2016 ANNUAL REPORT

ILLINOIS TOOL WORKS INC.

Contents

about ITW

ITW's patent wall

Founded in 1912, ITW (NYSE: ITW) is a global industrial company centered on a differentiated and proprietary business model. The company's seven industry-leading segments leverage the ITW Business Model to generate solid growth with best-in-class margins and returns in markets where highly innovative, customer-focused solutions are required. ITW's more than 50,000 dedicated colleagues around the world thrive in our decentralized, entrepreneurial culture. In 2016, the company achieved revenues of $13.6 billion, with roughly half coming from outside North America. To learn more, please visit www.itw.com.

To Our Fellow Shareholders

We are pleased to report that 2016 was another strong year for ITW.

In fact, 2016 was the most profitable year in ITW's 104-year history. Earnings per share of $5.70 was up 11% versus 2015, and we achieved all-time record performance on the following key operating metrics:

- Operating Income of $3.1 billion (up 7%)
- Operating Margin of 22.5% (up 110 basis points)
- After-tax Return on Invested Capital of 22.1% (up 170 basis points)

In addition, we continued to generate strong free cash flow, which we utilized to reinvest in the growth and productivity of our core businesses and to make a highly complementary bolt-on acquisition in our Automotive OEM segment. We also returned more than $2.8 billion of surplus capital to our shareholders through dividends and share repurchases.

ENTERPRISE STRATEGY UPDATE

2016 also marked the fourth year of our Enterprise Strategy. We launched our current strategy in late 2012 with the explicit goal of positioning ITW to deliver **solid growth with best-in-class margins and returns** by focusing the entire company on utilizing ITW's highly differentiated and proprietary Business Model to its full potential.

The **ITW Business Model** is the core source of our competitive advantage as a company. It drives our ability to win with customers and deliver differentiated returns for our shareholders. (A description of the three elements of the ITW Business Model can be found on pages 6-7.) We implemented a number of key initiatives in conjunction with our Enterprise Strategy and we have made significant progress over the course of the last four years.

Since we launched our Enterprise Strategy in 2012, we have increased ITW's operating margin from 15.9% to 22.5% and after-tax return on invested capital from 14.5% to 22.1%. And in 2016, despite a global macroeconomic environment that remained challenging on many fronts, we generated organic growth of more than 2 percentage points above the average of our peer group.[1]

We have come a long way over the last four years and ITW's performance is now approaching best-in-class levels. As a result, we are frequently asked "what's next" and whether we are getting close to maxing out on our current strategy. The really good news from our perspective is that despite our considerable progress, we have significant opportunity for further performance improvement within the framework of our current strategy before ITW is operating to its full potential.

[1] See appendix for peer group definition

STRATEGY – KEY INITIATIVES

We launched ITW's Enterprise Strategy in 2012 to position the company to generate solid growth with best-in-class margins and returns by leveraging ITW's powerful and proprietary Business Model to its full potential. Our plan is focused on six key initiatives:

1 Narrow the Focus and Improve the Quality of ITW's Business Portfolio:
- Sustainable differentiation is a "must-have"

2 Simplify and Scale-Up ITW's Operating Structure:
- Business Structure Simplification

3 Better Leverage ITW's Scale to Enhance Our Global Competitiveness:
- Strategic Sourcing

4 Shift Primary Growth Focus:
- From acquisition to organic

5 Excellence in the Practice of the ITW Business Model:
- Everywhere in the company, every day

6 Sustained Above-Market Organic Growth:
- Through the cycle

OUR PATH TO FULL POTENTIAL

Further Structural Margin Improvement – Targeting 25% Operating Margin Exiting 2018

ITW's **80/20 business management process** is a core element of the ITW Business Model and has been a key value driver for the company for over three decades. Our proprietary management process is comprised of a set of unique and what some might consider unconventional business practices and processes that we utilize in every ITW business. It was started up inside the company in the mid-1980s, and has been in a state of continuous evolution ever since.

Over the last four years, we have completely reengineered our 80/20 business management process by updating and aggregating the most effective ITW 80/20 practices from around the company into a single unified enterprise-wide framework. As a result, our current iteration of 80/20 is by far the most powerful and impactful in our history, and we see significant potential for additional margin expansion as we continue deploying our current version of 80/20 across the company.

Strategic Sourcing, which we launched in 2013 in conjunction with our Enterprise Strategy, has now become a core element of ITW's operational capability. Over the past four years, our Strategic Sourcing initiative has delivered in excess of $345 million in procurement cost savings across the company and we are far from done. We expect to generate meaningful additional structural margin improvement from the execution of our Strategic Sourcing initiative over the next several years.

Consistent High-Quality Revenue Growth – Targeting 2%+ Above-Market Organic Growth

We have done extensive work on our business portfolio and operating structure to position the company to generate consistent above-market organic growth. We have narrowed the focus and significantly improved the organic growth potential of ITW's business portfolio by making **sustainable differentiation** the defining attribute of our "strategic fit" criteria. As a result, we divested over 30 businesses that largely operated in commoditized end markets and exited hundreds of commoditized product lines inside otherwise highly differentiated ITW businesses. We have also taken steps to significantly simplify and scale-up ITW's operating structure in order to better leverage our growth investments and to tighten our focus on our best growth opportunities.

As a result, ITW is now comprised of seven industry-leading segments that each has strong and sustainable differentiation attributes, positive long-term macro market fundamentals, compelling competitive advantages with relevance to key market trends, and plenty of room to grow. (A description of ITW's seven highly differentiated and high-performing segments can be found on pages 8-11.)

As of the end of 2015, we had completed the bulk of our portfolio reshaping and organizational restructuring efforts and shifted our attention more fully to the growth component of our Enterprise Strategy agenda. We are encouraged by the more than 2 percentage points of organic growth out-performance versus the average of our peer group that we delivered in 2016, and we are confident that the company is well-positioned to generate consistent above-market organic growth going forward.

> We have significant opportunity for further performance improvement within the framework of our current strategy before ITW is operating to its full potential.

DISCIPLINED CAPITAL ALLOCATION

Underpinning our Enterprise Strategy is a highly focused and disciplined approach to capital allocation. Simply put, we only invest in areas of opportunity where we can leverage

ITW PERFORMANCE GOALS

The core imperative of our Enterprise Strategy is to leverage the full potential of the ITW Business Model to generate solid growth with best-in-class margins and returns. With this objective firmly in mind, we are committed to achieving the following performance goals by the end of 2018:

25%+	20%+	2%-points+	100%+	12-14%
Operating margin	After-tax ROIC	Organic revenue growth above the market	Free cash flow as percent of net income	Total shareholder returns*

** Assumes 3 percent market growth*

the ITW Business Model to create a compelling competitive advantage and deliver differentiated financial performance. Rather than pursue lower-return, higher-risk opportunities that reside outside of our core strengths and capabilities, we choose to return surplus capital to our shareholders. As a result, internal investments that support organic growth and sustain our highly profitable core businesses are our number-one capital allocation priority. We fully fund all internal investments that meet our criteria and on average they consume 25% to 30% of our operating cash flow annually.

Our second capital allocation priority is our dividend, which we view as an important component of the total returns that we generate for our shareholders. We allocate 30% to 35% of our annual operating cash flow to our dividend and have increased our annual per share dividend for over 50 consecutive years, including an 18% increase in 2016.

Highly targeted acquisitions that both expand ITW's long-term organic growth potential and have significant margin improvement potential from the application of ITW's 80/20 business management process are our third capital allocation priority. After funding our three capital allocation priorities, we utilize an active share repurchase program to return any surplus capital remaining to our shareholders. In 2016, we allocated more than $2.0 billion to share repurchases.

ITW: DIFFERENTIATED BUSINESS MODEL= DIFFERENTIATED PERFORMANCE

As we have stated, our strategy is to leverage the full potential of the **ITW Business Model** to generate **solid growth with best-in-class margins and returns**. With this objective firmly in mind, we are committed to achieving the following performance goals by the end of 2018:

- Organic Growth of 2 percentage points or more above market
- 25%+ Operating Margin
- 20%+ After-tax Return on Invested Capital
- Free Cash Flow of 100%+ of Net Income
- 12-14% Average Total Shareholder Returns

MANAGEMENT/GOVERNANCE DEVELOPMENTS

One of the hallmarks of ITW's long-term success is our experienced management team and Board of Directors. In 2016, we were pleased to add Jay L. Henderson to our Board. Mr. Henderson's deep financial expertise and extensive experience working with the boards and audit committees of numerous *Fortune* 500 companies bring valuable perspectives to our Board.

Christopher A. O'Herlihy | **E. Scott Santi** | **David C. Parry**

Early in 2017, we were pleased to welcome Norman D. Finch Jr. as our Senior Vice President, General Counsel & Secretary. Norm has an exceptional track record as a lawyer and leader, and is an excellent addition to our senior leadership team.

CLOSING REMARKS

This is an exciting time at ITW. We have come a long way over the past four years, and in 2016 we delivered the best performance in our company's history on a number of fronts. While we are pleased with our progress, we are energized by the potential for further performance improvement that we have within the framework of our current Enterprise Strategy.

We owe a huge debt of gratitude to our more than 50,000 ITW colleagues around the world for the great job that they continue to do in executing our strategy and serving our customers with excellence each and every day. They are responsible for ITW's strong performance over the last four years, and they are the source of our confidence in our ability to continue to improve and make further progress on the path to ITW's full potential.

