TOWER SEMICONDUCTOR LTD
Form 20-F
April 30, 2013

UNITED STATES SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

FORM 20-F

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

For the fiscal year ended December 31, 2012 Commission File number: 0-24790

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

Israel
(Jurisdiction of incorporation or organization)
Ramat Gavriel Industrial Park
P.O. Box 619, Migdal Haemek 23105, Israel

(Address of principal executive offices)

Nati Somekh, +972-4-6506109, natiso@towersemi.com;
Ramat Gavriel Industrial Park P.O. Box 619, Migdal Haemek 23105, Israel

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

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: 22,311,513 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 o No x

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 o No x

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 x No o

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate website, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (section 229.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files).

Yes o No o

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

Large accelerated filer o Accelerated filer o Non-accelerated filer x

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

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

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 o Item 18 o

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 o No x

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 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 at “Item 3. Key Information--Risk Factors”.

EXPLANATORY INFORMATION

All references herein to “dollars” or “$” are to United States dollars, and all references to “Shekels” or “NIS” are to New Israeli Shekels.

On September 19, 2008, we completed the 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”). Jazz Technologies, Jazz Semiconductor and its wholly-owned subsidiaries are collectively referred to as “Jazz” in this report.

On June 3, 2011, we acquired a fabrication facility in Nishiwaki City, Hyogo, Japan from Micron Technology Inc. ("Micron") which we hold through our wholly-owned Japanese subsidiary, TowerJazz Japan Ltd. (“TJP”).

Our consolidated statements included in this annual report include the results and balances of these companies from the applicable merger and acquisition dates.

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. “Fab 4” means the semiconductor fabrication facility TJP operates in Nishiwaki City, Hyogo, Japan.

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 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 and with respect to Fab 2, Fab3 and Fab 4 capacity are to 200-mm wafers.

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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. The selected historical consolidated financial information as of December 31, 2012 and 2011 and for each of the three years ended December 31, 2012, 2011 and 2010 has been derived from, and should be read in conjunction with, our consolidated financial statements, and notes thereto appearing elsewhere in this annual report. The selected financial data as of December 31, 2010, 2009 and 2008 and for each of the years ended December 31, 2009 and 2008 has been derived from our audited financial statements for those years not included in this annual report.

Our consolidated financial statements include Jazz's results commencing September 19, 2008 and TJP's results commencing June 3, 2011, and our consolidated balance sheets include Jazz's balances, for December 31, 2008, and on and TJP's balances for December 31, 2011 and on.

Due to the merger with Jazz and the acquisition of TJP, it may be difficult to compare the results of operations for periods subsequent to each of 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.

	Year Ended December 31,				
	2012	2011	2010	2009	2008
	(in thousands, except per share data)				
Statement of Operations Data:					
Revenues	$638,831	$611,023	$509,262	$298,812	$251,659
Cost of revenues	560,046	526,198	402,077	325,310	296,513
Gross profit (loss)	78,785	84,825	107,185	(26,498)	(44,854)
Research and development	31,093	24,886	23,876	23,375	14,969
Marketing, general and administrative	44,413	48,239	39,986	31,943	33,223
Write-off of in-process research and development	--	--	--	--	1,800
Acquisition related and reorganization costs	5,789	1,493	--	--	520
Fixed assets impairment	--	--	--	--	120,538
Operating profit (loss)	(2,510)	10,207	43,323	(81,816)	(215,904)
Interest expenses, net	(31,808)	(27,797)	(26,406)	(24,205)	(19,469)
Other finance expenses, net	(27,583)	(12,505)	(46,519)	(21,505)	1,903
Gain on debt restructuring	--	--	--	--	130,698
Gain from acquisition	--	19,467	--	--	--
Other income (expense), net	(1,042)	13,460	65	2,045	(918)
Income (loss)before income tax expenses	(62,943)	2,832	(29,537)	(125,481)	(103,690)
Income tax benefit (expense)	(7,326)	(21,362)	(12,830)	5,022	(1,455)
Loss for the year	$(70,269)	$(18,530)	$(42,367)	$(120,459)	$(105,145)
Basic loss per ordinary share	$(3.25)	$(0.92)	$(2.70)	$(10.65)	$(11.70)
Other Financial Data:					
Depreciation and amortization	$173,585	$162,679	$143,023	$143,404	$138,808

	As of December 31,				
	2012	2011	2010	2009	2008
	(in thousands)				
Selected Balance Sheet Data:					
Cash and cash equivalents, short-term interest-bearing deposits and designated deposits	$133,398	$101,149	$198,382	$81,795	$34,905
Working capital	129,186	35,830	72,053	70,113	24,133
Total assets	814,640	857,221	801,728	650,837	706,793
Short-term bank debt and current maturities of debentures and bank loans	49,923	48,255	122,179	7,000	15,330
Loan from banks, net of current maturities	94,922	103,845	111,882	187,606	222,989
Debentures, net of current maturities	193,962	197,765	247,598	241,207	208,512
Shareholders' equity	220,025	174,703	117,782	56,014	111,567
Weighted average number of ordinary shares outstanding	21,623	20,138	15,688	11,364	8,983
Number of shares outstanding	22,312	21,219	17,703	13,264	10,668

Risk Factors

Our business faces many risks. Any of the risks discussed below could have a material impact on our business, financial condition and operating results.

Risks Affecting Our Business

We have a large amount of debt, liabilities and fixed costs associated with our four manufacturing facilities and our business may be adversely affected if we will not be able to timely fulfill our debt obligations and operate at high utilization rates in order to cover our fixed costs.

We have a large amount of debt, fixed costs associated with our 4 manufacturing facilities and other liabilities. As of December 31, 2012, Tower had approximately $131 million of outstanding secured bank loans which carry interest of Libor plus 3.5% to be repaid in quarterly installments between March 2014 through June 2016, totaling $30 million in 2014, $70 million in 2015 and $31 million in 2016, (ii) approximately $26 million of unsecured outstanding debentures to be repaid between December 2013 and December 2016 which carry interest of 8%, and (iii) approximately $230 million of unsecured outstanding debentures which carry interest of 7.8%, mostly convertible into ordinary shares, to be repaid between December 2015 and December 2016 if not converted earlier. As of December 31, 2012, Jazz had (i) approximately $19 million of outstanding borrowings under its up to $45 million Wells Fargo credit line carrying an interest rate of Libor plus approximately 2.5%, due September 2014, and (ii) approximately $94 million of outstanding debentures due June 2015 which carry interest of 8%. As of December 31, 2012, TJP had approximately $13 million of outstanding borrowings under a secured asset-based revolving credit line of up to 4 billion Japanese Yen (approximately $50 million) provided by GE Capital. Loans obtained under this credit line carry an interest of the higher of TIBOR rate or LIBOR rate plus 2.6% per annum.

Carrying such a large amount of debt and other liabilities may have significant negative consequences, including:

- requiring the use of a substantial portion of our cash flow from operating activities to service our indebtedness rather than investing our cash flows to fund our growth 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, which may increase our net loss or reduce our net profits; and/or
- enforcement by the banks and/or Micron of their liens against Tower, Jazz or TJP's respective assets, as applicable (at the occurrence of an event of default).

Following current difficult times in worldwide financial and other markets, there is no assurance that the negative global economic conditions will not continue to negatively affect our business and financial position. The effects of a downturn in the semiconductor industry and 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, as well as commercial relationships with our customers, suppliers, and creditors, including our lenders and our ability to raise funds in the capital markets. A downturn in the semiconductor industry and global economy may adversely affect our plans to continue capacity growth, and our future financial results and position, including our ability to fulfill our debt obligations and other liabilities, comprised mainly of banks' loans and debentures.

In addition, in our industry, we incur high fixed costs that represent a substantial portion of the operating costs of semiconductor manufacturing operations. As a result, if we will not have substantial customer demand for our products and will not operate our facilities at very high utilization rates, we will not reach such revenue levels that would cover our fixed costs, enable us to achieve and maintain operating profits, as well as generate enough cash from operations that to cover our capital expenditures and short term liabilities which would adversely affect our business.

In order to finance our fixed costs, debt and other liabilities and obligations, in addition to cash on hand and expected cash flow from our ongoing operations, we continue to explore measures to obtain funds from additional sources including debt and/or equity restructuring and/or re-financing, sale of new securities, opportunities for the sale and lease-back of a portion of Tower's real estate assets, sale of other assets, 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 cover our ongoing fixed costs, capital expenditure costs and other liabilities and obligations, fully or partially repay our short term and long term debt in a timely manner and fund our growth plans and working capital needs.

Our success as a leading specialty foundry depends on our ability to continue to expand our business, customer base and market presence, including through acquisitions. There is no assurance that we will be successful in utilizing our expanded capacity, finding new business or successfully executing such current and new acquisitions.

Our Company's growth as a leading specialty foundry depends, to a significant degree, upon our ability to increase our presence in the specialty foundry field and firmly entrench ourselves as a leading specialty foundry. In order to do so and thereby improve our financial position and operating cash flow, we need to expand our business and attract new customers who will utilize our expanded capacity.

Our success at such expansion is dependent, in part, on finding suitable targets for acquisitions, successfully financing, consummating and loading such acquisitions and integrating them into our business.

We cannot assure you that we will be successful in expanding our business, attracting new customers in our current fabs and increasing our market presence. Further, we cannot assure that we will find and successfully execute such acquisitions or that they will achieve the expected synergies. Furthermore, terms of our existing indebtedness, may prohibit or limit our ability to engage in certain acquisitions.

Our reliance on acquisitions, such as our acquisition of TJP in June 2011, as a means of growth involves risks that could 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 lender banks, and as a result, or for other reasons, we may fail to consummate certain acquisitions.

- Potential acquisitions may divert management's attention away from our existing business operations, which may have a negative adverse effect on our business.

- We may fail to integrate acquisitions successfully in accordance with our business strategy, achieve expected synergies or attract sufficient business to newly acquired facilities in a timely manner.

- 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 acquisitions or the amount or terms of financing actually required before and after acquisition may vary from our expectations.

