UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, DC 20549

FORM 10-Q

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

For the quarterly period ended September 30, 2019

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

For the transition period from __________

Commission File Number 0-18277

VICOR CORPORATION
(Exact name of registrant as specified in its charter)

Delaware	**04-2742817**
(State of Incorporation)	(I.R.S. Employer Identification No.)

25 Frontage Road, Andover, Massachusetts 01810
(Address of Principal Executive Office)

(978) 470-2900
(Registrant's telephone number)

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

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, par value $0.01 per share	**VICR**	**The NASDAQ Stock Market LLC**

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☒ No ☐

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

Large accelerated filer	☒	Smaller reporting company	☐
Accelerated filer	☐	Emerging growth company	☐
Non-accelerated filer	☐		

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

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ☐ No ☒

The number of shares outstanding of each of the issuer's classes of Common Stock as of **October 21,** 2019 was:

Common Stock, $.01 par value	28,645,840
Class B Common Stock, $.01 par value	11,758,218

Table of Contents

VICOR CORPORATION

INDEX

Table of Contents

VICOR CORPORATION

Part I – Financial Information
Item 1 – Financial Statements

Condensed Consolidated Balance Sheets
(In thousands)
(Unaudited)

	September 30, 2019	December 31, 2018
Assets		
Current assets:		
Cash and cash equivalents	$ 81,229	$ 70,557
Accounts receivable, less allowance of $65 in 2019 and $224 in 2018	39,987	43,673
Inventories, net	49,688	47,370
Other current assets	5,114	3,460
Total current assets	176,018	165,060
Long-term deferred tax assets, net	241	265
Long-term investments, net	2,576	2,526
Property, plant and equipment, net	56,336	50,432
Other assets	2,739	2,785
Total assets	$ 237,910	$ 221,068
Liabilities and Equity		
Current liabilities:		
Accounts payable	$ 10,329	$ 16,149
Accrued compensation and benefits	9,548	10,657
Accrued expenses	2,335	2,631
Short-term lease liabilities	1,580	—
Sales allowances	1,076	548
Accrued severance and other charges	—	234
Income taxes payable	57	710
Short-term deferred revenue	5,843	5,069
Total current liabilities	30,768	35,998
Long-term deferred revenue	1,134	232
Contingent consideration obligations	210	408
Long-term income taxes payable	237	238
Long-term lease liabilities	2,845	102
Total liabilities	35,194	36,978
Commitments and contingencies (Note 12)		
Equity:		
Vicor Corporation stockholders' equity:		
Class B Common Stock	118	118
Common Stock	404	402
Additional paid-in capital	199,166	193,457
Retained earnings	141,786	129,000
Accumulated other comprehensive loss	(278)	(394)
Treasury stock, at cost	(138,927)	(138,927)
Total Vicor Corporation stockholders' equity	202,269	183,656
Noncontrolling interest	447	434
Total equity	202,716	184,090
Total liabilities and equity	$ 237,910	$ 221,068

See accompanying notes.

VICOR CORPORATION

Condensed Consolidated Statements of Operations
(In thousands, except per share amounts)
(Unaudited)

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2019	2018	2019	2018
Net revenues	$70,772	$78,035	$199,852	$217,500
Cost of revenues	37,770	39,031	106,647	112,402
Gross margin	33,002	39,004	93,205	105,098
Operating expenses:				
Selling, general and administrative	15,443	15,280	45,846	46,493
Research and development	11,507	10,691	34,433	33,220
Severance and other charges	—	(10)	—	340
Total operating expenses	26,950	25,961	80,279	80,053
Income from operations	6,052	13,043	12,926	25,045
Other income (expense), net:				
Total unrealized gains on available-for-sale securities, net	11	32	50	88
Less: portion of gains recognized in other comprehensive income	(10)	(30)	(47)	(82)
Net credit gains recognized in earnings	1	2	3	6
Other income (expense), net	145	230	670	612
Total other income (expense), net	146	232	673	618
Income before income taxes	6,198	13,275	13,599	25,663
Less: Provision for income taxes	266	227	805	724
Consolidated net income	5,932	13,048	12,794	24,939
Less: Net (loss) income attributable to noncontrolling interest	(5)	36	8	124
Net income attributable to Vicor Corporation	$ 5,937	$13,012	$ 12,786	$ 24,815
Net income per common share attributable to Vicor Corporation:				
Basic	$ 0.15	$ 0.32	$ 0.32	$ 0.62
Diluted	$ 0.14	$ 0.32	$ 0.31	$ 0.61
Shares used to compute net income per common share attributable to Vicor Corporation:				
Basic	40,332	40,120	40,279	39,769
Diluted	42,194	41,124	41,435	40,645

See accompanying notes.

Table of Contents

VICOR CORPORATION

Condensed Consolidated Statements of Comprehensive Income
(In thousands)
(Unaudited)

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2019	2018	2019	2018
Consolidated net income	$5,932	$13,048	$12,794	$24,939
Foreign currency translation (losses) gains , net of tax (1)	(11)	(156)	74	(129)
Unrealized gains on available-for-sale securities, net of tax (1)	10	30	47	82
Other comprehensive (loss) income	(1)	(126)	121	(47)
Consolidated comprehensive income	5,931	12,922	12,915	24,892
Less: Comprehensive (loss) income attributable to noncontrolling interest	(6)	25	13	115
Comprehensive income attributable to Vicor Corporation	$5,937	$12,897	$12,902	$24,777

(1) The deferred tax assets associated with cumulative foreign currency translation gains and cumulative unrealized gains on available-for-sale securities are completely offset by a tax valuation allowance as of September 30, 2019 and 2018. Therefore, there is no income tax benefit (provision) recognized for the three and nine months ended September 30, 2019 and 2018.

See accompanying notes.

Table of Contents

VICOR CORPORATION

Condensed Consolidated Statements of Cash Flows
(In thousands)
(Unaudited)

	Nine Months Ended September 30, 2019	Nine Months Ended September 30, 2018
Operating activities:		
Consolidated net income	$12,794	$ 24,939
Adjustments to reconcile consolidated net income to net cash provided by operating activities:		
Depreciation and amortization	7,647	6,870
Stock-based compensation expense, net	2,292	2,604
(Benefit) provision for doubtful accounts	(138)	91
Decrease in long-term income taxes payable	(1)	—
Increase in other long-term liabilities	—	7
Increase (decrease) in long-term deferred revenue	902	(54)
Gain on disposal of equipment	(23)	(45)
Deferred income taxes	24	26
Credit gain on available-for-sale securities	(3)	(6)
Change in current assets and liabilities, net	(6,955)	(11,590)
Net cash provided by operating activities	16,539	22,842
Investing activities:		
Additions to property, plant and equipment	(9,122)	(6,894)
Proceeds from sale of equipment	23	45
Decrease in other assets	(37)	(92)
Net cash used for investing activities	(9,136)	(6,941)
Financing activities:		
Proceeds from issuance of Common Stock	3,423	8,378
Payment of contingent consideration obligations	(198)	(208)
Net cash provided by financing activities	3,225	8,170
Effect of foreign exchange rates on cash	44	(95)
Net increase in cash and cash equivalents	10,672	23,976
Cash and cash equivalents at beginning of period	70,557	44,230
Cash and cash equivalents at end of period	$81,229	$ 68,206

See accompanying notes.

VICOR CORPORATION

Condensed Consolidated Statements of Equity
(In thousands)
(Unaudited)

Three months ended September 30, 2019	Class B Common Stock	Common Stock	Additional Paid-In Capital	Retained Earnings	Accumulated Other Comprehensive Income (Loss)	Treasury Stock	Total Vicor Corporation Stockholders' Equity	Noncontrolling Interest	Total Equity
Balance on June 30, 2019	$ 118	$ 403	$ 196,698	$ 135,849	$ (278)	$ (138,927)	$ 193,863	$ 453	$ 194,316
Sales of Common Stock		1	689				690		690
Stock-based compensation expense			753				753		753
Issuances of stock through employee stock purchase plan			1,026				1,026		1,026
Components of comprehensive income, net of tax:									
Net income				5,937			5,937	(5)	5,932
Other comprehensive income					—		—	(1)	(1)
Total comprehensive income							5,937	(6)	5,931
Balance on September 30, 2019	$ 118	$ 404	$ 199,166	$ 141,786	$ (278)	$ (138,927)	$ 202,269	$ 447	$ 202,716
Nine months ended September 30, 2019									
Balance on December 31, 2018	$ 118	$ 402	$ 193,457	$ 129,000	$ (394)	$ (138,927)	$ 183,656	$ 434	$ 184,090
Sales of Common Stock		1	1,117				1,118		1,118
Stock-based compensation expense			2,292				2,292		2,292
Issuances of stock through employee stock purchase plan		1	2,304				2,305		2,305
Other			(4)				(4)		(4)
Components of comprehensive income, net of tax:									
Net income				12,786			12,786	8	12,794
Other comprehensive income					116		116	5	121
Total comprehensive income							12,902	13	12,915
Balance on September 30, 2019	$ 118	$ 404	$ 199,166	$ 141,786	$ (278)	$ (138,927)	$ 202,269	$ 447	$ 202,716

Three months ended September 30, 2018	Class B Common Stock	Common Stock	Additional Paid-In Capital	Retained Earnings	Accumulated Other Comprehensive Income (Loss)	Treasury Stock	Total Vicor Corporation Stockholders' Equity	Noncontrolling Interest	Total Equity
Balance on June 30, 2018	$ 118	$ 399	$ 188,276	$ 109,078	$ (401)	$ (138,927)	$ 158,543	$ 395	$ 158,938
Sales of Common Stock		3	2,462				2,465		2,465
Stock-based compensation expense			688				688		688
Issuances of stock through employee stock purchase plan			947				947		947
Components of comprehensive income, net of tax:									
Net income				13,012			13,012	36	13,048
Other comprehensive loss					(115)		(115)	(11)	(126)
Total comprehensive income							12,897	25	12,922
Balance on September 30, 2018	$ 118	$ 402	$ 192,373	$ 122,090	$ (516)	$ (138,927)	$ 175,540	$ 420	$ 175,960
Nine months ended September 30, 2018									
Balance on December 31, 2017	$ 118	$ 401	$ 181,395	$ 93,605	$ (478)	$ (138,927)	$ 136,114	$ 305	$ 136,419
Sales of Common Stock		6	6,498				6,504		6,504
Stock-based compensation expense			2,604				2,604		2,604
Issuances of stock through employee stock purchase plan		1	1,873				1,874		1,874
Cumulative effect of adoption of new accounting principle (Topic 606)				3,670			3,670		3,670
Other		(6)	3				(3)		(3)
Components of comprehensive income, net of tax:									
Net income				24,815			24,815	124	24,939
Other comprehensive income					(38)		(38)	(9)	(47)
Total comprehensive income							24,777	115	24,892
Balance on September 30, 2018	$ 118	$ 402	$ 192,373	$ 122,090	$ (516)	$ (138,927)	$ 175,540	$ 420	$ 175,960

See accompanying notes.