Lastly, on behalf of your Board of Directors and your management team, we thank you, our fellow shareholders, for your continuing support.

Sincerely,

E. Scott Santi
Chairman & Chief Executive Officer

Christopher A. O'Herlihy
Vice Chairman

David C. Parry
Vice Chairman

March 23, 2017

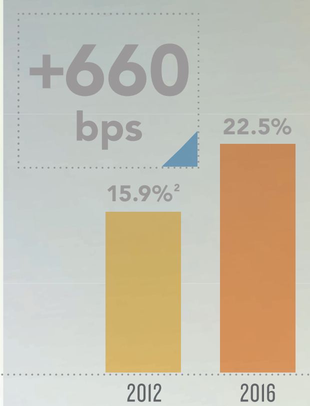
2016 Financial Highlights

Earnings Per Share (diluted)	Operating Margin	After-tax ROIC[1]
$5.70	22.5%	22.1%
+11% vs. 2015	+110bps vs. 2015	+170bps vs. 2015

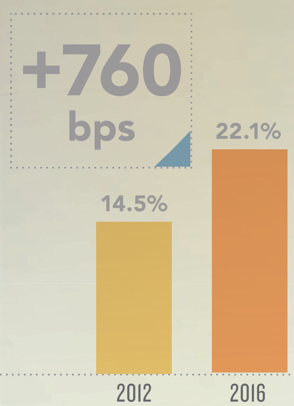
Revenue	Free cash flow conversion[1]	Dividend increase vs. 2015
$13.6 billion	100%	+18%

ENTERPRISE STRATEGY PERFORMANCE PROGRESS

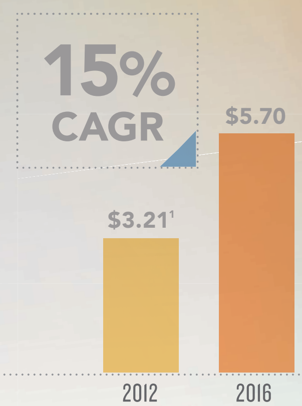
Operating Margin



After-Tax ROIC[1]

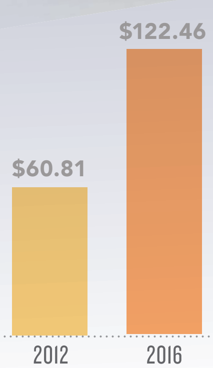


Earnings Per Share (diluted)

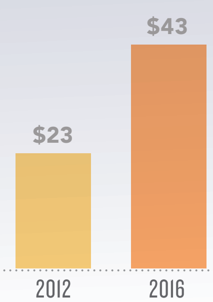


DELIVERING VALUE TO OUR SHAREHOLDERS

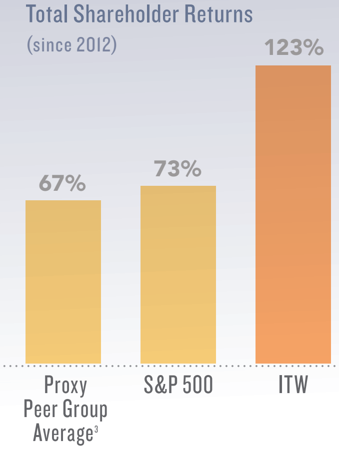
Share Price



Market Capitalization
(dollars in billions)



Total Shareholder Returns
(since 2012)



[1] After-tax return on average invested capital (ROIC), free cash flow conversion and 2012 adjusted EPS are non-GAAP measures. Refer to Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations in the 2016 Annual Report on Form 10-K and the appendix included in this Annual Report for information regarding these non-GAAP measures, including reconciliations to the most comparable GAAP measure.

[2] As reported in the 2012 Annual Report on Form 10-K.

[3] See appendix for peer group definition.

Differentiated Business Model = Differentiated Performance

ITW is built around a powerful and highly differentiated business model.

The ITW Business Model is composed of three elements:

1 THE ITW 80/20 BUSINESS MANAGEMENT PROCESS is a proprietary operating system that we apply in every ITW business. Through the application of our 80/20 business management process, we structure and focus our businesses to uniquely satisfy the needs of their largest and most profitable customers and eliminate the costs, complexity and distractions associated with serving smaller, less profitable customers. As a result, our businesses consistently deliver solid growth with best-in-class total cost productivity by concentrating their efforts, investments and resources on the key customers and products that are best positioned for profitable organic growth.

2

CUSTOMER-BACK INNOVATION has fueled decades of profitable growth at ITW. In every market in which we operate, our businesses work hard to position themselves as the "go-to" problem solver for their key customers. Inventing inspired solutions for our customers to help them address difficult technical challenges or improve their business performance has been the central focus of ITW's approach to innovation all the way back to the founding of our company over 100 years ago … and it is very much alive and well today as evidenced by our portfolio of over 17,000 granted and pending patents, including the more than 1,000 new patent applications that we filed in 2016.

3

OUR DECENTRALIZED, ENTREPRENEURIAL CULTURE allows us to be fast, focused and responsive. Our people are clear about what is expected of them with regard to our business model, our strategy and our values. Within this framework, we empower our business teams to make decisions and customize their approach in order to maximize the relevance and impact of the ITW Business Model for their specific customers and end markets. Our people thrive in ITW's "flexibility within the framework" culture; they think and act like entrepreneurs, they are accountable and they deliver.

ITW's Differentiated Business Portfolio

ITW's business portfolio criteria:

- ✓ End markets with strong and sustainable differentiation attributes
- ✓ Positive long-term macro fundamentals
- ✓ Solid competitive advantages with relevance to key end-market trends
- ✓ Strong potential for ITW to drive above-market organic growth
- ✓ Ability to leverage the ITW Business Model to generate consistent best-in-class margins and returns

ITW'S SEVEN OPERATING SEGMENTS:

AUTOMOTIVE OEM

Highly focused global niche supplier of solutions to top-tier OEMs and their suppliers

2016 revenues
$2.9 billion

2016 operating margin
24.1%

Organic revenue CAGR of
7% since 2012

FOOD EQUIPMENT

Industry-leading global positions through differentiated innovation in ware wash, cooking, refrigeration and integrated service offerings

2016 revenues
$2.1 billion

2016 operating margin
25.4%

Operating margin improvement of
830 basis points since 2012

TEST & MEASUREMENT AND ELECTRONICS

Leading global supplier of production and laboratory testing and assembly equipment, accessories, consumables, and aftermarket parts and service

2016 revenues
$2.0 billion

2016 operating margin
18.9%

Revenue CAGR of
12% since 2005

POLYMERS & FLUIDS

Specialized adhesives, lubricants and additives for industrial- and consumer-related end markets

2016 revenues
$1.7 billion

2016 operating margin
20.3%

Operating margin improvement of
450 basis points since 2012

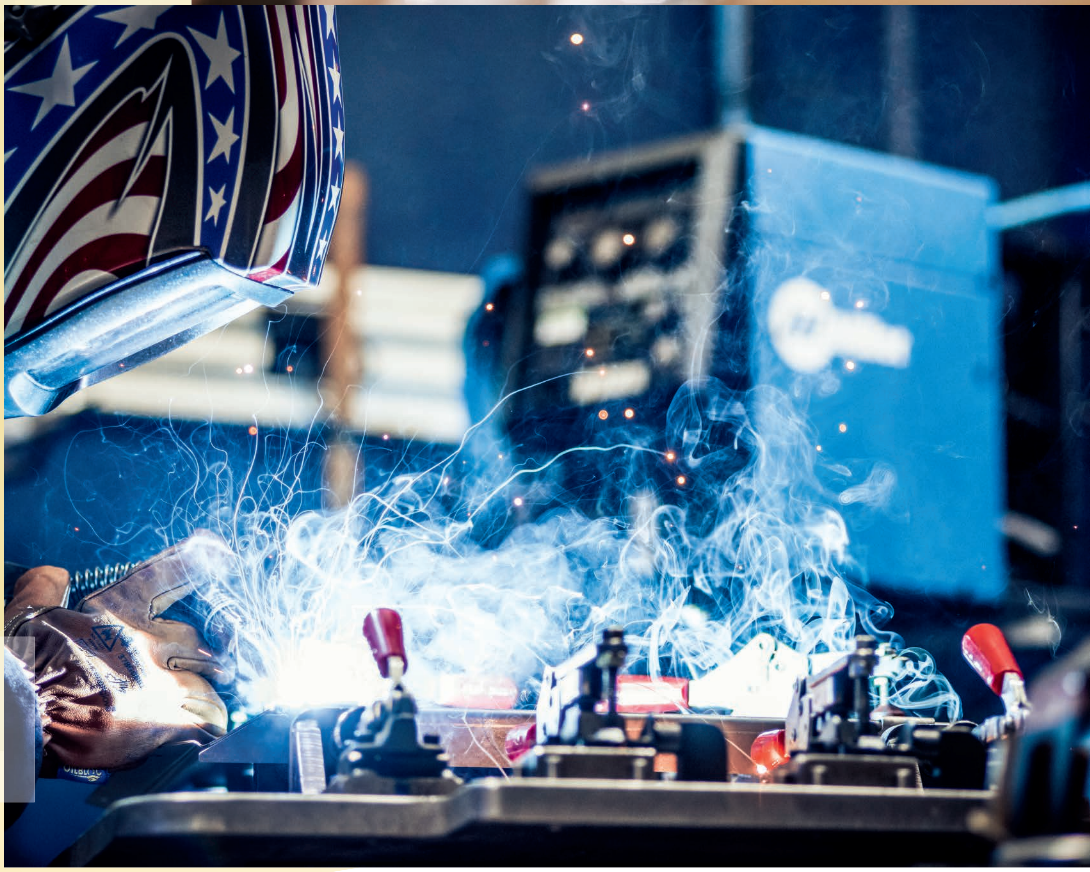
WELDING

Highly focused supplier of value-added welding equipment and specialty consumables for a variety of commercial, industrial and infrastructure applications

