. (“JP Banks”) signed an asset-based loan agreement (the “ABL”), according to which TPSCo entered into a five year term loan agreement with the JP Banks under which TPSCo borrowed an additional amount of 8.5 billion Japanese Yen (outstanding principal amount was approximately \$65million as of December 31, 2017).

In June 2018, TPSCo early repaid its two outstanding loans and refinanced them with 11 Billion JPY (approximately \$100 million) new asset-based loan agreements with JA Mitsui Leasing, Ltd., Sumitomo Mitsui Trust Bank, Limited (SMTB) and Sumitomo Mitsui Banking Corporation (SMBC) (“JP Loan”). The JP Loan includes a grace period through 2021 and it carries a fixed interest rate of 1.95% per annum. Principal is payable in nine semiannual payments between 2021 and 2025. The JP Loan is secured mainly by a lien over the machinery and equipment of TPSCo located in Uozu and Tonami manufacturing facilities. Outstanding principal amount was approximately \$100 million as of December 31, 2018.

The JP Loan also contains certain financial ratios and covenants, as well as customary definitions of events of default and acceleration of the repayment schedule. TPSCo's obligations pursuant to the JP Loan are not guaranteed by Tower or any of its affiliates.

As of December 31, 2018, TPSCo was in compliance with all of the financial ratios and covenants under this JP Loan.

#### Long Term Loan Agreement for TJT

In July 2016, TJT entered into an asset based long-term loan agreement with JA Mitsui Leasing Capital Corporation ("JA Mitsui") in the total amount of \$40 million. The loan carried annual interest of LIBOR+2.0% and was originally scheduled to be repaid between 2018 and 2021. The loan was secured mainly by a lien over TJT's machinery and equipment and an assignment of TJT's right to receive any amounts under its manufacturing agreement with Maxim. The outstanding principal amount as of December 31, 2017 was \$40 million. In July 2018, TJT early repaid the entire outstanding amount of this loan to save financing cost.

An engagement in relation to a new fabrication facility planned to be built in China.

In 2017 and 2018, the Company, Nanjing Development Zone, Tacoma Technology Ltd. and Tacoma (Nanjing) Semiconductor Technology Co., Ltd. (collectively known as "Tacoma"), signed agreements regarding a new 8-inch fabrication facility planned to be established in Nanjing, China. According to the terms therein, it was agreed that the Company will provide technological expertise together with operational and integration consultation, at terms and milestones to be further agreed to by the parties and may invest in the project to be a minority stakeholder. The framework agreement further specifies capacity allocation to the Company of up to 50% of the targeted 40,000 wafers per month fab capacity, in order to provide the Company with additional manufacturing capability and capacity.

During the year ended December 31, 2017, the year ended December 31, 2018 and the three months ended March 31, 2019, the Company received, respectively, \$18 million (net of taxes), zero and \$9 million (net of taxes) for technological licenses, consultation and other services it provided to Tacoma in relation to this project.

#### C. RESEARCH AND DEVELOPMENT, PATENTS AND LICENSES

Our research and development activities are related primarily to our manufacturing process by way of improvements, upgrades and development for our use in manufacturing of our customers' products and have been sponsored and funded by us with some participation by the Israeli government. Our research and development expenses for the years ended December 31, 2018, 2017 and 2016 were, respectively, \$73.1 million, \$67.7 million and \$63.1 million net of government participation of \$1.4 million, \$0.9 million and \$0.5 million respectively.

For a description of our research & development policies and our patents and licenses, see "Item 4. Information on the Company-4.B. Business Overview".

## D. TREND INFORMATION

The Company operates as a specialty foundry in the semiconductor industry. The semiconductor industry is historically characterized as highly cyclical, both seasonally and over the long term. Over time the market fluctuates, cycling through periods of weak demand, production excess capacity, excess inventory and price pressure, and periods of strong demand, full capacity utilization, and product shortages, commanding higher selling prices.

There is a trend within the semiconductor industry toward ever-smaller features and ever-growing wafer sizes. State-of-the-art digital fabs are currently supporting process geometries of 14-28 nanometers and even below with 300mm wafers. As demand for smaller geometries increases, there is downward pressure on the pricing of larger geometry products, and potential underutilization of fabs that are limited to manufacturing these larger geometry products, which may result in reduced profitability for the associated manufacturers. However, our strategy to focus on differentiated specialty analog technologies, along with our deep applications knowledge, design enablement tools and customer technical support, enable us to achieve higher product selling prices as compared to manufacturers of “commoditized” standard products. The Company currently offers process geometries of (i) 0.35, 0.50, 0.55, 0.60, 0.80-micron and above on 150-mm wafers; (ii) 0.35, 0.18, 0.16, 0.13 and 0.11-micron on 200-mm wafers; and (iii) 65 nanometer and 45 nanometer on 300-mm wafers. We continue to invest in our portfolio of specialty process technologies and Intellectual Property (IP) to address the key product and system requirements of our customers, thus enabling them to compete in their respective markets.

Another key element of our strategy is to target multiple large, growing and diversified end markets. We target end markets characterized by high growth and high performance, for which we believe our specialty process technologies and design services offer a strong, compelling value proposition to our customers. We focus on markets driven by three industry mega-trends: “Green Everything”, “Wireless Everything”, and “Smart Everything”. Our target markets include the Internet of Things (IoT), machine-to-machine communication devices, ultra-low power mobile applications, wireless and high-speed wireline communications, consumer electronics, automotive, and industrial markets. For example, we believe that our specialty SOI and SiGe process technologies can provide performance and cost advantages over current GaAs solutions in the realization of switches and power amplifiers for wireless handsets. Our Power Management platforms enable the industry’s analog IC suppliers to differentiate their product offerings in the markets we serve. TowerJazz specialized CMOS image sensor platforms allow customers to fabricate ultra high sensitivity/low noise CIS products for operation in visible, infra-red, ultra-violet and X-ray spectral ranges, develop both ultra small-size cameras and imagers occupying the whole surface of a 200mm wafer. We also target the rapidly growing non-visual sensor markets by developing specialized sensors based on nanowire elements to be fabricated on silicon (SOI) and GaN technological platforms. We are also considering devices for enabling data processing using artificial intelligence approaches by using TowerJazz patented memristor solutions for emulating synapses in artificial neural networks. Our specialty products and target market strategy allow us to grow and diversify our business by attracting new customers, expanding our customer base, and grow our business at existing customers.

During recent years, we have accelerated our plans to expand manufacturing capacity. We have significantly increased capacity in Fab 1, Fab 2, Fab 3, and acquired in 2014 3 additional fabs: Tonami CD, Arai & Uozu fabs located in Japan (for more details see “Our Operations in Japan”). In February 2016, we completed the acquisition from Maxim of an additional fab, Fab 9, located in San Antonio, Texas to help us meet our customers’ demand. We are focused on successfully integrating all of our fabs globally and increasing the utilization of our fabs, by attracting new customers and opportunities.

We seek to maintain capital efficiency by leveraging our capacity and manufacturing model to ensure cost-effective manufacturing. With a global manufacturing footprint, including seven fabs in three continents, we are focused on sharing and applying best practices across the organization, to provide our customers with high quality solutions, along with the applications knowledge and technical support that allow them to benefit from a competitive edge in the market. Our geographical diversity allows us to perform an internal benchmark among our acquired facilities to gain knowledge on work processes and methodologies, thereby ensuring that we maintain a high level of operations across



all facilities. Our global foothold also provides our customers with manufacturing flexibility and business continuity in terms of opportunity for capacity availability.

Over the last several years, we have been constantly looking to expand our presence in the global markets, penetrate new geographical areas, increase our served markets and expand our technology offering through business and development ventures. This may also be accomplished through mergers and acquisitions with potential target fabrication facilities that may be undervalued and include a solid base of customer demand, large capacity for manufacturing and/ or unique technologies that may expand our servable and/ or available market potential, and increase our revenue, customer base and margins. Such mergers and acquisitions are also beneficial as they provide our customers with manufacturing diversification and opportunity for additional growth through access to increased capacity. In order to implement this strategy, the Company is continuously evaluating potential acquisition opportunities. The Company's current cash balance shall enable the Company with certain ability to realize and execute on such opportunities, and the Company may require additional financing in order to consummate such opportunities.

## E. OFF-BALANCE SHEET ARRANGEMENTS

We are not a party to any material off-balance sheet arrangements except for the purchase commitments, standby letters of credit and guarantees detailed in section F below.

## F. TABULAR DISCLOSURE OF CONTRACTUAL OBLIGATIONS

The following table summarizes our contractual obligations and commercial commitments as of December 31, 2018:

	Payment Due						After 5 years
	Total	Less than 1 year	2 Years	3 Years	4 Years	5 Years	
	(in thousands of dollars)						
Contractual Obligations							
Short term liabilities (mainly trade accounts payable)	167,223	167,223	--	--	--	--	--
Loans, related interests and Capital leases	169,520	13,611	13,371	41,043	37,654	29,807	34,034
Debentures and related interest	139,399	3,612	40,086	39,054	38,022	18,625	--
Operating leases (1)	13,321	7,318	2,792	2,653	558	--	--
Equipment purchase agreements(2)	25,151	25,151	--	--	--	--	--
Other long-term liabilities	3,974	--	--	--	--	--	3,974
Other Purchase obligations (3)	97,122	69,826	19,614	3,182	2,500	2,000	--
Total contractual obligations	615,710	286,741	75,863	85,932	78,734	50,432	38,008

Operating leases include among others (i) Jazz building lease commitment until the end of 2022. The lease may be extended until 2027 upon exercise of the option provided to Jazz, see note 14C to the consolidated financial statements. (ii) long term TPSCo building lease commitment with lease payments only for the next 3 months as future lease payments were not yet determined

(2) Equipment purchase agreements include amounts related to ordered equipment that has not yet been received.

(3) Other Purchase obligations include primarily purchase agreements for raw materials.

In addition to these contractual obligations, we have committed approximately \$1.1 million in standby letters of credit and guarantees.

The above table does not include other contractual obligations or commitments we have, such as undertakings pursuant to royalty agreements, commissions and service agreements. We are unable to reasonably estimate the total amounts or the time table for such payments to be paid under the terms of these agreements, as the royalties, commissions and required services are a function of future revenues, the volume of business and hourly-based fees. In addition, the above table does not include our liability with respect to advances received from our customers, which as of December 31, 2018, amounted to approximately \$41.7 million that may be utilized by them against future purchases of products. We are unable to reasonably estimate the total amounts that may be utilized by our customers since we cannot reasonably estimate their future orders in the periods set forth in the above chart.

The table above reflects our commitments and contingencies that are known to us as of December 31, 2018. Any new developments in our business plans, our modification of engagements with supply and service providers as well as changes in our commitments and contingencies following the date hereof and actual payments may vary significantly from those presented above.

## ITEM 6. DIRECTORS, SENIOR MANAGEMENT AND EMPLOYEES

## A. DIRECTORS AND SENIOR MANAGEMENT

Set forth below is information regarding our senior management and directors as of March 31, 2019:

	Senior Officer Managements' Name	Age	Title
A	Russell C. Ellwanger	64	Chief Executive Officer and Director of Tower, and Chairman of the Board of Directors of its subsidiaries, Tower Semiconductor USA, Inc., Tower US Holdings, Inc., Jazz US Holdings, Inc., Jazz Semiconductor, Inc., TowerJazz Panasonic Semiconductor Co., Ltd. and TowerJazz Texas, Inc.
B	Oren Shirazi	49	Chief Financial Officer, Senior Vice President of Finance
C	Dr. Itzhak Edrei	59	President
D	Rafi Mor	55	Chief Operating Officer
E	Nati Somekh	43	Senior Vice President, Chief Legal Officer and Corporate Secretary
F	Yossi Netzer	55	Senior Vice President of Corporate Planning
G	Dalit Dahan	50	Senior Vice President of Human Resources and IT
H	Ilan Rabinovich	62	Senior Vice President of Quality and Reliability and Fab 1 Manager
I	Dr. Marco Racanelli	52	Newport Beach Site Manager and Senior Vice President and General Manager of Analog IC Business Unit
J	Guy Eristoff	56	Chief Executive Officer of TowerJazz Panasonic Semiconductor Company (TPSCo)
k	Dr. Avi Strum	57	Senior Vice President and General Manager of the CMOS Image Sensor Business Unit
L	Zmira Shternfeld-Lavie	53	Senior Vice President and General Manager of Transfer, Optimization and Development Process Services Business Unit (TOPS) and Head of Process Engineering R&D
M	Noit Levy	35	Vice President of Investor Relations and Corporate Communications
	Directors' Name*	Age	Title
N	Amir Elstein	63	Chairman of the Board
O	Kalman Kaufman	73	Director
P	Alex Kornhauser	72	Director
Q	Dana Gross	51	Director
R	Ilan Flato	62	Director
S	Rami Guzman	80	Director
T	Yoav Z. Chelouche	65	Director
U	Iris Avner	54	Director
V	Jerry D. Neal	74	Director

(\* ) Russell Ellwanger also serves as a director and his information is included under Senior Management above. All of the directors other than Mr. Ellwanger meet the requirements for independent directors under SEC rules and the Nasdaq Marketplace Rules.

Russell C. Ellwanger has served as our Chief Executive Officer since May 2005. Mr. Ellwanger has also served as a director since September 2016, and as Chairman of the Board of Directors of our subsidiaries, Tower Semiconductor USA, Inc., Tower US Holdings, Inc., Jazz US Holdings, Inc., Jazz Semiconductor, Inc., TowerJazz Panasonic Semiconductor Co., Ltd. and TowerJazz Texas, Inc. He also served as a director of the Company between May 2005 and April 2013. From 1998 to 2005, Mr. Ellwanger served in various executive positions for Applied Materials Corporation, including Group Vice President, General Manager of the Applied Global Services (AGS), from 2004 to 2005, Group Vice President, General Manager of the CMP and Electroplating Business Group, from 2002 to 2004. Mr. Ellwanger also served as Corporate Vice President, General Manager of the Metrology and Inspection Business Group, from 2000 to 2002, during which he was based in Israel. From 1998 to 2000, Mr. Ellwanger served as Vice President of Applied Materials' 300-mm Program Office, USA. Mr. Ellwanger served as General Manager of Applied Materials' Metal CVD Division from 1997 to 1998 and from 1996 to 1997, Mr. Ellwanger served as Managing Director of CVD Business Development, during which he was based in Singapore. In addition, Mr. Ellwanger held various managerial positions in Novellus System from 1992 to 1996 and in Philips Semiconductors from 1980 to 1992.

Oren Shirazi has served as our Chief Financial Officer and Senior VP Finance since November 2004. Mr. Shirazi serves as a board member of Jazz Semiconductor, Inc. Mr. Shirazi joined us in October 1998, serving initially as vice controller and then as controller commencing in July 2000. Prior to joining us, Mr. Shirazi was employed as an audit manager in the accounting firm of Ratzkovski-Fried & Co., which merged into Ernst & Young (Israel). Mr. Shirazi is a Certified Public Accountant in Israel (CPA). He has an MBA from the Graduate School of Business of Haifa University with honors and a B.A. in economics and accounting from the Haifa University.

Dr. Itzhak Edrei has served as our President since November 2011. Prior thereto, Dr. Edrei served as Executive Vice President of Business Groups commencing in September 2008 and as Senior Vice President of Product Lines and Sales commencing in August 2005. Dr. Edrei serves as a board member of Jazz Semiconductor, Inc. and TowerJazz Panasonic Semiconductor Co., Ltd. From August 2001 to August 2005, Dr. Edrei served as Vice President of Research and Development, having served as Director of Research and Development since 1996. From 1994 to 1996, Dr. Edrei served as our Device and Yield Department Manager. Prior to joining Tower, Dr. Edrei was employed by National Semiconductor as Device Section Head. Dr. Edrei earned his Ph.D. in physics from Bar Ilan University and his post-doctorate from Rutgers University.

Rafi Mor was appointed as Chief Operating Officer of TowerJazz in August 2014. Mr. Mor serves as a board member of Jazz Semiconductor, Inc., Jazz US Holdings, TowerJazz Panasonic Semiconductor Co., Ltd. and TowerJazz Texas, Ltd. Previously, Mr. Mor served as Chief Executive Officer of TowerJazz Japan from October 2011, after serving as Senior Vice President and General Manager of Jazz Semiconductor, Inc. since September 2008. In October 2010, Rafi was nominated to be the manager of our Newport Beach Fab, in addition to his GM role. Previously, Mr. Mor served in Tower Semiconductor Ltd. as Vice President of Business Development since April 2007, after serving as Vice President and Fab 2 Manager since August 2005, and as Fab 1 Manager since March 2003. From November 2000 to March 2003, Mr. Mor served as Senior Director of Process Device & Yield of Fab 1. From 1998 to 2000, Mr. Mor served as Director of Equipment Reliability & Support of Fab 1. Previously, Mr. Mor was employed by National Semiconductor in various engineering and management capacities. Mr. Mor holds an M.A. and B.A. in chemical engineering from Ben Gurion University.

Dalit Dahan serves as Senior Vice President of Human Resources and IT after being appointed IT Manager in January 2008. Prior thereto, Ms. Dahan served as Vice President of Human Resources commencing in April 2004. Ms. Dahan joined us in November 1993 and served as Personnel Manager commencing in April 2000, after having served as Compensation & Benefits Manager and in various other positions in the Human Resources Department. Prior to joining us, Ms. Dahan served as Manager of the North Branch of O.R.S - Manpower Company for three years. Ms. Dahan holds a B.A. in social science from Haifa University and an MBA from the University of Derby.

Nati Somekh serves as Senior Vice President, Chief Legal Officer and Corporate Secretary, after serving as Vice President, Chief Legal Officer and Corporate Secretary since September 2008, after serving as Corporate Secretary and General Counsel since March 2005, and as Associate General Counsel since May 2004. From 2001 to 2004, Ms. Somekh was employed by Goldsobel & Kirshen, Adv. Ms. Somekh holds an LL.M. and J.D. from Boston University and a B.A. from Johns Hopkins University. She is a member of the Israeli Bar Association and is admitted as an attorney in the State of New York.

Yossi Netzer was appointed Senior Vice President of Corporate Planning in July 2012 after serving as VP of Corporate Planning since November 2008, as General Manager of Mixed Signal, RF & Power Management Product Line since 2005 and as Director, FAB 2 Yield & Device Engineering Manager since 2000. From 1995 to 2000, Mr. Netzer served in various engineering management positions within the R&D division dealing with CMOS, Mixed Signal, RF, and NVM Technologies. Prior to joining Tower, Mr. Netzer was employed at National Semiconductor and the Technion – Israel Institute of Technology. Mr. Netzer holds a B.Sc. degree in electrical engineering from the Technion – Israel Institute of Technology.

Ilan Rabinovich was appointed Senior Vice President of Quality and Reliability in January 2015 and in addition, holds the position as Fab 1 Manager since March 2019. Previously, Mr. Rabinovich served as Vice President, Customer Support and General Manager, CMOS Business Unit from December 2009. Prior to joining TowerJazz, from 2005 to 2009, Mr. Rabinovich served as Vice President of Operations, Opto Fab, Vishay Ltd. (formerly CyOptics Ltd.), a subsidiary of Vishay Intertechnology. From 2000 to 2005, Mr. Rabinovich served as President and Vice President of Product Development at CyOptics Ltd. From 1995-2000, Mr. Rabinovich worked as a Process Engineering Manager and Director of Engineering for Tower Semiconductor Ltd. From 1983 to 1995, Mr. Rabinovich held various engineering and management positions in National Semiconductor Company and in Tower Semiconductor, Israel. Mr. Rabinovich holds an M.Sc. in Physics from Tel Aviv University and a B.Sc. in Physics and Mathematics from Hebrew University, Jerusalem.

Dr. Marco Racanelli was appointed Senior Vice President and General Manager of the Analog Integrated Circuits (IC) Business Unit in December 2018 and continues to serve as the Newport Beach Site Manager as he has done since April 2014. Previously, Dr. Racanelli served as Senior Vice President since June 2012 and General Manager, RF & High Performance Analog Business Group and Aerospace & Defense Group since September 2008. Prior to that, Dr. Racanelli served as Vice President of Technology & Engineering, and Aerospace & Defense General Manager for Jazz Semiconductor. Prior to Jazz, Dr. Racanelli held several positions at Conexant Systems and Rockwell Semiconductor since 1996 in the area of technology development where he helped establish industry leadership in SiGe and BiCMOS and MEMS technology, and built a strong design support organization. Prior to Rockwell, Dr. Racanelli worked at Motorola, Inc., where he contributed to bipolar, SiGe and SOI development for its Semiconductor Products Sector. Dr. Racanelli received a Ph.D. and a M.S. in Electrical and Computer Engineering from Carnegie Mellon University, and a B.Sc. in Electrical Engineering from Lehigh University. He holds over 35 U.S. patents.

Guy Eristoff was appointed Chief Executive Officer of TowerJazz Panasonic Semiconductor Company Ltd. (TPSCo) at the time of its foundation in April 2014. Previously, he served as Vice President, Global Operational Excellence at Tower Semiconductor Ltd. Prior to this, he served in various positions in the semiconductor industry such as Director of 200mm Fabs Core Engineering at Global-Foundries (Technology Development, Marketing, Industrial Engineering & Central Engineering) for the 200mm Business Unit, (5 fabs), General Manager, Singapore and Asia Region at Intevac, Thin Films Section Manager, Thin Films Module Manager and Process Integration Deputy Director at Chartered Semiconductor and Process/Hardware Engineer and Field Service Manager at Applied Materials. Mr. Eristoff received his B.S. degree in Physics from Rensselaer Polytechnic Institute, (RPI) Troy New York.

Dr. Avi Strum serves as our Senior Vice President and General Manager of the CMOS Image Sensor Business Unit. Previously, Dr. Strum was Vice President and General Manager of the Specialty Business Unit, Vice President of Europe Sales, Head of the Design Center in Netanya and Device and Integration Department Manager. Prior to joining Tower, Dr. Strum served as the President and COO of TransChip Inc. and from 1996 to 2001, he served in various positions with Intel Corp., both in Israel and the US. From 1990 to 1996, he was the R&D Manager of SCD and was in charge of all the Infrared Detectors development in SCD. Dr. Strum received his Ph.D. and B.Sc. in Electrical Engineering from the Technion - Israel Institute of Technology in 1990 and 1985 respectively.

Zmira Shternfeld-Lavie serves as our Senior Vice President and General Manager of Transfer, Optimization and Development Process Services Business Unit (TOPS) and Head of Process Engineering R&D. Ms. Lavie has over 25 years' experience with silicon processing technologies, fabrication management and research and development. She joined the R&D Group as Thin Film Section Manager when it was established in 1996. In her current position, she is also leading the R&D Process Group, MEMS and manages the process transfer activity. Previously, Ms. Lavie served at National Semiconductor as Thin Film Process Engineer. She has expertise in thin films metallization and process integration and has several patents within this area. Ms. Lavie received a B.Sc. in Chemical Engineering from the Technion - Israel Institute of Technology.

Noit Levy serves as our Vice President of Investor Relations and Corporate Communications and is heading our investor relations, public relations and marketing communications since 2008, having served as Director of Investor Relations and Public Relations since 2006. From 2001 to 2006 she has served in various other positions within the Company. Ms. Levy holds an MBA from Haifa University in Israel and a B.A. in Social Science and Management from the College of Management Academic Studies.

Amir Elstein was appointed as Chairman of the Board in January 2009. Mr. Elstein serves as a Director of Teva Pharmaceutical Industries Ltd. During 2010-2013, Mr. Elstein served as Chairman of the Board of Directors of Israel Corporation. Mr. Elstein serves as Chairman of the Israel Democracy Institute, and as chairman/member of the board of several non-governmental organizations in academic, scientific and educational, social and cultural institutions. Mr. Elstein was a member of Teva Pharmaceutical Industries senior management team from 2005 to 2008, where he ultimately held the position of the Executive Vice President at the Office of the CEO, overseeing Global Pharmaceutical Resources. Prior thereto, he was an executive at Intel Corporation, where he worked for 23 years, eventually serving as General Manager of Intel Electronics Ltd., an Israeli subsidiary of Intel. Mr. Elstein received his B.Sc. in physics and mathematics from the Hebrew University in 1980 and his M.Sc. in the Solid State Physics Department of Applied Physics from the Hebrew University in 1982. In 1992, Mr. Elstein received his diploma of Senior Business Management from the Hebrew University.

Kalman Kaufman has served as a director since 2005 and as chairman of the Nomination Committee since January 2018. Mr. Kaufman served as Corporate Vice President at Applied Materials from 1994 to 2005. Between 1985 and 1994, Mr. Kaufman served as President of KLA Instruments Israel, a company he founded, and General Manager of Kulicke and Soffa Israel. Mr. Kaufman is currently the Chairman of the board of directors of Medasense and Invisia, a director at ATP labs and a member of the management board of the Kinneret College. He holds engineering degrees from the Technion - Israel Institute of Technology.

Alex Kornhauser serves as a director since November 2016, after having served as an external director since August 2008. Mr. Kornhauser has served as a member of the Compensation Committee since June 2009. From 2017, Mr. Kornhauser serves as a board member at Priortech. From 2008 until 2010, Mr. Kornhauser served as Senior VP and General Manager of Global Operations at Numonyx Corporation. From 1978 until 2008, Mr. Kornhauser held many senior management positions at Intel Corporation and Intel Israel serving as GM of Intel Israel, GM of Intel Electronics, VP of Technology and Manufacturing Group and President of Intel Israel. Mr. Kornhauser holds a B.Sc. in electronics from Bucharest Polytechnic Institute in Romania.

Dana Gross has served as a director since November 2008, as a member of the Nomination Committee since January 2018 and as a member of the Compensation Committee since February 2013. In addition, Mrs. Gross has served as a director on the board of Jazz Semiconductor, Inc., our wholly owned subsidiary, since March 2009. Mrs. Gross is currently the COO of Prospera Technologies Ltd., an AgTech Data Company. Mrs. Gross was the CFO of eToro, a FinTech company that developed a Social Investment network from 2014 to 2016, and the CEO of Btendo, a start-up company that developed MEMS based PICO projection solutions, until it was acquired by ST Microelectronic in 2012. In 2008, Mrs. Gross joined Carmel Ventures, a leading Israeli Venture Capital firm as a Venture Partner. From 2006 to 2008, Mrs. Gross was a Senior VP, Israel Country Manager at SanDisk Corporation. From 1992 to 2006, Mrs. Gross held various senior positions at M-Systems, including Chief Marketing Officer, VP World Wide Sales, President of M-Systems Inc. (US Subsidiary) and CFO, VP Finance and Administration. In addition, Mrs. Gross served as a director of M-Systems Ltd., Audiocodes Ltd. and Power Dsine Ltd. Mrs. Gross holds a B.Sc. in industrial engineering from Tel-Aviv University and an M.A. in business administration from San Jose State University.

Ilan Flato served as an external director until November 2016, and has served as a director thereafter. Mr. Flato has served as chairman of the Compensation Committee since February 2013 and as a member of the Audit Committee since April 2009. Mr. Flato is classified by the Board of Directors as an audit committee financial expert under applicable SEC rules. Mr. Flato has served as President of The Association of Publicly Traded Companies on the Tel-Aviv Stock Exchange since January 2012. Since 2011, Mr. Flato has been a member of the Israeli Bar Association. From 2009 until 2018, Mr. Flato has served as director in two Provident Funds. From 2009 until April 2018, Mr. Flato served as Chairman of the Business Executive of Kibbutz Kfar Blum. From January 2018, he serves as Chairman of the Business Executive Kibbutz "NAAN". Since 2004, Mr. Flato has functioned as an independent financial adviser. Until 2004, Mr. Flato served as the VP for planning, economics and online banking in United Mizrahi Bank and as the Chief Economist of the bank. From 1992 until 1996, Mr. Flato served as the Economic Advisor to the Prime Minister of Israel. Prior to that position, Mr. Flato has served in the Treasury Office as the deputy director of the budget department. In addition, Mr. Flato served as a member of the board of directors of many government-owned companies. Mr. Flato holds a B.A. in economics from Tel-Aviv University, an LL.B. from Netanya College, an M.A. in law from Bar-Ilan University and an MSIT from Clark University.



Rami Guzman has served as a director since February 2009, as a member of the Nomination Committee since January 2018, and as a member of our Audit Committee since August 2011. Mr. Guzman is classified by the Board of Directors as an audit committee financial expert under applicable SEC rules. Mr. Guzman held various senior positions at Motorola Inc. and Motorola Israel Ltd. since 1985, including VP of Motorola Inc. and Director of Motorola Israel Ltd. In addition, until July 2004, Mr. Guzman was the CFO of Motorola Israel Ltd. Prior to joining Motorola, Mr. Guzman worked for the Ministry of Finance first as senior assistant and deputy to the Director of the Budget and then as Government-wide MIS and IT Commissioner. Mr. Guzman is a member of professional committees in the Israel Credit Insurance Company and the Israel Infrastructure Fund, and consultant and advisor to technology based companies. Since 2017, he serves as the Chairman of the board of directors of Tigbur. Mr. Guzman also serves since 2005 as a director in various entities, including serving as a director in Bank Leumi until October 2015. Mr. Guzman holds a B.A. in economics (1963) and an M.A. in business and public administration (1969) from the Hebrew University of Jerusalem. He was a Research Fellow at Stanford University and Stanford Research Institute, California, USA, and completed Ph.D. studies at the Hebrew University of Jerusalem.

Yoav Z. Chelouche has served as a director since April 2016, as a member of the Nomination Committee since January 2018, and as a chairman and member of our Audit Committee since May 2017. Mr. Chelouche is classified by the Board of Directors as an audit committee financial expert under applicable SEC rules. Mr. Chelouche serves as Managing Partner of Aviv Ventures since Aviv's inception in 2001. Between 1995 and 2001, Mr. Chelouche served as President & CEO of Scitex Corp. Until 2015, he was co-chairman of Israel Advanced Technology Industries. He currently serves on the Board of Directors of Checkpoint Software Technologies and the Tel-Aviv Stock Exchange (TASE). He is currently a board member of Aviv's portfolio companies: MGVS, Briefcam, ScaleMP and Optimal Test. Mr. Chelouche also previously served as Chairman of several public companies. He holds a B.A. in economics and statistics from Tel-Aviv University and an MBA from INSEAD, Fontainebleau, France.