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

Our working capital requirements and cash flows are subject to quarterly and yearly fluctuations due to certain factors, including:

- 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 repayment schedules of our debt obligations; and

- our ability to fulfill our obligations and meet performance milestones under our facility agreement, foundry agreements and investment center programs.

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

If Tower fails to comply with the repayment schedule or any other terms of its amended facility agreement, or if Tower fails to meet any of the covenants and financial ratios stipulated in its amended facility agreement and Tower's banks do not waive its noncompliance, Tower's business may be adversely affected.

Under Tower's amended facility agreement with Bank Hapoalim B.M. and Bank Leumi Le-Israel B.M., in the event that Tower fails to comply with the repayment schedule or any other terms of its amended facility agreement and is unsuccessful in negotiating a revised repayment schedule or revised terms, or fails to meet any of the covenants and financial ratios stipulated in the amended facility agreement, and Tower's banks do not waive its noncompliance,

Tower's banks may require Tower to immediately repay all loans made by them to Tower, plus penalties, and the banks would be entitled to exercise the remedies available to them under the amended facility agreement, including enforcement of their lien against Tower's assets. There is no assurance that Tower will be able to generate the cash necessary to fund the scheduled payments from increased levels of cash from operations or from additional equity or debt financing or other funding sources. If Tower is not able to generate increased levels of revenue and cash from operations or raise sufficient funds in a timely manner, Tower would likely be unable to comply with the repayment schedule and may fail to meet covenants and financial ratios under the amended facility agreement, which may have a material adverse effect on Tower.

Israeli banking laws may impose restrictions on the total debt that Tower may borrow from its banks.

Pursuant to a directive published by the Israel Supervisor of Banks, effective March 31, 2004, Tower may be deemed part of a group of borrowers comprised of the Ofer Brothers Group, the Israel Corporation Ltd. ("Israel Corp.") and other companies which are also included in such group of borrowers pursuant to the directive, including companies under the control or deemed control of these entities. The directive imposes limitations on amounts that banks may lend to borrowers or groups of borrowers. Should Tower's banks exceed these limitations, their ability to lend additional money to Tower in the future would be limited and they may require Tower to return some or all of its $131 million outstanding borrowings, which may have a material adverse effect on Tower's business and financial condition.

Our acquisition of TJP involves risks that may adversely affect our future revenues and operating results.

Our acquisition of TJP in June 2011, involves known and unknown risks that may adversely affect our future revenues and operating results, including:

- failure to successfully integrate TJP in accordance with our business strategy;

- in the event it takes longer than expected to attain new customers and products for manufacture at Fab 4, it may adversely affect TJP's ability to fund the costs at Fab 4, which may adversely affect TJP's ability to maintain its operations and may result in incurring high one-time costs.

- Historically, Fab 4 served entirely as a fabrication facility for Micron's products. We are in the process of bringing various process technologies to Fab 4 to allow for the manufacture of a wide range of products at this facility for a broad range of customers. This requires significant capital expenditures and on site qualification of technologies. There is no assurance that TJP will be successful in expanding its customer base in a timely manner in order to cover its manufacturing and operating costs. In the event that TJP is unable to obtain sufficient funds from its business and operations, the Company's financial results may be adversely affected.

If TJP does not comply with certain covenants, it may be subject to significant penalties, which may adversely affect its operations and the Company.

Pursuant to its agreements with Micron, TJP is subject to certain affirmative, financial and restrictive covenants, and other obligations until June 2013.

If TJP does not comply with such covenants or limitations, Micron will have various potential remedies depending on the level of breach, and subject to certain arrangements with the bank lender to TJP detailed in the intercreditor agreement, including:

- The ability to buy back the TJP shares and/or TJP assets (purchase will be at the fair market value of TJP's assets and liabilities at the time of the buy back);

- Ability to foreclose on certain pledged assets of TJP;

- Ability to claim liquidated damages in an amount of up to $100 million.

In the event that TJP does not comply with certain covenants that entitle Micron to remedies such as those listed above, it may be subjected to significant penalties which may adversely affect Fab 4 operations and the Company.

If we do not fully equip Fab 2 and complete the equipment installation, and ramp-up of production in Fab 2 to its full capacity, we will not fully utilize the substantial investment made in the construction of Fab 2.

The full ramp-up of Fab 2 has not been completed to date. Our determination as to the timing of the implementation of the ramp-up of Fab 2 and the increase in Fab 2's production levels is dependent on prevailing and forecasted market conditions, customer demand, availability of equipment and our ability to fund such ramp-up. The ramp-up of Fab 2 is a substantial and complex project. If we cannot fund the further ramp-up of Fab 2 or otherwise successfully complete the ramp-up of Fab 2, we may be unable to meet our customers' production demands and as a result may lose customers and may not attract new ones. In order to fully ramp-up Fab 2, we will need to continue to develop new process technologies in order to suit our customers' needs. In addition, we have experienced, and may in the future experience, difficulties that are customary in the installation, functionality and operation of equipment. Failures or delays in obtaining and installing the necessary equipment, technology and other resources may delay the completion of the ramp-up of Fab 2, add to its cost and result in the Company not fully utilizing the substantial investment made in the construction of Fab 2, which may affect adversely our future financial results.

Failure to comply with the terms of the Israeli Investment Center regulations and the criteria set forth in the certificates of approval may result in us not receiving the benefits of the approved plans or may subject us to significant penalties by the Investment Center.

In 2011, we received an official approval certificate ("ktav ishur") from the Israeli Investment Center, a governmental agency, for our expansion program according to which we received approximately $36 million to date for investments made commencing 2006. Under our previous approved program approved in December 2000, we received $165 million of grants for capital expenditure investment made during the years 2001 through 2005.

Eligibility for the above grants and other tax benefits are 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, we may not be eligible to receive the benefits of the approved plan and may be exposed to significant penalties by the Investment Center, up to the amounts we received in the past. 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.

We have committed a portion of our capacity for future orders from some 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, and if we are unable to fill such unutilized capacity, our financial results may be adversely affected.

We may be required to incur additional indebtedness.

Although Tower, Jazz and TJP are limited by the covenants in their respective loan facilities, and TJP is also limited by covenants in its agreements with Micron, Tower and/or Jazz and/or TJP could find themselves in a position in which they may be required to take on additional indebtedness in order to fund their operations, which would increase

the amount of our outstanding indebtedness. Any additional indebtedness may increase the risks associated with servicing our indebtedness.

Adverse global or economic conditions may adversely affect our results and our ability to fulfill our debt obligations and other liabilities.

Market analysts are currently cautious as to the forecasted industry demand and conditions The effects of downturns in the semiconductor industry and global economy may include global decreased demand, downward price pressure, excess inventory and unutilized capacity worldwide, which may negatively impact our consumer and customer demand for our products and the end products of our customers, as well as commercial relationships with our customers. A disruption in the ability of our customers to access sources of liquidity could lead to the inability or failure on their part to meet their payment obligations to us. Such downturn may also have a detrimental effect on our commercial relationships with our suppliers and creditors, including our lenders, as well as our ability to raise funds in the capital market. The insolvency of key suppliers could lead to product delays. A downturn in the semiconductor industry and global economy may adversely affect our plans to continue capacity growth and our future financial results and position, including our ability to fulfill our debt obligations and other liabilities.

Our operating results fluctuate from quarter to quarter which makes it difficult to predict our future performance.

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, many 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;
- Shifts by integrated device manufacturers and customers between internal and outsourced production;
- Inventory and supply chain management of our customers;
- The loss of a key customer, 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 or the financial condition of our customers;
- The rescheduling or cancellation of planned capital expenditures;
- 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;
- Environmental events or industrial accidents such as fire or explosions;
- Our susceptibility to intellectual property rights disputes;
- 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;
- Increase in the fair value of our bank loans, certain of our warrants and debentures; and
- Changes in accounting rules affecting our results.

Due to the factors noted above and other risks discussed in this section, many of which are beyond our control, investors should not rely on quarter-to-quarter comparisons to predict our future performance. Unfavorable changes in any of the above factors may seriously harm our Company, including our operating results, financial condition and ability to maintain our operations.

Fluctuations in the market price of our traded securities may significantly affect our reported GAAP non-cash financing expenses.

Under prevailing accounting standards, we are required, in certain circumstances, to mark our liabilities, or an embedded feature that is part of a liability, to market, e.g. convertible debentures, warrants and options. An increase or a fluctuation in such securities' market price or our share price may cause a significant increase or fluctuation in our reported GAAP non-cash financing expenses, net which may harm our ability to accurately forecast our reported GAAP non-cash financing expenses, net, our reported net profit or loss and our reported earnings or losses per share, and may cause our possible gross and operating profits to result in a net loss, increase our net loss or reduce our net profits. This non-cash appreciation in our obligations and financing expenses will either eventually be reversed or be converted into equity, or a combination thereof.

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. We expect that, in the future, our revenues in any quarter will continue to be substantially dependent upon purchase orders received in that quarter and in the immediately preceding quarter. There is no assurance that any of our customers will continue to place orders with us in the future at the same levels as in prior periods. If orders received from our customers differ adversely from our expectations with respect to the product, volume, price or other items, our operating results, financial condition and ability to maintain our operations may be adversely affected.

We occasionally 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 could have a negative impact on our results of operations.

We generally do not manufacture wafers unless we receive a customer purchase order. On occasion, we may produce wafers in excess of customer 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 if it cannot be sold. Significant amounts of obsolete inventory could have a negative impact on our results of operations.

We have a history of operating losses. Our facilities must operate at high utilization rates in order to reach such revenue levels that would cover our fixed costs and reduce our losses.

We have operated at a loss for the last number of years. Because fixed costs represent a substantial portion of the operating costs of semiconductor manufacturing operations, we must operate our facilities at very high utilization rates in order to reach such revenue levels that would cover our fixed costs and reduce our losses. A significant portion of our losses have been due primarily to significant depreciation and amortization expenses, as well as financing and operating expenses. These costs and expenses have not been offset by a sufficient increase in the level of revenues. If we do not operate our facilities consistently at high utilization rates, we will be unable to achieve and maintain operating profits or achieve net profits, as well as generate enough cash from operations that would cover our capital expenditures and debt payments which would adversely affect our business. We cannot assure you that we will be profitable on a quarterly or annual basis in the future.

