

## DATA CENTER COMPUTING MARKETS

Following the acquisition of Artesyn's Embedded Power business in September 2019, Advanced Energy entered the Data Center Computing market with industry-leading products and low-voltage power conversion technologies. We sell to many data center server and storage manufacturers, original design manufacturers of server and storage systems, and cloud service providers, or hyperscalers, who are designing and deploying their own data center server and storage equipment. Driven by the growing adoption of cloud computing and increased consumer internet traffic, market demand for server and storage equipment has shifted from enterprise on-premise computing to the data center. This trend drove a strong year of data center investments in 2018, but the industry moderated investments in the first half of 2019 before recovering in the second half of 2019. With a growing presence at both cloud service providers, hyperscalers, and industry-leading data center server and storage vendors, we believe Advanced Energy is well positioned to continue to capitalize on the ongoing shift towards cloud computing. We generated revenue from the Data Center Computing market during the third and fourth quarters of 2019.

## TELECOM & NETWORKING MARKETS

The acquisition of Artesyn's Embedded Power business in September 2019 brought us a portfolio of products and technologies that are used across the Telecom & Networking markets. Our customers include many leading vendors and original design manufacturing of wireless and wireline infrastructure equipment, telecommunication equipment and computer networking. The wireless telecom market continues to evolve with more advanced mobile standards. 5G wireless technology promises to drive substantial growth opportunities for the telecom industry as it enables new advanced applications such as autonomous vehicles and virtual/augmented reality. Telecom service providers have started to invest in 5G, and this trend is expected to drive demand of our products into the Telecom & Networking markets. In networking, demand is driven by networking investments by telecom service providers and enterprises upgrading of their network, as well as cloud data center networking investments. In the third and fourth quarters of 2019, we generated revenue from the Telecom & Networking markets following the acquisition of Artesyn.

## Results of Continuing Operations

The analysis presented below is organized to provide the information we believe will facilitate an understanding of our historical performance and relevant trends going forward, and should be read in conjunction with our Consolidated Financial Statements, including the notes thereto, in Item 8 "Financial Statements and Supplementary Data" of this Annual Report on Form 10-K.

The following table sets forth, for the periods indicated, certain data derived from our Consolidated Statements of Operations (in thousands):

	<b>Year Ended December 31,</b>	
	<b>2019</b>	<b>2018</b>
Sales .....	\$ 788,948	\$ 718,892
Gross profit .....	315,652	365,607
Operating expenses .....	261,264	194,054
Operating income from continuing operations .....	54,388	171,553
Other income (expense), net .....	12,806	823
Income from continuing operations before income taxes .....	67,194	172,376
Provision for income taxes .....	10,699	25,227
Income from continuing operations, net of income taxes .....	<u>\$ 56,495</u>	<u>\$ 147,149</u>

The following table sets forth, for the periods indicated, the percentage of sales represented by certain items reflected in our Consolidated Statements of Operations:

	<b>Year Ended December 31,</b>	
	<b>2019</b>	<b>2018</b>
Sales .....	100.0 %	100.0 %
Gross profit .....	40.0	50.9
Operating expenses .....	33.1	27.0
Operating income from continuing operations .....	6.9	23.9
Other income (expense), net .....	1.6	0.1
Income from continuing operations before income taxes .....	8.5	24.0
Provision for income taxes .....	1.4	3.5
Income from continuing operations, net of income taxes .....	7.2 %	20.5 %

#### *SALES, NET*

The following tables summarize annual sales and percentages of sales, by product line, for each of the years ended 2019 and 2018 (in thousands):

	<b>Years Ended December 31,</b>		<b>Change 2019 v. 2018</b>	
	<b>2019</b>	<b>2018</b>	<b>Dollar</b>	<b>Percent</b>
Semiconductor Equipment .....	\$ 403,018	\$ 533,770	\$ (130,752)	(24.5)%
Industrial & Medical .....	245,992	185,122	60,870	32.9
Data Center Computing .....	91,438	—	91,438	—
Telecom & Networking .....	48,500	—	48,500	—
Total .....	<u>\$ 788,948</u>	<u>\$ 718,892</u>	<u>\$ 70,056</u>	9.7 %

	<b>Years Ended December 31,</b>	
	<b>2019</b>	<b>2018</b>
Semiconductor Equipment .....	51.1 %	74.2 %
Industrial & Medical .....	31.2	25.8
Data Center Computing .....	11.6	-
Telecom & Networking .....	6.1	-
Total .....	<u>100.0 %</u>	<u>100.0 %</u>

#### *OPERATING EXPENSE*

The following table summarizes our operating expense as a percentage of sales for the years ended December 31, 2019 and 2018 (in thousands):

	<b>Years Ended December 31,</b>			
	<b>2019</b>	<b>2018</b>	<b>2019</b>	<b>2018</b>
Research and development .....	\$ 101,503	12.9 %	\$ 76,008	10.6 %
Selling, general, and administrative .....	142,555	18.1	108,033	15.0
Amortization of intangible assets .....	12,168	1.5	5,774	0.8
Restructuring charges .....	5,038	0.6	4,239	0.6
Total operating expenses .....	<u>\$ 261,264</u>	<u>33.1 %</u>	<u>\$ 194,054</u>	<u>27.0 %</u>