Iris Avner served as an external director until November 2016, and has served as a director thereafter. Ms. Avner has served as a member of the Compensation Committee and Audit Committee since June 2016. Ms. Avner is classified by the Board of Directors as an audit committee financial expert under applicable SEC rules. Ms. Avner serves as Chief Executive Officer of Nika Holdings, Ltd. From 2008 to 2015, Ms. Avner served as Managing Partner of Mustang Mezzanine Fund, L.P. and served on Mustang's board of directors from 2014 until 2015. From 1996 until 2008, she served as Chief Executive Officer of Mizrahi Tefahot Capital Markets Ltd. and from 1996 until 2005, served as Senior Credit Officer & Deputy CEO of Mizrahi Tefahot Bank. In addition, from 1997 until 2002, she served as Assistant Professor and external lecturer in the Executive MBA Program in Tel Aviv University. From 1988 until 1996, Ms. Avner held various positions at Israeli Discount Bank including Senior Credit Officer and Senior Economist. Since March 2018, Ms. Avner serves as a member of the board of directors of Discount Bank. She previously served on several boards and board committees in Israel and abroad, both as director and chairperson. Ms. Avner holds a B.A. in accounting and economics from Hebrew University and an MBA from Tel-Aviv University.

Jerry D. Neal has served as a director since July 2018. Mr. Neal serves as Co-Chairman of the Board of Akoustis Technologies, Inc. since March 2016. He founded RF Micro Devices, Inc. ("RFMD") (now Qorvo, Inc.) in 1991 and served as its Executive Vice President of Marketing and Strategic Development from January 2002 to May 31, 2012. Mr. Neal served as Vice President of Marketing of RFMD from May 1991 to January 2000 and as its Executive Vice President of Sales, Marketing and Strategic Development from January 2000 to January 2002. Prior to joining RFMD, he was employed for 10 years with Analog Devices, Inc., including as Marketing Engineer, Marketing Manager, and Business Development Manager. Mr. Neal also founded Moisture Control Systems for the production of his patented electronic sensor for measurement of soil moisture for research, which was later sold to Hancor, Inc. He has previously served on the board of Jazz Semiconductor, Inc. from 2002 until 2008, prior to its acquisition by Tower Semiconductor, Ltd. Mr. Neal served as a Director of RFMD from February 1992 to July 1993. He also held various positions at Hewlett-Packard. Mr. Neal received his Associate's Degree in Electrical Engineering from Gaston Technical Institute and NCSU and his doctor of business management degree from Southern Wesleyan University.



## B. COMPENSATION

For the year ended December 31, 2018, we paid to all our directors and senior management described in Item 6A. above, as a group, an aggregate of \$9.2 million, in salaries, fees, payments upon termination and bonuses. The total employer cost for personal vehicle, relocation expenses, amounts set aside or accrued to provide for insurance, severance, retirement, vacation and similar benefits for such persons was approximately \$2.6 million in the year ended December 31, 2018.

As required by the Israeli Companies Law, during 2013, Tower adopted a compensation policy regarding the terms of office and employment of our office holders and directors, including compensation, equity-based awards, indemnification and insurance, severance and other benefits. This compensation policy was created by the Compensation Committee, recommended for approval by the Board of Directors, which approved it and then approved by the shareholders' meeting in September 2013. The Israeli Companies Law requires that every compensation policy be reviewed, assessed and approved at least every three years. Accordingly, the compensation policy was reviewed and assessed by the Compensation Committee, which proposed and approved a few amendments thereto and recommended to the Board of Directors to approve it. Thereafter, in June 30, 2016 and June 29, 2017, an amended compensation policy was approved by the shareholders. Since the adoption of the compensation policy in 2013, as later revised in June 30, 2016 and June 29, 2017, the terms of compensation of the Company's officers and directors are based on this policy. Our compensation policy is performance based and is designed to align our officers' and directors' interests with those of the Company and its shareholders in order to enhance shareholder value. Its structure allows Tower to provide incentives that reflect short-term, mid-term and long-term goals and performance, as well as motivate achievement of Company targets, while providing compensation that is competitive in the global marketplace in which we recruit our senior management.

In December 2012, Amendment 20 to the Israeli Companies Law-1999 ("Amendment 20") went into effect. Amendment 20 requires, among other provisions, that the board of directors of Israeli publicly traded companies appoint a Compensation Committee comprised of at least three members, that all external directors be members of the Compensation Committee (unless the company follows the Amendment to the Relief Regulations as detailed below, in which case the board independence and composition requirements set forth by the SEC and in the Nasdaq Listing Rules shall apply, as further detailed below), that the following persons cannot be members of the Compensation Committee: (i) the chairman of the board of directors, (ii) any director employed by or otherwise providing services to the company or to the controlling shareholder or entity under such controlling shareholder's control, (iii) any director who derives his salary primarily from a controlling shareholder, (iv) a controlling shareholder, or (v) any relative of a controlling shareholder, and that the chairman of the Compensation Committee be an external director. Pursuant to Amendment 27 to the Companies Law, effective as of April 3, 2016 ("Amendment 27"), the audit committee may serve as the company's compensation committee, provided that it meets the composition requirements of the compensation committee.

Under the SEC and Nasdaq Listing Rules, a company must have, and certify that it has and will continue to have, a compensation committee of at least two members. Each committee member must be an independent director as detailed below. In addition, in affirmatively determining the independence of any director who will serve on the compensation committee, the board of directors must consider all factors specifically relevant to determining whether a director has a relationship to the company which is material to that director's ability to be independent from management in connection with the duties of a compensation committee member, including, but not limited to: (i) the source of compensation of such director, including any consulting, advisory or other compensatory fee paid by the company to such director; and (ii) whether such director is affiliated with the company, a subsidiary of the company or an affiliate of a subsidiary of the company. In addition, when considering the sources of a director's compensation for the purpose of his independence, the board should consider whether the director receives compensation from any person or entity that would impair the director's ability to make independent judgments about the company's (or any parent or subsidiary of the company) executive compensation. Similarly, when considering any affiliate relationship a director has with the company, a subsidiary of the company, or an affiliate of a subsidiary of the company, in determining independence for purposes of compensation committee service, the board should consider whether the affiliate relationship places the director under the direct or indirect control of the company or its senior management, or creates a direct relationship between the director and members of senior management, in each case of a nature that would impair the director's ability to make independent judgments about the company's executive compensation. The responsibilities of the Compensation Committee include the following:

1. To recommend to the Board of Directors as to a compensation policy for officers, as well as to recommend, once every three years to extend the compensation policy subject to receipt of the required corporate approvals;
2. To recommend to the Board of Directors as to any updates to the compensation policy which may be required;
3. To review the implementation of the compensation policy by the Company;
4. To approve transactions relating to terms of office and employment of certain Company office holders, which require the approval of the Compensation Committee pursuant to the Companies Law; and
5. To exempt, under certain circumstances, a transaction relating to terms of office and employment from the requirement of approval of the shareholders meeting.

Our Board of Directors appointed Mr. Ilan Flato, Mr. Alex Kornhauser, Ms. Dana Gross and Iris Avner as members of the Compensation Committee, and Mr. Ilan Flato as chairman of the Compensation Committee. The Compensation Committee has been charged by the board of directors to act in accordance with the powers and prerogatives delegated to it by the Israeli Companies Law and take any decisions and make any recommendations to the Board all as set forth in the Israeli Companies Law. The board of directors also delegated to the Compensation Committee the review and approval of equity grants to non-officer employees.

Under Section 267B(a) and Parts A and B of Annex 1A of the Companies Law, which were legislated as part of Amendment 20, a company's compensation policy shall be determined with consideration of the following parameters:

- a. advancement of the goals of the Company, its working plan and its long term policy;
- b. the creation of proper incentives for the office holders while taking into consideration, inter alia, the Company's risk management policies;
- c. the Company's size and nature of its operations;

- d. with respect to compensation paid to officers which includes variable components - the contributions of the relevant office holders in achieving the goals of the Company and profit in the long term in light of their positions;
- e. the education, skills, expertise and achievements of the relevant office holders;
- f. the role of the office holders, areas of their responsibilities and their previous agreements regarding salary; and
- g. the correlation of the proposed compensation with the compensation of other employees of the Company, and the effect of such differences in compensation on the employment relations in the company.

In addition, the compensation policy must set forth standards and rules on the following issues: (a) with respect to variable components of compensation - basing the compensation on long term performance and measurable criteria (though an insubstantial portion of the variable components can be discretion based awards taking into account the contribution of the officer holder to the company. Pursuant to Amendment 27, variable components in the amount of up to a three month salary of the relevant office holder, on an annual basis, shall be considered a non-material portion of the variable components; this limitation does not apply to office holders who qualify as such by virtue of being directly subordinated to the CEO); (b) establishing the appropriate ratio between variable components and fixed components and placing a cap on such variable components; (c) setting forth a rule requiring an office holder to return amounts paid, in the event that it is later revealed that such amounts were paid on the basis of data which prove to be erroneous and resulted in an amendment and restatement of the company's financial statements; (d) determining minimum holding or vesting periods for equity based variable components of compensation, while taking into consideration appropriate long term incentives; and (e) setting a cap on grants or benefits paid upon termination.

The board of directors of a company is obligated to adopt a compensation policy after considering the recommendations of the compensation committee. The final adoption of the compensation policy is subject to the approval of the shareholders of the company, which such approval is subject to certain special majority requirements, as set forth in Amendment 20, pursuant to which one of the following must be met:

- (i) the majority of the votes includes at least a majority of all the votes of shareholders who are non-controlling shareholders of the company or who do not have a personal interest in the compensation policy and participating in the vote; abstentions shall not be included in the total of the votes of the aforesaid shareholders; or
- (ii) the total of opposing votes from among the shareholders described in subsection (i) above does not exceed 2% of all the voting rights in the company.

Nonetheless, even if the shareholders of the company do not approve the compensation policy, the board of directors of a company may approve the compensation policy, provided that the compensation committee and, thereafter, the board of directors resolved, based on detailed, documented, reasons and after a second review of the proposed compensation policy, that the approval of the compensation policy is for the benefit of the company.

Our compensation committee and board of directors shall review and reassess the adequacy of this Policy from time to time, as required by the Companies Law, and in setting the compensation of the officers and directors, the compensation committee and the board of directors consider, among other things, the following factors:

- the educational background, professional experience and achievements of the officer or director;

- the officer or director's position, responsibilities and prior salary and compensation arrangements;
- compensation data for comparably situated executives at peer companies, including companies in the industry and/or geographic market;
- data of other senior executives of the Company;
- macroeconomic environment;
- Company's own performance;
- the officer or director's expected contribution to the Company's future growth and profitability;
- global competition and environment in which the Company operates and recruits employees;
- the relationship between the compensation paid to the officer or director and the average and median compensation of the Company's employees and contractors, as well as whether such variation has an effect on employment relations; and
- any other requirements prescribed by applicable law from time to time.

The policy's objectives and goals are to maintain competitiveness by attracting, motivating and retaining highly talented and experienced personnel with the necessary capabilities to promote creativity and manage global operations. These abilities are critical to our short term as well as mid-term and long-term success and in order to provide a leadership role for the Company. The policy is also important in order to enhance shareholder value, while supporting a performance culture that is based on merit and recognition of Tower's values, motivating individuals to perform at their highest level, differentiating and rewarding excellent performance. Due to our unique position as an Israeli company with a global footprint, we aim to adopt compensation policies and procedures that match global companies of similar complexity, including semiconductor companies and other companies which compete with Tower for similar talent.

To that end, the compensation policy is designed, among others:

- o To align the interests of the officers and directors of the Company with those of Tower and its shareholders in order to enhance shareholder value;
- o To provide the officers and directors with a structured compensation package, including competitive salaries and performance-based cash and equity incentive programs;
- o To maintain and increase the level of motivation and ambition;
- o To provide appropriate awards for superior individual and corporate performance;
- o To improve the business results and increase income and profitability over time; and
- o To support the implementation of the Company's business strategy.

Compensation instruments under our compensation policy may include the following:

- Base salary;



- Benefits and perquisites;
- Performance-based cash bonuses;
- Equity based compensation; and
- Retirement, termination and other arrangements.

Our compensation policy aims to optimize the mix of fixed compensation and variable compensation (both as defined therein) in order to, among other things, appropriately incentivize office holders to meet our goals while considering our management of business risks, and sets maximum ratios between the two types of compensation elements.

Under our compensation policy, the Board of Directors shall have the discretion to unilaterally reduce an office holder's variable compensation.

All compensation arrangements of office holders are required to be approved in the manner prescribed by applicable law (including shareholder approval in certain cases – see Item 10 Additional Information - "The Companies Law"). In accordance with our compensation policy, office holders, including independent directors, may waive their entitlement to their compensation, subject to applicable law.

Specified below is the individual data outlining the actual compensation granted to our five most highly compensated officers and/ or directors with respect to the year ended December 31, 2018 (collectively referred to herein as the "Covered Officers"). The Covered Officers, consist of A, C, B, D and J who were granted total compensation (in cash and/or in equity values, including employer's cost of all social benefits and relocation expenses) with respect to the year ended December 31, 2018 in the total amount of approximately \$12.3 million.

The base salary varies between the different officers and directors, and is individually determined according to the past performance, educational background, place of residence, professional experience, qualifications, specializations, role, business responsibilities, achievements of the officer or director and the prior salary and compensation arrangements therewith. Since a competitive base salary is essential to our ability to attract and retain highly skilled professionals, in accordance with the compensation policy, Tower will seek to establish and maintain base salaries that are based on competitive market analyses. The comparative peer group will include direct competitors, or companies that operate in similar industries, with similar market capitalization, enterprise value, and/or revenues, active in similar geographic locations. Base salary (gross) paid by the Company to the Covered Officers A, C, B, D and J with respect to the year ended December 31, 2018, amounted to \$0.78 million, \$0.40 million, \$0.32 million, \$0.29 million and \$0.23 million, respectively. Officers and directors are entitled to social and other benefits as per applicable law and based on the practice of peer companies, and may also be entitled to additional benefits, taking into consideration their rank, seniority in the territory they reside in, global market and local market practice and applicable law. Such additional benefits, which shall be subject to approval of the Compensation Committee and the Board of Directors, may include, inter alia, annual vacation, sick leave, medical insurance, allocations to pensions, long term disability, contribution to education fund (up to the maximum allowable by law), car expenses, contribution to managers' insurance, cellular phone and laptop computer, as well as taxes and expenses which may be incurred in relation to such benefits being borne by the Company. The cost to the Company of such social and other benefits paid to the Covered Officers A, C, B, D and J with respect to the year ended December 31, 2018, amounted to \$0.20 million, \$0.20 million, \$0.18 million, \$0.17 million, and \$0.07 million, respectively. In addition, when relevant, and subject to approval of the Compensation Committee, the Board of Directors and the Company's shareholders as may be required under applicable law, Covered Officer A is entitled to relocation related and reimbursement expenses and/or other benefits, including housing costs, family flights and other costs. Such relocation related and reimbursement expenses granted to Covered Officer A with respect to the year ended December 31, 2018, amounted to \$0.28 million. In addition, Covered Officer J, who serves us in Japan as the Chief Executive Officer of TowerJazz Panasonic Semiconductor Company (TPSCo), is entitled to relocation related reimbursement expenses and the



Company is also making payments to him and to his benefit, including to certain governmental agencies, compensating him for added costs resulting from his relocation by the Company to Japan. Such relocation related payments, including cost accrual to the Company in respect to Covered Officer J, with respect to the year ended December 31, 2018, amounted to \$0.55 million. No such relocation related payments or accruals were made to any of Covered Officers C, B and D.

For purposes of attracting high quality personnel, we may offer an officer or director a sign-on bonus as an incentive to join the Company, which may be comprised of cash and/or equity and shall not exceed an amount equal to the officer's or director's annual base salary. No such payment or accrual was made or earned in 2018.

Our policy is to allow annual cash bonuses, which may be awarded to the office holders upon the attainment of pre-set annual measurable objectives and personal performance, which are set in the first quarter of the year, and include minimum thresholds for performance. The compensation policy sets forth a pre-defined mechanism which includes multiple sections with a range of weight (in percentage terms) of each group of component measures, which shall consist of bonus criteria based on measurable components and the weight (in percentage terms) of each measure as a portion of the annual criteria, as well as a minimum threshold below which no bonus will be awarded. Such measures include net profit targets, M&A targets, EBITDA, revenue and cash targets, fab cycle time yield and retention targets. These targets directly link to our strategy to continue our growth trajectory, expand our served markets, increase our higher margin manufacturing and maintain a leading position in the specialty analog semiconductor industry. Office holders may also receive a special bonus for substantial achievements on certain types of special transactions that are unexpected when determining our annual management by objective plan up to 4 monthly base salaries. It is clarified that this special bonus mechanism will not be awarded as a matter of routine and will be granted only in situations as specified above. The cash bonus gross amounts granted by the Company to the Covered Officers A, C, B, D and J during the year ended December 31, 2018, amounted to \$1.51 million, \$0.57 million, \$0.47 million, \$0.31 million and \$0.20 million, respectively.

The equity based compensation offered by us is intended to be in a form of restricted stock units (“RSUs”) and/or other equity forms, such as options, in accordance with our equity based compensation policies and programs in place from time to time and in accordance with the compensation policy. The equity based compensation, shall be granted as either an annual grant and/or from time to time and be individually determined and awarded according to the performance, educational background, professional experience, qualifications, specializations, role, personal responsibilities, achievements of the officer or director and the prior salary and compensation arrangements therewith, and subject to legal limitations. As a general policy, there shall be no vesting before the end of the first year from date of grant. We calculate the fair market value of the equity based compensation for the officers and directors, at the time of grant according to the Black-Scholes model, binomial model or any other best practice or commonly accepted equity based compensation valuation model, when such award is approved by the Compensation Committee, Board of Directors and shareholders, as applicable, and amortize such value over the applicable vesting schedule. The equity granted may contain a mandatory exercise provision for vested equity which shall provide for an automatic exercise upon reaching a certain share price and may also trigger the sale of the underlying shares. There shall be accelerated vesting of all equity granted to Executive Officers and Directors (including outstanding, current and future equity grants), in the event of their death, allowing the exercise of such vested equity in accordance with the terms of the applicable equity plan governing it. Total value of equity based compensation to the Covered Officers A, C, B, D and J recorded during the year ended December 31, 2018 (calculated based on the total amortization cost recorded in the Company’s statement of operations for the year ended December 31, 2018 with respect to all grants of equity vehicles to said Covered Officers), amounted to \$3.23 million, \$0.87 million, \$0.72 million, \$0.61 million and \$0.12 million, respectively.

We may provide certain officers (not including directors) with a prior notice of termination of up to six (6) months but not less than three (3) months (unless termination is for cause), during which they may be entitled to all of the compensation elements, and to the continuation of vesting of their equity based compensation. Officers (not including directors) shall provide us with prior notice of resignation of at least three (3) months. During this advance notice period, at our discretion, such officers may be requested to remain on our payroll and provide services to us. During this period, such officers shall be paid their base salary and benefits and may be entitled to a partial or full annual bonus, based on their actual period of service or employment within this period, and based on the Company's performance during the period, the contribution of such officer to achieving our targets and profits and the circumstances of the termination. Upon resignation, such officers who are Israeli employees may receive severance pay according to Israeli law. All other employees shall receive severance pay according to the applicable local laws. Upon dismissal, officers who are Israeli employees may receive under the compensation policy severance pay equal to his/her last monthly base salary multiplied by the number of years employed by us, subject to approvals as may be required. All other employees shall receive severance pay according to their local labor laws. The total amount paid to such officers for the aforementioned severance compensation shall not exceed an amount of twenty-four (24) monthly base salaries, subject however to any amounts which would have to be paid to such officer in accordance with the local labor law. No such payment was made or earned in 2018.

Under the compensation policy, the Company may grant its officers (not including directors) a change of control bonus, subject to receipt of applicable corporate approvals as required by law. The change of control bonus would allow for a bonus in connection with a corporate transaction involving a change of control and subject to the termination of such officer upon the change of control. The change of control bonus may be in an amount of up to one annual base salary and acceleration of all unvested equity for exercise for the Company's chief executive officer and in an amount of up to nine (9) months' base salary and acceleration of all unvested equity for exercise for the other officers (excluding directors). No such payment or accrual was made or earned in 2018.

In connection with a corporate transaction involving a change of control, the chairman of the board and other directors may be entitled to acceleration of all unvested equity for exercise.

In accordance with the compensation policy, the CEO is eligible for a termination grant upon termination of his employment. Such termination grant shall be in an amount up to a lump sum of twelve (12) monthly base salaries without benefits. The amount granted shall take into consideration the period of employment, his service and employment conditions in the course of said period, our performance during the period, his contribution to the achievement of our targets and profits and the circumstances surrounding the termination of employment. No such payment or accrual was made or earned in 2018.

On July 3, 2018, our shareholders approved an equity grant to our CEO in a value of \$3.9 million, which was comprised of 60% time-vested RSUs and 40% performance-based RSUs, both vesting over a three-year period; and an additional performance-based RSUs in a value of \$1.1 million to bring his level of equity compensation in line with peers we compete with whilst incentivizing him for the next phase of the Company's growth trajectory through M&A and other strategic opportunities, technological roadmap expansion, operational capacity increase, and geographic diversification. The performance based RSUs were set to be earned by the CEO in proportion to the attainment by the Company of two financial corporate performance metrics, weighted equally. These performance metrics were set at net profit and cash from operations for 2018. Actual net profit for 2018 was \$135.6 million and cash from operations for 2018 was \$312.9 million. Since these financial results were lower than the metrics targets set for 2018, the CEO earned a proportional portion of the performance RSUs. For further details, see Tower's proxy statement to its shareholders filed with the SEC on Form 6-K on May 24, 2018.

The chairman of the board may be entitled to cash and/or equity based remuneration which in the aggregate that shall not exceed \$600,000 on an annual basis (together with reimbursement of expenses) in accordance with our Compensation Policy. The members of Tower's board may be entitled to remuneration and refund of expenses according to the provisions of the Companies Regulations (Rules on Remuneration and Expenses of Outside Directors), 2000, as amended by the Companies Regulations (Relief for Public Companies Traded in Stock Exchange Outside of Israel), 2000, as such regulations may be amended from time to time.

Directors shall be entitled to:

- An annual fee which shall be capped at up to \$60,000.
- Per meeting fee shall be capped at up to \$2,000.
- Reasonable travel expenses.

#### Equity Incentive Plans

As set forth in the Company's approved compensation policy, in 2013, the Company adopted a share incentive plan to directors, officers, employees and its subsidiaries' employees (the "2013 Plan"). Under the 2013 Plan, employees shall not be liable to pay the nominal price of the shares underlying the RSUs. In addition, the maximum number of equity grants under said Plan shall be equal to an amount of shares that shall not exceed 10% of the fully diluted share count of the Company as calculated at the time of grant (which fully diluted share count will be calculated pro-forma to include the proposed grants) minus the amount of shares to be issued under the outstanding equity grants at the time of the grant.

As of December 31, 2018, approximately 1.07 million options and RSUs were outstanding under the 2013 Plan to our directors and senior management described in Item 6A, of which approximately 0.55 million were outstanding to our CEO and approximately 0.03 million were outstanding to our Chairman. Further grants may be approved in accordance with a decision of the Compensation Committee, Board of Directors of the Company and/or shareholders, as applicable.

The abovementioned RSUs to our CEO and chairman of the board of directors under the 2013 Plan were approved by our shareholders in accordance with the Company's approved compensation policy. The RSUs have a three year vesting schedule.

In July 2018, we granted the following equity awards to the CEO and directors under the 2013 Plan: (i) 107,290 time vested RSUs and 121,962 performance-based RSUs to the CEO, for a total compensation value of approximately \$5 million; (ii) 13,755 time vested RSUs to the chairman of the board of directors for a total compensation value of approximately \$0.3 million; and (iii) 3,438 time vested RSUs to each of our eight directors (excluding the Chairman and the CEO), for a total compensation value of approximately \$0.6 million. These grants were approved by the shareholders on July 3, 2018. In addition, in 2018, the Company granted an aggregate of approximately 0.23 million RSUs to its senior management described in Item 6A under the 2013 Plan, vesting over a three year period.

For further information concerning our employee equity plans and outstanding employee equity, see Note 17B to the consolidated financial statements for the year ended December 31, 2018 included in this report.

### C. BOARD PRACTICES

Our Articles of Association provide that the Board of Directors shall consist of at least five and no more than 11 members. All directors, except for external directors, hold office until their successors are elected at the next annual general meeting of shareholders.

Our Articles of Association provide that any director may, by written notice to us and subject to the approval of the Board of Directors, appoint another person to serve as an alternate director, and may cancel such appointment, by delivering written notice to the alternate director and to the Company. Any person who is qualified to serve as a director, and who is not already a director may act as an alternate, and the same person may not act as the alternate for more than one director at a time. The term of appointment of an alternate director may be for one meeting of the Board of Directors or for a specified period or until notice is given of the cancellation of the appointment or until the director who appointed the alternate ceases to serve as a director of the Company.

The Companies Law requires Israeli companies with shares that have been offered to the public in or outside of Israel to appoint no less than two external directors. Pursuant to a recently enacted amendment to the Companies Regulations (Relief for Companies Whose Shares are Registered for Trading Outside of Israel) – 2000 (the "Amendment to the Relief Regulations), however, a company may choose not to appoint external directors if it meets all of the following conditions:

- The company's shares are listed on a foreign securities exchange which is referenced in Section 5A(c) of the Regulations, which includes, among others, the NASDAQ Global Select Market;

- The Company does not have a controlling shareholder; and

- The Company complies with the requirements of the foreign securities laws and stock exchange regulations relating to appointment of independent directors and composition of audit and compensation committees as applicable to companies which are incorporated under the laws of such foreign countries.

Pursuant to the Amendment to the Relief Regulations, Israeli companies which meet the above conditions may opt to comply with the applicable foreign exchange rules governing the appointment of independent directors and composition of audit and compensation committees applicable to U.S. domestic issuers (which with respect to the Company are the Nasdaq Listing Rules and the rules set forth in the Securities Exchange Act of 1934 (the "Exchange Act")) instead of complying with the Companies Law provisions relating to external directors. An external director who was elected to serve as such prior to the date on which the company opted to comply with the applicable foreign exchange rules governing the appointment of independent directors and the composition of the audit and compensation committees as set forth above, may continue to serve out his/her term as a non-external director on the company's board of directors until the earlier of (i) the end of his/her three year term, or (ii) the second annual general meeting following the company's decision to comply with the said applicable foreign exchange rules, without any further action on the part of the Company or its shareholders. Such director may be elected to the board of directors by the Company's shareholders, but he/she would now be elected as a regular director (not an external director) and his/her election would be no different than the election of any other director.

In September 2016, the Company's board of directors determined that the Company meets the requirements set forth in the Amendment to the Relief Regulations for being exempt from the requirement to appoint at least two external directors and from the requirements relating to the composition of the audit and compensation committees set forth in the Companies Law, and that commencing on November 1, 2016, the Company would follow the exemption provided under the Amendment to the Relief Regulations, such that following such date, the Company would comply with the Nasdaq Listing Rules governing the appointment of independent directors and the composition of the audit committee and compensation committee applicable to domestic US issuers, provided that the Company continues to meet the requisite requirements for said relief and unless the Company's board of directors determines otherwise. Under the Nasdaq Listing Rules, a majority of the board of directors must be comprised of independent directors (as defined in the Nasdaq Listing Rules). The board has made a determination of independence under the Nasdaq Listing Rules with respect to all directors, excluding the CEO and Chairman.

Mr. Ilan Flato, Mr. Alex Kornhauser and Ms. Iris Avner, the Company's external directors prior to the determination to follow the relief provided under the Amendment to the Relief Regulations, continued serving as non-external directors starting from the date of the determination of the Company's board of directors detailed above, and were re-elected on June 29, 2017 as non-external directors at the Company's 2017 annual general meeting (the "2017 AGM"), to serve until the next annual general meeting of the Company or until their respective successors are duly elected, following which they were again re-elected on July 3, 2018 as non-external directors at the Company's 2018 annual general meeting, to serve until the next annual general meeting of the Company or until their respective successors are duly elected.

Following the Company's determination to follow the relief provided under the Amendment to the Relief Regulations, our directors who had previously been elected as external directors received the compensation paid to them in their position as external directors until they were re-elected for service as non-external directors at the 2017 AGM, following which they are entitled to the same compensation paid to all of the Company's non-external directors (other than Mr. Amir Elstein and Mr. Russell Ellwanger).

The Companies Law requires public companies to appoint an audit committee and a compensation committee. Following the Company's determination to follow the relief provided under the Amendment to the Relief Regulations, the composition of both our audit and compensation committees is governed by the rules set forth in the Nasdaq Listing Rules and the Exchange Act.

Mr. Yoav Chelouche, Mr. Ilan Flato, Mr. Rami Guzman, and Mrs. Iris Avner serve on Tower's audit committee, and Mr. Yoav Chelouche serves as the audit committee chairman. The board has determined that all of the members of the audit committee meet the independence and financial knowledge requirements for audit committee service of the Nasdaq Listing Rules and the Exchange Act, as well as the Nasdaq Listing Rules requirement regarding financial sophistication. Mr. Ilan Flato, Mr. Alex Kornhauser, Mrs. Dana Gross and Mrs. Iris Avner serve on Tower's compensation committee, and Mr. Ilan Flato serves as the compensation committee chairman. The board has determined that all of the members of the compensation committee meet the independence requirements for compensation committee service of the Nasdaq Listing Rules and the Exchange Act.

Under the Companies Law, the board of directors must appoint an internal auditor, who is recommended by the audit committee. The role of the internal auditor is to examine, among other matters, whether the company's actions comply with the law and orderly business procedure. Under the Companies Law, the internal auditor may be an employee of the company but not an office holder, an interested party, or a relative of an office holder or interested party, and he may not be the company's independent auditor or its representative. Joseph Ginossar of Fahn Kanne, an affiliate of Grant Thornton International, serves as our internal auditor.