VICOR CORPORATION

Notes to Condensed Consolidated Financial Statements
September 30, 2019
(unaudited)

1. Basis of Presentation

The accompanying unaudited Condensed Consolidated Financial Statements of Vicor Corporation and its consolidated subsidiaries (collectively, the "Company") have been prepared in accordance with generally accepted accounting principles for interim financial information and pursuant to the rules and regulations of the Securities and Exchange Commission. Accordingly, these interim financial statements do not include all of the information and footnotes required by generally accepted accounting principles for complete financial statements.

In the opinion of management, all adjustments (consisting of normal recurring adjustments) considered necessary for a fair presentation have been included. Operating results for the three and nine months ended September 30, 2019 are not necessarily indicative of the results that may be expected for any other interim period or the year ending December 31, 2019. The balance sheet at December 31, 2018 presented herein has been derived from the audited financial statements at that date but does not include all of the information and footnotes required by generally accepted accounting principles for complete financial statements. For further information, refer to the consolidated financial statements and notes thereto contained in the Company's Annual Report on Form 10-K for the year ended December 31, 2018 filed by the Company with the Securities and Exchange Commission on February 28, 2019 ("2018 Form 10-K").

2. Recently Adopted Accounting Standard

In February 2016, the Financial Accounting Standards Board ("FASB") issued new guidance for lease accounting, which requires lessees to recognize leases on the balance sheet and disclose key information about leasing arrangements. The new guidance establishes a right-of-use model ("ROU") that requires a lessee to recognize a ROU asset and a lease liability on the balance sheet for all leases with a term longer than twelve months. Leases are classified as finance or operating, with classification affecting the pattern and classification of expense recognition in the income statement. For lessors, the guidance modifies the classification criteria and accounting for sales-type and direct financing leases.

The Company adopted the new standard as of January 1, 2019, using the effective date as the date of initial application. As a result, financial information has not been updated and the disclosures required under the new standard have not been provided for dates and periods before January 1, 2019. The Company elected the 'package of practical expedients', which permits companies to not reassess under the new standard lease identification, lease classification and initial direct costs. The Company did not elect the use-of-hindsight or the practical expedient pertaining to land easements, the latter not being applicable.

The adoption of the standard resulted in the recognition of ROU assets and lease liabilities of approximately $4,329,000 and $4,455,000, respectively, as of January 1, 2019. There was no cumulative effect of adopting this new guidance, and the standard did not have a material impact on the Company's condensed consolidated statements of operations or cash flows for the three and nine months ended September 30, 2019.

3. Inventories

Inventories are valued at the lower of cost (determined using the first-in, first-out method) or net realizable value. Fixed production overhead is allocated to the inventory cost per unit based on the normal capacity of the production facilities. Abnormal production costs, including fixed cost variances from normal production capacity, if any, are charged to cost of revenues in the period incurred. All shipping and handling costs incurred in connection with the sale of products are included in cost of revenues.

Inventory that is estimated to be excess, obsolete or unmarketable is written down to net realizable value. The Company's estimation process for assessing net realizable value is based upon its known backlog, projected future demand, historical consumption and expected market conditions. If the Company's estimated demand and/or market expectation were to change or if product sales were to decline, the Company's estimation process may cause larger inventory reserves to be recorded, resulting in larger charges to cost of revenues.

VICOR CORPORATION

Notes to Condensed Consolidated Financial Statements
September 30, 2019
(unaudited)

Inventories were as follows (in thousands):

	September 30, 2019	December 31, 2018
Raw materials	$ 35,907	$ 37,696
Work-in-process	4,854	4,740
Finished goods	8,927	4,934
Net balance	$ 49,688	$ 47,370

4. Long-Term Investments

As of September 30, 2019 and December 31, 2018, the Company held one auction rate security with a par value of $3,000,000, purchased through and held in custody by a broker-dealer affiliate of Bank of America, N.A., that has experienced failed auctions (the "Failed Auction Security") since February 2008. The Failed Auction Security held by the Company is Aaa/AA+ rated by major credit rating agencies, is collateralized by student loans, and is guaranteed by the U.S. Department of Education under the Federal Family Education Loan Program. Management is not aware of any reason to believe the issuer of the Failed Auction Security is presently at risk of default. Through September 30, 2019, the Company has continued to receive interest payments on the Failed Auction Security in accordance with the terms of its indenture. Management believes the Company ultimately should be able to liquidate the Failed Auction Security without significant loss primarily due to the overall quality of the issue held and the collateral securing the substantial majority of the underlying obligation. However, current conditions in the auction rate securities market have led management to conclude the recovery period for the Failed Auction Security exceeds 12 months. As a result, the Company continued to classify the Failed Auction Security as long-term as of September 30, 2019.

The following is a summary of available-for-sale securities (in thousands):

September 30, 2019	Cost	Gross Unrealized Gains	Gross Unrealized Losses	Estimated Fair Value
Failed Auction Security	$3,000	$ —	$ 424	$ 2,576

December 31, 2018	Cost	Gross Unrealized Gains	Gross Unrealized Losses	Estimated Fair Value
Failed Auction Security	$3,000	$ —	$ 474	$ 2,526

As of September 30, 2019, the Failed Auction Security had been in an unrealized loss position for greater than 12 months.

Table of Contents

The cost and estimated fair value of the Failed Auction Security on September 30, 2019, by contractual maturity, are shown below (in thousands):

	Cost	Estimated Fair Value
Due in twenty to forty years	$3,000	$ 2,576

Based on the fair value measurements described in Note 5, the fair value of the Failed Auction Security on September 30, 2019, with a par value of $3,000,000, was estimated by the Company to be approximately $2,576,000. The gross unrealized loss of $424,000 on the Failed Auction Security consists of two types of estimated loss: an aggregate credit loss of $38,000 and an aggregate temporary impairment of $386,000. In determining the amount of credit loss, the Company compared the present value of cash flows expected to be collected to the amortized cost basis of the security, considering credit default risk probabilities and changes in credit ratings as significant inputs, among other factors (See Note 5).

The following table represents a rollforward of the activity related to the credit loss recognized in earnings on the Failed Auction Security for the nine months ended September 30 (in thousands):

	2019	2018
Balance at the beginning of the period	$ 41	$ 48
Reductions in the amount related to credit gain for which other-than- temporary impairment was not previously recognized	(3)	(6)
Balance at the end of the period	$ 38	$ 42

At this time, the Company has no intent to sell the impaired Failed Auction Security and does not believe it is more likely than not the Company will be required to sell this security. If current market conditions deteriorate further, the Company may be required to record additional unrealized losses. If the credit rating of the security deteriorates, the Company may be required to adjust the carrying value of the investment through impairment charges recorded in the Condensed Consolidated Statements of Operations, and any such impairment adjustments may be material.

Based on the Company's ability to access cash and cash equivalents and its expected operating cash flows, management does not anticipate the current lack of liquidity associated with the Failed Auction Security held will affect the Company's ability to execute its current operating plan.

5. Fair Value Measurements

The Company accounts for certain financial assets at fair value, defined as the price that would be received to sell an asset or paid to transfer a liability (i.e., an exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants on the measurement date. As such, fair value is a market-based measurement that should be determined based on assumptions market participants would use in pricing an asset or liability. A three-level hierarchy is used to show the extent and level of judgment used to estimate fair value measurements.

VICOR CORPORATION

Notes to Condensed Consolidated Financial Statements
September 30, 2019
(unaudited)

Assets and liabilities measured at fair value on a recurring basis included the following as of September 30, 2019 (in thousands):

	Using			
	Quoted Prices in Active Markets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Total Fair Value as of September 30, 2019
Cash equivalents:				
Money market funds	$ 9,588	$ —	$ —	$ 9,588
Long-term investments:				
Failed Auction Security	—	—	2,576	2,576
Liabilities:				
Contingent consideration obligations	—	—	(210)	(210)

Assets and liabilities measured at fair value on a recurring basis included the following as of December 31, 2018 (in thousands):

	Using			
	Quoted Prices in Active Markets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Total Fair Value as of December 31, 2018
Cash equivalents:				
Money market funds	$ 9,433	$ —	$ —	$ 9,433
Long-term investments:				
Failed Auction Security	—	—	2,526	2,526
Liabilities:				
Contingent consideration obligations	—	—	(408)	(408)

As of September 30, 2019, there was insufficient observable auction rate security market information available to determine the fair value of the Failed Auction Security using Level 1 or Level 2 inputs. As such, the Company's investment in the Failed Auction Security was deemed to require valuation using Level 3 inputs. Management, after consulting with advisors, valued the Failed Auction Security using analyses and pricing models similar to those used by market participants (i.e., buyers, sellers, and the broker-dealers responsible for execution of the Dutch auction pricing mechanism by which each issue's interest rate was set). Management utilized a probability weighted discounted cash flow ("DCF") model to determine the estimated fair value of this security as of September 30, 2019. The major assumptions used in preparing the DCF model were similar to those described in Note 5 - Fair Value Measurements in the Notes to the Consolidated Financial Statements contained in the Company's 2018 Form 10-K.

Table of Contents

Quantitative information about Level 3 fair value measurements as of September 30, 2019 is as follows (dollars in thousands):

	Fair Value	Valuation Technique	Unobservable Input	Weighted Average
Failed Auction Security	$ 2,576	Discounted cash flow	Cumulative probability of earning the maximum rate until maturity	0.08%
			Cumulative probability of principal return prior to maturity	94.78%
			Cumulative probability of default	5.14%
			Liquidity risk premium	5.00%
			Recovery rate in default	40.00%

The change in the estimated fair value calculated for the investment valued on a recurring basis utilizing Level 3 inputs (i.e., the Failed Auction Security) for the nine months ended September 30, 2019 was as follows (in thousands):

Balance at the beginning of the period	$2,526
Credit gain on available-for-sale securities included in Other income (expense), net	3
Gain included in Other comprehensive income	47
Balance at the end of the period	$2,576

The Company has classified its contingent consideration obligations as Level 3 because the fair value for these liabilities was determined using unobservable inputs. The liabilities were based on estimated sales of legacy products over the period of royalty payments at the royalty rate, discounted using the Company's estimated cost of capital.

The change in the estimated fair value calculated for the liabilities valued on a recurring basis utilizing Level 3 inputs (i.e., the Contingent consideration obligations) for the nine months ended September 30, 2019 was as follows (in thousands):

Balance at the beginning of the period	$ 408
Payments	(198)
Balance at the end of the period	$ 210

There were no transfers between Level 1 and Level 2 of the fair value hierarchy during the nine months ended September 30, 2019.