2016 revenues
$1.5 billion

2016 operating margin
24.9%

Revenue CAGR of
7% since 1993



CONSTRUCTION PRODUCTS

Global provider of innovative fastening solutions that improve contractor productivity and building quality in residential and commercial construction

2016 revenues
$1.6 billion

2016 operating margin
22.4%

Operating margin improvement of
1,080 basis points since 2012

SPECIALTY PRODUCTS

Innovative value-added solutions for consumer packaging, product branding and other niche applications

2016 revenues
$1.9 billion

2016 operating margin
25.6%

Operating margin improvement of
610 basis points since 2012

Corporate Executives

PICTURED LEFT TO RIGHT: Juan Valls, Michael R. Zimmerman, Steven L. Martindale, Sundaram Nagarajan, Roland M. Martel, John R. Hartnett, Mary K. Lawler, David C. Parry, E. Scott Santi, Christopher A. O'Herlihy, Michael M. Larsen, Norman D. Finch Jr., Lei Zhang Schlitz

E. Scott Santi
Chairman & Chief Executive Officer

Christopher A. O'Herlihy
Vice Chairman

David C. Parry
Vice Chairman

Norman D. Finch Jr.
Senior Vice President,
General Counsel & Secretary

Michael M. Larsen
Senior Vice President &
Chief Financial Officer

Mary K. Lawler
Senior Vice President &
Chief Human Resources Officer

John R. Hartnett
Executive Vice President,
Welding

Roland M. Martel
Executive Vice President,
Specialty Products

Steven L. Martindale
Executive Vice President,
Test & Measurement and Electronics

Sundaram Nagarajan
Executive Vice President,
Automotive OEM

Lei Zhang Schlitz
Executive Vice President,
Food Equipment

Juan Valls
Executive Vice President,
Polymers & Fluids

Michael R. Zimmerman
Executive Vice President,
Construction Products

Board of Directors

Daniel J. Brutto
Retired Senior Vice President,
United Parcel Service, Inc.
Retired President,
UPS International

Susan Crown
Chairman & Chief Executive Officer,
Owl Creek Partners, LLC

James W. Griffith
Retired President &
Chief Executive Officer,
The Timken Company

Jay L. Henderson
Retired Vice Chairman, Client Service
PricewaterhouseCoopers LLP

Richard H. Lenny
Non-Executive Chairman,
Information Resources, Inc.

Robert S. Morrison, Lead Director
Retired Vice Chairman,
PepsiCo, Inc.
Retired Chairman, President &
Chief Executive Officer,
The Quaker Oats Company

E. Scott Santi
Chairman & Chief Executive Officer,
Illinois Tool Works Inc.

James A. Skinner
Retired Vice Chairman & Chief Executive Officer,
McDonald's Corporation

David B. Smith, Jr.
Executive Vice President for Policy & Legal Affairs
and General Counsel,
Mutual Fund Directors Forum

Pamela B. Strobel
Retired Executive Vice President &
Chief Administrative Officer,
Exelon Corporation

Kevin M. Warren
Chief Commercial Officer,
Xerox Corporation

Anré D. Williams
President, Global Merchant Services & Loyalty Group,
American Express Company

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

FORM 10-K

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

For the fiscal year ended December 31, 2016

OR

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

For the transition period from _________ to _________

Commission file number 1-4797

ILLINOIS TOOL WORKS INC.

(Exact Name of Registrant as Specified in its Charter)

Delaware	**36-1258310**
(State or Other Jurisdiction of Incorporation or Organization)	(I.R.S. Employer Identification No.)
155 Harlem Avenue, Glenview, Illinois	**60025**
(Address of Principal Executive Offices)	(Zip Code)

Registrant's telephone number, including area code: **(847) 724-7500**

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

Title of Each Class	Name of Each Exchange on Which Registered
Common Stock	New York Stock Exchange
1.75% Euro Notes due 2022	New York Stock Exchange
1.25% Euro Notes due 2023	New York Stock Exchange
2.125% Euro Notes due 2030	New York Stock Exchange
3.00% Euro Notes due 2034	New York Stock Exchange

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

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

Yes ☒ No ☐

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act.

Yes ☐ No ☒

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

Yes ☒ No ☐

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

Yes ☒ No ☐

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. ☐

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

Large accelerated filer	☒	Accelerated filer	☐
Non-accelerated filer	☐ (Do not check if a smaller reporting company)	Smaller reporting company	☐

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act).

Yes ☐ No ☒

The aggregate market value of the voting stock held by non-affiliates of the registrant as of June 30, 2016 was approximately $30.4 billion based on the New York Stock Exchange closing sales price as of June 30, 2016.

Shares of Common Stock outstanding at January 31, 2017: 346,550,685.

Documents Incorporated by Reference

Portions of the 2017 Proxy Statement for Annual Meeting of Stockholders to be held on May 5, 2017.	Part III

Table of Contents

PART I

ITEM 1. *Business*

General

Illinois Tool Works Inc. (the "Company" or "ITW") was founded in 1912 and incorporated in 1915. The Company's ticker symbol is ITW. The Company is a global manufacturer of a diversified range of industrial products and equipment with 85 divisions in 57 countries. As of December 31, 2016, the Company employed approximately 50,000 persons.

The Company's operations are organized and managed based on similar product offerings and end markets, and are reported to senior management as the following seven segments: Automotive OEM; Food Equipment; Test & Measurement and Electronics; Welding; Polymers & Fluids; Construction Products; and Specialty Products. The following is a description of the Company's seven segments:

Automotive OEM— This segment is a global, niche supplier to top tier OEMs, providing unique innovation to address pain points for sophisticated customers with complex problems. Businesses in this segment produce components and fasteners for automotive-related applications. This segment primarily serves the automotive original equipment manufacturers and tiers market. Products in this segment include:

- plastic and metal components, fasteners and assemblies for automobiles, light trucks and other industrial uses.

Food Equipment— This segment is a highly focused and branded industry-leader in commercial food equipment differentiated by innovation and integrated service offerings. This segment primarily serves the food institutional/restaurant, food service and food retail markets. Products in this segment include:

- warewashing equipment;
- cooking equipment, including ovens, ranges and broilers;
- refrigeration equipment, including refrigerators, freezers and prep tables;
- food processing equipment, including slicers, mixers and scales;
- kitchen exhaust, ventilation and pollution control systems; and
- food equipment service, maintenance and repair.

Test & Measurement and Electronics— This segment is a branded and innovative producer of test and measurement and electronic manufacturing and maintenance, repair, and operations, or "MRO" solutions that improve efficiency and quality for customers in diverse end markets. Businesses in this segment produce equipment, consumables, and related software for testing and measuring physical properties of materials and structures, as well as equipment and consumables used in the production of electronic subassemblies and microelectronics. This segment primarily serves the electronics, general industrial, industrial capital goods, automotive original equipment manufacturers and tiers, and consumer durables markets. Products in this segment include:

- equipment, consumables, and related software for testing and measuring of materials, structures, gases and fluids;
- electronic assembly equipment and related consumable solder materials;
- electronic components and component packaging;
- static control equipment and consumables used for contamination control in clean room environments; and
- pressure sensitive adhesives and components for telecommunications, electronics, medical and transportation applications.

Welding— This segment is a branded value-added equipment and specialty consumable manufacturer with innovative and leading technology. Businesses in this segment produce arc welding equipment, consumables and accessories for a wide array of industrial and commercial applications. This segment primarily serves the general industrial market, which includes fabrication, shipbuilding and other general industrial markets, and energy, construction, MRO, and industrial capital goods markets. Products in this segment include:

- arc welding equipment;
- metal arc welding consumables and related accessories; and
- metal jacketing and other insulation products.

Polymers & Fluids— This segment is a highly branded supplier to niche markets that require value-added, differentiated products. Businesses in this segment produce adhesives, sealants, lubrication and cutting fluids, and fluids and polymers for auto aftermarket maintenance and appearance. This segment primarily serves the automotive aftermarket, MRO, general industrial, and construction markets. Products in this segment include:

- adhesives for industrial, construction and consumer purposes;
- chemical fluids which clean or add lubrication to machines;
- epoxy and resin-based coating products for industrial applications;
- hand wipes and cleaners for industrial applications;
- fluids, polymers and other supplies for auto aftermarket maintenance and appearance;
- fillers and putties for auto body repair; and
- polyester coatings and patch and repair products for the marine industry.

Construction Products— This segment is a branded supplier of innovative engineered fastening systems and solutions. This segment primarily serves the residential/remodel construction and commercial construction markets. Products in this segment include:

- fasteners and related fastening tools for wood and metal applications;
- anchors, fasteners and related tools for concrete applications;
- metal plate truss components and related equipment and software; and
- packaged hardware, fasteners, anchors and other products for retail.