## D. EMPLOYEES

The following table sets forth for the last three fiscal years, the number of our employees engaged in the specified activities.

	As of December 31,		
	2018	2017	2016
Process and product engineering, R&D and design	1,065	1,054	1,015
Manufacturing and operations	3,860	3,917	3,895
Manufacturing support	394	399	370
Sales and marketing, finance & administration	267	271	272
Total	5,586	5,641	5,552

Except for an arrangement regarding pension contributions, Tower has no collective bargaining agreements with any of its Israeli employees. However, in Israel we are subject to certain labor statutes and national labor court precedent rulings, as well as to certain provisions of the collective bargaining agreements between the Histadrut (General Federation of Labor in Israel) and the Coordination Bureau of Economic Organizations, by virtue of expansion orders issued in accordance with relevant labor laws by the Israeli Ministry of Labor and Welfare, and which apply such agreement provisions to our employees even though they are not directly part of a union that has signed a collective bargaining agreement. The laws and labor court rulings that apply to our employees principally concern the minimum wage laws, procedures for dismissing employees, determination of severance pay, leaves of absence (such as annual vacation or maternity leave), sick pay and other conditions for employment. The expansion orders which apply to our employees principally concern the requirement for length of the work day and workweek, mandatory contributions to a pension fund, annual recreation allowance, travel expenses payment and other conditions of employment.

Under the special collective bargaining agreement to which we are party in regard to our Israeli employees, we are required to contribute funds to an employee's "Manager's Insurance" fund and/or pension fund. Such funds generally provide a combination of savings plans, insurance and severance pay benefits to the employee, securing his or her right to receive pension or giving the employee a lump sum payment upon retirement, under certain circumstances, if legally entitled, upon termination of employment. To the Manager's Insurance fund or pension fund, Tower employee contributes an amount equal to 6% of his/her wages and Tower contributes an additional 14.83% to 15.83% of his or her wages. Israeli law generally requires severance pay upon the retirement or death of an employee or termination of employment without due cause. Under our special collective bargaining agreement, Section 14 to the Israeli Severance Pay Law, 5723-1963, applies to Tower, according to which the employer's contribution to severance pay shall replace payment of severance pay upon termination of employment. Therefore, the monthly contributions as mentioned above constitute the required payment for severance pay, and we are not required to pay any additional sum upon termination of employment for the period during which Sections 14 applies.

A portion of Jazz's employees at its Newport Beach, California fab are represented by a union and covered by a collective bargaining agreement. Jazz maintains a defined benefit pension plan for certain of its employees covered by a collective bargaining agreement that provides for monthly pension payments to eligible employees upon retirement. The pension benefits are based on years of service and specified benefit amounts. In addition, the bargaining agreement includes a post retirement medical plan to certain employees. For certain eligible bargaining union employees who terminate employment, Jazz provides a lump-sum benefit payment.

Most of TPSCo's employees at its Japan fabs are represented by a union and covered by a collective bargaining agreement. TPSCo established a Defined Contribution Retirement Plan (the "DC Plan") for its employees through which TPSCo contributes approximately 10% with employee average match of 1% from employee base salary to the DC Plan. Such contribution releases the employer from further obligation to any payments upon termination of employment. The contribution is remitted either to third party benefits funds that are responsible to invest the funds based on employee preference, or directly, to those employees who elected not to enroll in the DC Plan.

#### E. SHARE OWNERSHIP

As of March 31, 2019, our directors and senior managers held options and RSUs to purchase an aggregate of 0.89 million of our ordinary shares. The options have an average exercise price of \$13.03 per share and the options expire between 2020 and 2023. No individual director or senior manager beneficially owns 1.00% or more of our outstanding ordinary shares.



ITEM 7. MAJOR SHAREHOLDERS AND RELATED PARTY  
TRANSACTIONS

A. MAJOR SHAREHOLDERS

As of March 31, 2019, approximately 106.3 million ordinary shares were issued and outstanding. Information concerning the beneficial ownership (as defined in Rule 13d-3 under the Securities Exchange Act of 1934, as amended), and ownership on a diluted basis, of ordinary shares by any person who is known to own at least 5% of our issued and outstanding ordinary shares is set forth below. The voting rights of our major shareholders do not differ from the voting rights of other holders of our ordinary shares.

Identity of Person or Group	Percent of Class(1)	Percent of Class (Diluted)(2)
Phoenix holdings (3)	7.96 %	7.82 %
Senvest Management, LLC (4)	8.64 %	8.49 %
Harel Insurance Investments & Financial Services (5)	5.33 %	5.24 %

Assumes the holder's beneficial ownership of all Tower ordinary shares and all securities that the holder has a right (1) to purchase within 60 days. Also assumes that no other exercisable or convertible securities held by other shareholders has been exercised or converted into shares of the Company.

(2) Assumes that all currently outstanding securities to purchase ordinary shares, have been exercised by all holders.

Based on information provided by Phoenix holdings as of March 31, 2019, it had approximately 8.5 million shares. (3) The securities reported herein are beneficially owned by various subsidiaries of Phoenix Holding Ltd. Based on Phoenix holdings report, each of the Subsidiaries operates under independent management and makes its own independent voting and investment decisions.

(4) Based on information provided by Senvest Management as of March 31, 2019, it had approximately 9.2 million shares.

(5) Based on information provided by Harel Insurance Investments & Financial Services as of March 31, 2019, it had approximately 5.7 million shares.

Tower's abovementioned major shareholders do not have additional voting rights beyond their shareholdings percentage.

As of March 31, 2019, there were a total of 15 holders of record of our ordinary shares, of which 10 were registered with addresses in the United States. Such United States record holders (which include non-US shareholders) were, as of such date, the holders of record of approximately 68.2% of our outstanding ordinary shares. The number of record holders in the United States is not representative of the number of beneficial holders nor is it representative of where such beneficial holders are resident since many of these ordinary shares were held of record by brokers or other nominees (including one U.S. nominee company, CEDE & Co., which held approximately 68.1% of our outstanding ordinary shares as of said date, including those held for the benefit of the Tel Aviv Stock Exchange clearing house as a member of Depository Trust Company).

## B. RELATED PARTY TRANSACTIONS

For information related to transactions with related parties, see Note 20 to the consolidated financial statements.

## C. INTERESTS OF EXPERTS AND COUNSEL

Not applicable.

## ITEM 8. FINANCIAL INFORMATION

### A. CONSOLIDATED STATEMENTS AND OTHER FINANCIAL INFORMATION

See Item 18.

#### Legal Proceedings

From time to time, we are a party to various litigation matters incidental to the conduct of our business.

In January 2016, a short-selling focused firm issued a short sell thesis report which the Company believed contains false and misleading information about the Company's strategy, business model and financials. Following this short sell thesis report, shareholder class actions were filed against the Company, certain of its officers, directors and its external independent auditor in the US and Israel. This short sell thesis analyst acknowledged at the time of the report that he shall be assumed to be in a short position in Tower's shares. In July 2016, the US court-appointed lead plaintiff voluntarily withdrew the action and the US court approved the voluntary dismissal of the class action in the US. In February 2018, the Israeli court granted the Company's motion to dismiss as the Israeli plaintiff did not meet the required burden of proof. In April 2018, the Israeli plaintiff appealed to the Israeli supreme court. In October 2018, the Israeli Supreme Court reaffirmed the district court's ruling and denied the plaintiff's request for appeal.

Jazz leases its fabrication facilities under operational lease contracts. In the amendments to its leases, (i) Jazz secured various contractual safeguards designed to limit and mitigate any adverse impact of construction activities on its fabrication operations; and (ii) set forth certain obligations of Jazz and the landlord, including certain noise abatement actions at the fabrication facility. The landlord has made claims that Jazz's noise abatement efforts are not adequate under the terms of the amended lease. Jazz does not agree and is disputing these claims.

### B. SIGNIFICANT CHANGES

No significant change has occurred since December 31, 2018, except as disclosed in this annual report.

## ITEM 9. THE OFFER AND LISTING

Our ordinary shares are listed and traded on the NASDAQ Stock Market (on the NASDAQ Global Market through March 16, 2012, on the NASDAQ Capital Market from March 17, 2012 through September 6, 2012, and on the NASDAQ Global Select Market since that date) and on the Tel Aviv Stock Exchange (TASE) under the symbol “TSEM”.

The following table sets forth, for the periods indicated, the high and low reported sales prices of the ordinary shares on the NASDAQ Stock Market and Tel Aviv Stock Exchange:

<u>Period</u>	NASDAQ Stock Market		Tel Aviv Stock Exchange	
	High (\$)	Low (\$)	High (NIS)	Low (NIS)
March 2019	18.39	16.10	66.00	58.34
February 2019	19.03	14.36	68.87	52.00
January 2019	15.19	13.57	55.54	50.41
December 2018	17.21	13.56	64.10	50.41
November 2018	16.58	13.78	60.12	51.53
October 2018	22.41	13.87	80.17	54.01
First quarter 2019	19.03	13.57	68.87	50.41
Fourth quarter 2018	22.41	13.56	80.17	50.41
Third quarter 2018	23.55	19.26	86.31	72.00
Second quarter 2018	29.36	21.69	102.00	79.29
First quarter 2018	36.08	26.52	124.00	91.60
Fourth quarter 2017	36.69	30.40	128.00	106.40
Third quarter 2017	30.91	23.38	109.90	82.70
Second quarter 2017	25.89	20.60	92.14	76.46
First quarter 2017	23.65	19.02	86.51	73.17
2018	36.08	13.56	124.00	50.41
2017	36.69	19.02	128.00	73.17
2016	20.04	10.36	76.55	40.32
2015	18.29	10.68	73.79	41.85
2014	14.26	5.44	56.00	19.20

ITEM 10. ADDITIONAL  
INFORMATION

Articles of Association

Registration Number and Purposes

Our registration number with the Israeli Companies Registrar is 520041997. Pursuant to Section 4 of our Articles of Association (“Articles”), Tower’s objective is to engage in any lawful activity.

Articles of Association

Our Articles were adopted in November 2000, and as amended most recently in May 2013, provide for an authorized share capital of 150 million ordinary shares with par value of NIS 15.00 each. In August 2012, we effected a reverse share split of our outstanding ordinary shares in a ratio of 1:15. All our securities presented in this annual report were adjusted to reflect such reverse split. Tower has currently outstanding only one class of equity securities, ordinary shares, par value NIS 15.00 per share. Holders of Tower ordinary shares have one vote per share, and are entitled to participate equally in the payment of dividends and share distributions and, in the event of liquidation of Tower, in the distribution of assets after satisfaction of liabilities to creditors. No preferred shares are currently authorized.

Our Articles require that we hold our annual general meeting of shareholders each year no later than 15 months from the last annual meeting, upon at least 21 days’ prior notice to our shareholders. Two or more shareholders holding at least 33% of the voting rights personally or by proxy will constitute a quorum for the meeting. Shareholders may vote in person or by proxy, and are required to prove title to their shares as required by the Companies Law pursuant to procedures established by the Board of Directors. Resolutions regarding the following matters shall be passed by an ordinary majority of those voting at the general meeting.

- amendments to our Articles;
- appointment and termination of our independent auditors;
- appointment and dismissal of directors (except of external directors);
- approval of acts and transactions requiring general meeting approval under the Companies Law;
- increase or reduction of authorized share capital in accordance with the provisions of the Companies Law or the rights of shareholders or a class of shareholders;
- any merger as provided in section 320 of the Companies Law; and
- the exercise of the Board of Directors’ powers by the general meeting, if the Board of Directors is unable to exercise its powers and the exercise of any of its powers is essential for Tower’s proper management, as provided in section 52(a) of the Companies Law.

A special meeting may be convened by the request of two directors or by the request of one or more shareholders holding at least 5% of our issued share capital and 1% of the voting rights or one or more shareholders holding at least 5% of the voting rights. Shareholders requesting a special meeting must submit their proposed resolution with their request. Within 21 days of receipt of the request, the Board must convene a special meeting and send out notices setting forth the date, time and place of the meeting. If the special meeting is not convened by the Board as set forth above, the person who requested the Board to convene the meeting may convene the meeting himself, provided that such meeting shall not be held after three months have elapsed from the date the request was submitted. Subject to

exceptions, such notice must be given at least 21 days but not more than 35 days prior to the special meeting.

Our ordinary shares may generally be freely transferred under the Articles, unless the transfer is restricted or prohibited by applicable law or the rules of the stock exchange on which the shares are traded. The ownership or voting of our ordinary shares by non-residents of Israel is not restricted in any way by our Articles or the laws of the State of Israel, except under certain circumstances for ownership by nationals of certain countries that are, or have been, in a state of war with Israel.

#### Exemption and Indemnification Agreements with Directors and Office Holders

Tower entered into exemption and indemnification agreements with the members of its Board of Directors and other Office Holders, which were amended to reflect certain amendments to the Israeli Securities Law and the Israeli Companies Law, pursuant to which, subject to the limitations set forth in the Israeli Companies Law, the Israeli Securities Law and the Articles, they will be exempt from liability for breaches of the duty of care owed by them to the Company or indemnified for certain costs, expenses and liabilities with respect to events specified in the exemption and indemnification agreements. Tower's shareholders approved these amended exemption and indemnification agreements.

## The Companies Law

We are subject to the provisions of the Companies Law. The Companies Law codifies the fiduciary duties that “office holders,” including directors and executive officers, owe to a company. An office holder, as defined in the Companies Law, is a general manager, chief business manager, deputy general manager, vice general manager, another manager directly subordinate to the general manager or any other person assuming the responsibilities of any of the foregoing positions without regard to such person’s title, or a director. Each person listed in the table in “Item 6. Directors, Senior Management and Employees” above is an office holder of the Company.

The Companies Law requires an office holder to promptly disclose any personal interest that he or she may have and all related material information known to him or her, in connection with any existing or proposed transaction by the company. In addition, if the transaction is an extraordinary transaction, the office holder must also disclose any personal interest held by the office holder’s spouse, siblings, parents, grandparents, descendants, and spouse’s descendants, siblings and parents, and the spouse of any of the foregoing, or any corporation in which the office holder is a 5% or greater shareholder, holder of 5% or more of the voting power, director or general manager or in which he or she has the right to appoint at least one director or the general manager. An extraordinary transaction is defined as a transaction not in the ordinary course of business, not on market terms, or one that is likely to have a material impact on the company’s profitability, assets or liabilities.

The Companies Law requires that specific types of transactions, actions and arrangements be approved as provided for in a company’s articles of association and in some circumstances by the company’s audit committee or compensation committee, board of directors and shareholders, by a regular majority vote of the shareholders present and voting (or a higher majority if so required under the company’s articles of association), or, in some cases detailed in the Companies Law, by a special majority vote of the disinterested shareholders.. For example, the Companies Law requires that agreements regarding the terms of compensation, insurance or indemnification, and any amendment thereof, of directors and the general manager be approved by the company’s compensation committee, board of directors and shareholders (with several exemptions from shareholder approval available in the Companies Regulations (Relief from Related Parties Transactions), 2000). Agreements regarding the terms of compensation, insurance or indemnification of officers, and any amendment thereof, will need to be approved by the company’s compensation committee and board of directors, and in certain instances by shareholders as well. In the case of a transaction with an office holder that is not an extraordinary transaction, after the office holder complies with the above disclosure requirements, only board approval is required, unless the Articles provide otherwise. Pursuant to a recently enacted amendment to the Companies Regulations (Matters Which do not Constitute Affiliation) 2006, a company may define in its compensation policy a reasonable range for changes in the compensation of office holders who are subordinated to the CEO, which will only require CEO approval, provided that the transaction is in the company’s interests. If the transaction is an extraordinary transaction, then, in addition to any approval required by the Articles it must be approved first by the audit committee and then by the board of directors, and, in specific circumstances, by a meeting of the shareholders. Subject to exceptions set forth in the Companies Law, any individual who has a personal interest in a matter that is considered at a meeting of the board of directors or the audit committee may not be present during the relevant discussion at such meeting or vote on such matter. In addition, pursuant to the Companies Law, the approval of the company’s compensation policy requires the approval of the compensation committee, the board of directors and the company’s shareholders. The shareholders’ majority vote must include, in addition to the ordinary majority of shareholder present, in person or by proxy, at the meeting, either more than one-half of the shares held by disinterested shareholders who are present, in person or by proxy, at the meeting (not including abstentions), or, alternatively, the total shareholdings of the disinterested shareholders who vote against the approval of the proposed compensation policy must not represent more than two percent of the voting rights in the company. In the event that the shareholders reject the proposed compensation policy, the company’s compensation committee and board of directors can nonetheless approve the policy, provided that the company’s compensation committee and thereafter the board of directors have determined to approve the policy, based on detailed reasoning, after having re-examined the policy, and having taken the shareholder rejection into consideration. The compensation committee and board of

directors are required to review the compensation policy periodically, and bring the compensation policy for approval or re approval by the shareholders at least once every three years.

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The Companies Law applies the disclosure requirements applicable to office holders, as detailed above, to a controlling shareholder of a public company. The term "controlling shareholder" is defined as a shareholder who has the ability to direct the activities of a company, other than if this power derives solely from the shareholder's position on the board of directors or any other position with the company. In addition, the definition of "controlling shareholder" also includes shareholders that hold 25% or more of the voting rights if no other shareholder owns more than 50% of the voting rights in the company (and the holdings of two or more shareholders which each have a personal interest in such matter will be aggregated for the purposes of determining such threshold) in connection with matters governing: (i) extraordinary transactions with a controlling shareholder or in which a controlling shareholder has a personal interest, (ii) certain private placements in which the controlling shareholder has a personal interest, (iii) certain transactions with a controlling shareholder or with his, her or its relative with respect to services provided to or employment by the company, (iv) the terms of employment and compensation of the general manager, and (v) the terms of employment and compensation of office holders of the company when such terms deviate from the company's compensation policy. Extraordinary transactions with a controlling shareholder or in which a controlling shareholder has a personal interest, require the approval of the audit committee, the board of directors and the shareholders of the company. Agreements relating to the terms of office and employment of a controlling shareholder require the approval of the compensation committee, the board of directors and the shareholders of the company. In addition to the ordinary majority that is required for the shareholder approval for the above noted matters, the shareholder majority must also include either more than one-half of the shares held by disinterested shareholders who are present, in person or by proxy, at the meeting (not including abstentions), or, alternatively, the total shareholdings of the disinterested shareholders who vote against the transaction must not represent more than two percent of the voting rights in the company.

Extraordinary transactions between the Company and a controlling shareholder or in which a controlling shareholder has personal interest and with duration exceeding three years are subject to re-approval once every three years by the audit committee (or compensation committee, as applicable), board of directors and the shareholders of the company. Extraordinary transactions with a controlling shareholder or in which a controlling shareholder has a personal interest may be approved in advance for a period exceeding three years if the audit committee determines that the transaction for such period is reasonable under the circumstances.

Pursuant to the Companies Law, the terms of office and employment of an office holder in a public company need to comply with the company's compensation policy. In the event that the terms of office and employment deviate from the company's compensation policy, they can nonetheless be approved if the following two cumulative conditions are met: (i) the compensation committee and thereafter the board of directors, approved the terms after having taken into account the various policy considerations and mandatory requirements set forth in the Companies Law with respect to office holder compensation, and (ii) the shareholders of the company approved the terms of office and employment for such office holders by means of the special majority required for approving the compensation policy (as detailed above).



Terms of office and employment of office holders who are neither directors nor the general manager require only the approval by the (i) compensation committee; and (ii) the board of directors, provided that they comply with the company's compensation policy. Approval of terms of office and employment for such office holders which do not comply with the compensation policy may nonetheless be approved subject to two cumulative conditions: (i) the compensation committee and thereafter the board of directors, approved the terms after having taken into account the various policy considerations and mandatory requirements set forth in the Companies Law with respect to office holder compensation, and (ii) the shareholders of the company approved the terms of office and employment for such office holders by means of the special majority required for approving the compensation policy (as detailed above). Non-material changes to the terms of compensation of office holders who are subordinated to the company general manager will require only general manager approval, provided that the company's compensation policy includes a reasonable range for such non-material changes and that the changes are within such range.

Terms of office and employment of the general manager require approval by the (i) compensation committee; (ii) the board of directors and (iii) the shareholders of the company by means of the special majority required for approving the compensation policy (as detailed above). Approval of terms of office and employment for the general manager which do not comply with the compensation policy may nonetheless be approved subject to two cumulative conditions: (i) the compensation committee and thereafter the board of directors, approved the terms after having taken into account the various policy considerations and mandatory requirements set forth in the Companies Law with respect to office holder compensation, and (ii) the shareholders of the company approved the terms of office and employment for the general manager which deviate from the compensation policy by means of the special majority required for approving the compensation policy (as detailed above). Notwithstanding the foregoing, a company may be exempted from receiving shareholder approval with respect to the terms of office and employment of a proposed candidate for general manager if such candidate meets certain independence criteria, the terms of office and employment are in line with the compensation policy, and the compensation committee has determined for specified reasons that presenting the matter for shareholder approval would prevent the proposed engagement. In addition, the terms of compensation of the general manager will not require shareholder approval when extending or re-approving the company's engagement with its general manager, provided that such terms are not more beneficial compared to his previous compensation terms approved by the shareholders pursuant to the Companies Law and provided that such terms comply with the company's compensation policy.

Terms of office and employment of office holders (including the general manager) who are not directors may nonetheless be approved by the company despite shareholder rejection (where shareholder approval is required), provided that a company's compensation committee and thereafter the board of directors have determined to approve such terms of office and employment, based on detailed reasoning, after having re-examined the terms of office and employment, and having taken the shareholder rejection into consideration.

Terms of office and employment of directors require approval by the (i) compensation committee; (ii) the board of directors and (iii) the shareholders of the company by ordinary majority, provided that they comply with the compensation policy. Approval of terms of office and employment for directors of a company which do not comply with the compensation policy may nonetheless be approved subject to two cumulative conditions: (i) the compensation committee and thereafter the board of directors, approved the terms after having taken into account the various policy considerations and mandatory requirements set forth in the Companies Law with respect to office holder compensation, and (ii) the shareholders of the company have approved the terms by means of the special majority required for approving the compensation policy (as detailed above). Terms of office and employment of directors can be approved without shareholders consent if such terms are either (i) only to the benefit of the company, or (ii) the compensation paid does not exceed the maximum compensation payable to external directors under applicable law, and the compensation committee and board of directors approved the foregoing.

In addition to approval by a company's board of directors, a private placement in a public company requires approval by a company's shareholders in the following cases:

· A private placement that meets all of the following conditions:

o 20 percent or more of the voting rights in the company prior to such issuance are being offered;

The private placement will increase the relative holdings of a shareholder that holds five percent or more of the company's outstanding share capital (assuming the exercise of all of the securities convertible into shares held by that person), or that will cause any person to become, as a result of the issuance, a holder of five percent or more of the company's outstanding share capital; and

o All or part of the consideration for the offering is not cash or registered securities, or the private placement is not being offered at market terms.

· A private placement which results in anyone becoming a controlling shareholder.

The above transactions must be for the benefit of the company.

Under the Companies Law, a shareholder has a duty to act in good faith towards the company and other shareholders and refrain from abusing his power in the company, including, among other things, vote in the general meeting of shareholders on the following matters:

· any amendment to the Articles;

· an increase of the company's authorized share capital;

· a merger; or

· approval of interested party transactions that require shareholder approval.

In addition, any controlling shareholder, any shareholder who knows that it possesses power to determine the outcome of a shareholder vote and any shareholder who has the power to appoint or prevent the appointment of an office holder in the company is under a duty to act with fairness towards the company. The Companies Law does not describe the substance of this duty, but provides that laws applicable to a breach of contract, adjusted according to the circumstances shall apply to a breach of such duties. With respect to the obligation to refrain from acting discriminatorily, a shareholder that is discriminated against can petition the court to instruct the company to remove or prevent the discrimination, as well as provide instructions with respect to future actions.

**Tender Offer.** A person wishing to acquire shares or any class of shares of a publicly traded Israeli company and who would as a result hold over 90% of the company's issued and outstanding share capital or of a class of shares, is required by the Companies Law to make a tender offer to all of the company's shareholders for the purchase of all of the issued and outstanding shares of the company. If the shares represented by the shareholders who did not tender their shares in the tender offer constitute less than 5% of the issued and outstanding share capital of the company, and (following the Amendment Date) more than half of the shareholders without a personal interest in accepting the offer tendered their shares, then all of the shares that the acquirer offered to purchase will be transferred to the acquirer by operation of law. If the dissenting shareholders hold more than 5% of the issued and outstanding share capital of the company, the acquirer may not acquire additional shares of the company from shareholders who accepted the tender offer to the extent that following such acquisition the acquirer would then own over 90% of the company's issued and outstanding share capital; provided, however, if the dissenting shareholders constitute less than 2% of the issued and outstanding share capital of the company then the full tender will be accepted and all of the shares that the acquirer

offered to purchase will be transferred to the acquirer by operation of law. The Companies Law provides for an exception regarding this threshold requirement for a shareholder that on February 1, 2000 held over 90% of the public Israeli company's issued and outstanding share capital. Shareholders may petition the court to alter the consideration for the acquisition, provided, however, and subject to certain exceptions, the terms of the tender offer may state that a shareholder that accepts the offer waives such right.

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The Companies Law provides that, subject to certain exceptions, an acquisition of shares of an Israeli public company must be made by means of a special tender offer if as a result of the acquisition the purchaser would become a holder of 25% or more of the voting rights in the company. This rule does not apply if there is already another shareholder of the company that holds 25% or more of the voting rights in the company. Similarly, the Companies Law provides that, subject to certain exceptions, an acquisition of shares in a public company must be made by means of a special tender offer if as a result of the acquisition the purchaser would become a holder of more than 45% of the voting rights in the company, if there is no shareholder that holds more than 45% of the voting rights in the company. Furthermore, for a period of one year following the consummation of a special tender offer, none of the bidders in such special tender offer, a person who controlled the bidder during such special tender offer or any entity under their control, may effect another tender offer with respect to shares of the subject company or a merger with the subject company.

**Merger.** The Companies Law permits merger transactions if approved by each party's board of directors and the majority of each party's shares voted on the proposed merger at a shareholders' meeting called on at least 35 days prior notice. Under the Companies Law, merger transactions may be approved by holders of a simple majority of our shares present, in person or by proxy, at a general meeting and voting on the transaction. In determining whether the required majority has approved the merger, if shares of a company are held by the other party to the merger, or by any person holding at least 25% of the outstanding voting shares or 25% of the means of appointing directors of the other party to the merger, then a vote against the merger by holders of the majority of the shares present and voting, excluding shares held by the other party or by such person, or anyone acting on behalf of either of them, is sufficient to reject the merger transaction, provided, however, if the transaction is an extraordinary transaction with a controlling shareholder or in which a controlling shareholder has an interest, then the approvals required will be the corporate approvals under the Companies Law for such extraordinary transaction (i.e. approval of the audit committee, board of directors and shareholders vote, which shareholder approval must either include more than one-half of the shares held by disinterested shareholders who are present, in person or by proxy, at the meeting, or, alternatively, the total shareholdings of the disinterested shareholders who vote against the transaction must not represent more than two percent). If the transaction would have been approved but for the exclusion of the votes of certain shareholders as provided above, a court may still approve the merger upon the request of holders of at least 25% of the voting rights of a company, if the court holds that the merger is fair and reasonable, taking into account the value of the parties to the merger and the consideration offered to the shareholders. Upon the request of a creditor of either party to the proposed merger, the court may delay or prevent the merger if it concludes that there exists a reasonable concern that, as a result of the merger, the surviving company will be unable to satisfy the obligations of any of the parties to the merger. In addition, a merger may not be consummated unless at least 30 days have passed from the receipt of the shareholders' approval and 50 days have passed from the time that a merger proposal has been filed with the Israeli Registrar of Companies.

## Companies Law Amendments

On February 17, 2016, Amendment 27 to the Companies Law came into effect, on April 3, 2016, certain amendments to the Companies Regulations came into effect and on April 17, 2016 the Amendment to the Relief Regulations came into effect. The purpose of these amendments was to provide certain relief with respect to the existing provisions governing corporate governance practices of Israeli companies in order to, among other things, encourage companies to publicly offer securities in Israel.

The principal provisions set forth in these amendments to the Companies Law are incorporated into the above discussions in Item 10 “The Companies Law”.

From time to time, amendments to the Companies Law are enacted and there is no assurance that we will not be required to adjust our current corporate governance practices, as discussed in this annual report, pursuant to future amendments to the Companies Law.

## NASDAQ Marketplace Rules and Home Country Practices

As permitted by NASDAQ Listing Rule 5615(a)(3), in lieu of certain corporate governance requirements we have chosen to follow the practices of our home country with respect to the following:

We do not supply an annual report but make our audited financial statements available to our shareholders prior to our annual general meeting, as permitted by Israeli law.

We currently comply and are required, under the relief provided under the Amendment to the Relief Regulations, to maintain compliance with the applicable NASDAQ Listing Rules and rules contained in the Exchange Act concerning the appointment of independent directors, following our determination to follow the exemption provided under the Amendment to the Relief Regulations (we are exempt from the requirement to appoint at least two external directors pursuant to the provisions of the Companies Law).

Our Board has not adopted a policy of conducting regularly scheduled meetings at which only our independent directors are present, as permitted by Israeli law.

Following our determination to follow the exemption provided under the Amendment to the Relief Regulations, the composition of our compensation committee is governed by the provisions of the NASDAQ Listing Rules and the Exchange Act governing the composition of the compensation committee applicable to U.S. domestic issuers. However, consideration and approval of compensation for our chief executive officer and other executive officers will be taken by the compensation committee, the board of directors and the shareholders as appropriate under the applicable rules under the Companies Law which may differ from those provided for in the NASDAQ Listing Rules. In accordance with the Companies Law, the compensation of directors, the chief executive officer and all other officers requires the approval of our compensation committee and board of directors, and under circumstances as detailed in this annual report, also requires the approval of our shareholders. Such compensation must either be consistent with our approved Compensation Policy or, in special circumstances, may deviate therefrom, taking into account certain considerations set forth in the Companies Law. We are required to seek shareholder approval for certain corporate actions requiring such approval under the requirements of the Companies Law, including seeking prior approval of the shareholders for the Compensation Policy and for certain office holder compensation.