Our sales cycles are typically long, and orders 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 in advance of the receipt of any product order and related revenue. If orders ultimately received differ from our expectations with respect to the product, volume, price or other items, our operating results, financial condition and ability to maintain our operations may be adversely affected.

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

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 computers. Any significant decrease in the demand for these 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 computers decline significantly, we may be pressured to further reduce our selling prices, which may reduce our revenues and may reduce our margins significantly. As demonstrated by downturns in demand for high technology products in the past, 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. The timing, severity and recovery of these downturns cannot be predicted accurately or at all. When they occur, our business and profitability may suffer.

In order for demand for our wafer fabrication services to increase, the markets for the end products utilizing these services 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, which may adversely affect our financial results. If demand is higher than expected, we may be unable to fill all of the orders we receive, which may result in the loss of customers and revenue.

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, 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. 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. We expect these patterns to repeat in the future. The overcapacity and downward price pressure characteristic of a prolonged downturn in the semiconductor market, such as we experienced several times in the past, may not allow us to operate at a profit. This may seriously harm our financial results and business if we are unable to take appropriate or effective actions in a timely manner, such as reducing our costs to sufficiently offset declines in demand for our services.

If Tower fails to comply with the terms of an agreement under which Tower has to provide a turn-key solution for the upgrade of a fabrication facility, Tower's financial condition may be affected.

In 2009, Tower entered into a definitive agreement with an Asian entity for the provision by Tower on a turn-key basis of various services and equipment required for the capacity ramp-up and upgrade of the entity's currently installed and commissioned eight inch refurbished wafer fabrication facility. Under said agreement, Tower provides technical consultation, know-how, training and turn-key manufacturing solutions, including arranging for the required manufacturing and the transfer of certain equipment required for the fab ramp-up and upgrade. The total agreement value is approximately $130 million of which approximately $118 million was received as of December 31, 2012.

Payments are based on performance of milestones and delivery of the deliverables such as, delivery of detailed working plans; design of clean room; delivery of process equipment; training and integration; and performance of qualification tests and analyses. If we fail to meet our obligations under this agreement, we may face claims for liability or indemnification which may have a material effect on our financial condition.

If we do not maintain our current customers and attract additional customers, our business 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 them with other customers, could seriously harm our financial results, revenue and business. Since the sales cycle for our services typically exceeds one year, if our customers order significantly fewer wafers than forecasted, 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. We may have to reduce prices in order to try to sell more wafers in order to utilize the excess capacity. In addition to the revenue loss that could result from unused capacity or lower sales prices, we may have difficulty adjusting our costs to align with the lower revenue in a timely manner, which could harm our financial results.

We are substantially dependent upon our relationships with certain customers, and the termination or non-renewal of our agreements or other arrangements with these customers may materially and negatively impact our financial position and financial results.

We have relationships with several customers that represent a material portion of our revenues. During the year ended December 31, 2012, we had two customers who contributed between 6% to 43% of our revenues. During the year ended December 31, 2011, we had four customers who contributed between 5% to 32% of our revenues. In 2010, we had five customers who contributed between 5% to 16% of our revenues. The loss of any one of these customers, whether due to insolvency, their unwillingness or inability to perform their obligations under their respective relationships with us, or if we are not able to renew on commercially reasonable terms any of their respective arrangements with us, may materially and negatively impact our overall business and our consolidated financial position and financial results.

If we do not develop and update 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 and 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 results of operations may be adversely affected if we do not successfully compete in the industry.

The semiconductor foundry industry is highly competitive. We compete with more than ten independent dedicated foundries, the majority of which are located in Asia-Pacific, including foundries based in Taiwan, China, Korea and Malaysia, and with over 20 integrated semiconductor and end-product manufacturers that allocate a portion of their manufacturing capacity to foundry operations. The foundries with which we compete benefit from their close geographic proximity to companies involved in the design and manufacture of integrated circuits.

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 65 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. They 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 required. Our specialty processes will therefore compete with these 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. If our potential or existing customers choose to design their products using 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;
- multiple and more advanced manufacturing facilities;
- more advanced technological capabilities;
- a more diverse and established customer base;
- greater financial, marketing, distribution and other resources;
- a better cost structure; and/or
- better operational performance in cycle time and yields.

If we do not compete effectively, our business and results of operations may be adversely affected.

Furthermore, integrated device manufacturers continue to design and manufacture integrated circuits in their own fabrication facilities. There is a possibility that in certain periods or under certain circumstances such as low demand, they will choose to manufacture their products in their facilities instead of manufacturing products at external foundries. If our customers will choose to manufacture internally rather than manufacture at our facilities, our business may be negatively impacted.

If we experience difficulty in achieving acceptable device yields, product performance and delivery times as a result of manufacturing problems, our business could be seriously 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 have been enhancing our manufacturing capabilities and efficiency, from time to time we have experienced production difficulties that have caused delivery delays and quality control problems, as is common in the semiconductor industry. In the past, we have encountered the following problems:

- difficulties in upgrading or expanding existing facilities;
- unexpected breakdowns in our manufacturing equipment and/or related facility systems;
- 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 of our equipment.

Should these problems repeat, we may suffer delays in delivery and performance. Any of these problems could seriously harm our reputation, operating results 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.

To increase the production capability of our facilities and to 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. 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 condition.

Our exposure to inflation and currency exchange and interest rate fluctuations may increase our cost of operations.

Of our revenues for the year ended December 31, 2012, 43% was in Japanese Yen (JPY) and almost all of the rest of our revenues were in U.S. dollars (USD). Of our revenues for the year ended December 31, 2011, 32% was in Japanese Yen (JPY) and almost all of the rest of our revenues were in U.S. dollars (USD). Our financing and investing activities and our expenses and costs are denominated in USD, New Israeli Shekels (NIS), JPY and Euros. We are, therefore, exposed to the risk of currency exchange rate fluctuations.

The dollar amount of our operations, which is denominated in NIS, is influenced by the timing of any change in the rate of inflation in Israel and the extent to which such change is not offset by the change in valuation of the NIS in relation to the US dollar. The dollar amount of our operations, which is denominated in JPY, is influenced by the timing of any change in the exchange rate of the USD in relation to the JPY. Such dollar amount of operations will increase if the US dollar devalues against the NIS or the JPY. Outstanding principal and interest on some of Tower's debentures is linked to the Israeli consumer price index (CPI) and therefore, Tower's dollar costs will increase if inflation in Israel exceeds the devaluation of the NIS against the US dollar.

Tower, Jazz, and TJP's borrowings under their respective credit facilities provide for interest based on a floating LIBOR rate, thereby exposing us to interest rate fluctuations. Furthermore, if Tower and/or Jazz and/or TJP's banks incur increased costs in financing the applicable credit facility due to changes in law or the unavailability of foreign currency, they may exercise their right to increase the interest rate on the credit facility or require Tower and/or Jazz and/or TJP to bear such increased cost as provided for in the respective credit facility agreement.

Tower regularly engages in various hedging strategies to reduce its exposure to some, but not all, of these risks and intends to continue to do so in the future. However, despite any such hedging activity, Tower is likely to remain exposed to interest rate and exchange rate fluctuations and inflation, which may increase the cost of its operating and financing activities.

We depend on intellectual property rights of third parties and failure to maintain or acquire licenses could harm our business.

We depend on third party intellectual property in order for us to provide certain foundry services and design support to our customers. If problems or delays arise with respect to the timely development, quality and provision of such intellectual property to us, the design and production of our customers' products could 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. In addition, license fees and royalties payable under these agreements may impact our margins and operating results.

Failure to comply with the intellectual property rights of third parties or to defend our intellectual property rights could harm our business.

Our ability to compete successfully depends 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.

From time to time, we are a party to litigation matters incidental to the conduct of our business. Because of the nature of the industry, we may continue to 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;
- seeking to acquire 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 and paying substantial monetary damages in the event we lose; or
- seeking to develop non-infringing technologies, which may not be feasible.

Any one or several of these alternatives could place substantial financial and administrative burdens on us and hinder our business. Litigation, which could result in substantial costs to us and diversion of our resources, may also be necessary to enforce our patents or other intellectual property rights or to defend us or our customers against claimed infringement of the rights of others. 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 could prevent us from manufacturing particular products or applying particular technologies, which could reduce our opportunities to generate revenues.

As of December 31, 2012, we held 189 patents in force in the United States and 26 patents in force in foreign countries. We intend to continue to file patent applications when appropriate. The process of seeking patent protection may take a long time and 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 protect 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 could reduce our opportunities to generate revenues. Our inability to enforce our intellectual property rights in some countries may harm our business and results of operations.

We could be seriously 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, in Jazz's production processes in California and in TJP's facility 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 could be subject to substantial liability or could be required to suspend or adversely modify our manufacturing operations.

We are subject to the 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 the risk of loss arising from fire. The risk of fire associated with these materials cannot be completely eliminated. Although we maintain insurance policies to reduce potential losses that may be caused by fire, including business interruption insurance, our insurance coverage may not be sufficient to cover all of our potential losses due to a fire. If any of our fabs were to be damaged or cease operations as a result of a fire, and if our insurance proves to be inadequate, it may reduce our manufacturing capacity and revenues. In addition, a power outage, even of very limited duration, caused by a fire may result in a loss of wafers in production, deterioration in our fab yield and substantial downtime to reset equipment before resuming production.

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. Although product returns have historically been less than 1% of revenues, future product returns in excess of established provisions, if any, may have an adverse effect on our business and financial condition.

We are subject to risks related to our international operations.

We have generated substantial revenue from customers located in Asia-Pacific and in Europe. Because of our international operations, we are vulnerable to the following risks:

- we price our products primarily in US dollars; if the Euro, Yen or other currencies weaken relative to the US dollar, our products may be relatively more expensive in these regions, which could result in a decrease in our revenue;
- the burdens and costs of compliance with foreign government regulation, as well as compliance with a variety of foreign laws;
- 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 tax rules and regulations;
- weak protection of our intellectual property rights;
- 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 importation or exportation 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 a number of logistical and communication challenges. We cannot assure you that we will be able to sufficiently mitigate 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 executive officers, senior managers and skilled technical and other personnel. Our business could suffer if we lose the services of some of these personnel and we cannot find and adequately integrate replacement personnel into our 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 and to adjust the cash, equity and other components of compensation we offer our personnel.