Specialty Products— This segment is focused on diversified niche market opportunities with substantial patent protection producing beverage packaging equipment and consumables, product coding and marking equipment and consumables, and appliance components and fasteners. This segment primarily serves the food and beverage, general industrial, consumer durables, printing and publishing and industrial capital goods markets. Products in this segment include:

- line integration, conveyor systems and line automation for the food and beverage industries;
- plastic consumables that multi-pack cans and bottles and related equipment;
- foil, film and related equipment used to decorate consumer products;
- product coding and marking equipment and related consumables;
- plastic and metal fasteners and components for appliances;
- airport ground support equipment; and
- components for medical devices.

The information set forth below is applicable to all segments of the Company unless otherwise noted.

The ITW Business Model

The powerful and highly differentiated ITW Business Model is the Company's core source of value creation. This business model is the Company's competitive advantage and defines how ITW creates value for its shareholders and comprises three unique elements:

- ITW's **80/20 management process** is the operating system that is applied in every ITW business. Initially introduced as a manufacturing efficiency tool in the 1980's, ITW has continually refined, improved and expanded 80/20 into a proprietary, holistic business management process that generates significant value for the Company and its customers. Through the application of data-driven insights generated by 80/20 practice, ITW focuses on its largest and best opportunities (the "80") and eliminates cost, complexity and distractions associated with the less profitable opportunities (the "20"). 80/20 enables ITW businesses to consistently achieve world-class operational excellence in product availability, quality, and innovation, while generating superior financial performance;

- **Customer-back innovation** has fueled decades of profitable growth at ITW. The Company's unique innovation approach is built on insight gathered from the 80/20 management process. Working from the customer back, ITW businesses position themselves as the go-to problem solver for their "80" customers. ITW's innovation efforts are focused on understanding customer needs, particularly those in "80" markets with solid long-term growth fundamentals, and subsequently creating unique solutions to address those needs. These customer insights and learnings drive innovation at ITW and have contributed to a portfolio of more than 17,000 granted and pending patents;

- ITW's **decentralized, entrepreneurial culture** allows ITW businesses to be fast, focused, and responsive. ITW businesses have significant flexibility within the framework of the ITW Business Model to customize their approach in order to best serve their specific customers' needs. ITW colleagues recognize their unique responsibilities to execute the Company's strategy and values. As a result, the Company maintains a focused and simple organizational structure that, combined with outstanding execution, delivers best-in-class services adapted to each business' customers and end markets.

Enterprise Strategy

In late 2012, ITW began the process of transitioning the Company onto its current strategic path to fully leverage the compelling performance potential of the ITW Business Model. Since then, ITW has made considerable progress, as evidenced by the Company's strong financial performance over the past four years.

The roots of ITW's Enterprise Strategy began in late 2011 / early 2012, when the Company undertook a complete review of its performance. Focusing on its businesses delivering consistent above-market growth with best-in-class margins and returns, ITW developed a strategy to replicate that performance across its operations.

Based on this rigorous evaluation, ITW determined that solid and consistent above-market organic growth must be the core growth engine to deliver world-class financial performance and compelling long-term returns for its shareholders. To shift its primary growth engine to organic, the Company began executing a multi-step approach.

- The first step was to narrow the focus and improve the quality of ITW's business portfolio. As part of the **Portfolio Management** initiative, ITW exited businesses that were operating in commoditized market spaces and prioritized sustainable differentiation as a must-have requirement for all ITW businesses. This process included both divesting entire businesses and exiting commoditized product lines and customers inside otherwise highly differentiated ITW divisions.

  As a result of this work, ITW's business portfolio now has significantly higher organic growth potential. ITW segments and divisions now possess attractive and differentiated product lines and end markets as they continue to improve operating margins and generate price/cost increases. The Company achieved this through product line simplification, or eliminating the complexity and overhead costs associated with smaller product lines and customers, while supporting and growing the businesses' largest / most profitable customers and product lines. With the initiative nearly complete and ITW businesses demonstrating notably improved financial performance, the Company believes that the significant product line simplification work is essentially finalized and will return to more normalized levels in 2017 and beyond.

- Step two, **Business Structure Simplification**, was implemented to simplify and scale-up ITW's operating structure to support increased engineering, marketing, and sales resources, and, at the same time, improve global reach and competitiveness, all of which were critical to driving accelerated organic growth. ITW now has 85 scaled-up divisions with significantly enhanced focus on growth investments, core customers and products, and customer-back innovation.

- The **Strategic Sourcing** initiative was established as a core capability to better leverage ITW's scale and improve global competitiveness. Sourcing is now a core strategic and operational capability at ITW. The Company's 80/20-enabled sourcing organization has delivered an average of one percent reduction in spend each year from 2013 through 2016 and is on track to do the same in 2017 and 2018.

- With the portfolio realignment and scale-up work largely complete, the Company was able to **shift its focus to preparing for and accelerating, organic growth**. As a preparatory step, ITW is in the process of reapplying 80/20 to optimize its newly scaled-up divisions for growth, first, to build a foundation of operational excellence, and second, to identify the best opportunities to drive organic growth.

  Once the business has achieved operational excellence and identified the right growth opportunities, the final step is to accelerate organic growth. The process of preparing for accelerated organic growth generally takes 18 to 24 months.

  Based on the financial performance of the divisions that are further along in this process, the Company believes that its organic growth framework is capable of delivering above-market organic growth across all segments. Divisions are at various phases in preparation for growth and many are either ready to grow or already growing above their respective markets. ITW management is fully aligned with this plan and very focused on executing it. With the close of 2016, approximately 85 percent of the divisions are ready to grow.

Path to Full Potential

While the Company has made considerable progress and ITW's performance is nearing best-in-class levels, the Company has significant opportunity for further improvement before it achieves full operating potential. In order to do so, ITW is focused on two key areas of opportunity, including: additional structural margin improvement and sustained above-market organic growth with strong incremental profitability.

Additional Structural Margin Improvement

To deliver on the additional structural margin improvement, the Company is implementing the following two levers: (1) further leveraging the 80/20 management process and (2) strategic sourcing.

- The first lever, better leveraging the full power of the ITW Business Model, will be accomplished through a much more consistent and focused approach to 80/20 best practice implementation across the Company. The 80/20 management system has continuously been refined, improved and expanded into a unique holistic business management process of interconnected tools, which improves all aspects of the business and, when applied consistently and executed more effectively, will lead to additional margin improvement. ITW has clearly demonstrated superior 80/20 management, resulting in meaningful incremental improvement in margins and returns as evidenced by the Company's operating margin and after-tax return on invested capital. These 80/20 initiatives can also result in restructuring initiatives that reduce costs and improve profitability and returns.

- The second lever, strategic sourcing, is a core element of ITW's ongoing operational strategy and a sustainable enterprise-wide capability. Through the continued execution of this initiative, the Company expects to deliver additional margin improvement with the goal of a one percent reduction in spend in 2017 and 2018.

Sustained Above-Market Organic Growth with Strong Incremental Profitability

ITW has done extensive work on its portfolio and operating structure to position the Company to deliver sustainable above-market organic growth. The Company has narrowed the focus and significantly improved the growth potential of ITW's business portfolio. With approximately 85% of its divisions ready to grow as of the end of 2016, ITW is well positioned for accelerated growth in 2017 and beyond. To deliver on this accelerated growth, the divisions have been implementing the organic growth framework, which includes continued investment in customer-back innovation and a strengthened focus on market penetration. ITW continues to focus on growing its share of "80" products with existing customers with whom the Company has a resonant value proposition as well as target potential new customers with similar pain points to existing customers. ITW has made strong progress on the Company's pivot to organic growth and is well positioned to deliver on sustained above-market organic growth over the long-term.

Divestiture Activity

Divestiture of Majority Interest in Former Decorative Surfaces Segment— On October 31, 2012, the Company divested a 51% majority interest in the Decorative Surfaces segment. Accordingly, the Company ceased consolidating the results of the Decorative Surfaces segment as of October 31, 2012 and now reports its 49% ownership interest using the equity method of accounting. Due to the Company's continuing involvement through its 49% interest, the historical operating results of Decorative Surfaces are presented in continuing operations. Effective November 1, 2012, Decorative Surfaces was no longer a reportable segment of the Company.

Divestiture of the Industrial Packaging Segment— In February 2013, the Company announced that it was initiating a review process to explore strategic alternatives for the Industrial Packaging segment. In September 2013, the Company's Board of Directors authorized a plan to commence a sale process for the Industrial Packaging segment. The Company classified the Industrial Packaging segment as held for sale beginning in the third quarter of 2013 and no longer presented this segment as part of its continuing operations.

On February 6, 2014, the Company announced that it had signed a definitive agreement to sell the Industrial Packaging business to The Carlyle Group for $3.2 billion. The transaction was completed on May 1, 2014, resulting in a pre-tax gain of $1.7 billion ($1.1 billion after-tax) in the second quarter of 2014 which was included in Income from discontinued operations.

See Note 2. Discontinued Operations in Item 8. Financial Statements and Supplementary Data for further discussion of this transaction.

Current Year Developments

Refer to Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations.

Financial Information about Segments

Segment information is included in Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations and Note 14. Segment Information in Item 8. Financial Statements and Supplementary Data.

Distribution Methods

The Company’s businesses primarily distribute their products directly to industrial manufacturers and through independent distributors.

