Notice of 2018 Annual Meeting

Proxy Statement

Annual Financial Information and Review of Operations





NOTICE OF ANNUAL MEETING OF STOCKHOLDERS

Tuesday, May 8, 2018 11:00 a.m. Eastern Daylight Time Lotte New York Palace Hotel 455 Madison Avenue New York, NY 10022

Dear Fellow Stockholder:

On behalf of the Board of Directors, it is my pleasure to invite you to attend the 2018 Annual Meeting of Stockholders of AMETEK, Inc. At the meeting, you will be asked to:

- 1. Elect two Directors for a term of three years;
- 2. Cast an advisory vote to approve the compensation of our named executive officers;
- 3. Ratify the appointment of Ernst & Young LLP as our independent registered public accounting firm for 2018; and
- 4. Transact any other business properly brought before the meeting.

Only stockholders of record at the close of business on March 23, 2018 will be entitled to vote at the meeting. Your vote is important. You can vote in one of four ways: (1) via the Internet, (2) by telephone using a toll-free number, (3) by marking, signing and dating your proxy card, and returning it promptly in the enclosed envelope, or (4) by casting your vote in person at the meeting. Please refer to your proxy card for specific proxy voting instructions.

We have included the annual financial information relating to our business and operations in Appendix A to the Proxy Statement. We also have enclosed a Summary Annual Report.

We hope that you take advantage of the convenience and cost savings of voting by computer or by telephone. A sizable electronic response would significantly reduce return-postage fees.

Whether you expect to attend the meeting or not, we urge you to vote your shares via the Internet, by telephone or by mailing your proxy as soon as possible. Submitting your proxy now will not prevent you from voting your stock at the meeting if you want to, as your proxy is revocable at your option. We appreciate your interest in AMETEK.

Sincerely,

David a Zopico

David A. Zapico Chairman and Chief Executive Officer

Berwyn, Pennsylvania Dated: March 26, 2018

> IMPORTANT NOTICE REGARDING THE AVAILABILITY OF PROXY MATERIALS FOR THE ANNUAL MEETING OF STOCKHOLDERS TO BE HELD ON MAY 8, 2018 Our Notice of 2018 Annual Meeting of Stockholders, Proxy Statement and Annual Report are available at: http://www.ametek.com/2018proxy

Principal executive offices

1100 Cassatt Road Berwyn, Pennsylvania 19312-1177

PROXY STATEMENT

We are mailing this proxy statement and proxy card to our stockholders of record as of March 23, 2018 on or about March 26, 2018. The Board of Directors is soliciting proxies in connection with the election of Directors and other actions to be taken at the meeting and at any adjournment or postponement of the meeting. The Board of Directors encourages you to read this proxy statement and to vote on the matters to be considered at the meeting.

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PROXY SUMMARY

This summary highlights information contained elsewhere in this proxy statement. This summary does not contain all of the information you should consider, and you should read the entire proxy statement before voting.

VOTING MATTERS

Proposals for Voting	Board Vote Recommendation	Vote Required	Page Reference
Elect two Directors	FOR each nominee	Majority of votes cast	12
Advisory vote on executive compensation	FOR	Majority of votes cast	12
Ratify the appointment of Ernst & Young LLP as			
our independent registered public accounting firm	FOR	Majority of votes cast	13

BOARD NOMINEES

The following table provides summary information about each director nominee. The nominees receiving a majority of the votes cast at the meeting will be elected as Directors, in accordance with our Corporate Governance Guidelines described on page 3.

During 2017, each nominee attended at least 75% of the meetings of the Board and Committees on which the nominee served.

Name	Age	Director Since	Independent	Committee Membership
Elizabeth R. Varet	74	1987	Yes	Compensation
				Compensation (Chair),
Dennis K. Williams	72	2006	Yes	Corporate Governance/Nominating

ADVISORY VOTE ON EXECUTIVE COMPENSATION

We are asking stockholders to approve a non-binding advisory resolution relating to our named executive officers' compensation for fiscal 2017, commonly referred to as "say-on-pay". Last year, of the total votes cast, not including abstentions and broker non-votes, 95% were in favor of approving our named executive officers' compensation. The design of our 2017 executive compensation program continued to emphasize total return to our stockholders.

INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We are asking stockholders to approve the selection of Ernst & Young LLP as our independent registered public accounting firm for 2018. Last year, of the total votes cast, not including abstentions, 97% were in favor of approving Ernst & Young as our independent registered public accounting firm for 2017.

VOTING PROCEDURES

Your vote is very important. It is important that your views be represented whether or not you attend the meeting. Stockholders who hold AMETEK shares through a broker, bank or other holder of record receive proxy materials and a Voting Instruction Form – either electronically or by mail – before each annual meeting. For your vote to be counted, you need to communicate your voting decisions to your broker, bank or other holder of record before the date of this meeting.

Who can vote? Stockholders of record as of the close of business on March 23, 2018 are entitled to vote. On that date, 231,538,794 shares of our common stock were issued and outstanding and eligible to vote. Each share is entitled to one vote on each matter presented at the meeting. We have no other class or series of stock currently outstanding other than our common stock.

How do I vote? You can vote your shares at the meeting if you are present in person or represented by proxy. You can designate the individuals named on the enclosed proxy card as your proxies by mailing a properly executed proxy card, via the Internet or by telephone. You may revoke your proxy at any time before the meeting by delivering written notice to the Corporate Secretary, by submitting a proxy card bearing a later date, or by appearing in person and casting a ballot at the meeting.

To submit your proxy by mail, indicate your voting choices, sign and date your proxy card and return it in the postage-paid envelope provided. You may vote via the Internet or by telephone by following the instructions on your proxy card. Your Internet or telephone vote authorizes the persons named on the proxy card to vote your shares in the same manner as if you marked, signed and returned the proxy card to us.

If you hold your shares through a broker, bank or other holder of record, that institution will send you separate instructions describing the procedure for voting your shares.

What shares are represented by the proxy card? The proxy card represents all the shares registered in your name. If you participate in the AMETEK, Inc. Investors' Choice Dividend Reinvestment & Direct Stock Purchase and Sale Plan, the card also represents any full shares held in your account. If you are an employee who owns AMETEK shares through an AMETEK employee savings plan and also hold shares in your own name, you will receive a single proxy card for the plan shares, which are attributable to the units that you hold in the plan, and the shares registered in your name. Your proxy card or proxy submitted through the Internet or by telephone will serve as voting instructions to the plan trustee.

How are shares voted? If you return a properly executed proxy card or submit voting instructions via the Internet or by telephone before voting at the meeting is closed, the individuals named as proxies on the enclosed proxy card will vote in accordance with the directions you provide. If you return a signed and dated proxy card but do not indicate how the shares are to be voted, those shares will be voted as recommended by the Board of Directors. A valid proxy card or a vote via the Internet or by telephone also authorizes the individuals named as proxies to vote your shares in their discretion on any other matters which, although not described in the proxy statement, are properly presented for action at the meeting.

If your shares are held by a broker, bank or other holder of record, please refer to the instructions it provides for voting your shares. If you want to vote those shares in person at the meeting, you must bring a signed proxy from the broker, bank or other holder of record giving you the right to vote the shares.

If you are an employee who owns AMETEK shares through an AMETEK employee savings plan and you do not return a proxy card or otherwise give voting instructions for the plan shares, the trustee will vote those shares in the same proportion as the shares for which the trustee receives voting instructions from other participants in that plan. To enable the savings plan trustee to tabulate the vote of the plan shares prior to the meeting, your proxy voting instructions must be received by May 3, 2018 if you are voting online or by phone, or by May 2, 2018 if you are voting by mail.

How many votes are required? A majority of the shares of our outstanding common stock entitled to vote at the meeting must be represented in person or by proxy in order to have a quorum present at the meeting. Abstentions and "broker non-votes" are counted as present and entitled to vote for purposes of determining a quorum. A "broker

non-vote" occurs when a bank, broker or other holder of record holding shares for a beneficial owner does not vote on a particular proposal because that holder does not have discretionary voting power for the particular proposal and has not received instructions from the beneficial owner. If a quorum is not present, the meeting will be rescheduled for a later date.

Directors will be elected by the vote of a majority of the votes cast at the meeting. This means that a nominee will be elected if the number of votes cast "for" that nominee exceeds the number of votes "against" that nominee. Any shares not voted (whether by abstention, broker non-votes or otherwise) will not be counted as votes cast and will have no effect on the vote. The advisory approval of our executive compensation and the ratification of the appointment of Ernst & Young LLP require the affirmative vote of the holders of a majority of eligible shares present at the meeting, in person or by proxy, and voting on the matter. Abstentions and broker non-votes are not counted as votes for or against these proposals. The advisory vote on executive compensation is not binding upon us. However, the Board and Compensation Committee will take into account the outcome of this vote when considering future executive compensation arrangements.

Who will tabulate the vote? Broadridge Financial Solutions will tally the vote, which will be certified by independent inspectors of election.

Is my vote confidential? It is our policy to maintain the confidentiality of proxy cards, ballots and voting tabulations that identify individual stockholders, except where disclosure is mandated by law and in other limited circumstances.

Who is the proxy solicitor? We have retained Georgeson LLC to assist in the distribution of proxy materials and solicitation of votes. We will pay Georgeson LLC a fee of \$10,000, plus reimbursement of reasonable out-of-pocket expenses.

CORPORATE GOVERNANCE

In accordance with the Delaware General Corporation Law and our Certificate of Incorporation and By-Laws, our business and affairs are managed under the direction of the Board of Directors. We provide information to the Directors about our business through, among other things, operating, financial and other reports, as well as other documents presented at meetings of the Board of Directors and Committees of the Board.

Our Board of Directors currently consists of nine members. They are Thomas A. Amato, Ruby R. Chandy, Anthony J. Conti, Steven W. Kohlhagen, James R. Malone, Gretchen W. McClain, Elizabeth R. Varet, Dennis K. Williams, and David A. Zapico. The biographies of the continuing Directors appear on pages 15 and 16. The Board is divided into three classes with staggered terms of three years each, so that the term of one class expires at each Annual Meeting of Stockholders. On March 6, 2017, in accordance with our Certificate of Incorporation and By-Laws, the Board increased the number of Class II Directors from three to four, thereby increasing the size of the Board from nine to ten Directors. Mr. Amato was elected to the Board effective March 6, 2017, to serve as a Class II Director until the 2017 Annual Meeting when he was elected for a three-year term ending in 2020. Mr. Amato was recommended for nomination by Mr. Zapico after a thorough recruitment search process using an outside director search agency. On July 7, 2017, Mr. Hermance retired as Executive Chairman. We thank him for his service. Mr. Zapico succeeded Mr. Hermance as Chairman of the Board and the Board from ten to nine Directors. On July 7, 2017, Mr. Conti was appointed Lead Independent Director. As of this meeting, Mr. Malone will retire, and the Board will decrease the number of Class III Directors from three to two, thereby decreasing the size of the Board from nine to eight. We thank Mr. Malone for his service.

Corporate Governance Guidelines and Codes of Ethics. The Board of Directors has adopted Corporate Governance Guidelines that address the practices of the Board and specify criteria to assist the Board in determining Director independence. These criteria supplement the listing standards of the New York Stock Exchange (NYSE) and the regulations of the Securities and Exchange Commission (SEC). Our Code of Ethics and Business Conduct sets forth rules of conduct that apply to all of our Directors, officers and employees. We also have adopted a separate Code of Ethical Conduct for our Chief Executive Officer and senior financial officers. The

Guidelines and Codes are available at the Investors section of our corporate website, ametek.com, as well as in printed form, free of charge to any stockholder who requests them, by writing or telephoning the Investor Relations Department, AMETEK, Inc., 1100 Cassatt Road, Berwyn, PA 19312-1177 (Telephone Number: 1-800-473-1286). The Board of Directors and our management do not intend to grant any waivers of the provisions of either Code. In the unlikely event a waiver for a Director or an executive officer occurs, the action will be disclosed promptly at our website address provided above. If the Guidelines or the Codes are amended, the revised versions also will be posted on our website.

Meetings of the Board. Our Board of Directors has four regularly scheduled meetings each year. Special meetings are held as necessary. In addition, management and the Directors frequently communicate informally on a variety of topics, including suggestions for Board or Committee agenda items, recent developments and other matters of interest to the Directors.

Directors are expected to attend all meetings of the Board and each Committee on which they serve and are expected to attend the annual meeting. Our Board met a total of eight times in 2017, half in person and half by telephone. Each of the Directors attended at least 75% of the meetings of the Board and the Committees to which the Director was assigned. All the Directors attended the 2017 Annual Meeting of Stockholders.

Independence. The Board of Directors has affirmatively determined that no director, other than Mr. Zapico, our chief executive officer, has a material relationship with us, either directly or as a partner, stockholder or officer of an organization that has a relationship with us. Accordingly, eight of our nine current directors are "independent" directors based on an affirmative determination by our Board in accordance with the listing standards of the NYSE and the SEC rules. The Board has further determined that each member of the Audit, Compensation and Corporate Governance/Nominating Committees is independent within the meaning of the NYSE rules. The members of the Audit Committee also satisfy SEC regulatory independence requirements for audit committee members.

The Board has established the following standards to assist it in determining Director independence: A Director will not be deemed independent if: (i) within the previous three years or currently, (a) the Director has been employed by us; (b) someone in the Director's immediate family has been employed by us as an executive officer; or (c) the Director or someone in her/his immediate family has been employed as an executive officer of another entity that concurrently has or had as a member of its compensation committee of the board of directors any of our present executive officers; (ii) (a) the Director is a current partner or employee of a firm that is our internal or external auditor; (b) someone in the Director's immediate family is a current partner of such a firm; (c) someone in the Director's immediate family is a current employee of such a firm and personally works on our audit; or (d) the Director or someone in the Director's immediate family is a former partner or employee of such a firm and personally worked on our audit within the last three years; (iii) the Director received, or someone in the Director's immediate family received, during any twelve-month period within the last three years, more than \$120,000 in direct compensation from us, other than Director and committee fees and pension or other forms of deferred compensation for prior service (provided such compensation is not contingent in any way on continued service) and, in the case of an immediate family member, other than compensation for service as our employee (other than an executive officer). The following commercial or charitable relationships will not be considered material relationships: (i) if the Director is a current employee or holder of more than ten percent of the equity of, or someone in her/his immediate family is a current executive officer or holder of more than ten percent of the equity of, another company that has made payments to, or received payments from us for property or services in an amount which, in any of the last three fiscal years of the other company, does not exceed \$1 million or two percent of the other company's consolidated gross revenues, whichever is greater, or (ii) if the Director is a current executive officer of a charitable organization, and we made charitable contributions to the charitable organization in any of the charitable organization's last three fiscal years that do not exceed \$1 million or two percent of the charitable organization's consolidated gross revenues, whichever is greater. For the purposes of these categorical standards, the terms "immediate family member" and "executive officer" have the meanings set forth in the NYSE's corporate governance rules.

All independent Directors satisfied these categorical standards.

Communication with Non-Management Directors and Audit Committee. Stockholders and other parties who wish to communicate with the non-management Directors may do so by calling 1-877-263-8357 (in the United States and Canada) or 1-610-889-5271. If you prefer to communicate in writing, address your

correspondence to the Corporate Secretary, Attention: Non-Management Directors, AMETEK, Inc., 1100 Cassatt Road, Berwyn, PA 19312-1177.

You may address complaints regarding accounting, internal accounting controls or auditing matters to the Audit Committee online at ametekhotline.com or by calling 1-855-5AMETEK (1-855-526-3835). The website provides the option to choose your language, as well as a list of international toll-free numbers by country.

Committees of the Board. Our Board has established three Committees whose principal responsibilities are briefly described below. The specific responsibilities of each Committee are outlined in more detail in its charter, which is available at the Investors section of our corporate website, ametek.com, as well as in printed form, free of charge to any stockholder who requests them, by writing or telephoning the Investor Relations Department, AMETEK, Inc., 1100 Cassatt Road, Berwyn, PA 19312-1177 (Telephone Number: 1-800-473-1286). Each Committee conducts an annual assessment to assist it in evaluating whether, among other things, it has sufficient information, resources and time to fulfill its obligations and whether it is performing its obligations effectively. Each Committee may retain advisors to assist it in carrying out its responsibilities.

	Audit	Compensation	Corporate Governance/ Nominating
Thomas A. Amato			•
Ruby R. Chandy		•	
Anthony J. Conti	C*		
Steven W. Kohlhagen	•		
James R. Malone	•	•	С
Gretchen W. McClain	•		•
Elizabeth R. Varet		•	
Dennis K. Williams		С	•
David A. Zapico			
Number of meetings in 2017	8	6	6

The membership of each Committee as of March 23, 2018 is listed below.

C: Chair

*Audit Committee Financial Expert

The Audit Committee has the sole authority to retain, compensate, terminate, oversee and evaluate our independent auditors. In addition, the Audit Committee is responsible for:

- review and approval in advance of all audit and lawfully permitted non-audit services performed by the independent auditors;
- review and discussion with management and the independent auditors regarding the annual audited financial statements and quarterly financial statements included in our SEC filings and quarterly sales and earnings announcements;
- oversight of our compliance with legal and regulatory requirements;
- review of the performance of our internal audit function;
- meeting separately with the independent auditors and our internal auditors as often as deemed necessary or appropriate by the Committee; and
- review of major issues regarding accounting principles, financial statement presentation and the adequacy of internal controls.

The Compensation Committee is responsible for, among other things:

- establishment and periodic review of our compensation philosophy and the adequacy of the compensation plans for our officers and other employees;
- establishment of compensation arrangements and incentive goals for officers at the Corporate Vice President level and above and administration of compensation plans;

- review of the performance of officers at the Corporate Vice President level and above and award of incentive compensation, exercising discretion and adjusting compensation arrangements as appropriate;
- review and monitoring of management development and succession plans; and
- periodic review of the compensation of non-employee Directors.

The Committee, in setting compensation for our Chief Executive Officer, will review and evaluate our Chief Executive Officer's performance and leadership, taking each of into account the views of other members of the Board. The Compensation Committee charter provides that, with the participation of our Chief Executive Officer, the Committee is to evaluate the performance of other officers and determine compensation for these officers. In this regard, Compensation Committee meetings are regularly attended by our Chief Executive Officer. Our Chief Executive Officer does not participate in the determination of his own compensation. The Compensation Committee has authority under the charter to retain and set compensation for compensation consultants and other advisors that the Committee may engage. The Compensation Committee charter does not provide for delegation of the Committee's duties and responsibilities other than to one or more members of the Committee when appropriate.

Management engaged Pay Governance LLC to provide executive and Director compensation consulting services. Pay Governance provided no other services for us. The Compensation Committee has assessed the independence of Pay Governance pursuant to SEC rules and concluded that Pay Governance's work does not raise any conflict of interest issues. See "Compensation Discussion and Analysis – 2017 Compensation – Determination of Competitive Compensation" for further information regarding Pay Governance's services.

The Corporate Governance/Nominating Committee is responsible for, among other things:

- selection of nominees for election as Directors, subject to approval by the Board;
- recommendation of a Director to serve as Chairperson of the Board;
- recommendation to the Board of the responsibilities of Board Committees and each Committee's membership;
- oversight of the annual evaluation of the Board and the Audit and Compensation Committees; and
- review and assessment of the adequacy of our Corporate Governance Guidelines and Code of Ethics and Business Conduct.

Board Leadership Structure. On July 7, 2017, Mr. Hermance retired from AMETEK and from his role as Executive Chairman of the Board of Directors. Mr. Zapico was elected Chairman of the Board, in addition to his position as Chief Executive Officer. In addition to Mr. Zapico, we have a Lead Independent Director since July 2017 and experienced Committee Chairs. The Board believes that the traditional U.S. board leadership structure with a combined Chairman and CEO is in the best interest of our Company as our Chairman and CEO serves as a bridge between management and the Board, ensuring that both groups act with a common vision and strategy. Further, the combined Chairman and CEO leadership structure provides clear leadership for our Company, with a single person setting the tone and having primary responsibility for managing our operations. Splitting the role of CEO and Chairman of the Board would create the potential for confusion or duplication of efforts, and would weaken our ability to develop and implement strategy. In contrast, we believe that our current leadership structure enhances the Chairman and CEO's ability to provide insight and direction on important strategic initiatives to both management and the independent Directors.

Our Board and Committee composition ensures independence and protects against too much power being placed with the Chairman and Chief Executive Officer. Currently, all of our Directors (other than Mr. Zapico) and each member of the Audit, Corporate Governance/Nominating and Compensation Committees meet the independence requirements of the NYSE and our Corporate Governance Guidelines' categorical standards for determining Director independence. Additionally, the members of the Audit Committee also satisfy SEC regulatory independence requirements for audit committee members. Pursuant to our Corporate Governance Guidelines, each independent Director has the ability to raise questions directly with management and request that topics be placed on the Board agenda for discussion. Currently, independent Directors directly oversee such critical matters as the integrity of our financial statements, the compensation of executive management, the selection and evaluation of Directors and the development and implementation of our corporate governance policies and structures. Further, the

Compensation Committee conducts an annual performance review of our Chief Executive Officer and, based upon this review, approves our Chief Executive Officer's annual compensation, including salary, bonus, incentive and equity compensation.

If our Chairman is not a non-management independent director, our Corporate Governance Guidelines provide that an independent director will serve as our Lead Independent Director. Mr. Conti was appointed our Lead Independent Director in July 2017 when Mr. Zapico was appointed Chairman. Mr. Conti's powers and duties as Lead Independent Director include the following: presides at all meetings when the Chairman is not present, including executive sessions of independent Directors; serves as liaison between the Chairman and the independent Directors; authorized to call meetings of the independent Directors; communicates to the Chairman regarding the quality, quantity, appropriateness and timeliness of information sent to the Board; works with the Chairman to establish Board agendas; works with the Chairman to optimize the number, frequency and conduct of Board meetings, as well as meeting schedules; authorized to retain outside advisors and consultants to the Board; and available, if required by the management team, for consultation and communication with our stockholders.

It is our policy that independent Directors meet in executive session at least once a year outside of the presence of any management Directors or any other members of our management. Our Lead Independent Director chairs these sessions. During executive sessions, the Directors may consider such matters as they deem appropriate. Following each executive session, the results of the deliberations and any recommendations are communicated to the full Board of Directors.

Risk Oversight. In accordance with NYSE rules and our Audit Committee's charter, our Audit Committee has primary responsibility for overseeing risk management for AMETEK. Nevertheless, our entire Board of Directors, and each other Committee of the Board, is actively involved in overseeing risk management. Our Board of Directors, and each of its Committees, regularly consider various potential risks at their meetings during discussion of our operations and consideration of matters for approval. In addition, we have an active risk management program. A committee composed of senior executives, including the Chairman and Chief Executive Officer, the Chief Financial Officer, the Comptroller and the Group Presidents, reviews our internal risks, including those relating to our operations, strategy, financial condition, compliance and employees, and our external risks, including those relating to our markets, geographic locations, cyber security, regulatory environment, and economic outlook. The committee analyzes various potential risks for severity, likelihood and manageability, and develops action plans to address those risks. The committee's findings are presented to the Audit Committee of the Board on a quarterly basis and to the full Board of Directors annually.

Consideration of Director Candidates. The Corporate Governance/Nominating Committee seeks candidates for Director positions who help create a collective membership on the Board with varied backgrounds, experience, skills, knowledge and perspective. In addition, Directors should have experience in positions with a high degree of responsibility, be leaders in the companies or institutions with which they are affiliated, and be selected based upon contributions that they can make to AMETEK. The Committee also seeks a Board that reflects diversity, including but not limited to race, gender, ethnicity, age and experience. This is implemented by the Committee when it annually considers diversity in the composition of the Board prior to recommending candidates for nomination as Directors. The Committee solicits input from Directors regarding their views on the sufficiency of Board diversity. This occurs through the annual self-assessment process. The Committee assesses the effectiveness of Board diversity by considering the various skills, experiences, knowledge, backgrounds and perspectives of the members of the Board of Directors. The Committee then considers whether the Board possesses, in its judgment, a sufficient diversity of those attributes.

Stockholders can recommend qualified candidates for Director by writing to the Corporate Secretary, AMETEK, Inc., 1100 Cassatt Road, Berwyn, PA 19312-1177. Stockholder submissions must include the following information: (1) the name of the candidate and the information about the individual that would be required to be included in a proxy statement under the SEC rules; (2) information about the relationship between the candidate and the recommending stockholder; (3) the consent of the candidate to serve as a Director; and (4) proof of the number of shares of our common stock that the recommending stockholder owns and the length of time that the shares have been owned. To enable consideration of a candidate in connection with the 2019 Annual Meeting, a stockholder must submit materials relating to the recommended candidate no later than November 26, 2018. In considering any candidate proposed by a stockholder, the Corporate Governance/Nominating Committee will reach a conclusion based on the criteria described above in the same manner as for other candidates. The Corporate

Governance/Nominating Committee also may seek additional information regarding the candidate. After full consideration by the Corporate Governance/Nominating Committee, the stockholder proponent will be notified of the decision of the Committee.

In addition, we adopted "proxy access," which, under certain circumstances, allows a stockholder or group of up to twenty stockholders who have owned at least 3% of our common stock for at least three years to submit director nominees (up to the greater of two Directors or 20% of the Board) for inclusion in our proxy materials if the stockholder(s) and the nominee(s) satisfy the requirements specified in our By-Laws. Stockholders who wish to nominate directors for inclusion in our proxy materials or directly at an annual meeting of stockholders in accordance with the procedures in our By-Laws should follow the instructions under the "Stockholder Proposals and Director Nominations for the 2019 Annual Meeting" section of this proxy statement.

Director Compensation. Standard compensation arrangements for Directors are described below.

• Fees – Non-employee Directors received an annual base cash retainer of \$90,000. Additional annual retainers are paid to the Lead Independent Director and the Chairs of our three Committees as shown in the table below. Each annual retainer is payable in advance in equal quarterly installments. There were no additional fees for attendance at the Board or Committee meetings.

Lead Independent Director	\$30,000
Audit Committee Chair	\$20,000
Compensation Committee Chair	\$15,000
Corporate Governance/Nominating Committee Chair	\$15,000

- Restricted Stock On May 9, 2017, under our 2011 Omnibus Incentive Compensation Plan, each nonemployee Director received a restricted stock award of 3,040 shares of our common stock, except for Mr. Amato who received 3,580 shares based on the date he was elected to the Board (March 6, 2017). These restricted shares vest on the earliest to occur of:
 - the closing price of our common stock on any five consecutive trading days equaling or exceeding \$120.60,
 - the death or disability of the Director,
 - the Director's termination of service as a member of our Board of Directors in connection with a change of control, or
 - the second anniversary of the date of grant, namely May 9, 2019, provided the Director has served continuously through that date.
- Restricted Stock Vestings On May 8, 2017, the 2-year cliff vesting of the restricted stock granted on May 6, 2015 to Messrs. Conti, Kohlhagen, Malone and Williams, and Mses. Chandy, McClain and Varet, occurred. The total value realized on vesting is equal to (1) the closing price per share of our common stock on May 8, 2017 (\$59.93), multiplied by the number of shares acquired on vesting, (2) the dividends accrued since the date of award, and (3) the interest accrued on these dividends.

The following table provides information regarding Director compensation in 2017, which reflects the standard compensation described above and certain other payments. The table does not include compensation for reimbursement of travel expenses related to attending Board, Committee and AMETEK business meetings, and approved educational seminars. In addition, the table does not address compensation for Messrs. Hermance and Zapico, which is addressed under "Executive Compensation" beginning on page 18. Messrs. Hermance and Zapico did not receive additional compensation for serving as Directors in 2017 and Mr. Zapico does not receive additional compensation for serving as a Director in 2018.

DIRECTOR COMPENSATION – 2017

					Change in		
					Pension Value		
					and		
	Fees				Nonqualified		
	Earned or			Non-Equity	Deferred		
	Paid in	Stock	Option	Incentive Plan	Compensation	All Other	
Name	Cash (1)	Awards (2)	Awards	Compensation	Earnings (3)	Compensation	Total
Thomas A. Amato	\$74,000	\$215,874	-	-	-	\$973	\$290,847
Ruby R. Chandy	90,000	183,312	-	-	-	1,293	274,605
Anthony J. Conti	124,511	183,312	-	-	-	1,293	309,116
Steven W. Kohlhagen	90,000	183,312	-	-	-	1,293	274,605
James R. Malone	105,000	183,312	-	-	\$114,200	1,293	403,805
Gretchen W. McClain	90,000	183,312	-	-	-	1,499	274,811
Elizabeth R. Varet	90,000	183,312	-	-	24,600	1,293	299,205
Dennis K. Williams	105,000	183,312	-	-	-	1,293	289,605

- (1) The amounts shown are the annual base cash retainer and retainer premium fees and include amounts that have been deferred under the deferred compensation plan for Directors.
- (2) The amounts shown for stock awards relate to restricted shares granted under our 2011 Omnibus Incentive Compensation Plan. These amounts are equal to the grant date fair value, computed in accordance with Financial Accounting Standards Board Accounting Standards Codification Topic 718, *Compensation—Stock Compensation*, which we refer to below as "ASC 718," but without giving effect to estimated forfeitures related to service-based vesting conditions. At December 31, 2017, Messrs. Conti, Kohlhagen, Malone, and Williams, and Mses. Chandy, McClain and Varet each held 4,300 restricted shares and Mr. Amato held 3,580 restricted shares. At December 31, 2017, the non-management members of the Board held options to purchase the number of shares of our common stock set forth next to their names in the chart below:

Name	Outstanding Options
Thomas A. Amato	-
Ruby R. Chandy	19,530
Anthony J. Conti	29,875
Steven W. Kohlhagen	29,875
James R. Malone	10,755
Gretchen W. McClain	13,160
Elizabeth R. Varet	25,825
Dennis K. Williams	29,875

(3) The amounts shown include the aggregate change in actuarial present value of the accumulated benefit under defined benefit plans as follows: Mr. Malone, \$114,200; and Ms. Varet, \$24,600.

Directors who first became members of the Board prior to January 1, 1997 participate in a retirement plan for Directors. Under this plan, each non-employee Director who has provided at least three years of service to us as a Director receives an annual retirement benefit equal to 100% of that Director's highest annual rate of cash compensation during the Director's service with the Board. Ms. Varet has accrued an annual retirement benefit of \$90,000. Mr. Malone has accrued an annual retirement benefit of \$105,000.

Directors who first became members of the Board prior to July 22, 2004 participate in our Death Benefit Program for Directors. Mr. Malone and Ms. Varet participate in this program. Under this program, each non-employee Director has an individual agreement that pays the Director (or the Director's beneficiary in the event of the Director's death) an annual amount equal to 100% of that Director's highest annual rate of cash compensation during the Director's service with the Board. The payments are made for 10 years beginning at the earlier of (a) the Director's being retired and having attained age 70 or (b) the Director's death. The program is funded by individual life insurance policies that we purchased on the lives of the Directors. In addition, non-employee Directors who first became members of the Board prior to July 27, 2005 have a group term life insurance benefit of \$50,000. We retain the right to terminate any of the individual agreements under certain circumstances.

Directors are able to participate in a deferred compensation plan for Directors. Ms. McClain participates in this plan. Under this plan, a Director may defer payment of his or her fees into a notional investment in our common stock, in an interest-bearing account, or in both. A Director generally may elect to have the value of his or her account distributed following retirement, either in a lump sum or in up to five annual installments, or in the form of an inservice distribution, payable either in a lump sum or in up to five annual installments commencing on a date specified by the Director in his or her distribution election. Payments may commence sooner upon the Director's earlier separation from service, upon the death of the Director, in the event of an unforeseeable financial emergency or upon a change of control. Payments from the notional common stock fund are made in shares of our common stock, while payments from the interest-bearing account are paid in cash.

Mandatory Retirement. The retirement policy for our Board prohibits a Director from standing for re-election following his or her 75th birthday.

Certain Relationships and Related Transactions. Mr. Hermance's son is employed by us in a nonexecutive officer capacity as a Corporate Vice President and received total compensation, as such amount is calculated for the named executive officers in the Summary Compensation Table on page 27, of approximately \$900,000 in 2017.

Under our written related party transactions policy, transactions that would require disclosure under SEC regulations must be approved in advance by the Audit Committee. Prior to entering into a transaction covered by the policy, the person proposing to enter into the transaction must provide a notice to our Vice President – Audit Services, who must promptly forward the notice to the Chair of the Audit Committee. Following such inquiry as the Audit Committee deems appropriate, the transaction is permissible if the Audit Committee finds that, notwithstanding the involvement of a related person, there is an appropriate business reason to approve the transaction.

The transaction described above was ratified by the Audit Committee under the policy.

STOCKHOLDER PROPOSALS AND DIRECTOR NOMINATIONS FOR THE 2019 ANNUAL MEETING

Advance Notice Procedures for Stockholder Proposals and Director Nominations Not Intended for Inclusion in the Proxy Statement for the 2019 Annual Meeting

In accordance with our By-Laws, stockholders must give us notice relating to nominations for Director or proposed business to be considered at our 2019 Annual Meeting of Stockholders, other than in connection with a proxy access nomination, no earlier than January 8, 2019 and no later than February 7, 2019. These requirements do not affect the deadline for submitting stockholder proposals or director nominations for inclusion in the proxy statement, or for recommending candidates for consideration by the Corporate Governance/ Nominating Committee, nor do they apply to questions a stockholder may wish to ask at the meeting.

Director Nominations for Inclusion in the Proxy Statement for the 2019 Annual Meeting

In February 2017, the Board adopted proxy access, which allows a stockholder or group of up to twenty stockholders who have owned at least 3% of our common stock for at least three years to submit director nominees (up to the greater of two Directors or 20% of the Board) for inclusion in our proxy materials if the stockholder(s) provide timely written notice of such nomination(s) and the stockholder(s) and the nominee(s) satisfy the requirements specified in our By-Laws. To be timely for inclusion in our proxy materials for the 2019 Annual Meeting of Stockholders, notice must be received by the Corporate Secretary at our principal executive offices no earlier than the close of business on October 27, 2018, and no later than the close of business on November 26, 2018. The notice must contain the information required by our By-Laws, and the stockholder(s) and nominee(s) must comply with the information and other requirements in our By-Laws relating to the inclusion of stockholder nominees in our proxy materials.

Stockholders may request a copy of the By-Law provisions discussed above from the Corporate Secretary, AMETEK, Inc., 1100 Cassatt Road, Berwyn, PA 19312-1177.

Stockholder Proposals for the 2019 Proxy Statement

To be considered for inclusion in the proxy statement for the 2019 Annual Meeting of Stockholders, stockholder proposals must be received at our executive offices no later than November 26, 2018.

REPORT OF THE AUDIT COMMITTEE

The responsibilities of the Audit Committee are set forth in its charter, which is accessible at the Investors section of our corporate website, ametek.com. Among other things, the charter charges the Committee with the responsibility for reviewing our audited financial statements and the financial reporting process. In fulfilling its oversight responsibilities, the Committee reviewed with management and Ernst & Young LLP, our independent registered public accounting firm, the audited financial statements contained in our 2017 Annual Report on Form 10-K and included in Appendix A to this Proxy Statement. The Committee discussed with Ernst & Young LLP the matters required to be discussed by the Statement on Auditing Standards No. 16, *Communications with Audit Committees*, as adopted by the Public Company Accounting Oversight Board.

In addition, the Committee received the written disclosures and letter from Ernst & Young LLP in accordance with the applicable standards of the Public Company Accounting Oversight Board, and has discussed with Ernst & Young LLP its independence.

The Committee discussed with our internal auditors and Ernst & Young LLP the overall scope and plans for their respective audits. The Committee met with the internal auditors and Ernst & Young LLP, with and without management present, to discuss the results of their examinations, their evaluations of our disclosure control process and internal control over financial reporting, and the overall quality of our financial reporting. The Committee held eight meetings during 2017, which included telephonic meetings prior to quarterly earnings announcements.

Based on the reviews and discussions referred to above, the Committee recommended to the Board of Directors, and the Board approved, the inclusion of the audited financial statements in our Annual Report on Form 10-K for the fiscal year ended December 31, 2017, for filing with the Securities and Exchange Commission.

Respectfully submitted,

The Audit Committee: Anthony J. Conti, Chair Steven W. Kohlhagen James R. Malone Gretchen W. McClain

Dated: March 26, 2018

ELECTION OF DIRECTORS (Proposal 1 on Proxy Card)

The nominees for election at this year's meeting are Elizabeth R. Varet and Dennis K. Williams, who have been nominated to serve as Class III Directors and, if elected, will serve until the 2021 Annual Meeting. There are no other nominees competing for their seats on the Board. This means we have an uncontested election.

If a quorum is present, Directors in uncontested elections are elected by a majority of the votes cast, in person or by proxy. This means that the nominees will be elected if they receive more "for" votes than "against" votes. Votes marked "for" a nominee will be counted in favor of that nominee. Votes marked "abstain" will have no effect on the vote since a majority of the votes cast at the meeting is required for the election of each nominee. Since we do not have cumulative voting, you may not cast all of your votes "for" a single Director nominee. In accordance with our Corporate Governance Guidelines, any nominee for Director who does not receive a majority of votes cast shall immediately tender his or her resignation for consideration by the Corporate Governance/Nominating Committee of the Board of Directors. The Committee will promptly consider the resignation tendered by the Director and will recommend to the Board whether to accept the tendered resignation or reject it. In considering whether to accept or reject the tendered resignation, the Committee will weigh all factors it deems relevant, including the reasons for the "against" votes by stockholders, the length of service and qualifications of the Director, and the Director's contributions to AMETEK. No Director whose tendered resignation is under consideration will participate in the deliberation process as a member of the Corporate Governance/Nominating Committee or the process of the Board described below. The Board will act on the Corporate Governance/Nominating Committee's recommendation within 120 days following certification of the stockholders' vote and will promptly disclose (by press release, filing of a Current Report on Form 8-K or any other public means of disclosure deemed appropriate) its decision regarding whether to accept the Director's resignation offer. In considering the Corporate Governance/Nominating Committee's recommendation, the Board will weigh the factors considered by the Committee and any additional information deemed relevant by the Board. If any Directors' resignations are accepted by the Board, the Corporate Governance/Nominating Committee will recommend to the Board whether to fill such vacancy or vacancies or to reduce the size of the Board.

If any nominee is unable to serve, the shares represented by all valid proxies will be voted for the election of such other person as the Board may nominate, unless the Board determines to reduce the number of Directors. The Directors' biographies are set forth on pages 15 and 16.

Your Board of Directors Recommends a Vote FOR Each of the Nominees.