Our business plan is premised on the increasing use of outsourced foundry services by both fabless semiconductor companies and integrated device manufacturers for the production of semiconductors using specialty process technologies. Our business may not be successful if this trend does not continue to develop in the manner we expect.

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. Although the use of foundries is established and growing for standard CMOS processes, the use of outsourced foundry services for specialty process technologies is less common and may never develop into a significant part of the semiconductor industry. If fabless companies and vertically integrated device manufacturers opt not to, or determine that they cannot, reduce their costs or allocate resources and capital more efficiently by accessing independent specialty foundry capacity, the manufacture of specialty process technologies may not follow the trend of standard CMOS processes. If the broader trend to outsourced foundry services does not prove applicable to the specialty process technologies that we are focused on, our business, results of operations and cash flow may be harmed.

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 could 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 depends on the availability and quality of the relevant services, tools and technologies provided by electronic design automation vendors and design service providers, and on whether we, together with these providers, are able to meet customers' schedule and budget requirements. Difficulties or delays in these areas may adversely affect our ability to meet our customers' needs, and thereby harm our business.

Failure to comply with existing or future governmental regulations could reduce our sales or increase our manufacturing costs.

The semiconductors we produce and the export of technologies used in our manufacturing processes may be subject to U.S., Israeli and/or Japanese export control and other regulations as well as various standards established by authorities in other countries. Failure to comply with existing or evolving U.S., Israeli, Japanese or other governmental regulation or to obtain timely domestic or foreign regulatory approvals or certificates, could materially harm our business by reducing our sales, requiring modifications to processes that we license to foreign third parties, or requiring too extensive modifications to the products of our customers. Neither we nor our customers may export products using or incorporating controlled technology without obtaining an export license. Governmental restrictions may make foreign competitors facing less stringent controls on their processes and their customers' products more

competitive in the global market than us or our customers.

In the event that Jazz engages in a Special Security Agreement with the United States Department of Defense, it may limit the synergies and other expected benefits of the merger with Jazz.

In connection with Jazz's aerospace and defense business, its facility security clearance and trusted foundry status, we are working with the Defense Security Service of the United States Department of Defense ("DSS") to develop an appropriate structure to mitigate any 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. In order to safeguard classified information, it is expected that the DSS will require adoption of a Special Security Agreement ("SSA"). The SSA may include certain security related restrictions, including restrictions on the composition of the board of directors, the separation of certain employees and operations, as well as restrictions on disclosure of classified information to Tower or TJP. The provisions contained in the SSA may also limit the projected synergies and other benefits to be realized from the merger. There is no assurance when, if at all, an SSA will be reached.

If the integrated circuits we manufacture are integrated into defective products, we may be subject to product liability 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 be adequate to satisfy claims that may be made against us. Also, we may be unable to obtain insurance in the future at satisfactory rates, in adequate amounts, 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 significant portion of Fab 3's workforce is unionized, and its operations may be adversely affected by work stoppages, strikes or other collective actions which may disrupt its production and adversely affect the yield of its fab.

A significant portion of Fab 3's employees at the Newport Beach, California fab are represented by a union and covered by a collective bargaining agreement that is scheduled to expire in March 2015. We cannot predict the effect that continued union representation or future organizational activities will have on Fab 3's business. We cannot assure you that Fab 3 will not experience a material work stoppage, strike or other collective action in the future, which may disrupt its production and adversely affect its customer relations and operational results.

The production yields and business of our fabs 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. Fab 4 is located in Japan, in a region that was not affected by the 2011 earthquake in Japan but 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 a major earthquake, and any resulting damage could seriously disrupt production and result in reduced revenues. In addition, we have no insurance coverage which may compensate us for losses that may be incurred at Fab 3 and Fab 4 as a result of earthquakes, and any such losses or damages incurred by us may have a material adverse effect on our business.

The production line may stop for short or long periods of time due to power outages, water leaks, chemical leaks and other causes, which may adversely affect our cycle time, yield, and on schedule delivery, thereby potentially causing an immediate loss of a material amount of revenue for the current and coming quarter or quarters, which would adversely affect our revenue, profitability and short term financial forecasts as compared to our original estimations.

There are many events that may adversely affect the manufacturing process running in a facility. From time to time, there are events such as power outages, water leaks and chemical leaks that may adversely affect our cycle time, yield and on schedule delivery. In such events, we try to mitigate any potential damage caused by such events and have insurance coverage which we believe to be sufficient. However, we cannot ensure that such events will have no negative effect on the Company. Such events may potentially cause an immediate loss of a material amount of revenue for the current and coming quarter or quarters, which would adversely affect our revenue, profitability and short term financial forecasts as compared to our original estimations.

Climate change may negatively affect our business.

There is increasing concern that climate change is occurring and may have dramatic effects on human activity if no aggressive remediation steps are taken. Public expectations 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 may harm the distribution of our products. We cannot predict the economic impact, if any, of disasters or climate change.

Compliance with the US Conflict Minerals Law may affect our ability or the ability of our suppliers to purchase raw materials at an effective cost.

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]. In August 2012 the SEC adopted annual disclosure and reporting requirements for companies that use conflict minerals mined from the DRC and adjoining countries in their products. These new requirements will require due diligence efforts in fiscal year 2013, with initial disclosure requirements beginning in May 2014. There will be costs associated with complying with these disclosure requirements, including for diligence to determine the sources of conflict minerals used in our products and other potential changes to products, processes or sources of supply as a consequence of such verification activities. Although we expect that we and our suppliers will be able to comply with the requirements, there is no assurance that we will be able to gather all of the information required from our suppliers. In addition, there is increasing public sentiment that companies should avoid using conflict materials from the DRC and adjoining countries. Although we believe our suppliers do not rely

on such conflict materials, there is no assurance that we will continue to be able to obtain adequate supplies of materials needed for our production from supply chains outside the DRC and adjoining countries. A failure to obtain necessary information or to maintain adequate supplies of materials from supply chains outside the DRC and adjoining countries may delay our production, increasing the risk of losing customers and business.

Risks relating to construction activities adjacent to Fab 3.

In 2010, the properties which Jazz leases for its fabrication facilities and headquarters were sold to a real estate investment firm based in Irvine, California. In connection with the sale, Jazz negotiated amendments to its operating leases that confirm Jazz's ability to remain in the fabrication facilities through 2017 and to exercise options to extend that lease through 2027. The new owner has expressed its intention to begin development of a portion of the property adjacent to Jazz's fabrication facility, with the first phase of development of mixed use townhouses, midrise and hi-rise condominium potentially beginning in 2014 or thereafter. In the amendments to its leases, Jazz secured various contractual safeguards designed to limit and mitigate any adverse impact of construction activities on its fabrication operations. Although Jazz does not anticipate a material adverse impact to its operations, it is possible that construction activities adjacent to Jazz's fabrication facility could result in 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 could adversely affect our business and operating results. In addition, an unplanned power outage caused by construction activities, even of very limited duration, could result in a loss of wafers in production, deterioration in Fab 3's yield and substantial downtime to reset equipment before resuming production.

Risks relating to vacating Jazz's headquarters building and relocating personnel and operations into the Fab3 fabrication facility.

Under Jazz's amended leases for its fabrication facilities and headquarters, Jazz's landlord has notified Jazz that the landlord is exercising its right to terminate the lease for Jazz's headquarters building, but not Jazz's fabrication facility, effective January 1, 2014. Although we do not anticipate a material adverse impact to our operations as a result of this move, it is possible that the process of relocating personnel as well as associated telephone and data lines and computer equipment could result in some temporary disruptions to our normal business operations, which could adversely affect our business and operating results.

Risks Related to Our Securities

Tower's outstanding debentures are subordinated to Tower's indebtedness to its banks and obligations to secured creditors and Jazz's notes are subordinated to Jazz's secured indebtedness to its bank.

Tower's outstanding debentures are subordinated to (i) approximately $131 million in the aggregate payable to the banks as of December 31, 2012 under Tower's amended facility agreement and (ii) any obligations to the Investment Center of the Israeli Ministry of Industry, Trade and Labor under the Investment Center's "Approved Enterprise" program in relation to Fab 2. Tower has not guaranteed any of Jazz's debt, including Jazz's debt under its bank loan and Jazz's debt to its note holders. In addition Jazz's notes are subordinated to approximately $19 million payable in regard to Jazz's secured bank loans as of December 31, 2012. As a result, upon any distribution to Tower or Jazz's creditors, as applicable, in liquidation or reorganization or similar proceedings, these secured creditors will be entitled to be paid in full before any payment may be made with respect to Tower or Jazz's outstanding debentures or note holders, as applicable. In any of these circumstances, Tower, or Jazz, as applicable, may not have sufficient assets remaining to pay amounts due on any or all of their respective debentures or notes then outstanding. In addition, neither Tower nor Jazz, as applicable, is permitted under the terms of their respective facility agreements to make a payment on account of their respective debentures or notes, as applicable, if on the date of such payment an "Event of Default" exists under the applicable facility agreement.

Tower's stock price may be volatile in the future.

The stock market, in general, has experienced extreme volatility that often has been unrelated to the operating performance of particular companies. In particular, the stock prices for many companies in the semiconductor industry have experienced wide fluctuations, which have 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 ordinary shares, regardless of Tower's actual operating performance.

In addition, it is possible that Tower's operating results may be below the expectations of public market analysts and investors, in which case, the price of Tower's securities may underperform or fall.

Market sales of large amounts of Tower's shares or securities, or even the perception that such sales may occur, may depress the market price of Tower's share, impair our ability to raise capital through the sale of Tower securities and limit our ability to find financing sources to fund our long-term debt and other liabilities.