Backlog

Backlog generally is not considered a significant factor in the Company’s businesses as relatively short delivery periods and rapid inventory turnover are characteristic of most of their products. Backlog by segment as of December 31, 2016 and 2015 was as follows:

In millions	2016	2015
Automotive OEM	$ 452	$ 403
Food Equipment	188	203
Test & Measurement and Electronics	298	289
Welding	67	68
Polymers & Fluids	62	53
Construction Products	29	34
Specialty Products	217	237
Total	$ 1,313	$ 1,287

Backlog orders scheduled for shipment beyond calendar year 2017 were not material as of December 31, 2016.

Competition

With operations in 57 countries, the Company offers a wide range of products in a myriad of markets, many of which are fragmented, and the Company encounters a variety of competitors that vary by product line, end market and geographic area. The Company's competitors include many regional or specialized companies, as well as large U.S. and non-U.S. companies or divisions of large companies. Each of the Company's segments generally has several main competitors and numerous smaller ones in most of their end markets and geographic areas. In addition to numerous smaller regional competitors, the Welding segment competes globally with Lincoln Electric and ESAB.

In virtually all segments, the Company differentiates its businesses from its competitors based on product innovation, product quality, brand preference and service delivery. Technical capability is also a competitive factor in most segments. The Company believes that each segment's primary competitive advantages derive from the Company's business model and decentralized operating structure, which creates a strong focus on end markets and customers at the local level, enabling its businesses to respond rapidly to market dynamics. This structure enables the Company's businesses to drive operational excellence utilizing the Company's 80/20 management process and leveraging its product innovation capabilities. The Company also believes that its global footprint is a competitive advantage in many of its markets, especially in its Automotive OEM segment.

Raw Materials

The Company uses raw materials of various types, primarily steel, resins and chemicals, that are available from numerous commercial sources. The availability of materials and energy has not resulted in any significant business interruptions or other major problems, and no such problems are currently anticipated.

Research and Development

Developing new and improved products, broadening the application of established products, and continuing efforts to improve and develop new methods, processes and equipment all contribute to the Company's organic growth. Many new products are designed to reduce customers' costs by eliminating steps in their manufacturing processes, reducing the number of parts in an assembly or improving the quality of customers' assembled products. Typically, the development of such products is accomplished by working closely with customers on specific applications. Research and development expenses were $223 million in 2016, $218 million in 2015 and $227 million in 2014.

Intellectual Property

The Company owns approximately 3,500 unexpired U.S. patents and 7,400 foreign patents covering articles, methods and machines. In addition, the Company has approximately 1,500 applications for patents pending in the U.S. Patent Office and 4,800 applications pending in foreign patent offices. There is no assurance that any of these patents will be issued. The Company maintains a patent group for the administration of patents and processing of patent applications.

The Company believes that many of its patents are valuable and important; however, the expiration of any one of the Company's patents would not have a material effect on the Company's results of operations or financial position. The Company also credits its success in the markets it serves to engineering capability; manufacturing techniques; skills and efficiency; marketing and sales promotion; and service and delivery of quality products to its customers.

In addition to patents, many of the Company's products and services are sold under various owned or licensed trademarks, which are important to the Company in the aggregate. Some of the Company's more significant trademarks include ITW, which is also used in conjunction with the trademarks of many of the Company's businesses; Deltar and Shakeproof in the Automotive OEM segment; Hobart in the Food Equipment segment; Instron in the Test & Measurement and Electronics segment; Miller in the Welding segment; Rain-X and Permatex in the Polymers & Fluids segment; Paslode in the Construction Products segment; and Hi-Cone in the Specialty Products segment.

Environmental

The Company believes that its manufacturing plants and equipment are in substantial compliance with all applicable environmental regulations. Additional measures to maintain compliance are not expected to materially affect the Company’s capital expenditures, competitive position, financial position or results of operations.

Various legislative and administrative regulations concerning environmental issues have become effective or are under consideration in many parts of the world relating to manufacturing processes and the sale or use of certain products. To date, such developments have not had a substantial adverse impact on the Company's revenues, earnings or cash flows.

Employees

The Company employed approximately 50,000 persons as of December 31, 2016 and considers its employee relations to be excellent.

International

The Company's international operations include subsidiaries and joint ventures in 56 foreign countries on six continents. These operations serve such end markets as automotive OEM/tiers, automotive aftermarket, general industrial, commercial food equipment, construction, and others on a worldwide basis. The Company's revenues from sales to customers outside the U.S. were approximately 55% of revenues in 2016, 54% of revenues in 2015, and 57% of revenues in 2014.

Refer to Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations and Note 14. Segment Information in Item 8. Financial Statements and Supplementary Data for additional information on international activities. International operations are subject to certain potential risks inherent in conducting business in foreign countries, including price controls, exchange controls, limitations on participation in local enterprises, nationalization, expropriation and other governmental action, and fluctuations in currency exchange rates. Additional risks of the Company's international operations are described under Item 1A. Risk Factors.

Executive Officers

Executive Officers of the Company as of February 10, 2017 were as follows:

Name	Office	Age
E. Scott Santi	Chairman & Chief Executive Officer	55
Norman D. Finch Jr.	Senior Vice President, General Counsel & Secretary	52
John R. Hartnett	Executive Vice President	56
Michael M. Larsen	Senior Vice President & Chief Financial Officer	48
Mary K. Lawler	Senior Vice President & Chief Human Resources Officer	51
Roland M. Martel	Executive Vice President	62
Steven L. Martindale	Executive Vice President	60
Sundaram Nagarajan	Executive Vice President	54
Christopher O'Herlihy	Vice Chairman	53
David C. Parry	Vice Chairman	63
Randall J. Scheuneman	Vice President & Chief Accounting Officer	49
Lei Schlitz	Executive Vice President	50
Juan Valls	Executive Vice President	55
Michael R. Zimmerman	Executive Vice President	56

The executive officers of the Company serve at the discretion of the Board of Directors. Set forth below is information regarding the principal occupations and employment and business experience over the past five years for each executive officer. Unless otherwise stated, employment is by the Company.

Mr. Santi is the Chairman of the Board and Chief Executive Officer of the Company. He was elected Chairman of the Board in 2015 after having served as President and Chief Executive Officer, as well as a director, since November 2012. In October 2012, he was elected President and Chief Operating Officer. Mr. Santi served as Vice Chairman from 2008 to October 2012.

Mr. Finch joined the Company in January 2017 and was elected Senior Vice President, General Counsel and Secretary in February 2017. From 2013 to January 2017 he served as Vice President, General Counsel and Secretary of Sealed Air Corporation, a global manufacturer of products related to food safety and security, facility hygiene and product protection. Prior thereto, he served as Vice President, Associate General Counsel and Chief Compliance Officer of Zimmer Holdings, Inc. (now Zimmer Biomet Holdings), a global medical device company.

Mr. Hartnett was elected Executive Vice President in 2012. Prior to that, he held various management positions of increasing responsibility. Most recently, he served as Group President of the automotive aftermarket businesses.

Mr. Larsen joined the Company and was elected Senior Vice President and Chief Financial Officer in September 2013. From October 2010 to August 2013, he served as Vice President and Chief Financial Officer of Gardner Denver, Inc., a global manufacturer of highly engineered compressors, blowers, pumps and other fluid transfer equipment. In addition, he served as interim CEO of Gardner Denver from July 2012 to November 2012, and as President, Chief Executive Officer and a director of that company from November 2012 to July 2013.

Ms. Lawler joined the Company and was elected Senior Vice President and Chief Human Resources Officer in October 2014. From June 2013 to October 2014, she served as Executive Vice President, Human Resources, at GATX Corporation, a rail car leasing company. Prior to that, she served as Senior Vice President, Human Resources, at GATX Corporation, from May 2008 to May 2013.

Mr. Martel has served in his present position since 2006.

Mr. Martindale has served in his present position since 2008.

Mr. Nagarajan has served in his present position since 2010.

Mr. O'Herlihy was elected Vice Chairman in 2015. Prior to that, he served as Executive Vice President from 2010 to 2015.

Mr. Parry has served in his present position since 2010.

Mr. Scheuneman has served in his present position since 2009.

Ms. Schlitz was elected Executive Vice President in 2015. Prior to that, she held various management positions of increasing responsibility. Most recently, she served as Group President of the food equipment businesses since 2011.

Mr. Valls has served in his present position since 2007.

Mr. Zimmerman was elected Executive Vice President in 2015. Prior to that, he held various management positions of increasing responsibility. Most recently, he served as Group President of the welding businesses since 2010.

Available Information

The Company electronically files reports with the Securities and Exchange Commission ("SEC"). The public may read and copy any materials the Company has filed with the SEC at the SEC's Public Reference Room at 100 F Street, N.E., Washington, D.C. 20549. The public may obtain information on the operation of the Public Reference Room by calling the SEC at 1-800-SEC-0330. In addition, the SEC maintains a website (www.sec.gov) that contains reports, proxy and information statements, and other information regarding issuers that file electronically with the SEC. Copies of the Company's Annual Report on Form 10-K, Quarterly Reports on Form 10-Q and Current Reports on Form 8-K and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934 are also available free of charge through the Company's website (www.itw.com), as soon as reasonably practicable after electronically filing with or otherwise furnishing such information to the SEC, and are available in print to any shareholder who requests them. The Company will furnish any exhibit not contained herein upon the payment of a fee representing the reasonable cost to the Company of furnishing the exhibit. Requests for exhibits may be sent to Illinois Tool Works Inc., 155 Harlem Avenue, Glenview, IL 60025, Attention: Secretary. Also posted on the Company's website are the following:

- Statement of Principles of Conduct;
- Code of Ethics for CEO and key financial and accounting personnel;
- Charters of the Audit, Corporate Governance and Nominating, and Compensation Committees of the Board of Directors;
- Corporate Governance Guidelines;
- Global Anti-Corruption Policy;
- Corporate Citizenship Statement;
- Conflict Minerals Policy Statement; and
- Government Affairs Information.