ADVISORY APPROVAL OF THE COMPANY'S EXECUTIVE COMPENSATION (Proposal 2 on Proxy Card)

In accordance with the results of the last advisory vote on the appropriate frequency of our advisory vote on executive compensation at our 2017 Annual Meeting, our Board determined to implement an annual non-binding stockholder vote on our executive compensation (commonly referred to as "say-on-pay"). Our Board has had a long-standing commitment to good corporate governance and recognizes the interest that investors have in executive compensation. We also are committed to achieving a high level of total return to our stockholders.

We encourage you to review the Compensation Discussion and Analysis beginning on page 18 of this proxy statement, as well as the 2017 Summary Compensation table and related compensation tables and narrative, appearing on pages 27 through 39, which provide detailed information on our compensation policies and practices and the compensation of our named executive officers. We believe that our compensation program is designed to attract, motivate and retain the talent required to achieve the short- and long-term performance goals necessary to create stockholder value. Our balanced approach to executive compensation through a combination of base pay, annual incentives and long-term incentives, with a mix of cash and non-cash awards, aligns with creating and sustaining stockholder value. The result of our compensation program is reflected in the total return to our stockholders.

The Board strongly endorses our executive compensation program and recommends that the stockholders vote in favor of the following resolution:

"RESOLVED, that the stockholders approve the compensation of the Company's executives named in the Summary Compensation Table, as disclosed pursuant to the compensation disclosure rules of the Securities and Exchange Commission (which disclosure includes the Compensation Discussion and Analysis and the accompanying compensation tables and related material disclosed in this Proxy Statement)."

The affirmative vote of the holders of a majority of eligible shares present at the meeting, in person or by proxy, and voting on the matter is required to approve this proposal. Abstentions and broker non-votes will each be counted as present for purposes of determining a quorum but will not have any effect on the outcome of the proposal.

Although the vote is non-binding, our Board and Compensation Committee will take into account the outcome of the vote when making future decisions about our executive compensation policies and procedures.

Your Board of Directors Recommends a Vote FOR the Approval of our Executive Compensation.

RATIFICATION OF APPOINTMENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM (Proposal 3 on Proxy Card)

The Audit Committee is directly responsible for the appointment, compensation, retention and oversight of our independent registered public accounting firm. To execute this responsibility, the Audit Committee engages in a comprehensive annual evaluation of the independent registered public accounting firm's qualifications, performance and independence. Further, the Audit Committee evaluates whether the independent registered public accounting firm should be rotated, and considers the advisability and potential impact of selecting a different independent registered public accounting firm.

The Audit Committee has selected, and the Board has ratified the selection of, Ernst & Young LLP to serve as our independent registered public accounting firm for the fiscal year ending December 31, 2018. The Audit Committee is responsible for the audit fee negotiations associated with our retention of Ernst & Young LLP. Further, in conjunction with the mandated rotation of the audit firm's lead engagement partner, the Chair and other members of the Audit Committee are directly involved in the selection of Ernst & Young LLP's new lead engagement partner. Ernst & Young LLP and its predecessor have served continuously as our independent auditors since our incorporation in 1930.

The Audit Committee and the Board believe that the continued retention of Ernst & Young LLP as our independent registered public accounting firm is in the best interest of AMETEK and our stockholders, and we are asking our stockholders to ratify the selection of Ernst & Young LLP as our independent registered public accounting firm for 2018. Although action by stockholders on this matter is not required, the Audit Committee believes that it is appropriate to seek stockholder ratification of this appointment, and the Audit Committee may reconsider the appointment if the stockholders do not ratify it.

Fees billed to us by Ernst & Young LLP for services rendered in 2017 and 2016 totaled \$9,478,000 and \$8,279,000 respectively, and consisted of the following:

	<u>2017</u>	<u>2016</u>
Audit fees	\$7,363,000	\$6,611,000
Audit-related fees	138,000	258,000
Tax fees	1,975,000	1,408,000
All other fees	2,000	2,000
Total	\$9,478,000	\$8,279,000

"Audit fees" includes amounts for statutory audits and attestation services related to our internal control over financial reporting for compliance with Section 404 of the Sarbanes-Oxley Act of 2002.

The amounts shown for "Audit-related fees" primarily include fees for audits of employee benefit plans and due diligence in connection with acquisitions.

The amounts shown for "Tax fees" relate to federal and state tax advice, acquisition tax planning, assistance with international tax compliance and international tax consulting.

The amounts shown for "All other fees" relate to online accounting research subscriptions.

The affirmative vote of the holders of a majority of eligible shares present at the meeting, in person or by proxy, and voting on the matter is required to ratify the appointment of Ernst & Young LLP.

Representatives of Ernst & Young LLP will be present at the meeting. They will have an opportunity to make a statement if they desire and will be available to respond to appropriate questions.

Your Board of Directors Recommends a Vote FOR Ratification.

THE BOARD OF DIRECTORS

As discussed under "Consideration of Director Candidates," the Corporate Governance/Nominating Committee analyzes a number of factors when considering Directors for selection to the Board. Each of our Directors has been selected based on their demonstrated leadership and significant experience in areas significant to our Company; ability to offer advice and guidance based upon that experience and expertise; sound business judgment; and character and integrity that support our core values. The biographical information set forth below includes a description of each Director's background that supported the Board's consideration of that Director for nomination. Unless we indicate otherwise, each Director has maintained the principal occupation and directorships described below for more than five years.

Class III: Nominees for election at the meeting for terms expiring in 2021:

ELIZABETH R. VARET Director since 1987 Age 74	Ms. Varet is a Managing Director of American Securities Management L.P. and chairman of the corporate general partner of several affiliated entities. Ms. Varet brings to the Board expertise in finance and investment through her extensive management and investment experience at private equity and other investment firms.		
DENNIS K. WILLIAMS Director since 2006 Age 72	Mr. Williams is retired from his position as President, Chief Executive Officer and Chairman of the Board of IDEX Corporation. Mr. Williams brings to the Board considerable experience and insight into issues facing large public companies gained as CEO of IDEX Corporation. He has extensive acquisition experience and knowledge specific to our markets with more than 30 years' experience in our industry. Mr. Williams is currently a Director of Owens-Illinois, Inc. and was a Director of Actuant Corporation from May 2006 until March 2018.		
Class I: Directors whose	terms continue until 2019:		
RUBY R. CHANDY Director since 2013 Age 56	Ms. Chandy was the President of the Industrial Division of Pall Corporation from April 2012 to November 2015. Previously, she was Managing Director, Vice President of Dow Plastics Additives, a unit of The Dow Chemical Company, from 2011 to April 2012. Ms. Chandy brings to the Board her executive management experience, marketing and strategy skills, relevant experience in life science and industrial companies, and extensive engineering and management education. Ms. Chandy has served as a Director of Flowserve Corporation since May 2017. Ms. Chandy was a Director of IDEX Corporation from April 2006 until April 2013.		
STEVEN W. KOHLHAGEN Director since 2006 Age 70	Mr. Kohlhagen is a retired financial executive. Mr. Kohlhagen brings to the Board expertise in financial accounting, finance and risk management through his extensive experience in, and knowledge of, the financial, securities and foreign exchange markets. He is currently a Director of the Federal Home Loan Mortgage Corporation. Mr. Kohlhagen was a Director of GulfMark Offshore, Inc. from September 2013 to November 2017 and Abtech Holdings, Inc. from August 2012 to March 2014.		
DAVID A. ZAPICO Director since 2016 Age 53	Mr. Zapico is the Chairman and Chief Executive Officer of AMETEK. He became Chairman in July 2017 and Chief Executive Officer in May 2016. Previously he was Executive Vice President and Chief Operating Officer from January 2013 to May 2016. From October 2003 to January 2013, Mr. Zapico served as President–Electronic Instruments. Mr. Zapico brings to the Board extensive knowledge of our Company and the markets in which we operate through his 28 years' experience in our industry.		

Class II: Directors whose terms continue until 2020:

THOMAS A. AMATO Director since 2017 Age 54	Mr. Amato is Chief Executive Officer and President of TriMas Corporation. Previously, he was Chief Executive Officer and President of Metaldyne, LLC from October 2009 to December 2015. From August 2014 to December 2015, Mr. Amato also served as Co- President and Chief Integration Officer of Metaldyne Performance Group Inc. Mr. Amato brings to the Board more than 25 years of broad industrial and international experience, having served in several leadership positions at global, multibillion-dollar businesses. He is currently a Director of TriMas Corporation. Mr. Amato was a Director of Asahi Tec Corporation from June 2008 to May 2012.
ANTHONY J. CONTI Director since 2010 Age 69	Mr. Conti is retired from his position as a Partner at PricewaterhouseCoopers. Mr. Conti brings to the Board expertise in financial accounting, finance, strategy, risk management and human resources management with his more than 35 years' experience at a public accounting firm. He is currently a Director of BioTelemetry, Inc.
GRETCHEN W. McCLAIN Director since 2014 Age 55	Ms. McClain was the founding President and Chief Executive Officer of Xylem Inc. from October 2011 to September 2013. Ms. McClain brings to the Board her extensive business, developmental, strategic and technical background from more than 25 years of global experience across multiple industries, including as CEO of a publicly traded industrial company and government agency leadership. She is currently a Director of Booz Allen Hamilton Holding Corporation and Boart Longyear Limited. Ms. McClain was a Director of Xylem Inc. from October 2011 to September 2013. She was a Director of Con-way, Inc. from June 2015 to October 2015, when it was acquired by XPO Logistics, Inc.

EXECUTIVE OFFICERS

Officers are appointed by our Board to serve for the ensuing year and until their successors have been elected and qualified. Information about our executive officers as of March 26, 2018 is shown below:

Name	Age	Present Position with AMETEK
David A. Zapico	53	Chairman and Chief Executive Officer
William J. Burke	56	Executive Vice President-Chief Financial Officer
Ronald J. Oscher	50	Chief Administrative Officer
Tony J. Ciampitti	45	President-Electronic Instruments
John W. Hardin	53	President–Electronic Instruments
Thomas C. Marecic	56	President-Electronic Instruments
Timothy N. Jones	61	President-Electromechanical Group
Thomas M. Montgomery	55	Senior Vice President-Comptroller & Principal Accounting Officer

David A. Zapico's employment history with us and other directorships held during the past five years are described under the section "The Board of Directors" on page 15. Mr. Zapico has 28 years of service with us.

William J. Burke was elected Executive Vice President–Chief Financial Officer effective May 15, 2016. He served as Senior Vice President–Comptroller from July 2012 to May 2016, and as Treasurer from March 2007 to September 2017. Mr. Burke has over 30 years of service with us.

Ronald J. Oscher was elected Chief Administrative Officer effective May 5, 2016. He served as President–Electronic Instruments from November 2014 to December 2016. From March 2013 to November 2014, Mr. Oscher served as Senior Vice President–Electronic Instruments. Mr. Oscher has 7 years of service with us.

Tony J. Ciampitti was elected President–Electronic Instruments effective January 1, 2017. Previously he served as Vice President and General Manager–Power Systems and Instruments Division from July 2008 to January 2017. Mr. Ciampitti has 21 years of service with us.

John W. Hardin was elected President–Electronic Instruments effective July 23, 2008. Mr. Hardin has 19 years of service with us.

Thomas C. Marecic was elected President–Electronic Instruments effective November 5, 2014. Previously he served as Senior Vice President–Electronic Instruments from March 2013 to November 2014. Mr. Marecic has 23 years of service with us.

Timothy N. Jones was elected President–Electromechanical Group effective February 1, 2006. Mr. Jones has 38 years of service with us.

Thomas M. Montgomery was elected Senior Vice President–Comptroller & Principal Accounting Officer effective May 15, 2016. Previously he served as Vice President–Planning & Analysis from July 2012 to May 2016. Mr. Montgomery has 34 years of service with us.

EXECUTIVE COMPENSATION COMPENSATION DISCUSSION AND ANALYSIS

Introduction

In this Compensation Discussion and Analysis, we address the compensation paid or awarded to our executive officers listed in the Summary Compensation Table that immediately follows this discussion. We refer to these executive officers as our "named executive officers."

Each year, the Compensation Committee, in consultation with an independent compensation consultant, carefully reviews our compensation policies and procedures to determine if they are in the best interests of our stockholders and employees. The Committee conducted this review in the fall of 2017. In light of the strong level of stockholder approval of our executive compensation that we received at our 2017 Annual Meeting of Stockholders (approximately 95% of the advisory vote), the Committee determined that it is in the best interests of our stockholders as well as our employees to maintain our compensation policies and procedures which are described in this Compensation Discussion and Analysis.

Executive Compensation – Governance Practices

The Committee recognizes that the success of our executive compensation program over the long-term requires a robust framework of compensation governance. As a result, the Committee regularly reviews external executive compensation practices and trends and incorporates best practices into our executive compensation program.

What We Do

- Incentive compensation programs feature multiple, different performance measures aligned with our business strategy
- Strong alignment between pay and performance
- Large portion of executive compensation is at-risk and variable
- Stock ownership requirements for all executive officers
- Minimum vesting requirements for equity awards per our stock plan
- Caps on annual bonuses to avoid excessive short-term focus and potentially adverse risk-taking
- Annually benchmark our compensation levels to ensure competitiveness
- Use an independent consultant to advise the Compensation Committee

What We Don't Do

- No excise tax gross-ups on change of control payments
- No excessive perquisites
- No hedging or pledging of our stock
- No discounting, reloading or repricing of stock options without stockholder approval
- No payment of dividends while shares are unvested

Changes for 2018

For 2018, we are enhancing our executive compensation program to be even more performance-based by introducing performance shares to our equity-based compensation program. The use of performance shares, in conjunction with stock options and restricted stock, will ensure that we maintain a balanced long-term incentive program. The performance shares are earned based on the degree of achievement against predetermined relative and absolute performance goals over a three-year measurement period.

In addition, we have adopted a defined executive compensation peer group to benchmark executive pay levels and practices. Following a rigorous process which included our independent consultant, we selected the following 20-company peer group:

Acuity Brands, Inc.	Flowserve Corporation	Keysight Technologies, Inc.	Roper Technologies, Inc.
Agilent Technologies, Inc.	Fortive Corporation	Parker-Hannifin Corporation	Sensata Technologies Holding N.V.
Crane Co.	Hubbell Incorporated	Pentair plc	TransDigm Group Incorporated
Dover Corporation	IDEX Corporation	Rockwell Automation, Inc.	Triumph Group, Inc.
Emerson Electric Co.	Illinois Tool Works Inc.	Rockwell Collins, Inc.	Xylem Inc.

This defined peer group data will be used in conjunction with general industry market data when benchmarking each compensation component and total target compensation.

2017 Compensation

Compensation Objectives

The compensation paid or awarded to our named executive officers for 2017 was designed to meet the following objectives:

- Provide compensation that is competitive with market levels of compensation provided to other relevant companies' executive officers, as described further below, taking into account the size of our company or operating group, as applicable. We refer to this objective as "competitive compensation."
- Create a compensation structure under which a meaningful portion of total compensation is at risk and based on achievement of performance goals. We refer to this objective as "performance incentives."
- Encourage the aggregation and maintenance of meaningful equity ownership, and alignment of executive and stockholder interests. We refer to this objective as "stakeholder incentives."
- Provide an incentive for long-term continued employment with us. We refer to this objective as "retention incentives."

We fashioned various components of our 2017 compensation payments and awards to meet these objectives as follows:

Type of Compensation Salary Short-Term Incentive Awards, Restricted Stock Awards and Objectives Addressed Competitive Compensation

Competitive Compensation, Performance Incentives, Stakeholder Incentives and Retention Incentives

Determination of Competitive Compensation

Stock Option Grants

In assessing the competitiveness of our compensation levels, we review current-year compensation data provided to us by an independent compensation consultant, Pay Governance LLC. We generally target the median of the general industry market (a collection of approximately 500 companies) for all compensation components in the aggregate.

We used the following process to determine a reference point for the compensation for each named executive officer in 2017:

- We provided to the compensation consultant a description of the responsibilities for each named executive officer.
- The compensation consultant employed its standard methodology to provide market compensation levels for comparable executives. Comparable executives are seasoned executives having similar responsibilities. The competitive compensation information was based on general industry data derived principally from Willis Towers Watson's Executive Compensation Database. The data were size-adjusted to reflect our estimated revenues and the relevant operating groups as appropriate.

While the actual amount of total compensation earned will vary based on company and individual performance, our goal is for total target compensation, as well as each element of total target compensation, to be at or around the median target compensation for executives with similar positions in the market. Individual executive compensation

is established based on an executive's scope of responsibility, impact on profitable growth, individual performance and breadth of experience.

Role of Executive Officers in Determining Executive Compensation for Named Executive Officers

In connection with 2017 compensation, Mr. Zapico, aided by our human resources department, provided statistical data and recommendations to the Compensation Committee to assist it in determining compensation levels. Mr. Zapico did not make recommendations as to his own compensation. While the Compensation Committee utilized this information, and valued Mr. Zapico's observations with regard to other executive officers, the ultimate approval regarding executive compensation came from the Compensation Committee.

Salaries

The salary amounts set forth in the Summary Compensation Table for 2017 reflect salary decisions made by the Compensation Committee of our Board of Directors in November 2016. In determining base salary, the CEO and the Committee consider the size and scope of the executives' responsibilities, experience, performance and the median base salary of similar positions in the market. The Committee believes that median base salary is an appropriate general reference point to attract and retain top executive talent. Base salaries are reviewed annually, and adjustments are intended to recognize performance and contributions over the prior year, as well as any significant changes in duties or scope of responsibility.

Short-Term Incentive Program

The principal objective of our short-term incentive program is to strongly link a portion of annual compensation to our results. We set target short-term incentive opportunities at the median for comparable executives. However, variations from market, both positive and negative, may result based on actual performance.

For 2017, we set target bonus amounts, which are typically stated as a percentage of base salary, for the named executive officers as follows: Mr. Zapico – 110%; Mr. Hermance – 110%; Mr. Burke – 75%; Mr. Hardin – 65%; Mr. Jones – 65%; and Mr. Ciampitti – 65%.

Under our short-term incentive program, we selected performance measures that are key drivers of shareholder value. In some instances, performance metrics differed among the named executive officers. These differences reflect the differing responsibilities of the executives. We also established targets, or expected levels of performance, for each performance measure.

The large majority of our executives' annual incentive is based on formula-driven, non-discretionary, financial metrics. The target goal for each non-discretionary measure in 2017 was derived from our 2017 budget. Consistent with past practice, the Compensation Committee can make adjustments on a case-by-case basis, such as for group operating income, as described below.

- Diluted earnings per share (EPS) We believe that the paramount objective of a principal executive officer is to increase stockholder return significantly, and that for a large, well-established industrial corporation, EPS is typically a key metric affecting share price. Therefore, we believe EPS is an excellent measure of our executive officers' performance. For 2017, we adjusted diluted earnings per share to exclude realignment costs, a significant charitable contribution, and the impact of the Tax Cuts and Jobs Act (US Tax Reform).
- Organic revenue growth Revenue growth is key to the long-term vitality of a business and we believe this is an indicator of our executive officers' performance. This measure is applied either on a companywide basis, or, for our group presidents, with regard to their respective operating groups. We define our organic revenue growth measure as actual revenue compared to prior-year revenue without giving effect to (i) increases in revenues from businesses that we acquired during the year and (ii) foreign currency effects.
- Operating income This measure applies to our group presidents with regard to their respective operating groups. We believe this measure is a reliable indicator of corporate and operating group performance. Adjustments to operating unit income are approved by the Compensation Committee and, in 2017, consisted of the inclusion of estimated tax benefits pertaining to the disposal of excess and obsolete inventory, the inclusion of specified financing costs related to acquisitions, and the exclusion of realignment costs. We

increased operating unit income by the estimated tax benefit realized through the disposal of excess and obsolete inventory. This adjustment encourages our operating executives to dispose of excess and obsolete inventory so stockholders benefit from the lower taxes. We reduced operating unit income by the estimated amount of interest cost we incur on funds borrowed to finance an acquisition where the results of operating unit income derived from an acquired business by these interest costs better reflects the contribution of the acquisition to the operating unit's performance. By excluding realignment costs, we encourage our operating executives to take appropriate long-term actions for the business.

- Operating working capital This measure represents inventory plus accounts receivable less accounts payable as a percentage of sales. We use this measure to encourage our executives to manage our working capital in a manner that increases cash available for investment. Operating working capital is reported at the corporate and group level. A lower working capital percentage is an indicator of the executives' success in increasing our cash resources.
- Discretionary A small portion of each executive's award, ranging from 10% to 20% of total incentive, is based on discretionary factors that are deemed appropriate by the Compensation Committee, as discussed in more detail below.

The weighting of performance measures, achievement range, actual results and actual award for each named executive officer is set forth in the table below.

						Performance		Actual Award as
						Measure as a		Percentage of
						Percentage of		Target Award
			Designated			Total Target		Opportunity for
			Goal		Actual	Award	Actual	the Performance
Name	Performance Measure	Threshold	(Target)	Maximum	Results	Opportunity	Award	Measure
David A. Zapico	Diluted Earnings Per Share	\$1.92	\$2.40	\$2.64	\$2.61	65%	\$1,474,688	188%
	Organic Revenue Growth	-2.00%	1.00%	4.00%	5.86%	15%	\$363,000	200%
	Discretionary	0%	100%	200%	200%	20%	\$484,000	200%
Frank S.	Diluted Earnings Per Share	\$1.92	\$2.40	\$2.64	\$2.61	80%	\$1,104,822	188%
Hermance	Discretionary	0%	100%	200%	200%	20%	\$294,619	200%
William J.	Diluted Earnings Per Share	\$1.92	\$2.40	\$2.64	\$2.61	65%	\$475,313	188%
Burke	Organic Revenue Growth	-2.00%	1.00%	4.00%	5.86%	15%	\$117,000	200%
	Corporate Working Capital	20.68%	18.80%	16.92%	17.70%	10%	\$62,400	160%
	Discretionary	0%	100%	200%	200%	10%	\$78,000	200%
John W. Hardin	Diluted Earnings Per Share	\$1.92	\$2.40	\$2.64	\$2.61	30%	\$182,812	188%
	Organic Revenue Growth	-2.00%	1.00%	4.00%	3.89%	15%	\$95,713	196%
	Group Operating Income	\$257,296,598	\$321,620,747	\$353,782,822	\$332,918,693	25%	\$109,792	135%
	Group Working Capital	24.31%	22.10%	19.89%	21.50%	10%	\$41,506	129%
	Discretionary	0%	100%	200%	166%	20%	\$108,605	166%
Timothy N.	Diluted Earnings Per Share	\$1.92	\$2.40	\$2.64	\$2.61	30%	\$179,156	188%
Jones	Organic Revenue Growth	-2.00%	1.00%	4.00%	7.52%	15%	\$95,550	200%
	Group Operating Income	\$188,881,515	\$236,101,894	\$259,712,083	\$238,328,029	25%	\$87,133	109%
	Group Working Capital	20.13%	18.30%	16.47%	17.30%	10%	\$48,874	155%
	Discretionary	0%	100%	200%	100%	20%	\$64,019	100%
Tony J.	Diluted Earnings Per Share	\$1.92	\$2.40	\$2.64	\$2.61	30%	\$146,250	188%
Ciampitti	Organic Revenue Growth	-2.00%	1.00%	4.00%	6.77%	15%	\$78,000	200%
	Group Operating Income	\$198,443,092	\$248,053,865	\$272,859,252	\$254,376,797	25%	\$81,569	125%
	Group Working Capital	18.92%	17.20%	15.48%	17.10%	10%	\$27,284	106%
	Discretionary	0%	100%	200%	113%	20%	\$58,890	113%

As a result of our actual outcomes with respect to the performance measures and the Committee's determinations with respect to the discretionary component, the award payments and the percentage of the aggregate target award represented by the award payments are as follows: Mr. Zapico, \$2,321,688 (192%); Mr. Hermance, \$1,399,441 (190%); Mr. Burke, \$732,713 (188%); Mr. Hardin, \$538,428 (166%); Mr. Jones, \$474,732 (149%); and Mr. Ciampitti, \$391,993 (151%). In accordance with SEC regulations, the award payments are reflected in two separate columns of the Summary Compensation Table. The discretionary awards for the named executive officers appear in the "Bonus" column. The other awards are reflected in the "Non-Equity Incentive Plan Compensation" column.

In providing a discretionary award to Mr. Zapico, the Compensation Committee considered our strong success in the following areas:

- Sales Growth We grew overall sales 12% to a record \$4.3 billion with robust organic sales growth of 6% in 2017.
- Earnings Growth We grew adjusted diluted earnings per share 13%, to a record \$2.61 in 2017.
- Strategic Acquisitions We deployed approximately \$560 million for three strategic acquisitions and added approximately \$235 million in annualized revenue.
- Operational Excellence We achieved adjusted operating margins of 21.8% in 2017 with excellent working capital performance at 17.7% of sales.
- Cash Flow Excluding discretionary pension contributions, we achieved record cash flow provided by operating activities of \$883 million, increased 17% from 2016, and free cash flow (cash flow provided by operating activities less capital expenditures) was \$808 million, with free cash flow conversion of 133% of adjusted net income.
- Stock Performance Our total stockholder return (TSR) increased 50% in 2017 and was a top performer across our peer group.
- Leadership Transition Seamlessly transitioned into the Chairman role providing leadership for the Board of Directors.

In the case of Messrs. Hermance, Burke, Hardin, Jones and Ciampitti, the Compensation Committee considered the same operational factors as those considered for Mr. Zapico. The discretionary awards for Messrs. Hardin, Jones and Ciampitti reflected the Committee's assessment of acquisition activities for their respective areas of responsibility as these executives were instrumental in the purchase and integration of the acquired businesses.

Equity-Based Compensation

Our equity-based compensation in 2017 consisted of awards of stock options and restricted stock. We use equitybased compensation to align the interests of executives with those of stockholders and to support succession planning and retention. We use the most recent year median of the general industry group as a reference point for assessing and establishing our equity awards.

We granted 50 percent of each executive's targeted total long-term incentive value in the form of stock options and 50 percent in the form of restricted stock. To determine the option award size, we applied a Black-Scholes methodology, and to determine the restricted stock award size, we divided the intended award value by the fair market value of a share of our common stock. As a result, we awarded options and restricted stock to the named executive officers as set forth in the Grants of Plan-Based Awards table on page 29 under the column headings, "All Other Option Awards: Number of Securities Underlying Options" and "All Other Stock Awards: Number of Shares of Stock or Units" respectively.

The dollar amounts shown in the Summary Compensation Table under "Option Awards" and "Stock Awards" generally reflect the grant date fair values computed in accordance with ASC 718. See the footnotes to the Summary Compensation Table for further information.

Our options generally vest in equal annual increments on the first four anniversaries of the date of grant. We believe that these vesting terms provide to our executives a meaningful incentive for continued employment. For additional information regarding stock option terms, see the narrative accompanying the Grants of Plan-Based Awards table.

We believe that the vesting provisions of our equity awards also serve as an incentive for continued employment. However, to encourage performance that ultimately enhances stockholder value, we provide for accelerated vesting of a restricted stock award if the closing price of our common stock during any five consecutive trading days reaches 200 percent of the price of our common stock on the date of grant. In the event that the performance criterion is met prior to the first anniversary of the date of grant, then the vesting is delayed until the first anniversary of the date of grant.

Finally, as mentioned above, we introduced performance shares to our long-term incentive program for 2018.

Stock-Based Award Grant Practices

Our practices for the grant of stock-based awards encompass the following principles:

- Stock-based awards for our named executive officers are approved annually by the Compensation Committee on a pre-scheduled date, which occurs in close proximity to the date of our annual meeting of stockholders.
- The annual stock-based awards will not be made when the Compensation Committee is aware that executive officers or non-employee Directors are in possession of material, non-public information, or during quarterly or other specified "blackout" periods.
- While stock-based awards other than annual awards may be granted to address, among other things, the recruiting or hiring of new employees and promotions, such awards will not be made to executive officers if the Committee is aware that the executive officers are in possession of material, non-public information, or during quarterly or other specified "blackout" periods.
- The Compensation Committee has established that stock options are granted only on the date the Compensation Committee approves the grant and with an exercise price equal to the fair market value on the date of grant.
- Backdating of stock options is prohibited.
- Stockholder approval is required to reprice stock options and stock appreciation rights or for cash buy-outs of underwater stock options and stock appreciation rights except in connection with a corporate transaction involving us including, without limitation, any stock dividend, distribution (whether in the form of cash, company stock, other securities or other property), stock split, extraordinary cash dividend, recapitalization, change of control, reorganization, merger, consolidation, split-up, spin-off, combination, repurchase or exchange of company stock or other securities, or similar transaction(s).

Stock Ownership Guidelines

We believe that by encouraging our executives to maintain a meaningful equity interest in our Company, we will align the interests of our executives with those of our stockholders. Mr. Zapico is required to hold a multiple of five times his base salary in our stock. The multiple for Messrs. Burke, Hardin, Jones and Ciampitti is three times base salary. Under our guidelines, an executive is expected to reach his or her stock ownership requirement within five years of being hired or promoted to his or her position. As of December 31, 2017, each of our named executive officers met his stock ownership guideline.

Compensation Risk

We review the risks associated with employee compensation policies and practices as an element of the annual incentive compensation process. As part of this process, we establish a pay mix of fixed pay, short-term incentives and long-term incentives designed to motivate behaviors and decisions that promote disciplined progress towards longer-term, sustainable goals. The multi-year vesting of our equity-based compensation award program, along with our stock ownership guidelines, serves as a control mechanism to our longer-term risk horizon. The structural components of the short-term incentive compensation, including the quantitative nature of our goals, the setting of capped payout targets with actual payouts based on a capped achievement scale, and the individual performance evaluation process, are designed to prevent excessive risk-taking that would potentially harm our value or reward poor executive judgment. We reviewed our compensation policies and practices and concluded that they are not reasonably likely to have a material adverse effect on the company.

Anti-Hedging and Anti-Pledging Policies

The Board of Directors and our executive officers are prohibited from hedging their ownership of our stock, including trading in publicly-traded options, puts, calls, or other derivative instruments related to our stock. They are also prohibited from pledging our stock. This prohibition relates to any type of pledge arrangement, including margin accounts covering our stock.

Clawback Policy

We reserve the right to recover, or claw back, from a current or former executive officer any wrongfully earned performance-based compensation, including stock-based awards, upon the determination by the Compensation Committee of the following:

- There has been restatement of our financials due to the material noncompliance with any financial reporting requirement (other than a restatement caused by a change in applicable accounting rules or interpretations), and such executive officer engaged in fraud or intentional illegal conduct which materially contributed to the need for such restatement,
- The cash incentive or equity compensation to be recouped was calculated on, or its realized value affected by, the financial results that were subsequently restated,
- The cash incentive or equity compensation would have been less valuable than what was actually awarded or paid based upon the application of the correct financial results, and
- The pay affected by the calculation was earned or awarded within three years of the determination of the necessary restatement.

Any recoupment under this policy may be in addition to any other remedies that may be available to us under applicable law, including disciplinary actions up to, and including, termination of employment.

The Compensation Committee has exclusive authority to modify, interpret and enforce this provision in compliance with all regulations.

Ongoing and Post-Employment Agreements

We have plans and agreements addressing compensation for our named executive officers that accrue value as the executive continues to work for us, provide benefits upon certain types of termination events and provide retirement benefits. These plans and agreements were adopted and, in some cases, amended at various times over the past 25 years, and were designed to be a part of a competitive compensation package. Not all plans apply to each named executive officer, and the participants are indicated in the discussion below.

- Supplemental Executive Retirement Plan ("SERP") This plan is a non-qualified deferred compensation plan that provides benefits for executives to the extent that their compensation cannot be taken into account under our tax-qualified plans because the compensation exceeds limits imposed by the Internal Revenue Code. We refer to the compensation that exceeds these limits as "excess compensation." For 2017, compensation in excess of \$270,000 constitutes excess compensation. Under the SERP, each year we credit to the account of a participant an amount equal to 13% of the executive's excess compensation, which is then deemed to be invested in our common stock. Payout of an executive's account, which is subject to tax liability, occurs upon termination of the executive's employment and is made in shares of our common stock. Therefore, the ultimate value of the shares paid out under the SERP will depend on the performance of our common stock during the period an executive participates in the SERP. All of the named executive for additional information.
- Deferred Compensation Plan This plan provides an opportunity for executives to defer payment of their short-term incentive award to the extent that such award, together with other relevant compensation, constitutes excess compensation. In advance of the year in which the short-term incentive award will be paid, an executive may elect to defer all or part of his or her eligible incentive award into a notional investment in our common stock, in an interest-bearing account, or in both. A participant generally may elect to have the value of his or her account distributed following retirement, either in a lump sum or in up to five annual installments, or in the form of an in-service distribution, payable either in a lump sum or in up to four annual installments commencing on a date specified by the participant in his or her distribution election. Payments may commence sooner upon the participant's earlier separation from service, upon the death of the participant, in the event of an unforeseeable financial emergency or upon a change of control. Payments from the notional common stock fund are made in shares of our common stock, while payments from the interest-bearing account are paid in cash. Mr. Burke participates in the Deferred Compensation Plan. See the Non-Qualified Deferred Compensation table and accompanying narrative for additional information.

- 2004 Executive Death Benefit Plan This plan provides for retirement benefits or, if the executive dies before retirement, a death benefit. Generally, if the executive dies before retirement, the executive's beneficiary will receive a monthly payment of \$8,333 until the participant would have reached age 80. If the executive retires (either at age 65 or after attaining age 55 with at least five years of service) the executive will be entitled to receive a distribution based on the value of his account in the plan, which is determined by gains or losses on, and death benefits received under, a pool of insurance policies that we own covering the lives of participants. Messrs. Zapico, Burke, Hardin and Jones participate in this plan. See the Non-Qualified Deferred Compensation table and accompanying narrative for further information.
- Change of Control Agreements We have change of control agreements with each of our executive officers, • which are described under "Potential Payments Upon Termination or Change of Control." We entered into these change of control agreements so that our executives can focus their attention and energies on our business during periods of uncertainty that may occur due to a potential change of control. In addition, we want our executives to support a corporate transaction involving a change of control that is in the best interests of our stockholders, even though the transaction may have an effect on the executive's continued employment with us. We believe these arrangements provide an important incentive for our executives to remain with us through a transaction. Our agreement with each executive other than Mr. Zapico provides for payments and other benefits to the executive if we terminate the executive's employment without cause or if the executive terminates employment for "good reason" within two years following a change of control. Mr. Zapico's change of control agreement differs from those of the other named executive officers with respect to the amount of the payment and the scope of the benefits upon the change of control events and does not have the two-year limit applicable to the other executives following the change of control. Given the critical nature of his role as Chief Executive, his tenure with us, and our interest in retaining his services, we believe that it is appropriate to provide Mr. Zapico with this protection so that he is free to focus all of his attention on the growth and future of the company, even in a period following a change of control. We believe that the incentive provided by these additional benefits is well worth any potential cost. For these same reasons, we also have agreed to provide payments and other benefits to Mr. Zapico if, outside of the context of a change of control, we terminate his employment without cause or he terminates his employment for good reason.

Tax Considerations

Under Section 162(m) of the Internal Revenue Code as in effect in 2017, a publicly held corporation may not deduct more than \$1 million in a taxable year for certain forms of compensation made to the chief executive officer and any of the three most highly compensated executive officers, other than the chief financial officer. Our policy has been generally to preserve the federal income tax deductibility of compensation paid to our executives, and certain of our equity awards have been structured to preserve deductibility under Section 162(m). Nevertheless, we retain the flexibility to authorize compensation that may not be deductible if we believe it is in our best interests. In 2017, the vesting of restricted stock resulted in compensation paid to our named executive officers that is non-deductible under Section 162(m). The performance-based compensation exemption and the exemption of the chief financial officer, in excess of \$1 million will not be deductible unless it qualifies for transition relief applicable to certain arrangements that were in effect as of November 2, 2017 and not materially modified thereafter. As in prior years, going forward we will retain the flexibility to authorize compensation paid to our covered executive officers even if it may not be deductible if we believe it is in our best interest.

REPORT OF THE COMPENSATION COMMITTEE

The Compensation Committee reviewed and discussed with management the Compensation Discussion and Analysis required by SEC regulations. Based on its review and discussions, the Committee recommended to the Board of Directors that the Compensation Discussion and Analysis be included in this proxy statement.

Respectfully submitted,

The Compensation Committee: Dennis K. Williams, Chair Ruby R. Chandy James R. Malone Elizabeth R. Varet

Dated: March 26, 2018

COMPENSATION TABLES

SUMMARY COMPENSATION TABLE – 2017

The following table provides information regarding the compensation of our Chief Executive Officer, Chief Financial Officer, other three most highly compensated executive officers and Mr. Hermance, who retired July 7, 2017.

Name and Principal Position	Year	Salary	Bonus	Stock Awards (1)	Option Awards (2)	Non-Equity Incentive Plan Compensation (3)	Change in Pension Value and Nonqualified Deferred Compensation Earnings (4)	All Other Compensation (5)	Total
David A. Zapico	2017	\$1.100.000	\$484.000	\$2.052.612	\$1.638.680	\$1,837,688	\$209.586	\$461,507	\$7,784,073
Chairman and Chief	2016	909.891	311.804	1.476.892	1.245.890	275.647	131.947	207.212	4.559.283
Executive Officer	2015	700.000	216,160	696,236	631,945	354,308		150,130	2,748,779
Frank S. Hermance	2017	675,000	294,619	_	_	1,104,822	286,933	267,886	2,629,260
Executive Chairman	2016	1,300,000	572,000	994,613	838,877	484,000	225,116	341,146	4,755,752
(retired July 7, 2017)	2015	1,240,575	545,853	1,982,078	1,800,130	986,734	3,862	397,166	6,956,398
William J. Burke	2017	520,000	78,000	691,641	552,047	654,713	247,658	149,756	2,893,815
Executive Vice President-	2016	440,860	79,776	543,327	458,449	97,225	154,282	68,239	1,842,158
Chief Financial Officer									
John W. Hardin	2017	500,000	108,605	473,355	377,647	429,823	78,554	102,332	2,070,316
President -	2016	470,000	84,776	333,416	280,935	103,682	14,312	107,028	1,394,149
Electronic Instruments	2015	447,800	57,632	291,667	264,907	194,279	_	109,690	1,365,975
Timothy N. Jones	2017	490,000	64,019	481,194	383,946	410,713	313,077	103,094	2,246,043
President -	2016	471,650	81,199	352,200	297,197	58,041	193,358	58,748	1,512,393
Electromechanical Group	2015	453,500	53,060	308,916	280,151	168,187		65,307	1,329,121
Tony J. Ciampitti	2017	400,000	58,890	427,527	340,954	333,103		197,349	1,757,823
President -									
Electronic Instruments									

- (1) The amounts shown for stock awards relate to restricted shares granted under our 2011 Omnibus Incentive Compensation Plan. These amounts are equal to the aggregate grant date fair value, computed in accordance with ASC 718, but without giving effect to estimated forfeitures related to service-based vesting conditions. For information regarding the number of shares subject to 2017 awards, other features of the awards and the grant date fair value of the awards, see the Grants of Plan-Based Awards table on page 29.
- (2) The amounts shown for option awards relate to shares granted under our 2011 Omnibus Incentive Compensation Plan. These amounts are equal to the aggregate grant date fair value, computed in accordance with ASC 718, but without giving effect to estimated forfeitures related to service-based vesting conditions. The assumptions used in determining the amounts in this column are set forth in Note 10 to our Consolidated Financial Statements on page 55 of Appendix A to this proxy statement. For information regarding the number of shares subject to 2017 awards, other features of those awards, and the grant date fair value of the awards, see the Grants of Plan-Based Awards table on page 29.
- (3) Represents payments under our short-term incentive program based on achievement of companywide or operating group performance measures. See "Compensation Discussion and Analysis – 2017 Compensation – Short-Term Incentive Program."
- (4) Includes, for 2017, the aggregate change in actuarial present value of the accumulated benefit under defined benefit plans as follows: Mr. Zapico, \$129,300; Mr. Hermance, \$154,915; Mr. Burke, \$147,300; and Mr. Jones, \$176,300. Also includes earnings (losses) on non-qualified deferred compensation plans, to the extent required to be disclosed under SEC regulations, as follows: Mr. Zapico, \$80,286; Mr. Hermance, \$132,018; Mr. Burke, \$100,358; Mr. Hardin, \$78,554; and Mr. Jones, \$136,777. We did not change our benefit programs for the named executive officers in 2017; the change in benefit value is attributed to underlying assumptions such as the discount rate used to calculate the actuarial present value.
- (5) Included in All Other Compensation for 2017 are the following items that exceeded \$10,000:
 - our contributions under our defined contribution plans, including our Supplemental Executive Retirement Plan, as follows: Mr. Zapico, \$410,919; Mr. Hermance, \$235,777; Mr. Burke, \$128,953; Mr. Hardin, \$74,656; Mr. Jones, \$91,515; and Mr. Ciampitti, \$48,575.