The process under which director nominees are selected, or recommended for the Board's selection may not be in full compliance with the applicable NASDAQ Listing Rules. Our directors are elected for terms of one year or until the following annual meeting, by a general meeting of our shareholders. The nominations for director which are presented to our shareholders are generally made by our board of directors. The process under which director nominees are selected, or recommended for the Board's selection is in compliance with the Companies Law but is not necessarily in full compliance with the NASDAQ Listing Rules.

Israeli law does not require the adoption of and our Board of Directors has not adopted a formal written charter or board resolution addressing the nomination process and such related matters as may be required under United States federal securities laws and pursuant to which certification is required by NASDAQ Listing Rules 5605 (e)(2).

Although we have adopted a formal written audit committee charter, there is no requirement under the Companies Law to do so and the charter as adopted may not specify all the items enumerated in the NASDAQ Listing Rule 5605(c)(1).

Although we have adopted a formal written compensation committee charter, there is no requirement under the Companies Law to do so and the charter as adopted may not specify all the items enumerated in the NASDAQ Listing Rule 5605(d)(1).

Following our determination to follow the exemption provided under the Amendment to the Relief Regulations, the composition of our audit committee is governed by the provisions of the NASDAQ Listing Rules and the Exchange Act governing the composition of the audit committee applicable to U.S. domestic issuers.

Under Israeli law, a company is entitled to determine in its articles of association the number of shareholders and percentage of holdings required for a quorum at a shareholders meeting. Our articles of association do not provide for a quorum of not less than 33 1/3% of the outstanding shares of our voting ordinary shares for meetings of our ordinary shareholders, as required by the NASDAQ Listing Rules. Our articles of association presently require a quorum consisting of two shareholders holding a combined 33% of our ordinary shares.

We review and approve all related party transactions in accordance with the requirements and procedures for approval of interested party acts and transactions, set forth in sections 268 to 275 the Companies Law, which do not fully reflect the requirements of the NASDAQ Listing Rules.

We seek shareholder approval for all corporate action requiring such approval, in accordance with the requirements of the Companies Law, which does not fully reflect the requirements of the NASDAQ Listing Rules.

We do not necessarily seek shareholder approval for the establishment of, and amendments to, stock option or equity compensation plans (as set forth in NASDAQ Listing Rule 5635(c)), as such matters are not subject to shareholder approval under Israeli law. We will attempt to seek shareholder approval for our stock option or equity compensation plans (and the relevant annexes thereto) to the extent required in order to ensure they are tax qualified for our employees in the United States. However, even if such approval is not received, then the stock option or equity compensation plans will continue to be in effect, but the Company will be unable to grant options to its U.S. employees that qualify as Incentive Stock Options for U.S. federal tax purpose. Our stock option or other equity compensation plans are also available to our non-U.S. employees, and provide features necessary to comply with applicable non-U.S. tax laws.

## Material Contracts

Our share capital transactions in the last 3 years may be found in the statements of changes in shareholders' equity attached hereto to this form. The outstanding shares of the Company increased following the conversion of capital notes (see details in note 15C to our financial statements attached hereto) and convertible debentures (see details in note 10C to our financial statements attached hereto), exercise of options warrants and RSU's (see details in note 15B to our financial statements attached hereto). All our shares are ordinary shares and entitle its holders with the same rights.

For information regarding material contracts see Notes 10, 11, 13, 14, 15 and 16 to our consolidated financial statements for the year ended December 31, 2018 and the agreements described under the caption "Item 5. Operating and Financial Review and Prospects - B. Liquidity and Capital Resources".

## TPSCo Agreements

In March 2014, we acquired a 51% equity stake in TowerJazz Panasonic Semiconductor Co., Ltd., ("TPSCo"), a company formed by Panasonic Corporation ("Panasonic" or "Panasonic Corporation").

Panasonic transferred its semiconductor wafer manufacturing process and 8 inch and 12 inch capacity tools at its three fabs (Uozu E, Tonami CD and Arai E) to TPSCo, and entered into a manufacturing agreement for a period of five years of volume production. The Company acquired 51% of the shares of TPSCo, and as consideration for our 51% equity holding in TPSCo, at the closing of the transaction, we issued to Panasonic 870,454 of our ordinary shares valued at approximately \$7.4 million. In June 2014, Panasonic's shares in TPSCo were transferred and its rights and obligations were assigned to its wholly-owned subsidiary, Panasonic Semiconductor Solutions Co. ("PSCS").

In March 2019, as announced, agreements were signed between Tower and/or TPSCo and PSCS to extend the business partnership by an additional three year period under certain amended terms.

A shareholders' agreement was signed by Tower and/or TPSCo and PSCS, stating, among other things, that neither Tower nor PSCS will transfer its shares in TPSCo for 3 years without the prior consent of the other party.

A manufacturing agreement was entered into between PSCS and TPSCo which sets forth the terms under which TPSCo shall manufacture semiconductor wafer products for PSCS. PSCS will order such products by providing TPSCo with a six month rolling forecast. The quantities set forth in such forecast shall be fully binding with respect to specific lead times (determined per each category of products). PSCS will pay for such products based on the revised pricing structure specified in the agreement. The term of the manufacturing agreement is three years.

An intellectual property license agreement was entered into between Panasonic and PSCS, to which Tower is a third party beneficiary, setting forth the terms pursuant to which PSCS grants TPSCo a royalty free license to use Panasonic's intellectual property rights to manufacture products for PSCS and other third parties during the term of the agreement. Under the terms of the agreement, TPSCo is allowed to sublicense such licenses to Tower and other third parties, subject in certain cases to the prior written consent of Panasonic, and subject to payment of royalties. The term of the agreement shall be for three years.

In addition to, and in connection with the operation of TPSCo and its manufacture of wafers, additional ancillary agreements were entered into between PSCS, TPSCo and/or Tower.

For details concerning the Company's financing transactions and debt related, see "Item 5. Operation and Financial Review – B. Liquidity and Capital Resources."

#### Exchange Controls

Under Israeli law, non-residents of Israel who purchase ordinary shares with certain non-Israeli currencies (including US dollars) may freely repatriate in such non-Israeli currencies all amounts received in Israeli currency in respect of the ordinary shares, whether as a dividend, as a liquidating distribution, or as proceeds from any sale in Israel of the ordinary shares, provided in each case that any applicable Israeli income tax is paid or withheld on such amounts. The conversion into the non-Israeli currency must be made at the rate of exchange prevailing at the time of conversion.

There are currently no Israeli currency control restrictions on remittances of dividends on our ordinary shares, proceeds from the sale of the shares or interest or other payments to non-residents of Israel, except under certain circumstances, for shareholders who are subjects of countries that are, or have been, in a state of war with Israel.

#### Taxation

The discussion below does not purport to be an official interpretation of the tax law provisions mentioned therein or to be a comprehensive description of all tax law provisions which might apply to our securities or to reflect the views of the relevant tax authorities, and it is not meant to replace professional advice in these matters. The discussion below is based on current, applicable tax law, which may be changed by future legislation or reforms. Non-residents should obtain professional tax advice with respect to the tax consequences of holding or selling our securities under the laws of their countries of residence of holding or selling our securities.

#### Israeli Taxation

##### General Corporate Tax

Israeli companies are subject to corporate tax at the rate of 23% commencing 2018. However, the effective tax rate payable by a company which derives income from a "Preferred Enterprise " (as further discussed below) may be lower.

##### Israeli Tax on Capital Gains

An individual is subject to a tax at a rate of 25% on real capital gains derived from the sale of shares, as long as the individual is not a "substantial shareholder" in the company issuing the shares.

A "substantial shareholder" is generally a person who alone, or together with his relative or another person who collaborates with him on a regular basis, holds, directly or indirectly, at least 10% of any of the "means of control" of the corporation. "Means of control" generally include the right to vote, receive profits, nominate a director or an officer, receive assets upon liquidation, or instruct someone who holds any of the aforesaid rights regarding the manner in which he or she is to exercise such right(s), and all regardless of the source of such right.



An individual who is a substantial shareholder is subject to tax at a rate of 30% in respect of real capital gains derived from the sale of shares issued by the company in which he or she is a substantial shareholder. The determination of whether the individual is a substantial shareholder will be made on the date that the securities are sold. In addition, the individual will be deemed to be a substantial shareholder if at any time during the 12 months preceding this date he or she had been a substantial shareholder.

Corporations are subject to corporate tax with respect to total income, including capital gains, at a rate of 23% from 2018 onwards.

Non-Israeli residents are exempt from Israeli capital gains tax on any gains derived from the sale of shares in an Israeli corporation publicly traded on the TASE and/or on a foreign stock exchange, provided such gains do not derive from a permanent establishment of such shareholders in Israel and that such shareholders did not acquire their shares prior to the issuer's initial public offering. However, non-Israeli corporations will not be entitled to such exemption if Israeli residents (i) have a controlling interest of more than 25% in such non-Israeli corporation, or (ii) are the beneficiaries of or is entitled to 25% or more of the revenues or profits of such non-Israeli corporation, whether directly or indirectly.

In some instances where our shareholders may be liable to Israeli tax on the sale of their ordinary shares, the payment of the consideration may be subject to Israeli withholding tax.

#### Israeli Tax on Interest Income and on Original Issuance Discount

Interest and Original Issuance Discount (OID) on our debentures Series G are, in general, subject to Israeli tax of up to 25% (which would be withheld at source) if received by an individual. However, tax at the marginal rate (up to 50%), if one of the following applies:

if the interest or OID are business income in the hands of the recipient,

if the interest is recorded or should be recorded in the individual's accounting books,

if the recipient is a substantial shareholder of our company,

if financing expenses related to the purchase of the debentures were deducted by the individual in the calculation of the individual's Israeli taxable income, or

if the individual is an employee, supplier, or service provider of the company and the tax authorities have not been persuaded that the payment of interest was not affected by the relationship between the parties.

Interest and OID paid on our debentures to Israeli corporations will, in general, be subject to withholding tax at a rate of 23% from 2018 onwards.

Interest and OID paid on our debentures to non-Israeli residents may be subject to lower withholding tax in an applicable tax treaty. For example, under the US-Israel Tax Treaty, the maximum Israeli tax withheld on interest and OID paid to a US resident (other than a US bank, savings institution or company or with respect to payments attributed to a permanent establishment in Israel) is 17.5%.

Interest, OID or inflation linkage differentials paid to a non-Israeli resident which does not have a permanent establishment in Israel, on debentures issued by an Israeli corporation and which are traded on the TASE, are generally exempt from taxes in Israel. However, this exemption from taxes will not apply (and consequently tax will be withheld at source):

- a. if the recipient is a substantial shareholder of the corporation,
- b. if the recipient is an affiliate of the issuer of the debentures, or
- c. if the individual is an employee, supplier, or service provider of the company and the tax authorities have not been persuaded that the Payment was not affected by the relationship between the parties.

#### Israeli Tax on Dividend Income

Israeli resident corporations are generally exempt from Israeli corporate tax for dividends paid on our ordinary shares.

On distributions of dividends other than bonus shares, or stock dividends, to Israeli and non-Israeli resident individuals and non-Israeli resident corporations we would be required to withhold income tax at the rate of 25% (or 30% if such non-Israeli resident individual is a “substantial shareholder” at the time receiving the dividend or on any date in the 12 months preceding such date). If the income out of which the dividend is being paid is attributable to a privileged Enterprise or Preferred Enterprise under the Investment Law, the rate is generally not more than 20%. A different rate may be provided for in an applicable tax treaty.

Under the US-Israel Tax Treaty, Israeli withholding tax on dividends paid to a US resident may not, in general, exceed 25%. Where the recipient is a US corporation owning 10% or more of the voting stock of the paying corporation during the part of the tax year which precedes the date of payment of the dividend and during the entire tax year preceding such year and the dividend is not paid from the profits of a corporation entitled to the benefits of the Investment Law, the Israeli tax withheld may not exceed 12.5% or 15% in the case of dividends paid out of the profits of a corporation entitled to the benefits of the Investment Law, subject to certain conditions.

#### Significant changes to the Investment Law

Effective January 1, 2011 significant changes have been made to the Investment Law, which revamped the tax incentive regime in Israel. The main changes are, inter alia, as follows:

Industrial companies meeting the criteria set out by the Investment Law for a “Preferred Income” of a “Preferred Enterprise” (as defined below) will be eligible for flat tax rates of 7.5% or 16% , with the actual tax rates determined by the location of the enterprise. The location of Tower's fabrication facilities in Israel entitles it to benefit from a tax rate of 7.5%. The tax incentives offered by the Investment Law are no longer dependent neither on minimum qualified investments nor on foreign ownership.

A company can enjoy both government grants and tax benefits concurrently. Governmental grants will not necessarily be dependent on the extent of enterprise's investment in assets and/or equipment. The approval of “Preferred Enterprise” status by either the Israeli Tax Authorities or the Investment Center will be accepted by the other. Therefore a Preferred Enterprise may be eligible to receive both tax incentives and government grants, under certain conditions.

Under the transition provisions, any tax benefits obtained prior to 2011 shall continue to apply until expired, unless the company elects to apply the provisions of the new provisions to its income.



“Preferred Income” is defined as income from a Preferred Enterprise, as specified below, with the condition that the income was produced or arose in the course of the enterprise's ordinary activity in Israel, and excluding certain income derives from intangible assets which are not attributed to the enterprise's production; income from the sale of products of the Preferred Enterprise (including components that were produced by other enterprises); income from the sale of semiconductors by other non related enterprises which use the Preferred Enterprise's self-developed know-how; income for providing a right to use the Preferred Enterprise's know how or software; royalties from the use of the know-how or software which was confirmed by the Head of The Investment Center to be related to the production activity of the Preferred Enterprise and services with respect to the aforementioned sales. In addition, the definition of “Preferred Income” also includes income from the provision of industrial R&D services to foreign residents to the extent that the services were approved by the Head of Research for the Industrial Development and Administration.

A “Preferred Enterprise” is defined as an Industrial Enterprise (including, inter alia, an enterprise which provides approved R&D services to foreign residents), which generally more than 25% of its business income is from export. As mentioned above, the new tax incentives no longer depend on minimum qualified investments nor on foreign ownership.

The Investment Law also determines the conditions and limitations applying to the tax benefits offered to a “Special Preferred Enterprise” (as defined below). A “Special Preferred Enterprise” will be able to enjoy corporate income tax rate in a rate of 5% if located in a preferred zone and 8% if not located in a preferred zone.

A “Special Preferred Enterprise” is defined as a Preferred Enterprise which meets all of the following conditions, during the relevant tax year: (a) its Preferred Income is equal to or exceeds NIS 1 billion; (b) the total income of the company which owns the Preferred Enterprise or which operates in the same field of the Preferred Enterprise and which consolidates in its financial reports the company that owns the Preferred Enterprise equals or exceeds NIS 10 billion; and (c) its business plan was approved by the authorities as significantly benefitting the Israeli economy, either by any of the following, and subject to the terms and reliefs stated in the Investment Law: (i) an investment of at least NIS 400 - 800 million in assets; (ii) in each tax year during the benefits period, R&D investment in a preferred zone of at least NIS 100 million more than the average R&D investments' amount during the 3 preceding years to the business plan's approval; (iii) in each tax year during the benefits period, R&D investment in certain R&D's fields of at least NIS150 million more than the average R&D investments' amount during the 3 preceding years to the business plan's approval (or half of these amounts if the average annual R&D is above NIS 500 million); or (iv) the employment of at least 250 to 500 new employees, for preferred zones and regular zones, respectively.

Dividends paid out of income attributed to a Preferred Enterprise are generally subject to withholding tax at source at a rate of 20% or such lower rate as may be provided in an applicable tax treaty upon a request submitted by the recipient of such dividends. However, if such dividends are paid to an Israeli company no tax will be withheld.

#### Excess Tax

An additional income tax at a rate of 3% will be imposed on high earners individuals whose annual income or gain including, but not limited to, dividends, interest and capital gains, exceeds a certain threshold which is linked to the annual change in the Israeli consumer price index. The threshold in 2018 is approximately NIS 640,000.

## U.S. Federal Income Tax Considerations

The following discussion is a description of the material U.S. federal income tax considerations applicable to an investment in the ordinary shares by U.S. Holders who acquire our ordinary shares and hold them as capital assets for U.S. federal income tax purposes. As used in this section, the term “U.S. Holder” means a beneficial owner of an ordinary share who is:

an individual citizen or resident of the United States;

a corporation created or organized in or under the laws of the United States or of any state of the United States or the District of Columbia;

an estate, the income of which is subject to U.S. federal income taxation regardless of its source; or

a trust if the trust has elected validly to be treated as a United States person for U.S. federal income tax purposes or if a U.S. court is able to exercise primary supervision over the trust’s administration and one or more United States persons have the authority to control all of the trust’s substantial decisions.

The term “Non-U.S. Holder” means a beneficial owner of an ordinary share who is not a U.S. Holder. The tax consequences to a Non-U.S. Holder may differ substantially from the tax consequences to a U.S. Holder. Certain aspects of U.S. federal income tax relevant to a Non-U.S. Holder also are discussed below.

This description is based on provisions of the U.S. Internal Revenue Code of 1986, as amended, referred to in this discussion as the Code, existing and proposed U.S. Treasury regulations and administrative and judicial interpretations, each as available and in effect as of the date of this annual report. These sources may change, possibly with retroactive effect, and are open to differing interpretations. This description does not discuss all aspects of U.S. federal income taxation that may be applicable to investors in light of their particular circumstances or to investors who are subject to special treatment under U.S. federal income tax law, including:

insurance companies;

dealers in stocks, securities or currencies;

financial institutions and financial services entities;

real estate investment trusts;

regulated investment companies;

persons that receive ordinary shares as compensation for the performance of services;

tax-exempt organizations;

persons that hold ordinary shares as a position in a straddle or as part of a hedging, conversion or other integrated instrument;

individual retirement and other tax-deferred accounts;

expatriates of the United States;



persons (other than Non-U.S. Holders) having a functional currency other than the U.S. dollar; and  
direct, indirect or constructive owners of 10% or more, by voting power or value, of us.

This discussion also does not consider the tax treatment of persons or partnerships that hold ordinary shares through a partnership or other pass-through entity or the possible application of United States federal gift or estate tax or alternative minimum tax.

We urge you to consult with your own tax advisor regarding the tax consequences of investing in the ordinary shares, including the effects of federal, state, local, foreign and other tax laws.

#### Distributions Paid on the Ordinary Shares

Subject to the discussion below under “PFIC Rules,” a U.S. Holder generally will be required to include in gross income as ordinary dividend income the amount of any distributions paid on the ordinary shares, including the amount of any Israeli taxes withheld, to the extent that those distributions are paid out of our current or accumulated earnings and profits as determined for U.S. federal income tax purposes. Subject to the discussion below under “PFIC Rules” distributions in excess of our earnings and profits will be applied against and will reduce the U.S. Holder’s tax basis in its ordinary shares and, to the extent they exceed that tax basis, will be treated as gain from a sale or exchange of those ordinary shares. Our dividends will not qualify for the dividends-received deduction applicable in some cases to U.S. corporations. Dividends paid in NIS, including the amount of any Israeli taxes withheld, will be includible in the income of a U.S. Holder in a U.S. dollar amount calculated by reference to the exchange rate in effect on the date they are included in income by the U.S. Holder, regardless of whether the payment in fact is converted into USD. Any gain or loss resulting from currency exchange fluctuations during the period from the date the dividend is includible in the income of the U.S. Holder to the date that payment is converted into USD generally will be treated as ordinary income or loss.

A non-corporate U.S. holder’s “qualified dividend income” is subject to tax at reduced rates not exceeding 20 % for tax years beginning 2012 (15% for 2011 and prior years) . For this purpose, “qualified dividend income” generally includes dividends paid by a foreign corporation if either:

- (a) the stock of that corporation with respect to which the dividends are paid is readily tradable on an established securities market in the U.S., or
- (b) that corporation is eligible for benefits of a comprehensive income tax treaty with the U.S. which includes an information exchange program and is determined to be satisfactory by the U.S. Secretary of the Treasury. The Internal Revenue Service has determined that the U.S.-Israel Tax Treaty is satisfactory for this purpose.

In addition, under current law a U.S. Holder must generally hold his ordinary shares for more than 60 days during the 121 day period beginning 60 days prior to the ex-dividend date, and meet other holding period requirements for qualified dividend income.

Dividends paid by a foreign corporation will not qualify for the reduced rates, if such corporation is treated, for the tax year in which the dividend is paid or the preceding tax year, as a “passive foreign investment company” for U.S. federal income tax purposes. We do not believe that we will be classified as a “passive foreign investment company” for U.S. federal income tax purposes for our current taxable year. However, see the discussion under “PFIC Rules” below.

Subject to the discussion below under “Information Reporting and Back-up Withholding,” a Non-U.S. Holder generally will not be subject to U.S. federal income or withholding tax on dividends received on ordinary shares unless that income is effectively connected with the conduct by that Non-U.S. Holder of a trade or business in the United States.





## Foreign Tax Credit

Any dividend income resulting from distributions we pay to a U.S. Holder with respect to the ordinary shares generally will be treated as foreign source income for U.S. foreign tax credit purposes, which may be relevant in calculating such holder's foreign tax credit limitation. Subject to certain conditions and limitations, Israeli tax withheld on dividends may be deducted from taxable income or credited against a U.S. Holder's U.S. federal income tax liability. The limitation on foreign taxes eligible for credit is calculated separately with respect to specific classes of income. For this purpose, dividends that we distribute generally should constitute "passive category income," or, in the case of certain U.S. Holders, "general category income." A foreign tax credit for foreign taxes imposed on distributions may be denied if the taxpayer does not satisfy certain minimum holding period requirements. The rules relating to the determination of foreign source income and the foreign tax credit are complex, and the availability of a foreign tax credit depends on numerous factors. Each prospective purchaser who would be a U.S. Holder should consult with its own tax advisor to determine whether its income with respect to the ordinary shares would be foreign source income and whether and to what extent that purchaser would be entitled to the credit.

## Disposition of Ordinary Shares

Upon the sale or other disposition of ordinary shares, subject to the discussion below under "PFIC Rules" a U.S. Holder generally will recognize capital gain or loss equal to the difference between the amount realized on the disposition and the holder's adjusted tax basis in the ordinary shares. U.S. Holders should consult their own advisors with respect to the tax consequences of the receipt of a currency other than USD upon such sale or other disposition.

In the event there is an Israeli income tax on gain from the disposition of ordinary shares, such tax should generally be the type of tax that is creditable for U.S. tax purposes; however, because it is likely that the source of any such gain would be a U.S. source, a U.S. foreign tax credit may not be available. U.S. shareholders should consult their own tax advisors regarding the ability to claim such credit.

Gain or loss upon the disposition of the ordinary shares will be treated as long-term if, at the time of the sale or disposition, the ordinary shares were held for more than one year. Long-term capital gains realized by non-corporate U.S. Holders are generally subject to a lower marginal U.S. federal income tax rate than ordinary income, other than qualified dividend income, as defined above. The deductibility of capital losses by a U.S. Holder is subject to limitations. In general, any gain or loss recognized by a U.S. Holder on the sale or other disposition of ordinary shares will be U.S. source income or loss for U.S. foreign tax credit purposes. U.S. Holders should consult their own tax advisors concerning the source of income for U.S. foreign tax credit purposes and the effect of the U.S.-Israel Tax Treaty on the source of income.

Subject to the discussion below under "Information Reporting and Back-up Withholding", a Non-U.S. Holder generally will not be subject to U.S. federal income or withholding tax on any gain realized on the sale or exchange of ordinary shares unless:

that gain is effectively connected with the conduct by the Non-U.S. Holder of a trade or business in the United States,  
or

in the case of any gain realized by an individual Non-U.S. Holder, that holder is present in the United States for 183 days or more in the taxable year of the sale or exchange, and other conditions are met.

## Information Reporting and Back-up Withholding

Holders generally will be subject to information reporting requirements with respect to dividends paid in the United States on ordinary shares. In addition, Holders will be subject to back-up withholding tax on dividends paid in the United States on ordinary shares unless the holder provides an IRS certification or otherwise establishes an exemption. Holders will be subject to information reporting and back-up withholding tax on proceeds paid within the United States from the disposition of ordinary shares unless the holder provides an IRS certification or otherwise establishes an exemption. Information reporting and back-up withholding may also apply to dividends and proceeds paid outside the United States that are paid by certain “U.S. payors” or “U.S. middlemen,” as defined in the applicable Treasury regulations, including:

- (1) a U.S. person;
- (2) the government of the U.S. or the government of any state or political subdivision of any state (or any agency or instrumentality of any of these governmental units);
- (3) a controlled foreign corporation;
- (4) a foreign partnership that is either engaged in a U.S. trade or business or whose United States partners in the aggregate hold more than 50% of the income or capital interests in the partnership;
- (5) a foreign person that derives 50% or more of its gross income for certain periods from the conduct of a trade or business in the U.S.; or
- (6) a U.S. branch of a foreign bank or insurance company.

The back-up withholding tax rate is 28%. Back-up withholding and information reporting will not apply to payments made to Non-U. S. Holders if they have provided the required certification that they are not United States persons.

In the case of payments by a payor or middleman to a foreign simple trust, foreign grantor trust or foreign partnership, other than payments to a holder that qualifies as a withholding foreign trust or a withholding foreign partnership within the meaning of the Treasury regulations and payments that are effectively connected with the conduct of a trade or business in the United States, the beneficiaries of the foreign simple trust, the person treated as the owner of the foreign grantor trust or the partners of the foreign partnership will be required to provide the certification discussed above in order to establish an exemption from backup withholding tax and information reporting requirements.

The amount of any back-up withholding may be allowed as a credit against a U.S. Holder’s U.S. federal income tax liability and may entitle the holder to a refund, provided that required information is furnished to the IRS.

## PFIC Rules

A non-US corporation will be classified as a passive foreign investment company, or a PFIC, for US federal income tax purposes if either (i) 75% or more of its gross income for the taxable year is passive income, or (ii) on a quarterly average for the taxable year by value (or, if it is not a publicly traded corporation and so elects, by adjusted basis), 50% or more of its gross assets produce or are held for the production of passive income.

We do not believe that we satisfied either of the tests for PFIC status in 2018 or in any prior year and we do not expect to be a PFIC for 2019. However, there can be no assurance that we will not be a PFIC in 2019 or a later year. If, for example, the “passive income” earned by us exceeds 75% or more of our “gross income,” we will be a PFIC under the “income test.” Passive income for PFIC purposes includes, among other things, gross interest, dividends, royalties, rent and annuities. The tests for determining PFIC status are applied annually and it is difficult to make accurate predictions of future income and assets, which are relevant to the determination of PFIC status.

If we were to be a PFIC at any time during a US holder’s holding period, such US holder would be required to either: (i) pay an interest charge together with tax calculated at maximum ordinary income tax rates on “excess distributions,” which is defined to include gain on a sale or other disposition of ordinary shares, or (ii) so long as the ordinary shares are “regularly traded” on a qualifying exchange, elect to recognize as ordinary income each year the excess in the fair market value, if any, of its ordinary shares at the end of the taxable year over such holder’s adjusted basis in such ordinary shares and, to the extent of prior inclusions of ordinary income, recognize ordinary loss for the decrease in value of such ordinary shares (the “mark to market” election). For this purpose, the NASDAQ Global Select Market is a qualifying exchange. US holders are strongly urged to consult their own tax advisers regarding the possible application and consequences of the PFIC rules.

## Documents on Display

We are required to file reports and other information with the SEC under the Securities Exchange Act of 1934 and the regulations thereunder applicable to foreign private issuers. Reports and other information filed by us with the SEC may be inspected and copied at the SEC’s public reference facilities described below. Although as a foreign private issuer we are not required to file periodic information as frequently or as promptly as United States companies, we generally do publicly announce our quarterly and year-end results promptly and file periodic information with the SEC under cover of Form 6-K. As a foreign private issuer, we are also exempt from the rules under the Exchange Act prescribing the furnishing and content of proxy statements and our officers, directors and principal shareholders are exempt from the reporting and other provisions in Section 16 of the Exchange Act.

You may review and copy our filings with the SEC, including any exhibits and schedules, at the SEC’s public reference room at 100 F Street N.E., Washington, D.C. 20549. You may call the SEC at 1-800-SEC-0330 for further information on this public reference room. As a foreign private issuer, all documents which were filed after November 4, 2002 on the SEC’s EDGAR system will be available for retrieval on the SEC’s website at [www.sec.gov](http://www.sec.gov). These SEC filings are also available to the public on the Israel Securities Authority’s Magna website at [www.magna.isa.gov.il](http://www.magna.isa.gov.il), the Tel Aviv Stock Exchange website at <http://www.maya.tase.co.il>, and from commercial document retrieval services. We also generally make available on our own web site ([www.towerjazz.com](http://www.towerjazz.com)) our quarterly and year-end financial statements as well as other information. We do not intend for any information contained on our website to be considered part of this annual report, and we have included our website address in this annual report solely as an inactive textual reference. We will post on our website any materials required to be posted on such website under applicable corporate or securities laws and regulations, including posting any XBRL interactive financial data required to be filed with the SEC, and any notices of general meetings of our shareholders.

Any statement in this annual report about any of our contracts or other documents is not necessarily complete. If the contract or document is filed as an exhibit to a registration statement, the contract or document is deemed to modify

the description contained in this annual report. We urge you to review the exhibits themselves for a complete description of the contract or document.

## ITEM 11. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

### Risk of Interest Rate Fluctuation

As of December 31, 2017, we are subject to floating interest rate exposure in connection with the following: (i) approximately \$98 million of TPSCo's loans bearing interest at a rate equal to the TIBOR (Tokyo Interbank Offered Rate) six months' rate plus 1.65% - 2.0% per annum and (ii) \$40 million of TJT's bank loan with interest at a rate equal to the Libor plus 2.00% per annum

Under current terms of our loans, we have determined that an assumed 10% upward shift in the LIBOR rate as of December 31, 2017 (from 1.84% to 2.02%), and a 10% upward shift in the TIBOR rate as of December 31, 2017 (from 0.11% to 0.12%), would not have a material effect on our interest payments in 2017.