ITEM 1A. ***Risk Factors***

The Company's business, financial condition, results of operations and cash flows are subject to various risks, including, but not limited to, those set forth below, which could cause actual results to vary materially from recent results or from anticipated future results. These risk factors should be considered together with information included elsewhere in this Annual Report on Form 10-K.

The Company's results are impacted by global economic conditions. Downturns in the markets served by the Company could adversely affect its businesses, results of operations or financial condition.

The Company's businesses are impacted by economic conditions around the globe, including the uncertainty created by the United Kingdom's June 2016 vote to leave the European Union. Slower economic growth, financial market instability, high unemployment, government deficit reduction, sequestration and other austerity measures impacting the markets the Company serves can adversely affect the Company's businesses by reducing demand for the Company's products and services, limiting financing available to the Company's customers, increasing order cancellations and the difficulty in collecting accounts receivable, increasing price competition, or increasing the risk that counterparties to the Company's contractual arrangements will become insolvent or otherwise unable to fulfill their obligations.

The global nature of the Company's operations subjects it to political and economic risks that could adversely affect its business, results of operations or financial condition.

The Company currently operates in 57 countries. The risks inherent in the Company's global operations include:

- fluctuation in currency exchange rates;
- limitations on ownership or participation in local enterprises;
- price controls, exchange controls and limitations on repatriation of earnings;
- transportation delays and interruptions;
- political, social and economic instability and disruptions;
- acts of terrorism;
- government embargoes or foreign trade restrictions;
- the imposition of duties and tariffs and other trade barriers;
- import and export controls;
- labor unrest and current and changing regulatory environments;
- the potential for expropriation or nationalization of enterprises;
- difficulties in staffing and managing multi-national operations;
- limitations on its ability to enforce legal rights and remedies; and
- potentially adverse tax consequences.

The United Kingdom's vote in June 2016 to leave the European Union may increase certain of the risks and uncertainties described above. The United Kingdom represented approximately 5% of the Company's total consolidated operating revenue for the year ended December 31, 2016. If the Company is unable to successfully manage these and other risks associated with managing and expanding its international businesses, the risks could have a material adverse effect on the Company's business, results of operations or financial condition.

The benefits from the Company’s Enterprise Strategy may not be as expected and the Company's financial results could be adversely impacted.

As the Company has substantially completed its Enterprise Strategy initiatives of portfolio management and business structure simplification, its focus has pivoted to organic revenue growth and continued margin improvement. Product line and customer base simplification activities, which are core elements of the Company’s 80/20 management process, continue to be applied to the Company’s scaled up operating divisions and remain active elements of the Enterprise Strategy. Although these activities are expected to improve future operating margins and organic revenue growth, they are also expected to have a negative impact on the Company’s overall organic revenue growth in the short term. If the Company is unable to realize the expected benefits from its Enterprise Strategy initiatives, the Company's financial results could be adversely impacted.

The timing and amount of the Company’s share repurchases are subject to a number of uncertainties.

Share repurchases constitute a significant component of the Company’s capital allocation strategy. The Company funds its share repurchases with free cash flow and short-term borrowings. The amount and timing of share repurchases will be based on a variety of factors. Important factors that could cause the Company to limit, suspend or delay its share repurchases include unfavorable trading market conditions, the price of the Company's common stock, the nature of other investment opportunities presented to us from time to time, the ability to obtain financing at attractive rates and the availability of U.S. cash.

The Company may incur fines or penalties, damage to its reputation or other adverse consequences if its employees, agents or business partners violate anti-bribery, competition, export and import, environmental or other laws.

The Company has a decentralized operating structure under which its individual businesses are allowed significant decision-making autonomy within the Company’s strategic framework and internal financial and compliance controls. The Company cannot ensure that its internal controls will always protect against reckless or criminal acts committed by its employees, agents or business partners that might violate U.S. and/or non-U.S. laws, including anti-bribery, competition, export and import, and environmental laws. Any such improper actions could subject the Company to civil or criminal investigations, could lead to substantial civil or criminal monetary and non-monetary penalties against the Company or its subsidiaries, or could damage its reputation.

A significant fluctuation between the U.S. Dollar and other currencies could adversely impact the Company's operating income.

Although the Company's financial results are reported in U.S. Dollars, a significant portion of its sales and operating costs are realized in other currencies, with the largest concentration of foreign sales occurring in Europe. The Company's profitability is affected by movements of the U.S. Dollar against the Euro and other foreign currencies in which it generates revenues and incurs expenses. Significant long-term fluctuations in relative currency values, and in particular, an increase in the value of the U.S. Dollar against foreign currencies, has had and could have an adverse effect on profitability and financial condition.

If the Company is unable to successfully introduce new products or adequately protect its intellectual property, its future growth may be adversely affected.

The Company's ability to develop new products based on innovation can affect its competitive position and sometimes requires the investment of significant time and resources. Difficulties or delays in research, development, production or commercialization of new products and services may reduce future revenues and adversely affect the Company's competitive position. If the Company is unable to create sustainable product differentiation, its organic growth may be adversely affected.

Protecting the Company's intellectual property is critical to its innovation efforts. The Company owns patents, trade secrets, copyrights, trademarks and/or other intellectual property rights related to many of its products, and also has exclusive and non-exclusive license rights under intellectual property owned by others. The Company's intellectual property rights may be challenged or infringed upon by third parties, particularly in countries where property rights are not highly developed or protected, or the Company may be unable to maintain, renew or enter into new license agreements with third-party owners of intellectual property on reasonable terms. Unauthorized use of the Company's intellectual property rights or inability to preserve existing intellectual property rights could adversely impact the Company's competitive position and results of operations.

The Company's acquisition of businesses could negatively impact its profitability and returns.

Acquisitions, including the Company’s acquisition of the Engineered Fasteners and Components business on July 1, 2016 from ZF TRW, involve a number of risks and financial, accounting, managerial and operational challenges, including the following, any of which could adversely affect the Company's profitability and returns:

- The acquired business could under-perform relative to the Company’s expectations and the price paid for it, or not perform in accordance with the Company’s anticipated timetable.
- The acquired business could cause the Company's financial results to differ from expectations in any given fiscal period, or over the long term.
- Acquisition-related earnings charges could adversely impact operating results.
- The acquired business could place unanticipated demands on the Company's management, operational resources and financial and internal control systems.
- The Company may assume unknown liabilities, known contingent liabilities that become realized or known liabilities that prove greater than anticipated, internal control deficiencies or exposure to regulatory sanctions resulting from the acquired business’s activities. The realization of any of these liabilities or deficiencies may increase the Company's expenses, adversely affect its financial position or cause noncompliance with its financial reporting obligations.
- As a result of acquisitions, the Company has in the past recorded significant goodwill and other identifiable intangible assets on its balance sheet. If the Company is not able to realize the value of these assets, it may recognize charges relating to the impairment of these assets.

Recent divestitures pose the risk of retained liabilities that could adversely affect the Company's financial results.

The Company's divestiture activity increased in 2012, 2013 and 2014 in accordance with its portfolio management initiative. Though the divestiture element of its portfolio management initiative is essentially complete, the Company has retained certain liabilities directly or through indemnifications made to the buyer against known and unknown contingent liabilities such as lawsuits, tax liabilities, product liability claims and environmental matters.

The Company has significant goodwill and other intangible assets, and future impairment of these assets could have a material adverse impact on our financial results.

The Company has recorded significant goodwill and other identifiable intangible assets on its balance sheet as a result of acquisitions. A number of factors may result in impairments to goodwill and other intangible assets, including significant negative industry or economic trends, disruptions to our business, increased competition and significant changes in the use of the assets. Impairment charges could result that adversely affect the Company's financial condition or results of operations in the periods recognized.

Disruptions or volatility in global financial markets or changes in our credit ratings could increase our funding costs or reduce the availability of credit.

Global economic conditions may cause volatility and disruptions in the financial markets. The Company’s continued ability to meet its cash requirements requires substantial liquidity and access to the financial markets. In addition, the Company’s borrowing costs can be affected by short and long-term ratings assigned by independent rating agencies. If conditions in the financial markets decline or the Company’s credit ratings are negatively impacted, its funding costs could be increased or the availability of credit could be diminished.

Raw material price increases and supply shortages could adversely affect results.

The supply of raw materials to the Company and to its component parts suppliers could be interrupted for a variety of reasons, including availability and pricing. Prices for raw materials necessary for production have fluctuated significantly in the past and significant increases could adversely affect the Company's results of operations and profit margins. Due to pricing pressure or other factors, the Company may not be able to pass along increased raw material and components parts prices to its customers in the form of price increases or its ability to do so could be delayed. Consequently, its results of operations and financial condition may be adversely affected.

Unfavorable tax law changes and tax authority rulings may adversely affect results.