Market sales of large amounts of Tower's shares or securities, or even the perception that such sales may occur, may lower the price of Tower's ordinary shares. Of Tower's approximately 22.3 million outstanding ordinary shares as of December 31, 2012, approximately 19.5 million are held by non-affiliates and are freely tradable under US securities laws. The balance is held by affiliates of Tower. Some of these shares are or may be registered for resale and therefore are or could be freely tradable under US securities laws, and the balance are eligible for sale subject to the volume and manner of sale limitations of Rule 144 promulgated under the US Securities Act of 1933. In addition, as described below, a substantial number of Tower ordinary shares are issuable under capital notes, options, warrants and convertible debentures, primarily the bonds series F.

A conversion or exercise of a material portion of such convertible securities, or even the perception that such a conversion or exercise may occur may depress the market price of Tower ordinary shares and may impair our ability to raise capital through the sale of Tower securities.

Issuance of ordinary shares may dilute the percentage of current and future shareholders.

As of December 31, 2012, we had approximately 22.3 million ordinary shares outstanding. We may issue additional ordinary shares that may result in dilution of the percentage of our ordinary shares held by current and future shareholders. If certain convertible securities are converted or exercised, we will be obligated to issue up to 55.9 million shares to our banks, employees, CEO, directors, bond holders, warrant holders and Israel Corp. In addition, we may execute on additional financings in the future, which may involve the issuance of additional ordinary shares or securities that are convertible into or exercisable for the purchase of ordinary shares, which may materially dilute the holdings of our shareholders.

Any inability to comply with Section 404 of the Sarbanes–Oxley Act of 2002 regarding internal control attestation may negatively impact the report on our financial statements to be provided by our independent auditors, thereby potentially adversely affecting our financial position.

We are subject to the reporting requirements of the United States Securities and Exchange Commission ("SEC"). The SEC, as directed by Section 404(a) of the United States Sarbanes–Oxley Act of 2002, adopted rules requiring public companies to include a management report assessing the company's effectiveness of internal control over financial reporting and an attestation thereof by its auditors in its annual report. Our management and/or our auditors may conclude that our internal controls over financial reporting are not effective. Such a conclusion could result in a loss of investor confidence in the reliability of our financial statements, which could negatively impact the market proce of our shares and our ability to access the capital markets.

Risks Related to Our Operations in Israel

Instability in Israel may harm our business.

Fab 1 and Fab 2 manufacturing facilities and certain of its 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, a number of armed conflicts have taken place between Israel and its Arab neighbors. In addition, Israel and companies doing business with Israel have, in the past, been the subject of an economic boycott. Although Israel has entered into various agreements with Egypt, Jordan and the Palestinian Authority, Israel has been and is subject to 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 could adversely affect our operations and make it more difficult for us to raise capital. Furthermore, Fab 1 and Fab 2 manufacturing facilities are located exclusively in Israel. We could experience serious disruption to our manufacturing in Israel if acts associated with this conflict result in any serious damage to said manufacturing facilities. In addition, our business interruption insurance may not adequately compensate us for losses that may incurred, and any losses or damages incurred by us could have a material adverse effect on our business.

Our operations may be negatively affected by the obligations of our Israeli personnel to perform military service.

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 could harm our operations.

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

We operate our Israeli manufacturing facilities seven days a week pursuant to an exemption from the law that requires businesses in Israel to be closed from sundown on Friday through sundown on Saturday. This exemption expires by its terms on December 31, 2014. If the exemption is not renewed in the future and we are forced to close either or both of the Israeli facilities for this period each week, our financial results and business will 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 and our Israeli accountants and attorneys are nonresidents of the United States, and a majority of Tower's assets (excluding its foreign subsidiaries and their assets) and the assets of these persons are located outside the United States. Therefore, it may be difficult to enforce a judgment obtained in the United States, against Tower or any of these persons, in US or Israeli courts based on the civil liability provisions of the US federal securities laws, except to the extent that such judgment could be enforced in the U.S. against Tower's U.S. subsidiaries. Additionally, it may be difficult to enforce civil liabilities under US federal securities laws claimed in original actions instituted in Israel.

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 manufacture of ICs with geometries ranging from 1.0 to 0.095-micron. 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 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. Our historical focus has been standard digital complementary metal oxide semiconductor ("CMOS") process technology, which is the most widely used method of producing ICs. We are currently focused on the emerging opportunities in specialized technologies including CMOS image sensors, 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 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 over twenty years of operation, we differentiate ourselves by creating a high level of value for our clients 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.

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), power platforms and mixed-signal technologies.

In September 2008, we merged with Jazz Technologies, Inc ("Jazz"). Jazz focuses on specialty process technologies for the manufacture of analog and mixed-signal semiconductor devices. Jazz's specialty process technologies include advanced analog, radio frequency, high voltage, bipolar 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 one semiconductor fabrication facility in Newport Beach, California ("Fab 3"). The merger has provided several key benefits, including increased global capacity, a larger customer base, a more comprehensive product portfolio and a stronger financial base.

In June 2011, we acquired a fabrication facility in Nishiwaki City, Hyogo, Japan ("Fab 4") from Micron. The assets and related business that we acquired from Micron are held and conducted through a wholly owned Japanese subsidiary, TowerJazz Japan Ltd. ("TJP"). Fab 4 supports geometries ranging from 0.13 to 0.095-micron to manufacture DRAM and CMOS image sensor products. We are currently in the process of qualifying other process technologies in Fab 4 to enable it to manufacture other customer products.

Our executive offices and Israeli manufacturing facilities are located in the Ramat Gavriel Industrial Park, Shaul Amor Street, Post Office Box 619, Migdal Haemek, 23105 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 2350 Mission College Blvd. Suite 500, Santa Clara, CA 95054.

For more information about us, go to 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 IBM, 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, 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 designed for diagnostics, medical devices, 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. 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. Thus, wafer manufacturers may also need to make a significant investment in specialty process technologies in order to manufacture these semiconductors. 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, radio frequency CMOS (RF CMOS), CMOS image sensors (CIS), 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 also offer competitive customer service through design, testing, and other technical services, often at a level previously found only at an IDM's internal facilities.

MANUFACTURING PROCESSES AND SPECIALIZED TECHNOLOGIES

We manufacture ICs on silicon wafers, generally using the customer's proprietary circuit designs. In some cases, we use third-party 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 who use our specialty process technologies cannot easily transfer designs to another foundry because the analog characteristics of the design are dependent upon the implementation of its applicable process technology. 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 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. Existing or new fabs may engage us for such services in order to expand their technology offerings. 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 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 CMOS and specialized technologies such as back-end-of-line (BEOL) magnetoresistive random access memory (MRAM) 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 the last twenty years. We have built strong relationships with customers, who continue to use our services, even as their demands evolve to smaller form factors and new applications. Our consistent focus on providing high-quality, value added services, including engineering and design support, has allowed us to attract customers who seek to work with a proven provider of foundry solutions. Our emphasis on working closely with customers and accelerating the time-to-market of our customers' next-generation products has enabled us to maintain a high customer retention rate and increase the number of new customers and new products for production.

We derived a very significant amount of our revenues for the year ended December 31, 2012 from our target specialized markets: CMOS image sensors, wireless communication, RF SiGe, high performance analog and power ICs. 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: CMOS image sensors (CIS), advanced analog CMOS, radio frequency CMOS (RF CMOS), radio frequency identification (RFID), bipolar CMOS (BiCMOS), silicon germanium (SiGe BiCMOS), high voltage CMOS, silicon-on-insulator (SOI) and power LDMOS.

In November 2009, Tower entered into a definitive agreement with an Asian entity for the provision by Tower on a turn-key basis of various services and equipment required for the capacity ramp-up and upgrade of the entity's currently installed and commissioned eight inch refurbished wafer fabrication facility. Under said agreement, Tower provides technical consultation, know-how, training and turn-key manufacturing solutions, including arranging for the required manufacturing and the transfer of certain equipment required for the fab ramp-up and upgrade. We have received approximately 90% of the agreed consideration but may be exposed to claims regarding liability or indemnification under said agreement.

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, industrial machine vision, dental x-ray, medical x-ray automotive sensors and 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 optical testing and packaging. The CMOS image sensors that we manufacture deliver outstanding image quality for a broad spectrum of digital imaging applications.

Specifically, our CIS portfolio includes pixels ranging from 2.2 micron up to 150 micron, all developed by us. We provide both rolling shutter and global shutter pixels. The latter are being used mainly in the industrial sensor and in the three dimensional sensors markets. Our advanced photo diode (APD) 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.

For the X-ray market, we offer our innovative patented “stitching” technology in Fab 2 on 0.18-micron process 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. 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” wafers and high end large format sensors with special pixels that we have developed specifically for this market.

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 and are well suited for wireless semiconductors, such as highly integrated wireless transceivers, power amplifiers, and television tuners. These process technologies generally incorporate integrated inductors, high performance variable capacitors, or varactors, and RF laterally diffused metal oxide semiconductors into an advanced analog CMOS process technology. In addition to the process features, 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 and 0.13 micron.

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 require enhanced tool capabilities to achieve high yield manufacturing. We currently have 0.35 micron BiCMOS process technology.

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 and power amplifiers. These integrated circuits generally incorporate a silicon germanium bipolar transistor, which is 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. The equipment requirements for SiGe BiCMOS manufacturing are similar to the specialized equipment requirements for BiCMOS. 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 high voltage CMOS and 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, into an advanced analog CMOS process. We currently have high voltage and low Rdson BCD offerings in 0.5 micron, 0.35 micron, 0.25 micron and 0.18 micron. We have extended the high voltage options and integrated the BCD process technology into our more advanced power management technology nodes (0.35 and 0.18 micron) to enable higher levels of analog integration at voltage ranges that are suitable for automotive electronics and line power conditioning for consumer devices. We offer a cost effective and digital intensive power management platform, based on our 0.18um technology node. In 2010, we introduced two more power management platforms: an isolated platform that incorporates an EPI growth on top of a buried layer on our 0.18 micron 8” based power platform; and a 700V platform on our 6 inch line, that supports the fast growing LED lighting market. The isolated platform ramped to high volume in the second half of 2011 and the 700V platform began production ramp in 2012. In addition, we have developed a unique, zero mask adder NVM solution (Y-Flash) specifically for power and power management devices on our 0.18 micron platform. This, combined with our scalable model for LDMOS devices makes our power management platform very attractive in the power IC market. We have released several Y-flash based modules to our customers which have already been integrated into their products.