Our cash equivalents, short-term deposits and investments in marketable securities are exposed to market risk due to fluctuation in interest rates on our cash deposits and/ or investments, which may affect our interest income and the fair market value of our investments. We manage this exposure by performing ongoing evaluations of our investments in those deposits/ securities. Due to the short maturities of our investments and available for sale securities, their carrying value approximates their fair value.

Debentures Series G issued in 2016 (with an outstanding principal of approximately \$125 million as of December 31, 2018), bear annual fixed interest of 2.79%, JP loan (with an outstanding principal of approximately \$100 million as of December 31, 2018), bears annual fixed interest of 1.95%, and approximately \$47 million of our subsidiaries' capital leases bear fixed interest at a rate of 1.85% per annum. Therefore, we are not subject to cash flow exposure and/or financing expenses to interest rate fluctuations with respect to any of debentures Series G, JP loan and the capital leases.

However, in the event that market interest rates for similar debt are decreasing and are lower than the interest rate provided under our debentures, capital leases or notes, our actual finance costs would have been higher than they otherwise would have been had our debentures or notes provided for interest at a floating interest rate, which would have impacted our financing expense in an immaterial manner. Assuming a 10% change in market interest rate, the effective impact on our debentures' market value would be immaterial.

### Foreign Exchange Risk

The Company currently operates in three different regions: Japan, the United States and Israel. The functional currency of the United States and Israel entities is the US dollar ("USD"). The functional currency of our subsidiary in Japan is the Japanese Yen ("JPY"). Our expenses and costs are denominated mainly in USD, JPY and New Israeli Shekels ("NIS"), revenues are denominated mainly in USD and JPY and our cash from operations, investing and financing activities are denominated mainly in USD, JPY and NIS. Therefore, the Company is exposed to the risk of currency exchange rate fluctuations in Israel and Japan.

The USD costs of our operations in Israel is influenced by changes in the USD to NIS exchange rate, with respect to costs that are denominated in NIS. During the year ended December 31, 2018, the USD appreciated against the NIS by 8.1%, as compared to 9.8% depreciation during the year ended December 31, 2017.

The fluctuation of USD against the NIS can affect our results of operations. Appreciation of the NIS has the effect of increasing the cost, in USD terms, of some of the Company's Israeli purchases and labor NIS denominated costs, which may lead to erosion in the profit margins. The Company uses foreign currency cylinder transactions to hedge a portion of this currency exposure to be contained within a pre-defined fixed range.

Since we are exposed to the fluctuation in the USD to NIS exchange rate with respect to Tower's Series G debentures issued in 2016, which are denominated in NIS (principal and interest), we have entered into cash flow swap-hedging transactions to mitigate the foreign exchange rate differences on the principal and interest using a cross currency swap transaction. As of December 31, 2018, the outstanding principal amount of Debentures G was approximately \$125 million. The majority of TPSCo revenues are denominated in JPY and the majority of the expenses of TPSCo are in JPY, which limits the exposure to fluctuations of the USD / JPY exchange rate on TPSCo's results of operations, as the impact on the revenues will mostly be offset by the impact on the expenses. In order to mitigate a portion of the net exposure to the USD / JPY exchange rate, the Company has engaged in cylinder hedging transactions to contain the currency's fluctuation within a pre-defined fixed range. During the year ended December 31, 2018, the USD depreciated against the JPY by 2.4%, as compared to 3.8% depreciation during the year ended December 31, 2017. The net effect of USD depreciation against the JPY on TPSCo's assets and liabilities denominated in JPY is presented in the Cumulative Translation Adjustment ("CTA") as part of Other Comprehensive Income ("OCI") in the balance sheet.

Assuming a 10% appreciation of the NIS against the USD on December 31, 2018 (from 3.75 to 3.41), the effective impact on our quarterly expenses denominated in NIS would be higher expenses by approximately \$3 million a significant portion of which is hedged using the above described cylinder transactions.

Assuming a 10% appreciation of the JPY against the USD on December 31, 2018 (from 110 to 100), the effective impact on our quarterly expenses denominated in JPY would be higher expenses by approximately \$2 million, a significant portion of which is hedged using the above described cylinder transactions and our natural hedging.

As of December 31, 2018, we are subject to currency exchange rate fluctuations of the JPY against the USD in connection with the following JPY debt denominated financings: (i) approximately \$100 million of TPSCo's loans bearing a fixed interest rate of 1.95% per annum and (ii) approximately \$47 million of capital lease agreements with an annual interest rate of 1.85%. However, as of December 31, 2018, we had approximately \$103 million of cash and cash equivalents held in JPY currency accounts and deposits, partially mitigating the above JPY debt exposure. Under current terms of our JPY cash, cash equivalent and debt financing, we have determined that an assumed 10% appreciation of the JPY against the USD rate as of December 31, 2018 (from 110 to 100), would not have a material effect on our balance sheet as of December 31, 2018.

#### Impact of Inflation

We believe that the rate of inflation in Israel, which is ranging between 1% to 2% over the last 6 years, has had a minor effect on our business to date. However, our dollar costs in Israel will increase if inflation in Israel exceeds the devaluation of the NIS against the USD.

Risks Related to our traded securities See under "Risk Factors". "Fluctuations in the market price of our traded securities may significantly affect our ability to raise new capital.

ITEM 12. DESCRIPTION OF SECURITIES OTHER THAN EQUITY SECURITIES

Not applicable.

PART II

ITEM 13. DEFAULTS, DIVIDEND ARREARAGES AND DELINQUENCIES

None.

ITEM 14. MATERIAL MODIFICATIONS TO THE RIGHTS OF SECURITY HOLDERS AND USE OF PROCEEDS

Not applicable.

ITEM 15. CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

Our management, with the participation of our Chief Executive Officer and our Chief Financial Officer, has evaluated the effectiveness of the design and operation of our disclosure controls and procedures (as defined in Rule 13a-15(e) under the Securities Exchange Act of 1934, as amended (the “Act”) as of the end of the period covered by this annual report on Form 20-F. Based on this evaluation, our Chief Executive Officer and Chief Financial Officer concluded that these disclosure controls and procedures were effective as of such date, at a reasonable level of assurance, in ensuring that the information required to be disclosed by our company in the reports we file or submit under the Act is (i) accumulated and communicated to our management (including the Chief Executive Officer and Chief Financial Officer) in a timely manner, and (ii) recorded, processed, summarized and reported within the time periods specified in the SEC’s rules and forms.

Internal Control over Financial Reporting

Management is responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined in Exchange Act Rules 13a-15(f). Under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, we conducted an evaluation of the effectiveness of our internal control over financial reporting based on criteria established in Internal Control—Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework). Based on our evaluation, management has concluded that our internal control over financial reporting was effective as of December 31, 2018.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risks that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Attestation Report of the Registered Public Accounting Firm

The effectiveness of our internal control over financial reporting as of December 31, 2018 has been audited by Brightman Almagor Zohar & Co., a member firm of Deloitte Touche Tohmatsu, an independent registered public accounting firm, as stated in their report which appears herein.

Changes in Internal Control over Financial Reporting

There has been no change in our internal control over financial reporting during the period covered by this Annual Report that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

ITEM 16. [RESERVED]

ITEM 16A. AUDIT COMMITTEE FINANCIAL EXPERT

Our board of directors has determined that all four members of our audit committee, Mr. Ilan Flato, Mr. Rami Guzman, Mr. Yoav Chelouche and Ms. Iris Avner, are audit committee financial experts under applicable SEC rules and are independent as defined by NASDAQ Marketplace Rules.

ITEM 16B. CODE OF ETHICS

We adopted a code of ethics that applies to all of our directors, officers and employees in our Company and all of our subsidiaries, including our Chief Executive Officer, Chief Financial Officer, controller, and persons performing similar functions. We have posted our code of ethics on our website, [www.towerjazz.com](http://www.towerjazz.com) under “About Tower”.

ITEM 16C. PRINCIPAL ACCOUNTANT FEES AND SERVICES

The following table presents fees for professional services rendered by our independent registered public accounting firm for audit services, audit-related services and tax services:

	2018	2017
	(US dollars	
	In	
	Thousands)	
Audit Fees (1)	809	790
Audit Related Fees (2)	31	27
Tax Fees (3)	18	26
Other (4)	--	26
	858	869

(1) Audit Fees consist of fees for professional services rendered for the audit of our financial statements and our subsidiaries financial statements. Services in connection with statutory and regulatory filings and engagements (including audit of our internal control over financial reporting) and reviews of our semi-annual financial results submitted on Form 6-K.

(2) Audit-related fees consist of assurance and related services by the auditors including, among others: due diligence services, accounting consultations and audits in connection with acquisitions, attest services related to financial reporting that are not required by statute or regulation and consultation concerning financial accounting, consent



letters for our SEC filings and reporting standards.

Our audit committee's charter states that the audit committee is responsible for receiving specific information on the independent auditor's proposed services and for pre-approving all audit services annually and separately approving any other permitted non-audit related services. All of the non-audit services were pre-approved without reliance on the Waiver Provisions in paragraph (c)(7)(i)(C) of Regulations-X.

- (3) Tax fees consist of fees for tax compliance services and tax returns services.
- (4) Other consists mostly of fees for consulting services.

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ITEM 16D. EXEMPTIONS FROM THE LISTING STANDARDS FOR AUDIT COMMITTEES.

Not Applicable.

ITEM 16E. PURCHASES OF EQUITY SECURITIES BY THE ISSUER AND AFFILIATED PURCHASERS.

Not Applicable.

ITEM 16F. CHANGE IN REGISTRANT'S CERTIFYING ACCOUNTANT

Not applicable.

ITEM 16G. CORPORATE GOVERNANCE

As a foreign private issuer whose shares are listed on NASDAQ Global Select Market, we are permitted to follow certain home country corporate governance practices instead of certain requirements of the NASDAQ Marketplace Rules. See Item 10 “Additional Information – NASDAQ Marketplace Rules and Home Country Practices” for a detailed description of the significant ways in which the registrant’s corporate governance practices differ from those followed by U.S. companies under the listing standards of the NASDAQ Global Select Market.

ITEM 16H. MINE SAFETY DISCLOSURE

Not applicable.

PART III

ITEM 17. FINANCIAL STATEMENTS

Not applicable.

ITEM 18. FINANCIAL STATEMENTS

Our consolidated financial statements and related auditors’ report for the year ended December 31, 2018 are included in this Annual Report beginning on page F-1.

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ITEM 19. EXHIBITS

1.1 Articles of Association of the Registrant, approved by shareholders on November 14, 2000, as amended (incorporated by reference to Exhibit 3.1 of the Registrant's Registration Statement on Form F-1, File No. 333-126909, "Form F-1 No. 333-1 26909").

1.2 Amendment to Articles of Association of the Registrant (approved by shareholders on December 7, 2003) (incorporated by reference to exhibit 4.2 to the Registration Statement on Form S-8 No. 333-117565 ("Form S-8 No. 333-117565")).

1.3 Amendment to the Articles of Association of the Registrant (approved by shareholders on September 28, 2006) (incorporated by reference to Exhibit 4.2 of the Registrant's Registration Statement on Form S-8, File No. 333-138837 (the "2006 Form S-8")).

1.4 Amendment to Articles of Association of Registrant (approved by shareholders on September 24, 2008) (incorporated by reference to Exhibit 3.4 of the Registrant's Registration Statement on Form S-8, File No. 333-153710 (the "2008 Form S-8")).

1.5 Amendment to Articles of Association of Registrant (approved by shareholders on August 11, 2011) (incorporated by reference to exhibit 99.1 of the Form 6-K furnished to the SEC on January 17, 2012).

1.6 Amendment to Articles of Association of Registrant (approved by shareholders on August 2, 2012) (incorporated by reference to proposals 1 and 2 of the proxy statement filed on Form 6-K furnished to the SEC on June 12, 2012, and the Form 6-K furnished to the SEC on August 2, 2012)

1.7 Amendment to Articles of Association of Registrant (approved by shareholders on May 23, 2013) (incorporated by reference to Proposal 5 of the proxy statement filed on Form 6-K furnished to the SEC on April 16, 2013).

4.1 Form of Grant Letter for Non-Employee Directors Share Option Plan 2001/4 (incorporated by reference to exhibit 4.9 to the Form S-8 No. 333-83204).

4.2 Investment Center Agreement, dated November 13, 2001 (English translation of Hebrew original) (incorporated by reference to exhibit 10.2 to the Registrant's Registration Statement on Form F-2, No. 333-97043).

4.3 Equity Convertible Capital Note, dated July 30, 2013, issued to Bank Hapoalim B.M. (incorporated by reference to exhibit 4.39 to the Registrant's Form 20-F filed on May 14, 2014).

4.4 2013 Share Incentive Plan (incorporated by reference to Exhibit 4.54 to the Registrant's Form 20-F filed on May 14, 2015).

4.5 The Amended Compensation Policy of the Company (incorporated by reference to Annex A to Proposal 4 found in Exhibit 99.1 to the Form 6-K furnished to the Securities and Exchange Commission on May 25, 2016).

4.6 The Amended Compensation Policy of the Company (incorporated by reference to Annex A to Proposal 3 found in Exhibit 99.1 to the Form 6-K furnished to the Securities and Exchange Commission on May 25, 2017).

4.7 Joint Venture Formation Agreement among Tower Semiconductor Ltd. and Panasonic Corporation, dated as of December 20, 2013 (incorporated by reference to Exhibit 4.63 Registrant's Form 20-F/A filed on November 17, 2014).

4.8 Business Transfer Agreement between Panasonic Corporation and TowerJazz Panasonic Semiconductor Co., Ltd., dated as of April 1, 2014 (incorporated by reference to Exhibit 4.65 to the Registrant's Form 20-F/A filed on November 17, 2014).

4.9 Manufacturing Agreement between Panasonic Corporation and TowerJazz Panasonic Semiconductor Co., Ltd., dated as of April 1, 2014 (incorporated by reference to Exhibit 4.66 to the Registrant's Form 20-F/A filed on November 17, 2014).

#8.1 List of Subsidiaries.

#12.1 Certification by Chief Executive Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.

#12.2 Certification by Chief Financial Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.

#13.1 Certification by Chief Executive Officer pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.

#13.2 Certification by Chief Financial Officer pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.

#15.1 Consent of Brightman Almagor Zohar & Co., Certified Public Accountants, a member of Deloitte Touche Tohmatsu.

#101 The following financial information from Tower Semiconductor Ltd.'s Annual Report on Form 20-F for the year ended December 31, 2018, formatted in XBRL (eXtensible Business Reporting Language):

(i) Consolidated Balance Sheets as of December 31, 2018 and 2017;

(ii) Consolidated Statements of Operations for the years ended December 31, 2018, 2017 and 2016;

(iii) Consolidated Statements of Changes in Shareholders' Equity for the years ended December 31, 2018, 2017 and 2016;

(iv) Consolidated Statements of Cash Flows for the years ended December 31, 2018, 2017 and 2016; and

(v) Notes to Consolidated Financial Statements, tagged as blocks of text.

Users of this data are advised, in accordance with Rule 406T of Regulation S-T promulgated by the SEC, that this Interactive Data File is deemed not filed or part of a registration statement or prospectus for purposes of Sections 11 or 12 of the Securities Act of 1933, is deemed not filed for purposes of Section 18 of the Exchange Act, and otherwise is not subject to liability under these sections.

#Filed herewith

SIGNATURES

The registrant hereby certifies that it meets all of the requirements for filing on Form 20-F and that it has duly caused and authorized the undersigned to sign this Annual Report on its behalf.

TOWER SEMICONDUCTOR LTD.

By: /s/ Russell C. Ellwanger  
Russell C. Ellwanger  
Chief Executive Officer

April 25, 2019

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TOWER SEMICONDUCTOR LTD.  
AND SUBSIDIARIES

CONSOLIDATED FINANCIAL STATEMENTS  
AS OF DECEMBER 31, 2018

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TOWER SEMICONDUCTOR LTD. AND SUBSIDIARIES

INDEX TO CONSOLIDATED FINANCIAL STATEMENTS

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REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the shareholders and the Board of Directors of Tower Semiconductor Ltd.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Tower Semiconductor Ltd. and subsidiaries (the “Company”) as of December 31, 2018 and 2017, the related consolidated statements of operations, comprehensive income, shareholders’ equity and cash flows, for each of the three years in the period ended December 31, 2018, and the related notes (collectively referred to as the “consolidated financial statements”). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2018 and 2017, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2018, in conformity with accounting principles generally accepted in the United States of America.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company’s internal control over financial reporting as of December 31, 2018, based on criteria established in Internal Control — Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission and our report dated February 28, 2019, expressed an unqualified opinion on the Company’s internal control over financial reporting.

Basis for Opinion

These consolidated financial statements are the responsibility of the Company’s management. Our responsibility is to express an opinion on the Company’s consolidated financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that our audits provide a reasonable basis for our opinion.



Brightman Almagor Zohar & Co.  
 Certified Public Accountants  
 A Member of Deloitte Touche Tohmatsu Limited

Tel Aviv, Israel  
 February 28, 2019

We have served as the Company's auditor since 1993.

**Tel Aviv - Main Office**

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3 Kiryat Ha'Mada Har Hotzvim Tower Jerusalem, 914510 D. BOX 45396	5 Ma'aleh Hashichrur P.O.B. 5648 Haifa, 3105502	12 Alumot Omer Industrial park P.O.B. 1369 Omer, 8496500	The City Center P.O.B. 583 Eilat, 8810402	Deloitte Analytics 7 Hasivim P.O.B. 6712 Petah Tikva, 4959368	Seker 7 Gibo St. P.O.B. Netany
<b>Tel: +972 (2) 501 8888</b> <b>Fax: +972 (2) 537 4173</b> info-jer@deloitte.co.il	<b>Tel: +972 (4) 860 7333</b> <b>Fax: +972 (4) 867 2528</b> info-haifa@deloitte.co.il	<b>Tel: +972 (8) 690 9500</b> <b>Fax: +972 (8) 690 9600</b> info-beersheva@deloitte.co.il	<b>Tel: +972 (8) 637 5676</b> <b>Fax: +972 (8) 637 1628</b> info-eilat@deloitte.co.il	<b>Tel: +972 (73) 399 4163</b> <b>Fax: +972 (3) 919 0372</b> info@deloitte.co.il	<b>Tel: + 2444</b> <b>Fax: + 2440</b> info@

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## REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the shareholders and the Board of Directors of Tower Semiconductor Ltd.

### **Opinion on Internal Control over Financial Reporting**

We have audited the internal control over financial reporting of Tower Semiconductor Ltd. and subsidiaries (the “Company”) as of December 31, 2018, based on criteria established in Internal Control — Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2018, based on criteria established in Internal Control — Integrated Framework (2013) issued by COSO.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated financial statements as of and for the year ended December 31, 2018, of the Company and our report dated February 28, 2019, expressed an unqualified opinion on those consolidated financial statements.

### **Basis for Opinion**

The Company’s management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management’s Report on Internal Control over Financing Reporting. Our responsibility is to express an opinion on the Company’s internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

### **Definition and Limitations of Internal Control over Financial Reporting**

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of the consolidated financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of the consolidated financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the consolidated financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Brightman Almagor Zohar & Co.  
 Certified Public Accountants  
 A Member of Deloitte Touche Tohmatsu Limited

Tel Aviv, Israel  
 February 28, 2019

Tel Aviv - Main Office

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3 Kiryat Ha'Mada	5 Ma'aleh Hashichrur	12 Alumot	The City Center	Deloitte Analytics	Seker
Har Hotzvim Tower	P.O.B. 5648	Omer Industrial park	P.O.B. 583	7 Hasivim	7 Gibo
Jerusalem, 914510	Haifa, 3105502	P.O.B. 1369	Eilat, 8810402	P.O.B. 6712	P.O.B.
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TOWER SEMICONDUCTOR LTD. AND SUBSIDIARIES  
CONSOLIDATED BALANCE SHEETS  
(dollars and shares in thousands)

	As of December 31,	
	2018	2017
<b>A S S E T S</b>		
<b>CURRENT ASSETS</b>		
Cash and cash equivalents	\$ 385,091	\$ 445,961
Short-term interest-bearing deposits	120,079	--
Marketable securities	135,850	113,874
Trade accounts receivable	153,409	149,666
Inventories	170,778	143,315
Other current assets	22,752	21,516
Total current assets	987,959	874,332
<b>LONG-TERM INVESTMENTS</b>	35,945	26,073
<b>PROPERTY AND EQUIPMENT, NET</b>	657,234	635,124
<b>INTANGIBLE ASSETS, NET</b>	13,435	19,841
<b>GOODWILL</b>	7,000	7,000
<b>DEFERRED TAX AND OTHER LONG-TERM ASSETS, NET</b>	88,404	111,269
<b>TOTAL ASSETS</b>	<b>\$ 1,789,977</b>	<b>\$ 1,673,639</b>
<b>LIABILITIES AND SHAREHOLDERS' EQUITY</b>		
<b>CURRENT LIABILITIES</b>		
Current maturities of loans, leases and debentures	\$ 10,814	\$ 105,958
Trade accounts payable	104,329	115,347
Deferred revenue and customers' advances	20,711	14,338
Employee related liabilities	50,750	50,844
Other current liabilities	17,117	15,886
Total current liabilities	203,721	302,373
<b>LONG-TERM DEBT</b>		
Debentures	120,170	128,368
Other long-term debt	136,499	100,355
<b>LONG-TERM CUSTOMERS' ADVANCES</b>	28,131	31,908
<b>EMPLOYEE RELATED LIABILITIES</b>	13,898	14,662
<b>DEFERRED TAX LIABILITY</b>	50,401	63,924

OTHER LONG-TERM LIABILITIES	952	2,343
TOTAL LIABILITIES	553,772	643,933
Ordinary shares of NIS 15 par value: 150,000 authorized as of December 31, 2018 and 2017 105,066 and 104,980 issued and outstanding, respectively, as of December 31, 2018 98,544 and 98,458 issued and outstanding, respectively, as of December 31, 2017	418,492	391,727
Additional paid-in capital	1,380,396	1,347,866
Capital notes	20,758	20,758
Cumulative stock based compensation	93,226	80,565
Accumulated other comprehensive loss	(23,388 )	(22,759 )
Accumulated deficit	(637,446 )	(773,025 )
Treasury stock, at cost - 86 shares	1,252,038	1,045,132
	(9,072 )	(9,072 )
THE COMPANY'S SHAREHOLDERS' EQUITY	1,242,966	1,036,060
Non-controlling interest	(6,761 )	(6,354 )
TOTAL SHAREHOLDERS' EQUITY	1,236,205	1,029,706
TOTAL LIABILITIES AND SHAREHOLDERS' EQUITY	\$1,789,977	\$1,673,639

See notes to  
consolidated  
financial  
statements.

TOWER SEMICONDUCTOR LTD. AND SUBSIDIARIES  
CONSOLIDATED STATEMENTS OF OPERATIONS  
(dollars and shares in thousands, except per share data)

	Year ended December 31,		
	2018	2017	2016
REVENUES	\$ 1,304,034	\$ 1,387,310	\$ 1,249,634
COST OF REVENUES	1,011,087	1,033,005	946,534
GROSS PROFIT	292,947	354,305	303,100
OPERATING COSTS AND EXPENSES:			
Research and development	73,053	67,664	63,134
Marketing, general and administrative	64,951	66,799	65,439
Nishiwaki Fab restructuring and impairment cost (income), net	--	--	(627 )
	138,004	134,463	127,946
OPERATING PROFIT	154,943	219,842	175,154
FINANCING EXPENSE, NET	(13,184 )	(15,447 )	(24,349 )
GAIN FROM ACQUISITION, NET	--	--	50,471
OTHER INCOME (EXPENSE), NET	(2,442 )	(2,627 )	9,322
PROFIT BEFORE INCOME TAX	139,317	201,768	210,598
INCOME TAX BENEFIT (EXPENSE), NET	(5,938 )	99,888	(1,432 )
NET PROFIT	133,379	301,656	209,166
Net loss (income) attributable to non-controlling interest	2,200	(3,645 )	(5,242 )
NET PROFIT ATTRIBUTABLE TO THE COMPANY	\$ 135,579	\$ 298,011	\$ 203,924
BASIC EARNINGS PER ORDINARY SHARE:			
Earnings per share	\$ 1.35	\$ 3.08	\$ 2.33
Weighted average number of ordinary shares outstanding	100,399	96,647	87,480
DILUTED EARNINGS PER ORDINARY SHARE:			
Earnings per share	\$ 1.32	\$ 2.90	\$ 2.09
Net profit used for diluted earnings per share	\$ 135,579	\$ 306,905	\$ 212,160

Weighted average number of ordinary shares outstanding used for diluted earnings per share	102,517	105,947	101,303
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See notes to consolidated financial statements.

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TOWER SEMICONDUCTOR LTD. AND SUBSIDIARIES  
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME  
(dollars in thousands)

	Year ended December 31,		
	2018	2017	2016
Net profit	\$133,379	\$301,656	\$209,166
Other comprehensive income, net of tax:			
Foreign currency translation adjustment	3,599	5,681	923
Change in employees plan assets and benefit obligations, net of taxes in the amount of \$81, \$171 and \$184 for the years ended December 31, 2018, 2017 and 2016, respectively	269	511	(546 )
Unrealized gain (loss) on derivatives	(2,704 )	1,796	266
Comprehensive income	134,543	309,644	209,809
Comprehensive loss (income) attributable to non-controlling interest	407	(6,565 )	(6,902 )
Comprehensive income attributable to the Company	\$134,950	\$303,079	\$202,907

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TOWER SEMICONDUCTOR LTD. AND SUBSIDIARIES  
CONSOLIDATED STATEMENT OF CHANGES IN SHAREHOLDERS' EQUITY  
(dollars and share data in thousands)

	THE COMPANY'S SHAREHOLDERS' EQUITY									
	Ordinary shares issued	Ordinary shares amount	Additional paid-in capital	Capital notes	Unearned compensation	Accumulated other comprehensive income (loss)	Foreign currency translation adjustments	Accumulated deficit	Treasury stock	Com income
BALANCE AS OF JANUARY 1, 2016	82,144	\$326,572	\$1,273,545	\$48,553	\$58,209	\$(264 )	\$(26,546)	\$(1,273,654)	\$(9,072)	
Changes during the period:										
Issuance of shares	3,297	12,504	27,496							
Conversion of debentures and exercise of warrants into share capital	3,080	12,069	10,223							
Exercise of options	3,650	14,412	3,192							
Capital notes converted into share capital	900	3,500	3,789	(7,289 )						
Employee stock-based compensation					9,406					
Stock-based compensation related to the Facility Agreement with the Banks			480							
Dividend to Panasonic										
Accumulated amount due to adoption of ASU No. 2016-09, Compensation - Stock Compensation (Topic 718)					1,306		(1,306 )			
Other comprehensive										

income:										
Profit								203,924		\$203,924
Foreign currency translation adjustments						(737 )				(737 )
Change in employees plan assets and benefit obligations						(546 )				(546 )
Unrealized gain on derivatives						266				266
Comprehensive income										\$202,907
BALANCE AS OF DECEMBER 31, 2016	93,071	\$369,057	\$1,318,725	\$41,264	\$68,921	\$(544 )	\$(27,283)	\$(1,071,036)		\$(9,072)
Changes during the period:										
Issuance of shares	2,914	12,128	4,247							
Exercise of options	1,629	6,750	8,180							
Capital notes converted into share capital	930	3,792	16,714	(20,506)						
Employee stock-based compensation					11,644					
Dividend to Panasonic										
Other comprehensive income:										
Profit								298,011		\$298,011
Foreign currency translation adjustments							2,761			2,761
Change in employees plan assets and benefit obligations						511				511
Unrealized gain on derivatives						1,796				1,796
Comprehensive income										\$303,079
BALANCE AS OF DECEMBER 31, 2017	98,544	\$391,727	\$1,347,866	\$20,758	\$80,565	\$1,763	\$(24,522)	\$(773,025 )		\$(9,072)

31, 2017

Changes during  
the period:

Conversion of notes into share capital	5,790	23,722	34,864						
Exercise of options and RSUs	732	3,043	(2,334)						
Employee stock-based compensation					12,661				
Other comprehensive income:									
Profit								135,579	\$135,579
Foreign currency translation adjustments							1,806		1,806
Change in employees plan assets and benefit obligations						269			269
Unrealized loss on derivatives						(2,704)			(2,704)
Comprehensive income									\$134,150

BALANCE AS  
OF DECEMBER

31, 2018 105,066 \$418,492 \$1,380,396 \$20,758 \$93,226 \$(672) \$(22,716) \$(637,446) \$(9,072)

OUTSTANDING  
SHARES, NET  
OF TREASURY  
STOCK  
AS OF  
DECEMBER 31,  
2018 104,980

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

	Year ended December 31,		
	2018	2017	2016
<b>CASH FLOWS - OPERATING ACTIVITIES</b>			
Net profit	\$ 133,379	\$ 301,656	\$ 209,166
Adjustments to reconcile net profit for the period to net cash provided by operating activities:			
Income and expense items not involving cash flows:			
Depreciation and amortization	214,391	208,411	197,606
Effect of indexation, translation and fair value measurement on debt	(9,791 )	12,865	8,442
Other expense (income), net	2,442	2,627	(9,322 )
Gain from acquisition, net	--	--	(50,471 )
Changes in assets and liabilities:			
Trade accounts receivable	(3,096 )	(6,564 )	(30,104 )
Other current assets	11,260	(8,321 )	(265 )
Inventories	(26,344 )	(4,277 )	(22,069 )
Trade accounts payable	(3,562 )	(8,649 )	5,550
Deferred revenue and customers' advances	2,625	(21,803 )	23,581
Employee related liabilities and other current liabilities	(867 )	(8,219 )	(145 )
Long-term employee related liabilities	(795 )	(3,247 )	(798 )
Deferred tax, net	(5,354 )	(108,459)	(4,564 )
Other long-term liabilities	(1,391 )	(385 )	861
Net cash provided by operating activities	312,897	355,635	327,468
<b>CASH FLOWS - INVESTING ACTIVITIES</b>			
Investments in property and equipment	(210,192)	(187,676)	(217,496)
Proceeds related to sale of property and equipment	40,451	20,038	7,872
Investment grants received	--	2,921	--
Investments in other assets	(14,536 )	--	--
Deposits and marketable securities, net	(143,940)	(80,643 )	(17,101 )
Net cash used in investing activities	(328,217)	(245,360)	(226,725)
<b>CASH FLOWS - FINANCING ACTIVITIES</b>			
Issuance of debentures, net	--	--	113,149
Exercise of warrants and options, net	714	31,315	38,803
Proceeds from loans, net	98,990	--	55,960
Loans repayment	(142,285)	(43,259 )	(132,018)
Principal payments on account of capital lease obligation	(5,554 )	(781 )	--
Debentures repayment	--	(6,215 )	--
Dividend paid to Panasonic	--	(4,378 )	(2,563 )
Net cash provided by (used in) financing activities	(48,135 )	(23,318 )	73,331
EFFECT OF FOREIGN CURRENCY EXCHANGE RATE CHANGE	2,585	3,720	5,635

INCREASE (DECREASE) IN CASH AND CASH EQUIVALENTS	(60,870 )	90,677	179,709
CASH AND CASH EQUIVALENTS - BEGINNING OF PERIOD	445,961	355,284	175,575
CASH AND CASH EQUIVALENTS - END OF PERIOD	385,091	\$445,961	\$355,284

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

	Year ended December 31,		
	2018	2017	2016
NON-CASH ACTIVITIES:			
Investments in property and equipment	28,052	\$28,419	\$25,256
Conversion of notes into share capital	58,586	\$--	\$611
SUPPLEMENTAL DISCLOSURE OF CASH FLOW INFORMATION:			
Cash paid during the period for interest	11,835	\$14,068	\$10,543
Cash received during the period from interest	8,818	\$3,870	\$1,009
Cash paid during the period for income taxes, net	5,768	\$17,668	\$3,485

See notes to consolidated financial statements.