(Footnotes continue on the following page.)

- dividends on restricted stock and the interest on the dividend balance; which totaled \$31,052 for Mr. Zapico, and which is subject to forfeiture if the related restricted stock does not vest.
- perquisites which totaled \$18,978 for Mr. Zapico; \$30,865 for Mr. Hermance; \$11,373 for Mr. Burke; \$17,996 for Mr. Hardin; and \$142,837 for Mr. Ciampitti. Perquisites included automobile allowances for the listed named executive officers, and \$134,214 of relocation expenses for Mr. Ciampitti.

GRANTS OF PLAN-BASED AWARDS – 2017

		Estimated Possible Payouts Under Non-Equity Incentive Plan Awards (1)			All Other Stock Awards: Number of Shares of	All Other Option Awards: Number of Securities	Exercise or	Grant Date Fair Value of
					Stock or	Underlying	Base Price	Stock and
	Grant				Units	Options	of Option	Option
Name	Date	Threshold	Target	Maximum	(2)	(3)	Awards	Awards (4)
David A. Zapico	2/10/2017	-	\$968,000	\$1,936,000	-	-	-	N/A
	5/9/2017	—	-	-	34,040	148,270	\$60.30	\$3,691,292
Frank S. Hermance	2/10/2017	-	589,160	1,178,320	-	_	-	N/A
William J. Burke	2/10/2017	-	351,000	702,000	-	—	-	N/A
	5/9/2017	—	_	-	11,470	49,950	60.30	1,243,688
John W. Hardin	2/10/2017	-	260,000	520,000	-	-	-	N/A
	5/9/2017	—	-	-	7,850	34,170	60.30	851,002
Timothy N.	2/10/2017	-	254,800	509,600	-	_	-	N/A
Jones	5/9/2017	—	-	-	7,980	34,740	60.30	865,140
Tony J. Ciampitti	2/10/2017	-	208,000	416,000	-	_	-	N/A
	5/9/2017	_	_	_	7,090	30,850	60.30	768,481

The following table provides details regarding plan-based awards granted to the named executive officers in 2017.

- (1) These targets were established under our short-term incentive program. See "Compensation Discussion and Analysis – 2017 Compensation – Short-Term Incentive Program" for information regarding the criteria applied in determining the amounts payable under the awards. There were no threshold amounts payable under the short-term incentive program. The actual amounts paid with respect to these awards are included in the "Non-Equity Incentive Plan Compensation" column in the Summary Compensation Table on page 27. Targets reflect the October 1, 2017 salary for each individual, as required by the program.
- (2) The stock awards constitute restricted shares granted under our 2011 Omnibus Incentive Compensation Plan. These shares become vested on the earliest to occur of (a) the NYSE closing price of our common stock on any five consecutive days equaling or exceeding \$120.60 per share, (b) the death or permanent disability of the grantee, (c) the termination of the grantee's employment with us in connection with a change of control, or (d) the fourth anniversary of the date of grant, namely May 9, 2021, provided the grantee has been employed by us continuously through that date. In the event of the grantee's attainment of at least 55 years of age and at least 10 years of service with us prior to the fourth anniversary of the date of grant, then a ratable vesting schedule will apply whereby 25% of the restricted stock shall become nonforfeitable annually on the next anniversary of the date of grant if the grantee is still employed by us on such anniversary. Cash dividends are earned on the restricted shares but are not paid until the restricted shares vest. Until the restricted stock vests, the dividends accrue interest at the 5-year Treasury note rate plus 0.5%, compounded quarterly.
- (3) The option awards constitute stock options granted under our 2011 Omnibus Incentive Compensation Plan. Stock options become exercisable as to 25% of the underlying shares on each of the first four anniversaries of the date of grant. Options generally become fully exercisable in the event of the grantee's death or permanent disability, normal retirement or termination of employment in connection with a change of control.
- (4) The grant date fair value is computed in accordance with ASC 718, but without giving effect to estimated forfeitures related to service-based vesting conditions. The assumptions used in determining the grant date fair value of option awards in this column are set forth in Note 10 to our Consolidated Financial Statements on page 55 of Appendix A to this proxy statement.

OUTSTANDING EQUITY AWARDS AT FISCAL YEAR-END – 2017

The following table provides details regarding outstanding equity awards for the named executive officers at December 31, 2017.

		0	ption Awards (1)			Stock A	wards (2)
							Market
		Number of	Number of			Number of	Value of
		Securities	Securities			Shares or	Shares or
		Underlying	Underlying			Units of	Units of Stock
		Unexercised	Unexercised	Option	Option	Stock That	That
	Option	Options	Options	Exercise	Expiration	Have Not	Have Not
Name	Grant Date	Exercisable	Unexercisable	Price	Date	Vested	Vested (3)
David A. Zapico	5/1/2012	31,200	-	\$34.05	4/30/2019	91,940	\$6,662,892
	5/8/2013	58,760	-	41.74	5/7/2020		
	5/8/2014	33,555	11,185	53.13	5/7/2021		
	5/6/2015	29,020	29,020	52.27	5/5/2022		
	5/4/2016	34,092	102,278	46.96	5/4/2023		
	5/9/2017	-	148,270	60.30	5/9/2024		
Frank S. Hermance	5/1/2012	190,230	-	34.05	4/30/2019	-	-
	5/8/2013	157,310	-	41.74	5/7/2020		
	5/8/2014	118,100	-	53.13	5/7/2021		
	5/6/2015	165,330	-	52.27	5/5/2022		
	5/4/2016	91,820	-	46.96	5/4/2023		
William J. Burke	5/1/2012	15,600	-	34.05	4/30/2019	22,949	1,663,114
	5/8/2013	16,322	-	41.74	5/7/2020		
	5/8/2014	9,381	3,129	53.13	5/7/2021		
	5/6/2015	8,208	8,210	52.27	5/5/2022		
	5/4/2016	12,545	37,635	46.96	5/4/2023		
	5/9/2017	-	49,950	60.30	5/9/2024		
John W. Hardin	5/3/2011	25,965	-	29.83	5/2/2018	26,300	1,905,961
	5/1/2012	29,955	-	34.05	4/30/2019		-,,,,
	5/8/2013	26.220	-	41.74	5/7/2020		
	5/8/2014	14,736	4,914	53.13	5/7/2021		
	5/6/2015	12,164	12,166	52.27	5/5/2022		
	5/4/2016	7,687	23,063	46.96	5/4/2023		
	5/9/2017	-	34,170	60.30	5/9/2024		
Timothy N. Jones	5/8/2013	26,220	-	41.74	5/7/2020	18,150	1,315,331
Thirddily 14. Joines	5/8/2014	16,215	5,405	53.13	5/7/2021	10,150	1,515,551
	5/6/2015	12,864	12,866	52.27	5/5/2022		
	5/4/2016	8,132	24,398	46.96	5/4/2023		
	5/9/2017		34,740	60.30	5/9/2024		
Tony J. Ciampitti	5/8/2013	2,756	57,770	41.74	5/7/2020	16,720	1,211,698
Tony J. Clampin	5/8/2013	7,149	2,385	53.13	5/7/2020	10,720	1,211,090
	5/6/2014	7,036	7,036	52.27	5/5/2022		
	5/4/2016	3,906	11,720	46.96	5/4/2022		
		5,900	30,850		5/4/2025		
	5/9/2017	-	50,850	60.30	3/9/2024		

(1) All option grants become exercisable as to 25% of the underlying shares on each of the first four anniversaries of the dates of grant.

(Footnotes continue on the following page.)

(2)	The following table	sets forth grant and v	vesting information f	for the outstanding re	stricted stock award	s for
	all named executive	officers as of Decen	nber 31, 2017, other	than Mr. Hermance,	who has no outstand	ing
_	restricted stock awar	ds:				_
						-

		Number of Shares or Units of Stock		Price-Related Event for Accelerated
Name	Grant Date	That Have Not Vested	Vesting Date	Vesting*
David A. Zapico	5/8/2014	13,130	5/8/2018	\$106.26
	5/6/2015	13,320	5/6/2019	104.54
	5/4/2016	31,450	5/4/2020	93.92
	5/9/2017	34,040	5/9/2021	120.60
William J. Burke	5/8/2014	918	5/8/2018	106.26
	5/6/2015	1,883	5/6/2019	104.54
	5/4/2016	8,678	5/4/2020	93.92
	5/9/2017	11,470	5/9/2021	120.60
John W. Hardin	5/8/2014	5,770	5/8/2018	106.26
	5/6/2015	5,580	5/6/2019	104.54
	5/4/2016	7,100	5/4/2020	93.92
	5/9/2017	7,850	5/9/2021	120.60
Timothy N. Jones	5/8/2014	1,589	5/8/2018	106.26
	5/6/2015	2,956	5/6/2019	104.54
	5/4/2016	5,625	5/4/2020	93.92
	5/9/2017	7,980	5/9/2021	120.60
Tony J. Ciampitti	5/8/2014	2,798	5/8/2018	106.26
-	5/6/2015	3,228	5/6/2019	104.54
	5/4/2016	3,604	5/4/2020	93.92
	5/9/2017	7,090	5/9/2021	120.60

* The price-related event for accelerated vesting of the restricted stock awards will occur if the NYSE closing price per share of our common stock for five consecutive trading days is equal to at least two times the closing price per share on the date of grant.

(3) The dollar values are based on the NYSE closing price of our common stock on December 29, 2017 (\$72.47). Cash dividends will be earned but will not be paid until the restricted shares vest. The dividends will be payable at the same rate as dividends to holders of our outstanding common stock. Until the restricted stock vests, the dividends accrue interest at the 5-year Treasury note rate plus 0.5%, compounded quarterly.

OPTION EXERCISES AND STOCK VESTED – 2017

The following table provides information regarding option exercises and vesting of restricted stock awards for the named executive officers in 2017.

	Option	Awards	Stock Awards		
Name	Number of Shares Acquired on Exercise	Value Realized on Exercise (1)	Number of Shares Acquired on Vesting	Value Realized on Vesting (2)	
David A. Zapico	55,965	\$2,102,759	15,290	\$937,283	
Frank S. Hermance	486,630	16,955,346	77,180	4,764,679	
William J. Burke	11,475	291,863	11,775	718,324	
John W. Hardin	-	-	6,820	418,069	
Timothy N. Jones	29,955	836,185	6,644	404,906	
Tony J. Ciampitti	-	-	2,868	175,809	

(1) The value realized on exercise is equal to the difference between the market price of the shares acquired upon exercise and the option exercise price for the acquired shares.

(Footnotes continue on the following page.)

(2) On May 8, 2017, the fourth-year cliff vesting of the restricted stock granted on May 8, 2013 to all of the named executive officers occurred. The total value realized on vesting is equal to (1) the NYSE closing price per share of our common stock on May 8, 2017 (\$59.93), multiplied by the number of shares acquired on vesting, (2) the dividends accrued since the date of award, and (3) the interest accrued on these dividends.

Also, on May 4, 2017, the first-year pro rata vesting of the restricted stock granted on May 4, 2016 to Messrs. Hermance, Burke and Jones, who attained at least 55 years of age and at least 10 years of service with us, occurred. The total value realized on vesting is equal to (1) the NYSE closing price per share of our common stock on May 4, 2017 (\$60.39), multiplied by the number of shares acquired on vesting, (2) the dividends accrued since the date of award, and (3) the interest accrued on these dividends.

Also, on May 8, 2017, the second-year pro rata vesting of the restricted stock granted on May 6, 2015 to Messrs. Hermance, Burke, and Jones, who attained at least 55 years of age and at least 10 years of service with us, occurred. The total value realized on vesting is equal to (1) the NYSE closing price per share of our common stock on May 8, 2017 (\$59.93), multiplied by the number of shares acquired on vesting, (2) the dividends accrued since the date of award, and (3) the interest accrued on these dividends.

Also, on May 8, 2017, the third-year pro rata vesting of the restricted stock granted on May 8, 2014 to Messrs. Hermance, Burke and Jones, who attained at least 55 years of age and at least 10 years of service with us, occurred. The total value realized on vesting is equal to (1) the NYSE closing price per share of our common stock on May 8, 2017 (\$59.93), multiplied by the number of shares acquired on vesting, (2) the dividends accrued since the date of award, and (3) the interest accrued on these dividends.

Upon Mr. Hermance's retirement and separation from service with us as our Executive Chairman on July 7, 2017, the Compensation Committee determined to accelerate the vesting of 43,510 shares of restricted stock previously granted to him. These shares were scheduled to vest in equal installments on May 8, 2018, May 6, 2019 and May 4, 2020. This action allowed Mr. Hermance to realize the value of his unvested long-term incentive awards, which he would otherwise have forfeited as a result of his retirement, in order to reward him for his long and valued service to us. The total value realized on vesting is equal to (1) the NYSE closing price per share of our common stock on July 7, 2017 (\$61.56), multiplied by the number of shares acquired on vesting, (2) the dividends accrued since the date of award, and (3) the interest accrued on these dividends.

PENSION BENEFITS – 2017

We have the following defined benefit plans in which some or all of our named executive officers participate:

• The Employees' Retirement Plan – This plan is a qualified defined benefit pension plan that provides retirement benefits to our U.S.-based salaried employees who commenced employment with us prior to January 1, 1997. The plan pays benefits based upon eligible final average plan compensation and years of credited service. Compensation in excess of a specified amount prescribed by the Department of the Treasury (\$270,000 for 2017) is not taken into account under the Retirement Plan. Messrs. Hardin and Ciampitti, who joined us after January 1, 1997, are not eligible to participate in The Employees' Retirement Plan, but instead are eligible to participate in the Retirement Feature of the AMETEK Retirement and Savings Plan, a defined contribution plan.

Annual benefits earned under The Employees' Retirement Plan are computed using the following formula:

where:

- A = 32.0% of eligible compensation not in excess of Social Security covered compensation plus 40.0% of eligible compensation in excess of Social Security covered compensation, times credited service at the normal retirement date (maximum of 15 years) divided by 15;
- B = 0.5% of eligible plan compensation times credited service at the normal retirement date in excess of 15 years (maximum of ten years); and
- C = current credited service divided by credited service at the normal retirement date.

Participants may retire as early as age 55 with 10 years of service. Unreduced benefits are available when a participant attains age 65 with 5 years of service. Otherwise, benefits are reduced 6.67% for each year by which pension commencement precedes the attainment of age 65. Pension benefits earned are distributed in the form of a lifetime annuity. Messrs. Burke and Jones are eligible for early retirement under the plan.

• Supplemental Senior Executive Death Benefit Program – Under this program, we have entered into an agreement with Mr. Hermance that requires us to pay death benefits to his designated beneficiaries and to pay lifetime benefits to him under specified circumstances. If a covered executive dies before retirement or before age 65 while on disability retirement, the executive's beneficiary will receive monthly payments of up to \$8,333 from the date of the executive's death until the date he would have attained age 80. If a covered executive retires, or reaches age 65 while on disability retirement, the program provides for an annual benefit of up to a maximum of \$100,000 per year, or an aggregate of \$1,000,000. The benefit is payable monthly over a period of ten years to the executive or the executive's beneficiary. The payments will commence for retirees at age 70 or death, whichever is earlier. However, if the executive retires after age 70, the payments commence on retirement. To fund benefits under the Program, we have purchased individual life insurance policies on the lives of certain of the covered executives. We retain the right to terminate all of the Program agreements under designated circumstances.

The following table provides details regarding the present value of accumulated benefits under the plans described above for the named executive officers in 2017.

		Number of Years Credited Service	Present Value of Accumulated	Payments During
Name	Plan Name	at December 31, 2017	Benefit (1)	2017
David A. Zapico	The Employees' Retirement Plan	28	\$720,100	_
Frank S. Hermance	The Employees' Retirement Plan	27	1,565,800	\$46,415
	Supplemental Senior Executive Death Benefit Plan	N/A	805,100	-
William J. Burke	The Employees' Retirement Plan	31	887,300	_
John W. Hardin	N/A	N/A	N/A	_
Timothy N. Jones	The Employees' Retirement Plan	38	1,251,900	_
Tony J. Ciampitti	N/A	N/A	N/A	_

(1) The amounts shown in the Pension Benefit Table above are actuarial present values of the benefits accumulated through December 31, 2017. We used the following assumptions in quantifying the present value of the accumulated benefit: discount rate—3.75%; limitation on eligible annual compensation under the Internal Revenue Code—\$270,000; limitation on eligible annual benefits under the Internal Revenue Code—\$215,000; retirement age—later of 65 or current age; termination and disability rates—none; form of payment—single life annuity; RP-2014 mortality table, as adjusted.

NON-QUALIFIED DEFERRED COMPENSATION – 2017

We have the following non-qualified deferred compensation plans in which our named executive officers participate:

- Supplemental Executive Retirement Plan ("SERP") This plan provides benefits for executives to the extent that their compensation cannot be taken into account under our tax-qualified plans because the compensation exceeds limits imposed by the Department of the Treasury (\$270,000 in 2017). Under the SERP, each year we credit to the account of a participant an amount equal to 13% of the executive's compensation that exceeds the Department of the Treasury limits, which is then deemed to be invested in our common stock. Payout of an executive's account occurs upon termination of the shares paid out under the SERP will depend on the performance of our common stock during the period an executive participates in the SERP.
- Deferred Compensation Plan This plan provides an opportunity for executives to defer payment of their short-term incentive award to the extent that such award, together with other relevant compensation, exceeds limits imposed by the Department of the Treasury (\$270,000 in 2017). In advance of the year in which the short-term incentive award will be paid, an executive may elect to defer all or part of his or her eligible incentive award. The monies are invested in one of two notional accounts, a common stock fund and an interest-bearing fund. A participant generally may elect to have the value of his or her account distributed following retirement, or while in service, as specified by the participant in his or her deferral election. Payments may commence earlier upon the participant's earlier separation from service, upon the death of the participant, in the event of an unforeseeable financial emergency or upon a change of control, as defined in the plan. Payments from the interest-bearing account are paid in cash.
- 2004 Executive Death Benefit Plan Under this plan, we provide a retirement benefit to Messrs. Zapico, Burke, Jones and Hardin. The retirement benefit under this plan is designed to provide the lump sum necessary to deliver 20% of the executive's final projected annual salary paid annually for 10 years, on a present value basis at age 70. However, the actual benefit will vary based on the gains and losses from the underlying investments in a pool of insurance policies that we own covering the lives of the participants, and on death benefits received from these same policies. The maximum salary on which the benefit can be based is \$500,000. If the covered executive dies while actively employed or while disabled and before age 65, the executive's beneficiaries will receive monthly payments from the date of the executive's death until the executive would have attained age 80.

Name	Executive Contributions in Last Fiscal Year	Registrant Contributions in Last Fiscal Year (1)	Aggregate Earnings in Last Fiscal Year (2)	Aggregate Withdrawals/ Distributions	Aggregate Balance at Last Fiscal Year- End (3)
David A. Zapico	_	\$409,719	\$1,276,306	_	\$4,191,987
Frank S. Hermance	\$1,031,184	234,577	7,173,989	(\$14,908,132)	28,909,854
William J. Burke	82,006	127,753	357,616	_	1,586,070
John W. Hardin	_	54,400	533,928	_	1,604,927
Timothy N. Jones	_	90,315	816,772	_	2,468,767
Tony J. Ciampitti	_	31,019	90,683	_	302,787

The following table provides details regarding non-qualified deferred compensation for the named executive officers in 2017.

(Footnotes are on the following page.)

- (1) Includes for each named executive officer the following amounts that are also reported in the Summary Compensation Table on page 27: Mr. Zapico, \$409,719; Mr. Hermance, \$234,427; Mr. Burke, \$127,753; Mr. Hardin, \$54,400; Mr. Jones, \$90,315; and Mr. Ciampitti, \$31,019.
- (2) Includes for each named executive officer the following amounts that are also reported in the Summary Compensation Table on page 27: Mr. Zapico, \$80,286; Mr. Hermance, \$132,018; Mr. Burke, \$100,358; Mr. Hardin, \$78,554; and Mr. Jones, \$136,777.
- (3) Includes for each named executive officer the following amounts that were reported as compensation in the Summary Compensation Table in previous years: Mr. Zapico, \$1,160,966; Mr. Hermance, \$16,457,839; Mr. Burke, \$410,374; Mr. Hardin, \$560,289; and Mr. Jones, \$745,868.

POTENTIAL PAYMENTS UPON TERMINATION OR CHANGE OF CONTROL

In this section, we describe payments that may be made to our named executive officers upon several events of termination, including termination in connection with a change of control. The information in this section does not include information relating to the following:

- distributions under The Employees' Retirement Plan and distributions, other than death benefits, under the Supplemental Senior Executive Death Benefit Plan see "Pension Benefits 2017" for information regarding these plans,
- distributions under the Supplemental Executive Retirement Plan and the Deferred Compensation Plan and distributions, other than death benefits, under the 2004 Executive Death Benefit Plan see "Nonqualified Deferred Compensation 2017" for information regarding these plans,
- other payments and benefits provided on a nondiscriminatory basis to salaried employees generally upon termination of employment, including tax-qualified defined contribution plans, and
- short-term incentive payments that would not be increased due to the termination event.

The following items are reflected in the summary table on page 39. The payment amounts reflect the payments that would have been due to the named executive officers had the termination or change of control event occurred on December 31, 2017.

Change of Control Agreements. Under our change of control agreements with our named executive officers other than Mr. Zapico, in the event that a named executive officer's employment is terminated by us without cause or by the named executive officer for "good reason" within two years beginning on the effective date of a change of control, the executive officer will receive: (1) 2.99 times the sum of (a) the executive officer's base salary in effect on the last day of the fiscal year immediately preceding the effective date of the change of control and (b) the greater of the target bonus for the fiscal year in which the change of control occurred or the average of the bonus received for the two previous fiscal years; all cash payments will be paid when permitted under Section 409A of the Code, namely, on the first day of the seventh month following the termination date; and (2) continuation of health benefits until the earliest to occur of Medicare eligibility, coverage under another group health plan without a pre-existing condition limitation, the expiration of ten years, or the executive officer's death. Payments to executive officers under the change of control agreements will be reduced, if necessary, to prevent them from being subject to the limitation on deductions under Section 280G of the Internal Revenue Code. The Compensation Committee selected the 2.99 times multiple of salary and bonus to reflect competitive market levels for such agreements and the amount payable is subject to limitations designed to minimize the payment of any excise taxes by us.

Generally, a change of control is deemed to occur under the change of control agreements if: (1) any person or more than one person acting as a group acquires ownership of stock which constitutes more than 50 percent of the total fair market value or total voting power of our stock; (2) any person or more than one person acting as a group acquires (during the 12-month period ending on the date of the most recent acquisition) ownership of stock possessing 30 percent or more of the total fair market value or total voting power of our stock; (3) a majority of Board members are replaced during any 12-month period by directors whose election is not endorsed by a majority of the members of the Board; or (4) any person or more than one person acting as a group acquires assets from us having a total fair market value of not less than 40 percent of the total fair market value of all of our assets immediately prior to the acquisition.

A termination for "good reason" generally means a termination initiated by the executive officer in the event of: (1) our noncompliance with the change of control agreement; (2) any involuntary reduction in the executive officer's authority, duties or responsibilities that were in effect immediately prior to the change of control; (3) any involuntary reduction in the executive officer's total compensation that was in effect immediately prior to the change of control; or (4) any transfer of the executive officer without the executive officer's consent of more than 50 miles from the executive officer's principal place of business immediately prior to the change of control other than on a temporary basis (less than 6 months).

A termination for cause generally would result from misappropriation of funds, habitual insobriety or substance abuse, conviction of a crime involving moral turpitude, or gross negligence in the performance of duties that has a material adverse effect on our business, operations, assets, properties or financial condition.

Under our change of control agreement with Mr. Zapico, in the event that his employment is terminated by us without cause or by Mr. Zapico for good reason in anticipation of, or following, a change of control, he will receive: (1) a lump sum payment equal to 2.99 times the sum of (a) Mr. Zapico's base salary for the year prior to the year in which his termination occurs and (b) his targeted bonus for the year in which he is terminated or, if the amount of the targeted bonus is not known, the average of his bonuses for the two years preceding the year in which his termination occurs; all cash payments will be paid when permitted under Section 409A of the Code, namely, on the first day of the seventh month following the termination date; (2) continuation of health benefits, disability insurance and death benefits until the earliest of (a) the end of the tenth year following the year of the separation from service; (b) Medicare eligibility (with regard to health benefits); (c) commencement of new employment where Mr. Zapico can participate in similar plans or programs; or (d) death; and (3) use of an automobile and reimbursement of reasonable operating expenses, until the second anniversary of his termination or, if earlier, his death.

In addition, upon a change of control, or upon Mr. Zapico's termination without cause or resignation for good reason in anticipation of a change of control, (1) all of his restricted stock awards and stock options immediately vest; and (2) all stock options, other than incentive stock options, will be exercisable for one year following his termination, or, if earlier, the stated expiration date of the stock option.

Generally, a change of control is deemed to occur under Mr. Zapico's change of control agreement upon: (1) the acquisition by any person or group of 30 percent or more of our total voting stock; (2) the acquisition by us, any executive benefit plan, or any entity we establish under the plan, acting separately or in combination with each other or with other persons, of 50 percent or more of our voting stock, if after such acquisition our common stock is no longer publicly traded; (3) the death, resignation or removal of our Directors within a two-year period, as a result of which the Directors serving at the beginning of the period and Directors elected with the advance approval of two-thirds of the Directors serving at the beginning of the period constitute less than a majority of the Board; (4) the approval by the stockholders of (a) a merger in which the stockholders no longer own or control at least 50 percent of the value of our outstanding equity or the combined voting power of our then-outstanding voting securities, or (b) a sale or other disposition of all or substantially all of our assets. A termination is deemed to be in anticipation of a change of control if it occurs during the 90 days preceding the change of control and the substantial possibility of a change of control was known to Mr. Zapico and a majority of the Directors.

"Good reason" and "cause" are defined in Mr. Zapico's agreement in substantially the same manner as in the other executive officers' change of control agreements.

Payments and other benefits under the change of control agreements would have been in the following amounts if the event requiring payment occurred on December 31, 2017: Lump sum payments – Mr. Zapico, \$6,906,900; Mr. Burke, \$2,914,822; Mr. Hardin, \$2,581,695; Mr. Jones, \$2,417,415; and Mr. Ciampitti, \$1,973,400. Health benefits – Mr. Zapico, \$129,800; Mr. Burke, \$13,400; Mr. Hardin, \$326,900; Mr. Jones, \$119,600; Mr. Ciampitti, \$117,000. Perquisites – Mr. Zapico, \$46,117 (use of an automobile and operating expenses). The benefits Mr. Zapico receives upon acceleration of his equity grants in connection with a change of control are quantified below under "Acceleration of Vesting Provisions Pertaining to Stock Options and Restricted Stock."

In addition, Mr. Zapico's change of control agreement generally provides that in the event his employment is terminated by us without cause or by Mr. Zapico for good reason, in either case prior to and other than in anticipation of or following a change of control, he would receive the same benefits as he would receive in connection with a change of control, as described above, except: (1) the portion of the lump sum payment based on a multiple of cash compensation will be equal to two times, rather than 2.99 times, cash compensation and (2) the continuation of health, disability and death benefits cannot exceed a maximum of two years from the termination of his employment, rather than ten years.

Payments and other benefits to Mr. Zapico under this provision include the following: lump sum payments, \$4,620,000; stock option grant vesting acceleration, \$5,216,080; restricted stock award vesting acceleration, \$6,724,273; health, disability and death benefits, \$27,464; perquisites, \$46,117 (use of an automobile and operating expenses).

Acceleration of Vesting Provisions Pertaining to Stock Options and Restricted Stock. Under our stock incentive plans, outstanding stock options generally will vest immediately upon the occurrence of any of the following events: (1) the holder's retirement after age 65, following two years of service with us; (2) the death of the holder; (3) the disability of the holder; or (4) the holder's termination of employment following a change of control. Benefits relating to accelerated vesting of stock options in connection with termination following a change of control (or, in the case of Mr. Zapico, in anticipation of, or upon a change of control), or upon normal retirement or death or disability are as follows: Mr. Zapico, \$5,216,080; Mr. Burke, \$1,794,317; Mr. Hardin, \$1,344,976; Mr. Jones, \$1,409,605; and Mr. Ciampitti, \$862,675. The value of the accelerated vesting benefit equals the number of shares as to which the stock options would vest on an accelerated basis upon the occurrence of the specified termination or change of control event, multiplied by the difference between the closing price per share of our common stock on December 31, 2017 and the exercise price per share for the affected options.

Outstanding restricted stock generally will vest immediately upon the occurrence of either of the following events: (1) the holder's death or disability; or (2) the holder's termination of employment following a change of control. Benefits relating to accelerated vesting of restricted stock in connection with termination following a change of control (or, in the case of Mr. Zapico, in anticipation of, or upon a change of control), or upon disability or death are as follows: Mr. Zapico, \$6,724,273; Mr. Burke, \$1,674,999; Mr. Hardin, \$1,926,415; Mr. Jones, \$1,326,342; Mr. Ciampitti, \$1,223,144. The value of the accelerated vesting benefit equals the number of shares of restricted stock that would vest on an accelerated basis on the occurrence of the specified termination or change of control event times the closing price per share of our common stock on December 31, 2017, plus accrued dividends and the interest on the dividend balance.

Our incentive plans define "change of control" in substantially the same manner as the change of control agreements relating to our executives other than Mr. Zapico.

Death Benefits. Death benefits are payable to Messrs. Zapico, Burke, Hardin and Jones under our 2004 Executive Death Benefit Plan, as described under "Nonqualified Deferred Compensation – 2017."

The amount of death benefits payable to each of the named executive officers in the event of his death would have been as follows on December 31, 2017: Mr. Zapico, \$1,689,800; Mr. Burke, \$1,577,400; Mr. Hardin, \$1,711,500; Mr. Jones, \$1,352,200.

Summary Table. The following table summarizes the amounts payable to each of the named executive officers based on the items described above with respect to each of the events set forth in the table. As used in the table below, "change of control" refers to payment or other benefit events occurring upon a change of control or in connection with a termination related to a change of control, as applicable.

Name	Normal Retirement	Not For Cause Termination	Change of Control	Disability	Death
David A. Zapico	\$5,216,080	\$16,633,934	\$19,023,170	\$11,940,353	\$13,630,153
William J. Burke	1,794,317	-	6,397,539	3,469,316	5,046,716
Timothy N. Jones	1,409,605	-	5,272,962	2,735,947	4,088,147
John W. Hardin	1,344,976	-	6,179,986	3,271,391	4,982,891
Tony J. Ciampitti	862,675	-	4,176,219	2,085,819	2,085,819

STOCK OWNERSHIP OF EXECUTIVE OFFICERS AND DIRECTORS

The Compensation Committee of the Board approved stock ownership guidelines for all executive officers, and reviews stock ownership on an annual basis. See "Compensation Discussion and Analysis – Stock Ownership Guidelines" on page 23 for a discussion of stock ownership guidelines for our named executive officers.

The Board established stock ownership guidelines for non-employee Directors in order to more closely link their interests with those of stockholders. Under the guidelines, each non-employee Director is expected to own, by the end of a five-year period, shares of our common stock having a value equal to at least five times the Director's annual cash retainer.

The following table shows the number of shares of common stock that the Directors and all executive officers as a group beneficially owned, and the number of deemed shares held for the account of the executive officers under the SERP as of January 22, 2018.

			Number of Shar Nature of Owner			
Name	Outstanding Shares Beneficially Owned	Right to Acquire (2)	Total	Percent of Class	SERP and Deferred Compensation	Total Beneficial, SERP and Deferred Compensation Ownership
Thomas A. Amato	3,580		3,580	*		3,580
William J. Burke	63,596	62,052	125,648	*	10,420	136,068
Ruby R. Chandy	7,940	11,935	19,875	*		19,875
Tony J. Ciampitti	31,831	20,847	52,678	*	4,178	56,856
Anthony J. Conti	13,408	22,280	35,688	*		35,688
John W. Hardin	60,196	116,727	176,923	*	19,616	196,539
Frank S. Hermance (3)	2,352,501	722,790	3,075,291	1.3%	386,429	3,461,720
Timothy N. Jones	40,025	63,431	103,456	*	28,553	132,009
Steven W. Kohlhagen	57,298	22,280	79,578	*		79,578
James R. Malone	4,300	3,160	7,460	*	_	7,460
Gretchen W. McClain (4)	6,858	5,860	12,718	*	1,326	14,044
Elizabeth R. Varet (5)	412,425	18,230	430,655	*		430,655
Dennis K. Williams	24,537	22,280	46,817	*	-	46,817
David A. Zapico	174,583	186,627	361,210	*	50,896	412,106
Directors and executive officers as a group (17 persons) including individuals named above	3,332,293	1,403,609	4,735,902	2.0%	515,103	5,251,005

*Represents less than 1% of the outstanding shares of our common stock.

- (1) Under Rule 13d-3 of the Securities Exchange Act of 1934, as amended, beneficial ownership of a security consists of sole or shared voting power (including the power to vote or direct the vote) and/or sole or shared investment power (including the power to dispose or direct the disposition) with respect to the security through any contract, arrangement, understanding, relationship or otherwise.
- (2) Shares the Director or executive officer has a right to acquire through stock option exercises at or within 60 days after January 22, 2018.
- (3) Based solely on Mr. Hermance's last Form 4 filed with the SEC on September 21, 2017. Mr. Hermance retired on July 7, 2017.
- (4) Includes 1,326 stock units under the AMETEK, Inc. Directors' Deferred Compensation Plan.
- (5) Includes 73,500 shares, of which 67,500 shares are owned by a trust of which Ms. Varet's husband is a beneficiary and 6,000 shares are owned by Ms. Varet's adult children, as to which Ms. Varet disclaims any beneficial ownership. Ms. Varet has shared voting and investment power with respect to 297,545 shares.

BENEFICIAL OWNERSHIP OF PRINCIPAL STOCKHOLDERS

The following table provides information regarding the only entities known to us to be beneficial owners of more than five percent of the outstanding shares of our common stock as of March 23, 2018.

Name and Address of Beneficial Owner	Number of Shares	Percent of Class
The Vanguard Group, Inc. (1) 100 Vanguard Boulevard Malvern, PA 19355	23,178,777	10.0%
BlackRock, Inc. (2) 55 East 52nd Street New York, NY 10055	15,074,188	6.5%
FMR LLC (3) 245 Summer Street Boston, MA 02210	11,692,403	5.1%

- (1) Based on Schedule 13G/A filed on February 12, 2018, as of December 31, 2017 The Vanguard Group, Inc. beneficially owned 23,178,777 shares of our common stock, with sole voting power over 326,715 shares, shared voting power over 54,556 shares, sole dispositive power over 22,805,664 shares and shared dispositive power over 373,113 shares.
- (2) Based on Schedule 13G/A filed on January 29, 2018, as of December 31, 2017 BlackRock, Inc. beneficially owned 15,074,188 shares of our common stock, with sole voting power over 13,104,997 shares and sole dispositive power over all the shares.
- (3) Based on Schedule 13G/A filed on February 13, 2018, as of December 29, 2017 FMR LLC beneficially owned 11,692,403 shares of our common stock, with sole voting power over 753,842 shares and sole dispositive power over all the shares.

COMPLIANCE WITH SECTION 16(a) OF THE SECURITIES EXCHANGE ACT OF 1934

Section 16(a) of the Securities Exchange Act of 1934, as amended, requires our Directors and officers to file with the SEC initial reports of ownership and reports of changes in ownership of our common stock. Copies of all such Section 16(a) reports are required to be furnished to us. These filing requirements also apply to holders of more than 10% of our common stock, but we do not know of any person that holds more than 10% of our common stock other than The Vanguard Group, Inc. as disclosed above. To our knowledge, based solely on a review of the copies of

Section 16(a) reports furnished to us and written representations that no other reports were required, during the fiscal year ended December 31, 2017, all of our officers and Directors were in compliance with all Section 16(a) filing requirements.

CEO Pay Ratio

Pursuant to Item 402(u) of Regulation S-K and Section 953(b) of the Dodd-Frank Act, presented below is the ratio of annual total compensation of our CEO to the annual total compensation of our median employee (excluding our CEO). The ratio presented below is a reasonable estimate calculated in a manner consistent with Item 402(u).

In identifying our median employee, we calculated the total cash compensation for all individuals, excluding our CEO, who were employed by us on December 1, 2017. We included all employees, whether employed on a fulltime, part-time or seasonal basis. We did not make any assumptions, adjustments or estimates with respect to total cash compensation, except that we annualized compensation for employees hired in 2017 who did not work the full year. We did not include independent contractors or leased workers in our determination. We believe the use of total cash compensation for all employees is a consistently applied compensation measure.

After identifying the median employee based on total cash compensation, we calculated annual total compensation for such employee as determined under Item 402 of Regulation S-K, the same methodology we use for our named executive officers as set forth in the Summary Compensation Table – 2017 on page 27.