6. Revenues

Revenue from the sale of Advanced Products represents the sum of third-party sales of the products sold under the Advanced Products line, which were sold under the former Picor and VI Chip operating segments during periods prior to the second quarter of 2019. Revenue from the sale of Brick Products represents the sum of third-party sales of the products sold under the Brick Products line, which were also sold under the former Brick Business Unit operating segment, inclusive of such sales of our Vicor Custom Power and Vicor Japan Company, Ltd. subsidiaries. See Note 14 for a discussion of changes to the Company's segment reporting.

VICOR CORPORATION

Notes to Condensed Consolidated Financial Statements
September 30, 2019
(unaudited)

The following tables present the Company's net revenues disaggregated by geography based on the location of the customer, by product line (in thousands):

	Three Months Ended September 30, 2019		
	Brick Products	Advanced Products	Total
United States	$ 25,265	$ 4,290	$ 29,555
Europe	5,577	889	6,466
Asia Pacific	14,510	18,875	33,385
All other	1,130	236	1,366
	$ 46,482	$ 24,290	$ 70,772

	Nine Months Ended September 30, 2019		
	Brick Products	Advanced Products	Total
United States	$ 73,289	$ 16,562	$ 89,851
Europe	17,960	3,517	21,477
Asia Pacific	46,908	37,618	84,526
All other	2,955	1,043	3,998
	$ 141,112	$ 58,740	$199,852

	Three Months Ended September 30, 2018		
	Brick Products	Advanced Products	Total
United States	$ 20,508	$ 9,152	$ 29,660
Europe	7,013	1,187	8,200
Asia Pacific	22,136	16,578	38,714
All other	1,369	92	1,461
	$ 51,026	$ 27,009	$ 78,035

	Nine Months Ended September 30, 2018		
	Brick Products	Advanced Products	Total
United States	$ 55,794	$ 25,908	$ 81,702
Europe	16,615	3,110	19,725
Asia Pacific	64,223	48,110	112,333
All other	3,380	360	3,740
	$ 140,012	$ 77,488	$217,500

VICOR CORPORATION

Notes to Condensed Consolidated Financial Statements
September 30, 2019
(unaudited)

The following tables present the Company's net revenues disaggregated by the category of revenue, by product line (in thousands):

	Three Months Ended September 30, 2019		
	Brick Products	Advanced Products	Total
Direct customers, contract manufacturers and non-stocking distributors	$ 39,705	$ 22,574	$ 62,279
Stocking distributors, net of sales allowances	6,522	1,734	8,256
Non-recurring engineering	163	(36)	127
Royalties	92	—	92
Other	—	18	18
	$ 46,482	$ 24,290	$ 70,772

	Nine Months Ended September 30, 2019		
	Brick Products	Advanced Products	Total
Direct customers, contract manufacturers and non-stocking distributors	$ 120,496	$ 49,524	$170,020
Stocking distributors, net of sales allowances	19,750	7,817	27,567
Non-recurring engineering	762	1,319	2,081
Royalties	104	24	128
Other	—	56	56
	$ 141,112	$ 58,740	$199,852

	Three Months Ended September 30, 2018		
	Brick Products	Advanced Products	Total
Direct customers, contract manufacturers and non-stocking distributors	$ 44,269	$ 23,508	$ 67,777
Stocking distributors, net of sales allowances	6,236	1,773	8,009
Non-recurring engineering	513	1,694	2,207
Royalties	8	16	24
Other	—	18	18
	$ 51,026	$ 27,009	$ 78,035

VICOR CORPORATION

Notes to Condensed Consolidated Financial Statements
September 30, 2019
(unaudited)

	Nine Months Ended September 30, 2018		
	Brick Products	Advanced Products	Total
Direct customers, contract manufacturers and non-stocking distributors	$ 123,147	$ 67,924	$191,071
Stocking distributors, net of sales allowances	15,934	6,924	22,858
Non-recurring engineering	885	2,494	3,379
Royalties	46	92	138
Other	—	54	54
	$ 140,012	$ 77,488	$217,500

The following table presents the changes in certain contract assets and (liabilities) (in thousands):

	September 30, 2019	December 31, 2018	Change
Accounts receivable	$ 39,987	$ 43,673	$(3,686)
Short-term deferred revenue	(4,239)	(3,820)	(419)
Long-term deferred revenue	(1,134)	(232)	(902)
Deferred expenses	1,418	501	917
Customer prepayments	(1,604)	(1,250)	(354)
Sales allowances	(1,076)	(548)	(528)

The decrease in accounts receivable was primarily due to a decrease in net revenues of approximately $2,948,000 in the third quarter of 2019 compared to the fourth quarter of 2018.

Deferred expenses are included in Other current assets, and customer prepayments are included in Short-term deferred revenue, in the accompanying Condensed Consolidated Balance Sheets, respectively.

The Company records deferred revenue, which represents a contract liability, when cash payments are received or due in advance of performance under a contract with a customer. The Company recognized revenue of approximately $23,000 and $53,000 for the three and nine months ended September 30, 2019, respectively, and $471,000 and $781,000, for the three and nine months ended September 30, 2018, respectively, that was included in deferred revenue at the beginning of each respective period.

7. Product Warranties

The Company generally offers a two-year warranty for all of its products, though it has extended the warranty period to three years for certain military grade products sold after January 1, 2017. The Company is party to a limited number of supply agreements with certain customers contractually committing the Company to warranty and indemnification requirements exceeding those to which the Company has been exposed in the past. The Company provides for the estimated cost of product warranties at the time product revenue is recognized. Factors influencing the Company’s warranty reserves include the number of units sold, historical and anticipated rates of warranty returns, and the cost per return. The Company periodically assesses the adequacy of warranty reserves and adjusts the amounts as necessary. Warranty obligations are included in “Accrued expenses” in the accompanying Condensed Consolidated Balance Sheets.

Product warranty activity was as follows (in thousands):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2019	2018	2019	2018
Balance at the beginning of the period	$ 270	$ 326	$ 268	$ 290
Accruals for warranties for products sold in the period	29	6	113	139
Fulfillment of warranty obligations	(41)	(17)	(123)	(94)
Revisions of estimated obligations	—	(58)	—	(78)
Balance at the end of the period	$ 258	$ 257	$ 258	$ 257

8. Stock-Based Compensation

The Company uses the Black-Scholes option pricing model to calculate the fair value of stock option awards, whether they possess time-based vesting provisions or performance-based vesting provisions, and awards granted under the Vicor Corporation 2017 Employee Stock Purchase Plan (“ESPP”), as of their grant date. Stock-based compensation expense was as follows (in thousands):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2019	2018	2019	2018
Cost of revenues	$ 86	$ 58	$ 228	$ 173
Selling, general and administrative	482	474	1,507	1,973
Research and development	185	156	557	458
Total stock-based compensation	$ 753	$ 688	$ 2,292	$ 2,604

Compensation expense by type of award was as follows (in thousands):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2019	2018	2019	2018
Stock options	$ 514	$ 503	$ 1,556	$ 2,101
ESPP	239	185	736	503
Total stock-based compensation	$ 753	$ 688	$ 2,292	$ 2,604

9. Leases

Substantially all of the Company's leases are classified as operating leases. The majority of the Company's leases are for office and manufacturing space, along with several automobiles and certain equipment. Leases with initial terms of less than twelve months are not recorded on the balance sheet. Expense for these leases is recognized on a straight-line basis over the lease term. The Company's leases have remaining terms of less than one year to just over six years. The majority of the Company's leases do not have options to renew, although several have renewal terms to extend the lease for one five-year term, and one lease contains two five-year renewal options. None of the renewal options are included in determining the term of the lease, used for calculating the associated lease liabilities. None of the Company's leases include variable payments, residual value guarantees or restrictive covenants. A number of the Company's leases for office and manufacturing space include provision for common area maintenance ("CAM"). The Company accounts for CAM separately from lease payments, and therefore costs for CAM are not included in the determination of lease liabilities. The Company is a party to one arrangement as the lessor, for its former Westcor facility located in Sunnyvale, California, with a third party. The lessee under this lease has one option to renew the lease for a term of five years.

As of September 30, 2019, the balance of ROU assets was approximately $4,348,000, and the balances of short-term and long-term lease liabilities were approximately $1,580,000 and $2,845,000, respectively. For the three and nine months ended September 30, 2019, the Company recorded operating lease cost, including short-term lease cost, of approximately $461,000 and $1,398,000, respectively. The ROU assets are included in "Property, plant and equipment, net" in the accompanying Condensed Consolidated Balance Sheets.

The maturities of the Company's lease liabilities are as follows (in thousands):

2019	$ 458
2020	1,576
2021	923
2022	625
2023	536
Thereafter	665
Total lease payments	$4,783
Less: Imputed interest	358
Present value of lease liabilities	$4,425

As of September 30, 2019, the weighted-average remaining lease term was 3.9 years and the weighted-average discount rate was 3.81% for the Company's operating leases. The Company developed the discount rates used based on a London Interbank Offered Rate ("LIBOR") over a term approximating the term of the related lease, plus an additional interest factor, which was generally 1.375%.

For the three and nine months ended September 30, 2019, the Company paid approximately $44,000 and $107,000, respectively, for amounts included in the measurement of lease liabilities through operating cash flows, and obtained approximately $951,000 and $1,413,000 in ROU assets for the three and nine months ended September 30, 2019, respectively, in exchange for new operating lease liabilities.

VICOR CORPORATION

Notes to Condensed Consolidated Financial Statements
September 30, 2019
(unaudited)

The maturities of the lease payments to be received by the Company under its leased facility in California are as follows (in thousands):

2019	$ 215
2020	874
2021	901
2022	928
2023	955
Thereafter	402
Total lease payments to be received	$4,275

For the three and nine months ended September 30, 2019, the Company recorded lease income under this lease of approximately $214,000 and $642,000, respectively.

10. Income Taxes

The tax provision is based on the estimated annual effective tax rate for the year, which includes estimated federal, state and foreign income taxes on the Company's projected pre-tax income.

The provision for income taxes and the effective income tax rates were as follows (dollars in thousands):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2019	2018	2019	2018
Provision for income taxes	$ 266	$ 227	$ 805	$ 724
Effective income tax rate	4.3%	1.7%	5.9%	2.8%

The effective tax rates were lower than the statutory tax rates for the three and nine months ended September 30, 2019 and 2018 due primarily to the utilization of net operating loss carryforwards and tax credits. The provisions for income taxes in the three and nine months ended September 30, 2019 and 2018 also included estimated foreign income taxes and estimated state taxes in jurisdictions in which the Company does not have net operating loss carryforwards.