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TOWER SEMICONDUCTOR LTD. AND SUBSIDIARIES  
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS  
AS OF DECEMBER 31, 2018  
(dollars in thousands, except per share data)

NOTE 1 - DESCRIPTION OF BUSINESS AND GENERAL

The consolidated financial statements of Tower Semiconductor Ltd. (“Tower”) include the financial statements of Tower, and (i) its wholly-owned subsidiary Tower US Holdings Inc., the sole owner of: (1) Jazz US Holdings Inc. and its wholly-owned subsidiary, Jazz Semiconductor, Inc., an independent semiconductor foundry focused on specialty process technologies for the manufacture of analog intensive mixed-signal semiconductor devices (Jazz US Holdings Inc. and Jazz Semiconductor, Inc. collectively referred to herein as “Jazz”); and (2) since February 2016, Tower US Holdings is also the sole owner of TowerJazz Texas Inc. (“TJT”); and (ii) its 51% owned subsidiary, TowerJazz Panasonic Semiconductor Co., Ltd. (“TPSCo”), an independent semiconductor foundry which includes three semiconductor manufacturing facilities located in Tonami, Uozu and Arai, in Hokuriku Japan. Tower and its subsidiaries are collectively referred to as the “Company”.

The Company is a global specialty foundry leader manufacturing integrated circuits, offering a broad range of customizable process technologies including: SiGe, BiCMOS, mixed-signal/CMOS, RF CMOS, CMOS image sensor, integrated power management (BCD and 700V) and MEMS. The Company also provides a world-class design enablement platform for a quick and accurate design cycle, as well as Transfer Optimization and development Process Services (TOPS) to integrated device manufacturers (“IDMs”) and fabless companies that require capacity. To provide multi-fab sourcing and expanded capacity for its customers, the Company operates two manufacturing facilities in Israel (150mm and 200mm), two in the U.S. (200mm) and three in Japan through TPSCo (two 200mm and one 300mm), which provide leading edge 45nm CMOS, 65nm RF CMOS and 65nm 1.12um pixel technologies, including advanced image sensor technologies.

Tower’s ordinary shares are traded on the NASDAQ Global Select Market and on the Tel-Aviv Stock Exchange (“TASE”) under the symbol TSEM.

The Company’s consolidated financial statements are presented in accordance with U.S. generally accepted accounting principles (“US GAAP”).

NOTE 2 - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

A. Use of Estimates in Preparation of Financial Statements

The preparation of financial statements in conformity with GAAP requires the Company to make estimates and assumptions that affect the reported amounts of assets and liabilities, affect the disclosure of contingent assets and liabilities as of the date of the financial statements, and the reported amounts of revenues and expenses during the reporting periods. Actual results could differ from those estimates.

B. Principles of Consolidation

The Company’s consolidated financial statements include the financial statements of Tower and its subsidiaries. The Company’s consolidated financial statements are presented after elimination of inter-company transactions and balances.



TOWER SEMICONDUCTOR LTD. AND SUBSIDIARIES  
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS  
AS OF DECEMBER 31, 2018  
(dollars in thousands, except per share data)

NOTE 2 - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (cont.)

C. Cash and Cash Equivalents

Cash and cash equivalents consist of cash, bank deposits and short-term investments with original maturities of three months or less.

D. Short-Term Interest-Bearing Deposits

Short-term deposits include bank deposits with original maturities greater than three months and to be matured within 12 months from balance sheet date.

E. Marketable securities

The Company accounts for investments in debt securities in accordance with ASC 320 "Investments - Debt and Equity Securities". Management determines the appropriate classification of its investments in debt securities at the time of purchase and re-evaluates such determinations at each balance sheet date.

Marketable securities classified as "available-for-sale" are carried at fair value, based on quoted market prices. Unrealized gains and losses are reported in a separate component of shareholders' equity in accumulated other comprehensive income ("OCI"). Gains and losses are recognized when realized, on a specific identification basis, in the Company's consolidated statements of income.

The Company's securities are reviewed for impairment in accordance with ASC 320-10-35. If such assets are considered to be impaired, the impairment charge is recognized in earnings when a decline in the fair value of its investments below the cost basis is judged to be other-than-temporary. Factors considered in making such a determination include the duration and severity of the impairment, the reason for the decline in value, the potential recovery period and the Company's intent to sell, including whether it is more likely than not that the Company will be required to sell the investment before recovery of cost basis. For securities with an unrealized loss that the Company intends to sell, or it is more likely than not that the Company will be required to sell before recovery of their amortized cost basis, the entire difference between amortized cost and fair value is recognized in earnings.

For securities that do not meet these criteria, the amount of impairment recognized in earnings is limited to the amount related to credit losses, while declines in fair value related to other factors are recognized in OCI.

If quoted prices for identical instruments are available in an active market, marketable securities are classified within Level 1 of the fair value hierarchy. If quoted prices for identical instruments in active markets are not available, fair values are estimated using quoted prices of similar instruments and are classified within Level 2 of the fair value hierarchy.

TOWER SEMICONDUCTOR LTD. AND SUBSIDIARIES  
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS  
AS OF DECEMBER 31, 2018  
(dollars in thousands, except per share data)

NOTE 2 - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (cont.)

F. Trade Accounts Receivables - Allowance for Doubtful Accounts

The allowance for doubtful accounts is computed on the specific identification basis for accounts whose collectability, in the Company's estimation, is uncertain. As of December 31, 2018 and 2017, the amounts in the allowance for doubtful accounts totaled to \$4,208 and \$608, respectively, \$3,000 of which is included in 2018 from one customer located in the Far East region.

G. Inventories

Inventories are stated at the lower of aggregate cost or net realizable value. If inventory costs exceed expected net realizable value, the Company records reserves for the difference between the cost and the expected net realizable value. Cost of raw materials is determined mainly on the basis of the weighted average moving price per unit.

H. Property and Equipment

The Company accounts for property and equipment in accordance with Accounting Standards Codification ASC 360 "Accounting for the Property, Plant and Equipment". Property and equipment are presented at cost, including capitalizable costs. Capitalizable costs include only costs that are identifiable with, and related to the property and equipment and are incurred prior to their initial operation. Identifiable incremental direct costs include costs associated with constructing, establishing and installing property and equipment.

Maintenance and repairs are charged to expenses as incurred.

Property and equipment are presented net of investment grants received, and less accumulated depreciation.

Depreciation is calculated based on the straight-line method over the Company's estimated useful lives of the assets, as follows:

Buildings and building improvements, including facility infrastructure	10-25 years
Machinery and equipment, software and hardware	3-15 years

Impairment charges, if needed, are determined based on the policy outlined in S below.

TOWER SEMICONDUCTOR LTD. AND SUBSIDIARIES  
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS  
AS OF DECEMBER 31, 2018  
(dollars in thousands, except per share data)

NOTE 2 - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (cont.)

H. Property and Equipment (Cont.)

The Company determines lease classification based on the criteria established in ASC 840. When the Company determines, based on the criteria, that a lease should be classified as capital lease, an asset and corresponding liability is recognized. Each capital lease is recorded as an asset and an obligation at an amount that is equal to the present value of the minimum lease payments over the lease term. Assets under capital lease are part of property plant and equipment and are depreciated accordingly.

I. Intangible Assets and Goodwill

The Company accounts for intangible assets and goodwill in accordance with ASC 350 “Intangibles-Goodwill and Other”. Intangible assets include the values assigned to the intangible assets as part of the purchase price allocation made at the time of acquisition.

Intangible assets are amortized over the expected estimated economic life of the intangible assets commonly used in the industry. Goodwill is not amortized and subject to impairment test. Impairment charges on intangibles or goodwill, if needed, are determined based on the policy outlined in S below.

J. Deferred Tax Asset and Other Long-Term Assets, Net

Deferred tax asset and other assets, net include: (i) deferred tax asset as described in Note 18; (ii) fair market value of derivative instrument used in hedging of Debentures Series G, see T below and (iii) prepaid long-term lease payments to the Israel Land Administration (“ILA”) for the land on which the Company’s Israeli fabs are established, net of accumulated amortization over the lease period, see also Note 14C.

K. Debentures - Classification of Liabilities and Equity of Convertible  
Debentures

Convertible debentures are evaluated to determine whether they include conversion features or other embedded derivatives that warrant bifurcation. The Company applies ASC 815-40 “Contract in Entity’s Own Equity” in determining whether an instrument that may be settled in Tower’s shares is also considered indexed to a company’s own stock, for the purpose of classification of the instrument as a liability or equity.

L. Revenue Recognition

ASC Topic 606 “Revenue from Contracts with Customers” (“Topic 606”), supersedes the revenue recognition requirements and industry-specific guidance under Revenue Recognition. Topic 606 requires an entity to recognize revenue when it transfers the control of promised goods or services to customers in an amount that reflects the consideration the entity expects to be entitled to in exchange for those goods or services. The Company adopted Topic 606 on January 1, 2018, using the modified retrospective method applied to contracts that were not completed as of January 1, 2018.



TOWER SEMICONDUCTOR LTD. AND SUBSIDIARIES  
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS  
AS OF DECEMBER 31, 2018  
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NOTE 2 - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (cont.)

L. Revenue Recognition (cont.)

Under the modified retrospective method, prior period financial positions and results are not adjusted. There was no transition adjustment to the company's retained earning upon adoption.

The Company's revenues are generated principally from sales of semiconductor wafers. The Company, to a much lesser extent, also derives revenues from design support and other technical and support services incidental to the sale of semiconductor wafers. The vast majority of the Company's sales are achieved through the effort of its direct sales force.

Wafer sales are recognized at a point in time, which is upon shipment or upon delivery of the Company's products to unaffiliated customers, depending on shipping terms. Accordingly, control of the products transfers to the customer in accordance with the transaction's shipping terms. Sales revenue is recognized for the amount of consideration that the Company expects to be entitled to in exchange for its products. Taxes imposed by governmental authorities, such as sales taxes or value-added taxes, are excluded from net sales. The Company's contracts typically contain a single performance obligation that is fulfilled on the date of delivery based on shipping terms stipulated in the contract.

The Company provides for sales returns allowance relating to specified yield or quality commitments as a reduction of revenues, based on past experience and specific identification of events necessitating an allowance, which has been in immaterial amounts.

The Company provides its customers with other services that are less significant in scope and amount and for which recognition is over time when customer receives the services.

M. Research and Development

Research and development costs are charged to operations as incurred. Amounts received or receivable from the government of Israel and others, as participation in research and development programs, are offset against research and development costs. The accrual for grants receivable is determined based on the terms of the programs, provided that the criteria for entitlement have been met.

N. Income Taxes

The Company accounts for income taxes using an asset and liability approach as prescribed in ASC 740-10 "Income Taxes" ("ASC 740-10"). This topic prescribes the use of the liability method whereby deferred tax asset and liability account balances are determined based on differences between financial reporting and tax bases of assets and liabilities. Deferred taxes are computed based on the tax rates anticipated (under applicable law as of the balance sheet date) to be in effect when the deferred taxes are expected to be paid or realized. Deferred tax assets and liabilities, as well as any related valuation allowance, are classified as noncurrent in a classified statement of financial position.

TOWER SEMICONDUCTOR LTD. AND SUBSIDIARIES  
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS  
AS OF DECEMBER 31, 2018  
(dollars in thousands, except per share data)

NOTE 2 - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (cont.)

N. Income Taxes (cont.)

The Company evaluates realizability of its deferred tax assets for each jurisdiction in which the Company operates at each reporting date and establishes valuation allowances when it is more likely than not that all or a part of its deferred tax assets will not be realized. The ultimate realization of deferred tax assets is dependent upon the generation of future taxable income of the same character and in the same jurisdiction. The Company considers all available positive and negative evidence in making this assessment, including, but not limited to, the scheduled reversal of deferred tax liabilities and projected future taxable income. In circumstances where there is sufficient negative evidence indicating that the Company's deferred tax assets are not more-likely-than-not realizable, the Company establishes a valuation allowance, see Note 18.

ASC 740-10 prescribes a two-step approach for recognizing and measuring uncertain tax positions. The first step is to evaluate tax positions taken or expected to be taken in a tax return by assessing whether they are more-likely-than-not sustainable, based solely on their technical merits, upon examination and including resolution of any related appeals or litigation process. The second step is to measure the associated tax benefit of each position as the largest amount that the Company believes is more-likely-than-not realizable. Differences between the amount of tax benefits taken or expected to be taken in its income tax returns and the amount of tax benefits recognized in its financial statements, represent the Company's unrecognized income tax benefits. The Company's policy is to include interest and penalties related to unrecognized income tax benefits as a component of income tax expense.

O. Earnings Per Ordinary Share

Basic earnings per share are calculated in accordance with ASC 260, "Earnings Per Share" by dividing profit or loss attributable to ordinary equity holders of Tower (the numerator) by the weighted average number of ordinary shares outstanding during the reported period (the denominator). Diluted earnings per share are calculated, if applicable, by adjusting profit attributable to ordinary equity holders of Tower, and the weighted average number of ordinary shares, taking into effect all potential dilutive ordinary shares.

P. Comprehensive Income

In accordance with ASC 220 "Comprehensive Income", comprehensive income represents the change in shareholders' equity during a reporting period from transactions and other events and circumstances from non-owner sources. It includes all changes in equity during a reporting period except those resulting from investments by owners and distributions to owners. Other comprehensive income ("OCI") represents gains and losses that are included in comprehensive income but excluded from net income.

TOWER SEMICONDUCTOR LTD. AND SUBSIDIARIES  
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS  
AS OF DECEMBER 31, 2018  
(dollars in thousands, except per share data)

NOTE 2 - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (cont.)

Q. Functional Currency and Exchange Rate Income (Loss)

The currency of the primary economic environment in which Tower, TJT and Jazz conduct their operations is the U.S. Dollar (“dollar”). Thus, the dollar is their functional and reporting currency. Accordingly, monetary accounts maintained in currencies other than the dollar are re-measured into dollars in accordance with ASC 830-10 “Foreign Currency Matters”. All transaction gains and losses from the re-measurement of monetary balance sheet items are reflected in the statements of operations as financial income or expenses, as appropriate. The financial statements of TPSCo, whose functional currency is the Japanese Yen (“JPY”), have been translated into dollars. The assets and liabilities have been translated using the exchange rate in effect as of the balance sheet date.

The statement of operations of TPSCo has been translated using the average exchange rate for the reported period. The resulting translation adjustments are charged or credited to OCI.

R. Stock-Based Compensation

The Company applies the provisions of ASC Topic 718 “Compensation - Stock Compensation”, under which employees’ share-based equity awards are accounted for under the fair value method. Accordingly, stock-based compensation granted to employees and directors is measured at the grant date, based on the fair value of the grant. The Company uses the straight-line attribution method to recognize stock-based compensation costs over the vesting period of the grant, except for grants that involve performance criteria, for which an accelerated method is used.

S. Impairment of Assets

Impairment of Property, Equipment and Intangible Assets

The Company reviews long-lived assets and intangible assets on a periodic basis, as well as when such a review is required based upon relevant circumstances, to determine whether events or changes in circumstances indicate that the carrying amount of such assets may not be recoverable, considering the undiscounted cash flows expected from it. If applicable, the Company recognizes an impairment loss based upon the difference between the carrying amount and the fair value of such assets, in accordance with ASC 360-10 “Property, Plant and Equipment”.

Impairment of Goodwill

The Company evaluates goodwill qualitatively for impairment at least annually or whenever an event occurs or circumstances change that would more likely than not reduce the fair value of a reporting unit below its carrying amount. If the Company determines that a quantitative analysis is necessary, the impairment test for goodwill is currently a two-step process. Step one consists of a comparison of the fair value of a reporting unit against its carrying amount, including the goodwill allocated to each reporting unit. If the carrying amount of the reporting unit is in excess of its fair value, step two requires the comparison.

Any excess of the carrying value of the reporting unit’s goodwill over the implied fair value of the reporting unit’s goodwill is recorded as an impairment loss.

TOWER SEMICONDUCTOR LTD. AND SUBSIDIARIES  
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS  
AS OF DECEMBER 31, 2018  
(dollars in thousands, except per share data)

NOTE 2 - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (cont.)

S. Impairment of Assets (cont.)

Impairment of Goodwill (cont.)

The Company uses the income approach methodology of valuation that includes discounted cash flows to determine the fair value of the unit. Significant management judgment is required in the forecasts of future operating results used for this methodology.

T. Fair value of Financial Instruments and Fair Value Measurements

ASC 820, "Fair Value Measurements and Disclosures" ("ASC 820"), requires an entity to maximize the use of observable inputs and minimize the use of unobservable inputs when measuring fair value. ASC 820 establishes a fair value hierarchy based on the level of independent, objective evidence surrounding the inputs used to measure fair value. A financial instrument's categorization within the fair value hierarchy is based upon the lowest level of input that is significant to the fair value measurement.

ASC 820 prioritizes the inputs into three levels that may be used to measure fair value:

Level 1

Level 1 applies to assets or liabilities for which there are quoted prices in active markets for identical assets or liabilities.

Level 2

Level 2 applies to assets or liabilities for which there are inputs other than quoted prices that are observable for the asset or liability such as quoted prices for similar assets or liabilities in active markets; quoted prices for identical assets or liabilities in markets with insufficient volume or infrequent transactions (less active markets); or model-derived valuations in which significant inputs are observable or can be derived principally from, or corroborated by, observable market data.

Level 3

Level 3 applies to assets or liabilities for which there are unobservable inputs to the valuation methodology that are significant to the measurement of the fair value of the assets or liabilities.

The Company's financial instruments of cash, bank deposits, marketable securities, account receivable and payables, accrued liabilities, loans and leases approximate their current fair values because of their nature and respective maturity dates or durations. The Company had no financial assets or liabilities carried and measured on a non-recurring basis during the reporting periods. Financial assets and liabilities measured on a recurring basis are those that are adjusted to fair value each time a financial statement is prepared.



TOWER SEMICONDUCTOR LTD. AND SUBSIDIARIES  
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS  
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(dollars in thousands, except per share data)

NOTE 2 - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (cont.)

U. Derivatives and hedging

Derivative instruments are recognized as either assets or liabilities and are measured at fair value. The accounting for changes in the fair value of a derivative depends on the intended use of the derivative and the resulting designation.

For derivative instruments designated as fair value hedges, the gains (losses) are recognized in earnings in the periods of change together with the offsetting losses (gains) on the hedged items attributed to the risk being hedged.

For derivative instruments designated as cash flow hedges, the effective portion of the gains (losses) on the derivatives is initially reported as a component of OCI and is subsequently recognized in earnings when the hedged exposure is recognized in earnings. Gains (losses) on derivatives representing either hedge components excluded from the assessment of effectiveness or hedge ineffectiveness are recognized in earnings.

For derivative instruments that are not designated as hedges, gains (losses) from changes in fair values are primarily recognized in the same line of the item economically hedged.

V. Accounts Receivable Factoring

From time to time, the Company uses non-recourse factoring arrangements, to sell accounts receivable to third-party financial institutions. The sale of the receivables in these arrangements are accounted for as a true sale.

W. Reclassification and Presentation

Certain amounts in prior years' financial statements have been reclassified in order to conform to the 2018 presentation.

X. Recently Adopted Accounting Pronouncements

Effective January 1, 2018, the Company adopted Accounting Standards Update ("ASU") 2014-09, "Revenue from Contracts with Customers", which provides a principles-based, five-step approach to measure and recognize revenue from contracts with customers. Adoption of this ASU did not have a material effect on the Company's financial position, results of operations or cash flows.

In October 2016, the FASB issued ASU 2016-16 to require the recognition of the income tax consequences of an intra-entity transfer of an asset other than inventory when the transfer occurs. Current GAAP prohibits the recognition of current and deferred income taxes for an intra-entity asset transfer until the asset has been sold to an outside party, the amendments in this Update eliminate the exception for an intra-entity transfer of an asset other than inventory. The amendments are effective January 1, 2018, and for interim periods within that year. The adoption of this guidance did not have an impact on the Company's consolidated financial statements.

TOWER SEMICONDUCTOR LTD. AND SUBSIDIARIES  
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS  
AS OF DECEMBER 31, 2018  
(dollars in thousands, except per share data)

NOTE 2 - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (cont.)

Y. Recently Issued Accounting Pronouncements

In August 2018, the FASB issued ASU No. 2018-13 “Fair Value Measurement” Disclosure Framework – Changes to the Disclosure Requirements for Fair Value Measurement. This ASU removes certain disclosure requirements regarding the amounts and reasons for transfers between Level 1 and Level 2 of the fair value hierarchy and the policy for timing of transfers between the levels. The ASU also adds disclosure requirements regarding unrealized gains and losses included in Other Comprehensive Income for recurring Level 3 fair value measurements and regarding the range and weighted average of unobservable inputs used in Level 3 fair value measurements. This ASU is effective for annual periods and interim periods within those annual periods beginning after December 15, 2019. The removal of certain disclosures is to be applied retrospectively for all periods presented, but the additional required disclosures are to be prospectively applied, and early application is permitted. The Company does not expect any transfers between Level 1 and Level 2 of the fair value hierarchy, and as of December 31, 2018, it has no assets or liabilities with fair value measurements in Level 3 of the fair value hierarchy. Accordingly, it does not expect adoption of this ASU to have a material effect on its financial position, results of operations or cash flows.

In June 2018, the FASB issued ASU No. 2018-07 “Compensation - Stock Compensation” (“Topic 718”): Improvements to Nonemployee Share-Based Payment Accounting. This ASU expands the scope of Topic 718 to include accounting for share-based payments for acquiring goods and services from non-employees except for specific guidance on assumptions used in an option pricing model and expense attribution. Topic 718 is effective for annual periods, and interim periods within those annual periods, beginning after December 15, 2018, with early adoption permitted. The Company currently does not have any stock-based instruments outstanding to non-employees and does not anticipate any such awards in the foreseeable future. Accordingly, the Company does not expect adoption of this ASU to have a material effect on its financial position, results of operations or cash flows.

In February 2018, the FASB issued ASU No. 2018-02 “Reporting Comprehensive Income” (“ASU 2018-02”): Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income. This ASU is intended to help companies reclassify certain stranded income tax effects in accumulated other comprehensive income (“AOCI”) resulting from the Tax Cuts and Jobs Act of 2017 (the “Act”), which was enacted in December 2017. ASU 2018-02 provides for the elimination of stranded tax effects of the Act by allowing reclassification of stranded tax effects from AOCI to retained earnings. This ASU is applicable only to tax effects relating to the Act, and the existing guidance regarding effects of other changes in tax laws is not affected. This ASU was early adopted for the year ended December 31, 2018 and had no material effect on the Company’s consolidated financial statements.

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TOWER SEMICONDUCTOR LTD. AND SUBSIDIARIES  
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS  
AS OF DECEMBER 31, 2018  
(dollars in thousands, except per share data)

NOTE 2 - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (cont.)

Y. Recently Issued Accounting Pronouncements (cont.)

In January 2017, the FASB issued ASU 2017-04, which clarified its guidance to simplify the measurement of goodwill by eliminating the Step 2 impairment test. The new guidance requires companies to perform the goodwill impairment test by comparing the fair value of a reporting unit with its carrying amount. The amendment will be effective beginning in its first quarter of fiscal year 2020. The amendment is required to be adopted prospectively. Early adoption is permitted. The Company does not expect that the adoption of this guidance will have a material impact on its consolidated financial statements.

In May 2017, the FASB issued ASU 2017-09, which provides guidance about which changes to the terms or conditions of a share-based payment award require an entity to apply modification accounting. The guidance is effective beginning in the first quarter of fiscal year 2018. The adoption of this guidance did not have an impact on the Company's operating results.

In August 2017, the FASB issued (ASU 2017-12, which targets improvements to accounting for hedging activities which amends and simplifies existing guidance in order to allow companies to more accurately present the economic effects of risk management activities in the financial statements. The guidance is effective for fiscal years beginning after December 15, 2018, and interim periods within those fiscal years. The Company early adopted this guidance with no impact on its consolidated financial statements.

In January 2016, the FASB issued ASU 2016-01 to address certain aspects of recognition, measurement, presentation, and disclosure of financial instruments. The standard requires entities to measure equity investments that do not result in consolidation and are not accounted for under the equity method at fair value and recognize any changes in fair value in net income. The provisions under this amendment are effective January 1, 2018, and for interim periods within that year. The impact of ASU 2016-01 on the Company's consolidated financial statements was immaterial.

TOWER SEMICONDUCTOR LTD. AND SUBSIDIARIES  
 NOTES TO CONSOLIDATED FINANCIAL STATEMENTS  
 AS OF DECEMBER 31, 2018  
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NOTE 2 - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (cont.)

Y. Recently Issued Accounting Pronouncements (cont.)

In February 2016, the FASB issued ASU 2016-02 “Leases” (“ASU 2016-02”), which primarily changes the leases accounting for operating leases by requiring recognition of lease right-of-use assets and lease liabilities. The amendments are effective January 1, 2019, and for interim periods within that year, with early adoption permitted. In July 2018, the FASB issued ASU 2018-10 “Codification Improvements to Topic 842, Leases,” to clarify application of certain aspects of the new leases standard and to remove inconsistencies within the guidance and ASU 2018-11 “Targeted Improvements” (“ASU 2018-11”), which provides for an alternate transition method. Specifically, ASU 2018-11 allows the new lease standard to be applied as of the adoption date with a cumulative-effect adjustment to the opening balance of retained earnings rather than retroactive restatement of all periods presented. The Company has identified all existing operating and financing leases and is in the process of determining the present value of existing lease assets and liabilities under the new guidance. The Company is also currently finalizing processes and controls to identify, classify and measure new leases in accordance with ASU 2016-02.

In June 2016, the FASB issued ASU 2016-13 “Financial Instruments Credit Losses”. This update requires a financial asset (or a group of financial assets) measured at amortized cost basis to be presented at the net amount expected to be collected. The measurement of expected credit losses is based on relevant information about past events, including historical experience, current conditions, and reasonable and supportable forecasts that affect the collectability of the reported amount. An entity must use judgment in determining the relevant information and estimation methods that are appropriate in its circumstances. The update is effective January 1, 2020, and for interim periods within that year. Early adoption is permitted only after January 1, 2019. The Company has previously incurred immaterial amount of bad debt and expecting no material impact from adopting this guidance on its consolidated financial statements and disclosures.

In November 2016, the FASB issued ASU 2016-18 to require amounts generally described as restricted cash and restricted cash equivalents to be included with cash and cash equivalents when reconciling the beginning-of-period and end-of-period total amounts shown on the statement of cash flows. The amendments are effective January 1, 2018, and for interim periods within that year. The adoption of this guidance did not have an impact on the Company’s consolidated financial statements.

NOTE 3 - INVENTORIES

Inventories consist of the following:

	As of December 31,	
	2018	2017
Raw materials	\$72,144	\$48,220
Work in process	92,047	92,764
Finished goods	6,587	2,331
	\$170,778	\$143,315

Work in process and finished goods are presented net of aggregate write-downs to net realizable value of \$1,206 and \$1,352 as of December 31, 2018 and 2017, respectively.

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TOWER SEMICONDUCTOR LTD. AND SUBSIDIARIES  
 NOTES TO CONSOLIDATED FINANCIAL STATEMENTS  
 AS OF DECEMBER 31, 2018  
 (dollars in thousands, except per share data)

NOTE 4 - OTHER CURRENT ASSETS

Other current assets consist of the following:

	As of December 31,	
	2018	2017
Tax receivables	\$3,997	\$9,144
Prepaid expenses	14,170	11,634
Interest on deposits and other receivables	4,585	738
	\$22,752	\$21,516

NOTE 5 - LONG-TERM INVESTMENTS

Long-term investments consist of the following:

	As of December 31,	
	2018	2017
Severance-pay funds, net	\$13,615	\$13,317
Long-term interest bearing bank deposit	12,500	12,500
Others	9,830	256
	\$35,945	\$26,073

NOTE 6 - PROPERTY AND EQUIPMENT, NET

Composition

	As of December 31,	
	2018	2017
Original cost:		
Land and Buildings (including facility infrastructure)	\$347,798	\$343,247
Machinery and equipment	2,482,609	2,282,042
	\$2,830,407	\$2,625,289
Accumulated depreciation:		
Buildings (including facility infrastructure)	\$(224,796 )	\$(215,515 )
Machinery and equipment	(1,948,377)	(1,774,650)
	\$(2,173,173)	\$(1,990,165)
	\$657,234	\$635,124

As of December 31, 2018 and 2017, the original cost of land, buildings, machinery and equipment was reflected net of investment grants in the aggregate amount of \$285,636 and \$285,930, respectively.