The 2017 annual total compensation for our CEO was \$7,784,073. The 2017 annual total compensation for our median employee was \$54,059. The ratio of our CEO's annual total compensation to our median employee's total compensation for 2017 is 144 to 1.

OTHER BUSINESS

We are not aware of any other matters that will be presented at the Annual Meeting. If other matters are properly introduced, the individuals named on the enclosed proxy card will vote the shares it represents in accordance with their judgment.

By Order of the Board of Directors

Robert S. Feit Senior Vice President, General Counsel and Corporate Secretary

Dated: March 26, 2018

MULTIPLE STOCKHOLDERS SHARING THE SAME ADDRESS

Registered and street-name stockholders who reside at a single address receive only one annual report and proxy statement at that address unless a stockholder provides contrary instructions. This practice is known as "householding" and is designed to reduce duplicate printing and postage costs. However, if a stockholder wishes in the future to receive a separate annual report or proxy statement, he or she may contact Broadridge Financial Solutions at 1-866-540-7095, or in writing at Broadridge Financial Solutions, 51 Mercedes Way, Edgewood, NY 11717. Stockholders can request householding if they receive multiple copies of the annual report and proxy statement by contacting Broadridge Financial Solutions at the address above.

ELECTRONIC DISTRIBUTION OF PROXY STATEMENTS AND ANNUAL REPORTS

To receive future AMETEK, Inc. proxy statements and annual reports electronically, please visit **www.proxyvote.com**. Have your proxy card in hand when you access the web site and follow the instructions below to obtain your records and to create an electronic voting instruction form. Click on the link in the right-hand rail labeled "SIGN UP FOR E-DELIVERY." Once enrolled, stockholders will no longer receive a printed copy of proxy materials, unless they request one. Each year, they will receive an email explaining how to access the proxy statement and annual report online as well as how to vote their shares online. They may suspend electronic distribution at any time by requesting a full set of materials.

APPENDIX A

Page

AMETEK, Inc.

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PART II

INFORMATION RELATING TO AMETEK COMMON STOCK

The principal market on which the Company's common stock is traded is the New York Stock Exchange and it is traded under the symbol "AME."

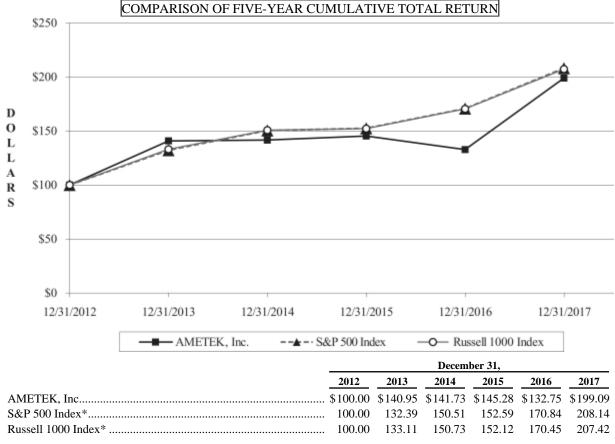
Market Price and Dividends Per Share

The high and low sales prices of the Company's common stock on the New York Stock Exchange composite tape and the quarterly dividends per share paid on the common stock were:

	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
2017 Dividends paid per share	\$ 0.09	\$ 0.09	\$ 0.09	\$ 0.09
Common stock trading range: High Low		\$ 62.89 \$ 53.19	\$66.70 \$60.50	\$73.06 \$65.65
2016 Dividends paid per share			+	
Common stock trading range: High Low	\$ 52.93 \$ 42.82	\$52.61 \$43.28	\$ 50.27 \$ 43.30	\$51.26 \$43.98

Stock Performance Graph

The following graph and accompanying table compare the cumulative total stockholder return for AMETEK over the last five years ended December 31, 2017 with total returns for the same period for the Standard and Poor's ("S&P") 500 Index and Russell 1000 Index. AMETEK's stock price is a component of both indices. The performance graph and table assume a \$100 investment made on December 31, 2012 and reinvestment of all dividends. The stock performance shown on the graph below is based on historical data and is not necessarily indicative of future stock price performance.



* Includes AMETEK, Inc.

AMETEK, INC. SELECTED FINANCIAL DATA

	2017			2016	2015			2014	2	2013
		(In millions			llions, except per share amounts					
Consolidated Operating Results (Year Ended December 31):			•		.		•		.	
Net sales		,								
Operating income			\$	801.9		907.7		898.6		815.1
Interest expense		98.0	\$	94.3		91.8		79.9	\$	73.6
Net income	. \$	681.5	\$	512.2	\$	590.9	\$	584.5	\$	517.0
Earnings per share:										
Basic		2.96		2.20		2.46		2.39	\$	2.12
Diluted		2.94	\$	2.19		2.45		2.37		2.10
Dividends declared and paid per share	. \$	0.36	\$	0.36	\$	0.36	\$	0.33	\$	0.24
Weighted average common shares outstanding:										
Basic		230.2		232.6		239.9		244.9		243.9
Diluted	•	231.8		233.7		241.6		247.1		246.1
Performance Measures and Other Data:		01 00/		20.004		22 0.0/		22.20/		22 70/
Operating income — Return on net sales		21.3%		20.9%		22.8%		22.3%		22.7%
— Return on average total assets		12.3%		11.7%		13.9%		14.6%		14.7%
Net income — Return on average total capital		11.6%		9.5%		11.6%		12.3%		12.1%
- Return on average stockholders' equity		18.7%	•	15.7%	.	18.2%	.	18.3%		18.2%
		·	\$		\$	1,046.9	\$		\$	916.3
Ratio of EBITDA to interest expense ⁽¹⁾		11.0x	•	10.2x	.	11.4x	•	12.8x	÷	12.4x
Depreciation and amortization		183.2		179.7		149.5		138.6		118.7
Capital expenditures		75.1		63.3	\$	69.1		71.3		63.3
Cash provided by operating activities		833.3	\$	756.8	\$	672.5		726.0	\$	660.7
Free cash flow ⁽²⁾	. \$	758.2	\$	693.5	\$	603.4	\$	654.7	\$	597.4
Consolidated Financial Position (At December 31):	.		<i>•</i>		•		.		.	
Current assets		· ·								
Current liabilities		· ·		924.4						872.7
Property, plant and equipment, net				473.2				448.4		402.8
Total assets		,		7,100.7						
Long-term debt, net		1		2,062.6						
Total debt, net		/		2,341.6		,		,		,
Stockholders' equity		,		3,256.5						
Stockholders' equity per share			\$		\$		\$			
Total debt as a percentage of capitalization		35.1%		41.8%		37.3%		34.5%		31.0%
Net debt as a percentage of capitalization ⁽³⁾		27.5%		33.3%		32.4%		29.1%		26.3%

See Notes to Selected Financial Data on the following page.

Notes to Selected Financial Data

(1) EBITDA represents earnings before interest, income taxes, depreciation and amortization. EBITDA is presented because the Company is aware that it is used by rating agencies, securities analysts, investors and other parties in evaluating the Company. It should not be considered, however, as an alternative to operating income as an indicator of the Company's operating performance or as an alternative to cash flows as a measure of the Company's overall liquidity as presented in the Company's consolidated financial statements. Furthermore, EBITDA measures shown for the Company may not be comparable to similarly titled measures used by other companies. The following table presents the reconciliation of net income reported in accordance with U.S. generally accepted accounting principles ("GAAP") to EBITDA:

	Year Ended December 31,							
	2017	2016	2015	2014	2013			
		(In millions)				
Net income	\$ 681.5	\$512.2	\$ 590.9	\$ 584.5	\$517.0			
Add (deduct):								
Interest expense	98.0	94.3	91.8	79.9	73.6			
Interest income	(2.0)	(1.1)	(0.8)	(0.8)	(0.8)			
Income taxes	115.3	180.9	215.5	220.4	207.8			
Depreciation	82.0	74.8	68.7	63.7	57.2			
Amortization	101.2	104.9	80.8	74.9	61.5			
Total adjustments	394.5	453.8	456.0	438.1	399.3			
EBITDA	\$1,076.0	\$966.0	\$1,046.9	\$1,022.6	\$916.3			

(2) Free cash flow represents cash flow from operating activities less capital expenditures. Free cash flow is presented because the Company is aware that it is used by rating agencies, securities analysts, investors and other parties in evaluating the Company. (Also see note 1 above). The following table presents the reconciliation of cash flow from operating activities reported in accordance with U.S. GAAP to free cash flow:

	Year Ended December 31,						
	2017	2016	2015	2014	2013		
		(In millions)					
Cash provided by operating activities	\$833.3	\$756.8	\$672.5	\$726.0	\$660.7		
Deduct: Capital expenditures	(75.1)	(63.3)	(69.1)	(71.3)	(63.3)		
Free cash flow	\$758.2	\$693.5	\$603.4	\$654.7	\$597.4		

(3) Net debt represents total debt, net minus cash and cash equivalents. Net debt is presented because the Company is aware that it is used by rating agencies, securities analysts, investors and other parties in evaluating the Company. (Also see note 1 above). The following table presents the reconciliation of total debt, net reported in accordance with U.S. GAAP to net debt:

	December 31,							
	2017	2016	2015	2014	2013			
		(]						
Total debt, net	\$2,174.3	\$2,341.6	\$1,938.0	\$1,709.0	\$1,411.5			
Less: Cash and cash equivalents	(646.3)	(717.3)	(381.0)	(377.6)	(295.2)			
Net debt	1,528.0	1,624.3	1,557.0	1,331.4	1,116.3			
Stockholders' equity	4,027.6	3,256.5	3,254.6	3,239.6	3,136.1			
Capitalization (net debt plus stockholders' equity)	\$ 5,555.6	\$4,880.8	\$4,811.6	\$4,571.0	\$4,252.4			
Net debt as a percentage of capitalization	27.5%	33.3%	32.4%	29.1%	26.3%			

AMETEK, INC. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

This report includes forward-looking statements based on the Company's current assumptions, expectations and projections about future events. When used in this report, the words "believes," "anticipates," "may," "expect," "intend," "estimate," "project" and similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain such words. For more information concerning risks and other factors that could have a material adverse effect on our business or could cause actual results to differ materially from management's expectations, see "Forward-Looking Information" herein.

The following discussion and analysis of the Company's results of operations and financial condition should be read in conjunction with "Selected Financial Data" and the consolidated financial statements of the Company and the related notes included elsewhere in this Appendix. We begin with an overview of our business and operations.

Business Overview

AMETEK's operations are affected by global, regional and industry economic factors. However, the Company's strategic geographic and industry diversification, and its mix of products and services, have helped to mitigate the potential adverse impact of any unfavorable developments in any one industry or the economy of any single country on its consolidated operating results. In 2017, the Company established records for orders, sales, operating income, net income, diluted earnings per share and operating cash flow. The strengthening global economic environment compared to 2016, contributions from recent acquisitions, and continued focus on and implementation of Operational Excellence initiatives, had a positive impact on 2017 results. The Company also benefited from its strategic initiatives under AMETEK's four key strategies: Operational Excellence, Strategic Acquisitions, Global & Market Expansion and New Products.

Highlights of 2017 were:

- Orders for 2017 were \$4,539.8 million, an increase of \$691.0 million or 18.0%, compared with \$3,848.8 million in 2016. As a result, the Company's backlog of unfilled orders at December 31, 2017 was a record \$1,396.1 million.
- Net sales for 2017 were \$4,300.2 million, an increase of \$460.1 million or 12.0%, compared with \$3,840.1 million in 2016. The increase in net sales for 2017 was due to 6% organic sales growth, with 5% organic sales growth in the Electronic Instruments Group ("EIG") and 8% organic sales growth in the Electromechanical Group ("EMG"), and a 6% increase from the 2017 and 2016 acquisitions.
- Net income for 2017 was \$681.5 million, an increase of \$169.3 million or 33.1%, compared with \$512.2 million in 2016.
- Diluted earnings per share for 2017 were \$2.94, an increase of \$0.75 or 34.2%, compared with \$2.19 per diluted share in 2016.
- Cash flow provided by operating activities for 2017 was \$833.3 million, an increase of \$76.5 million or 10.1%, compared with \$756.8 million in 2016.
- During 2017, the Company spent \$556.6 million in cash, net of cash acquired, to acquire three businesses:
 - In February 2017, acquired Rauland-Borg Corporation ("Rauland"), a global provider of enterprise clinical and education communications solutions for hospitals, healthcare systems and educational facilities;

- In June 2017, acquired MOCON, Inc., a provider of laboratory and field gas analysis instrumentation to research laboratories, production facilities and quality control departments in food and beverage, pharmaceutical and industrial applications; and
- In December 2017, acquired Arizona Instrument LLC, a provider of differentiated, high-precision moisture and gas measurement instruments in food, pharmaceutical and environmental markets.
- On December 22, 2017, the U.S. enacted the Tax Cuts and Jobs Act (the "Act"). As a result, in the fourth quarter of 2017, the Company recorded a net benefit of \$91.6 million in the consolidated statement of income as a component of Provision for income taxes. The Act had the effect of increasing 2017 diluted earnings per share by \$0.39. See below for further discussion.
- During 2017, the Company recorded pre-tax realignment costs totaling \$16.8 million. The realignment costs had the effect of reducing net income for 2017 by \$13.0 million (\$0.05 per diluted share). See below for further discussion.
- In the fourth quarter of 2017, the Company paid in full, at maturity, \$270 million in aggregate principal amount of 6.20% private placement senior notes.
- The Company continued its emphasis on investment in research, development and engineering, spending \$221.2 million in 2017 before customer reimbursement of \$5.4 million. Sales from products introduced in the past three years were \$1,042.9 million or 24.3% of net sales.

Results of Operations

The following table sets forth net sales and income by reportable segment and on a consolidated basis:

	Year Ended December 31,				
	2017		2016	2015	
			(In thousands)		
Net sales ⁽¹⁾ :					
Electronic Instruments	\$2	2,690,554	\$2,360,285	\$2,417,192	
Electromechanical		1,609,616	1,479,802	1,557,103	
Consolidated net sales	. \$4	4,300,170	\$3,840,087	\$3,974,295	
Operating income and income before income taxes:					
Segment operating income ⁽²⁾ :					
Electronic Instruments	. \$	677,489	\$ 577,717	\$ 639,399	
Electromechanical	·	310,875	277,873	318,098	
Total segment operating income		988,364	855,590	957,497	
Corporate administrative and other expenses		(73,270)	(53,693)	(49,781)	
Consolidated operating income		915,094	801,897	907,716	
Interest and other expenses, net	((118,365)	(108,794)	(101,336)	
Consolidated income before income taxes	\$	796,729	\$ 693,103	\$ 806,380	

(1) After elimination of intra- and intersegment sales, which are not significant in amount.

(2) Segment operating income represents net sales less all direct costs and expenses (including certain administrative and other expenses) applicable to each segment, but does not include interest expense.

Results of Operations for the year ended December 31, 2017 compared with the year ended December 31, 2016

In 2017, the Company established records for orders, sales, operating income, net income, diluted earnings per share and operating cash flow. The continued strengthening global economic environment, contributions from the acquisitions completed in 2017 and the acquisitions of Laserage Technology Corporation ("Laserage") in October 2016, HS Foils and Nu Instruments in July 2016, and Brookfield Engineering Laboratories ("Brookfield") and ESP/SurgeX in January 2016, and continued focus on and implementation of Operational Excellence initiatives, including the 2017 and 2016 realignment actions (described further throughout the results of operations for the fourth quarter and year ended December 31, 2017), are expected to have a positive impact on the Company's 2018 results.

Net sales for 2017 were \$4,300.2 million, an increase of \$460.1 million or 12.0%, compared with net sales of \$3,840.1 million in 2016. The increase in net sales for 2017 was due to 6% organic sales growth and a 6% increase from acquisitions. Foreign currency translation was essentially flat period over period. EIG net sales were \$2,690.6 million in 2017, an increase of 14.0%, compared with \$2,360.3 million in 2016. EMG net sales were \$1,609.6 million in 2017, an increase of 8.8%, compared with \$1,479.8 million in 2016.

Total international sales for 2017 were \$2,214.0 million or 51.5% of net sales, an increase of \$203.3 million or 10.1%, compared with international sales of \$2,010.7 million or 52.4% of net sales in 2016. The \$203.3 million increase in international sales was primarily driven by organic sales growth. Both reportable segments of the Company maintain strong international sales presences in Europe and Asia. Export shipments from the United States, which are included in total international sales, were \$1,142.3 million in 2017, an increase of \$104.3 million or 10.1%, compared with \$1,036.0 million in 2016. Export shipments increased primarily due to organic sales growth.

Orders for 2017 were \$4,539.8 million, an increase of \$691.0 million or 18.0%, compared with \$3,848.8 million in 2016. The increase in orders for 2017 was due to 10% organic order growth, a 6% increase from acquisitions and favorable 2% effect of foreign currency translation. As a result, the Company's backlog of unfilled orders at December 31, 2017 was a record \$1,396.1 million, an increase of \$239.6 million or 20.7%, compared with \$1,156.5 million at December 31, 2016.

The Company recorded 2017 realignment costs totaling \$16.8 million in the fourth quarter of 2017 (the "2017 realignment costs"). The 2017 realignment costs were composed of \$3.0 million in severance costs for a reduction in workforce, \$7.8 million of asset write-downs and \$6.0 million in costs to withdraw from a multiemployer defined benefit pension plan. The 2017 realignment costs better position the Company's long-term cost structure and included costs associated with the continued consolidation of the Company's floor care and specialty motors businesses into its precision motion control businesses. The Company recorded 2016 realignment costs primarily related to \$19.3 million in severance costs for a reduction in workforce and \$6.2 million of asset write-downs in response to the impact of a weak global economy on certain of the Company's businesses, as well as the effects of a continued strong U.S. dollar. See Note 18 to the consolidated financial statements included in this Appendix. Also, in the fourth quarter of 2016, the Company recorded a \$13.9 million non-cash impairment charge related to certain of the Company's trade names.

	20	17	2016		
	Three MonthsEndedYear EndedDecember 31,December 31,		Three Months Ended December 31,	Year Ended December 31,	
Realignment costs	\$16.8	\$16.8	\$24.0	\$24.0	
Impairment charge	—		13.9	13.9	
Cost of sales	16.8	16.8	37.9	37.9	
Realignment costs	_	_	1.6	1.6	
Impairment charge					
Selling, general and administrative expenses			1.6	1.6	
Realignment costs	16.8	16.8	25.6	25.6	
Impairment charge			13.9	13.9	
Total reported in the consolidated statement of income	\$16.8	\$16.8	\$39.5	\$39.5	

The 2017 and 2016 realignment costs and 2016 impairment charge were reported in the consolidated statement of income as follows (in millions):

The 2017 and 2016 realignment costs and 2016 impairment charge were reported in segment operating income as follows (in millions):

	20	17	2016	
	Three Months Ended December 31,	Year Ended December 31,	Three Months Ended December 31,	Year Ended December 31,
Realignment costs	\$ 4.5	\$ 4.5	\$12.4	\$12.4
Impairment charge		_	9.2	9.2
EIG	4.5	4.5	21.6	21.6
Realignment costs	12.3	12.3	11.6	11.6
Impairment charge			4.7	4.7
EMG	12.3	12.3	16.3	16.3
Realignment costs	16.8	16.8	24.0	24.0
Impairment charge			13.9	13.9
Total reported in segment operating income	\$16.8	\$16.8	\$37.9	\$37.9

	20	17	2016		
	Three Months Ended December 31,	Year Ended December 31,	Three Months Ended December 31,	Year Ended December 31,	
Realignment costs	(60)	(10)	(200)	(50)	
Impairment charge			(150)	(40)	
EIG	(60)	(10)	(350)	(90)	
Realignment costs	(310)	(80)	(330)	(80)	
Impairment charge			(130)	(30)	
EMG	(310)	(80)	(460)	(110)	
Realignment costs	(150)	(40)	(250)	(60)	
Impairment charge			(140)	(40)	
Total impacting segment operating margins	(150)	(40)	(390)	(100)	

The 2017 and 2016 realignment costs and 2016 impairment charge negatively impacted segment operating margins as follows (in basis points):

The expected annualized cash savings from the 2017 realignment costs is expected to be approximately \$5 million and is expected to be fully realized in 2019.

Segment operating income for 2017 was \$988.4 million, an increase of \$132.8 million or 15.5%, compared with segment operating income of \$855.6 million in 2016. The increase in segment operating income for 2017 resulted primarily from the increase in net sales noted above. Segment operating income, as a percentage of net sales, increased to 23.0% in 2017, compared with 22.3% in 2016. The increase in segment operating margins for 2017 resulted primarily from the net impact of the 2017 versus the 2016 realignment costs and 2016 impairment charge noted above. Segment operating margins for 2017 and 2016 included the impact of the realignment costs and 2016 impairment charge detailed in the tables above.

Cost of sales for 2017 was \$2,851.4 million or 66.3% of net sales, an increase of \$276.2 million or 10.7%, compared with \$2,575.2 million or 67.1% of net sales for 2016. The cost of sales increase for 2017 was affected by the net sales increase noted above. Cost of sales for 2017 and 2016 included the impact of the realignment costs and 2016 impairment charge detailed in the tables above.

Selling, general and administrative ("SG&A") expenses for 2017 were \$533.6 million or 12.4% of net sales, an increase of \$70.6 million or 15.2%, compared with \$463.0 million or 12.1% of net sales in 2016. The increase in SG&A expenses for 2017 was primarily due to the increase in net sales noted above, a fourth quarter of 2017 \$5.0 million charitable donation and a second quarter of 2017 \$2.5 million equity-based compensation charge related to the accelerated vesting of restricted stock grants in association with the retirement of the Company's Executive Chairman of the Board of Directors. For 2016, SG&A expenses included \$1.6 million of realignment costs noted above.

Consolidated operating income was \$915.1 million or 21.3% of net sales for 2017, an increase of \$113.2 million or 14.1%, compared with \$801.9 million or 20.9% of net sales in 2016.

Interest expense was \$98.0 million for 2017, an increase of \$3.7 million or 3.9%, compared with \$94.3 million in 2016. The interest expense increase for 2017 was primarily due to the impact of private placement senior notes funded in the fourth quarter of 2016, partially offset by lower average borrowings under the Company's revolving credit facility period over period.

Other expenses, net were \$20.3 million for 2017, an increase of \$5.8 million, compared with \$14.5 million in 2016. The other expenses, net increase for 2017 was primarily due to higher environmental-related expenses.

The effective tax rate for 2017 was 14.5%, compared with 26.1% in 2016. On December 22, 2017, the U.S. enacted the Tax Cuts and Jobs Act (the "Act"). The Act, which is also commonly referred to as "U.S. tax reform," significantly changes U.S. corporate income tax laws by, among other things, reducing the U.S. corporate income tax rate to 21% starting in 2018 and creating a territorial tax system with a one-time mandatory tax on previously deferred foreign earnings of U.S. subsidiaries. As a result, in the fourth quarter of 2017, the Company recorded a net benefit of \$91.6 million in the consolidated statement of income as a component of Provision for income taxes. The \$91.6 million net benefit consisted of a \$185.8 million benefit resulting from the remeasurement of the Company's net deferred tax liabilities in the U.S. based on the new lower corporate income tax rate and a \$94.2 million expense relating to the one-time mandatory tax on previously deferred earnings of certain non-U.S. subsidiaries that are owned either wholly or partially by a U.S. subsidiary of the Company. Also, included in the \$94.2 million, the Company recorded additional deferred tax liabilities of \$13.3 million related to state income and foreign withholding taxes expected to be incurred when the cash amounts related to the mandatory tax are ultimately repatriated to the U.S., offset by \$1.0 million for a remeasurement of uncertain tax positions impacted by the mandatory tax inclusion.

Although the \$91.6 million net benefit represents what the Company believes is a reasonable estimate of the impact of the income tax effects of the Act on the Company's consolidated financial statements as of December 31, 2017, it should be considered provisional. As additional guidance from the U.S. Department of Treasury is provided, the Company may need to adjust the provisional amounts after it finalizes the 2017 U.S. tax return and is able to conclude whether any further adjustments are required to its U.S. portion of net deferred tax liability of \$390.4 million as of December 31, 2017, as well as to the liability associated with the one-time mandatory tax. The currently recorded amounts include a variety of estimates of taxable earnings and profits, estimated taxable foreign cash balances, differences between U.S. generally accepted accounting principles ("GAAP") and U.S. tax principles and interpretations of many aspects of the Act that may, if changed, impact the final amounts. Any adjustments to these provisional amounts will be reported as a component of Provision for income taxes in the reporting period in which any such adjustments are determined, which will be no later than the fourth quarter of 2018, and could result in significant impacts to the effective tax rate for the period. The Company is still evaluating the potential future impact of the global intangible low-taxed income ("GILTI") section of the Act and has not provided any provisional deferred tax liability for it. Under U.S. GAAP, the Company is permitted to make an accounting policy election to either treat taxes due on future inclusions in the U.S. taxable income related to GILTI as a current period expense when incurred or to factor such amounts into the Company's measurement of its deferred taxes. Due to the ongoing evaluation, the Company has not yet made the accounting policy decision. See Note 8 to the consolidated financial statements included in this Appendix.

The 2017 effective tax rate reflects \$12.3 million of tax benefits related to share-based payment transactions in accordance with the January 1, 2017 adoption of the Financial Accounting Standards Board ("FASB") Accounting Standards Update ("ASU") No. 2016-09, *Improvements to Employee Share-Based Payment Accounting* ("ASU 2016-09"). See Notes 2 and 8 to the consolidated financial statements included in this Appendix.

The effective tax rates for 2017 and 2016 reflect the impact of foreign earnings, which are taxed at lower rates, tax benefits related to international and state tax planning initiatives and the release of uncertain tax position liabilities relating to certain statute expirations.

Net income for 2017 was \$681.5 million, an increase of \$169.3 million or 33.1%, compared with \$512.2 million in 2016. The 2017 realignment costs reduced 2017 net income by \$13.0 million and the net benefit related to the Act increased 2017 net income by \$91.6 million. The 2016 realignment costs and the 2016 impairment charge reduced 2016 net income by \$17.0 million and \$8.6 million, respectively.

Diluted earnings per share for 2017 were \$2.94, an increase of \$0.75 or 34.2%, compared with \$2.19 per diluted share in 2016. The 2017 realignment costs had the effect of reducing 2017 diluted earnings per share by \$0.05 and the net benefit related to the Act had the effect of increasing 2017 diluted earnings per share by \$0.39. The 2016 realignment costs and the 2016 impairment charge had the effect of reducing 2016 diluted earnings per share by \$0.07 and \$0.04, respectively.

Segment Results

EIG's net sales totaled \$2,690.6 million for 2017, an increase of \$330.3 million or 14.0%, compared with \$2,360.3 million in 2016. The net sales increase for 2017 was due to a 9% increase from the 2017 acquisitions of MOCON and Rauland and 2016 acquisitions of Nu Instruments, Brookfield and ESP/SurgeX, and 5% organic sales growth. Foreign currency translation was essentially flat period over period.

EIG's operating income was \$677.5 million for 2017, an increase of \$99.8 million or 17.3%, compared with \$577.7 million in 2016. The increase in EIG's operating income for 2017 resulted primarily from the increase in net sales noted above. EIG's operating margins were 25.2% of net sales for 2017, compared with 24.5% of net sales in 2016. The increase in EIG's operating margins for 2017 resulted primarily from the net impact of the 2017 versus the 2016 realignment costs and 2016 impairment charge noted above. EIG's operating income and operating margins for 2017 and 2016 included the impact of the realignment costs and 2016 impairment charge detailed in the tables above.

EMG's net sales totaled \$1,609.6 million for 2017, an increase of \$129.8 million or 8.8%, compared with \$1,479.8 million in 2016. The net sales increase for 2017 was due to 8% organic sales growth and a 1% increase from the 2016 acquisition of Laserage. Foreign currency translation was essentially flat period over period.

EMG's operating income was \$310.9 million for 2017, an increase of \$33.0 million or 11.9%, compared with \$277.9 million in 2016. EMG's operating margins were 19.3% of net sales for 2017, compared with 18.8% of net sales in 2016. The increase in EMG's operating income and operating margins for 2017 resulted primarily from the increase in net sales noted above, as well as the benefits of the Group's Operational Excellence initiatives. EMG's operating income and operating margins for 2016 the realignment costs and 2016 impairment charge detailed in the tables above.

Results of operations for the fourth quarter of 2017 compared with the fourth quarter of 2016

Net sales for the fourth quarter of 2017 were \$1,143.1 million, an increase of \$170.1 million or 17.5%, compared with net sales of \$973.0 million for the fourth quarter of 2016. The increase in net sales for the fourth quarter of 2017 was due to 9% organic sales growth, a 6% increase from acquisitions and favorable 2% effect of foreign currency translation.

Segment operating income for the fourth quarter of 2017 was \$253.0 million, an increase of \$65.2 million or 34.7%, compared with segment operating income of \$187.8 million for the fourth quarter of 2016. The increase in segment operating income for the fourth quarter of 2017 resulted primarily from the increase in net sales noted above. Segment operating income, as a percentage of net sales, increased to 22.1% for the fourth quarter of 2017, compared with 19.3% for the fourth quarter of 2016. The increase in segment operating margins for the fourth quarter of 2017 resulted primarily from the net impact of the 2017 versus the 2016 realignment costs and 2016 impairment charge noted above. Segment operating income and segment operating margins for the fourth quarter of 2017 and 2016 included the impact of the realignment costs and 2016 impairment charge detailed in the tables above.

Cost of sales for the fourth quarter of 2017 was \$767.0 million or 67.1% of net sales, an increase of \$85.9 million or 12.6%, compared with \$681.1 million or 70.0% of net sales for the fourth quarter of 2016. The cost of sales increase for the fourth quarter of 2017 was affected by the net sales increase noted above. Cost of sales for the fourth quarter of 2017 and 2016 included the impact of the realignment costs and 2016 impairment charge detailed in the tables above.

The effective tax rate for the fourth quarter of 2017 was (20.8)%, compared with 24.9% in the fourth quarter of 2016. In the fourth quarter of 2017, the Company recorded a net benefit of \$91.6 million in the consolidated statement of income as a component of Provision for income taxes related to the Act. The \$91.6 million net benefit consisted of a \$185.8 million benefit resulting from the remeasurement of the Company's net deferred tax liabilities in the U.S. based on the new lower corporate income tax rate and a \$94.2 million expense primarily relating mostly to the one-time mandatory tax on previously deferred earnings of certain non-U.S. subsidiaries that are owned either wholly or partially by a U.S. subsidiary of the Company. The effective tax rates for 2017 and 2016 reflect the impact of foreign earnings, which are taxed at lower rates, tax benefits related to international and state tax planning initiatives and the release of uncertain tax position liabilities relating to certain statute expirations.

Net income for the fourth quarter of 2017 was \$238.5 million, an increase of \$129.4 million or 118.6%, compared with \$109.1 million for the fourth quarter of 2016. The fourth quarter of 2017 realignment costs reduced the fourth quarter of 2017 net income by \$13.0 million and the net benefit related to the Act increased fourth quarter of 2017 net income by \$91.6 million. The fourth quarter of 2016 realignment costs and fourth quarter of 2016 impairment charge reduced the fourth quarter of 2016 net income by \$17.0 million and \$8.6 million, respectively.

Diluted earnings per share for the fourth quarter of 2017 were \$1.03, an increase of \$0.56 or 119.1%, compared with \$0.47 per diluted share for the fourth quarter of 2016. The fourth quarter of 2017 realignment costs had the effect of reducing the fourth quarter of 2017 diluted earnings per share by \$0.05 and the net benefit related to the Act had the effect of increasing the fourth quarter of 2017 diluted earnings per share by \$0.39. The fourth quarter of 2016 realignment costs and fourth quarter of 2016 impairment charge had the effect of reducing the fourth quarter of 2016 diluted earnings per share by \$0.07 and \$0.04, respectively.

Segment Results

EIG's net sales totaled \$741.5 million for the fourth quarter of 2017, an increase of \$125.5 million or 20.4%, compared with \$616.0 million for the fourth quarter of 2016. The net sales increase for the fourth quarter of 2017 was due to a 10% increase from the 2017 acquisitions of MOCON and Rauland and 2016 acquisitions of Nu Instruments, Brookfield and ESP/SurgeX, 9% organic sales growth and favorable 2% effect of foreign currency translation.

EIG's operating income was \$191.1 million for the fourth quarter of 2017, an increase of \$50.0 million or 35.4%, compared with \$141.1 million for the fourth quarter of 2016. The increase in EIG's operating income for the fourth quarter of 2017 resulted primarily from the increase in net sales noted above. EIG's operating margins were 25.8% of net sales for the fourth quarter of 2017, compared with 22.9% of net sales for the fourth quarter of 2016. The increase in EIG's operating margins for the fourth quarter of 2017 resulted primarily from the increase in et sales for the fourth quarter of 2016. The increase in EIG's operating margins for the fourth quarter of 2017 resulted primarily from the net impact of the 2017 versus the 2016 realignment costs and 2016 impairment charge noted above, as well as the benefits of the Group's Operational Excellence initiatives. EIG's operating income and operating margins for the fourth quarter of 2017 and 2016 included the impact of the realignment costs and 2016 impairment charge detailed in the tables above.

EMG's net sales totaled \$401.6 million for the fourth quarter of 2017, an increase of \$44.7 million or 12.5%, compared with \$356.9 million for the fourth quarter of 2016. The net sales increase for the fourth quarter of 2017 was due to 10% organic sales growth, a 1% increase from the 2016 acquisition of Laserage and favorable 2% effect of foreign currency translation.

EMG's operating income was \$61.9 million for the fourth quarter of 2017, an increase of \$15.2 million or 32.5%, compared with \$46.7 million for the fourth quarter of 2016. EMG's operating margins were 15.4% of net sales for the fourth quarter of 2017, compared with 13.1% of net sales for the fourth quarter of 2016. The increase in EMG's operating income and operating margins for the fourth quarter of 2017 resulted primarily from the increase in net sales noted above, as well as the benefits of the Group's Operational Excellence initiatives. EMG's operating income and operating margins for the fourth quarter of 2017 and 2016 included the impact of the realignment costs and 2016 impairment charge detailed in the tables above.

Results of Operations for the year ended December 31, 2016 compared with the year ended December 31, 2015

In 2016, the Company was impacted by a weak global economy and the effects of a continued strong U.S. dollar. Specifically, the Company experienced lower sales in its process businesses that have exposure to oil and gas markets and in its engineered materials, interconnects and packaging businesses that have exposure to metals markets. Contributions from the acquisitions completed in 2016 and the acquisitions of Surface Vision in July 2015 and Global Tubes in May 2015, as well as the Company's Operational Excellence initiatives had a positive impact on 2016 results.

Net sales for 2016 were \$3,840.1 million, a decrease of \$134.2 million or 3.4%, compared with net sales of \$3,974.3 million in 2015. EIG net sales were \$2,360.3 million in 2016, a decrease of 2.4%, compared with \$2,417.2 million in 2015. EMG net sales were \$1,479.8 million in 2016, a decrease of 5.0%, compared with \$1,557.1 million in 2015. The decrease in net sales for 2016 was due to a 7% organic sales decline and an unfavorable 1% effect of foreign currency translation, partially offset by a 4% increase from acquisitions.

Total international sales for 2016 were \$2,010.7 million or 52.4% of net sales, a decrease of \$44.0 million or 2.1%, compared with international sales of \$2,054.7 million or 51.7% of net sales in 2015. The \$44.0 million decrease in international sales was primarily driven by a weak global economy, as well as the foreign currency translation headwind noted above. Both reportable segments of the Company maintain strong international sales presences in Europe and Asia. Export shipments from the United States, which are included in total international sales, were \$1,036.0 million in 2016, a decrease of \$54.7 million or 5.0%, compared with \$1,090.7 million in 2015. Export shipments decreased primarily due to a weak global economy, as well as the competitive impacts of a strong U.S. dollar.

Orders for 2016 were \$3,848.8 million, a decrease of \$75.9 million or 1.9%, compared with \$3,924.7 million in 2015. The decrease in orders for 2016 was due to a 5% organic order decline resulting from a weak global economy noted above, partially offset by a 3% increase from acquisitions. As a result, the Company's backlog of unfilled orders at December 31, 2016 was \$1,156.5 million, an increase of \$8.7 million or 0.8%, compared with \$1,147.8 million at December 31, 2015.

The Company recorded \$25.6 million of 2016 realignment costs in the fourth quarter of 2016. The 2016 realignment costs primarily related to \$19.3 million in severance costs for a reduction in workforce and \$6.2 million of asset write-downs in response to the impact of a weak global economy on certain of the Company's businesses, as well as the effects of a continued strong U.S. dollar. The Company recorded 2015 realignment costs totaling \$36.6 million, with \$15.9 million recorded in the first quarter of 2015 and \$20.7 million recorded in the fourth quarter of 2015 (the "2015 realignment costs"). The 2015 realignment costs primarily related to reductions in workforce in response to the impact of a weak global economy on certain of the Company's businesses, as well as the effects of a continued strong U.S. dollar. See Note 18 to the consolidated financial statements included in this Appendix.

The 2016 and 2015 realignment costs were reported in the consolidated statement of income as follows (in millions):

	20	16	2015			
	Three Months Ended December 31,	Year Ended December 31,	Three Months Ended March 31,	Three Months Ended December 31,	Year Ended December 31,	
Cost of sales	\$24.0	\$24.0	\$15.8	\$20.0	\$35.8	
Selling, general and administrative expenses	1.6	1.6	0.1	0.7	0.8	
Total	\$25.6	\$25.6	\$15.9	\$20.7	\$36.6	

The 2016 and 2015 realignment costs were reported in segment operating income as follows (in millions):

	20	16	2015			
	Three Months Ended December 31,	Year Ended December 31,	Three Months Ended March 31,	Three Months Ended December 31,	Year Ended December 31,	
EIG	\$12.4	\$12.4	\$ 9.3	\$ 9.3	\$18.5	
EMG	11.6	11.6	6.5	10.8	17.3	
Total	\$24.0	\$24.0	\$15.8	\$20.0	\$35.8	

The 2016 and 2015 realignment costs negatively impacted segment operating margins as follows (in basis points):

	20	16	2015	
	Three MonthsEndedYear EndedDecember 31,December 31,		Three Months Ended December 31,	Year Ended December 31,
EIG	(200)	(50)	(150)	(70)
EMG	(330)	(80)	(300)	(110)
Total	(250)	(60)	(200)	(90)

Segment operating income for 2016 was \$855.6 million, a decrease of \$101.9 million or 10.6%, compared with segment operating income of \$957.5 million in 2015. Segment operating income, as a percentage of net sales, decreased to 22.3% in 2016, compared with 24.1% in 2015. The decrease in segment operating income and segment operating margins for 2016 resulted primarily from the decrease in net sales noted above and a \$29.7 million increase in depreciation and amortization expense, which included a \$13.9 million non-cash impairment charge related to certain of the Company's trade names (\$9.2 million impacted EIG and \$4.7 million impacted EMG). The 2016 impairment charge negatively impacted segment operating margins by approximately 40 basis points. Segment operating income and segment costs detailed in the tables above.