As of September 30, 2019, the Company has a valuation allowance of approximately $30,031,000 against all domestic net deferred tax assets, for which realization cannot be considered more likely than not at this time. Management assesses the need for the valuation allowance on a quarterly basis. In assessing the need for a valuation allowance, the Company considers all positive and negative evidence, including scheduled reversals of deferred tax liabilities, projected future taxable income, tax planning strategies, and past financial performance. While recent positive operating results caused the Company to be in a cumulative income position as of September 30, 2019, it has been in such a position for only a limited number of quarters and its overall profitability has been declining since the third quarter of 2018 primarily due to reduced bookings for both Brick and Advanced Products, reflecting U.S.-China trade/tariff dynamics and elements of macro uncertainty. In addition, continued uncertainty in economic conditions that could potentially impact the Company has led management to conclude a full valuation allowance against all domestic net deferred tax assets is still warranted as of September 30, 2019. The valuation allowance against these deferred tax assets may require adjustment in the future based on changes in the mix of temporary differences, changes in tax laws, and operating performance. If the positive quarterly earnings continue and the Company's concerns about industry uncertainty and order volumes are alleviated to the point that the Company believes future profits can be more reliably forecasted, the Company may release all or a portion of the valuation in the near-term. If and when the Company determines the valuation allowance should be released (i.e., reduced), the adjustment would result in a tax benefit reported in that period's Consolidated Statements of Operations, the effect of which would be an increase in reported net income.

11. Net Income per Share

The following table sets forth the computation of basic and diluted net income per share (in thousands, except per share amounts):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2019	2018	2019	2018
Numerator:				
Net income attributable to Vicor Corporation	$ 5,937	$13,012	$12,786	$24,815
Denominator:				
Denominator for basic net income per share-weighted average shares (1)	40,332	40,120	40,279	39,769
Effect of dilutive securities:				
Employee stock options (2)	1,862	1,004	1,156	876
Denominator for diluted net income per share – adjusted weighted-average shares and assumed conversions	42,194	41,124	41,435	40,645
Basic net income per share	$ 0.15	$ 0.32	$ 0.32	$ 0.62
Diluted net income per share	$ 0.14	$ 0.32	$ 0.31	$ 0.61

(1) Denominator represents weighted average number of shares of Common Stock and Class B Common Stock outstanding.
(2) Options to purchase 171,499 and 138,251 shares of Common Stock for the three and nine months ended September 30, 2019, respectively, and 54,818 and 47,573 shares of Common Stock for the three and nine months ended September 30, 2018, respectively, were not included in the calculations of net income per share as the effect would have been antidilutive.

12. Commitments and Contingencies

At September 30, 2019, the Company had approximately $2,627,000 of capital expenditure commitments.

The Company is the defendant in a patent infringement lawsuit originally filed on January 28, 2011 by SynQor, Inc. ("SynQor") in the U.S. District Court for the Eastern District of Texas (the "Texas Action"). The complaint, as amended, alleges that the Company's products, including but not limited to, unregulated bus converters used in intermediate bus architecture power supply systems, infringe SynQor's U.S. patent numbers 7,072,190, 7,272,021, 7,564,702, and 8,023,290 ("the '190 patent", "the '021 patent", "the '702 patent", and "the '290 patent", respectively). The Company has denied that its products infringe any of the SynQor patents, and has asserted that the SynQor patents are invalid and/or unenforceable. The Company has also asserted counterclaims seeking damages from SynQor for deceptive trade practices and tortious interference with prospective economic advantage arising from SynQor's attempted enforcement of its patents against the Company.

On May 23, 2016, after extensive discovery, the Texas Action was stayed by the court pending completion of certain inter partes reexamination ("IPRx") proceedings at the United States Patent and Trademark Office ("USPTO") (including any appeals from such proceedings to the Federal Circuit (as defined below)) concerning the SynQor patents, which are described below. That stay remains in force.

In 2011, in response to the filing of the Texas Action, the Company's IPRx proceedings at the USPTO challenged the validity of all claims that were asserted against the Company by SynQor. The current status of these proceedings is as follows. Regarding the '190 patent IPRx, the United States Court of Appeals for the Federal Circuit (the "Federal Circuit") issued a decision on March 13, 2015, determining that certain claims were invalid and remanding the matter to the Patent Trial and Appeal Board ("PTAB") of the USPTO for further proceedings. On February 20, 2019, the PTAB issued a decision finding that all of the remaining challenged claims were unpatentable. SynQor has appealed that decision to the Federal Circuit, and the appeal remains pending. On August 30, 2017, the Federal Circuit issued rulings with regard to the IPRx proceedings for the '’021, '702 and '290 patents. With respect to the '021 patent, the Federal Circuit affirmed the PTAB's determination that all of the challenged claims of the '021 patent were invalid. The Federal Circuit remanded the case to the PTAB for further consideration of the patentability of certain claims that had been added by amendment during the reexamination. On February 20, 2019, the PTAB issued a decision affirming the examiner's rejections of all challenged claims. With respect to the '702 patent, the Federal Circuit affirmed the PTAB's determination that all of the challenged claims of the '702 patent were patentable. With respect to the '290 patent, the Federal Circuit vacated the PTAB's decision upholding the patentability of the '290 patent claims, and remanded the case to the PTAB for further consideration. On February 20, 2019, the PTAB issued a decision reversing its prior affirmance of the examiner's non-adoption of rejections with respect to the '290 patent, and entering rejections of all of the claims of the '290 patent. On May 20, 2019, as permitted by USPTO rules, SynQor requested the USPTO to reopen prosecution of this proceeding to address the new rejections made by the PTAB.

On October 31, 2017, the Company filed a request with the USPTO for ex parte reexamination ("EPRx") of the asserted claims of the '702 patent, based on different prior art references than had been at issue in the previous IPRx of the '702 patent. On September 12, 2018, a patent examiner found that all of the asserted claims were invalid. SynQor has appealed that ruling to the PTAB, where the appeal remains pending. On August 6, 2018, the Company filed a request with the USPTO for EPRx of the asserted claims of the '190 patent, based on different prior art references than had been at issue in the previous IPRx of the '190 patent. On March 15, 2019, the USPTO issued a non-final rejection of all of the asserted claims of the '190 patent.

On January 23, 2018, the 20-year terms of the '190 patent, the '021 patent and the '702 patent expired. The 20-year term of the '290 patent expired on July 16, 2018. As a consequence of these expirations, the Company cannot be liable under any of the SynQor patents for allegedly infringing activities occurring after the patents' respective expiration dates. In addition, any amended claims that may issue as a result of any of the still-pending reexamination proceedings will have no effective term and cannot be the basis for any liability by the Company.

The Company continues to believe none of its products, including its unregulated bus converters, infringe any valid claim of the asserted SynQor patents, either alone or when used in an intermediate bus architecture implementation. The Company believes SynQor's claims lack merit and, therefore, it continues to vigorously defend itself against SynQor's patent infringement allegations. The Company does not believe a loss is probable for this matter. If a loss were to be incurred, however, the Company cannot estimate the amount of possible loss or range of possible loss at this time.

In addition to the SynQor matter, the Company is involved in certain other litigation and claims incidental to the conduct of its business. While the outcome of lawsuits and claims against the Company cannot be predicted with certainty, management does not expect any current litigation or claims will have a material adverse impact on the Company's financial position or results of operations.

13. VI Chip Merger

On June 28, 2019, the Company's Board of Directors unanimously approved the merger of VI Chip Corporation ("VI Chip"), a subsidiary of Vicor, fully consolidated for financial reporting purposes, with and into the Company. The merger was completed as of June 28, 2019, at which time the separate corporate existence of VI Chip ceased. To effect the merger, holders of VI Chip common stock and VI Chip stock options received an equivalent value of Vicor Common Stock and Vicor stock options, respectively, pursuant to the assumption of the VI Chip Corporation Amended and Restated 2007 Stock Option and Incentive Plan, and options outstanding thereunder, by the Company. There was no net impact on the Company's condensed consolidated financial statements for the three and nine months ended September 30, 2019 as a result of the merger.

14. Segment Information

In the second quarter of 2019, management determined the Company would report as one segment, rather than under the three segment approach employed since 2007. Given the growth profiles of the markets the Company serves with Advanced Products and Brick Products, the Company's strategy has evolved with a transition in organizational focus, emphasizing investment in Advanced Products, targeting high growth market segments with a low-mix, high-volume operational model, while maintaining a profitable business in mature market segments we serve with Brick Products with a high-mix, low-volume operational model. The Company's Board of Directors and Dr. Vinciarelli, the Chief Operating Decision Maker ("CODM"), authorized the mergers of our VI Chip and Picor Corporation ("Picor") subsidiaries, based on the development and evolution of the aforementioned strategy. Dr. Vinciarelli and management began to make incremental changes in management practices and organizational structure based on a management plan established in 2018 for the definitive reconfiguration of the three business units into one business focused on the Advanced Products and Brick Products product line categorizations, including three significant changes: the merger of Picor with and into Vicor, which was completed on May 30, 2018; the reconfiguration of the Company's internal reporting systems, which was completed on December 31, 2018; and the merger of VI Chip with and into Vicor, which, as stated, was completed on June 28, 2019. Our CODM now determines the allocation of resources of the Company based upon the two product line groupings, which constitute one segment. Both product lines are built in the Company's manufacturing facility in Andover, Massachusetts employing similar processing and production techniques, and are supported by the same sales and marketing organizations. As such, the Company has conformed the segment reporting to the new reporting structure utilized by the CODM. Accordingly, three-segment information for prior periods has not been presented, to conform with the new presentation.

15. Impact of Recently Issued Accounting Standards

In August 2018, the FASB issued guidance which modifies the disclosure requirements on fair value measurements under Topic 820, *Fair Value Measurements*, including the consideration of costs and benefits. The new guidance is effective for all entities for annual and interim periods in fiscal years beginning after December 15, 2019, with early adoption permitted. It is required to be applied on a retrospective approach with certain elements being adopted prospectively for only the most recent interim or annual period presented in the initial fiscal year of adoption. The Company has not yet determined the impact this new guidance will have on its consolidated financial statements and related disclosures.

In June 2016, the FASB issued new guidance which will require measurement and recognition of expected credit losses on certain types of financial instruments. It also modifies the impairment model for available-for-sale debt securities and provides for a simplified accounting model for purchased financial assets with credit deterioration since their origination. The new guidance is effective for interim and annual reporting periods beginning after December 15, 2019, with early adoption permitted. It is required to be applied on a modified-retrospective approach with certain elements being adopted prospectively. The Company does not expect the adoption of the new guidance will have a material impact on its consolidated financial statements and related disclosures.

Other new pronouncements issued but not effective until after September 30, 2019 are not expected to have a material impact on the Company's consolidated financial statements.