The Company is subject to income taxes in the U.S. and in various foreign jurisdictions. Domestic and international tax liabilities are based on the income and expenses in various tax jurisdictions. The Company's effective tax rate could be adversely affected by changes in the mix of earnings among countries with differing statutory tax rates, changes in the valuation allowance of deferred tax assets or changes in tax laws. The amount of income taxes and other taxes are subject to ongoing audits by U.S. federal, state and local tax authorities and by non-U.S. authorities. If these audits result in assessments different from amounts recorded, future financial results may include unfavorable tax adjustments.

The Company's defined benefit pension plans are subject to financial market risks that could adversely affect its results of operations and cash flows.

The performance of financial markets and interest rates impact the Company's funding obligations under its defined benefit pension plans. Significant changes in market interest rates, decreases in the fair value of plan assets and investment losses on plan assets may increase the Company's funding obligations and adversely impact its results of operations and cash flows.

Potential adverse outcomes in legal proceedings may adversely affect results.

The Company's businesses expose it to potential toxic tort and other types of product liability claims that are inherent in the design, manufacture and sale of its products and the products of third-party vendors. The Company currently maintains insurance programs consisting of self-insurance up to certain limits and excess insurance coverage for claims over established limits. There can be no assurance that the Company will be able to obtain insurance on acceptable terms or that its insurance programs will provide adequate protection against actual losses. In addition, the Company is subject to the risk that one or more of its insurers may become insolvent and become unable to pay claims that may be made in the future. Even if it maintains adequate insurance programs, claims could have a material adverse effect on the Company's financial condition, liquidity and results of operations and on its ability to obtain suitable, adequate or cost-effective insurance in the future.

If the Company is unable to protect its information technology infrastructure against service interruptions, data corruption, cyber-based attacks or network security breaches, there could be a negative impact on operating results or the Company may suffer financial or reputational damage.

The Company relies on information technology networks and systems, including the Internet, to process, transmit and store electronic information, and to manage or support a variety of business processes and activities, including procurement, manufacturing, distribution, invoicing and collection. These technology networks and systems may be susceptible to damage, disruptions or shutdowns due to failures during the process of upgrading or replacing software, databases or components; power outages; hardware failures; attacks by computer hackers; computer viruses; employee error or malfeasance. In addition, security breaches could result in unauthorized disclosure of confidential information or personal data belonging to our employees, partners, customers or suppliers. If these information technology systems suffer severe damage, disruption, or shutdown, and business continuity plans do not effectively resolve the issues in a timely manner, there could be a negative impact on operating results or the Company may suffer financial or reputational damage.

Forward-Looking Statements

This Annual Report on Form 10-K contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Forward-looking statements may be identified by the use of words such as "believe," "expect," "plans," "intends," "may," "strategy," "prospects," "estimate," "project," "target," "anticipate," "guidance," "forecast," and other similar words, including, without limitation, statements regarding the expected performance of acquired businesses and impact of divested businesses, economic conditions in various geographic regions, the timing and amount of share repurchases, the timing and amount of benefits from the Company's Enterprise Strategy, the adequacy of internally generated funds and credit facilities to service debt and finance the Company's capital allocation priorities, the sufficiency of U.S. generated cash to fund cash requirements in the U.S., the cost and availability of additional financing, the Company's portion of future benefit payments related to pension and postretirement benefits, the expected impact of a change in the method of calculating the service and interest cost components of net periodic pension and other postretirement benefit costs to a specific spot rate approach, the availability of raw materials and energy, the expiration of any one of the Company's patents, the cost of compliance with environmental regulations, the likelihood of future goodwill or intangible asset impairment charges, the impact of failure of the Company's employees to comply with applicable laws and regulations, the impact of foreign currency fluctuations, the outcome of outstanding legal proceedings, the impact of adopting new accounting pronouncements, and the estimated timing and amount related to the resolution of tax matters. These statements are subject to certain risks, uncertainties, and other factors, which could cause actual results to differ materially from those anticipated. Important risks that may influence future results include those risks described above. These risks are not all inclusive and given these and other possible risks and uncertainties, investors should not place undue reliance on forward-looking statements as a prediction of actual results.

Any forward-looking statements made by ITW speak only as of the date on which they are made. ITW is under no obligation to, and expressly disclaims any obligation to, update or alter its forward-looking statements, whether as a result of new information, subsequent events or otherwise.

ITW practices fair disclosure for all interested parties. Investors should be aware that while ITW regularly communicates with securities analysts and other investment professionals, it is against ITW's policy to disclose to them any material non-public information or other confidential commercial information. Investors should not assume that ITW agrees with any statement or report issued by any analyst irrespective of the content of the statement or report.

ITEM 1B. ***Unresolved Staff Comments***

None.

ITEM 2. ***Properties***

Due to the Company's decentralized operating structure, the Company operates out of a number of facilities worldwide, none of which are individually significant to the Company or its segments. As of December 31, 2016, the Company operated the following plants and office facilities, excluding regional sales offices and warehouse facilities:

	Number Of Properties		
	Owned	**Leased**	**Total**
Automotive OEM	59	38	97
Food Equipment	24	17	41
Test & Measurement and Electronics	29	63	92
Welding	26	18	44
Polymers & Fluids	37	32	69
Construction Products	28	28	56
Specialty Products	47	42	89
Corporate	1	12	13
Total	251	250	501

The Company's properties are highly suitable for the purposes for which they were designed and are maintained in good operating condition. Production capacity, in general, currently exceeds operating levels. Capacity levels are somewhat flexible based on the number of shifts operated and on the number of overtime hours worked. The Company adds production capacity from time to time as required by increased demand. Additions to capacity can be made within a reasonable period of time due to the nature of the Company's businesses.

The Company operated 307 plants and office facilities outside of the U.S. Principal countries include China, Germany, France and the United Kingdom.

ITEM 3. ***Legal Proceedings***

None.

ITEM 4. ***Mine Safety Disclosures***

None.

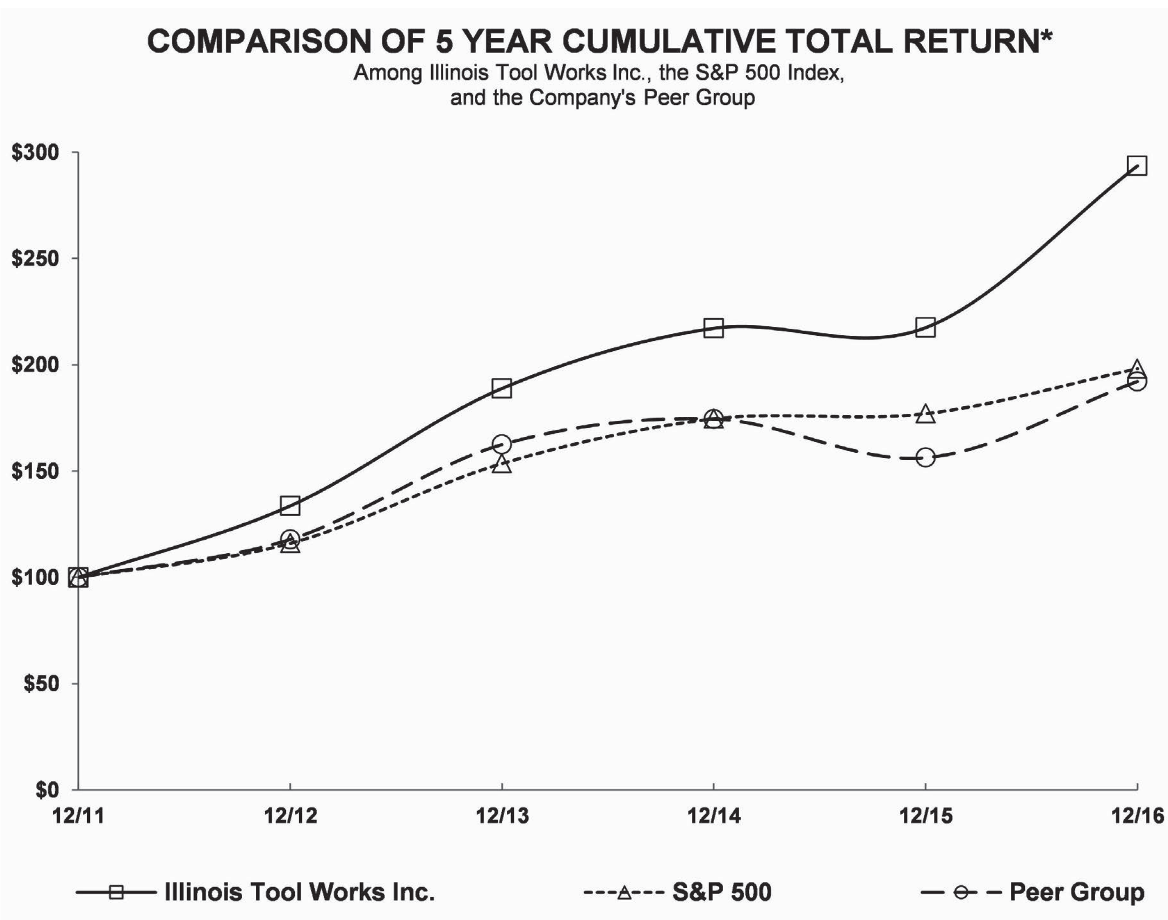
PART II

ITEM 5. ***Market For Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities***

Common Stock Price and Dividend Data— The Company's common stock is listed on the New York Stock Exchange. Quarterly market price and dividend data for 2016 and 2015 were as shown below:

	Market Price Per Share		Dividends Declared Per Share
	High	Low	
2016:			
Fourth quarter	$ 127.99	$ 111.50	$ 0.65
Third quarter	123.50	103.08	0.65
Second quarter	109.54	98.32	0.55
First quarter	102.98	79.15	0.55
2015:			
Fourth quarter	$ 95.00	$ 80.16	$ 0.55
Third quarter	94.33	78.79	0.55
Second quarter	99.92	91.41	0.485
First quarter	100.14	90.43	0.485

There were approximately 6,433 holders of record of common stock as of January 31, 2017. This number does not include beneficial owners of the Company's securities held in the name of nominees.