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NOTE 6 - PROPERTY AND EQUIPMENT, NET (cont.)

The following is the composition of the leased equipment under capital lease agreements included under “machinery and equipment” above:

	As of December 31,	
	2018	2017
Original cost - machinery and equipment	\$53,441	\$16,630
Accumulated depreciation - machinery and equipment	(5,500)	(306)
	\$47,941	\$16,324

NOTE 7 - INTANGIBLE ASSETS, NET

Intangible assets consist of the following as of December 31, 2018:

	Useful Life (years)	Cost	Accumulated Amortization	Net
Technologies	4;5;9	\$110,835	\$ (108,888)	\$1,947
Facilities lease	19	33,500	(22,953)	10,547
Patents and other core technology rights	9	15,100	(15,100)	--
Trade name	9	7,671	(7,547)	124
Customer relationships	15	2,600	(1,783)	817
Others	--	1,000	(1,000)	--
Total identifiable intangible assets		\$170,706	\$ (157,271)	\$13,435

Intangible assets consist of the following as of December 31, 2017:

	Useful Life (years)	Cost	Accumulated Amortization	Net
Technologies	4;5;9	\$110,310	\$ (103,897)	\$6,413
Facilities lease	19	33,500	(21,665)	11,835
Patents and other core technology rights	9	15,100	(15,100)	--
Trade name	9	7,612	(7,009)	603
Customer relationships	15	2,600	(1,610)	990
Others	--	1,000	(1,000)	--
Total identifiable intangible assets		\$170,122	\$ (150,281)	\$19,841



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NOTE 8 - DEFERRED TAX AND OTHER LONG-TERM ASSETS, NET

Deferred tax and other long-term assets, net consist of the following:

	As of December 31,	
	2018	2017
Deferred tax asset (see Note 18)	\$73,460	\$82,852
Prepaid long-term land lease, net (see Note 14C)	3,296	3,417
Fair value of cross currency interest rate swap (see Note 12D)	6,722	18,005
Long-term prepaid expenses and others	4,926	6,995
	\$88,404	\$111,269

NOTE 9 - OTHER CURRENT LIABILITIES

Other current liabilities consist of the following:

	As of December 31,	
	2018	2017
Tax payables	\$12,096	\$8,567
Interest payable	986	3,160
Others	4,035	4,159
	\$17,117	\$15,886

NOTE 10 - DEBENTURES

A. Composition by Repayment Schedule:

	As of December 31, 2018						
	Interest rate	2019	2020	2021	2022	2023	Total
Debentures Series G (see B below)	2.79%	\$ --	\$35,676	\$35,676	\$35,676	\$17,839	\$124,867
Total outstanding principal amounts of debentures		\$ --	\$35,676	\$35,676	\$35,676	\$17,839	\$124,867
Accretion of carrying amount to principal amount							(4,697 )
Carrying amount							\$120,170

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NOTE 10 - DEBENTURES (cont.)

A. Composition by Repayment Schedule (cont.)

	As of December 31, 2017							Total
	Interest rate	2018	2019	2020	2021	2022	2023	
Debentures Series G (see B below)	2.79%	\$--	\$ --	\$38,568	\$38,568	\$38,568	\$19,283	\$134,987
Jazz's Notes (see C below)	8%	58,307	--	--	--	--	--	58,307
Total outstanding principal amounts of debentures		\$58,307	\$ --	\$38,568	\$38,568	\$38,568	\$19,283	\$193,294
Accretion of carrying amount to principal amount								(11,629)
Carrying amount								\$181,665

B. Debentures Series G

In June 2016, Tower raised approximately \$115,000 through the issuance of long-term unsecured non-convertible debentures ("Series G Debentures").

The Series G Debentures are payable in seven semi-annual consecutive equal installments from March 2020 to March 2023 and carrying an annual interest rate of 2.79%, payable semi-annually. The principal and interest amounts are denominated in NIS and are not linked to any index or to any other currency. The Company entered into hedging transactions to mitigate the foreign exchange rate differences on the principal and interest using a cross currency swap.

As of December 31, 2018 and 2017, the outstanding principal amount of Series G Debentures was NIS 468,000 (approximately \$125,000 and \$135,000 as of December 31, 2018 and December 31, 2017, respectively), with related hedging transactions net asset fair value of \$4,951 and \$16,455, respectively. The fair value decrease in 2018 and 2017 is attributed to the appreciation of the USD against the NIS (see Note 12D).

The Series G Debentures' indenture includes customary financial and other terms and conditions, including a negative pledge and financial covenants. As of December 31, 2018, the Company was in compliance with all of the financial covenants under the indenture.

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NOTE 10 - DEBENTURES (cont.)

C. Jazz 2014 Notes

In March 2014, Jazz issued unsecured convertible senior notes due December 2018 (the “2014 Notes” or the “Jazz Notes”).

As of December 31, 2017, approximately \$58,000, principal amount of these 2014 Notes was outstanding. During 2018, all the holders of the 2014 Notes converted their notes to approximately 5.8 million ordinary shares of Tower, and as a result, as of December 31, 2018, no such Jazz Notes were outstanding.

NOTE 11 - OTHER LONG-TERM DEBT

A. Composition:

	As of December 31,	
	2018	2017
In JPY, see also D below	\$100,118	\$98,239
In U.S. Dollars, see also E below	--	40,000
Total long-term loan - principal amount	100,118	138,239
Deferred issuance costs	--	(1,077 )
Total long-term loans	100,118	137,162
Capital leases - see Note 14C	47,195	15,854
Less - current maturities - see Note 14C	(10,814 )	(52,661 )
	\$136,499	\$100,355

B. Composition by Repayment Schedule of Loans:

	As of December 31, 2018						
	Interest rate	2019	2020	2021	2022	2023 and on	Total
In JPY	1.95%	\$ --	\$ --	\$22,248	\$22,248	\$55,622	\$100,118
Total outstanding principal amounts of loans		\$ --	\$ --	\$22,248	\$22,248	\$55,622	\$100,118
	As of December 31, 2017						
	Interest rate	2018	2019	2020	2021	Total	
In U.S. Dollars	Libor + 2.00%	\$ 5,714	\$ 11,429	\$ 11,429	\$ 11,428	\$ 40,000	
In JPY	Tibor + 1.65%-2.00%	\$43,915	\$ 32,747	\$ 21,577	--	\$ 98,239	
Total outstanding principal amounts of loans		\$ 49,629	\$ 44,176	\$ 33,006	\$ 11,428	\$ 138,239	

For repayment schedule of capital lease agreements, see Note 14C.

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NOTE 11 - OTHER LONG-TERM DEBT (cont.)

C. Wells Fargo Credit Line

In December 2013, Jazz entered into an agreement with Wells Fargo Capital Finance, part of Wells Fargo & Company (“Wells Fargo”), for a five-year secured asset-based revolving credit line in the total amount of up to \$70,000, maturing in December 2018.

In February 2018, Jazz and Wells Fargo signed an amendment to the credit line, under which the line is extended by five years, to mature in 2023, and the total amount remained at up to \$70,000 (the “Jazz Credit Line Agreement”). The applicable interest on the loans is at a rate equal to, at lender’s option, either the lender’s prime rate plus a margin ranging from 0.0% to 0.5% or the LIBOR rate plus a margin ranging from 1.25% to 1.75% per annum.

The outstanding borrowing availability varies from time to time based on the levels of Jazz’s eligible accounts receivable, eligible equipment, eligible inventories and other terms and conditions described in the Jazz Credit Line Agreement. The obligations of Jazz under the Jazz Credit Line Agreement are secured by a security interest on all the assets of Jazz. The Jazz Credit Line Agreement contains customary covenants and other terms, including customary events of default. If any event of default will occur, Wells Fargo may declare all borrowings under the facility due immediately and foreclose on the collateral. Jazz’s obligations pursuant to the Jazz Credit Line Agreement are not guaranteed by Tower or any of its affiliates.

As of December 31, 2018, Jazz was in compliance with all of the covenants under the Jazz Credit Line Agreement.

As of December 31, 2018, borrowing availability under the Jazz Credit Line Agreement was approximately \$70,000, of which approximately \$1,000 was utilized through letters of credit.

As of December 31, 2018 and 2017, no loan amounts were outstanding under the Jazz Credit Line Agreement.

D. Loans to TPSCo from Japanese Financial Institutions

In June 2014, TPSCo entered into a long-term loan agreement with JA Mitsui Leasing, Ltd. and Bank of Tokyo (BOT) Lease Co., Ltd, under which it borrowed 8.8 billion Japanese Yen (outstanding principal amount was approximately \$33,000 as of December 31, 2017).

In December 2015, TPSCo and JA Mitsui Leasing, Ltd., Sumitomo Mitsui Trust Bank Limited and Showa Leasing Co., Ltd. (“JP Banks”) signed an asset-based loan agreement (the “ABL”), according to which TPSCo entered into a five year term loan agreement with the JP Banks under which TPSCo borrowed an additional amount of 8.5 billion Japanese Yen (outstanding principal amount was approximately \$65,000 as of December 31, 2017).

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NOTE 11 - OTHER LONG-TERM DEBT (cont.)

D.Loans to TPSCo from Japanese Financial Institutions (cont.)

In June 2018, TPSCo early repaid its two outstanding loans and refinanced them with 11 Billion JPY (approximately \$100,000) new asset-based loan agreements with JA Mitsui Leasing, Ltd., Sumitomo Mitsui Trust Bank, Limited (SMTB) and Sumitomo Mitsui Banking Corporation (SMBC) (“JP Loan”). The JP Loan includes a grace period through 2021 and it carries a fixed interest rate of 1.95% per annum. Principal is payable in nine semiannual payments between 2021 and 2025. The JP Loan is secured mainly by a lien over the machinery and equipment of TPSCo located in Uozu and Tonami manufacturing facilities. Outstanding principal amount was approximately \$100,000 as of December 31, 2018.

The JP Loan also contains certain financial ratios and covenants, as well as customary definitions of events of default and acceleration of the repayment schedule. TPSCo’s obligations pursuant to the JP Loan are not guaranteed by Tower or any of its affiliates.

As of December 31, 2018, TPSCo was in compliance with all of the financial ratios and covenants under this JP Loan.

E. Loan to TJT

In July 2016, TJT entered into an asset based long-term loan agreement with JA Mitsui Leasing Capital Corporation (“JA Mitsui”) in the total amount of \$40,000. The loan carried annual interest of LIBOR+2.0% and was originally scheduled to be repaid between 2018 and 2021. The loan was secured mainly by a lien over TJT’s machinery and equipment and an assignment of TJT’s right to receive any amounts under its manufacturing agreement with Maxim.

The outstanding principal amount as of December 31, 2017 was \$40,000.

In July 2018, TJT early repaid the entire outstanding amount of this loan to save financing cost.

F. Capital Lease Agreements

See Note 14C.

NOTE 12 - FINANCIAL INSTRUMENTS AND FAIR VALUE MEASUREMENTS

The Company makes certain disclosures as detailed below with regard to financial instruments, including derivatives. These disclosures include, among other matters, the nature and terms of derivative transactions, information about significant concentrations of credit risk and the fair value of financial assets and liabilities.

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TOWER SEMICONDUCTOR LTD. AND SUBSIDIARIES  
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NOTE 12 - FINANCIAL INSTRUMENTS AND FAIR VALUE MEASUREMENTS (cont.)

A. Non-Designated Exchange Rate Transactions

As the functional currency of Tower is the USD and part of Tower's expenses are denominated in NIS, Tower enters from time to time into exchange rate agreements to protect against the volatility of future cash flows caused by changes in foreign exchange rates on NIS denominated expenses.

As of December 31, 2018 the fair value amounts of such exchange rate agreements were approximately \$379 in a liability position presented in short-term liabilities with face value of \$92,000.

As of December 31, 2017 the fair value amounts of such exchange rate agreements were approximately \$24 in an asset position presented in short-term assets with face value of \$18,000. Changes in the fair values of such derivatives are presented in cost of revenues in the statements of operations.

As the functional currency of TPSCo is the JPY and part of TPSCo revenues are denominated in USD, TPSCo enters from time to time into exchange rate agreements to protect against the volatility of future cash flows caused by changes in foreign exchange rates on USD denominated amounts. As of December 31, 2018 and 2017, the fair value amounts of such exchange rate agreements were \$16 and \$169, respectively, in a liability position presented in short-term liabilities with face value of \$42,000 and \$48,000, respectively. Changes in the fair value of such derivatives are presented in the statements of operations.

B. Concentration of Credit Risks

Financial instruments that potentially subject the Company to concentrations of credit risk consist principally of cash and cash equivalents, bank deposits, marketable securities, derivative, trade receivables and government and other receivables. The Company's cash, deposits, marketable securities and derivative are maintained with large and reputable banks and investment banks. The composition and maturities of investments are regularly monitored by the Company. Generally, these securities may be redeemed upon demand and bear minimal risk.

The Company generally does not require collateral for insurance of receivables; however, in certain circumstances, the Company obtains credit insurance or may require advance payments. An allowance for doubtful accounts is determined with respect to those amounts which their collection determined to be doubtful. The Company performs ongoing credit evaluations of its customers.

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NOTE 12 - FINANCIAL INSTRUMENTS AND FAIR VALUE MEASUREMENTS (cont.)

C. Fair Value of Financial Instruments

The estimated fair values of the Company's financial instruments, excluding debentures do not materially differ from their respective carrying amounts as of December 31, 2018 and 2017. The fair value of debentures, based on quoted market prices as of December 31, 2018 and 2017, was approximately \$127,000 and \$345,000, respectively, compared to carrying amounts of approximately \$120,000 and \$182,000, for the above dates, respectively.

D. Cash Flow Hedge Gains (Losses)

The Company entered into cash flow hedging transactions to mitigate the foreign exchange rate differences on the principal and interest using a cross currency swap to mitigate the risk arising from Series G Debentures denomination in NIS.

As of December 31, 2018, the fair value of the swap was \$4,951 in an asset, net position, of which \$1,771 presented in short-term liabilities and \$6,722 presented in long-term assets. As of December 31, 2017, the fair value of the swap was \$16,455 in an asset, net position, of which \$1,550 presented in short-term liabilities and \$18,005 presented in long-term assets.

As of December 31, 2018 and December 31, 2017, the effective portion of \$1,329 and \$2,758, respectively, were recorded in OCI, of which a loss of approximately \$1,231 is expected to be reclassified into earnings during the twelve months ending December 31, 2019. For the years ended December 31, 2018 and December 31, 2017, the effect of the hedge on the Company's results of operations was \$11,787 loss and \$11,654 income, respectively, and was recognized as financing expense, net to offset the effect of the rate difference related to Series G Debentures.

E. Fair Value Measurements

Valuation Techniques

In general, and where applicable, the Company uses quoted prices in active markets for identical assets or liabilities to determine fair value. This pricing methodology applies to the Company's Level 1 assets and liabilities. If quoted prices in active markets for identical assets and liabilities are not available to determine fair value, the Company uses quoted prices for similar assets and liabilities or inputs other than the quoted prices that are observable, either directly or indirectly. This pricing methodology applies to the Company's Level 2 and Level 3 assets and liabilities.

Assets held for sale - securities classified as available for sale are reported at fair value on a recurring basis. These securities are classified as Level 1 of the valuation hierarchy where quoted market prices from reputable third-party brokers are available in an active market. If quoted market prices are not available, the Company obtains fair value measurements from an independent pricing service.



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## NOTE 12 - FINANCIAL INSTRUMENTS AND FAIR VALUE MEASUREMENTS (cont.)

## E. Fair Value Measurements (cont.)

## Valuation Techniques (cont.)

These securities are reported using Level 2 inputs and the fair value measurements consider observable data that may include dealer quotes, market spreads, cash flows, U.S. government and agency yield curves, live trading levels, trade execution data, market consensus prepayment speeds, credit information, and the security's terms and conditions, among other factors. Changes in fair value of securities available for sale are recorded in other comprehensive income, net of income tax effect.

## Level 2 Measurements

Over the counter derivatives - the Company uses the market approach using quotations from banks and other public information.

## Level 3 Measurements

## Recurring Fair Value Measurements Using the Indicated Inputs:

	December 31, 2018	Quoted prices in active market for identical liability (Level 1)	Significant other observable inputs (Level 2)	Significant unobservable inputs (Level 3)
Cross currency swap - asset, net position	\$4,951	\$--	\$ 4,951	\$ --
Marketable securities held for sale	135,227	135,227	--	--
Foreign exchange forward and cylinders - liability position	(395 )	--	(395 )	--
	\$ 139,783	\$ 135,227	\$ 4,556	\$ --

  

	December 31, 2017	Quoted prices in active market for identical liability (Level 1)	Significant other observable inputs (Level 2)	Significant unobservable inputs (Level 3)
Cross currency swap - asset, net position	\$ 16,455	\$--	\$ 16,455	\$ --
Marketable securities held for sale	113,168	113,168	--	--
Foreign exchange forward and cylinders - liability position	(169 )	--	(169 )	--
Foreign exchange forward and cylinders - asset position	24	--	24	--

\$ 129,478 \$ 113,168 \$ 16,310 \$ --

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## NOTE 12 - FINANCIAL INSTRUMENTS AND FAIR VALUE MEASUREMENTS (cont.)

## F. Short-Term and Long-Term Deposits and Marketable Securities

Short-term and long-term deposits and marketable securities as of December 31, 2018 included short term deposits in the amount of \$120,079, marketable securities in the amount of \$135,850 (including accrued interest) and long-term bank deposit in the amount of \$12,500; as of December 31, 2017, long-term deposits and marketable securities included marketable securities in the amount of \$113,874 (including accrued interest) and long-term bank deposit in the amount of \$12,500.

The following table summarizes amortized costs, gross unrealized gains and losses and estimated fair values of available-for-sale marketable securities as of December 31, 2018:

	Amortized cost	Gross unrealized gains	Gross Unrealized losses	Estimated fair value
Corporate bonds	\$ 111,639	\$ 29	\$ (2,029 )	\$ 109,639
U.S government bonds	5,444	21	--	5,465
Non-U.S government bonds	2,456	--	(33 )	2,423
Municipal bonds	2,248	--	(13 )	2,235
Money market fund	15,225	--	--	15,225
Certificate of deposits	248	--	(8 )	240
	\$ 137,260	\$ 50	\$ (2,083 )	\$ 135,227

The scheduled maturities of available-for-sale marketable securities as of December 31, 2018, were as follows:

	Amortized cost	Estimated fair value
Due within one year	\$ 16,686	\$ 16,661
Due after one year through five years	120,574	118,566
	\$ 137,260	\$ 135,227

The following table summarizes amortized costs, gross unrealized gains and losses and estimated fair values of available-for-sale marketable securities as of December 31, 2017:

	Amortized cost	Gross unrealized gains	Gross Unrealized losses	Estimated fair value
Corporate bonds	\$ 98,998	\$ 25	\$ (683 )	\$ 98,340
Non-U.S government bonds	2,730	--	(19 )	2,711
Municipal bonds	11,950	15	(96 )	11,869
Certificate of deposits	248	--	--	248
	\$ 113,926	\$ 40	\$ (798 )	\$ 113,168

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## NOTE 12 - FINANCIAL INSTRUMENTS AND FAIR VALUE MEASUREMENTS (cont.)

## F. Short-Term and Long-Term Deposits and Marketable Securities (cont.)

The scheduled maturities of available-for-sale marketable securities as of December 31, 2017, were as follows:

	Amortized cost	Estimated fair value
Due within one year	\$7,688	\$7,679
Due after one year through five years	106,238	105,489
	\$113,926	\$113,168

Investments with continuous unrealized losses for less than 12 months and 12 months or more and their related fair values as of December 31, 2018, were as indicated in the following tables:

	December 31, 2018					
	Investment with continuous unrealized losses for less than 12 months		Investments with continuous unrealized losses for 12 months or greater		Total Investments with continuous unrealized losses	
	Fair value	Unrealized losses	Fair value	Unrealized losses	Fair value	Unrealized losses
Corporate debentures	\$19,716	\$ (140 )	\$79,609	\$ (1,889 )	\$99,325	\$ (2,029 )
Non-U.S government bonds	963	--	1,460	(33 )	2,423	(33 )
Municipal bonds	2,235	(13 )	--	--	2,235	(13 )
Certificate of deposits	--	--	240	(8 )	240	(8 )
Total	\$22,914	\$ (153 )	\$81,309	\$ (1,930 )	\$104,223	\$ (2,083 )

Investments with continuous unrealized losses for less than 12 months and 12 months or more and their related fair values as of December 31, 2017, were as indicated in the following tables:

	December 31, 2017					
	Investment with continuous unrealized losses for less than 12 months		Investments with continuous unrealized losses for 12 months or greater		Total Investments with continuous unrealized losses	
	Fair value	Unrealized losses	Fair value	Unrealized losses	Fair value	Unrealized losses
Corporate debentures	\$89,133	\$ (683 )	\$ --	\$ --	\$89,133	\$ (683 )
Non-U.S government bonds	2,711	(19 )	--	--	2,711	(19 )
Municipal bonds	8,837	(96 )	--	--	8,837	(96 )
Total	\$100,681	\$ (798 )	\$ --	\$ --	\$100,681	\$ (798 )



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NOTE 13 - EMPLOYEE RELATED LIABILITIES

A. Employee Termination Benefits

Israeli law, labor agreements and corporate policy determine the obligations of Tower to make severance payments to dismissed Israeli employees and to Israeli employees leaving employment under certain circumstances. Generally, the liability for severance pay benefits, as determined by Israeli law, is based upon length of service and the employee's monthly salary. This liability is primarily covered by regular deposits made each month by Tower into recognized severance and pension funds and by insurance policies maintained by Tower, based on the employee's salary for the relevant month. The amounts so funded and the liability are included on the balance sheets in long-term investments and employee related liabilities in the amounts of \$9,924 and \$12,335, respectively, as of December 31, 2018.

Commencing January 1, 2005, Tower implemented a labor agreement with regard to most of its Israeli employees, according to which monthly deposits into recognized severance and pension funds or insurance policies will release it from any additional severance obligation in excess of the balance in such accounts to such Israeli employees and, therefore, Tower incurs no liability or asset with respect to such severance obligations and deposits, since that date. Any net severance amount as of such date will be released on the employee's termination date. Payments relating to Israeli employee termination benefits were \$5,158, \$5,059 and \$ 4,345 for 2018, 2017 and 2016, respectively.

TPSCo established a Defined Contribution Retirement Plan (the "DC Plan") for its employees through which TPSCo contributes approximately 9% with employee average match of 1% from employee base salary to the DC Plan. Such contribution releases the employer from further obligation to any payments upon termination of employment. The contribution is remitted either to third party benefit funds based on employee preference, or directly, to those employees who elected not to enroll in the DC Plan. Total payments under the DC Plan in 2018, 2017 and 2016 amounted to \$6,700, \$6,706 and \$7,015, respectively.

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## NOTE 13 - EMPLOYEE RELATED LIABILITIES (cont.)

## B. Jazz Employee Benefit Plans

The following information provide the changes in 2018, 2017 and 2016 periodic expenses and benefit obligations due to the bargaining agreement effective December 19, 2009, entered into by Jazz with its collective bargaining unit employees.

## Post-Retirement Medical Plan

The components of the net periodic benefit cost and other amounts recognized in other comprehensive income for post-retirement medical plan expense are as follows:

	Year ended December 31,		
	2018	2017	2016
Net periodic benefit cost:			
Service cost	\$10	\$9	\$12
Interest cost	73	69	85
Amortization of prior service costs	--	--	(12 )
Amortization of net loss (gain)	(262)	(361)	(333)
Total net periodic benefit cost	\$(179)	\$(283)	\$(248)
Other changes in plan assets and benefits obligations recognized in other comprehensive income:			
Prior service cost for the period	\$--	\$--	\$--
Net loss (gain) for the period	(376)	317	(316)
Amortization of prior service costs	--	--	12
Amortization of net gain (loss)	262	361	333
Total recognized in other comprehensive income (loss)	\$(114)	\$678	\$29
Total recognized in net periodic benefit cost and other comprehensive income (loss)	\$(293)	\$395	\$(219)

## Weighted average assumptions used:

Discount rate	3.80	%	4.50	%	4.80	%
Expected return on plan assets	N/A		N/A		N/A	
Rate of compensation increases	N/A		N/A		N/A	
Assumed health care cost trend rates:						
Health care cost trend rate assumed for current year (Pre-65/Post-65)	8.30%/11.10%		7.20%/10.00%		6.75%/10.00%	
Ultimate rate (Pre-65/Post-65)	4.50%/4.50 %		4.50%/4.50 %		4.50%/5.00 %	
Year the ultimate rate is reached (Pre-65/Post-65)	2027/2027		2025/2025		2025/2022	
Measurement date	December 31, 2018		December 31, 2017		December 31, 2016	

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NOTE 13 - EMPLOYEE RELATED LIABILITIES (cont.)

B. Jazz Employee Benefit Plans (cont.)

Post-Retirement Medical Plan (cont.)

Impact of one-percentage point change in assumed health care cost trend rates as of December 31, 2018:

	Increase	Decrease
Effect on service cost and interest cost	\$ 4	\$ (3 )
Effect on post-retirement benefit obligation	\$ 40	\$ (32 )

The components of the change in benefit obligation, change in plan assets and funded status for post-retirement medical plan are as follows:

	Year ended December 31,		
	2018	2017	2016
Change in medical plan related benefit obligation:			
Medical plan related benefit obligation at beginning of period	\$1,936	\$1,550	\$1,781
Service cost	10	9	12
Interest cost	73	69	85
Benefits paid	(15 )	(9 )	(12 )
Change in medical plan provisions	--	--	--
Actuarial loss (gain)	(376 )	317	(316 )
Benefit medical plan related obligation end of period	\$1,628	\$1,936	\$1,550
Change in plan assets:			
Fair value of plan assets at beginning of period	\$--	\$--	\$--
Employer contribution	15	9	12
Benefits paid	(15 )	(9 )	(12 )
Fair value of plan assets at end of period	\$--	\$--	\$--
Medical plan related net funding	\$(1,628)	\$(1,936)	\$(1,550)



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## NOTE 13 - EMPLOYEE RELATED LIABILITIES (cont.)

## B. Jazz Employee Benefit Plans (cont.)

## Post-Retirement Medical Plan (cont.)

	As of December 31,		
	2018	2017	2016
Amounts recognized in statement of financial position:			
Current liabilities	\$(65 )	\$(58 )	\$(37 )
Non-current liabilities	(1,563 )	(1,878 )	(1,513 )
Net amount recognized	\$(1,628 )	\$(1,936 )	\$(1,550 )
Weighted average assumptions used:			
Discount rate	4.50 %	3.80 %	4.50 %
Rate of compensation increases	N/A	N/A	N/A
Assumed health care cost trend rates:			
Health care cost trend rate assumed for next year (pre 65/ post 65 Medicare Advantage)	6.90%/13.10 %	8.30%/11.10 %	7.20%/10.00 %
Health care cost trend rate assumed for next year (pre 65/ post 65 Non Medicare Advantage)	6.90%/7.90 %	8.30%/11.10 %	7.20%/10.00 %
Ultimate rate (pre 65/ post 65)	4.50%/4.50 %	4.50%/4.50 %	4.50%/4.50 %
Year the ultimate rate is reached (pre 65/ post 65)	2029/2029	2027/2027	2025/2025

The following benefit payments are expected to be paid in each of the next five fiscal years and in the aggregate for the five fiscal years thereafter:

Fiscal Year	Other Benefits
2019	\$ 65
2020	64
2021	68
2022	66
2023	64
2024-2028	\$ 395

## Jazz Pension Plan

Jazz has a pension plan that provides for monthly pension payments to eligible employees upon retirement. The pension benefits are based on years of service and specified benefit amounts. Jazz uses a December 31 measurement date. Jazz funding policy is to make contributions that satisfy at least the minimum required contribution for IRS qualified plans.

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NOTE 13 - EMPLOYEE RELATED LIABILITIES (cont.)

B. Jazz Employee Benefit Plans (cont.)

Jazz Pension Plan (cont.)

The components of the change in benefit obligation, the change in plan assets and funded status for Jazz's pension plan are as follows:

	Year ended December 31,		
	2018	2017	2016
Net periodic benefit cost:			
Interest cost	\$749	\$831	\$841
Expected return on plan assets	(1,427)	(1,236)	(1,154)
Amortization of prior service costs	3	3	3
Amortization of net loss (gain)	--	55	34
Total net periodic benefit cost	\$(675 )	\$(347 )	\$(276 )
Other changes in plan assets and benefits obligations recognized in other comprehensive income:			
Prior service cost for the period	\$--	\$--	\$--
Net loss (gain) for the period	(231 )	(1,303)	736
Amortization of prior service costs	(3 )	(3 )	(3 )
Amortization of net gain (loss)	--	(55 )	(34 )
Total recognized in other comprehensive income (loss)	\$(234 )	\$(1,361)	\$699
Total recognized in net periodic benefit cost and other comprehensive income (loss)	\$(909 )	\$(1,708)	\$423
Weighted average assumptions used:			
Discount rate	3.70 %	4.30 %	4.60 %
Expected return on plan assets	6.20 %	6.20 %	6.20 %
Rate of compensation increases	N/A	N/A	N/A

	Year ended December 31,		
	2018	2017	2016
Estimated amounts that will be amortized from accumulated other comprehensive income in the next fiscal year ending:			
Prior service cost	\$3	\$3	\$3
Net actuarial loss	\$--	\$--	\$54

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## NOTE 13 - EMPLOYEE RELATED LIABILITIES (Cont.)