VICOR CORPORATION

Management's Discussion and Analysis of
Financial Condition and Results of Operation
September 30, 2019

Item 2 — Management's Discussion and Analysis of Financial Condition and Results of Operations

The Company's consolidated operating results are affected by a wide variety of factors that could materially and adversely affect revenues and profitability, including the risk factors described in the Company's Annual Report on Form 10-K for the year ended December 31, 2018. As a result of these and other factors, the Company may experience material fluctuations in future operating results on a quarterly or annual basis, which could materially and adversely affect its business, consolidated financial condition, operating results, and the share price of its listed common stock. This document and other documents filed by the Company with the Securities and Exchange Commission ("SEC") include forward-looking statements regarding future events and the Company's future results that are subject to the safe harbor afforded under the Private Securities Litigation Reform Act of 1995 and other safe harbors afforded under the Securities Act of 1933 and the Securities Exchange Act of 1934. All statements other than statements of historical fact are statements that could be deemed forward-looking statements. Forward-looking statements are based on our current beliefs, expectations, estimates, forecasts, and projections for the future performance of the Company. Forward-looking statements are identified by the use of words denoting uncertain, future events, such as "anticipate," "assume," "believe," "continue," "could," "estimate," "expect," "future," "if," "intend," "may," "plan," "potential," "project," "prospective," "seek," "should," "target," "will," or "would," as well as similar words and phrases, including the negatives of these terms, or other variations thereof. Forward-looking statements also include statements regarding: our ongoing development of power conversion architectures, switching topologies, materials, packaging, and products; the ongoing transition of our business strategically, organizationally, and operationally from serving a large number of relatively low volume customers across diversified markets and geographies to serving a small number of relatively large volume customers; our intent to enter new market segments; the levels of customer orders overall and, in particular, from large customers and the delivery lead times associated therewith; the financial and operational impact of customer changes to shipping schedules; the derivation of a portion of our sales in each quarter from orders booked in the same quarter; our intent to expand the percentage of revenue associated with licensing our intellectual property to third parties; our plans to invest in expanded manufacturing capacity and the timing, location, and funding thereof; our belief cash generated from operations and the total of our cash and cash equivalents will be sufficient to fund operations for the foreseeable future; our belief that we have limited exposure to currency risks; our intentions regarding the declaration and payment of cash dividends; our intentions regarding protecting our rights under our patents; and our expectation that no current litigation or claims will have a material adverse impact on our financial position or results of operations. These forward-looking statements are based upon our current expectations and estimates associated with prospective events and circumstances that may or may not be within our control and as to which there can be no assurance. Actual results could differ materially from those implied by forward-looking statements as a result of various factors, including but not limited to those described in the Company's Annual Report on Form 10-K for the year ended December 31, 2018 under Part I, Item 1 — "Business," under Part I, Item 1A — "Risk Factors," under Part I, Item 3 — "Legal Proceedings," and under Part II, Item 7 — "Management's Discussion and Analysis of Financial Condition and Results of Operations." The discussion of our business contained herein, including the identification and assessment of factors that may influence actual results, may not be exhaustive. Therefore, the information presented should be read together with other documents we file with the SEC from time to time, including our Annual Reports on Form 10-K, our Quarterly Reports on Form 10-Q and our Current Reports on Form 8-K, which may supplement, modify, supersede, or update the factors discussed in this Quarterly Report on Form 10-Q. We do not undertake any obligation to update any forward-looking statements as a result of future events or developments, except as required by law.

Overview

We design, develop, manufacture, and market modular power components and power systems for converting electrical power for use in electrically-powered devices. Our competitive position is supported by innovations in product design and achievements in product performance, largely enabled by our focus on the research and development of advanced technologies and processes, often implemented in proprietary semiconductor circuitry, materials, and packaging. Many of our products incorporate patented or proprietary implementations of high-frequency switching topologies enabling power system solutions that are more efficient and much smaller than conventional alternatives. Our strategy emphasizes demonstrable product differentiation and a value proposition based on competitively superior solution performance, advantageous design flexibility, and a compelling total cost of ownership. We consider our core competencies to be associated with 48V distribution, which offers numerous inherent cost and performance advantages over lower distribution voltages, although we offer products addressing other voltage standards (e.g., 28V for defense electronics applications) and a broad range of customer voltage requirements.

VICOR CORPORATION

Management's Discussion and Analysis of
Financial Condition and Results of Operation
September 30, 2019

Based on design, performance, and form factor considerations, as well as the range of evolving applications for which our products are appropriate, we categorize our product portfolios as either "Advanced Products" or "Brick Products." The Advanced Products category consists of our more recently introduced products, which are largely used to implement our proprietary Factorized Power Architecture™ ("FPA"), an innovative power distribution architecture enabling flexible, rapid power system design using individual components optimized to perform a specific conversion stage (i.e., function). The Brick Products category largely consists of our broad and well-established families of integrated power converters, incorporating multiple conversion stages, used in conventional distributed power systems architectures.

Given the growth profiles of the markets we serve with our Advanced Products line and our Brick Products line, our strategy involves a transition in organizational focus, emphasizing investment in our Advanced Products line and targeting high growth market segments with a low-mix, high-volume operational model, while maintaining a profitable business in the mature market segments we serve with our Brick Products line with a high-mix, low-volume operational model.

On June 28, 2019, our subsidiary, VI Chip Corporation ("VI Chip"), was merged with and into Vicor (the "Merger"), and the corporate existence of VI Chip ceased. (See Note 13 to the Condensed Consolidated Financial Statements for further detail). In connection with the Merger, the VI Chip Corporation Amended and Restated 2007 Stock Option and Incentive Plan (the "VI Chip Plan") was amended and restated, and Vicor assumed the VI Chip Plan and each outstanding option to acquire the common stock of VI Chip (each "VI Chip Option"), whether vested or unvested, awarded under the VI Chip Plan. Each VI Chip Option was, immediately following the Merger, deemed to constitute an option (a "Company Option") to purchase, on the same terms and conditions as were applicable to the VI Chip Option prior to the Merger, a number of shares of our Common Stock, $0.01 par value, equal to the product of (i) the number of shares of the common stock of VI Chip subject to the VI Chip Option multiplied by (ii) 0.1418, which was the exchange ratio used in the Merger (the "Exchange Ratio"). The exercise price per share of each Company Option immediately following the Merger was determined by dividing (x) the exercise price per share of the VI Chip Option by (y) the Exchange Ratio.

The VI Chip Plan, which was previously approved by our stockholders at the 2017 Annual Meeting of Stockholders, was amended and restated in connection with the Merger to (i) provide that awards granted under the VI Chip Plan will be settled in shares of our common stock, (ii) adjust the number of shares that are issuable under the VI Chip Plan to reflect the Merger, (iii) provide that no new awards may be granted under the VI Chip Plan after the completion of the Merger, (iv) permit cashless broker-assisted net exercises of Company Options pursuant to the terms of the assumed VI Chip Plan, and (v) make other conforming and administrative changes to reflect the VI Chip Plan's assumption by the Company and the effect of the Merger.

In the second quarter of 2019, management determined we would report as one segment, rather than under the three segment approach employed since 2007. Given the growth profiles of the markets we serve with Advanced Products and Brick Products, our strategy has evolved with a transition in organizational focus, emphasizing investment in Advanced Products, targeting high growth market segments with a low-mix, high-volume operational model, while maintaining a profitable business in mature market segments we serve with Brick Products with a high-mix, low-volume operational model. Our Board of Directors and Dr. Vinciarelli, our Chief Operating Decision Maker ("CODM"), authorized the mergers of our VI Chip and Picor subsidiaries, based on the development and evolution of the aforementioned strategy. Dr. Vinciarelli and management began to make incremental changes in management practices and organizational structure based on a management plan established in 2018 for the definitive reconfiguration of the three business units into one business focused on the Advanced Products and Brick Products product line categorizations, including three significant changes: the merger of Picor with and into Vicor, which was completed on May 30, 2018; the reconfiguration of our internal reporting systems, which was completed on December 31, 2018; and the merger of VI Chip with and into Vicor, which was completed on June 28, 2019, noted above. Our CODM now determines the allocation of our resources based upon the two product line groupings, which constitute one segment. Both product lines are built in our manufacturing facility in Andover, Massachusetts employing similar processing and production techniques, and are supported by the same sales and marketing organizations. As such, we have conformed our segment reporting to the new reporting structure utilized by the CODM.

Revenue from the sale of Advanced Products represents the sum of third-party sales of the products sold under the Advanced Products line, which were sold under the former Picor and VI Chip operating segments during periods prior to the second quarter of 2019. Revenue from the sale of Brick Products represents the sum of third-party sales of the products sold under the Brick Products line, which were also sold under the former Brick Business Unit operating segment, inclusive of such sales of our Vicor Custom Power and Vicor Japan Company, Ltd. ("VJCL") subsidiaries. When reporting such revenue on a consolidated basis, intra-segment revenues are eliminated.

The applications in which our Advanced Products and Brick Products are used are typically in the higher-performance, higher-power segments of the market segments we serve. With our Advanced Products line, we generally serve large Original Equipment Manufacturers (“OEMs”), Original Design Manufacturers (“ODMs”), and their contract manufacturers, with sales currently concentrated within the server, server rack, and datacenter infrastructure segments of the computing market, although we also target customers and applications in aerospace and aviation, defense electronics, industrial automation, instrumentation, test equipment, solid state lighting, telecommunications and networking infrastructure, and vehicles (notably in the autonomous driving applications, electric vehicles, and hybrid electric vehicle niches of the vehicle segment). With our Brick Products line, we generally serve a fragmented base of large and small customers, concentrated in aerospace and defense electronics, industrial automation, industrial equipment, instrumentation and test equipment, and transportation. With our strategic emphasis on larger, high-volume customers, we expect to experience over time a greater concentration of sales among relatively fewer customers.

Summary of Third Quarter 2019 Financial Performance

Our consolidated financial performance for the third quarter of 2019 improved sequentially from the second quarter of 2019, as shipments increased, primarily due to a resumption of shipments to contract manufacturers on behalf of an existing datacenter customer. Total revenue sequentially increased approximately 11.7%. Shipments of Advanced Products increased 58.5%, primarily for the reason noted above. Shipments of Brick Products declined 3.4% sequentially as domestic growth was offset by tariff and trade-related declines in China and Hong Kong, as well as ongoing economic weakness in Europe. Our gross margin as a percentage of revenue improved sequentially, to 46.6% from the prior quarter’s 46.0%, due to higher absorption of manufacturing overhead expenses, though offset by higher tariff charges, increased reserves, and an unfavorable product mix. While operating expenses were steady sequentially, our consolidated operating margin as a percentage of revenue improved to 8.6% from 3.8%, largely because of the sequential increase in revenue. Net income attributable to Vicor Corporation (i.e., after net income or loss attributable to a noncontrolling interest) for the third quarter of 2019 increased sequentially to $5,937,000, representing fully-diluted earnings per share for the third quarter of 2019 of $0.14, in contrast to the corresponding figures of $2,563,000 and $0.06 for the second quarter of 2019. Third quarter 2019 bookings increased approximately 0.5% sequentially from the second quarter of 2019, primarily associated with Advanced Products orders, which increased 40.2%, offset by declines in Brick Products orders of 9.7%.