In 2011, we signed an MOU with Samsung Electro Mechanics (“SEMCO”) to develop a high side 700V platform to be used for the power inverter market. The development was completed in 2012 and the technology is now part of our offering for SEMCO and all other customers. 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, improving the analog performance and voltage handling capability of active devices, and integrating additional advanced features in our specialty CMOS processes. Examples of such features currently under development include technologies aimed at integrating micro-electro-mechanical-system (MEMS) devices with CMOS, adding silicon-on-insulator (SOI) substrates to enable increased integration of RF and analog functions on a single die and scaling the features we offer today to the 0.13 micron process technology, including the integration of advanced SiGe transistors with 0.13 micron CMOS and copper metallization. The 0.13um BiCMOS process with copper metallization was released into production in 2012 and initial customer orders were received during 2012.

CUSTOMERS, MARKETING AND SALES

Our marketing and sales strategy seeks to aggressively expand our global customer base. We have marketing and sales support personnel in the United States, Europe, Korea, Taiwan, Japan and Israel. We appointed country managers in Korea, Europe and China. Our marketing and sales staff is supported by independent sales representatives, located in Europe and Japan, who have been selected based on their experience in and understanding of the semiconductor marketplace.

Our sales cycle is generally 8-26 months or longer for new customers and can be as short as 8-12 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 services are fabless semiconductor companies and independent device manufacturers (IDMs). A portion of our product sales are made pursuant to long-term contracts with our customers, under which we have agreed to reserve manufacturing capacity at our production facilities for such customers. Our customers include many industry leaders. During the year ended December 31, 2012, we had six significant customers who contributed between 3% to 43% of our revenues. During the year ended December 31, 2011, we had four significant customers who contributed between 5% to 32% of our revenues. In 2010, we had five significant customers who contributed between 5% to 16% of our revenues.

The percentage of our revenues from customers located outside the United States was 31%, 22% and 19% in the years ended December 31, 2010, 2011 and 2012, respectively. Although most of our revenues are from US-based customers, we expect a substantial portion of our revenues to continue to come from customers located outside the United States. The following table sets forth the geographical distribution, by percentage, of our net revenues for the periods indicated:

	Year ended December 31,					
	2012		2011		2010	
United States	81	%	78	%	69	%
India	3	%	7	%	14	%
Asia-Pacific	10	%	8	%	8	%
Europe	5	%	5	%	7	%
Israel	1	%	2	%	2	%
Total	100	%	100	%	100	%

We price our products on a per wafer basis, taking into account the complexity of the technology, the 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 their purchase orders only two to four months before shipment; however a few of our major customers are obligated to provide us with longer forecasts of their wafer needs.

We publish press releases, articles, white papers, perform presentations, participate in panel sessions at industry conferences, hold a variety of regional and international technology seminars, and attend and exhibit at various industry trade shows to promote our products and services. We discuss advances in our process technology portfolio and progress on specific relevant programs with our prospective and major customers as well as industry analysts and research analysts on a regular basis and publicly release any such information that we deem material or important to disclose or as may be 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 wire and wireless high-speed communications, consumer electronics, automotive and industrial. We manufacture products for a wide range of electronic products, including but not limited to, high-performance applications, such as transceivers and power management 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 plan arrays for imaging applications; controllers for power amplifier and switching chips in cellular phones and wireline interfaces for switches and routers.

Competition

The global semiconductor foundry industry is highly competitive. We broadly 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. They each also have some capacity for of specialty process technologies. The rest of the foundry industry generally targets either industry standard 8 inch CMOS processing or specialty process technologies. It includes existing Chinese, Korean and Malaysian foundries. We compete most directly in the specialty segment with foundries such as Vanguard, DongBu, X-Fab, ASMC, Grace, HHNEC, and Silterra. We also compete with integrated device manufacturers that have internal semiconductor manufacturing capacity or foundry operations, such as IBM, ST and Samsung, that produce ICs for their own use and may allocate a portion of their manufacturing capacity for foundry operations for external customers. Most of the foundries with which we compete are located in Asia-Pacific and benefit from their close proximity to other companies involved in the design of ICs and to the Asian customer base. The principal elements of competition in the wafer foundry market are:

- technical competency;
- production quality;
- time-to-market & manufacturing cycle time;

- available capacity;
- device yields;
- design and customer support services;
- access to intellectual property;
- price;
- management expertise;
- strategic relationships;
- research and development capabilities; and
- stability and reliability of supply in order to be a trusted supplier.

Many of our competitors have greater manufacturing capacity, multiple manufacturing facilities, longer or more established relationships with their customers, a more diverse customer base, superior research and development capability, 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.

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

Some semiconductor companies have advanced their CMOS designs to 90 and 65 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 our design services) 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 complete, 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.

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 probe, which involves electronically inspecting each individual IC in order to identify those that are operable for assembly.

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 the dissipation of heat or cold. Following assembly, the functionality, voltage, current and timing of each IC is tested. After testing, the completed IC is shipped to the customer.

Procurement and Sourcing

Our manufacturing processes use many materials, including silicon wafers, chemicals, gases, photomasks and various metals. These raw materials generally are available from several suppliers. In many instances, we purchase raw materials from a single source to obtain preferred pricing. In those cases, we generally also seek to identify, and in some cases qualify, alternative sources of supply.

In addition, we have agreements with several key material suppliers under which they hold certain levels of inventory for our use. We are not obliged under these agreements to purchase and pay for the raw material inventory that is held by our vendors at our sites until we actually use it, unless we hold the inventory beyond specified time limits.

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 special 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 Israeli Office of the Chief Scientist ("OCS"). Accordingly, Tower is subject to restrictions set forth in Israeli law which limit the ability of a company to transfer technologies outside of Israel, if such technologies were developed with OCS funding. In addition, we may be required to obtain export licenses before exporting certain controlled technology or products to any third party and may be required to comply with US and other foreign export regulations as may be applicable.

Our research and development activities seek to upgrade and integrate 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, 2010, 2011 and 2012 were $23.9 million, $24.9 million and $31.1 million, net of government participation of $2.7 million, $2.4 million and $1.8 million, respectively. As of December 31, 2012, we employed 171 professionals in our research and development departments, 35 of whom have PhDs. In addition to our research and development departments located at our facilities in Migdal Haemek, Israel, in Newport Beach, California and in Nishiwaki, 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, 2012, we held 189 patents in force in the United States and 26 patents in force in foreign countries. We have entered into various patent and other technology license agreements with technology companies, including Synopsys, ARM, Cadence, 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 and cell libraries from leading providers, such as ARM and Kilopass, and further develop specialized processes through our internal design teams. The licensing of these technologies has significantly reduced our internal development costs.

In connection with the separation of Jazz Semiconductor's business from Conexant in 2002, Conexant contributed to Jazz Semiconductor a substantial portion of its intellectual property, including software licenses, patents and intellectual property rights in know-how related to its business. Jazz agreed to license intellectual property rights relating to the intellectual property contributed to Jazz by Conexant back to Conexant and its affiliates. Conexant may use this license to have Conexant products produced by third-party manufacturers and to sell such products, subject to obtaining Jazz's prior consent.

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 these claims, which could seriously harm us.

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 our 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 typically 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 engineering 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.

During 2011, we launched a Design Centers Partnership Incentive Program offered to independent design centers, known as Design Star Awards Program (DSAP). The reciprocal program enables TowerJazz to attain new customers and increase revenue from their design partners' referrals. In turn, the design houses will receive incentives from TowerJazz for its products and services as well as referrals for new design customers.

The program enlists qualified design partners specialized in our process that can facilitate design work for our customers to effectively manufacture their products at our facilities. It offers capabilities to design both complete ICs including assembly and test and, in addition, supports specific design stages in the chip development process.

Government Regulation

In connection with Jazz's aerospace and defense business, its facility security clearance and trusted foundry status, Tower and Jazz are working with the Defense Security Service of the United States Department of Defense ("DSS") to develop an appropriate structure to mitigate any 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. In order to safeguard classified information, it is expected that the DSS will require adoption of a Special Security Agreement ("SSA"). The SSA may include certain security related restrictions, including restrictions on the composition of the board of directors, the separation of certain employees and operations, as well as restrictions on disclosure of classified information to Tower. The provisions contained in the SSA may also limit the projected synergies and other benefits to be realized from the merger. There is no assurance when, if at all, an SSA will be reached.

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, Jazz Technologies, Inc. owns all of the shares of Jazz Semiconductor, Inc. (both of which are incorporated under the laws of the State of Delaware) which operates our Fab 3 facility. Tower's wholly-owned subsidiary, TowerJazz Japan, Ltd. (incorporated in Japan) operates our Fab 4 facility in Japan.

D. PROPERTY, PLANTS AND EQUIPMENT

Manufacturing Facilities

We currently operate four manufacturing facilities—our Fab 1 and Fab 2 facilities in Israel, our Fab 3 Jazz facility in Newport Beach, California and our Fab 4 facility in Japan. The capacity in each of our facilities at any particular time is variable and depends on the combination of the processes being used and the product mix being manufactured. Hence, it may be significantly lower at certain times as a result of certain of our 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 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 the existing clean room area and the construction of an additional clean room area.

Capital expenditures in 2012, 2011 and 2010 were approximately $103 million, $132 million, and $89 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 0.13-micron, using advanced CMOS technology, including CMOS image sensors, embedded flash, advanced analog, RF, SiGe power platforms and mixed-signal technologies. Since 2000, 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.

Fab 3

Jazz’s headquarters and manufacturing facilities, 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. The headquarters space comprises 68,000 square feet of offices.