Cost of sales for 2016 was \$2,575.2 million or 67.1% of net sales, a decrease of \$42.8 million or 1.6%, compared with \$2,618.0 million or 65.9% of net sales for 2015. The cost of sales decrease was primarily due to the net sales decrease noted above, partially offset by a \$29.7 million increase in depreciation and amortization expense, which included a \$13.9 million impairment charge noted above. Cost of sales for 2016 and 2015 included the impact of the realignment costs detailed in the tables above.

SG&A expenses for 2016 were \$463.0 million or 12.1% of net sales, an increase of \$14.4 million or 3.2%, compared with \$448.6 million or 11.3% of net sales in 2015. For 2016 and 2015, SG&A expenses included \$1.6 million and \$0.8 million, respectively, of realignment costs noted above.

Consolidated operating income was \$801.9 million or 20.9% of net sales for 2016, a decrease of \$105.8 million or 11.7%, compared with \$907.7 million or 22.8% of net sales in 2015.

Interest expense was \$94.3 million for 2016, an increase of \$2.5 million or 2.7%, compared with \$91.8 million in 2015. The interest expense increase for 2016 was primarily due to higher average borrowings to fund acquisitions and share repurchases.

The effective tax rate for 2016 was 26.1%, compared with 26.7% in 2015. The effective tax rates for 2016 and 2015 reflect the impact of foreign earnings, which are taxed at lower rates. The 2016 effective tax rate reflects tax benefits related to international and state tax planning initiatives and the release of uncertain tax position liabilities relating to certain statute expirations. The 2015 effective tax rate reflects the first quarter of 2015 release of uncertain tax position liabilities related to the conclusion of an advance thin capitalization agreement in the European Union, the second quarter of 2015 effective settlement of the U.S. research and development tax credit from the completion of an Internal Revenue Service examination for 2010 and 2011, and the third quarter of 2015 \$7.5 million of tax benefits related to the closure of an international subsidiary. See Note 8 to the consolidated financial statements included in this Appendix.

Net income for 2016 was \$512.2 million, a decrease of \$78.7 million or 13.3%, compared with \$590.9 million in 2015. The 2016 realignment costs and the 2016 impairment charge reduced 2016 net income by \$17.0 million and \$8.6 million, respectively. The 2015 realignment costs reduced 2015 net income by \$24.7 million.

Diluted earnings per share for 2016 were \$2.19, a decrease of \$0.26 or 10.6%, compared with \$2.45 per diluted share in 2015. The 2016 realignment costs and the 2016 impairment charge had the effect of reducing 2016 diluted earnings per share by \$0.07 and \$0.04, respectively. The 2015 realignment costs had the effect of reducing 2015 diluted earnings per share by \$0.10.

Segment Results

EIG's net sales totaled \$2,360.3 million for 2016, a decrease of \$56.9 million or 2.4%, compared with \$2,417.2 million in 2015. The net sales decrease was due to a 7% organic sales decline, driven largely by the Company's process businesses that have exposure to oil and gas markets, partially offset by a 5% increase from the 2016 acquisitions of Nu Instruments, Brookfield and ESP/SurgeX and 2015 acquisition of Surface Vision.

EIG's operating income was \$577.7 million for 2016, a decrease of \$61.7 million or 9.6%, compared with \$639.4 million in 2015. EIG's operating margins were 24.5% of net sales for 2016, compared with 26.5% of net sales in 2015. The decrease in EIG operating income and operating margins for 2016 resulted primarily from the decrease in net sales noted above and a \$20.5 million increase in depreciation and amortization expense, which included a \$9.2 million impairment charge. The 2016 impairment charge negatively impacted EIG's operating margins by approximately 40 basis points. EIG's operating income and operating margins for 2016 and 2015 included the impact of the realignment costs detailed in the tables above.

EMG's net sales totaled \$1,479.8 million for 2016, a decrease of \$77.3 million or 5.0%, compared with \$1,557.1 million in 2015. The net sales decrease was due to a 6% organic sales decline, driven largely by weakness in the Company's engineered materials, interconnects and packaging businesses, and an unfavorable 1% effect of foreign currency translation, partially offset by a 2% increase from the 2016 acquisition of Laserage and 2015 acquisition of Global Tubes.

EMG's operating income was \$277.9 million for 2016, a decrease of \$40.2 million or 12.6%, compared with \$318.1 million in 2015. EMG's operating margins were 18.8% of net sales for 2016, compared with 20.4% of net sales in 2015. The decrease in EMG's operating income and operating margins for 2016 resulted primarily from the decrease in net sales noted above and a \$9.2 million increase in depreciation and amortization expense, which included a \$4.7 million impairment charge. The 2016 impairment charge negatively impacted EMG's operating margins by approximately 30 basis points. EMG's operating income and operating margins for 2016 and 2015 included the impact of the realignment costs detailed in the tables above.

Results of operations for the fourth quarter of 2016 compared with the fourth quarter of 2015

Net sales for the fourth quarter of 2016 were \$973.0 million, a decrease of \$15.0 million or 1.5%, compared with net sales of \$988.0 million for the fourth quarter of 2015. The decrease in net sales for the fourth quarter of 2016 was due to a 4% organic sales decline and an unfavorable 1% effect of foreign currency translation, partially offset by a 3% increase from acquisitions.

Segment operating income for the fourth quarter of 2016 was \$187.8 million, a decrease of \$34.0 million or 15.3%, compared with segment operating income of \$221.8 million for the fourth quarter of 2015. Segment operating income, as a percentage of net sales, decreased to 19.3% for the fourth quarter of 2016, compared with 22.5% for the fourth quarter of 2015. The decrease in segment operating income and segment operating margins for the fourth quarter of 2016 resulted primarily from the decrease in net sales noted above and a \$17.2 million increase in depreciation and amortization expense, which included a \$13.9 million non-cash impairment charge related to certain of the Company's trade names (\$9.2 million impacted EIG and \$4.7 million impacted EMG). The fourth quarter of 2016 impairment charge negatively impacted segment operating margins by approximately 140 basis points. Segment operating income and segment operating margins for the fourth quarter of 2016 included in the tables above.

Cost of sales for the fourth quarter of 2016 was \$681.1 million or 70.0% of net sales, an increase of \$14.8 million or 2.2%, compared with \$666.3 million or 67.4% of net sales for the fourth quarter of 2015. The cost of sales increase and the corresponding increase in cost of sales as a percentage of sales were primarily due to the net sales decrease noted above and a \$17.2 million increase in depreciation and amortization expense, which included the fourth quarter of 2016 impairment charge of \$13.9 million noted above. Cost of sales for the fourth quarter of 2015 included the impact of the realignment costs detailed in the tables above.

Net income for the fourth quarter of 2016 was \$109.1 million, a decrease of \$27.7 million or 20.2%, compared with \$136.8 million for the fourth quarter of 2015. The fourth quarter of 2016 realignment costs and fourth quarter of 2016 impairment charge reduced the fourth quarter of 2016 net income by \$17.0 million and \$8.6 million, respectively. The fourth quarter of 2015 realignment costs reduced the fourth quarter of 2015 net income by \$13.9 million.

Diluted earnings per share for the fourth quarter of 2016 were \$0.47, a decrease of \$0.10 or 17.5%, compared with \$0.57 per diluted share for the fourth quarter of 2015. The fourth quarter of 2016 realignment costs and fourth quarter of 2016 impairment charge had the effect of reducing the fourth quarter of 2016 diluted earnings per share by \$0.07 and \$0.04, respectively. The fourth quarter of 2015 realignment costs had the effect of reducing the fourth quarter of 2015 diluted earnings per share by \$0.06.

Segment Results

EIG's net sales totaled \$616.0 million for the fourth quarter of 2016, a decrease of \$12.4 million or 2.0%, compared with \$628.4 million for the fourth quarter of 2015. The net sales decrease was due to a 6% organic sales decline, driven largely by the Company's process businesses with exposure to oil and gas markets, and an unfavorable 1% effect of foreign currency translation, partially offset by a 5% increase from the 2016 acquisitions of Nu Instruments, Brookfield and ESP/SurgeX.

EIG's operating income was \$141.1 million for the fourth quarter of 2016, a decrease of \$20.6 million or 12.7%, compared with \$161.7 million for the fourth quarter of 2015. EIG's operating margins were 22.9% of net sales for the fourth quarter of 2016, compared with 25.7% of net sales for the fourth quarter of 2015. The decrease in EIG's operating income and operating margins for the fourth quarter of 2016 resulted primarily from the decrease in net sales noted above and an \$11.0 million increase in depreciation and amortization expense, which included a \$9.2 million impairment charge. The fourth quarter of 2016 impairment charge negatively impacted EIG's operating margins by approximately 150 basis points. EIG's operating income and operating margins for the fourth quarter of 2016 and 2015 included the impact of the realignment costs detailed in the tables above.

EMG's net sales totaled \$356.9 million for the fourth quarter of 2016, a decrease of \$2.7 million or 0.8%, compared with \$359.6 million for the fourth quarter of 2015. The net sales decrease was due to an unfavorable 2% effect of foreign currency translation, partially offset by a 1% increase from the 2016 acquisition of Laserage. Organic sales were flat quarter over quarter.

EMG's operating income was \$46.7 million for the fourth quarter of 2016, a decrease of \$13.5 million or 22.4%, compared with \$60.2 million for the fourth quarter of 2015. EMG's operating margins were 13.1% of net sales for the fourth quarter of 2016, compared with 16.7% of net sales for the fourth quarter of 2015. The decrease in EMG's operating income and operating margins for the fourth quarter of 2016 resulted primarily from the decrease in net sales noted above and a \$6.2 million increase in depreciation and amortization expense, which included a \$4.7 million impairment charge. The fourth quarter of 2016 impairment charge negatively impacted EMG's operating margins by approximately 130 basis points. EMG's operating income and operating margins for the fourth quarter of 2016 and 2015 included the impact of the realignment costs detailed in the tables above.

Liquidity and Capital Resources

Cash provided by operating activities totaled \$833.3 million in 2017, an increase of \$76.5 million or 10.1%, compared with \$756.8 million in 2016. The increase in cash provided by operating activities for 2017 was primarily due to higher net income and lower overall operating working capital levels driven by the Company's continued focus on working capital management. Offsetting the increase in cash provided by operating activities was a \$48.0 million increase in defined benefit pension plan contributions driven by a discretionary \$50.1 million contribution to the Company's defined benefit pension plans in the first quarter of 2017, with \$40.0 million contributed to U.S. defined benefit pension plans and \$10.1 million contributed to foreign defined benefit pension plans.

Free cash flow (cash flow provided by operating activities less capital expenditures) was \$758.2 million in 2017, compared with \$693.6 million in 2016. EBITDA (earnings before interest, income taxes, depreciation and amortization) was \$1,076.0 million in 2017, compared with \$966.0 million in 2016. Free cash flow and EBITDA are presented because the Company is aware that they are measures used by third parties in evaluating the Company. (See tables on page A-4 for a reconciliation of U.S. GAAP measures to comparable non-GAAP measures).

Cash used for investing activities totaled \$625.8 million in 2017, compared with \$452.4 million in 2016. In 2017, the Company paid \$556.6 million, net of cash acquired, to acquire Arizona Instrument in December 2017, MOCON in June 2017 and Rauland in February 2017. In 2016, the Company paid \$391.4 million, net of cash acquired, to acquire Laserage in October 2016, HS Foils and Nu Instruments in July 2016 and Brookfield and ESP/SurgeX in January 2016. Additions to property, plant and equipment totaled \$75.1 million in 2017, compared with \$63.3 million in 2016.

Cash used for financing activities totaled \$329.2 million in 2017, compared with \$57.1 million of cash provided by financing activities in 2016. At December 31, 2017, total debt, net was \$2,174.3 million, compared with \$2,341.6 million at December 31, 2016. In 2017, short-term borrowings decreased \$9.6 million, compared with a decrease of \$315.7 million in 2016. In 2017, long-term borrowings decreased \$270.0 million, compared with an increase of \$772.2 million in 2016.

In the fourth quarter of 2017, the Company paid in full, at maturity, \$270 million in aggregate principal amount of 6.20% private placement senior notes.

The Company along with certain of its foreign subsidiaries has an amended and restated credit agreement dated as of March 10, 2016 (the "Credit Agreement"). The Credit Agreement consists of a five-year revolving credit facility in an aggregate principal amount of \$850 million with a final maturity date in March 2021. The revolving credit facility total borrowing capacity excludes an accordion feature that permits the Company to request up to an additional \$300 million in revolving credit commitments at any time during the life of the Credit Agreement under certain conditions. Interest rates on outstanding borrowings under the revolving credit facility are at the applicable benchmark rate plus a negotiated spread or at the U.S. prime rate. The revolving credit facility provides the Company with additional financial flexibility to support its growth plans, including its acquisition strategy. At December 31, 2017, the Company had available borrowing capacity of \$1,108.1 million under its revolving credit facility, including the \$300 million accordion feature.

In the third quarter of 2018, \$80 million of 6.35% senior notes and \$160 million of 7.08% senior notes will mature and become payable. In the fourth quarter of 2018, \$65 million of 7.18% senior notes will mature and become payable. The debt-to-capital ratio was 35.1% at December 31, 2017, compared with 41.8% at December 31, 2016. The net debt-to-capital ratio (total debt, net less cash and cash equivalents divided by the sum of net debt and stockholders' equity) was 27.5% at December 31, 2017, compared with 33.3% at December 31, 2016. The net debt-to-capital ratio is presented because the Company is aware that this measure is used by third parties in evaluating the Company. (See table on page A-4 for a reconciliation of U.S. GAAP measures to comparable non-GAAP measures).

In 2017, the Company repurchased approximately 114,000 shares of its common stock for \$6.9 million, compared with \$336.1 million used for repurchases of approximately 7,099,000 shares in 2016. At December 31, 2017, \$368.7 million was available under the Company's Board of Directors authorization for future share repurchases.

Additional financing activities for 2017 included cash dividends paid of \$82.7 million, compared with \$83.3 million in 2016. Proceeds from the exercise of employee stock options were \$40.0 million in 2017, compared with \$17.6 million in 2016.

As a result of all of the Company's cash flow activities in 2017, cash and cash equivalents at December 31, 2017 totaled \$646.3 million, compared with \$717.3 million at December 31, 2016. At December 31, 2017, the Company had \$569.4 million in cash outside the United States, compared with \$481.6 million at December 31, 2016. The Company utilizes this cash to fund its international operations, as well as to acquire international businesses. The Company believes it has sufficient cash-generating capabilities from domestic and unrestricted foreign sources, available credit facilities and access to long-term capital funds to enable it to meet its operating needs and contractual obligations in the foreseeable future.

Subsequent Events

In January 2018, the Company acquired FMH Aerospace for approximately \$235 million in cash using available cash.

Effective February 1, 2018, the Company's Board of Directors approved a 56% increase in the quarterly cash dividend on the Company's common stock to \$0.14 per common share from \$0.09 per common share.

The following table summarizes AMETEK's contractual cash obligations and the effect such obligations are expected to have on the Company's liquidity and cash flows in future years at December 31, 2017.

	Payments Due				
Contractual Obligations ⁽¹⁾	Total	Less Than One Year	One to Three Years	Four to Five Years	After Five Years
			(In millions)		
Long-term debt borrowings ⁽²⁾	\$2,174.9	\$305.0	\$208.2	\$ 56.5	\$1,605.2
Capital lease ⁽³⁾	4.3	4.3			
Other indebtedness	0.3	0.3			
Total debt ⁽⁴⁾	2,179.5	309.6	208.2	56.5	1,605.2
Interest on long-term fixed-rate debt	465.0	71.8	104.7	88.6	199.9
Noncancellable operating leases ⁽⁵⁾	187.3	39.0	56.7	38.0	53.6
Purchase obligations ⁽⁶⁾	390.6	365.2	24.4	0.9	0.1
Restructuring and other	30.0	27.0	3.0		
Total	\$3,252.4	\$812.6	\$ 397.0	\$ 184.0	\$1,858.8

(1) The liability for uncertain tax positions was not included in the table of contractual obligations as of December 31, 2017 because the timing of the settlements of these uncertain tax positions cannot be reasonably estimated at this time. See Note 8 to the consolidated financial statements included in this Appendix.

- (2) See Note 9 to the consolidated financial statements included in this Appendix.
- (3) Represents a capital lease for a building and land associated with the Cameca SAS acquisition. The lease has a term of 12 years, which began in July 2006, and is payable quarterly.
- (4) Excludes debt issuance costs of \$5.2 million, of which \$1.5 million is classified as current and \$3.7 million is classified as long-term. See Note 9 to the consolidated financial statements included in this Appendix.
- (5) The leases expire over a range of years from 2018 to 2082 with renewal or purchase options, subject to various terms and conditions, contained in most of the leases.
- (6) Purchase obligations primarily consist of contractual commitments to purchase certain inventories at fixed prices.

Other Commitments

The Company has standby letters of credit and surety bonds of \$47.3 million related to performance and payment guarantees at December 31, 2017. Based on experience with these arrangements, the Company believes that any obligations that may arise will not be material to its financial position.

Critical Accounting Policies

The Company has identified its critical accounting policies as those accounting policies that can have a significant impact on the presentation of the Company's financial condition and results of operations and that require the use of complex and subjective estimates based on the Company's historical experience and management's judgment. Because of the uncertainty inherent in such estimates, actual results may differ materially from the estimates used. The consolidated financial statements and related notes contain information that is pertinent to the Company's accounting policies and to Management's Discussion and Analysis. The information that follows represents additional specific disclosures about the Company's accounting policies regarding risks, estimates, subjective decisions or assessments whereby materially different financial condition and results of operations could have been reported had different assumptions been used or different conditions existed. Primary disclosure of the Company's significant accounting policies is in Note 1 to the consolidated financial statements included in this Appendix.

• Revenue Recognition. The Company recognizes revenue on product sales in the period when the sales process is complete. This generally occurs when products are shipped to the customer in accordance with terms of an agreement of sale, under which title and risk of loss have been transferred, collectability is reasonably assured and pricing is fixed or determinable. For a small percentage of sales where title and risk of loss passes at point of delivery, the Company recognizes revenue upon delivery to the customer, assuming all other criteria for revenue recognition are met. The Company's policy with respect to sales returns and allowances generally provides that the customer may not return products or be given allowances, except at the Company's option. The Company has agreements with distributors that do not provide expanded rights of return for unsold products. The distributor purchases the product from the Company, at which time title and risk of loss transfers to the distributor. The Company does not offer substantial sales incentives and credits to its distributors other than volume discounts. The Company accounts for these sales incentives as a reduction of revenues when the sale is recognized in the consolidated statement of income. Accruals for sales returns, other allowances and estimated warranty costs are provided at the time revenue is recognized based on the Company's historical experience. At December 31, 2017 and 2016, the accrual for future warranty obligations was \$22.9 million and \$22.0 million, respectively. The Company's expense for warranty obligations was \$16.0 million in both 2017 and 2016, and \$14.8 million in 2015, respectively. The warranty periods for products sold vary among the Company's operations, but generally do not exceed one year. The Company calculates its warranty expense provision based on its historical warranty experience and adjustments are made periodically to reflect actual warranty expenses. If actual future sales returns and allowances and warranty amounts are higher than the Company's historical experience, additional accruals may be required.

- Accounts Receivable. The Company maintains allowances for estimated losses resulting from the inability of specific customers to meet their financial obligations to the Company. A specific allowance for doubtful accounts is recorded against the amount due from these customers. For all other customers, the Company recognizes allowance for doubtful accounts based on the length of time specific receivables are past due based on its historical experience. If the financial condition of the Company's customers were to deteriorate, resulting in their inability to make payments, additional allowances may be required. The allowance for doubtful accounts was \$10.4 million and \$10.3 million at December 31, 2017 and 2016, respectively.
- *Inventories.* The Company uses the first-in, first-out ("FIFO") method of accounting, which approximates current replacement cost, for approximately 84% of its inventories at December 31, 2017. The last-in, first-out ("LIFO") method of accounting is used to determine cost for the remaining 16% of the Company's inventory at December 31, 2017. For inventories where cost is determined by the LIFO method, the FIFO value would have been \$22.9 million and \$18.4 million higher than the LIFO value reported in the consolidated balance sheet at December 31, 2017 and 2016, respectively. The Company provides estimated inventory reserves for slow-moving and obsolete inventory based on current assessments about future demand, market conditions, customers who may be experiencing financial difficulties and related management initiatives. If these factors are less favorable than those projected by management, additional inventory reserves may be required.
- *Business Combinations.* The Company allocates the purchase price of an acquired company, including when applicable, the acquisition date fair value of contingent consideration between tangible and intangible assets acquired and liabilities assumed from the acquired business based on their estimated fair values, with the residual of the purchase price recorded as goodwill. Third party appraisal firms and other consultants are engaged to assist management in determining the fair values of certain assets acquired and liabilities assumed. Estimating fair values requires significant judgments, estimates and assumptions, including but not limited to: discount rates, future cash flows and the economic lives of trade names, technology, customer relationships, property, plant and equipment, as well as income taxes. These estimates are based on historical experience and information obtained from the management of the acquired companies, and are inherently uncertain.
- Goodwill and Other Intangible Assets. Goodwill and other intangible assets with indefinite lives, primarily trademarks and trade names, are not amortized; rather, they are tested for impairment at least annually. For the purpose of the goodwill impairment test, the Company can elect to perform a qualitative analysis to determine if it is more likely than not that the fair values of its reporting units are less than the respective carrying values of those reporting units. The Company elected to bypass performing the qualitative screen and performed the first step quantitative analysis of the goodwill impairment test in the current year. The Company may elect to perform the qualitative analysis in future periods. The first step in the quantitative process is to compare the carrying amount of the reporting unit's net assets to the fair value of the reporting unit. If the fair value exceeds the carrying value, no further evaluation is required and no impairment loss is recognized. An impairment charge would be recognized to the extent the carrying amount of goodwill exceeds the reporting unit fair value.

The Company identifies its reporting units at the component level, which is one level below its operating segments. Generally, goodwill arises from acquisitions of specific operating companies and is assigned to the reporting unit in which a particular operating company resides. The Company's reporting units are divisions that are one level below its operating segments and for which discrete financial information is prepared and regularly reviewed by segment management.

The Company principally relies on a discounted cash flow analysis to determine the fair value of each reporting unit, which considers forecasted cash flows discounted at an appropriate discount rate. The Company believes that market participants would use a discounted cash flow analysis to determine the fair value of its reporting units in a sale transaction. The annual goodwill impairment test requires the Company to make a number of assumptions and estimates concerning future levels of revenue growth, operating margins, depreciation, amortization and working capital requirements, which are based on the Company's long-range plan and are considered level 3 inputs. The Company's long-range plan is updated as part of its annual planning process and is reviewed and approved by management. The discount rate is an estimate of the overall after-tax rate of return required by a market participant whose weighted average cost of capital includes both equity and debt, including a risk premium. While the Company uses the best available information to prepare its cash flow and discount rate assumptions, actual future cash flows or market conditions could differ significantly resulting in future impairment charges related to recorded goodwill balances. While there are always changes in assumptions to reflect changing business and market conditions, the Company's overall methodology and the population of assumptions used have remained unchanged. In order to evaluate the sensitivity of the goodwill impairment test to changes in the fair value calculations, the Company applied a hypothetical 10% decrease in fair values of each reporting unit. The 2017 results (expressed as a percentage of carrying value for the respective reporting unit) showed that, despite the hypothetical 10% decrease in fair value, the fair values of the Company's reporting units still exceeded their respective carrying values by 20% to 670% for each of the Company's reporting units.

The impairment test for indefinite-lived intangibles other than goodwill (primarily trademarks and trade names) consists of a comparison of the fair value of the indefinite-lived intangible asset to the carrying value of the asset as of the impairment testing date. The Company can elect to perform a qualitative analysis to determine if it is more likely than not that the fair values of its indefinite-lived intangible assets are less than the respective carrying values of those assets. The Company elected to bypass performing the qualitative screen. The Company may elect to perform the qualitative analysis in future periods. The Company estimates the fair value of its indefinite-lived intangibles using the relief from royalty method using level 3 inputs. The Company believes the relief from royalty method is a widely used valuation technique for such assets. The fair value derived from the relief from royalty method is measured as the discounted cash flow savings realized from owning such trademarks and trade names and not having to pay a royalty for their use.

The Company's acquisitions have generally included a significant goodwill component and the Company expects to continue to make acquisitions. At December 31, 2017, goodwill and other indefinite-lived intangible assets totaled \$3,724.6 million or 47.7% of the Company's total assets. The Company completed its required annual impairment tests in the fourth quarter of 2017 and determined that the carrying values of the Company's goodwill were not impaired.

Other intangible assets with finite lives are evaluated for impairment when events or changes in circumstances indicate the carrying value may not be recoverable. The carrying value of other intangible assets with finite lives is considered impaired when the total projected undiscounted cash flows from those assets are separately identifiable and are less than the carrying value. In that event, a loss is recognized based on the amount by which the carrying value exceeds the fair value of those assets. Fair value is determined primarily using present value techniques based on projected cash flows from the asset group.

Pensions. The Company has U.S. and foreign defined benefit and defined contribution pension plans. The most significant elements in determining the Company's pension income or expense are the assumed pension liability discount rate and the expected return on plan assets. The pension discount rate reflects the current interest rate at which the pension liabilities could be settled at the valuation date. At the end of each vear, the Company determines the assumed discount rate to be used to discount plan liabilities. In estimating this rate for 2017, the Company considered rates of return on high-quality, fixed-income investments that have maturities consistent with the anticipated funding requirements of the plan. The discount rate used in determining the 2017 pension cost was 7.50% for U.S. defined benefit pension plans and 6.79% for foreign plans. The discount rate used for determining the funded status of the plans at December 31, 2017 and determining the 2018 defined benefit pension cost was 7.50% for U.S. plans and 6.79% for foreign plans. In estimating the U.S. and foreign discount rates, the Company's actuaries developed a customized discount rate appropriate to the plans' projected benefit cash flow based on yields derived from a database of long-term bonds at consistent maturity dates. The Company used an expected long-term rate of return on plan assets for 2017 of 7.50% for U.S. defined benefit pension plans and 6.79% for foreign plans. In 2018, the Company will use 7.50% for the U.S. plans and 6.64% for the foreign plans. The Company determines the expected long-term rate of return based primarily on its expectation of future returns for the pension plans' investments. Additionally, the Company considers historical returns on comparable fixed-income and equity investments, and adjusts its estimate as deemed appropriate. The rate of compensation increase used in determining the 2017 pension income for the U.S. plans was 3.75% and was 2.50% for the foreign plans. The U.S. and foreign plans' rate of compensation increase will remain unchanged in 2018. In both 2017 and 2016, the Company recognized consolidated pre-tax pension income of \$4.3 million from its U.S. and foreign defined benefit pension plans. The Company estimates its 2018 U.S. and foreign defined benefit pension pre-tax income to be approximately \$15 million.

All unrecognized prior service costs, remaining transition obligations or assets and actuarial gains and losses have been recognized, net of tax effects, as a charge to accumulated other comprehensive income in stockholders' equity and will be amortized as a component of net periodic pension cost. The Company uses a measurement date of December 31 (its fiscal year end) for its U.S. and foreign defined benefit plans.

To fund the plans, the Company made cash contributions to its defined benefit pension plans in 2017, which totaled \$54.8 million, compared with \$6.8 million in 2016. The Company anticipates making approximately \$2 million to \$6 million in cash contributions to its defined benefit pension plans in 2018.

• *Income Taxes.* The process of providing for income taxes and determining the related balance sheet accounts requires management to assess uncertainties, make judgments regarding outcomes and utilize estimates. The Company conducts a broad range of operations around the world and is therefore subject to complex tax regulations in numerous international taxing jurisdictions, resulting at times in tax audits, disputes and potential litigation, the outcome of which is uncertain. Management must make judgments currently about such uncertainties and determine estimates of the Company's tax assets and liabilities. To the extent the final outcome differs, future adjustments to the Company's tax assets and liabilities may be necessary.

The Company assesses the realizability of its deferred tax assets, taking into consideration the Company's forecast of future taxable income, available net operating loss carryforwards and available tax planning strategies that could be implemented to realize the deferred tax assets. Based on this assessment, management must evaluate the need for, and the amount of, valuation allowances against the Company's deferred tax assets. To the extent facts and circumstances change in the future, adjustments to the valuation allowances may be required.

The Company assesses the uncertainty in its tax positions, by applying a minimum recognition threshold which a tax position is required to meet before a tax benefit is recognized in the financial statements. Once the minimum threshold is met, using a more likely than not standard, a series of probability estimates is made for each item to properly measure and record a tax benefit. The tax benefit recorded is generally equal to the highest probable outcome that is more than 50% likely to be realized after full disclosure and resolution of a tax examination. The underlying probabilities are determined based on the best available objective evidence such as recent tax audit outcomes, published guidance, external expert opinion, or by analogy to the outcome of similar issues in the past. There can be no assurance that these estimates will ultimately be realized given continuous changes in tax policy, legislation and audit practice. The Company recognizes interest and penalties accrued related to uncertain tax positions in income tax expense.

Recent Accounting Pronouncements

In May 2014, the FASB issued ASU No. 2014-09, *Revenue from Contracts with Customers* ("ASU 2014-09") and modified the standard thereafter. The objective of ASU 2014-09 is to establish a single comprehensive model for entities to use in accounting for revenue arising from contracts with customers and will supersede most of the existing revenue recognition guidance. The core principle of ASU 2014-09 is that an entity recognizes revenue at the transfer of control of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. ASU 2014-09 applies to all contracts with customers except those that are within the scope of other topics in the FASB Accounting Standards Codification.

ASU 2014-09 is effective for interim and annual reporting periods beginning after December 15, 2017 and may be early adopted for interim and annual reporting periods beginning after December 15, 2016. The Company adopted ASU 2014-09 as of January 1, 2018. The guidance permits adoption by retrospectively applying the guidance to each prior reporting period presented (full retrospective method) or prospectively applying the guidance and providing additional disclosures comparing results to previous guidance, with the cumulative effect of initially applying the guidance recognized in beginning retained earnings at the date of initial application (modified retrospective method). The Company will use the modified retrospective method of adoption.

ASU 2014-09 will impact the Company's revenue recognition procedures by requiring recognition of certain revenues to move from upon shipment or delivery to over-time. The recording of certain revenues over-time is not expected to have a material impact on the Company's consolidated results of operations or financial position. Also, the Company has developed the additional expanded disclosures required. The Company has implemented the appropriate changes to its business processes to support recognition and disclosure under ASU 2014-09. The Company does not expect the adoption of ASU 2014-09 to have a material impact on its consolidated results of operations, financial position and cash flows.

In July 2015, the FASB issued ASU No. 2015-11, *Simplifying the Measurement of Inventory* ("ASU 2015-11"), which applies to inventory that is measured using FIFO or average cost. As prescribed in this update, an entity should measure inventory that is within scope at the lower of cost and net realizable value, which is the estimated selling prices in the ordinary course of business, less reasonably predictable costs of completion, disposal and transportation. Subsequent measurement is unchanged for inventory that is measured using LIFO. The Company prospectively adopted ASU 2015-11 effective January 1, 2017 and the adoption did not have a significant impact on the Company's consolidated results of operations, financial position or cash flows.

In November 2015, the FASB issued ASU No. 2015-17, *Balance Sheet Classification of Deferred Taxes* ("ASU 2015-17"). ASU 2015-17 simplifies the presentation of deferred taxes by requiring deferred tax assets and liabilities be classified as noncurrent on the consolidated balance sheet. The Company prospectively adopted ASU 2015-17 effective January 1, 2017. Therefore, prior periods have not been adjusted to reflect this adoption. The adoption of ASU 2015-17 did not have a significant impact on the Company's consolidated results of operations, financial position or cash flows.

In February 2016, the FASB issued ASU No. 2016-02, *Leases* ("ASU 2016-02"). The new standard establishes a right-of-use model that requires a lessee to record a right-of-use asset and a lease liability on the balance sheet for all leases with terms longer than twelve months. Leases will be classified as either finance or operating, with classification affecting the pattern of expense recognition in the income statement. ASU 2016-02 is effective for interim and annual reporting periods beginning after December 15, 2018 and early adoption is permitted. ASU 2016-02 includes transitional guidance, as currently issued, that calls for a modified retrospective approach. The FASB has recently proposed adding a transition option to the current guidance and it includes optional practical expedients for ease of transition. The Company has formed a steering committee to lead the Company's implementation project. The Company has not determined the impact ASU 2016-02 may have on the Company's consolidated results of operations, financial position, cash flows and financial statement disclosures, which could be significant to the Company's financial position.

In March 2016, the FASB issued ASU 2016-09, *Improvements to Employee Share-Based Payment Accounting*. ASU 2016-09 includes changes to the accounting for share-based payment transactions, including the income tax consequences, classification of awards as either equity or liabilities and classification on the statement of cash flows. The Company prospectively adopted ASU 2016-09 effective January 1, 2017. For the year ended December 31, 2017, the Company recorded a tax benefit of \$12.3 million within Provision for income taxes related to the tax effects of share-based payment transactions. Prior to adoption, this amount would have been recorded as a component of Capital in excess of par value. The adoption of this standard could create volatility in the Company's effective tax rate going forward. The Company no longer reclassifies the excess tax benefits from share-based payments from operating activities to financing activities in the consolidated statement of cash flows. For the year ended December 31, 2017, the Company excluded the excess tax benefits from the assumed proceeds available to repurchase shares in the computation of its diluted earnings per share and the related increase in the Company's diluted weighted average common shares outstanding was not significant.

In January 2017, the FASB issued ASU No. 2017-01, *Clarifying the Definition of a Business* ("ASU 2017-01"). ASU 2017-01 provides a more robust framework to use in determining when a set of assets and activities is a business. ASU 2017-01 requires an entity to evaluate if substantially all of the fair value of the gross assets acquired is concentrated in a single identifiable asset or a group of similar identifiable assets; if so, the set of assets is not a business. ASU 2017-01 requires that, to be a business, the set must include, at a minimum, an input and a substantive process that together significantly contribute to the ability to create outputs. ASU 2017-01 is effective for interim and annual reporting periods beginning after December 15, 2017. ASU 2017-01 will be applied prospectively to any transactions occurring within the period of adoption. Early adoption is permitted, including for interim or annual periods in which the financial statements have not been issued or made available for issuance. The Company does not expect the adoption of ASU 2017-01 to have a significant impact on the Company's consolidated results of operations, financial position, cash flows and financial statement disclosures.

In January 2017, the FASB issued ASU No. 2017-04, *Simplifying the Test for Goodwill Impairment* ("ASU 2017-04"). ASU 2017-04 eliminates the requirement to calculate the reporting unit fair value of goodwill (second step) to measure a goodwill impairment charge. Under the guidance, an impairment charge will be measured based on the excess of the reporting unit's carrying amount over its fair value (first step). ASU 2017-04 is effective for interim and annual reporting periods beginning after December 15, 2019 and early adoption is permitted. The Company early adopted ASU 2017-04 effective January 1, 2017 and the adoption did not have a significant impact on the Company's consolidated results of operations, financial position, cash flows and financial statement disclosures.

In March 2017, the FASB issued ASU No. 2017-07, *Improving the Presentation of Net Periodic Pension Cost and Net Periodic Postretirement Benefit Cost* ("ASU 2017-07"), which changes how employers that sponsor defined benefit pension and/or other postretirement benefit plans present the net periodic benefit cost in the income statement. ASU 2017-07 requires employers to present the service cost component of net periodic benefit cost in the same income statement line item as other employee compensation costs. All other components of the net periodic benefit cost will be presented outside of operating income. ASU 2017-07 is effective for interim and annual reporting periods beginning after December 15, 2017. The changes in presentation will be applied retrospectively when adopted. The Company expects restated 2017 Cost of sales to increase \$11.5 million with an offsetting \$11.5 million increase to Other operating income. The 2018 service cost included in operating income is expected to approximate 2017 service cost of \$7.1 million. The Company does not expect the adoption of ASU 2017-07 to have a significant impact on the Company's consolidated financial position, cash flows and financial statement disclosures.

In May 2017, the FASB issued ASU No. 2017-09, *Scope of Modification Accounting* ("ASU 2017-09"). ASU 2017-09 clarifies which changes to the terms or conditions of a share-based payment award require an entity to apply modification accounting. ASU 2017-09 is effective for interim and annual reporting periods beginning after December 15, 2017 and early adoption is permitted. The Company does not expect the adoption of ASU 2017-09 to have a significant impact on the Company's consolidated results of operations, financial position or cash flows.

Internal Reinvestment

Capital Expenditures

Capital expenditures were \$75.1 million or 1.7% of net sales in 2017, compared with \$63.3 million or 1.6% of net sales in 2016. In 2017, approximately 55% of capital expenditures were for improvements to existing equipment or additional equipment to increase productivity and expand capacity. Capital expenditures in 2018 are expected to approximate 2% of net sales, with a continued emphasis on spending to improve productivity.

Research, Development and Engineering

The Company is committed to, and has consistently invested in, research, development and engineering activities to design and develop new and improved products and solutions. Research, development and engineering costs before customer reimbursement were \$221.2 million in 2017 and \$200.8 million in both 2016 and 2015. Customer reimbursements in 2017, 2016 and 2015 were \$5.4 million, \$7.2 million and \$6.9 million, respectively. These amounts included research and development expenses of \$130.4 million, \$112.0 million and \$116.3 million in 2017, 2016 and 2015, respectively. All such expenditures were directed toward the development of new products and solutions and the improvement of existing products and solutions.