Our quarterly consolidated operating results can be difficult to forecast and have been subject to significant fluctuations. We plan our production and inventory levels based on management’s estimates of customer demand, based on customer forecasts and other sources. Customer forecasts, particularly those of OEM, ODM, and contract manufacturing customers to which we supply Advanced Products in high volumes, are subject to scheduling changes on short notice, contributing to operating inefficiencies and excess costs. In addition, external factors such as global macroeconomic conditions and supply-chain conditions have caused our operating results to vary meaningfully. Our quarterly gross margin as a percentage of revenue may vary, depending on production volumes, average selling prices, average unit costs, the mix of products sold that quarter, and the level of importation of raw materials. Our quarterly operating margin as a percentage of revenue also may vary with changes in revenue and product level profitability, but our operating costs are largely associated with compensation and related employee costs, which are not subject to sudden or significant changes.

We believe the following considerations may influence our financial performance over the remainder of 2019:

Operational Considerations

- We operate a highly automated electronics manufacturing facility in Andover, Massachusetts, and our profitability is closely aligned with production unit volumes. We have invested significantly in state-of-the-art systems, equipment, and robotics, which allow us to generate relatively higher profitability when operating at or near factory capacity, even with a high mix of products produced. However, periods of low volume production and/or brief, low volume production runs contribute to lower profitability, largely due to lower absorption of relatively high manufacturing overhead costs associated with our manufacturing model. While direct labor and associated variable costs generally correlate with volume, manufacturing overhead costs are inflexible and, therefore, problematic during periods of low volume or brief production runs.

- We continue to invest in the production capacity to meet our internal volume projections, and believe these projections are reasonable and our investment will be adequate. However, if sustained, uniform, high volume production levels are not achieved, notably in Advanced Products, our product-level profitability likely will not reach the levels necessary to cover our fixed spending, consisting of manufacturing overhead costs and operating costs.
- Current capital investments are focused on the expansion of manufacturing capacity for the production of Advanced Products at our Andover facility. Based on our extended long-term volume forecast, we anticipate substantial additional capacity will be required to meet expected requirements. We believe the most appropriate manner of meeting our long-term capacity requirements will be to initially expand the production area of our Andover facility by approximately 87,100 square feet, through the addition of a two story wing. We have completed the design and permitting phase for this project, have entered into an agreement to acquire approximately three acres adjacent to our facility, and expect to begin construction of this new addition to our existing plant in the spring of 2020 and take occupancy later in the year. We also are proceeding with the evaluation of alternative projects for the addition of another, larger manufacturing facility, should we anticipate the need based on our forecasts for capacity beyond 2021. Construction activity can be difficult to schedule, and construction sites can present management and operational challenges. As such, given the proximity of the addition to our existing operations, this construction activity has the potential to disrupt our current operations, which could cause production to be delayed and costs to increase.
- Our ability to achieve sustained, high volume production levels is tied to our ability to forecast manufacturing requirements for, and the availability of, a range of inputs, notably raw material inventories. Because we utilize a number of components and other materials of proprietary design, our ability to sustain targeted production schedules and meet customer delivery requirements has been vulnerable to delays or shortages of such inventories, which often cause prices of these components and materials to rise. With the implementation in 2018 of Section 301 Tariffs on certain Chinese goods imported into the United States, we are now exposed to potentially higher costs on certain electronic components and devices we import from China for use in the manufacture of our products. For the third quarter of 2019, costs associated with duties and tariffs totaled approximately $1,504,000 (approximately $3,934,000 for the nine months ended September 30, 2019). We continue to assess the impact of these costs and are actively evaluating alternative sources of raw materials. We also have engaged a consultant to assist us with implementing a "duty drawback" process, by which we may file with U.S. Customs and Border Protection for the recovery of tariffs paid on raw materials used to produce products we subsequently exported. At this time, we are not able to estimate the amount of such recovery or the timing thereof.
- To mitigate supply chain risks, we focus on identifying and reducing potential vulnerabilities to stock-outs, vendor shortages, and similar disruptions. We maintain safety-stock programs for certain critical components and materials, and these programs recently have contributed to increased levels of raw material inventory, primarily for Advanced Products. We also have established second-source supply relationships, in order to reduce exposure to material shortages. Although the global electronics supply chain has generally stabilized, we continue to experience lengthened lead times for certain product categories, and our product-level profitability and overall performance could be negatively influenced by an unplanned shortage of a particular component or material. We anticipate availability of certain commodity components will remain uncertain through 2019.

Market and Macroeconomic Considerations

We continue to believe the transition from 12V to 48V distribution architectures is accelerating and will be sustained, as an increasing number of customers are evaluating our FPA components. Our Power-on-Package solution powering graphics processing units ("GPUs") and application-specific integrated circuits ("ASICs") used in Artificial Intelligence applications has received strong customer interest, and we have secured significant design wins for our laterally mounted and vertically mounted solutions. We also have entered into a collaboration with a significant vendor of advanced processor packaging solutions. As previously disclosed, we believe customer interest in the application of 48V distribution to server racks and datacenter infrastructure is accelerating. As such, we are facing a more complex competitive landscape, with additional challenges and competitors. We continue to believe our new products will be adopted in volume by multiple leading customers, as the level of engagement with OEMs, ODMs, hyperscalers, and cloud services providers remains high. However, we cannot control the actions by, or the timing of, our customers, their contract manufacturers, or the significant vendors also participating in the market. Many of these vendors possess resources far greater than our resources and have operational and financial flexibility we do not. Notably, our outlook for bookings and shipments of Advanced Product solutions for the remainder of 2019 has been influenced by the limited visibility of our primary customers for those solutions. Sustained uncertainty in the datacenter market may cause orders from new and existing customers to be delayed, potentially influencing our financial results and capacity expansion plans.

We anticipate aggregate demand for the mature markets we serve with our Brick Products will grow over the long-term at the rate of the overall industrial economy (i.e., in the United States, for example, at the rate of growth approximating that of the industrial segments of gross domestic product). Given our long-term customer relationships and the status of our Brick Products in long-standing customer applications, we anticipate maintaining our share in many of these mature markets. While we are pursuing opportunities to replace many Brick Products used in existing customers' applications with Advanced Products, when appropriate, and, similarly, to replace competitors' products in existing applications, we believe such opportunities may not cumulatively contribute to expanding, in 2019, our share of the mature markets we serve with our Brick Products.

Financial Highlights

- Net revenues decreased 9.3% to $70,772,000 for the third quarter of 2019, from $78,035,000 for the third quarter of 2018, primarily due to an overall decline in 2019 bookings compared to 2018. Bookings decreased 28.0% for the nine months ended September 30, 2019, compared to the same period in 2018.
- Net revenues for the nine months ended September 30, 2019 decreased by 8.1% to $199,852,000 from $217,500,000 for the nine months ended September 30, 2018, primarily due to the decrease in bookings noted above.
- Export sales, as a percentage of total revenues, represented approximately 58.2% in the third quarter of 2019 and 62.2% in the third quarter of 2018. Export sales, as a percentage of total revenues, for the nine months ended September 30, 2019 and 2018 were approximately 55.0% and 62.5%, respectively.
- Gross margin decreased to $33,002,000 for the third quarter of 2019 from $39,004,000 for the third quarter of 2018, and gross margin, as a percentage of net revenues, decreased to 46.6% for the third quarter of 2019 from 50.0% for the third quarter of 2018, both primarily due to the decrease in net revenues.
- Gross margin decreased to $93,205,000 for the nine months ended September 30, 2019 from $105,098,000 for the nine months ended September 30, 2018, and gross margin, as a percentage of revenues, decreased to 46.6% for the nine months ended September 30, 2019, compared to 48.3% for the nine months ended September 30, 2018, both primarily due to the decrease in net revenues.
- Backlog, representing the total of orders for products received for which shipment is scheduled within the next 12 months, was approximately $90,088,000 at the end of the third quarter of 2019, as compared to $100,665,000 at the end of the second quarter of 2019 and $102,963,000 at the end of 2018. The decrease was primarily due to the lower bookings.
- Operating expenses for the third quarter of 2019 increased $989,000, or 3.8%, to $26,950,000 from $25,961,000 for the third quarter of 2018, due to an increase in research and development expense of $816,000 and an increase in selling, general, and administrative expenses of $163,000.

- Operating expenses for the nine months ended September 30, 2019 increased $226,000, or 0.3%, to $80,279,000 from $80,053,000 for the nine months ended September 30, 2018, due to an increase in research and development expense of $1,213,000 and the severance charge noted below, partially offset by a decrease in selling, general, and administrative expenses of $647,000. In addition, we recorded a severance charge of $350,000 during the second quarter of 2018 in connection with the planned closure of one of our Vicor Custom Power subsidiaries, Granite Power Technologies, Inc. (“GPT”), as part of our ongoing initiative to streamline operations and improve our cost structure. The closure was completed by the end of 2018.
- We reported net income for the third quarter of 2019 of $5,937,000, or $0.14 per diluted share, compared to net income of $13,012,000, or $0.32 per diluted share, for the third quarter of 2018.
- We reported net income for the nine months ended September 30, 2019, of $12,786,000, or $0.31 per diluted share, compared to net income of $24,815,000, or $0.61 per diluted share, for the nine months ended September 30, 2018.
- For the nine months ended September 30, 2019, depreciation and amortization totaled $7,647,000, and capital additions totaled $9,122,000, compared to $6,870,000 and $6,894,000, respectively, for the nine months ended September 30, 2018.
- Inventories increased by approximately $2,318,000, or 4.9%, to $49,688,000 at September 30, 2019, compared to $47,370,000 at December 31, 2018.

Critical Accounting Policies and Estimates

Please refer to the Company’s Annual Report on Form 10-K for the year ended December 31, 2018 for a summary of the Company’s critical accounting policies and estimates.

See Note 2 to the Condensed Consolidated Financial Statements pertaining to the adoption of the new accounting standard for lease accounting.

Three months ended September 30, 2019, compared to three months ended September 30, 2018

See Note 14, *Segment Information*, to the Condensed Consolidated Financial Statements for a discussion of our change to segment reporting in the second quarter of 2019.

Consolidated net revenues for the third quarter of 2019 were $70,772,000, a decrease of $7,263,000, or 9.3%, as compared to $78,035,000 for the third quarter of 2018, and an increase of $7,417,000, or 11.7%, on a sequential basis from $63,355,000 for the second quarter of 2019. Net revenues, by product line, for the three months ended September 30, 2019 and 2018 were as follows (dollars in thousands):

			Decrease	
	2019	2018	$	%
Brick Products	$46,482	$51,026	$(4,544)	(8.9)%
Advanced Products	24,290	27,009	(2,719)	(10.1)%
Total	$70,772	$78,035	$(7,263)	(9.3)%

The overall decreases in consolidated net revenues for the three months ended September 30, 2019 from the three months ended September 30, 2018 were primarily due to an overall 33.5% decrease in bookings for the three months ended September 30, 2019, with a decline of 57.2% in bookings for Advanced Products and a decline of 14.7% in bookings for Brick Products. Overall, bookings decreased 28.0% for the nine months ended September 30, 2019 compared to the same period in 2018.