## B.Jazz Employee Benefit Plans (Cont.)

## Jazz Pension Plan (cont.)

The components of the change in benefit obligation, change in plan assets and funded status for Jazz's pension plan are as follows:

	Year ended December 31,		
	2018	2017	2016
Change in benefit obligation:			
Benefit obligation at beginning of period	\$20,629	\$19,672	\$18,605
Interest cost	749	831	841
Benefits paid	(607 )	(548 )	(496 )
Change in plan provisions	--	--	--
Actuarial loss (gain)	(1,792 )	674	722
Benefit obligation end of period	\$18,979	\$20,629	\$19,672
Change in plan assets:			
Fair value of plan assets at beginning of period	\$23,235	\$19,871	\$18,526
Actual return on plan assets	(133 )	3,212	1,141
Employer contribution	175	700	700
Benefits paid	(607 )	(548 )	(496 )
Fair value of plan assets at end of period	\$22,670	\$23,235	\$19,871
Funded status	\$3,691	\$2,606	\$199
Amounts recognized in statement of financial position:			
Non-current assets	\$3,691	\$2,606	\$199
Non-current liabilities	--	--	--
Net amount recognized	\$3,691	\$2,606	\$199
Weighted average assumptions used:			
Discount rate	4.40 %	3.70 %	4.30 %
Rate of compensation increases	N/A	N/A	N/A

The following benefit payments are expected to be paid in each of the next five fiscal years and in the aggregate for the five fiscal years thereafter:

Fiscal Year	Other Benefits
2019	\$ 823
2020	922
2021	988
2022	1,055
2023	1,118
2024-2028	\$ 6,044



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## NOTE 13 - EMPLOYEE RELATED LIABILITIES (cont.)

## B. Jazz Employee Benefit Plans (cont.)

## Jazz Pension Plan (cont.)

The plan's assets measured at fair value on a recurring basis consisted of the following as of December 31, 2018:

	Level 1	Level 2	Level 3
Investments in mutual funds	\$ --	\$22,669	\$ --
Total plan assets at fair value	\$ --	\$22,669	\$ --

The plan's assets measured at fair value on a recurring basis consisted of the following as of as of December 31, 2017:

	Level 1	Level 2	Level 3
Investments in mutual funds	\$ -	\$23,235	\$ -
Total plan assets at fair value	\$ -	\$23,235	\$ -

Jazz's pension plan weighted average asset allocations on December 31, 2018, by asset category are as follows:

Asset Category	December 31, 2018	Target allocation 2019		
Equity securities	19	%	20	%
Debt securities	81	%	80	%
Total	100	%	100	%

Jazz's primary policy goals regarding the plan's assets are cost-effective diversification of plan assets, competitive returns on investment and preservation of capital. Plan assets are currently invested in mutual funds with various debt and equity investment objectives. The target asset allocation for the plan assets is 80% debt, or fixed income securities, and 20% equity securities. Individual funds are evaluated periodically based on comparisons to benchmark indices and peer group funds and investment decisions are made by Jazz in accordance with the policy goals. Actual allocation to each asset category fluctuates and may not be within the target specified above due to changes in market conditions.

The estimated expected return on assets of the plan is based on assumptions derived from, among other things, the historical return on assets of the plan, the current and expected investment allocation of assets held by the plan and the current and expected future rates of return in the debt and equity markets for investments held by the plan. The obligations under the plan could differ from the obligation currently recorded, if management's estimates are not consistent with actual investment performance.

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NOTE 14 - COMMITMENTS AND CONTINGENCIES

A. Liens

(1) Loans, Bonds and Capital Leases

For liens relating to Jazz Credit Line Agreement, see Note 11C. For liens under TPSCo 2018 JP Loan agreement, see Note 11D. For liens under the capital lease agreements, see Note 14C. For liens under Bond G indenture, see Note 10B.

(2) Approved Enterprise Status

Floating liens are registered in favor of the State of Israel on substantially all of Tower's assets under the Investment Center's approved enterprise status program.

B. License Agreements

The Company enters into intellectual property and licensing agreements with third parties from time to time. The effect of each of them on the Company's total assets and results of operations is immaterial. Certain of these agreements call for royalties to be paid by the Company to these third parties.

C. Leases

Tower's administrative offices and corporate headquarters, Fab 1 and Fab 2 manufacturing operations are located in a building complex situated in an industrial park in Migdal Ha'emek, in the northern part of Israel. The premises where the administrative offices and Fab 1 are located are under a long-term lease from the ILA, which expires in 2032. Tower has no obligation for lease payments related to this lease through the year 2032. Tower entered into a long-term lease agreement with the ILA relating to Fab 2 for a period ending in 2049. The lease payments through 2049 relating to this lease have been paid in advance and are expensed through the operational lease period.

Tower occupies certain other premises under various operating leases. The obligations under such leases were not material as of December 31, 2018.

Jazz leases its fabrication facilities under operational lease contracts that may be extended until 2027, through the exercise of an option at Jazz's sole discretion. In 2015, Jazz exercised its first option to extend the lease term from 2017 to 2022, while maintaining the option to extend the lease term at its sole discretion from 2022 to 2027. In the amendments to its leases, (i) Jazz secured various contractual safeguards designed to limit and mitigate any adverse impact of construction activities on its fabrication operations; and (ii) set forth certain obligations of Jazz and the landlord, including certain noise abatement actions at the fabrication facility. The landlord has made claims that Jazz's noise abatement efforts are not adequate under the terms of the amended lease. Jazz does not agree and is disputing these claims.

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NOTE 14 - COMMITMENTS AND CONTINGENCIES (Cont.)

C. Leases (cont.)

Aggregate rental expenses under Jazz operating leases were approximately \$2,800, \$2,800 and \$2,800 for the years ended December 31, 2018, 2017 and 2016, respectively. Future minimum payments for Jazz's non-cancelable operating building leases are approximately \$2,800 for 2019 and approximately \$2,400 for each of the years thereafter.

In 2014, TPSCo entered into a five-year operational lease agreement with Panasonic to lease the building and facilities of its three fabs in Hokuriko, Japan for the manufacturing business of TPSCo. The parties agreed to have good faith discussions regarding the terms and conditions for extension of the term of the lease agreement, taking into account the terms provided thereunder prior to the expiration thereof and the fair market prices existing at the time of the extension. Future minimum payment under TPSCo's non-cancelable operating building and facilities lease is \$3,600 for the first quarter of 2019. The terms of the lease extension are currently being negotiated with Panasonic to be in effect from the second quarter of 2019.

In addition, certain of the Company's subsidiaries entered into capital lease agreements for certain machinery and equipment required at the fabrication facilities for a period of up to 4 years with an option to buy each or all of the machinery and equipment after 3 years from the start of the lease period at 40% of their original value. The lease agreements contain annual interest rate of 1.85% and the assets under the lease agreements are pledged to JA Mitsui until the time at which the respective subsidiary will buy the assets. The obligations under the capital lease agreement are guaranteed by Tower except for TPSCo's obligations under its capital lease agreements.

As of December 31, 2018 and 2017, the outstanding capital lease liability for certain machinery and equipment required at the fabrication facilities was \$47,195 and \$15,854 respectively, of which \$10,814 and \$3,032 were included in current maturities, respectively.

As of December 31, 2018, the lease payments under capital leases for certain machinery and equipment required at the fabrication facilities, are \$10,814 for the year ending December 31, 2019, \$10,783 for the year ending December 31, 2020, \$12,537 for the year ending December 31, 2021, \$6,492 for the year ending December 31, 2022 and \$6,569 for the year ending December 31, 2023.

D. Other Agreements

The Company enters from time to time, in the ordinary course of business, into long-term agreements with various entities for the joint development of products and processes utilizing technologies owned separately by either the other entity or the Company, or owned jointly by both parties, as applicable.

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NOTE 14 - COMMITMENTS AND CONTINGENCIES (Cont.)

E. Environmental Affairs

The Company's operations are subject to a variety of laws and state and governmental regulations relating to the use, discharge and disposal of toxic or otherwise hazardous materials used in the production processes. Operating permits and licenses are required for the operation of the Company's facilities and these permits and licenses are subject to revocation, modification and renewal. Government authorities have the power to enforce compliance with these regulations, permits and licenses. As of the approval date of the financial statements, the Company is not aware of any noncompliance with the terms of said permits and licenses.

F. An engagement in relation to a new fabrication facility planned to be built in China

In 2017 and 2018, the Company, Nanjing Development Zone, Tacoma Technology Ltd. and Tacoma (Nanjing) Semiconductor Technology Co., Ltd. (collectively known as "Tacoma"), signed agreements regarding a new 8-inch fabrication facility planned to be established in Nanjing, China. According to the terms therein, it was agreed that the Company will provide technological expertise together with operational and integration consultation, at terms and milestones to be further agreed to by the parties and may invest in the project to be a minority stakeholder. The framework agreement further specifies capacity allocation to the Company of up to 50% of the targeted 40,000 wafers per month fab capacity, in order to provide the Company with additional manufacturing capability and capacity.

During 2017, the Company received \$18,000 (net of taxes) for technological licenses, consultation and other services it provided during 2017, and in February 2019 it received an additional \$9,000 (net of taxes) for technological licenses, consultation and other services it provided in 2018.

G. Other Commitments

Receipt of certain research and development grants from the government of Israel is subject to various conditions. In the event Tower fails to comply with such conditions, Tower may be required to repay all or a portion of the grants received. Tower believes it has been in full compliance with the conditions through December 31, 2018.

H. Dismissed Class Action

In January 2016, a short-selling focused firm issued a short sell thesis report which the Company believes contains false and misleading information about the Company's strategy, business model and financials. Following this short sell thesis report, shareholder class actions were filed in the US and Israel against the Company, certain officers, its directors and/or its external auditor.



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NOTE 14 - COMMITMENTS AND CONTINGENCIES (Cont.)

H. Dismissed Class Action (cont.)

This short sell thesis analyst acknowledged at the time of the report that he shall be assumed to be in a short position in Tower's shares. In July 2016, the US court-appointed lead plaintiff voluntarily withdrew the action and the US court approved the voluntary dismissal of the class action in the US. In February 2018, the Israeli court granted the Company's motion to dismiss as the Israeli plaintiff did not meet the required burden of proof. The plaintiff filed a request to appeal the Tel-Aviv district court's decision and in October 2018, the Israeli Supreme Court reaffirmed the district court's ruling and denied the plaintiff's request for appeal.

NOTE 15 - SHAREHOLDERS' EQUITY

A. Description of Ordinary Shares

As of December 31, 2018, Tower had 150 million authorized ordinary shares, par value NIS 15.00 each, of which approximately 105 million were issued and outstanding. Holders of ordinary shares are entitled to participate equally in the payment of cash dividends and bonus share (stock dividend) distributions and, in the event of the liquidation of Tower, in the distribution of assets after satisfaction of liabilities to creditors. Each ordinary share is entitled to one vote on all matters to be voted on by shareholders.

B. Equity Incentive Plans

(1) General

The Company has granted to its employees and directors options and Restricted Stock Units ("RSUs") to purchase ordinary shares under several share incentive plans adopted by the Company. The particular provisions of each plan and grant vary as to vesting period, exercise price, exercise period and other terms. Generally, (i) the exercise price of options will not be lower than the nominal value of the shares and will equal either the closing market price of the ordinary shares immediately prior to the date of grant, or in relation to grants made from September 2013, an average of the closing price during the thirty trading days immediately prior to the date of grant; (ii) vest over one to four year period according to various vesting schedules, and (iii) are not exercisable beyond seven or ten years from the grant date.

Except for those share incentive plans described below, as of December 31, 2018 and December 31, 2017, respectively, there were approximately 26 thousands and 57 thousands, respectively, options outstanding under the Company's share incentive plans (the "Old Plans"). No further options may be granted under Old Plans.

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NOTE 15 - SHAREHOLDERS' EQUITY (cont.)

B. Equity Incentive Plans (cont.)

(2) Tower's 2013 Share Incentive Plan (the "2013 Plan")

In 2013, the Company adopted a new share incentive plan for directors, officers and employees of the Company. Options granted under the 2013 Plan bear an exercise price, which equals an average of the closing price during the thirty trading days immediately prior to the date of grant, vest over up to a three-year period and are not exercisable beyond seven years from the grant date.

Under the 2013 Plan, the Company granted, in 2018 and 2017, a total of 978 thousands and 819 thousands, respectively, of RSUs, to its employees and directors (including the below described grants to the CEO and Chairman), with vesting over up to a three-year period. The Company measures compensation expenses of the RSUs based on the closing market price of the ordinary shares immediately prior to the date of grant and is amortizing it over the applicable vesting period.

In July 2018, the Company's shareholders approved the grant of the following Restricted Stock Units ("RSUs") to the Company's CEO and members of the Board of Directors under the Company's 2013 Share Incentive Plan: (i) 107 thousands time vested RSUs and 72 thousands performance based RSUs to the CEO, which RSUs will vest linearly over a three-year period, 33% at the end of each year of the 3 years following the grant date, for a compensation value of \$3,900; and, in addition, 50 thousands performance based RSUs vesting over three years, with 65% vesting at the first anniversary of the grant, additional 25% at the second anniversary and the remaining at the third anniversary for an additional compensation value of \$1,100; (ii) 14 thousands time vested RSUs to the chairman of the Board of Directors ("the Chairman") for a total compensation value of \$300, to vest linearly over a three-year period, 33% at the end of each year of the 3 years following the grant date; and (iii) 3 thousands time vested RSUs to each of the 8 members of the Board of Directors (other than to the Chairman and the CEO), for an aggregate compensation value of \$600, vesting over a two-year period, with 50% vesting at the end of the first anniversary of the date of grant and 50% on the second anniversary of the date of grant.

In June 2017, the Company's shareholders approved the following equity awards to the Company's CEO, chairman of the Board and board directors under the 2013 Share Incentive Plan: (i) 85 thousands time vested RSUs and 97 thousands performance-based RSUs to the CEO, for a total compensation value of \$4,500; (ii) 12 thousands time vested RSUs to the chairman of the board of directors for a total compensation value of \$300; and (iii) 3 thousands time vested RSUs to each of the members of the board of directors (other than to the Chairman and the CEO), for a total compensation value of \$600.

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## NOTE 15 - SHAREHOLDERS' EQUITY (cont.)

## B. Equity Incentive Plans (cont.)

## (2) Tower's 2013 Share Incentive Plan (the "2013 Plan") (cont.)

As of December 31, 2018, approximately 483 thousands options and approximately 1.6 million RSUs were outstanding under the 2013 Plan. As of December 31, 2017, approximately 523 thousands options and approximately 1.2 million RSUs were outstanding under the 2013 Plan. Further grants may be approved subject to compensation committee, board of directors and shareholders' approval, as may be required by law.

## (3) Summary of the Status of all the Company's Employees' and Directors' Share Incentive Plans

## i. Share Options awards:

	2018		2017		2016	
	Number of share options	Weighted average exercise price	Number of share options	Weighted average exercise price	Number of share options	Weighted average exercise price
Outstanding as of beginning of year	580,185	\$ 9.64	2,278,089	\$ 9.92	5,878,270	\$ 6.84
Granted	--	--	--	--	207,890	12.19
Exercised	(70,271 )	10.19	(1,611,489)	9.27	(3,649,754)	4.82
Terminated	(921 )	9.82	(77,292 )	25.89	(97,063 )	21.34
Forfeited	(500 )	4.42	(9,123 )	8.06	(61,254 )	7.25
Outstanding as of end of year	508,493	9.58	580,185	9.64	2,278,089	9.92
Options exercisable as of end of year	485,579	\$ 9.46	459,662	\$ 8.51	1,606,983	\$ 10.19

## ii. RSU awards:

	2018		2017		2016	
	Number of RSU	Weighted Average Fair Value	Number of RSU	Weighted Average Fair Value	Number of RSU	Weighted Average Fair Value
Outstanding as of beginning of year	1,245,889	\$ 21.29	1,009,184	\$ 14.62	773,200	\$ 15.11
Granted	977,667	20.80	818,856	24.88	359,643	12.83
Converted	(602,423 )	17.86	(553,241 )	14.71	(86,847 )	11.45
Forfeited	(21,837 )	22.11	(28,910 )	16.42	(36,812 )	14.73
Outstanding as of end of year	1,599,296	\$ 22.27	1,245,889	\$ 21.29	1,009,184	\$ 14.62

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## NOTE 15 - SHAREHOLDERS' EQUITY (cont.)

## B. Equity Incentive Plans (cont.)

## (4) Summary of Information about Employees' Share Incentive Plans

The following table summarizes information about employees' share options outstanding as of December 31, 2018:

Outstanding		Exercisable			
Range of exercise prices	Number outstanding	Weighted average remaining contractual life (in years)	Weighted average exercise price	Number exercisable	Weighted average exercise price
\$4.42 - 17.25	508,493	3.08	\$ 9.58	485,579	\$ 9.46

	Year ended December 31,		
	2018	2017	2016
The intrinsic value of options exercised	\$ 1,416	\$ 26,031	\$ 40,314
The original fair value of options exercised	\$ 302	\$ 7,202	\$ 16,711
	Year ended December 31,		
	2018	2017	2016
The intrinsic value of converted RSU's	\$ 15,840	\$ 12,996	\$ 1,177
The original fair value of converted RSU's	\$ 10,761	\$ 8,138	\$ 994

Stock-based compensation expenses were recognized in the Statement of Operations as follows:

	Year ended December 31,		
	2018	2017	2016
Cost of goods	\$ 3,141	\$ 3,084	\$ 3,920
Research and development, net	2,533	2,555	2,119
Marketing, general and administrative	6,987	6,010	3,367
Total stock-based compensation expense	\$ 12,661	\$ 11,649	\$ 9,406

## (5) Weighted Average Grant-Date Fair Value of Options Granted to Employees

The weighted average grant-date fair value of the options granted during 2016 to employees and directors amounted to \$4.20 per option (no options were granted in 2017 and 2018). The Company utilizes the Black-Scholes model.

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NOTE 15 - SHAREHOLDERS' EQUITY (cont.)

B. Equity Incentive Plans (cont.)

Weighted Average Grant-Date Fair Value of Options Granted to Employees (cont.)

(5) The Company estimated the fair value, utilizing the following assumptions for the year 2016 (all in weighted averages):

	2016
Risk-free interest rate	0.9%-1.3%
Expected life of options	4.60 years
Expected annual volatility	47%-48%
Expected dividend yield	None

Risk free interest rate is based on yield curve rates published by the U.S. Department of Treasury.

Expected life of options is based upon historical experience and represents the period of time that options granted are expected to be outstanding.

Expected annual volatility is based on the volatility of Tower's ordinary share prior to the options grant for the term identical to expected life.

C. Israeli Banks' Capital Notes and Warrants

All issued and outstanding equity equivalent capital notes convertible into approximately 1.2 million ordinary shares as of December 31, 2018, have no voting rights, no maturity date, no dividend rights, are not tradable, are not registered, do not carry interest, are not linked to any index and are not redeemable. The equity equivalent capital notes are classified in shareholders' equity. As of December 31, 2018, Bank Ha'poalim was the sole holder of such capital notes.

As of December 31, 2018, all the Israeli Banks' warrants expired.

D. Treasury Stock

During 1999 and 1998, the Company funded the purchase by a trustee of an aggregate of 86,667 of Tower's ordinary shares. These shares are classified as treasury shares.

E. Dividend Restriction

Tower is subject to the restrictions under the Israeli Companies Law, 1999. In addition, Tower is subject to limitations under Series G Debentures indenture, which enables distribution of dividends subject to satisfying certain financial ratios.

F. Convertible Debentures

With regard to convertible debentures, see Note 10C.

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## NOTE 16 - INFORMATION ON GEOGRAPHIC AREAS AND MAJOR CUSTOMERS

## A. Revenues by Geographic Area - as Percentage of Total Revenue

	Year ended December 31,		
	2018	2017	2016
USA	52 %	52 %	49 %
Japan	34	32	36
Asia *	10	12	12
Europe	4	4	3
Total	100%	100 %	100 %

\* Represents revenues from individual countries of less than 10% each.

The basis of attributing revenues from external customers to geographic area is based on the headquarter location of the customer issuing the purchase order; actual delivery may be shipped to another geographic area per customer request.

## B. Long-Lived Assets by Geographic Area

Substantially all of Tower's long-lived assets are located in Israel, substantially all of Jazz's and TJT's long-lived assets are located in the United States and substantially all of TPSCo's long-lived assets are located in Japan.

	As of December 31,	
	2018	2017
Israel	\$215,419	\$218,810
United States	239,462	214,393
Japan	202,353	201,921
Total	\$657,234	\$635,124

## C. Major Customers - as Percentage of Net Accounts Receivable Balance

Accounts receivable from significant customers representing 10% or more of the net accounts receivable balance consist of two such customers, representing 13% and 10% of the net accounts receivable balance as of December 31, 2018, and one such customer representing 13% of the net accounts receivable balance as of December 31, 2017.

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## NOTE 16 - INFORMATION ON GEOGRAPHIC AREAS AND MAJOR CUSTOMERS (cont.)

## D. Major Customers - as Percentage of Total Revenue

	Year ended December 31,		
	2018	2017	2016
Customer A	33%	30%	35%
Customer B	7	12	12
Other customers *	16	15	14

\* Represents sales to two customers accounted for 7% and 9% of sales during 2018, to two customers accounted for 7% and 8% of sales during 2017, and to two customers accounted for 5% and 9% of sales during 2016.

## NOTE 17 - FINANCING EXPENSE, NET

Financing expense, net consists of the following:

	Year ended December 31,		
	2018	2017	2016
Interest expense	\$10,610	\$12,623	\$13,146
Interest income	(10,762)	(4,783)	(1,289)
Jazz Notes amortization	5,010	4,230	3,571
Changes in fair value (total level 3 changes in fair value of bank loans)	--	--	7,900
Series G Debentures amortization, related rate differences and hedging results	3,589	2,738	1,901
Exchange rate differences	1,064	6	(3,768)
Bank fees and others	3,673	633	2,888
	\$13,184	\$15,447	\$24,349





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NOTE 18 - INCOME TAXES (cont.)

C. Components of Deferred Tax Asset/Liability

The following is a summary of the components of the deferred tax assets and liabilities reflected in the balance sheets as of the respective dates (\*)

	As of December 31,	
	2018	2017
Deferred tax asset and liability - long-term: (**)		
Deferred tax assets:		
Net operating loss carryforward	\$87,325	\$96,443
Employees benefits and compensation	4,914	4,891
Accruals and reserves	4,738	3,546
Research and development	12,292	10,528
Others	3,615	2,935
	112,884	118,343
Valuation allowance, see F below	(5,834 )	(5,807 )
Deferred tax assets	\$107,050	\$112,536
Deferred tax liabilities:		
Depreciation and amortization	(82,001 )	(77,092 )
Gain on TPSCo acquisition	(1,240 )	(15,957 )
Others	(750 )	(559 )
Deferred tax liabilities	\$(83,991 )	\$(93,608 )
Presented in long term deferred tax assets	\$73,460	\$82,852
Presented in long term deferred tax liabilities	\$(50,401 )	\$(63,924 )

(\*) Deferred tax assets and liabilities relating to Tower for the years 2018 and 2017 are computed based on the Israeli preferred enterprise tax rate of 7.5%.

(\*\*) In 2017, the Company adopted ASU 2015-17 regarding classification of deferred taxes, prospectively, following which, effective 2017, deferred taxes are not presented as current assets.

(\*\*\*) 2017 amounts are presented to conform to 2018 presentations.

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## NOTE 18 - INCOME TAXES (cont.)

## D. Unrecognized Tax Benefit

A reconciliation of the beginning and ending amount of unrecognized tax benefits is as follows:

	Unrecognized tax benefits
Balance at January 1, 2018	\$ 15,286
Additions for tax positions of current year	716
Reduction due to statute of limitation of prior years	(1,219 )
Balance at December 31, 2018	\$ 14,783
	Unrecognized tax benefits
Balance at January 1, 2017	\$ 8,969
Additions for tax positions	8,753
Reduction of prior years' provision	(2,436 )
Balance at December 31, 2017	\$ 15,286
	Unrecognized tax benefits
Balance at January 1, 2016	\$ 13,538
Additions for tax positions of current year	157
Expiration of prior years' provision due to TJP closure	(6,472 )
Additions for tax positions of prior years	779
Translation differences	967
Balance at December 31, 2016	\$ 8,969

## E. Effective Income Tax Rates

In December 2017, the Tax Cut and Jobs Act (the "Act") was signed into law, which enacts significant changes to U.S. federal corporate tax and related laws. Some of the provisions of the Act affecting corporations include, but are not limited to: (i) a reduction of the U.S. Federal corporate income tax rate from 35% to 21%; (ii) limiting the interest expense deduction; (iii) expensing of cost of acquired qualified property; (iv) elimination of the domestic production activities deduction; (v) elimination of Alternative Minimum Tax ("AMT") and (vi) refundability of AMT credits, which were generated prior to the Act, in 2018 and thereafter.

Tower US Holdings has completed analysis of the Act's income tax effects. In total, Tower US Holdings recorded in the twelve months ended December 31, 2017 a non-cash income tax benefit in the amount of approximately \$13,000 for Act-related impacts. Upon further analysis of certain aspects of the Act and refinement of the calculations during the 12 months ending December 31, 2018, Tower US Holdings found no other adjustment was necessary.

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## NOTE 18 - INCOME TAXES (cont.)

## E. Effective Income Tax Rates (cont.)

The reconciliation of the statutory tax rate to the effective tax rate is as follows:

	Year ended December 31,		
	2018	2017	2016
Tax expense computed at statutory rates, see (*) below	\$32,044	\$48,433	\$52,650
Effect of tax rate change on deferred tax liabilities, net(**)	(478 )	(16,078)	--
Effect of different tax rates in different jurisdictions and Preferred Enterprise Benefit	(23,150)	(33,298)	(4,772 )
Gain on acquisition	--	--	(10,450)
Tax benefits for which deferred taxes were not recorded, see F below	--	(15,103)	(23,489)
Change in Valuation allowance, see F below	(962 )	(82,772)	(6,212 )
Permanent differences and other, net	(1,516 )	(1,070 )	(6,295 )
Income tax expense (benefit)	\$5,938	\$(99,888)	\$1,432

(\*) The tax expense (benefit) was computed based on Tower's regular corporate tax rate of 23% for 2018, 24% for 2017 and 25% for 2016.

(\*\*) Reduction in tax rates due to the U.S. Tax Reform and reduction in income tax rates in Japan.

## F. Net Operating Loss Carryforward

As of December 31, 2018, Tower had net operating loss carryforward for tax purposes of approximately \$1,100,000, which may be carried forward indefinitely. For the year ended December 31, 2016, Tower recorded a valuation allowance for deferred tax assets (see C above) as it was unable to conclude that it is more-likely-than-not that such deferred tax assets would be realized. As of December 31, 2017, Tower concluded that realization of net deferred assets is more likely than not as required by ASC 740-10-30-5(e). Tower considered both positive and negative factors. Positive factors include the Israeli accumulated profit before tax for 2017 and recent years, projections for taxable income in Israel in the near term and the unlimited time for the utilization of the losses carryforward. The negative factors considered include Tower's history of operating losses, the uncertainty in estimating the future generation of sufficient taxable income in Israel to utilize the loss carryforward of approximately \$1,100,000, taking into account that it operates in the cyclical industry of semiconductors and other trends affecting Tower's ability to sustain its current level of income. Weighing all the above, Tower concluded in 2017 that it is more likely than not that taxable income will be generated and released entirely the valuation allowance related to the Israeli accumulated losses.

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NOTE 18 - INCOME TAXES (cont.)

F. Net Operating Loss Carryforward (cont.)

The future utilization of Tower US Holdings' federal net operating loss carryforward to offset future federal taxable income is subject to an annual limitation as a result of ownership changes that have occurred. Additional limitations could apply if ownership changes occur in the future. Jazz has had two "change in ownership" events that limit the utilization of net operating loss carryforward. The first "change in ownership" event occurred in February 2007 upon Jazz Technologies' acquisition of Jazz Semiconductor. The second "change in ownership" event occurred in September 2008, upon Tower's acquisition of Jazz. Jazz concluded that the net operating loss limitation for the change in ownership which occurred in September 2008 will be an annual utilization of approximately \$2,100 in its tax return.

As of December 31, 2018, Tower US Holdings had federal net operating loss carryforward of approximately \$29,500 that will begin to expire in 2022, unless previously utilized.

Tower US Holdings made a Water's Edge election to file its 2016 California return and the next six years of California returns on this basis. As such, Tower US Holdings will not be filing on a world-wide basis for the foreseeable future. As a result of making the election, Tower US Holdings has re-computed the net operating loss carryforward for California as if it had been filing on a Water's Edge basis. This resulted in a reduction in the amount of California net operating loss carryforward of approximately \$107,000 as of December 31, 2017. There was no impact to the tax expense since Tower US Holdings previously maintained a full valuation allowance on its California net deferred tax assets.

As of December 31, 2018, Tower US Holdings had California state net operating loss carryforward of approximately \$7,300. The state tax loss carry forward begin to expire in 2028, unless previously utilized.

As of December 31, 2018 and 2017, TPSCo had no net operating loss carryforward.

G. Final Tax Assessments

Tower possesses final tax assessments through the year 1998. In addition, the tax assessments for the years 1999-2013 are deemed final.

Tower US Holdings is filing the consolidated tax return including Jazz and TJT. Tower US Holdings and its subsidiaries are subject to U.S. federal income tax as well as income tax in multiple states.

With few exceptions, Tower US Holdings is no longer subject to U.S. federal income tax examinations before 2015 and state and local income tax examinations before 2014. However, to the extent allowed by law, the tax authorities may have the right to examine prior periods where net operating losses were generated and carried forward, and make adjustments up to the amount of the net operating loss carryforward amount.

TPSCo possesses final tax assessments through the year 2016.

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NOTE 19 - RELATED PARTIES BALANCES AND TRANSACTIONS

A. Balances

	The nature of the relationships involved	As of December 31, 2018	2017
	Long-term investment Equity investment in a limited partnership	\$ 110	\$ 66

B. Transactions

	Description of the transactions	Year ended December 31,		
		2018	2017	2016
General and Administrative expense	Directors' fees and reimbursement to directors	\$736	\$719	\$639
Other income (expense)	Equity income (loss) from a limited Partnership	\$44	\$29	\$(13)

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