In 2010, the properties which Jazz leases for its fabrication facilities and headquarters were sold. In connection with the sale, Jazz negotiated amendments to its operating leases under which the landlord may terminate the lease for Jazz’s headquarters building, but not Jazz’s fabrication facility, no earlier than January 2014. Under the amended leases, the landlord notified Jazz at the end of December 2012 that it is exercising its right to terminate the lease for Jazz’s headquarters building, effective January 1, 2014. Jazz plans to relocate most of the personnel and associated telephone and data lines and computer equipment currently occupied in the headquarters building into the fabrication facility. The landlord does not have a corresponding right to terminate the lease for Jazz’s fabrication facility. Under the amended lease for the fabrication facility, Jazz leases the fabrication facility under a non-cancellable operating lease that expires in March 2017 and Jazz has a unilateral option to extend the terms of that lease for two consecutive five-year periods ending in 2027.

Fab 4

In June 2011, we acquired a fabrication facility in Nishiwaki City, Hyogo, Japan from Micron, which we refer to as Fab 4. The assets and related business that we acquired from Micron are held and conducted through a wholly owned Japanese subsidiary, TowerJazz Japan Ltd. Fab 4 supports geometries ranging down to 0.11-micron using newly qualified process technologies to support customer manufacturing.

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 TS16949 certified, a more 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 14000 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 18000 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 TS16949 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 consolidated financial statements for the year ended December 31, 2012 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

Revenue Recognition.

Our net revenues are generated principally from sales of semiconductor wafers. We also derive revenues from engineering and design support and other technical and support services. The majority of our revenue is achieved through the efforts of our direct sales force.

In accordance with ASC Topic 605 "Revenue Recognition", we recognize revenues from sale of products when the following fundamental criteria are met: (i) persuasive evidence of an arrangement exists, (ii) delivery has occurred or services have been rendered, (iii) the price to the customer is fixed or determinable; and (iv) collection of the resulting receivable is reasonably assured. These criteria are usually met at the time of product shipment. Revenues are recognized when the acceptance criteria are satisfied, based on performing electronic, functional and quality tests on

the products prior to shipment. Such company testing reliably demonstrates that the products meet all of the specified acceptance criteria.

Revenues for engineering, design and other support services are recognized ratably over the contract term or as services are performed.

Advances received from customers towards future engineering services, and/or product purchases are deferred until services are rendered or products are shipped to the customer.

Revenue relating to a turn-key agreement with an Asian entity are recognized based on ASC 605-35 (formerly SOP 81-1 “Accounting for Performance of Construction Type and Certain Production Type Contracts”) using the percentage of completion method. Measurement of the percentage toward completion is determined, based on the ratio of actual labor hours completed to total labor hours estimated to be completed over the duration of the contract. Such measurement involves management's estimates and judgment and is based on a detailed project plan, our substantial experience in building a fab, transferring and implementing new technologies and engaging sub-contractors' experts.

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 revenue; however, an accrual for estimated sales returns and allowances relating to specific yield or quality commitments, which is computed primarily on the basis of historical experience and specific identification, is recorded. Any changes in assumptions for determining the accrual for returns and other 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.

We are heavily capital oriented and the amount of depreciation is a significant amount of our yearly expenses. Changes to the useful lives assumption and hence the depreciation may have a material impact on our results of operations. Depreciation and amortization expenses in 2012 amounted to $174 million. Currently, 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 7 years; and (iii) technology and other intangible assets –1 to 19 years. Costs in relation to Fab 2 technologies were amortized over the expected estimated economic life of the technologies commonly used in the industry commencing on the date on which each technology was ready for its intended use. The amounts attributed to intangible assets as part of the purchase price allocations for the acquisitions of Jazz and TJP 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 might affect our depreciation and amortization expenses.

Impairment of Fixed Assets and Intangible Assets.

Management reviews long-lived tangible 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. For those assets that have definite useful lives, recoverability tests are performed based on undiscounted expected cash flows. When the asset is not recoverable, an impairment loss should be computed based on the difference between the carrying amount of the assets (or asset group) and the fair value. The fair value in most instances will be determined using present value techniques applied to expected cash flows. Changes in the assumptions used in forecasting future cash flows and the fair value of the assets may have a significant effect on determining whether an impairment charge is required and hence may affect our results of operations.

Impairment of Goodwill.

Goodwill is subject to an impairment test on an annual basis or upon the occurrence of certain events or circumstances. Goodwill impairment is assessed based on a comparison of the fair value of the unit to which the goodwill is ascribed and the underlying carrying value of its net assets, including goodwill. If the carrying amount of the unit exceeds its fair value, the implied fair value of the goodwill is compared with its carrying amount to measure the amount of impairment loss, if any. Changes in the assumptions used in calculation of the fair value of the unit may have a significant effect on determining whether an impairment charge is required and hence may affect our results of operations.

Convertible Debentures.

In accordance with ASC 470-20 “Debt with Conversion and Other Options", the proceeds from the sale of debt securities with a conversion feature and other options are allocated to each of the securities issued based on their relative fair value.

We are required, according to ASC Topic 815 "Derivatives and Hedging"; to determine whether the conversion option embedded in the convertible debt should be bifurcated and accounted for separately. Such determination is based on whether on a standalone basis such conversion option would be classified as equity. If the option can be classified as equity, no bifurcation is required. The analysis required under ASC Topic 815 involves the consideration of many factors and assumptions. Any changes in those factors or assumptions may have a significant effect on determining whether embedded derivatives are required to be bifurcated and hence may affect our results of operations.

Income Taxes.

We account for income taxes in accordance with ASC Topic 740, “Income Taxes”. 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.

We evaluate how realizable our deferred tax assets are for each jurisdiction in which we operate at each reporting date, and establish valuation allowances when it is more likely than not that all or a portion 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. We consider 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 our deferred tax assets are not more-likely-than-not realizable, we establish a valuation allowance.

We use a two-step approach to 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, which are recorded as a liability. Our policy is to include interest and penalties related to unrecognized income tax benefits as a component of income tax expense.

Initial Adoption of New Standards

In the first quarter of 2012, the Company adopted amended standards that increase the prominence of items reported in other comprehensive income. These amended standards eliminate the option to present components of other comprehensive income as part of the statement of changes in stockholders' equity and require that all changes in stockholders' equity - except investments by, and distributions to, owners - be presented either in a single continuous statement of comprehensive income or in two separate but consecutive statements. The adoption of these amended standards did impact the presentation of other comprehensive income, as we elected to present two separate but consecutive statements, but did not have an impact on our financial position or results of operations.

In May 2011, the FASB issued ASU No. 2011-04, Fair Value Measurement (Topic 820): Amendments to Achieve Common Fair Value Measurement and Disclosure Requirements in U.S. GAAP and IFRSs ("ASU 2011-04"). ASU 2011-04 was issued to provide a consistent definition of fair value and ensure that the fair value measurement and disclosure requirements are similar between GAAP and International Financial Reporting Standards. ASU 2011-04 clarifies the FASB's intent about the application of existing fair value measurement and disclosure requirements, changes certain fair value measurement principles and enhances fair value disclosure requirements. Effective January 1, 2012, the Company adopted the disclosure provisions included in ASU 2011-04. The adoption of ASU 2011-04 had no impact on our financial position or results of operations.

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.

	Year Ended December 31,		
	2012	2011	2010
Statement of Operations Data:			
Revenues	100 %	100 %	100 %
Cost of revenues	87.7	86.1	79.0
Gross profit	12.3	13.9	21.0
Research and development expenses, net	4.9	4.1	4.7
Marketing, general and administrative expenses	7.0	7.9	7.8
Acquisition related costs	0.9	0.2	--
Operating profit (loss)	(0.4)	1.7	8.5
Interest expenses, net	(5.0)	(4.5)	(5.2)
Other financing expense, net	(4.3)	(2.0)	(9.1)
Gain on acquisition	--	3.2	--
Other income (expense), net	(0.2)	2.2	--
Income tax expense	(1.1)	(3.5)	(2.5)
Loss	(11.0)%	(3.0)%	(8.3)%

Our consolidated financial statements include TJP results from June 3, 2011, as detailed in Note 3 to the consolidated financial statements for the year ended December 31, 2012.

Year Ended December 31, 2012 compared to Year Ended December 31, 2011

Revenues. Revenue for the year ended December 31, 2012 amounted to $638.8 million compared to $611.0 million for the year ended December 31, 2011. This increase in revenues was mainly due to higher average selling prices of approximately 10%, offset by (i) 3% lower volume of wafers manufactured by us and shipped to our customers; and by (ii) a reduction of $28 million in revenues relating to the agreement with the Asian entity, as detailed in Notes 2K and 16D(2) to the annual consolidated financial statements for the year ended December 31, 2012.

Cost of Revenues. Cost of revenues for the year ended December 31, 2012 amounted to $560.0 million, as compared to $526.2 million for the year ended December 31, 2011. The $34 million increase in cost of revenues was mainly due to the inclusion of TJP's cost of revenue for the full year ended December 31, 2012 compared to only seven months in the corresponding period in 2011. Cost of revenues for the year ended December 31, 2011 included a one-time reduction of depreciation expenses resulting from the grants approval by the Investment Centre (see Note 7B to the consolidated financial statements for the year ended December 31, 2012).

Gross Profit. Gross profit for the year ended December 31, 2012 was $78.8 million, as compared to $84.8 million for the year ended December 31, 2011, a decrease of $6 million, resulting from the above described $34 million increase in cost of revenues offset by the above described $28 million revenue increase. Gross profit for the year ended December 31, 2012 decreased following weakening customer demand in the semiconductor industry which was offset by the inclusion of TJP gross profit for the full year ended December 31, 2012 compared to only seven months in the corresponding period in 2011.

Research and Development Expenses. Research and development expenses for the year ended December 31, 2012 amounted to $31.1 million, as compared to $24.9 million for the year ended December 31, 2011. The increase in research and development expenses was mainly due to including TJP's research and development expenses for the full year ended December 31, 2012 compared to only seven months in the corresponding period in 2011.