Gross margin for the third quarter of 2019 decreased $6,002,000, or 15.4%, to $33,002,000, from $39,004,000 for the third quarter of 2018. Gross margin as a percentage of net revenues decreased to 46.6% for the third quarter of 2019 compared to 50.0% for the third quarter of 2018. Both decreases were primarily due to the decrease in net revenues, higher tariff charges of approximately $1,504,000, increased reserves for potential excess and obsolete inventory, and product mix, compared to the third quarter of 2018.

Selling, general, and administrative expenses were $15,443,000 for the third quarter of 2019, an increase of $163,000, or 1.1%, from $15,280,000 for the third quarter of 2018. Selling, general, and administrative expenses as a percentage of net revenues increased to 21.8% for the third quarter of 2019 from 19.6% for the third quarter of 2018 due to the decrease in net revenues.

Research and development expenses were $11,507,000 for the third quarter of 2019, an increase of $816,000, or 7.6%, compared to $10,691,000 for the third quarter of 2018. As a percentage of net revenues, research and development expenses increased to 16.3% for the third quarter of 2019 from 13.7% for the third quarter of 2018 due to the decrease in net revenues.

The components of the $816,000 increase in research and development expenses were as follows (dollars in thousands):

	Increase (decrease)	
Compensation	$ 578	7.5%(1)
Project and pre-production materials	242	18.9%(2)
Supplies expense	91	32.3%
Deferred costs	81	28.7%
Outside services	(115)	(54.2)%(3)
Other, net	(61)	(3.9)%
	$ 816	7.6%

(1) Increase primarily attributable to annual compensation adjustments in May 2019 and increased stock-based compensation expense.
(2) Increase primarily attributable to increased spending for new product development of Advanced Products.
(3) Decrease in use of outside service providers in Andover.

The significant components of “Other income (expense), net” for the three months ended September 30, and the changes between the periods were as follows (in thousands):

	2019	2018	Increase (decrease)
Rental income	$ 198	$ 198	$ —
Interest income	74	68	6
Gain on disposals of equipment	1	29	(28)
Credit gains on available-for-sale securities	1	2	(1)
Foreign currency losses, net	(142)	(66)	(76)
Other, net	14	1	13
	$ 146	$ 232	$ (86)

Our exposure to market risk fluctuations in foreign currency exchange rates relates to the operations of VJCL, for which the functional currency is the Japanese Yen, and all other subsidiaries in Europe and Asia, for which the functional currency is the U.S. Dollar. These other subsidiaries in Europe and Asia experienced unfavorable foreign currency exchange rate fluctuations in 2019 compared to 2018. Interest income increased due to an increase in interest rates.

Income before income taxes was $6,198,000 for the third quarter of 2019, as compared to $13,275,000 for the third quarter of 2018.

The provisions for income taxes and the effective income tax rates for the three months ended September 30, 2019 and 2018 were as follows (dollars in thousands):

	2019	2018
Provision for income taxes	$ 266	$ 227
Effective income tax rate	4.3%	1.7%

The effective tax rates were lower than the statutory tax rates for the three months ended September 30, 2019 and 2018 due primarily to the utilization of net operating loss carryforwards and tax credits. The provisions for income taxes in the three months ended September 30, 2019 and 2018 also included estimated foreign income taxes and estimated state taxes in jurisdictions in which the Company does not have net operating loss carryforwards.

See Note 10 to the Condensed Consolidated Financial Statements for disclosure regarding our current assessment of the valuation allowance against all domestic net deferred tax assets, and the possible release (i.e., reduction) of the allowance in the future.

Net income per diluted share attributable to Vicor Corporation was $0.14 for the third quarter of 2019 and $0.32 for the third quarter of 2018.

Nine months ended September 30, 2019, compared to nine months ended September 30, 2018

Consolidated net revenues for the nine months ended September 30, 2019 were $199,852,000, a decrease of $17,648,000, or 8.1%, from $217,500,000 for the nine months ended September 30, 2018. Net revenues, by product line, for the nine months ended September 30, 2019 and the nine months ended September 30, 2018 were as follows (dollars in thousands):

	2019	2018	Increase (decrease) $	Increase (decrease) %
Brick Products	$141,112	$140,012	$ 1,100	0.8%
Advanced Products	58,740	77,488	(18,748)	(24.2)%
Total	$199,852	$217,500	$(17,648)	(8.1)%

The overall decrease in consolidated net revenues for the nine months ended September 30, 2019 from the nine months ended September 30, 2018 was primarily due to an overall 28.0% decrease in bookings for the nine months ended September 30, 2019, compared to the nine months ended September 30, 2018, principally due to a decline of 53.4% in bookings for Advanced Products.

Gross margin for the nine months ended September 30, 2019 decreased $11,893,000, or 11.3%, to $93,205,000 from $105,098,000 for the nine months ended September 30, 2018, primarily due to the decrease in net revenues. Gross margin as a percentage of net revenues decreased to 46.6% for the nine month period ended September 30, 2019 compared to 48.3% for the nine month period ended September 30, 2018. Both decreases were primarily due to the decrease in net revenues and higher tariff charges of approximately $3,934,000, lower absorption of manufacturing overhead expenses and product mix, compared to 2018.

Management’s Discussion and Analysis of
Financial Condition and Results of Operation
September 30, 2019

Selling, general and administrative expenses were $45,846,000 for the nine months ended September 30, 2019, a decrease of $647,000, or 1.4%, compared to $46,493,000 for the nine months ended September 30, 2018. Selling, general and administrative expenses as a percentage of net revenues increased to 22.9% for the nine month period ended September 30, 2019 from 21.4% for the nine month period ended September 30, 2018, primarily due to the decrease in net revenues, despite the decline in such expenses.

The components of the $647,000 decrease in selling, general and administrative expenses for the nine months ended September 30, 2019 from the nine months ended September 30, 2018 were as follows (dollars in thousands):

	Increase (decrease)	
Compensation	$(464)	(1.6)%(1)
Legal fees	(373)	(27.1)%(2)
Audit, tax, and accounting fees	(255)	(14.1)%(3)
Bad debt expense	(231)	(248.5)%(4)
Advertising expenses	137	6.5%
Facilities allocations	176	16.0%
Outside services	236	17.0%(5)
Depreciation and amortization	239	13.1%(6)
Other, net	(112)	(1.5)%
	$(647)	(1.4)%

(1) Decrease primarily attributable to decreased stock-based compensation expense, partially offset by annual compensation adjustments in May 2019. The decrease in stock-based compensation expense was due to decreased expense in 2019 for certain Vicor stock options held by a non-employee.
(2) Decrease attributable to a decrease in corporate legal matters.
(3) Decrease primarily attributable to changes in the timing of the 2019 audit process, compared to the 2018 audit.
(4) Decrease attributable to favorable historical collections experience over the period analyzed.
(5) Increase in use of outside service providers in Andover.
(6) Increase attributable to an increase in additions of furniture and fixtures and building improvements.

Research and development expenses were $34,433,000 for the nine months ended September 30, 2019, an increase of $1,213,000, or 3.7%, from $33,220,000 for the nine months ended September 30, 2018. As a percentage of net revenues, research and development expenses increased to 17.2% for the nine month period ended September 30, 2019 from 15.3% for the nine month period ended September 30, 2018, primarily due to the decrease in net revenues.

The components of the $1,213,000 increase in research and development expenses for the nine months ended September 30, 2019 from the nine months ended September 30, 2018 were as follows (dollars in thousands):

	Increase (decrease)	
Compensation	$ 1,215	5.1%(1)
Project and pre-production materials	482	11.3%(2)
Facilities allocations	179	10.3%(3)
Depreciation and amortization	(133)	(9.0)%
Overhead absorption	(208)	(37.2)%(4)
Deferred costs	(326)	(39.0)%(5)
Other, net	4	0.2%
	$ 1,213	3.7%

(1) Increase primarily attributable to annual compensation adjustments in May 2019 and increased stock-based compensation expense.
(2) Increase primarily attributable to increased spending for new product development of Advanced Products.
(3) Increase primarily attributable to an increase in utilities and building maintenance expenses.
(4) Decrease primarily attributable to a decrease in Picor research and development ("R&D") personnel incurring time on production activities, compared to R&D activities.
(5) Decrease primarily attributable to an increase in deferred costs capitalized for certain non-recurring engineering projects for which the related revenues have been deferred.

In May 2018, the Company's management authorized the closure of GPT, which was completed by the end of 2018. GPT was one of three Vicor Custom Power ("VCP") entities, located in Manchester, N.H. Certain of GPT's products continue to be manufactured and sold by the two remaining VCP entities. As a result, we recorded a pre-tax charge of $350,000 in the second quarter of 2018, for the cost of severance and other employee-related costs involving cash payments based on each employee's respective length of service.

The significant components of "Other income (expense), net" for the nine months ended September 30, 2019 and the nine months ended September 30, 2018 and the changes from period to period were as follows (in thousands):

	2019	2018	Increase (decrease)
Rental income	$ 594	$ 594	$ —
Interest income	236	177	59
Foreign currency losses, net	(202)	(217)	15
Gain on disposals of equipment	23	45	(22)
Credit gains on available-for-sale securities	3	6	(3)
Other, net	19	13	6
	$ 673	$ 618	$ 55

Our exposure to market risk fluctuations in foreign currency exchange rates relates to the operations of VJCL, for which the functional currency is the Japanese Yen, and all other subsidiaries in Europe and Asia, for which the functional currency is the U.S. Dollar. These other subsidiaries in Europe and Asia experienced unfavorable foreign currency exchange rate fluctuations in 2019 compared to 2018. Interest income increased due to an increase in interest rates.

Income before income taxes was $13,599,000 for the nine months ended September 30, 2019, as compared to $25,663,000 for the nine months ended September 30, 2018.

The provisions for income taxes and the effective income tax rates for the nine months ended September 30, 2019 and 2018 were as follows (dollars in thousands):

	2019	2018
Provision for income taxes	$ 805	$ 724
Effective income tax rate	5.9%	2.8%

The effective tax rates were lower than the statutory tax rates for the nine months ended September 30, 2019 and 2018 due primarily to the utilization of net operating loss carryforwards and tax credits. The provisions for income taxes in the nine months ended September 30, 2019 and 2018 also included estimated foreign income taxes and estimated state taxes in jurisdictions in which the Company does not have net operating loss carryforwards.