Environmental Matters

Certain historic processes in the manufacture of products have resulted in environmentally hazardous waste by-products as defined by federal and state laws and regulations. The Company believes these waste products were handled in compliance with regulations existing at that time. At December 31, 2017, the Company is named a Potentially Responsible Party ("PRP") at 13 non-AMETEK-owned former waste disposal or treatment sites (the "non-owned" sites). The Company is identified as a "de minimis" party in 12 of these sites based on the low volume of waste attributed to the Company relative to the amounts attributed to other named PRPs. In eight of these sites, the Company has reached a tentative agreement on the cost of the de minimis settlement to satisfy its obligation and is awaiting executed agreements. The tentatively agreed-to settlement amounts are fully reserved. In the other four sites, the Company is continuing to investigate the accuracy of the alleged volume attributed to the Company as estimated by the parties primarily responsible for remedial activity at the sites to establish an appropriate settlement amount. At the remaining site where the Company is a non-de minimis PRP, the Company is participating in the investigation and/or related required remediation as part of a PRP Group and reserves have been established sufficient to satisfy the Company's expected obligations. The Company historically has resolved these issues within established reserve levels and reasonably expects this result will continue. In addition to these non-owned sites, the Company has an ongoing practice of providing reserves for probable remediation activities at certain of its current or previously owned manufacturing locations (the "owned" sites). For claims and proceedings against the Company with respect to other environmental matters, reserves are established once the Company has determined that a loss is probable and estimable. This estimate is refined as the Company moves through the various stages of investigation, risk assessment, feasibility study and corrective action processes. In certain instances, the Company has developed a range of estimates for such costs and has recorded a liability based on the best estimate. It is reasonably possible that the actual cost of remediation of the individual sites could vary from the current estimates and the amounts accrued in the consolidated financial statements; however, the amounts of such variances are not expected to result in a material change to the consolidated financial statements. In estimating the Company's liability for remediation, the Company also considers the likely proportionate share of the anticipated remediation expense and the ability of the other PRPs to fulfill their obligations.

Total environmental reserves at December 31, 2017 and 2016 were \$30.1 million and \$28.4 million, respectively, for both non-owned and owned sites. In 2017, the Company recorded \$7.7 million in reserves and the reserve increased \$0.4 million due to foreign currency translation. Additionally, the Company spent \$6.4 million on environmental matters in 2017. The Company's reserves for environmental liabilities at December 31, 2017 and 2016 included reserves of \$11.6 million and \$12.4 million, respectively, for an owned site acquired in connection with the 2005 acquisition of HCC Industries ("HCC"). The Company is the designated performing party for the performance of remedial activities for one of several operating units making up a Superfund site in the San Gabriel Valley of California. The Company has obtained indemnifications and other financial assurances from the former owners of HCC related to the costs of the required remedial activities. At December 31, 2017, the Company had \$12.0 million in receivables related to HCC for probable recoveries from third-party escrow funds and other committed third-party funds to support the required remediation. Also, the Company is indemnified by HCC's former owners for approximately \$19 million of additional costs.

The Company has agreements with other former owners of certain of its acquired businesses, as well as new owners of previously owned businesses. Under certain of the agreements, the former or new owners retained, or assumed and agreed to indemnify the Company against, certain environmental and other liabilities under certain circumstances. The Company and some of these other parties also carry insurance coverage for some environmental matters. To date, these parties have met their obligations in all material respects.

The Company believes it has established reserves for the environmental matters described above, which are sufficient to perform all known responsibilities under existing claims and consent orders. The Company has no reason to believe that other third parties would fail to perform their obligations in the future. In the opinion of management, based on presently available information and the Company's historical experience related to such matters, an adequate provision for probable costs has been made and the ultimate cost resulting from these actions is not expected to materially affect the consolidated results of operations, financial position or cash flows of the Company.

The Company has been remediating groundwater contamination for several contaminants, including trichloroethylene ("TCE"), at a formerly owned site in El Cajon, California. Several lawsuits have been filed against the Company alleging damages resulting from the groundwater contamination, including property damages and personal injury, and seeking compensatory and punitive damages. Given the state of uncertainty inherent in these litigations, the Company does not believe it is possible to develop estimates of reasonably possible loss in regard to these matters. The Company believes that it has good and valid defenses to each of these claims and intends to defend them vigorously. The Company does not expect the outcome of these matters, either individually or in the aggregate, to materially affect the consolidated results of operations, financial position or cash flows of the Company.

Market Risk

The Company's primary exposures to market risk are fluctuations in interest rates, foreign currency exchange rates and commodity prices, which could impact its financial condition and results of operations. The Company addresses its exposure to these risks through its normal operating and financing activities. The Company's differentiated and global business activities help to reduce the impact that any particular market risk may have on its operating income as a whole.

The Company's short-term debt carries variable interest rates and generally its long-term debt carries fixed rates. These financial instruments are more fully described in the Notes to the consolidated financial statements.

The foreign currencies to which the Company has the most significant exchange rate exposure are the Euro, the British pound, the Japanese yen, the Chinese renminbi, the Canadian dollar, the Mexican peso and the Swiss franc. Exposure to foreign currency rate fluctuation is modest, monitored, and when possible, mitigated through the use of local borrowings and occasional derivative financial instruments in the foreign currency affected. The effect of translating foreign subsidiaries' balance sheets into U.S. dollars is included in other comprehensive income within stockholders' equity. Foreign currency transactions have not had a significant effect on the operating results reported by the Company because revenues and costs associated with the revenues are generally transacted in the same foreign currencies.

The primary commodities to which the Company has market exposure are raw material purchases of nickel, aluminum, copper, steel, titanium and gold. Exposure to price changes in these commodities are generally mitigated through adjustments in selling prices of the ultimate product and purchase order pricing arrangements, although forward contracts are sometimes used to manage some of those exposures.

Based on a hypothetical ten percent adverse movement in interest rates, commodity prices or foreign currency exchange rates, the Company's best estimate is that the potential losses in future earnings, fair value of risk-sensitive financial instruments and cash flows are not material, although the actual effects may differ materially from the hypothetical analysis.

Forward-Looking Information

Certain matters discussed in this Appendix are "forward-looking statements" as defined in the Private Securities Litigation Reform Act of 1995 ("PSLRA"), which involve risk and uncertainties that exist in the Company's operations and business environment and can be affected by inaccurate assumptions, or by known or unknown risks and uncertainties. Many such factors will be important in determining the Company's actual future results. The Company wishes to take advantage of the "safe harbor" provisions of the PSLRA by cautioning readers that numerous important factors, in some cases have caused, and in the future could cause, the Company's actual results to differ materially from those expressed in any forward-looking statements made by, or on behalf of, the Company. Some, but not all, of the factors or uncertainties that could cause actual results to differ from present expectations are contained in the Company's Form 10-K for the year ended December 31, 2017 filed with the Securities and Exchange Commission. The Company undertakes no obligation to publicly update any forward-looking statements, whether as a result of new information, subsequent events or otherwise, unless required by the securities laws to do so.

Management's Responsibility for Financial Statements

Management has prepared and is responsible for the integrity of the consolidated financial statements and related information. The statements are prepared in conformity with U.S. generally accepted accounting principles consistently applied and include certain amounts based on management's best estimates and judgments. Historical financial information elsewhere in this report is consistent with that in the financial statements.

In meeting its responsibility for the reliability of the financial information, management maintains a system of internal accounting and disclosure controls, including an internal audit program. The system of controls provides for appropriate division of responsibility and the application of written policies and procedures. That system, which undergoes continual reevaluation, is designed to provide reasonable assurance that assets are safeguarded and records are adequate for the preparation of reliable financial data.

Management is responsible for establishing and maintaining adequate internal control over financial reporting. AMETEK, Inc. maintains a system of internal controls that is designed to provide reasonable assurance as to the fair and reliable preparation and presentation of the consolidated financial statements; however, there are inherent limitations in the effectiveness of any system of internal controls.

Management recognizes its responsibility for conducting the Company's activities according to the highest standards of personal and corporate conduct. That responsibility is characterized and reflected in a code of business conduct for all employees and in a financial code of ethics for the Chief Executive Officer and Senior Financial Officers, as well as in other key policy statements publicized throughout the Company.

The Audit Committee of the Board of Directors, which is composed solely of independent directors who are not employees of the Company, meets with the independent registered public accounting firm, the internal auditors and management to satisfy itself that each is properly discharging its responsibilities. The report of the Audit Committee is included in the Company's Proxy Statement for the 2018 Annual Meeting of Stockholders. Both the independent registered public accounting firm and the internal auditors have direct access to the Audit Committee.

The Company's independent registered public accounting firm, Ernst & Young LLP, is engaged to render an opinion as to whether management's financial statements present fairly, in all material respects, the Company's financial position and operating results. This report is included herein.

Management's Report on Internal Control over Financial Reporting

Management of the Company is responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined in the Exchange Act Rules 13a-15(f) and 15d-15(f). Under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, AMETEK, Inc. conducted an evaluation of the effectiveness of the Company's internal control over financial reporting as of December 31, 2017 based on criteria established in Internal Control – Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework). Based on that evaluation, our management concluded that the Company's internal control over financial reporting was effective as of December 31, 2017.

The Company acquired Rauland-Borg Corporation ("Rauland") in February 2017, MOCON, Inc. in June 2017 and Arizona Instrument LLC in December 2017. As permitted by the U.S. Securities and Exchange Commission staff interpretative guidance for newly acquired businesses, the Company excluded Rauland, MOCON and Arizona Instrument from management's assessment of the effectiveness of the Company's internal control over financial reporting as of December 31, 2017. In the aggregate, Rauland, MOCON and Arizona Instrument constituted 8.4% of total assets as of December 31, 2017 and 4.5% of net sales for the year then ended.

The Company's internal control over financial reporting as of December 31, 2017 has been audited by Ernst & Young LLP, an independent registered public accounting firm, as stated in their report, which is included herein.

David a Zapier

Chairman of the Board and Chief Executive Officer

William J Burke

Executive Vice President - Chief Financial Officer

February 22, 2018

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM ON INTERNAL CONTROL OVER FINANCIAL REPORTING

To the Board of Directors and Stockholders of AMETEK, Inc.:

Opinion on Internal Control over Financial Reporting

We have audited AMETEK, Inc.'s internal control over financial reporting as of December 31, 2017, based on criteria established in Internal Control — Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) (the "COSO criteria"). In our opinion, AMETEK, Inc. (the "Company") maintained, in all material respects, effective internal control over financial reporting as of December 31, 2017, based on the COSO criteria.

As indicated in the accompanying *Management's Report on Internal Control Over Financial Reporting*, management's assessment of and conclusion on the effectiveness of internal control over financial reporting did not include the internal controls of Rauland-Borg Corporation ("Rauland"), MOCON, Inc. and Arizona Instrument LLC, which are included in the 2017 consolidated financial statements of the Company and constituted 8.4% of total assets as of December 31, 2017 and 4.5% of net sales for the year then ended. Our audit of internal control over financial reporting of the Company also did not include an evaluation of the internal control over financial reporting of Rauland, MOCON and Arizona Instrument.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) ("PCAOB"), the consolidated balance sheets of AMETEK, Inc. as of December 31, 2017 and 2016 and the related consolidated statements of income, comprehensive income, stockholders' equity and cash flows for each of the three years in the period ended December 31, 2017 and the related notes and our report dated February 22, 2018 expressed an unqualified opinion thereon.

Basis for Opinion

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

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects.

Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control Over Financial Reporting

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

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

Ernet + Young LLP

Philadelphia, Pennsylvania February 22, 2018

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM ON FINANCIAL STATEMENTS

To the Board of Directors and Stockholders of AMETEK, Inc.:

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of AMETEK, Inc. (the "Company") as of December 31, 2017 and 2016, and the related consolidated statements of income, comprehensive income, stockholders' equity and cash flows for each of the three years in the period ended December 31, 2017, and the related notes (collectively referred to as the "consolidated financial statements"). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2017 and 2016, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2017, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) ("PCAOB"), AMETEK, Inc.'s internal control over financial reporting as of December 31, 2017, based on criteria established in Internal Control – Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) and our report dated February 22, 2018 expressed an unqualified opinion thereon.

Basis for Opinion

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

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

Ernet + Young LLP

We have served as the Company's auditor since 1930.

Philadelphia, Pennsylvania February 22, 2018

AMETEK, Inc. Consolidated Statement of Income (In thousands, except per share amounts)

	_	Year Ended December 31,			
	2017 2016 2			2015	
Net sales	\$4	4,300,170	\$3,840,087	\$3	,974,295
Operating expenses:					
Cost of sales		2,851,431	2,575,220	2	,617,987
Selling, general and administrative		533,645	462,970		448,592
Total operating expenses		3,385,076	3,038,190	3	,066,579
Operating income	. –	915,094	801,897		907,716
Other expenses:					
Interest expense		(98,029)	(94,304)		(91,795)
Other, net	·	(20,336)	(14,490)		(9,541)
Income before income taxes		796,729	693,103		806,380
Provision for income taxes		115,259	180,945		215,521
Net income	. \$	681,470	\$ 512,158	\$	590,859
Basic earnings per share	. \$	2.96	\$ 2.20	\$	2.46
Diluted earnings per share	. \$	2.94	\$ 2.19	\$	2.45
Weighted average common shares outstanding:					
Basic shares		230,229	232,593		239,906
Diluted shares		231,845	233,730		241,586

AMETEK, Inc. Consolidated Statement of Comprehensive Income (In thousands)

	Year Ended December 31,		
	2017	2016	2015
Net income	\$ 681,470	\$ 512,158	\$ 590,859
Other comprehensive (loss) income:			
Amounts arising during the period — gains (losses), net of tax (expense) benefit:			
Foreign currency translation:			
Translation adjustments	159,507	(68,774)	(67,245)
Change in long-term intercompany notes	36,320	(7,597)	(51,235)
Net investment hedge instruments, net of tax of \$41,178, \$6,558 and \$3,432			
in 2017, 2016 and 2015, respectively	(109,412)	(12,179)	(6,374)
Defined benefit pension plans:			
Net actuarial gain (loss), net of tax of (\$8,384), \$17,450 and \$12,870 in			
2017, 2016 and 2015, respectively	16,518	(55,259)	(21,002)
Amortization of net actuarial loss, net of tax of (\$4,680), (\$2,090) and	0.010	c (10	< 10 5
(\$3,247) in 2017, 2016 and 2015, respectively	9,910	6,618	6,137
Amortization of prior service costs, net of tax of \$4, \$25 and (\$564) in 2017,			1 000
2016 and 2015, respectively	(41)	(79)	1,809
Unrealized holding gain (loss) on available-for-sale securities:			
Unrealized gain (loss), net of tax of (\$221), (\$275) and \$445 in 2017, 2016			(0
and 2015, respectively	411	512	(827)
Other comprehensive income (loss)	113,213	(136,758)	(138,737)
Total comprehensive income	\$ 794,683	\$ 375,400	\$ 452,122

AMETEK, Inc. Consolidated Balance Sheet (In thousands, except share amounts)

	Deceml	oer 31,
	2017	2016
ASSETS		
Current assets:		
Cash and cash equivalents	\$ 646,300	\$ 717,259
Receivables, net	668,176	592,326
Inventories, net	540,504	492,104
Deferred income taxes		50,004
Other current assets	79,675	76,497
Total current assets	1,934,655	1,928,190
Property, plant and equipment, net	493,296	473,230
Goodwill	3,115,619	2,818,950
Other intangibles, net	2,013,365	1,734,021
Investments and other assets	239,129	146,283
Total assets	\$ 7,796,064	\$ 7,100,674
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Short-term borrowings and current portion of long-term debt, net	\$ 308,123	\$ 278,921
Accounts payable	437,329	369,537
Income taxes payable	34,660	29,913
Accrued liabilities	358,551	246,070
Total current liabilities	1,138,663	924,441
Long-term debt, net	1,866,166	2,062,644
Deferred income taxes	512,526	621,776
Other long-term liabilities	251,076	235,300
Total liabilities	3,768,431	3,844,161
Stockholders' equity:		
Preferred stock, \$0.01 par value; authorized 5,000,000 shares; none issued	. —	
Common stock, \$0.01 par value; authorized 800,000,000 shares;		
issued: 2017 – 262,947,829 shares; 2016 – 261,432,134 shares	2,631	2,615
Capital in excess of par value	660,894	604,143
Retained earnings	5,002,419	4,403,683
Accumulated other comprehensive loss	(429,176)	(542,389)
Treasury stock: 2017 - 31,754,106 shares; 2016 - 32,053,227 shares	(1,209,135)	(1,211,539)
Total stockholders' equity	4,027,633	3,256,513
Total liabilities and stockholders' equity	\$ 7,796,064	\$ 7,100,674

AMETEK, Inc. Consolidated Statement of Stockholders' Equity (In thousands)

	Year I	Year Ended Decembe	
	2017	2016	2015
Capital stock			
Preferred stock, \$0.01 par value	. <u>\$ </u>	<u>\$ </u>	<u>\$ </u>
Common stock, \$0.01 par value			
Balance at the beginning of the year		2,608	2,589
Shares issued	. 16	77	19
Balance at the end of the year	2,631	2,615	2,608
Capital in excess of par value			
Balance at the beginning of the year		568,286	491,750
Issuance of common stock under employee stock plans		8,484	32,296
Share-based compensation costs	,	22,030	23,762
Excess tax benefits from exercise of stock options		5,343	20,478
Balance at the end of the year	660,894	604,143	568,286
Retained earnings			
Balance at the beginning of the year		3,974,793	3,469,923
Net income		512,158	590,859
Cash dividends paid	. , ,	(83,267)	(85,988)
Other	1	(1)	(1)
Balance at the end of the year	5,002,419	4,403,683	3,974,793
Accumulated other comprehensive (loss) income			
Foreign currency translation:			
Balance at the beginning of the year		(249,774)	(124,920)
Translation adjustments	,	(68,774)	(67,245)
Change in long-term intercompany notes	. 36,320	(7,597)	(51,235)
Net investment hedge instruments, net of tax of \$41,178, \$6,558 and \$3,432 in 2017, 2016 and 2015 respectively.	(109,412)	(12,179)	(6,374)
2015, respectively			
Balance at the end of the year	(251,909)	(338,324)	(249,774)
Defined benefit pension plans:	(202 759)	(155.020)	(1.41.092)
Balance at the beginning of the year	. (203,758)	(155,038)	(141,982)
Net actuarial gain (loss), net of tax of (\$8,384), \$17,450 and \$12,870 in 2017, 2016 and 2015, respectively	16,518	(55,259)	(21,002)
Amortization of net actuarial loss, net of tax of (\$4,680), (\$2,090) and (\$3,247) in 2017, 2016	10,010	(00,20))	(21,002)
and 2015, respectively	9,910	6,618	6,137
Amortization of prior service costs, net of tax of \$4, \$25 and (\$564) in 2017, 2016 and 2015,			
respectively	. (41)	(79)	1,809
Balance at the end of the year	. (177,371)	(203,758)	(155,038)
Unrealized holding gain (loss) on available-for-sale securities:			
Balance at the beginning of the year	. (307)	(819)	8
Increase (decrease) during the year, net of tax	. 411	512	(827)
Balance at the end of the year	. 104	(307)	(819)
Accumulated other comprehensive loss at the end of the year	(429,176)	(542,389)	(405,631)
Treasury stock			
Balance at the beginning of the year	. (1,211,539)	(885,430)	(457,807)
Issuance of common stock under employee stock plans	. 9,271	10,031	7,777
Purchase of treasury stock	. (6,867)	(336,140)	(435,400)
Balance at the end of the year	(1,209,135)	(1,211,539)	(885,430)
Total stockholders' equity		\$ 3,256,513	\$3,254,626
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AMETEK, Inc. Consolidated Statement of Cash Flows (In thousands)

	Year Ended December 31,		
	2017	2016	2015
Cash provided by (used for):			
Operating activities:			
Net income	\$ 681,470	\$ 512,158	\$ 590,859
Adjustments to reconcile net income to total operating activities:			
Depreciation and amortization	183,227	179,716	149,460
Deferred income taxes	(91,205)	(5,632)	6,458
Share-based compensation expense		22,030	23,762
Gain on sale of facilities	(1,213)	(743)	
Changes in assets and liabilities, net of acquisitions:			
(Increase) decrease in receivables	. , ,	14,773	(6,995)
(Increase) decrease in inventories and other current assets	. , ,	38,666	(12,007)
Increase (decrease) in payables, accruals and income taxes		2,657	(20,049)
Increase (decrease) in other long-term liabilities		(4,298)	255
Pension contribution	())	(6,775)	(55,215)
Other, net	(5,833)	4,283	(3,988)
Total operating activities	833,259	756,835	672,540
Investing activities:			
Additions to property, plant and equipment	(75,074)	(63,280)	(69,083)
Purchases of businesses, net of cash acquired	(556,634)	(391,419)	(356,466)
Proceeds from sale of facilities		1,832	421
Other, net	(399)	500	(429)
Total investing activities	(625,817)	(452,367)	(425,557)
Financing activities:			
Net change in short-term borrowings	(9,616)	(315,674)	226,761
Proceeds from long-term borrowings		820,900	200,000
Repayments of long-term borrowings	(270,000)	(48,724)	(182,007)
Repurchases of common stock	(6,867)	(336,140)	(435,400)
Cash dividends paid	(82,735)	(83,267)	(85,988)
Excess tax benefits from share-based payments		5,343	20,478
Proceeds from employee stock plans and other, net	40,047	14,616	39,192
Total financing activities	(329,171)	57,054	(216,964)
Effect of exchange rate changes on cash and cash equivalents	50,770	(25,268)	(26,629)
(Decrease) increase in cash and cash equivalents	(70,959)	336,254	3,390
Cash and cash equivalents:	. , ,	,	
Beginning of year	717,259	381,005	377,615
End of year		\$ 717,259	\$ 381,005
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AMETEK, Inc. NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

1. Significant Accounting Policies

Basis of Consolidation

The accompanying consolidated financial statements reflect the results of operations, financial position and cash flows of AMETEK, Inc. (the "Company"), and include the accounts of the Company and subsidiaries, after elimination of all intercompany transactions in the consolidation.

Use of Estimates

The preparation of financial statements in conformity with U.S. generally accepted accounting principles ("GAAP") requires management to make estimates and assumptions that affect amounts reported in the financial statements and accompanying notes. Actual results could differ from those estimates and assumptions.

Cash Equivalents, Securities and Other Investments

All highly liquid investments with maturities of three months or less when purchased are considered cash equivalents. At December 31, 2017 and 2016, the Company's investment in a fixed-income mutual fund (held by its captive insurance subsidiary) is classified as "available-for-sale." The aggregate fair value of the fixed-income mutual fund at December 31, 2017 and 2016 was \$8.1 million (\$8.2 million cost basis) and \$7.3 million (\$8.0 million cost basis), respectively. The temporary unrealized gain or loss on the fixed-income mutual fund is recorded as a separate component of accumulated other comprehensive income (in stockholders' equity), and is not significant. Certain of the Company's other investments, which are not significant, are also accounted for by the equity method of accounting.

Accounts Receivable

The Company maintains allowances for estimated losses resulting from the inability of specific customers to meet their financial obligations to the Company. A specific allowance for doubtful accounts is recorded against the amount due from these customers. For all other customers, the Company recognizes allowance for doubtful accounts based on the length of time specific receivables are past due based on its historical experience. The allowance for doubtful accounts was \$10.4 million and \$10.3 million at December 31, 2017 and 2016, respectively. See Note 7.

Inventories

The Company uses the first-in, first-out ("FIFO") method of accounting, which approximates current replacement cost, for approximately 84% of its inventories at December 31, 2017. The last-in, first-out ("LIFO") method of accounting is used to determine cost for the remaining 16% of the Company's inventory at December 31, 2017. For inventories where cost is determined by the LIFO method, the FIFO value would have been \$22.9 million and \$18.4 million higher than the LIFO value reported in the consolidated balance sheet at December 31, 2017 and 2016, respectively. The Company provides estimated inventory reserves for slow-moving and obsolete inventory based on current assessments about future demand, market conditions, customers who may be experiencing financial difficulties and related management initiatives. See Note 7.

Business Combinations

The Company allocates the purchase price of an acquired company, including when applicable, the acquisition date fair value of contingent consideration between tangible and intangible assets acquired and liabilities assumed from the acquired business based on their estimated fair values, with the residual of the purchase price recorded as goodwill. The results of operations of the acquired business are included in the Company's operating results from the date of acquisition. See Note 5.

Property, Plant and Equipment

Property, plant and equipment are stated at cost. Expenditures for additions to plant facilities, or that extend their useful lives, are capitalized. The cost of minor tools, jigs and dies, and maintenance and repairs is charged to expense as incurred. Depreciation of plant and equipment is calculated principally on a straight-line basis over the estimated useful lives of the related assets. The range of lives for depreciable assets is generally three to ten years for machinery and equipment, five to 27 years for leasehold improvements and 25 to 50 years for buildings. Depreciation expense was \$82.0 million, \$74.8 million and \$68.7 million for the years ended December 31, 2017, 2016 and 2015, respectively. See Note 7.

Goodwill and Other Intangible Assets

Goodwill and other intangible assets with indefinite lives, primarily trademarks and trade names, are not amortized; rather, they are tested for impairment at least annually.

The Company identifies its reporting units at the component level, which is one level below its operating segments. Generally, goodwill arises from acquisitions of specific operating companies and is assigned to the reporting unit in which a particular operating company resides. The Company's reporting units are divisions that are one level below its operating segments and for which discrete financial information is prepared and regularly reviewed by segment management.

The Company principally relies on a discounted cash flow analysis to determine the fair value of each reporting unit, which considers forecasted cash flows discounted at an appropriate discount rate. The Company believes that market participants would use a discounted cash flow analysis to determine the fair value of its reporting units in a sale transaction. The annual goodwill impairment test requires the Company to make a number of assumptions and estimates concerning future levels of revenue growth, operating margins, depreciation, amortization and working capital requirements, which are based on the Company's long-range plan and are considered level 3 inputs. The Company's long-range plan is updated as part of its annual planning process and is reviewed and approved by management. The discount rate is an estimate of the overall after-tax rate of return required by a market participant whose weighted average cost of capital includes both equity and debt, including a risk premium. While the Company uses the best available information to prepare its cash flow and discount rate assumptions, actual future cash flows or market conditions could differ significantly resulting in future impairment charges related to recorded goodwill balances.

The impairment test for indefinite-lived intangibles other than goodwill (primarily trademarks and trade names) consists of a comparison of the fair value of the indefinite-lived intangible asset to the carrying value of the asset as of the impairment testing date. The Company estimates the fair value of its indefinite-lived intangibles using the relief from royalty method using level 3 inputs. The fair value derived from the relief from royalty method is measured as the discounted cash flow savings realized from owning such trademarks and trade names and not having to pay a royalty for their use.

The Company completed its required annual impairment tests in the fourth quarter of 2017, 2016 and 2015 and determined that the carrying values of the Company's goodwill were not impaired. The Company completed its required annual impairment tests in the fourth quarter of 2017 and 2015 and determined that the carrying values of the Company's other intangible assets with indefinite lives were not impaired. The Company completed its required annual impairment tests in the fourth quarter of 2016 and determined that the carrying values of certain of the Company's trademarks and trade names with indefinite lives were impaired. During 2016, the Company recorded a \$13.9 million non-cash impairment charge related to certain of the Company's trade names.

Other intangible assets with finite lives are evaluated for impairment when events or changes in circumstances indicate the carrying value may not be recoverable. The carrying value of other intangible assets with finite lives is considered impaired when the total projected undiscounted cash flows from those assets are separately identifiable and are less than the carrying value. In that event, a loss is recognized based on the amount by which the carrying value exceeds the fair value of those assets. Fair value is determined primarily using present value techniques based on projected cash flows from the asset group.

Intangible assets, other than goodwill, with definite lives are amortized over their estimated useful lives. Patents and technology are being amortized over useful lives of five to 20 years, with a weighted average life of 16 years. Customer relationships are being amortized over a period of five to 20 years, with a weighted average life of 19 years. Miscellaneous other intangible assets are being amortized over a period of two to 20 years. On a quarterly basis, the Company evaluates the reasonableness of the estimated useful lives of these intangible assets. See Note 6.

Financial Instruments and Foreign Currency Translation

Assets and liabilities of foreign operations are translated using exchange rates in effect at the balance sheet date and their results of operations are translated using average exchange rates for the year. Certain transactions of the Company and its subsidiaries are denominated in currencies other than their functional currency. Exchange gains and losses from those transactions are included in operating results for the year.

The Company makes infrequent use of derivative financial instruments. Forward contracts are entered into from time to time to hedge specific firm commitments for certain inventory purchases, export sales, debt or foreign currency transactions, thereby minimizing the Company's exposure to raw material commodity price or foreign currency fluctuation.

In instances where transactions are designated as hedges of an underlying item, the gains and losses on those transactions are included in accumulated other comprehensive income within stockholders' equity to the extent they are effective as hedges. An evaluation of hedge effectiveness is performed by the Company on an ongoing basis and any changes in the hedge are made as appropriate. See Note 4.

Revenue Recognition

The Company recognizes revenue on product sales in the period when the sales process is complete. This generally occurs when products are shipped to the customer in accordance with terms of an agreement of sale, under which title and risk of loss have been transferred, collectability is reasonably assured and pricing is fixed or determinable. For a small percentage of sales where title and risk of loss passes at point of delivery, the Company recognizes revenue upon delivery to the customer, assuming all other criteria for revenue recognition are met. The Company's policy, with respect to sales returns and allowances, generally provides that the customer may not return products or be given allowances, except at the Company's option. The Company has agreements with distributors that do not provide expanded rights of return for unsold products. The distributor purchases the product from the Company, at which time title and risk of loss transfers to the distributor. The Company does not offer substantial sales incentives and credits to its distributors other than volume discounts. The Company accounts for these sales incentives as a reduction of revenues when the sale is recognized in the consolidated statement of income. Accruals for sales returns, other allowances and estimated warranty costs are provided at the time revenue is recognized based on the Company's historical experience. The warranty periods for products sold vary among the Company's operations, but generally do not exceed one year. The Company calculates its warranty expense provision based on its historical warranty experience and adjustments are made periodically to reflect actual warranty expenses. See Note 12.

Research and Development

Research and development costs are included in Cost of sales as incurred and were \$130.4 million in 2017, \$112.0 million in 2016 and \$116.3 million in 2015.

Shipping and Handling Costs

Shipping and handling costs are included in Cost of sales and were \$53.1 million in 2017, \$47.9 million in 2016 and \$50.5 million in 2015.

Share-Based Compensation

The Company expenses the fair value of share-based awards made under its share-based plans in the consolidated financial statements over their requisite service period of the grants. See Note 10.

Income Taxes

The Company's process of providing for income taxes and determining the related balance sheet accounts requires management to assess uncertainties, make judgments regarding outcomes and utilize estimates. The Company conducts a broad range of operations around the world and is therefore subject to complex tax regulations in numerous international taxing jurisdictions, resulting at times in tax audits, disputes and potential litigation, the outcome of which is uncertain. Management must make judgments currently about such uncertainties and determine estimates of the Company's tax assets and liabilities. To the extent the final outcome differs, future adjustments to the Company's tax assets and liabilities may be necessary. The Company recognizes interest and penalties accrued related to uncertain tax positions in income tax expense.

The Company assesses the realizability of its deferred tax assets, taking into consideration the Company's forecast of future taxable income, available net operating loss carryforwards and available tax planning strategies that could be implemented to realize the deferred tax assets. Based on this assessment, management must evaluate the need for, and amount of, valuation allowances against the Company's deferred tax assets. To the extent facts and circumstances change in the future, adjustments to the valuation allowances may be required. See Note 8.

Pensions

The Company has U.S. and foreign defined benefit and defined contribution pension plans. The most significant elements in determining the Company's pension income or expense are the assumed pension liability discount rate and the expected return on plan assets. All unrecognized prior service costs, remaining transition obligations or assets and actuarial gains and losses have been recognized, net of tax effects, as a charge to accumulated other comprehensive income in stockholders' equity and will be amortized as a component of net periodic pension cost. The Company uses a measurement date of December 31 (its fiscal year end) for its U.S. and foreign defined benefit plans. See Note 11.

Earnings Per Share

The calculation of basic earnings per share is based on the weighted average number of common shares considered outstanding during the periods. The calculation of diluted earnings per share reflects the effect of all potentially dilutive securities (principally outstanding stock options and restricted stock grants). The number of weighted average shares used in the calculation of basic earnings per share and diluted earnings per share was as follows for the years ended December 31:

	2017	2016	2015
	(I	n thousands	5)
Weighted average shares:			
Basic shares	230,229	232,593	239,906
Equity-based compensation plans	1,616	1,137	1,680
Diluted shares	231,845	233,730	241,586

2. Recent Accounting Pronouncements

In May 2014, the Financial Accounting Standards Board ("FASB") issued Accounting Standards Update ("ASU") No. 2014-09, *Revenue from Contracts with Customers* ("ASU 2014-09") and modified the standard thereafter. The objective of ASU 2014-09 is to establish a single comprehensive model for entities to use in accounting for revenue arising from contracts with customers and will supersede most of the existing revenue recognition guidance. The core principle of ASU 2014-09 is that an entity recognizes revenue at the transfer of control of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. ASU 2014-09 applies to all contracts with customers except those that are within the scope of other topics in the FASB Accounting Standards Codification.

ASU 2014-09 is effective for interim and annual reporting periods beginning after December 15, 2017 and may be early adopted for interim and annual reporting periods beginning after December 15, 2016. The Company adopted ASU 2014-09 as of January 1, 2018. The guidance permits adoption by retrospectively applying the guidance to each prior reporting period presented (full retrospective method) or prospectively applying the guidance and providing additional disclosures comparing results to previous guidance, with the cumulative effect of initially applying the guidance recognized in beginning retained earnings at the date of initial application (modified retrospective method). The Company will use the modified retrospective method of adoption.

ASU 2014-09 will impact the Company's revenue recognition procedures by requiring recognition of certain revenues to move from upon shipment or delivery to over-time. The recording of certain revenues over-time is not expected to have a material impact on the Company's consolidated results of operations or financial position. Also, the Company has developed the additional expanded disclosures required. The Company has implemented the appropriate changes to its business processes to support recognition and disclosure under ASU 2014-09. The Company does not expect the adoption of ASU 2014-09 to have a material impact on its consolidated results of operations, financial position and cash flows.

In July 2015, the FASB issued ASU No. 2015-11, *Simplifying the Measurement of Inventory* ("ASU 2015-11"), which applies to inventory that is measured using FIFO or average cost. As prescribed in this update, an entity should measure inventory that is within scope at the lower of cost and net realizable value, which is the estimated selling prices in the ordinary course of business, less reasonably predictable costs of completion, disposal and transportation. Subsequent measurement is unchanged for inventory that is measured using LIFO. The Company prospectively adopted ASU 2015-11 effective January 1, 2017 and the adoption did not have a significant impact on the Company's consolidated results of operations, financial position or cash flows.

In November 2015, the FASB issued ASU No. 2015-17, *Balance Sheet Classification of Deferred Taxes* ("ASU 2015-17"). ASU 2015-17 simplifies the presentation of deferred taxes by requiring deferred tax assets and liabilities be classified as noncurrent on the consolidated balance sheet. The Company prospectively adopted ASU 2015-17 effective January 1, 2017. Therefore, prior periods have not been adjusted to reflect this adoption. The adoption of ASU 2015-17 did not have a significant impact on the Company's consolidated results of operations, financial position or cash flows.

In February 2016, the FASB issued ASU No. 2016-02, *Leases* ("ASU 2016-02"). The new standard establishes a right-of-use model that requires a lessee to record a right-of-use asset and a lease liability on the balance sheet for all leases with terms longer than twelve months. Leases will be classified as either finance or operating, with classification affecting the pattern of expense recognition in the income statement. ASU 2016-02 is effective for interim and annual reporting periods beginning after December 15, 2018 and early adoption is permitted. ASU 2016-02 includes transitional guidance, as currently issued, that calls for a modified retrospective approach. The FASB has recently proposed adding a transition option to the current guidance and it includes optional practical expedients for ease of transition. The Company has formed a steering committee to lead the Company's implementation project. The Company has not determined the impact ASU 2016-02 may have on the Company's consolidated results of operations, financial position, cash flows and financial statement disclosures, which could be significant to the Company's financial position.

In March 2016, the FASB issued ASU No. 2016-09, *Improvements to Employee Share-Based Payment Accounting* ("ASU 2016-09"). ASU 2016-09 includes changes to the accounting for share-based payment transactions, including the income tax consequences, classification of awards as either equity or liabilities and classification on the statement of cash flows. The Company prospectively adopted ASU 2016-09 effective January 1, 2017. For the year ended December 31, 2017, the Company recorded a tax benefit of \$12.3 million within Provision for income taxes related to the tax effects of share-based payment transactions. Prior to adoption, this amount would have been recorded as a component of Capital in excess of par value. The adoption of this standard could create volatility in the Company's effective tax rate going forward. The Company elected not to change its accounting policy with respect to the estimation of forfeitures. The Company no longer reclassifies the excess tax benefits from share-based payments from operating activities to financing activities in the consolidated statement of cash flows. For the year ended December 31, 2017, the Company excluded the excess tax benefits from the assumed proceeds available to repurchase shares in the computation of its diluted earnings per share and the related increase in the Company's diluted weighted average common shares outstanding was not significant.

In January 2017, the FASB issued ASU No. 2017-01, *Clarifying the Definition of a Business* ("ASU 2017-01"). ASU 2017-01 provides a more robust framework to use in determining when a set of assets and activities is a business. ASU 2017-01 requires an entity to evaluate if substantially all of the fair value of the gross assets acquired is concentrated in a single identifiable asset or a group of similar identifiable assets; if so, the set of assets is not a business. ASU 2017-01 requires that, to be a business, the set must include, at a minimum, an input and a substantive process that together significantly contribute to the ability to create outputs. ASU 2017-01 is effective for interim and annual reporting periods beginning after December 15, 2017. ASU 2017-01 will be applied prospectively to any transactions occurring within the period of adoption. Early adoption is permitted, including for interim or annual periods in which the financial statements have not been issued or made available for issuance. The Company does not expect the adoption of ASU 2017-01 to have a significant impact on the Company's consolidated results of operations, financial position, cash flows and financial statement disclosures.

In January 2017, the FASB issued ASU No. 2017-04, *Simplifying the Test for Goodwill Impairment* ("ASU 2017-04"). ASU 2017-04 eliminates the requirement to calculate the reporting unit fair value of goodwill (second step) to measure a goodwill impairment charge. Under the guidance, an impairment charge will be measured based on the excess of the reporting unit's carrying amount over its fair value (first step). ASU 2017-04 is effective for interim and annual reporting periods beginning after December 15, 2019 and early adoption is permitted. The Company early adopted ASU 2017-04 effective January 1, 2017 and the adoption did not have a significant impact on the Company's consolidated results of operations, financial position, cash flows and financial statement disclosures.

In March 2017, the FASB issued ASU No. 2017-07, *Improving the Presentation of Net Periodic Pension Cost and Net Periodic Postretirement Benefit Cost* ("ASU 2017-07"), which changes how employers that sponsor defined benefit pension and/or other postretirement benefit plans present the net periodic benefit cost in the income statement. ASU 2017-07 requires employers to present the service cost component of net periodic benefit cost in the same income statement line item as other employee compensation costs. All other components of the net periodic benefit cost will be presented outside of operating income. ASU 2017-07 is effective for interim and annual reporting periods beginning after December 15, 2017. The changes in presentation will be applied retrospectively when adopted. The Company expects restated 2017 Cost of sales to increase \$11.5 million with an offsetting \$11.5 million increase to Other operating income. The 2018 service cost included in operating income is expected to approximate 2017 service cost of \$7.1 million. The Company does not expect the adoption of ASU 2017-07 to have a significant impact on the Company's consolidated financial position, cash flows and financial statement disclosures.