Marketing, General and Administrative Expenses. Marketing, general and administrative expenses for the year ended December 31, 2012 amounted to $44.4 million as compared to $48.2 million for the year ended December 31, 2011. The decrease, despite the inclusion of TJP's marketing, general and administrative expenses for the full year ended December 31, 2012 compared to only seven months in the corresponding period in 2011 is due to cost savings actions in 2012 and due to reduced stock based compensation expenses recorded in 2012. The compensation attributed to options granted in 2009 was amortized through the vesting period of three years with higher effect in 2011 than in 2012.

Acquisition Related and Reorganization Costs. In 2012, the Company executed a plan of reorganization to increase the efficiency of its Japanese facility, including a reduction in the number of employees, resulting in $5.8 million of reorganization costs in the year ended December 31 2012. Acquisition related costs in the year ended December 31, 2011 amounted to $1.5 million.

Operating Profit (Loss). Operating loss for the year ended December 31, 2012 was $2.5 million, as compared to $10.2 million operating profit for the year ended December 31, 2011, resulting from the above described decrease of $6.0 in gross profit and the higher operating expenses, as described above.

Interest Expenses, Net. Interest expenses, net for the year ended December 31, 2012 were $31.8 million compared to interest expenses, net of $27.8 million for the year ended December 31, 2011. The increase was mainly due to the debentures Series F issued in 2012.

Other Financing Expenses, Net. Other financing expenses, net for the year ended December 31, 2012 were $27.6 million compared to other financing expenses, net of $12.5 million for the year ended December 31, 2011. The increase in financing expenses, net is described in details in Note 19 to the consolidated financial statements as of December 31, 2012.

Gain from Acquisition. In 2011, gain from the acquisition of TJP was $19.5 million gross, as detailed in Note 3 to the consolidated financial statements attached to this annual report.

The loss for the year ended December 31, 2011 included approximately $10 million net positive effect from TJP acquisition, comprised of (i) approximately $19.5 million gross gain from the acquisition, as the fair market value of the assets, net acquired exceeded the purchase price; and (ii) approximately $9.5 million of related tax provisions and other expenses directly associated with this acquisition.

Other Income, Net. Other income, net for the year ended December 31, 2011 included approximately $14 million gross gain from the sale of the 10% holdings in HHNEC.

Income Tax Expenses. Income tax expenses resulting from the subsidiaries' income before taxes, amounted to $7.3 million in the year ended December 31, 2012 as compared to $21.4 million for the year ended December 31, 2011. Income tax expense for the year ended December 31, 2011 results from our subsidiaries' operating income and the approximately $13 million income tax expenses relating to the gain from the acquisition of TJP and to the gain from the sale of the holdings in HHNEC.

Loss. Loss for the year ended December 31, 2012 was $70.3 million as compared to $18.5 million for the year ended December 31, 2011. The increased loss was mainly due to the $19.5 million gross gain from the acquisition of TJP in year ended December 31, 2011 and $14.1 million gross gain from the sale of our 10% holdings in HHNEC in year ended December 31, 2011, as well as an increase in 2012 of $15.1 million in the financing expense, net detailed in Note 19 to the consolidated financial statements attached to this annual report and lower operating profit in 2012 of $12.7 million, all of which were partially offset by $14.0 million lower tax expenses.

Year Ended December 31, 2011 compared to Year Ended December 31, 2010

Revenue. Revenues for the year ended December 31, 2011 were $611.0 million compared to $509.3 million for the year ended December 31, 2010. Such increase in revenues was primarily a result of higher wafers shipped of 32% (mainly resulting from the inclusion during 2011 of shipments from TJP, partially offset by lower shipments due to the weakening customer demand in the semiconductor industry), while the average selling price decreased by 4%.

Revenues for the year ended December 31, 2010 included $27 million higher revenues, as compared to the year ended December 31, 2011, relating to the agreement with the Asian entity, as detailed in Notes 2K and 16D(2) to the annual consolidated financial statements for the year ended December 31, 2011 included in this report. The project with the Asian entity is expected to be finalized in the coming year and we expect 2012 revenues from this project to be approximately $25 million lower than in 2011.

Cost of Total Revenues. Cost of revenues for the year ended December 31, 2011 amounted to $526.2 million, as compared to $402.1 million for the year ended December 31, 2010. The increase in cost of revenues is mainly due to including 2011 TJP's cost of revenue. Cost of revenues for the year ended December 31, 2011 included one-time depreciation expenses reduction resulting from the grants approval by the Investment Centre, see Note 7B to the consolidated financial statements for the year ended December 31, 2011 included in this report, as well as a reduction of $17 million from the Asian project referred to above.

Gross Profit . Gross profit for the year ended December 31, 2011 was $84.8 million, as compared to $107.2 million for the year ended December 31, 2010, a decrease of $22.4 million, resulting from the above described $124.1 million increase in cost of revenues offset by the above described $101.7 million revenue increase. Gross profit for the year ended December 31, 2011 decreased following the weakening customer demand in the semiconductor industry which was offset by the inclusion of 2011 TJP's gross profit.

Research and Development. Research and development expenses for the year ended December 31, 2011 amounted to $24.9 million, substantially the same as the $23.9 million for the year ended December 31, 2010.

Marketing, General and Administrative Expenses. Marketing, general and administrative expenses for the year ended December 31, 2011 amounted to $48.2 million as compared to $40.0 million for the year ended December 31, 2010. The increase is mainly due to including 2011 TJP's Marketing, general and administrative expenses. As a percentage of revenues, marketing, general and administrative expenses remained at approximately 8% of revenues.

Operating Profit. Operating profit for the year ended December 31, 2011 was $10.2 million, as compared to $43.3 million for the year ended December 31, 2010, a decrease of $33.1 million, resulting mainly from the above described decrease of $22.4 in gross profit, the above described $1.0 million research & development expenses increase and the above described $8.2 million marketing, general and administrative expenses increase.

Financing Expenses, Net. Financing expenses, net for the year ended December 31, 2011 were $40.3 million compared to financing expenses, net of $72.9 million for the year ended December 31, 2010. The decrease in financing expenses, net is described in details in Note 19 to the consolidated financial statements as of December 31, 2012 included in this report.

Gain from acquisition. Gain from acquisition of TJP was $19.5 million gross, as detailed in Note 3 to the consolidated financial statements as of December 31, 2011 included in this report. Loss for the year ended December 31, 2011 included approximately $10 million net positive effect from Nishiwaki Fab acquisition, comprised of (i) approximately $19.5 million gross gain from the acquisition, as the fair market value of the assets, net acquired exceeded the purchase price and (ii) approximately $9.5 million of related tax provisions and other expenses directly associated with this acquisition.

Other income, Net. Other income, net for the year ended December 31, 2011 includes approximately $15 million gross gain from the sale of our 10% holdings in HHNEC.

Income Tax expense. Income tax expense resulting from the subsidiaries' income before taxes, amounted to $21.4 million in the year ended December 31, 2011 as compared to $12.8 million for the year ended December 31, 2010. Income tax expense in the year ended December 31, 2011 resulted from our subsidiaries' operating income and approximately $8 million income tax expenses relating to the gain from the acquisition of TJP.

Loss. Loss for the year ended December 31, 2011 was $18.5 million as compared to $42.4 million for the year ended December 31, 2010. Such $23.9 million improvement is due to the $32.6 million lower financing expenses, $19.5 million gross gain from the acquisition of TJP and $13.4 million other income which were partially offset by the lower operating profit of $33.1 million and $8.5 million higher tax expenses.

Impact of Inflation and Currency Fluctuations

The US Dollar costs of our operations in Israel are influenced by changes in the rate of inflation in Israel and the extent to which such changes are not offset by the change in valuation of the NIS in relation to the US Dollar. During the year ended December 31, 2012, the exchange rate of the US Dollar in relation to the NIS decreased by 2.3% and the Israeli Consumer Price Index ("CPI") increased by 1.6% (during the year ended December 31, 2011, there was an increase of 7.7% in the exchange rate of the US Dollar in relation to the NIS and an increase of 2.2% in the CPI).

We believe that the rate of inflation in Israel has not had a material effect on our business to date. However, our US Dollar costs will increase if inflation in Israel exceeds the devaluation of the NIS against the US Dollar.

The US Dollar costs of our operations in Japan are influenced by the changes in valuation of the Japanese Yen (JPY) in relation to the US Dollar. During the year ended December 31, 2012, the exchange rate of the US Dollar in relation to the JPY increased by 11.2% (during 2011, from the acquisition of TJP until December 31, 2011, the exchange rate of the US Dollar in relation to the JPY decreased by 4.2%).

Nearly the entire cash generated from our operations and from our financing and investing activities is denominated in US Dollar, JPY and NIS. Our expenses and costs are denominated in NIS, US Dollar, JPY and Euros. We are, therefore, exposed to the risk of currency exchange rate fluctuations.

Tower and Jazz's bank loans mainly provide for interest based on a floating LIBOR rate and TJP's bank loans interest is based on the higher of TIBOR rate or LIBOR rate, therefore we are exposed to interest rate fluctuations. From time to time, we engage in various hedging strategies to reduce our exposure to some, but not all, of these risks. However, despite any such hedging activity, we are likely to remain exposed to interest rate fluctuations, which may increase the cost of our business activities, particularly our financing expenses.

Part of Tower's debentures are denominated in NIS and linked to the Israeli CPI and therefore we are exposed to fluctuation of the NIS/US Dollar exchange rate. The US Dollar amount of our financing costs (interest and currency adjustments) related to these debentures will increase if the rate of inflation in Israel is not offset by the devaluation of the NIS in relation to the US Dollar. In addition, the US Dollar amount of any repayment on account of the principal of these debentures will also increase.

The quantitative and qualitative disclosures about market risk are in Item 11 of this annual report.

B. LIQUIDITY AND CAPITAL RESOURCES

As of December 31, 2012, we had an aggregate amount of $133.4 million in cash, cash equivalents and interest bearing deposits, including $10 million of designated deposits as compared to $101.1 million of cash and cash equivalents as of December 31, 2011.

The main cash activities during the year ended December 31, 2012 consisted of the following: we generated an amount of $95.3 million from operating activities, excluding $20.1 million of TJP re-organization payments, we raised $104.7 million, net from convertibl