Net income per diluted share attributable to Vicor Corporation was $0.31 for the nine months ended September 30, 2019, compared to $0.61 for the nine months ended September 30, 2018.

Liquidity and Capital Resources

As of September 30, 2019, we had $81,229,000 in cash and cash equivalents. The ratio of total current assets to total current liabilities was 5.7:1 as of September 30, 2019 and 4.6:1 as of December 31, 2018. Working capital, defined as total current assets less total current liabilities, increased $16,188,000 to $145,250,000 as of September 30, 2019 from $129,062,000 as of December 31, 2018.

The changes in working capital from December 31, 2018 to September 30, 2019 were as follows (in thousands):

	Increase (decrease)
Cash and cash equivalents	$ 10,672
Accounts receivable	(3,686)
Inventories, net	2,318
Other current assets	1,654
Accounts payable	5,820
Accrued compensation and benefits	1,109
Accrued expenses	296
Short-term lease liabilities	(1,580)
Sales allowances	(528)
Accrued severance charge	234
Income taxes payable	653
Short-term deferred revenue	(774)
	$ 16,188

The primary sources of cash for the nine months ended September 30, 2019 were from operating activities of $16,539,000 and proceeds from the issuance of Common Stock upon the exercise of options under our stock option plans and our 2017 Employee Stock Purchase Plan, of $3,423,000. The primary use of cash for the nine months ended September 30, 2019 was for purchase of equipment of $9,122,000.

In November 2000, our Board of Directors authorized the repurchase of up to $30,000,000 of our Common Stock (the "November 2000 Plan"). The November 2000 Plan authorizes us to make such repurchases from time to time in the open market or through privately negotiated transactions. The timing and amounts of Common Stock repurchases are at the discretion of management based on its view of economic and financial market conditions. We did not repurchase shares of Common Stock under the November 2000 Plan during the nine months ended September 30, 2019. As of September 30, 2019, we had approximately $8,541,000 remaining under the November 2000 Plan.

We had approximately $2,627,000 of capital expenditure commitments, principally for manufacturing equipment, as of September 30, 2019, which we intend to fund with existing cash. Our primary liquidity needs are for making continuing investments in manufacturing equipment and, if we proceed with the planned construction of 87,100 square feet of additional manufacturing space adjoining our existing Andover manufacturing facility, for funding architectural and construction costs. We believe cash generated from operations and the total of our cash and cash equivalents will be sufficient to fund planned operational needs, capital equipment purchases, and the planned construction, for the foreseeable future.

Item 3 — Quantitative and Qualitative Disclosures About Market Risk

We are exposed to a variety of market risks, including changes in interest rates affecting the return on our cash and cash equivalents and fluctuations in foreign currency exchange rates. As our cash and cash equivalents consist principally of cash accounts and money market securities, which are short-term in nature, we believe our exposure to market risk on interest rate fluctuations for these investments is not significant. As of September 30, 2019, our long-term investment portfolio, recorded on our Condensed Consolidated Balance Sheet as “Long-term investments, net”, consisted of a single auction rate security with a par value of $3,000,000, purchased through and held in custody by a broker-dealer affiliate of Bank of America, N.A., that has experienced failed auctions (the “Failed Auction Security”) since February 2008. While the Failed Auction Security is Aaa/AA+ rated by major credit rating agencies, collateralized by student loans and guaranteed by the U.S. Department of Education under the Federal Family Education Loan Program, continued failure to sell at its periodic auction dates (i.e., reset dates) could negatively impact the carrying value of the investment, in turn leading to impairment charges in future periods. Periodic changes in the fair value of the Failed Auction Security attributable to credit loss (i.e., risk of the issuer’s default) are recorded through earnings as a component of “Other income (expense), net”, with the remainder of any periodic change in fair value not related to credit loss (i.e., temporary “mark-to-market” carrying value adjustments) recorded in “Accumulated other comprehensive (loss) income”, a component of Stockholders’ Equity. Should we conclude a decline in the fair value of the Failed Auction Security is other than temporary, such losses would be recorded through earnings as a component of “Other income (expense), net”. We do not believe there was an “other-than-temporary” decline in value in this security as of September 30, 2019.

Our exposure to market risk for fluctuations in foreign currency exchange rates relates to the operations of VJCL, for which the functional currency is the Japanese Yen, and changes in the relative value of the Yen to the U.S. Dollar. The functional currency of all other subsidiaries in Europe and other subsidiaries in Asia is the U.S. Dollar. While we believe risk to fluctuations in foreign currency exchange rates for these subsidiaries is generally not significant, they can be subject to substantial currency changes, and therefore foreign exchange exposures.

Item 4 — Controls and Procedures

(a) Disclosure regarding controls and procedures.

As required by Rule 13a-15 under the Securities Exchange Act of 1934, as amended (the “Exchange Act”), management, with the participation of our Chief Executive Officer (“CEO”) (who is our principal executive officer) and Chief Financial Officer (“CFO”) (who is our principal financial officer), conducted an evaluation of the effectiveness of our disclosure controls and procedures as of the end of the last fiscal quarter (i.e., September 30, 2019). The term “disclosure controls and procedures,” as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act, means controls and other procedures of a company that are designed to ensure information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported, within the time periods specified in the Securities and Exchange Commission’s rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure information required to be disclosed by a company in the reports it files or submits under the Exchange Act is accumulated and communicated to the company’s management, including its principal executive and principal financial officers, as appropriate to allow timely decisions regarding required disclosure. Management recognizes any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their objectives and management necessarily applies its judgment in evaluating the cost-benefit relationship of possible controls and procedures. Based on the evaluation of our disclosure controls and procedures as of September 30, 2019, our CEO and CFO concluded, as of such date, our disclosure controls and procedures were effective at the reasonable assurance level.

A control system, no matter how well designed and operated, can provide only reasonable, not absolute, assurance that the control system’s objectives will be met. Accordingly, management, including the CEO and CFO, recognizes our disclosure controls or our internal control over financial reporting may not prevent or detect all errors and all fraud. The design of a control system must reflect the fact there are resource constraints, and the benefits of controls must be considered relative to their costs. Further, because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance misstatements due to error or fraud will not occur or that all control issues and instances of fraud, if any, within the Company have been detected. These inherent limitations include the realities that judgments in decision-making can be faulty and that breakdowns can occur because of simple error or mistake. Controls can also be circumvented by the individual acts of some persons, by collusion of two or more people, or by management override of the controls. The design of any system of controls is based in part on certain assumptions about the likelihood of future events, and there can be no assurance that any design will succeed in achieving its stated goals under all potential future conditions. Projections of any control's effectiveness to future periods are subject to risks. Over time, controls may become inadequate because of changes in conditions or deterioration in the degree of compliance with policies or procedures.

(b) Changes in internal control over financial reporting.

There was no change in our internal control over financial reporting that occurred during the fiscal quarter ended September 30, 2019, that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

Table of Contents

Vicor Corporation
Part II - Other Information
September 30, 2019

Item 1 — Legal Proceedings

See Note 12. Commitments and Contingencies in the Notes to Condensed Consolidated Financial Statements in Part I, Item 1 – "Financial Statements."

Item 1A — Risk Factors

There have been no material changes in the risk factors described in Part I, Item 1A – "Risk Factors" of the Company's Annual Report on Form 10-K for the year ended December 31, 2018.

Item 2 – Unregistered Sales of Equity Securities and Use of Proceeds

On June 28, 2019, VI Chip was merged with and into the Company, with the Company as the surviving entity. The terms of the merger required the Company to issue 993 shares of the Company's Common Stock in exchange for 6,600 shares of VI Chip common stock that had been held by minority stockholders, subject to the respective waiver of appraisal rights by such individual minority stockholders. As of 5:00 p.m. (EDT) on July 22, 2019, the deadline for the five minority stockholders to demand an appraisal pursuant to the requirements of Section 262 of the General Corporation Law of the State of Delaware, no such demand had been received and, accordingly, Vicor issued the 933 shares of the Company's Common Stock. All of such shares were issued without registration under the Securities Act of 1933, in reliance upon the exemption provided in Section 4(a)(2) and Rule 506(b) thereunder.

Item 6 — Exhibits

Exhibit Number	Description
31.1	Certification of Chief Executive Officer pursuant to Rule 13a-14(a) of the Exchange Act.
31.2	Certification of Chief Financial Officer pursuant to Rule 13a-14(a) of the Exchange Act.
32.1	Certification of Chief Executive Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
32.2	Certification of Chief Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
101.INS	XBRL Instance Document – the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document.
101.SCH	XBRL Taxonomy Extension Schema Document.
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document.
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document.
101.LAB	XBRL Taxonomy Extension Label Linkbase Document.
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document.
104	Cover Page Interactive Data File (formatted as inline XBRL and contained in Exhibit 101)

SIGNATURES

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

VICOR CORPORATION

Date: October 29, 2019

By: /s/ Patrizio Vinciarelli
Patrizio Vinciarelli
Chairman of the Board, President and
Chief Executive Officer
(Principal Executive Officer)

Date: October 29, 2019

By: /s/ James A. Simms
James A. Simms
Vice President, Chief Financial Officer
(Principal Financial Officer)

CHIEF EXECUTIVE OFFICER CERTIFICATION

I, Patrizio Vinciarelli, certify:

1. I have reviewed this quarterly report on Form 10-Q of Vicor Corporation;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
   a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
   b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
   c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
   d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
   a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
   b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Dated: October 29, 2019

/s/ Patrizio Vinciarelli
Patrizio Vinciarelli
Chief Executive Officer
(Principal Executive Officer)

Exhibit 31.2

CHIEF FINANCIAL OFFICER CERTIFICATION

I, James A. Simms, certify:

1. I have reviewed this quarterly report on Form 10-Q of Vicor Corporation;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Dated: October 29, 2019

/s/ James A. Simms

James A. Simms
Vice President, Chief Financial Officer
(Principal Financial Officer)

CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Quarterly Report of Vicor Corporation (the "Company") on Form 10-Q for the period ended September 30, 2019 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Patrizio Vinciarelli, Chief Executive Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

(1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

/s/ Patrizio Vinciarelli
Patrizio Vinciarelli
President, Chairman of the Board and
Chief Executive Officer

October 29, 2019

A signed original of this written statement required by Section 906 has been provided to the Company and will be retained by the Company and furnished to the Securities and Exchange Commission or its staff upon request.

CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Quarterly Report of Vicor Corporation (the “Company”) on Form 10-Q for the period ended September 30, 2019 as filed with the Securities and Exchange Commission on the date hereof (the “Report”), I, James A. Simms, Chief Financial Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

(1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

/s/ James A. Simms
James A. Simms
Vice President, Chief Financial Officer

October 29, 2019

A signed original of this written statement required by Section 906 has been provided to the Company and will be retained by the Company and furnished to the Securities and Exchange Commission or its staff upon request.