In May 2017, the FASB issued ASU No. 2017-09, *Scope of Modification Accounting* ("ASU 2017-09"). ASU 2017-09 clarifies which changes to the terms or conditions of a share-based payment award require an entity to apply modification accounting. ASU 2017-09 is effective for interim and annual reporting periods beginning after December 15, 2017 and early adoption is permitted. The Company does not expect the adoption of ASU 2017-09 to have a significant impact on the Company's consolidated results of operations, financial position or cash flows.

3. Fair Value Measurements

Fair value is defined as the exchange price that would be received for an asset or paid to transfer a liability (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. See Note 5 for discussion of acquisition date fair value of contingent payment liability.

The Company utilizes a valuation hierarchy for disclosure of the inputs to the valuations used to measure fair value. This hierarchy prioritizes the inputs into three broad levels as follows. Level 1 inputs are quoted prices (unadjusted) in active markets for identical assets or liabilities. Level 2 inputs are quoted prices for similar assets and liabilities in active markets or inputs that are observable for the asset or liability, either directly or indirectly through market corroboration, for substantially the full term of the financial instrument. Level 3 inputs are unobservable inputs based on the Company's own assumptions used to measure assets and liabilities at fair value. A financial asset or liability's classification within the hierarchy is determined based on the lowest level input that is significant to the fair value measurement.

The following table provides the Company's assets that are measured at fair value on a recurring basis, consistent with the fair value hierarchy, at December 31:

	2017	2016
	Fair Value	Fair Value
	(In tho	isands)
Fixed-income investments	\$ 8,060	\$7,317

The fair value of fixed-income investments, which are valued as level 1 investments, was based on quoted market prices. The fixed-income investments are shown as a component of long-term assets on the consolidated balance sheet.

For the years ended December 31, 2017 and 2016, gains and losses on the investments noted above were not significant. No transfers between level 1 and level 2 investments occurred during the years ended December 31, 2017 and 2016.

Financial Instruments

Cash, cash equivalents and fixed-income investments are recorded at fair value at December 31, 2017 and 2016 in the accompanying consolidated balance sheet.

The following table provides the estimated fair values of the Company's financial instrument liabilities, for which fair value is measured for disclosure purposes only, compared to the recorded amounts at December 31:

	201	17	201	16
	Recorded Amount	Fair Value	Recorded Amount	Fair Value
		(In thou	sands)	
Long-term debt, net (including current portion)	\$(2,174,289)	\$(2,210,466)	\$(2,341,565)	\$(2,386,901)

The fair value of short-term borrowings, net approximates the carrying value. Short-term borrowings, net are valued as level 2 liabilities as they are corroborated by observable market data. The Company's long-term debt, net is all privately held with no public market for this debt, therefore, the fair value of long-term debt, net was computed based on comparable current market data for similar debt instruments and is considered to be a level 3 liability. See Note 9 for long-term debt principal amounts, interest rates and maturities.

Foreign Currency

At December 31, 2017, the Company had a Canadian dollar forward contract for a total notional value of 83.0 million Canadian dollars (\$1.5 million fair value unrealized gain at December 31, 2017) outstanding. At December 31, 2016, the Company had no forward contracts outstanding. For the year ended December 31, 2017 and 2016, realized gains and losses on foreign currency forward contracts were not significant. The Company does not typically designate its foreign currency forward contracts as hedges.

4. Hedging Activities

The Company has designated certain foreign-currency-denominated long-term borrowings as hedges of the net investment in certain foreign operations. As of December 31, 2017 and 2016, these net investment hedges included British-pound- and Euro-denominated long-term debt. These borrowings were designed to create net investment hedges in each of the designated foreign subsidiaries. The Company designated the British-pound- and Euro-denominated loans referred to above as hedging instruments to offset translation gains or losses on the net investment due to changes in the British pound and Euro exchange rates. These net investment hedges are evidenced by management's contemporaneous documentation supporting the hedge designation. Any gain or loss on the hedging instruments (the debt) following hedge designation is reported in accumulated other comprehensive income in the same manner as the translation adjustment on the hedged investment based on changes in the spot rate, which is used to measure hedge effectiveness.

At December 31, 2017 and 2016, the Company had \$412.4 million and \$376.3 million, respectively, of British-pound-denominated loans, which were designated as a hedge against the net investment in British pound functional currency foreign subsidiaries. At December 31, 2017 and 2016, the Company had \$601.0 million and \$527.7 million, respectively, in Euro-denominated loans, which were designated as a hedge against the net investment in Euro functional currency foreign subsidiaries. As a result of the British-pound- and Euro-denominated loans being designated and 100% effective as net investment hedges, \$109.4 million of pre-tax currency remeasurement losses and \$50.0 million of pre-tax currency remeasurement gains have been included in the foreign currency translation component of other comprehensive income for the years ended December 31, 2017 and 2016, respectively.

5. Acquisitions

The Company spent \$556.6 million in cash, net of cash acquired, to acquire Rauland-Borg Corporation ("Rauland") in February 2017, MOCON, Inc. in June 2017 and Arizona Instrument LLC in December 2017. The Rauland acquisition includes a potential \$30 million contingent payment due upon the achievement of certain milestones as described further below. Rauland is a global provider of enterprise clinical and education communications solutions for hospitals, healthcare systems and educational facilities. MOCON is a provider of laboratory and field gas analysis instrumentation to research laboratories, production facilities and quality control departments in food and beverage, pharmaceutical and industrial applications. Arizona Instrument is a provider of differentiated, high-precision moisture and gas measurement instruments in food, pharmaceutical and environmental markets. Rauland, MOCON and Arizona Instrument are part of AMETEK's Electronic Instruments Group ("EIG").

The following table represents the preliminary allocation of the aggregate purchase price for the net assets of the 2017 acquisitions based on their estimated fair values at acquisition (in millions):

Property, plant and equipment	\$ 19.1
Goodwill	
Other intangible assets	340.7
Long-term liabilities	(10.9)
Deferred income taxes	
Net working capital and other ⁽¹⁾	42.7
Total purchase price	
Less: Acquisition date fair value of contingent payment liability	
Total cash paid	\$ 556.6

(1) Includes \$31.7 million in accounts receivable, whose fair value, contractual cash flows and expected cash flows are approximately equal.

The amount allocated to goodwill is reflective of the benefits the Company expects to realize from the 2017 acquisitions as follows: Rauland provides the Company with attractive new growth opportunities within the medical technology market, strong growth opportunities in its core markets and incremental growth opportunities through acquisitions and international expansion. MOCON's products and technologies complement the Company's existing gas analysis instrumentation business and provides it with opportunities to expand into the growing food and pharmaceutical package testing market. Arizona Instrument complements the Company's existing Brookfield Engineering Laboratories ("Brookfield") viscosity measurement business and provides it with opportunities to further grow its presence in the food, pharmaceutical and environmental markets. The Company expects approximately \$89.2 million of the goodwill recorded relating to the 2017 acquisitions will be tax deductible in future years.

At December 31, 2017, the purchase price allocated to other intangible assets of \$340.7 million consists of \$72.9 million of indefinite-lived intangible trade names, which are not subject to amortization. The remaining \$267.8 million of other intangible assets consists of 229.4 million customer relationships, which are being amortized over a period of 18 to 20 years, \$0.8 million of trade names, which are being amortized over a period of 18 to 20 years, \$0.8 million of trade names, which are being amortized over a period of 18 years. Amortization expense for each of the next five years for the 2017 acquisitions is expected to approximate \$15 million per year.

The Company is in the process of finalizing the measurement of certain tangible and intangible assets and liabilities for its December 2017 acquisition of Arizona Instrument, including inventory, goodwill and the accounting for income taxes. The Company is in the process of finalizing the accounting for income taxes for its June 2017 acquisition of MOCON.

The above mentioned contingent payment is based on Rauland achieving a certain cumulative revenue target over the period October 1, 2016 to September 30, 2018. If Rauland achieves the target, the \$30 million contingent payment will be made; however, if the target is not achieved, no payment will be made. At the acquisition date, the estimated fair value of the contingent payment liability was \$25.5 million, which was based on a probabilistic approach using level 3 inputs. At December 31, 2017, there was no change to the estimated fair value of the contingent payment liability.

The 2017 acquisitions had an immaterial impact on reported net sales, net income and diluted earnings per share for the year ended December 31, 2017. Had the 2017 acquisitions been made at the beginning of 2017 or 2016, unaudited pro forma net sales, net income and diluted earnings per share for the years ended December 31, 2017 and 2016, respectively, would not have been materially different than the amounts reported.

In 2016, the Company spent \$391.4 million in cash, net of cash acquired, to acquire Brookfield and ESP/SurgeX in January 2016, HS Foils and Nu Instruments in July 2016 and Laserage Technology Corporation ("Laserage") in October 2016. Brookfield is a manufacturer of viscometers and rheometers, as well as instrumentation to analyze texture and powder flow. ESP/SurgeX is a manufacturer of energy intelligence and power protection, monitoring and diagnostic solutions. HS Foils develops and manufactures key components used in radiation detectors including ultra-thin radiation windows, silicon drift detectors and x-ray filters. Nu Instruments is a provider of magnetic sector mass spectrometers used for elemental and isotope analysis. Laserage is a provider of laser fabrication services for the medical device market. Brookfield, ESP/SurgeX, HS Foils and Nu Instruments are part of EIG and Laserage is part of AMETEK's Electromechanical Group ("EMG").

In 2015, the Company spent \$356.5 million in cash, net of cash acquired, to acquire Global Tubes in May 2015 and Surface Vision in July 2015. Global Tubes is a manufacturer of high-precision, small-diameter metal tubing. Surface Vision develops and manufactures software-enabled vision systems used to inspect surfaces of continuously processed materials for flaws and defects. Global Tubes is part of EMG and Surface Vision is part of EIG.

Acquisitions Subsequent to December 31, 2017

In January 2018, the Company acquired FMH Aerospace ("FMH") for approximately \$235 million in cash. FMH has estimated annual sales of approximately \$50 million. FMH is a provider of complex, highly-engineered solutions for the aerospace, defense and space industries. FMH will join EMG.

6. Goodwill and Other Intangible Assets

The changes in the carrying amounts of goodwill by segment were as follows:

	EIG	EMG	Total
	((In millions)	
Balance at December 31, 2015	\$1,678.2	\$1,028.4	\$2,706.6
Goodwill acquired	165.0	6.3	171.3
Purchase price allocation adjustments and other	0.3	(0.1)	0.2
Foreign currency translation adjustments	(26.5)	(32.6)	(59.1)
Balance at December 31, 2016	1,817.0	1,002.0	2,819.0
Goodwill acquired	225.6		225.6
Purchase price allocation adjustments and other	0.5	0.6	1.1
Foreign currency translation adjustments	33.9	36.0	69.9
Balance at December 31, 2017	\$2,077.0	\$1,038.6	\$3,115.6

Other intangible assets were as follows at December 31:

	2017	2016
	(In tho	usands)
Definite-lived intangible assets (subject to amortization):		
Patents	\$ 52,548	\$ 49,755
Purchased technology	328,301	283,612
Customer lists	1,621,652	1,363,700
	2,002,501	1,697,067
Accumulated amortization:		
Patents	(36,998)	(34,927)
Purchased technology	(110,298)	(87,869)
Customer lists	(450,814)	(362,924)
	(598,110)	(485,720)
Net intangible assets subject to amortization	1,404,391	1,211,347
Indefinite-lived intangible assets (not subject to amortization):		
Trademarks and trade names	608,974	536,574
Impairment		(13,900)
	608,974	522,674
	\$2,013,365	\$1,734,021

In the fourth quarter of 2016, the Company completed its required annual impairment tests and determined that the carrying values of certain of the Company's trademarks and trade names with indefinite lives were impaired. During 2016, the Company recorded, in Cost of sales, a \$13.9 million non-cash impairment charge related to certain of the Company's trade names, of which \$9.2 million impacted EIG and \$4.7 million impacted EMG. See Note 1 for further descriptions of the Company's impairment testing.

Amortization expense was \$101.2 million, \$104.9 million (including impairment of \$13.9 million) and \$80.8 million for the years ended December 31, 2017, 2016 and 2015, respectively. Amortization expense for each of the next five years is expected to approximate \$105 million per year, not considering the impact of potential future acquisitions.

7. Other Consolidated Balance Sheet Information

	Decen	ıber 31,
	2017	2016
	(In the	ousands)
INVENTORIES, NET	ф о л = оо	• • • • • • • • • •
Finished goods and parts		
Work in process		,
Raw materials and purchased parts		314,793
	<u>\$ 540,504</u>	\$ 492,104
PROPERTY, PLANT AND EQUIPMENT, NET		
Land	\$ 42,851	\$ 41,875
Buildings		281,847
Machinery and equipment		840,725
	1,261,268	1,164,447
Less: Accumulated depreciation		(691,217)
	\$ 493,296	\$ 473,230
ACCRUED LIABILITIES		
Employee compensation and benefits	\$ 151,435	\$ \$ 93,226
Product warranty obligation		22,007
Restructuring		29,951
Contingent purchase price)
Other		100,886
	\$ 358,551	\$ 246,070
	2017 2010	6 2015
	<u></u> (In thous	
ALLOWANCES FOR POSSIBLE LOSSES ON ACCOUNTS	(in thous	unus)
Balance at the beginning of the year	\$ 10,257 \$ 8.5	555 \$10,446

Additions charged to expense	2,800	4,124	630
Write-offs	(3,208)	(2,304)	(1,872)
Foreign currency translation adjustments and other	552	(118)	(649)
Balance at the end of the year	\$10,401	\$10,257	\$ 8,555

8. Income Taxes

The components of income before income taxes and the details of the provision for income taxes were as follows for the years ended December 31:

<u> </u>	2017	2016	2015
	(In thousands)		
Income before income taxes:			
	\$447,853	\$397,215	\$502,292
Foreign	348,876	295,888	304,088
Total	\$ 796,729	\$693,103	\$806,380
Provision for income taxes:			
Current:			
Federal	\$127,874	\$116,898	\$130,996
Foreign	71,846	63,170	66,691
State	6,744	6,509	11,376
Total current	206,464	186,577	209,063
Deferred:			
Federal	(97,465)	5,273	1,711
Foreign	6,204	(8,434)	(3,611)
State	56	(2,471)	8,358
Total deferred	(91,205)	(5,632)	6,458
Total provision	\$115,259	\$180,945	\$215,521

Significant components of the deferred tax (asset) liability were as follows at December 31:

	2017	2016
	(In thousands)	
Current deferred tax (asset) liability:	¢	¢ (20 500)
Reserves not currently deductible		\$(39,509)
Share-based compensation.		(7,022)
Net operating loss carryforwards		(2,072)
Other		(1,041)
		(49,644)
Portion included in other current liabilities		(360)
Gross current deferred tax asset		(50,004)
Noncurrent deferred tax (asset) liability:		
Differences in basis of property and accelerated depreciation	39,816	54,243
Reserves not currently deductible	(42,966)	(28,808)
Pensions	11,452	8,714
Differences in basis of intangible assets and accelerated amortization	455,690	603,577
Net operating loss carryforwards	(10,376)	(8,399)
Share-based compensation	(13,434)	(13,707)
Foreign tax credit carryforwards		(3,441)
Unremitted earnings	84,356	4,481
Other	(23,176)	(1,004)
	501,362	615,656
Less: Valuation allowance	3,100	2,046
	504,462	617,702
Portion included in noncurrent assets	8,064	4,074
Gross noncurrent deferred tax liability	512,526	621,776
Net deferred tax liability	-	\$ 571,772

The Company's effective tax rate reconciles to the U.S. Federal statutory rate as follows for the years ended December 31:

	2017	2016	2015
U.S. Federal statutory rate	35.0%	35.0%	35.0%
State income taxes, net of federal income tax benefit	0.4	0.4	1.2
Foreign operations, net	(6.8)	(7.1)	(6.8)
U.S. Manufacturing deduction and credits	(2.2)	(2.6)	(2.4)
Stock compensation	(1.6)	0.2	0.1
Net deferred tax revaluation	(23.3)		
Deemed repatriation of foreign earnings	11.8		
Other	1.2	0.2	(0.4)
Consolidated effective tax rate	14.5%	26.1%	26.7%

On December 22, 2017, the U.S. enacted the Tax Cuts and Jobs Act (the "Act"). The Act, which is also commonly referred to as "U.S. tax reform," significantly changes U.S. corporate income tax laws by, among other things, reducing the U.S. corporate income tax rate to 21% starting in 2018 and creating a territorial tax system with a one-time mandatory tax on previously deferred foreign earnings of U.S. subsidiaries. As a result, in the fourth quarter of 2017, the Company recorded a net benefit of \$91.6 million in the consolidated statement of income as a component of Provision for income taxes. The \$91.6 million net benefit consisted of a \$185.8 million benefit resulting from the remeasurement of the Company's net deferred tax liabilities in the U.S. based on the new lower corporate income tax rate and \$94.2 million expense mostly relating to the one-time mandatory tax on previously deferred earnings of certain non-U.S. subsidiaries that are owned either wholly or partially by a U.S. subsidiary of the Company as discussed further below.

Although the \$91.6 million net benefit represents what the Company believes is a reasonable estimate of the impact of the income tax effects of the Act on the Company's consolidated financial statements as of December 31, 2017, it should be considered provisional. As additional guidance from the U.S. Department of Treasury is provided, the Company may need to adjust the provisional amounts after it finalizes the 2017 U.S. tax return and is able to conclude whether any further adjustments are required to its U.S. portion of net deferred tax liability of \$390.4 million as of December 31, 2017, as well as to the liability associated with the one-time mandatory tax. The currently recorded amounts include a variety of estimates of taxable earnings and profits, estimated taxable foreign cash balances, differences between U.S. GAAP and U.S. tax principles and interpretations of many aspects of the Act that may, if changed, impact the final amounts. Any adjustments to these provisional amounts will be reported as a component of Provision for income taxes in the reporting period in which any such adjustments are determined, which will be no later than the fourth quarter of 2018. The Company is still evaluating the potential future impact of the global intangible low-taxed income ("GILTI") section of the Act and has not provided any provisional deferred tax liability for it. Under U.S. GAAP, the Company is permitted to make an accounting policy election to either treat taxes due on future inclusions in the U.S. taxable income related to GILTI as a current period expense when incurred or to factor such amounts into the Company's measurement of its deferred taxes. Due to the ongoing evaluation, the Company has not yet made the accounting policy decision.

The recently enacted Act mandated a one-time tax on previously deferred foreign earnings of U.S. subsidiaries. At December 31, 2017, included in the \$94.2 million expense mentioned above, the Company recorded an expense of \$81.9 million relating to the one-time mandatory tax. The Company is electing to pay the tax on an installment basis with \$1.2 million recorded in current taxes payable, \$13.2 million recorded in noncurrent taxes payable and \$67.5 million recorded as a deferred tax liability, which represents the portion relating to certain non-U.S. subsidiaries that have a fiscal year end in 2018 and is not yet payable. The Company intends to reinvest its earnings indefinitely in operations outside the United States except to the extent of \$1.5 billion, which is deemed paid earnings under the mandatory tax provision of the Act. In addition, the Company has recorded an incremental \$13.3 million in state income and foreign withholding taxes expected to be incurred when the cash amounts related to the mandatory tax are ultimately repatriated to the U.S., offset by \$1.0 million for a remeasurement of uncertain tax positions impacted by the mandatory tax inclusion.

Due to the adoption of ASU 2015-17, the Company classified all deferred tax assets and liabilities as noncurrent on the consolidated balance sheet at December 31, 2017. The Company prospectively adopted ASU 2015-17 effective January 1, 2017. Therefore, prior periods have not been adjusted to reflect this adoption.

At December 31, 2016, U.S. and foreign deferred income taxes totaling \$4.5 million were provided on undistributed earnings of certain non-U.S. subsidiaries that were not expected to be permanently reinvested in such companies. There was no provision for U.S. deferred income taxes for the undistributed earnings of certain other subsidiaries, which totaled approximately \$1.1 billion at December 31, 2016.

At December 31, 2017, the Company had tax effected benefits of \$10.4 million related to net operating loss carryforwards, which will be available to offset future income taxes payable, subject to certain annual or other limitations based on foreign and U.S. tax laws. This amount includes net operating loss carryforwards of \$1.7 million for federal income tax purposes with no valuation allowance, \$6.6 million for state income tax purposes with no valuation allowance and \$2.2 million for foreign income tax purposes with a valuation allowance of \$2.2 million. These net operating loss carryforwards, if not used, will expire between 2018 and 2037.

At December 31, 2017, the Company had tax effected benefits of \$5.1 million related to tax credit carryforwards, which will be available to offset future income taxes payable, subject to certain annual or other limitations based on foreign and U.S. tax laws. This amount includes tax credit carryforwards of \$0.6 million for federal income tax purposes with a valuation allowance of \$0.6 million, \$4.4 million for state income tax purposes with a valuation and \$0.1 million for foreign income tax purposes with no valuation allowance. These tax credit carryforwards, if not used, will expire between 2018 and 2037.

The Company maintains a valuation allowance to reduce certain deferred tax assets to amounts that are more likely than not to be realized. This allowance primarily relates to the deferred tax assets established for foreign net operating loss carryforwards and tax credits. In 2017, the Company recorded an increase of \$1.1 million in the valuation allowance primarily related to foreign net operating loss carryforwards that are not expected to be utilized.

At December 31, 2017, the Company had gross unrecognized tax benefits of \$60.3 million, of which \$51.7 million, if recognized, would impact the effective tax rate. At December 31, 2016, the Company had gross unrecognized tax benefits of \$57.9 million, of which \$48.5 million, if recognized, would impact the effective tax rate.

At December 31, 2017 and 2016, the Company reported \$9.7 million and \$8.9 million, respectively, related to interest and penalty exposure as accrued income tax expense in the consolidated balance sheet. During 2017, the Company recognized a net expense of \$0.9 million, and during 2016 and 2015, the Company recognized a net benefit of \$1.8 million and \$0.4 million, respectively, for interest and penalties related to uncertain tax positions in the consolidated statement of income as a component of income tax expense.

Approximately 70% of the Company's overall tax liability is incurred in the United States as measured prior to tax reform. The Company files income tax returns in various other state and foreign tax jurisdictions, in some cases for multiple legal entities per jurisdiction. Generally, the Company has open tax years subject to tax audit on average of between three and six years in these jurisdictions. At December 31, 2017, there were no tax years currently under examination by the Internal Revenue Service ("IRS") related to the U.S. consolidated tax group, although a separate examination of a pre-acquisition net operating loss carryback is ongoing related to a recently acquired company for which no material liability is expected. The Company has not materially extended any other statutes of limitation for any significant location and has reviewed and accrued for, where necessary, tax liabilities for open periods including state and foreign jurisdictions that remain subject to examination. There have been no penalties asserted or imposed by the IRS related to substantial understatement of income, gross valuation misstatement or failure to disclose a listed or reportable transaction.

During 2017, the Company added \$15.4 million of tax, interest and penalties to identified uncertain tax positions and reversed \$12.1 million of tax and interest related to statute expirations. During 2016, the Company added \$8.6 million of tax, interest and penalties related to identified uncertain tax positions and reversed \$16.3 million of tax and interest related to statute expirations and settlement of prior uncertain positions.

The following is a reconciliation of the liability for uncertain tax positions at December 31:

	2017	2016	2015
	(II	n million	s)
Balance at the beginning of the year	\$57.9	\$63.8	\$71.7
Additions for tax positions related to the current year	10.0	5.5	8.8
Additions for tax positions of prior years	3.1	1.5	1.3
Reductions for tax positions of prior years	(2.8)	(3.6)	(7.1)
Reductions related to settlements with taxing authorities		(3.4)	(8.3)
Reductions due to statute expirations	(7.9)	(5.9)	(2.6)
Balance at the end of the year	\$60.3	\$57.9	\$63.8

In 2017, the additions above primarily reflect the increase in tax liabilities for uncertain tax positions related to certain domestic and foreign issues, while the reductions above primarily relate to statute expirations. At December 31, 2017, tax, interest and penalties of \$68.5 million were classified as a noncurrent liability. The net change in uncertain tax positions for the year ended December 31, 2017 resulted in an increase to income tax expense of \$4.3 million.

9. Debt

Long-term debt, net consisted of the following at December 31:

	2017	2016
	(In tho	,
U.S. dollar 6.20% senior notes due December 2017		\$ 270,000
U.S. dollar 6.35% senior notes due July 2018	. 80,000	80,000
U.S. dollar 7.08% senior notes due September 2018	. 160,000	160,000
U.S. dollar 7.18% senior notes due December 2018	. 65,000	65,000
U.S. dollar 6.30% senior notes due December 2019	. 100,000	100,000
U.S. dollar 3.73% senior notes due September 2024	. 300,000	300,000
U.S. dollar 3.91% senior notes due June 2025	. 50,000	50,000
U.S. dollar 3.96% senior notes due August 2025	. 100,000	100,000
U.S. dollar 3.83% senior notes due September 2026	. 100,000	100,000
U.S. dollar 3.98% senior notes due September 2029	. 100,000	100,000
U.S. dollar 4.45% senior notes due August 2035	. 50,000	50,000
British pound 4.68% senior note due September 2020	. 108,180	98,701
British pound 2.59% senior note due November 2028	. 202,840	185,067
British pound 2.70% senior note due November 2031	. 101,420	92,533
Euro 1.34% senior notes due October 2026	. 360,620	316,643
Euro 1.53% senior notes due October 2028	. 240,414	211,096
Swiss franc 2.44% senior note due December 2021	. 56,452	54,150
Revolving credit facility borrowings	. —	—
Other, principally foreign	. 4,589	14,604
Less: Debt issuance costs	. (5,226)	(6,229)
Total debt, net	2,174,289	2,341,565
Less: Current portion, net		(278,921)
Total long-term debt, net	\$1,866,166	\$2,062,644

Maturities of long-term debt borrowings outstanding at December 31, 2017 were as follows: \$100.0 million in 2019; \$108.2 million in 2020; \$56.5 million in 2021; none in 2022; none in 2023; and \$1,605.3 million in 2024 and thereafter.

In the fourth quarter of 2017, the Company paid in full, at maturity, \$270 million in aggregate principal amount of 6.20% private placement senior notes.

In December 2007, the Company issued \$270 million in aggregate principal amount of 6.20% private placement senior notes due December 2017 (paid in full, at maturity, as previously noted) and \$100 million in aggregate principal amount of 6.30% private placement senior notes due December 2019. In July 2008, the Company issued \$80 million in aggregate principal amount of 6.35% private placement senior notes due July 2018. In September 2008, the Company issued \$160 million in aggregate principal amount of 7.08% private placement senior notes due September 2018. In December 2008, the Company issued \$65 million in aggregate principal amount of 7.18% private placement senior notes due December 2018. In September 2014, the Company issued \$300 million in aggregate principal amount of 3.73% senior notes due September 2024, \$100 million in aggregate principal amount of 3.98% senior notes due September 2029. In June 2015, the Company issued \$50 million in aggregate principal amount of 3.91% senior notes due June 2025. In August 2015, the Company issued \$100 million in aggregate principal amount of 3.96% senior notes due August 2025 and \$50 million in aggregate principal amount of 4.45% senior notes due August 2035.

In September 2010, the Company issued an 80 million British pound (\$108.2 million at December 31, 2017) 4.68% senior note due September 2020. In December 2011, the Company issued a 55 million Swiss franc (\$56.5 million at December 31, 2017) 2.44% senior note due December 2021. In October 2016, the Company issued 300 million Euros (\$360.6 million at December 31, 2017) in aggregate principal amount of 1.34% senior notes due October 2026 and 200 million Euros (\$240.4 million at December 31, 2017) in aggregate principal amount of 1.53% senior notes due October 2028. In November 2016, the Company issued 150 million British pounds (\$202.8 million at December 31, 2017) in aggregate principal amount of 2.59% senior notes due November 2028 and 75 million British pounds (\$101.4 million at December 31, 2017) in aggregate principal amount of 2.70% senior notes due November 2031.

The Company along with certain of its foreign subsidiaries has an amended and restated credit agreement dated as of March 10, 2016 (the "Credit Agreement"). The Credit Agreement consists of a five-year revolving credit facility in an aggregate principal amount of \$850 million with a final maturity date in March 2021. The revolving credit facility total borrowing capacity excludes an accordion feature that permits the Company to request up to an additional \$300 million in revolving credit commitments at any time during the life of the Credit Agreement under certain conditions. The Credit Agreement places certain restrictions on allowable additional indebtedness. At December 31, 2017, the Company had available borrowing capacity of \$1,108.1 million under its revolving credit facility, including the \$300 million accordion feature.

Interest rates on outstanding borrowings under the revolving credit facility are at the applicable benchmark rate plus a negotiated spread or at the U.S. prime rate. At December 31, 2017 and 2016, the Company did not have any borrowings outstanding under the revolving credit facility. The weighted average interest rate on the revolving credit facility for the years ended December 31, 2017 and 2016 was 1.61% and 1.72%, respectively. The Company had outstanding letters of credit primarily under the revolving credit facility totaling \$42.1 million and \$33.2 million at December 31, 2017 and 2016, respectively.

The private placements, the senior notes and the revolving credit facility are subject to certain customary covenants, including financial covenants that, among other things, require the Company to maintain certain debt-to-EBITDA and interest coverage ratios. The Company was in compliance with all provisions of the debt arrangements at December 31, 2017.

Foreign subsidiaries of the Company had available credit facilities with local foreign lenders of \$45.4 million and \$43.7 million at December 31, 2017 and 2016, respectively. At December 31, 2017, foreign subsidiaries had debt borrowings outstanding totaling \$4.6 million, all of which was reported in short-term borrowings and current portion of long-term debt, net. At December 31, 2016, foreign subsidiaries had debt borrowings outstanding totaling \$14.6 million, including \$3.8 million reported in long-term debt, net.

The weighted average interest rate on total debt borrowings outstanding at December 31, 2017 and 2016 was 4.2% and 4.4%, respectively.

10. Share-Based Compensation

Under the terms of the Company's stockholder-approved share-based plans, incentive and non-qualified stock options and restricted stock have been, and may be, issued to the Company's officers, management-level employees and members of its Board of Directors. Employee and non-employee director stock options generally vest at a rate of 25% per year, beginning one year from the date of the grant, and restricted stock generally has a four-year cliff vesting. Stock options generally have a maximum contractual term of seven years. At December 31, 2017, 12.0 million shares of Company common stock were reserved for issuance under the Company's share-based plans, including 5.6 million shares for stock options outstanding.

The Company issues previously unissued shares when stock options are exercised and shares are issued from treasury stock upon the award of restricted stock.

The Company measures and records compensation expense related to all stock awards by recognizing the grant date fair value of the awards over their requisite service periods in the financial statements. For grants under any of the Company's plans that are subject to graded vesting over a service period, the Company recognizes expense on a straight-line basis over the requisite service period for the entire award.

Total share-based compensation expense was as follows for the years ended December 31:

	2017	2016	2015
	(I	n thousands	5)
Stock option expense	\$ 9,895	\$ 9,984	\$10,955
Restricted stock expense			
Total pre-tax expense	\$25,091	\$22,030	\$23,762

Pre-tax share-based compensation expense is included in the consolidated statement of income in either Cost of sales or Selling, general and administrative expenses, depending on where the recipient's cash compensation is reported. The year ended December 31, 2017 includes a second quarter of 2017 \$2.5 million pre-tax charge in corporate administrative expenses related to the accelerated vesting of restricted stock grants in association with the retirement of the Company's Executive Chairman of the Board of Directors.

The fair value of each stock option grant is estimated on the date of grant using a Black-Scholes-Merton option pricing model. The following weighted average assumptions were used in the Black-Scholes-Merton model to estimate the fair values of stock options granted during the years indicated:

	2017	2016	2015
Expected volatility	18.0%	21.8%	22.3%
Expected term (years)	5.0	5.0	5.0
Risk-free interest rate	1.94%	1.23%	1.58%
Expected dividend yield	0.60%	0.77%	0.69%
Black-Scholes-Merton fair value per stock option granted	\$11.05	\$9.14	\$10.89

Expected volatility is based on the historical volatility of the Company's stock over the stock options' expected term. The Company used historical exercise data to estimate the stock options' expected term, which represents the period of time that the stock options granted are expected to be outstanding. Management anticipates that the future stock option holding periods will be similar to the historical stock option holding periods. The risk-free interest rate for periods within the expected term of the stock option is based on the U.S. Treasury yield curve at the time of grant. Compensation expense recognized for all share-based awards is net of estimated forfeitures. The Company's estimated forfeiture rates are based on its historical experience.

The following is a summary of the Company's stock option activity and related information for the year ended December 31, 2017:

	Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Life	Aggregate Intrinsic Value
	(In thousands)		(Years)	(In millions)
Outstanding at the beginning of the year	6,011	\$42.25		
Granted	1,331	60.32		
Exercised	(1,515)	31.62		
Forfeited	(237)	52.62		
Expired	(7)	52.10		
Outstanding at the end of the year	5,583	\$48.99	4.2	\$ 131.1
Exercisable at the end of the year	2,884	\$43.96	2.9	\$ 82.2

The aggregate intrinsic value of stock options exercised during 2017, 2016 and 2015 was \$41.3 million, \$16.2 million and \$62.3 million, respectively. The total fair value of stock options vested during 2017, 2016 and 2015 was \$12.4 million, \$10.8 million and \$10.3 million, respectively.

The following is a summary of the Company's nonvested stock option activity and related information for the year ended December 31, 2017:

	Shares	Weighted Average Grant Date Fair Value
	(In thousands)	
Nonvested stock options outstanding at the beginning of the year	2,802	\$10.15
Granted	1,331	11.05
Vested	(1,197)	10.40
Forfeited	(237)	10.35
Nonvested stock options outstanding at the end of the year	2,699	\$10.47

As of December 31, 2017, there was approximately \$21 million of expected future pre-tax compensation expense related to the 2.7 million nonvested stock options outstanding, which is expected to be recognized over a weighted average period of approximately two years.

The fair value of restricted shares under the Company's restricted stock arrangement is determined by the product of the number of shares granted and the grant date market price of the Company's common stock. Upon the grant of restricted stock, the fair value of the restricted shares (unearned compensation) at the date of grant is charged as a reduction of capital in excess of par value in the Company's consolidated balance sheet and is amortized to expense on a straight-line basis over the vesting period, which is the same as the calculated derived service period as determined on the grant date. Restricted stock grants are subject to accelerated vesting due to certain events, including doubling of the grant price of the Company's common stock as of the close of business during any five consecutive trading days.

The following is a summary of the Company's nonvested restricted stock activity and related information for the year ended December 31, 2017:

	Shares	Weighted Average Grant Date Fair Value
	(In thousands)	
Nonvested restricted stock outstanding at the beginning of the year	1,019	\$48.59
Granted	340	60.35
Vested	(333)	47.42
Forfeited	(94)	51.51
Nonvested restricted stock outstanding at the end of the year	932	\$53.53

The total fair value of restricted stock vested during 2017, 2016 and 2015 was \$15.8 million, \$11.1 million and \$10.6 million, respectively. The weighted average fair value of restricted stock granted per share during 2017 and 2016 was \$60.35 and \$46.91, respectively. As of December 31, 2017, there was approximately \$28 million of expected future pre-tax compensation expense related to the 0.9 million nonvested restricted shares outstanding, which is expected to be recognized over a weighted average period of less than two years.

11. Retirement Plans and Other Postretirement Benefits

Retirement and Pension Plans

The Company sponsors several retirement and pension plans covering eligible salaried and hourly employees. The plans generally provide benefits based on participants' years of service and/or compensation. The following is a brief description of the Company's retirement and pension plans.

The Company maintains contributory and noncontributory defined benefit pension plans. Benefits for eligible salaried and hourly employees under all defined benefit plans are funded through trusts established in conjunction with the plans. The Company's funding policy with respect to its defined benefit plans is to contribute amounts that provide for benefits based on actuarial calculations and the applicable requirements of U.S. federal and local foreign laws. The Company estimates that it will make both required and discretionary cash contributions of approximately \$2 million to \$6 million to its worldwide defined benefit pension plans in 2018.

The Company uses a measurement date of December 31 (its fiscal year end) for its U.S. and foreign defined benefit pension plans.

The Company sponsors a 401(k) retirement and savings plan for eligible U.S. employees. Participants in the retirement and savings plan may contribute a specified portion of their compensation on a pre-tax basis, which varies by location. The Company matches employee contributions ranging from 20% to 100%, up to a maximum percentage ranging from 1% to 8% of eligible compensation or up to a maximum of \$1,200 per participant in some locations.

The Company's retirement and savings plan has a defined contribution retirement feature principally to cover U.S. salaried employees joining the Company after December 31, 1996. Under the retirement feature, the Company makes contributions for eligible employees based on a pre-established percentage of the covered employee's salary subject to pre-established vesting. Employees of certain of the Company's foreign operations participate in various local defined contribution plans.

The Company has nonqualified unfunded retirement plans for its Directors and certain retired employees. It also provides supplemental retirement benefits, through contractual arrangements and/or a Supplemental Executive Retirement Plan ("SERP") covering certain current and former executives of the Company. These supplemental benefits are designed to compensate the executive for retirement benefits that would have been provided under the Company's primary retirement plan, except for statutory limitations on compensation that must be taken into account under those plans. The projected benefit obligations of the SERP and the contracts will primarily be funded by a grant of shares of the Company's common stock upon retirement or termination of the executive. The Company is providing for these obligations by charges to earnings over the applicable periods.

The following tables set forth the changes in net projected benefit obligation and the fair value of plan assets for the funded and unfunded defined benefit plans for the years ended December 31:

U.S. Defined Benefit Pension Plans:

	2017	2016
	(In tho	usands)
Change in projected benefit obligation:		
Net projected benefit obligation at the beginning of the year	. \$498,850	\$472,477
Service cost	. 3,538	3,488
Interest cost	. 20,693	22,153
Actuarial losses	. 26,922	29,681
Gross benefits paid	. (29,627)	(29,005)
Plan amendments		56
Net projected benefit obligation at the end of the year	\$ 520,376	\$498,850
Change in plan assets:		
Fair value of plan assets at the beginning of the year	. \$517,073	\$508,775
Actual return on plan assets	. 92,058	36,414
Employer contributions	. 40,489	889
Gross benefits paid	. (29,627)	(29,005)
Fair value of plan assets at the end of the year	. \$619,993	\$517,073

Foreign Defined Benefit Pension Plans:

	2017	2016
	(In thousands)	
Change in projected benefit obligation:		
Net projected benefit obligation at the beginning of the year	. \$258,297	\$243,924
Service cost	. 3,600	3,134
Interest cost	6,732	7,896
Foreign currency translation adjustments	26,457	(39,910)
Employee contributions	. 228	256
Actuarial (gains) losses		52,248
Expenses paid from assets		(770)
Gross benefits paid	(8,964)	(8,475)
Plan amendments		(6)
Net projected benefit obligation at the end of the year	\$ 284,178	\$258,297
Change in plan assets:		
Fair value of plan assets at the beginning of the year	. \$188,935	\$213,296
Actual return on plan assets	13,869	14,346
Employer contributions		5,886
Employee contributions		256
Foreign currency translation adjustments		(35,604)
Expenses paid from assets		(770)
Gross benefits paid		(8,475)
Fair value of plan assets at the end of the year	\$ 226,968	\$188,935

The accumulated benefit obligation consisted of the following at December 31:

U.S. Defined Benefit Pension Plans:

	2017	2016
	(In tho	
Funded plans	\$503,309	\$480,249
Unfunded plans	6,046	6,212
Total	\$ 509,355	\$486,461

Foreign Defined Benefit Pension Plans:

	2017	2016
	(In tho	usands)
Funded plans	\$235,787	\$213,877
Unfunded plans		33,924
Total	\$275,318	\$247,801

Weighted average assumptions used to determine benefit obligations at December 31:

	2017	2016
U.S. Defined Benefit Pension Plans:		
Discount rate	3.75%	4.25%
Rate of compensation increase (where applicable)	3.75%	3.75%
Foreign Defined Benefit Pension Plans:		
Discount rate	2.39%	2.56%
Rate of compensation increase (where applicable)	2.50%	2.50%

The following is a summary of the fair value of plan assets for U.S. plans at December 31:

	2017			2016		
Asset Class	Total	Level 1	Level 2	Total	Level 1	Level 2
			(In thou	isands)		
Corporate debt instruments	\$ 1,757	\$	\$ 1,757	\$ 2,662	\$	\$ 2,662
Corporate debt instruments - Preferred	12,574	—	12,574	8,880	_	8,880
Corporate stocks - Common	137,693	137,693	_	109,881	109,881	
Municipal bonds		_	565	777	_	777
Registered investment companies		289,693	_	251,054	251,054	_
U.S. Government securities			246			
Total investments	442,528	427,386	15,142	373,254	360,935	12,319
Investments measured at net asset value	177,465			143,819		
Total investments	\$619,993	\$427,386	\$15,142	\$517,073	\$360,935	\$12,319

U.S. equity securities and global equity securities categorized as level 1 are traded on national and international exchanges and are valued at their closing prices on the last trading day of the year. For U.S. equity securities and global equity securities not traded on an active exchange, or if the closing price is not available, the trustee obtains indicative quotes from a pricing vendor, broker or investment manager. These securities are categorized as level 2 if the custodian obtains corroborated quotes from a pricing vendor. Additionally, some U.S. equity securities and global equity securities are public investment vehicles valued using the Net Asset Value ("NAV") provided by the fund manager. The NAV is the total value of the fund divided by the number of shares outstanding.

Fixed income securities categorized as level 1 are traded on national and international exchanges and are valued at their closing prices on the last trading day of the year and categorized as level 2 if valued by the trustee using pricing models that use verifiable observable market data, bids provided by brokers or dealers or quoted prices of securities with similar characteristics.

The expected long-term rate of return on these plan assets was 7.50% in 2017 and 7.75% in 2016. Equity securities included 512,565 shares of AMETEK, Inc. common stock with a market value of \$37.1 million (6.0% of total plan investment assets) at December 31, 2017 and 512,565 shares of AMETEK, Inc. common stock with a market value of \$24.9 million (4.8% of total plan investment assets) at December 31, 2016.

The objectives of the Company's U.S. defined benefit plans' investment strategy are to maximize the plans' funded status and minimize Company contributions and plan expense. Because the goal is to optimize returns over the long term, an investment policy that favors equity holdings has been established. Since there may be periods of time where both equity and fixed-income markets provide poor returns, an allocation to alternative assets may be made to improve the overall portfolio's diversification and return potential. The Company periodically reviews its asset allocation, taking into consideration plan liabilities, plan benefit payment streams and the investment strategy of the pension plans. The actual asset allocation is monitored frequently relative to the established targets and ranges and is rebalanced when necessary. The target allocations for the U.S. defined benefits plans are approximately 50% equity securities, 20% fixed-income securities and 30% other securities and/or cash.

The equity portfolio is diversified by market capitalization and style. The equity portfolio also includes international components.

The objective of the fixed-income portion of the pension assets is to provide interest rate sensitivity for a portion of the assets and to provide diversification. The fixed-income portfolio is diversified within certain quality and maturity guidelines in an attempt to minimize the adverse effects of interest rate fluctuations.

Other than for investments in alternative assets, certain investments are prohibited. Prohibited investments include venture capital, private placements, unregistered or restricted stock, margin trading, commodities, short selling and rights and warrants. Foreign currency futures, options and forward contracts may be used to manage foreign currency exposure.

The following is a summary of the fair value of plan assets for foreign defined benefit pension plans at December 31:

	2017		2017 2016		6
Asset Class	Total	Level 3	Total	Level 3	
		(In tho	isands)		
Life insurance	\$ 21,294	\$21,294	\$ 18,147	\$18,147	
Total investments	21,294	21,294	18,147	18,147	
Investments measured at net asset value	205,674		170,788		
Total investments	\$226,968	\$21,294	\$188,935	\$18,147	

Life insurance assets are considered level 3 investments as their values are determined by the sponsor using unobservable market data.

Alternative investments categorized as level 3 are valued based on unobservable inputs and cannot be corroborated using verifiable observable market data. Investments in level 3 funds are redeemable, however, cash reimbursement may be delayed or a portion held back until asset finalization.

The following is a summary of the changes in the fair value of the foreign plans' level 3 investments (fair value determined using significant unobservable inputs):

	Life Insurance
	(In thousands)
Balance, December 31, 2015	\$20,486
Actual return on assets:	
Unrealized (losses) relating to instruments still held at the end of the year	(2,339)
Realized gains (losses) relating to assets sold during the year	_
Purchases, sales, issuances and settlements, net	
Balance, December 31, 2016	18,147
Actual return on assets:	
Unrealized gains relating to instruments still held at the end of the year	3,147
Realized gains (losses) relating to assets sold during the year	
Purchases, sales, issuances and settlements, net	
Balance, December 31, 2017	\$21,294

The objective of the Company's foreign defined benefit plans' investment strategy is to maximize the longterm rate of return on plan investments, subject to a reasonable level of risk. Liability studies are also performed on a regular basis to provide guidance in setting investment goals with an objective to balance risks against the current and future needs of the plans. The trustees consider the risk associated with the different asset classes, relative to the plans' liabilities and how this can be affected by diversification, and the relative returns available on equities, fixedincome investments, real estate and cash. Also, the likely volatility of those returns and the cash flow requirements of the plans are considered. It is expected that equities will outperform fixed-income investments over the long term. However, the trustees recognize the fact that fixed-income investments may better match the liabilities for pensioners. Because of the relatively young active employee group covered by the plans and the immature nature of the plans, the trustees have chosen to adopt an asset allocation strategy more heavily weighted toward equity investments. This asset allocation strategy will be reviewed, from time to time, in view of changes in market conditions and in the plans' liability profile. The target allocations for the foreign defined benefit plans are approximately 70% equity securities, 15% fixed-income securities and 15% other securities, insurance or cash.

The assumption for the expected return on plan assets was developed based on a review of historical investment returns for the investment categories for the defined benefit pension assets. This review also considered current capital market conditions and projected future investment returns. The estimates of future capital market returns by asset class are lower than the actual long-term historical returns. The current low interest rate environment influences this outlook. Therefore, the assumed rate of return for U.S. plans is 7.50% and 6.64% for foreign plans in 2018.

The projected benefit obligation, accumulated benefit obligation and fair value of plan assets for pension plans with a projected benefit obligation in excess of plan assets and pension plans with an accumulated benefit obligation in excess of plan assets were as follows at December 31:

U.S. Defined Benefit Pension Plans:

	Projected Benefit Obligation Exceeds Fair Value of Assets		0	
	2017	2016	2017	2016
		(In tho	usands)	
Benefit obligation	\$6,046	\$26,356	\$6,046	\$26,356
Fair value of plan assets		19,059	—	19,059

Foreign Defined Benefit Pension Plans:

	Projected Benefit Obligation Exceeds Fair Value of Assets		Accumulated Benefi Obligation Exceeds Fair Value of Asset:	
	2017	2016	2017	2016
		(In thou	isands)	
Benefit obligation	\$186,756	\$215,893	\$180,779	\$209,377
Fair value of plan assets	127,170	146,480	127,170	146,480

The following table provides the amounts recognized in the consolidated balance sheet at December 31:

	2017	2016
	(In tho	usands)
Funded status asset (liability):		
Fair value of plan assets	\$ 846,961	\$ 706,008
Projected benefit obligation	(804,553)	(757,147)
Funded status at the end of the year	<u>\$ 42,408</u>	\$(51,139)
Amounts recognized in the consolidated balance sheet consisted of:		
Noncurrent asset for pension benefits (other assets)	. \$ 108,039	\$ 25,571
Current liabilities for pension benefits		
Noncurrent liability for pension benefits	(63,730)	(75,317)
Net amount recognized at the end of the year	. \$ 42,408	\$(51,139)

The following table provides the amounts recognized in accumulated other comprehensive income, net of taxes, at December 31:

Net amounts recognized:	2017	2016
	(In thou	
Net actuarial loss	\$178,466	\$204,782
Prior service costs	(1,102)	(1,031)
Transition asset	7	7
Total recognized	\$177,371	\$203,758

The following table provides the components of net periodic pension benefit expense (income) for the years ended December 31:

	2017	2016	2015	
	(In thousands)			
Defined benefit plans:				
Service cost		\$ 6,622	\$ 7,000	
Interest cost	27,424	30,049	28,670	
Expected return on plan assets	(53,442)	(51,140)	(54,819)	
Amortization of:				
Net actuarial loss	14,591	10,224	9,383	
Prior service costs	(47)	(52)	(55)	
Transition asset	1	1	1	
Total net periodic benefit income	(4,335)	(4,296)	(9,820)	
Other plans:				
Defined contribution plans		23,881	22,750	
Foreign plans and other	5,866	5,694	4,800	
Total other plans	30,146	29,575	27,550	
Total net pension expense	\$ 25,811	\$ 25,279	\$ 17,730	

The total net periodic benefit expense (income) is included in Cost of sales in the consolidated statement of income. The estimated amount that will be amortized from accumulated other comprehensive income into net periodic pension benefit expense in 2018 for the net actuarial losses and prior service costs is expected to be approximately \$12 million.

The following weighted average assumptions were used to determine the above net periodic pension benefit expense for the years ended December 31:

	2017	2016	2015
U.S. Defined Benefit Pension Plans:			
Discount rate	4.25%	4.80%	4.20%
Expected return on plan assets	7.50%	7.75%	7.75%
Rate of compensation increase (where applicable)	3.75%	3.75%	3.75%
Foreign Defined Benefit Pension Plans:			
Discount rate	2.56%	3.62%	3.44%
Expected return on plan assets	6.79%	6.95%	6.92%
Rate of compensation increase (where applicable)	2.50%	2.88%	2.88%

Estimated Future Benefit Payments

The estimated future benefit payments for U.S. and foreign plans are as follows: 2018 - \$39.8 million; 2019 - \$40.2 million; 2020 - \$41.2 million; 2021 - \$41.9 million; 2022 - \$42.5 million; 2023 to 2027 - \$223.4 million. Future benefit payments primarily represent amounts to be paid from pension trust assets. Amounts included that are to be paid from the Company's assets are not significant in any individual year.

Postretirement Plans and Postemployment Benefits

The Company provides limited postretirement benefits other than pensions for certain retirees and a small number of former employees. Benefits under these arrangements are not funded and are not significant.

The Company also provides limited postemployment benefits for certain former or inactive employees after employment but before retirement. Those benefits are not significant in amount.

The Company has a deferred compensation plan, which allows employees whose compensation exceeds the statutory IRS limit for retirement benefits to defer a portion of earned bonus compensation. The plan permits deferred amounts to be deemed invested in either, or a combination of, (a) an interest-bearing account, benefits from which are payable out of the general assets of the Company, or (b) the equivalent of a fund which invests in shares of the Company's common stock on behalf of the employee. The amount deferred under the plan, including income earned, was \$25.4 million and \$25.2 million at December 31, 2017 and 2016, respectively. Administrative expense for the deferred compensation plan is borne by the Company and is not significant.

Multiemployer Defined Benefit Pension Plan

For the year ended December 31, 2017, the Company recorded \$6.0 million in costs as a result of its decision to withdraw from a multiemployer pension plan serving a facility that is currently operating.

12. Guarantees

The Company does not provide significant guarantees on a routine basis. The Company primarily issues guarantees, stand-by letters of credit and surety bonds in the ordinary course of its business to provide financial or performance assurance to third parties on behalf of its consolidated subsidiaries to support or enhance the subsidiary's stand-alone creditworthiness. The amounts subject to certain of these agreements vary depending on the covered contracts actually outstanding at any particular point in time. At December 31, 2017, the maximum amount of future payment obligations relative to these various guarantees was \$82.8 million and the outstanding liability under certain of those guarantees was \$0.3 million.

Indemnifications

In conjunction with certain acquisition and divestiture transactions, the Company may agree to make payments to compensate or indemnify other parties for possible future unfavorable financial consequences resulting from specified events (e.g., breaches of contract obligations or retention of previously existing environmental, tax or employee liabilities) whose terms range in duration and often are not explicitly defined. Where appropriate, the obligation for such indemnifications is recorded as a liability. Because the amount of these types of indemnifications cannot be reasonably estimated. Further, the Company indemnifies its directors and officers for claims against them in connection with their positions with the Company. Historically, any such costs incurred to settle claims related to these indemnifications have been minimal for the Company. The Company believes that future payments, if any, under all existing indemnification agreements would not have a material impact on its consolidated results of operations, financial position or cash flows.

Product Warranties

The Company provides limited warranties in connection with the sale of its products. The warranty periods for products sold vary among the Company's operations, but generally do not exceed one year. The Company calculates its warranty expense provision based on its historical warranty experience and adjustments are made periodically to reflect actual warranty expenses.

Changes in the accrued product warranty obligation were as follows at December 31:

	2017	2016	2015
	(I	n thousands	s)
Balance at the beginning of the year	\$ 22,007	\$ 22,761	\$ 29,764
Accruals for warranties issued during the year	15,951	16,046	14,817
Settlements made during the year	(17,854)	(17,732)	(19,905)
Warranty accruals related to acquired businesses and other during the year			
Balance at the end of the year	\$ 22,872	\$ 22,007	\$ 22,761

Product warranty obligations are reported as current liabilities in the consolidated balance sheet.

13. Contingencies

Asbestos Litigation

The Company (including its subsidiaries) has been named as a defendant in a number of asbestos-related lawsuits. Certain of these lawsuits relate to a business which was acquired by the Company and do not involve products which were manufactured or sold by the Company. In connection with these lawsuits, the seller of such business has agreed to indemnify the Company against these claims (the "Indemnified Claims"). The Indemnified Claims have been tendered to, and are being defended by, such seller. The seller has met its obligations, in all respects, and the Company does not have any reason to believe such party would fail to fulfill its obligations in the future. To date, no judgments have been rendered against the Company as a result of any asbestos-related lawsuit. The Company believes that it has good and valid defenses to each of these claims and intends to defend them vigorously.

Environmental Matters

Certain historic processes in the manufacture of products have resulted in environmentally hazardous waste by-products as defined by federal and state laws and regulations. At December 31, 2017, the Company is named a Potentially Responsible Party ("PRP") at 13 non-AMETEK-owned former waste disposal or treatment sites (the "non-owned" sites). The Company is identified as a "de minimis" party in 12 of these sites based on the low volume of waste attributed to the Company relative to the amounts attributed to other named PRPs. In eight of these sites, the Company has reached a tentative agreement on the cost of the de minimis settlement to satisfy its obligation and is awaiting executed agreements. The tentatively agreed-to settlement amounts are fully reserved. In the other four sites, the Company is continuing to investigate the accuracy of the alleged volume attributed to the Company as estimated by the parties primarily responsible for remedial activity at the sites to establish an appropriate settlement amount. At the remaining site where the Company is a non-de minimis PRP, the Company is participating in the investigation and/or related required remediation as part of a PRP Group and reserves have been established sufficient to satisfy the Company's expected obligations. The Company historically has resolved these issues within established reserve levels and reasonably expects this result will continue. In addition to these non-owned sites, the Company has an ongoing practice of providing reserves for probable remediation activities at certain of its current or previously owned manufacturing locations (the "owned" sites). For claims and proceedings against the Company with respect to other environmental matters, reserves are established once the Company has determined that a loss is probable and estimable. This estimate is refined as the Company moves through the various stages of investigation, risk assessment, feasibility study and corrective action processes. In certain instances, the Company has developed a range of estimates for such costs and has recorded a liability based on the best estimate. It is reasonably possible that the actual cost of remediation of the individual sites could vary from the current estimates and the amounts accrued in the consolidated financial statements; however, the amounts of such variances are not expected to result in a material change to the consolidated financial statements. In estimating the Company's liability for remediation, the Company also considers the likely proportionate share of the anticipated remediation expense and the ability of the other PRPs to fulfill their obligations.

Total environmental reserves at December 31, 2017 and 2016 were \$30.1 million and \$28.4 million, respectively, for both non-owned and owned sites. In 2017, the Company recorded \$7.7 million in reserves and the reserve increased \$0.4 million due to foreign currency translation. Additionally, the Company spent \$6.4 million on environmental matters in 2017. The Company's reserves for environmental liabilities at December 31, 2017 and 2016 included reserves of \$11.6 million and \$12.4 million, respectively, for an owned site acquired in connection with the 2005 acquisition of HCC Industries ("HCC"). The Company is the designated performing party for the performance of remedial activities for one of several operating units making up a Superfund site in the San Gabriel Valley of California. The Company has obtained indemnifications and other financial assurances from the former owners of HCC related to the costs of the required remedial activities. At December 31, 2017, the Company had \$12.0 million in receivables related to HCC for probable recoveries from third-party escrow funds and other committed third-party funds to support the required remediation. Also, the Company is indemnified by HCC's former owners for approximately \$19 million of additional costs.

The Company has agreements with other former owners of certain of its acquired businesses, as well as new owners of previously owned businesses. Under certain of the agreements, the former or new owners retained, or assumed and agreed to indemnify the Company against, certain environmental and other liabilities under certain circumstances. The Company and some of these other parties also carry insurance coverage for some environmental matters. To date, these parties have met their obligations in all material respects.

The Company believes it has established reserves for the environmental matters described above, which are sufficient to perform all known responsibilities under existing claims and consent orders. The Company has no reason to believe that other third parties would fail to perform their obligations in the future. In the opinion of management, based on presently available information and the Company's historical experience related to such matters, an adequate provision for probable costs has been made and the ultimate cost resulting from these actions is not expected to materially affect the consolidated results of operations, financial position or cash flows of the Company.

The Company has been remediating groundwater contamination for several contaminants, including trichloroethylene ("TCE"), at a formerly owned site in El Cajon, California. Several lawsuits have been filed against the Company alleging damages resulting from the groundwater contamination, including property damages and personal injury, and seeking compensatory and punitive damages. Given the state of uncertainty inherent in these litigations, the Company does not believe it is possible to develop estimates of reasonably possible loss in regard to these matters. The Company believes that it has good and valid defenses to each of these claims and intends to defend them vigorously. The Company does not expect the outcome of these matters, either individually or in the aggregate, to materially affect the consolidated results of operations, financial position or cash flows of the Company.

14. Leases and Other Commitments

Minimum aggregate rental commitments under noncancellable leases in effect at December 31, 2017 (principally for production and administrative facilities and equipment) amounted to \$187.3 million, consisting of payments of \$39.0 million in 2018, \$31.6 million in 2019, \$25.1 million in 2020, \$21.2 million in 2021, \$16.8 million in 2022 and \$53.6 million thereafter. The leases expire over a range of years from 2018 to 2082, with renewal or purchase options, subject to various terms and conditions, contained in most of the leases. Rental expense was \$49.7 million in 2017, \$46.3 million in 2016 and \$43.6 million in 2015.

As of December 31, 2017 and 2016, the Company had \$390.6 million and \$289.1 million, respectively, in purchase obligations outstanding, which primarily consisted of contractual commitments to purchase certain inventories at fixed prices.

15. Reportable Segments and Geographic Areas Information

Descriptive Information about Reportable Segments

The Company has two reportable segments, EIG and EMG. The Company's operating segments are identified based on the existence of segment managers. Certain of the Company's operating segments have been aggregated for segment reporting purposes primarily on the basis of product type, production processes, distribution methods and similarity of economic characteristics.

EIG manufactures advanced instruments for the process, power and industrial, and aerospace markets. It provides process and analytical instruments for the oil and gas, petrochemical, pharmaceutical, semiconductor, automation, and food and beverage industries. It provides instruments to the laboratory equipment, ultraprecision manufacturing, medical, and test and measurement markets. It makes power quality monitoring and metering devices, uninterruptible power supplies, programmable power equipment, electromagnetic compatibility test equipment and gas turbines sensors. It provides dashboard instruments for heavy trucks and other vehicles, as well as instrumentation and controls for the food and beverage industries. It supplies the aerospace industry with aircraft and engine sensors, monitoring systems, power supplies, fuel and fluid measurement systems, and data acquisition systems.

EMG is a differentiated supplier of automation solutions, thermal management systems, specialty metals and electrical interconnects. It manufactures highly engineered electrical connectors and electronic packaging used to protect sensitive electronic devices. It makes precision motion control products for data storage, medical devices, business equipment, automation and other applications. It supplies high-purity powdered metals, strip and foil, specialty clad metals and metal matrix composites. It manufactures motors used in commercial appliances, fitness equipment, food and beverage machines, hydraulic pumps and industrial blowers. It operates a global network of aviation maintenance, repair and overhaul facilities.

Measurement of Segment Results

Segment operating income represents net sales less all direct costs and expenses (including certain administrative and other expenses) applicable to each segment, but does not include interest expense. Net sales by segment are reported after elimination of intra- and intersegment sales and profits, which are insignificant in amount. Reported segment assets include allocations directly related to the segment's operations. Corporate assets consist primarily of investments, prepaid pensions, insurance deposits and deferred taxes.

Reportable Segment Financial Information

	_	2017	<u>2016</u> (In thousands)		2015
Net sales ⁽¹⁾ :			(III thousands)		
Electronic Instruments	\$2	2,690,554	\$2,360,285	\$2	,417,192
Electromechanical		1,609,616	1,479,802	_1	,557,103
Consolidated net sales	\$4	4,300,170	\$3,840,087	\$3	,974,295
Operating income and income before income taxes:					
Segment operating income ⁽²⁾ :					
Electronic Instruments		,	\$ 577,717	\$	639,399
Electromechanical		310,875	277,873		318,098
Total segment operating income		988,364	855,590		957,497
Corporate administrative and other expenses		(73,270)	(53,693)		(49,781)
Consolidated operating income	_	915,094	801,897		907,716
Interest and other expenses, net		(118,365)	(108,794)	(101,336)
Consolidated income before income taxes	\$	796,729	\$ 693,103		806,380
Assets:	_			_	
	\$4	4,803,575	\$4,104,972		
Electromechanical	ź	2,535,503	2,446,180		
Total segment assets	,	7,339,078	6,551,152		
Corporate		456,986	549,522		
Consolidated assets	\$'	7,796,064	\$7,100,674		
Additions to property, plant and equipment ⁽³⁾ :					
Electronic Instruments	\$	54,321	\$ 45,091	\$	32,069
Electromechanical		36,829	39,340	_	88,369
Total segment additions to property, plant and equipment		91,150	84,431		120,438
Corporate		3,002	1,914		2,121
Consolidated additions to property, plant and equipment	\$	94,152	\$ 86,345	\$	122,559
Depreciation and amortization:					
Electronic Instruments	\$	108,053	\$ 104,284	\$	83,832
Electromechanical	_	73,222	73,767		64,539
Total segment depreciation and amortization		181,275	178,051		148,371
Corporate		1,952	1,665		1,089
Consolidated depreciation and amortization	\$	183,227	\$ 179,716	\$	149,460

(1) After elimination of intra- and intersegment sales, which are not significant in amount.

(2) Segment operating income represents net sales less all direct costs and expenses (including certain administrative and other expenses) applicable to each segment, but does not include interest expense.

(3) Includes \$19.1 million in 2017, \$23.1 million in 2016 and \$53.4 million in 2015 from acquired businesses.

Geographic Areas

Information about the Company's operations in different geographic areas for the years ended December 31, 2017, 2016 and 2015 is shown below. Net sales were attributed to geographic areas based on the location of the customer. Accordingly, U.S. export sales are reported in international sales.

	2017	2016	2015
Net sales:	* • • • • • • • • •	# 1 000 011	.
United States	\$2,086,180	\$1,829,341	\$1,919,611
International ⁽¹⁾ :			
United Kingdom	186,534	188,700	201,192
European Union countries	692,116	619,138	615,956
Asia	879,426	785,868	789,435
Other foreign countries	455,914	417,040	448,101
Total international	2,213,990	2,010,746	2,054,684
Total consolidated	\$4,300,170	\$3,840,087	\$3,974,295
Long-lived assets from continuing operations (excluding intangible assets):			
United States	\$ 325,908	\$ 322,743	
International ⁽²⁾ :			
United Kingdom	62,643	59,208	
European Union countries		58,368	
Asia	12,073	12,204	
Other foreign countries	27,468	20,707	
Total international	167,388	150,487	
Total consolidated	\$ 493,296	\$ 473,230	

(1) Includes U.S. export sales of \$1,142.3 million in 2017, \$1,036.0 million in 2016 and \$1,090.7 million in 2015.

(2) Represents long-lived assets of foreign-based operations only.

16. Additional Consolidated Income Statement and Cash Flow Information

Included in other income are interest and other investment income of \$2.1 million, \$1.2 million and \$0.7 million for 2017, 2016 and 2015, respectively. Income taxes paid in 2017, 2016 and 2015 were \$176.6 million, \$180.8 million and \$157.8 million, respectively. Cash paid for interest was \$96.1 million, \$91.8 million and \$90.8 million in 2017, 2016 and 2015, respectively.

17. Stockholders' Equity

In 2016, the Company repurchased approximately 7,099,000 shares of its common stock for \$336.1 million in cash under its share repurchase authorization. On November 2, 2016, the Company's Board of Directors approved an increase of \$400 million in the authorization for the repurchase of the Company's common stock. At December 31, 2016, \$375.6 million was available under the Company's Board of Directors authorization for future share repurchases. In 2017, the Company repurchased approximately 114,000 shares of its common stock for \$6.9 million in cash under its share repurchase authorization. At December 31, 2017, \$368.7 million was available under the Company's Board of Directors available under the Company's Board of Directors authorization for future share repurchases.

At December 31, 2017, the Company held 31.8 million shares in its treasury at a cost of \$1,209.1 million, compared with 32.1 million shares at a cost of \$1,211.5 million at December 31, 2016. The number of shares outstanding at December 31, 2017 was 231.2 million shares, compared with 229.4 million shares at December 31, 2016.

The Company had a Shareholder Rights Plan, which expired in June 2017. Under the Plan, the Company's Board of Directors declared a dividend of one Right for each share of Company common stock owned at the close of business on June 2, 2007, and authorized the issuance of one Right for each share of common stock of the Company issued between the Record Date and the Distribution Date. The Plan provided, under certain conditions involving acquisition of the Company's common stock, that holders of Rights, except for the acquiring entity, would be entitled (i) to purchase shares of preferred stock at a specified exercise price, or (ii) to purchase shares of common stock of the Company, having a value of twice the Rights exercise price.

Subsequent Event

Effective February 1, 2018, the Company's Board of Directors approved a 56% increase in the quarterly cash dividend on the Company's common stock to \$0.14 per common share from \$0.09 per common share.

18. Restructuring Charges

During the fourth quarter of 2017, the Company recorded pre-tax restructuring charges totaling \$10.8 million, which had the effect of reducing net income by \$9.1 million. The restructuring charges were reported in the consolidated statement of income in Cost of sales. The restructuring charges were reported in segment operating income as follows: \$4.5 million in EIG and \$6.3 million in EMG. The restructuring actions were composed of \$3.0 million in severance costs for a reduction in workforce and \$7.8 million of asset write-downs to better position the Company's long-term cost structure and included costs associated with the continued consolidation of the Company's floor care and specialty motors businesses into its precision motion control businesses. The restructuring activities will be broadly implemented across the Company's various businesses through the end of 2018, with most actions expected to be completed in 2019.

During the fourth quarter of 2016, the Company recorded pre-tax restructuring charges totaling \$25.6 million, which had the effect of reducing net income by \$17.0 million. The restructuring charges were reported in the consolidated statement of income as follows: \$24.0 million in Cost of sales and \$1.6 million in Selling, general and administrative expenses. The restructuring charges were reported in segment operating income as follows: \$12.4 million in EIG, \$11.6 million in EMG and \$1.6 million in corporate administrative expenses. The restructuring actions primarily related to \$19.3 million in severance costs for a reduction in workforce and \$6.2 million of asset write-downs in response to the impact of a weak global economy on certain of the Company's businesses and the effects of a continued strong U.S. dollar. The restructuring activities have been broadly implemented across the Company's various businesses with most actions expected to be completed in 2018.

During the fourth quarter of 2015, the Company recorded pre-tax restructuring charges totaling \$20.7 million, which had the effect of reducing net income by \$13.9 million. The restructuring charges were reported in the consolidated statement of income as follows: \$20.0 million in Cost of sales and \$0.7 million in Selling, general and administrative expenses. The restructuring charges were reported in segment operating income as follows: \$9.3 million in EIG, \$10.8 million in EMG and \$0.7 million in corporate administrative expenses. The restructuring actions primarily related to a reduction in workforce in response to the impact of a weak global economy on certain of the Company's businesses and the effects of a continued strong U.S. dollar. The restructuring activities have been broadly implemented across the Company's various businesses with all actions expected to be completed in 2018.

Accrued liabilities in the Company's consolidated balance sheet included amounts related to the fourth quarters of 2017, 2016 and 2015 restructuring charges as follows (in millions):

	Fourth Quarter of 2017 Restructuring	Fourth Quarter of 2016 Restructuring	Fourth Quarter of 2015 Restructuring
Balance at December 31, 2015	\$	\$	\$19.3
Pre-tax charges	—	25.6	—
Utilization		(6.4)	(9.2)
Foreign currency translation adjustments and other			(0.9)
Balance at December 31, 2016		19.2	9.2
Pre-tax charges	10.8	—	—
Utilization	(7.8)	(6.4)	(2.4)
Foreign currency translation adjustments and other			(0.1)
Balance at December 31, 2017	\$ 3.0	\$12.8	\$ 6.7

19. Quarterly Financial Data (Unaudited)

		First Quarter	_	Second Quarter		Third Quarter	_	Fourth Quarter	T	otal Year
2017			(]	n thousands	, ex	cept per sha	are	amounts)		
<u>2017</u> Net sales	\$1	1,007,682	\$1	1,064,604	\$1	1,084,799	\$ 1	1,143,085	\$4	,300,170
Operating income ⁽¹⁾	\$	220,298	\$	232,385	\$	232,831	\$	229,580	\$	915,094
Net income ⁽¹⁾⁽²⁾		138,926	\$	150,481	\$	153,531	\$	238,532	\$	681,470
Basic earnings per share ⁽¹⁾⁽²⁾⁽³⁾	\$	0.61	\$	0.65	\$	0.67	\$	1.03	\$	2.96
Diluted earnings per share ⁽¹⁾⁽²⁾⁽³⁾	\$	0.60	\$	0.65	\$	0.66	\$	1.03	\$	2.94
Dividends paid per share	\$	0.09	\$	0.09	\$	0.09	\$	0.09	\$	0.36
2016										
Net sales	\$	944,398	\$	977,706	\$	945,030	\$	972,953	\$3	8,840,087
Operating income ⁽⁴⁾⁽⁵⁾	\$	208,523	\$	219,036	\$	201,116	\$	173,222	\$	801,897
Net income ⁽⁴⁾⁽⁵⁾	\$	134,170	\$	138,193	\$	130,687	\$	109,108	\$	512,158
Basic earnings per share ⁽³⁾⁽⁴⁾⁽⁵⁾	\$	0.57	\$	0.59	\$	0.56	\$	0.47	\$	2.20
Diluted earnings per share ⁽³⁾⁽⁴⁾⁽⁵⁾	\$	0.57	\$	0.59	\$	0.56	\$	0.47	\$	2.19
Dividends paid per share	\$	0.09	\$	0.09	\$	0.09	\$	0.09	\$	0.36

(1) During 2017, the Company recorded pre-tax restructuring charges totaling \$10.8 million, recorded in the fourth quarter of 2017. The restructuring charges had the effect of reducing net income for 2017 by \$9.1 million. See Note 18.

(2) During 2017, the Company recorded a net benefit of \$91.6 million in the consolidated statement of income as a component of Provision for income taxes related to the Act. The net benefit related to the Act had the effect of increasing net income for 2017 by \$91.6 million. See Note 8.

(3) The sum of quarterly earnings per share may not equal total year earnings per share due to rounding of earnings per share amounts, and differences in weighted average shares and equivalent shares outstanding for each of the periods presented.

- (4) During 2016, the Company recorded pre-tax restructuring charges totaling \$25.6 million, recorded in the fourth quarter of 2016. The restructuring charges had the effect of reducing net income for 2016 by \$17.0 million. See Note 18.
- (5) During 2016, the Company recorded a \$13.9 million non-cash impairment charge related to certain of the Company's trade names. The impairment charge had the effect of reducing net income for 2016 by \$8.6 million. See Note 6.



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Use the Internet to transmit your voting instructions and for electronic delivery of information. Vote by 11:59 p.m. EDT on May 7, 2018 for shares held directly and by 11:59 p.m. EDT on May 3, 2018 for shares held in a plan listed on the reverse side. Have your proxy card in hand when you access the web site and follow the instructions to obtain your records and to create an electronic voting instruction form.

ELECTRONIC DELIVERY OF FUTURE PROXY MATERIALS

If you would like to reduce the costs incurred by our company in mailing proxy materials, you can consent to receiving all future proxy statements, proxy cards and annual reports electronically via e-mail or the Internet. To sign up for electronic delivery, please follow the instructions above to vote using the Internet and, when prompted, indicate that you agree to receive or access proxy materials electronically in future years.

VOTE BY PHONE - 1-800-690-6903

Use any touch-tone telephone to transmit your voting instructions. Vote by 11:59 p.m. EDT on May 7, 2018 for shares held directly and by 11:59 p.m. EDT on May 3, 2018 for shares held in a plan listed on the reverse side. Have your proxy card in hand when you call and then follow the instructions.

VOTE BY MAIL

Mark, sign and date your proxy card and return it in the postage-paid envelope we have provided or return it to Vote Processing, c/o Broadridge, 51 Mercedes Way, Edgewood, NY 11717.

TO VOTE, MARK BLOCKS BELOW IN BLUE OR BLACK INK AS FOLLOWS:

	E43553-P07906		KEEP THIS PO	ORTION FOR	YOUR			
	THIS PROXY CA	RD IS VAL	ID ONLY W	HEN SIGNED AND DATED.	DETACH AND F	RETURN THIS	PORT	TION ONLY
METEK, INC.								
The Board of Directors recommends you vote following:	e FOR the							
1. Election of Directors								
Nominees:	Fc	r Against	Abstain					
1a. Elizabeth R. Varet	C							
1b. Dennis K. Williams	(
The Board of Directors recommends you vote	OR proposals 2 and 3.					For Again	nst A	bstain
2. Approval, by non-binding advisory vote, c	f AMETEK, Inc. named e	ecutive of	icer comper	nsation.				
3. Ratification of Ernst & Young LLP as indep	endent registered public	accounting	; firm for 20	18.				
NOTE: At their discretion, the proxy holders are	authorized to vote upor	such othe	business as	s may properly come before the meeting.				
For address changes and/or comments, please c on the back where indicated.	neck this box and write th	em						
UNLESS OTHERWISE SPECIFIED IN THE SPACES I IN PROPOSAL 1 AND FOR PROPOSALS 2 AND 3					FOR DIRECTOR LISTED			
Please sign exactly as your name(s) appear(s) he owners should each sign personally. All holders r	reon. When signing as a nust sign. If a corporatior	ttorney, ex or partner	ecutor, adm ship, pleases	inistrator, or other fiduciary, please give full t sign in full corporate or partnership name by a	itle as such. Joint uthorized officer.			
L Signature [PLEASE SIGN WITHIN BOX]	Date			L Signature (Joint Owners)	Date			

Important Notice Regarding the Availability of Proxy Materials for the Annual Meeting: The Notice of Meeting, Proxy Statement and Proxy Card are available at <u>http://www.ametek.com/2018proxy</u> and www.proxyvote.com.

AMETEK, INC. Annual Meeting of Stockholders May 8, 2018 11:00 AM This proxy is solicited on behalf of the Board of Directors

E43554-P07906

The stockholder(s) hereby appoint(s) David A. Zapico, Robert S. Feit and Lynn Carino or a majority of those present and acting, or if only one is present and acting, then that one, as proxy or proxies, with full power of substitution, to vote all stock of AMETEK, Inc. which the undersigned is entitled to vote at AMETEK's Annual Meeting of Stockholders to be held at the Lotte New York Palace Hotel, 455 Madison Avenue, New York, NY 10022, on Tuesday, May 8, 2018, at 11:00 a.m. Eastern Daylight Time, and any adjournment or postponement thereof, hereby ratifying all that said proxy or proxies or their substitutes may do by virtue hereof, and the undersigned authorizes and instructs said proxy or proxies to vote as follows:

NOTE TO PLAN PARTICIPANTS IN:

SOLIDSTATE CONTROLS, INC. HOURLY EMPLOYEES (CWA) RETIREMENT PLAN, SUPERIOR TUBE COMPANY, INC. UNION 401(k) PLAN AND AMETEK RETIREMENT AND SAVINGS PLAN. If you are a stockholder under the plans mentioned above voting online or by phone, the voting deadline is 11:59 p.m. EDT on May 3, 2018. If you are a stockholder under the plans mentioned above voting by mail, to avoid delay please mail your proxy card with time for it to be delivered to the tabulating agent by May 2, 2018, the day before the cut-off date. Without your specific instructions, we will vote these shares, for or against, in the same proportion as the shares for which we have received instructions from other plan participants.

Address Changes/Comments:

(If you noted any Address Changes/Comments above, please mark corresponding box on the reverse side.)

Continued and to be signed on reverse side