*Assumes $100 invested on 12/31/11 in stock or index, including reinvestment of dividends. Fiscal years ended December 31.

The 2016 peer group consists of the following 18 public companies, consistent with the peer group included in the Company's Proxy statement:

3M Company	E.I. du Pont de Nemours and Company	Masco Corporation
BorgWarner Inc.	Eaton Corporation plc	Parker-Hannifin Corporation
Caterpillar Inc.	Emerson Electric Co.	PPG Industries, Inc.
Cummins Inc.	Honeywell International Inc.	Pentair plc
Deere & Company	Ingersoll-Rand plc	Stanley Black & Decker, Inc.
Dover Corporation	Johnson Controls, Inc.	Textron Inc.

Danaher Corporation was removed from the Company's peer group in 2016 due to the spin-off of Fortive Corporation.

Repurchases of Common Stock— On February 13, 2015, the Company's Board of Directors authorized a stock repurchase program which provides for the repurchase of up to $6.0 billion of the Company's common stock over an open-ended period of time (the "2015 Program"). As of December 31, 2016, there were approximately $3.4 billion of authorized repurchases remaining under the 2015 Program. Share repurchase activity under the Company's share repurchase program for the fourth quarter of 2016 was as follows:

In millions except per share amounts

Period	Total Number of Shares Purchased	Average Price Paid Per Share	Total Number of Shares Purchased as Part of Publicly Announced Program	Maximum Value of Shares That May Yet Be Purchased Under Program
October 2016	2.8	$ 114.89	2.8	$ 3,622
November 2016	1.1	$ 120.25	1.1	$ 3,498
December 2016	0.4	$ 126.26	0.4	$ 3,446
Total	4.3		4.3	

ITEM 6. *Selected Financial Data*

In millions except per share amounts	2016	2015	2014	2013	2012
Operating revenue	$ 13,599	$ 13,405	$ 14,484	$ 14,135	$ 14,791
Income from continuing operations	2,035	1,899	1,890	1,630	2,233
Income per share from continuing operations:					
Basic	5.73	5.16	4.70	3.65	4.75
Diluted	5.70	5.13	4.67	3.63	4.72
Total assets at year-end	15,201	15,729	17,465	19,599	19,138
Long-term debt at year-end	7,177	6,896	5,943	2,771	4,564
Cash dividends declared per common share	2.40	2.07	1.81	1.60	1.48

Certain reclassifications of prior year data have been made to conform to current year reporting, including discontinued operations and adoption of new accounting guidance as discussed below.

On October 31, 2012, the Company divested a 51% majority interest in its Decorative Surfaces segment. Accordingly, the Company ceased consolidating the results of the Decorative Surfaces segment as of October 31, 2012 and now reports its 49% ownership interest using the equity method of accounting. Due to the Company's continuing involvement through its 49% interest, the historical operating results of Decorative Surfaces are presented in continuing operations. Effective November 1, 2012, Decorative Surfaces was no longer a reportable segment of the Company.

In April 2014, the Financial Accounting Standards Board ("FASB") issued authoritative guidance to change the criteria for reporting discontinued operations. Under the new guidance, only disposals representing a strategic shift in a company's operations and financial results should be reported as discontinued operations. The Company adopted this new guidance effective January 1, 2015. The new guidance applies prospectively to new disposals and new classifications of disposal groups held for sale after such date. There were no discontinued operations during 2016 or 2015 under this new accounting guidance. For businesses reported as discontinued operations in the statement of income prior to adoption, all related prior period income statement information has been restated. Income from discontinued operations was $1.1 billion, $49 million, and $637 million in the years 2014, 2013, and 2012, respectively. Refer to Note 2. Discontinued Operations in Item 8. Financial Statements and Supplementary Data for discussion of the Company's discontinued operations.

In April 2015, the FASB issued authoritative guidance to simplify the balance sheet presentation of long-term debt issuance costs. Under the new guidance, long-term debt issuance costs are presented as a reduction of the carrying amount of the related long-term debt. The Company early adopted this guidance in the fourth quarter of 2015 and restated $38 million, $22 million, and $26 million of deferred long-term debt issuance costs from Other assets to Long-term debt in the years 2014, 2013, and 2012, respectively.

In November 2015, the FASB issued authoritative guidance to simplify the presentation of deferred taxes. Under the new guidance, all deferred tax assets and liabilities are presented as noncurrent in the statement of financial position. Early adoption of this guidance in the fourth quarter of 2015 decreased total assets by $175 million, $345 million, and $145 million in the years 2014, 2013, and 2012, respectively.

Additional information on the comparability of results is included in Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations.

ITEM 7. ***Management's Discussion and Analysis of Financial Condition and Results of Operations***

INTRODUCTION

Illinois Tool Works Inc. (the "Company" or "ITW") is a global manufacturer of a diversified range of industrial products and equipment with 85 divisions in 57 countries. As of December 31, 2016, the Company employed approximately 50,000 persons.

The Company's operations are organized and managed based on similar product offerings and end markets, and are reported to senior management as the following seven segments: Automotive OEM; Food Equipment; Test & Measurement and Electronics; Welding; Polymers & Fluids; Construction Products; and Specialty Products.

Due to the large number of diverse businesses and the Company's decentralized operating structure, the Company does not require its businesses to provide detailed information on operating results. Instead, the Company's corporate management collects data on several key measurements: operating revenue, operating income, operating margin, overhead costs, number of months on hand in inventory, days sales outstanding in accounts receivable, past due receivables and return on invested capital. These key measures are monitored by management and significant changes in operating results versus current trends in end markets and variances from forecasts are discussed with operating unit management.

THE ITW BUSINESS MODEL

The powerful and highly differentiated ITW Business Model is the Company’s core source of value creation. This business model is the Company’s competitive advantage and defines how ITW creates value for its shareholders and comprises three unique elements:

- ITW’s **80/20 management process** is the operating system that is applied in every ITW business. Initially introduced as a manufacturing efficiency tool in the 1980’s, ITW has continually refined, improved and expanded 80/20 into a proprietary, holistic business management process that generates significant value for the Company and its customers. Through the application of data-driven insights generated by 80/20 practice, ITW focuses on its largest and best opportunities (the “80”) and eliminates cost, complexity and distractions associated with the less profitable opportunities (the “20”). 80/20 enables ITW businesses to consistently achieve world-class operational excellence in product availability, quality, and innovation, while generating superior financial performance;

- **Customer-back innovation** has fueled decades of profitable growth at ITW. The Company’s unique innovation approach is built on insight gathered from the 80/20 management process. Working from the customer back, ITW businesses position themselves as the go-to problem solver for their “80” customers. ITW’s innovation efforts are focused on understanding customer needs, particularly those in “80” markets with solid long-term growth fundamentals, and subsequently creating unique solutions to address those needs. These customer insights and learnings drive innovation at ITW and have contributed to a portfolio of more than 17,000 granted and pending patents;

- ITW’s **decentralized, entrepreneurial culture** allows ITW businesses to be fast, focused, and responsive. ITW businesses have significant flexibility within the framework of the ITW Business Model to customize their approach in order to best serve their specific customers' needs. ITW colleagues recognize their unique responsibilities to execute the Company's strategy and values. As a result, the Company maintains a focused and simple organizational structure that, combined with outstanding execution, delivers best-in-class services adapted to each business' customers and end markets.

ENTERPRISE STRATEGY

In late 2012, ITW began the process of transitioning the Company onto its current strategic path to fully leverage the compelling performance potential of the ITW Business Model. Since then, ITW has made considerable progress, as evidenced by the Company’s strong financial performance over the past four years.

The roots of ITW’s Enterprise Strategy began in late 2011 / early 2012, when the Company undertook a complete review of its performance. Focusing on its businesses delivering consistent above-market growth with best-in-class margins and returns, ITW developed a strategy to replicate that performance across its operations.

Based on this rigorous evaluation, ITW determined that solid and consistent above-market organic growth must be the core growth engine to deliver world-class financial performance and compelling long-term returns for its shareholders. To shift its primary growth engine to organic, the Company began executing a multi-step approach.

- The first step was to narrow the focus and improve the quality of ITW's business portfolio. As part of the **Portfolio Management** initiative, ITW exited businesses that were operating in commoditized market spaces and prioritized sustainable differentiation as a must-have requirement for all ITW businesses. This process included both divesting entire businesses and exiting commoditized product lines and customers inside otherwise highly differentiated ITW divisions.

  As a result of this work, ITW's business portfolio now has significantly higher organic growth potential. ITW segments and divisions now possess attractive and differentiated product lines and end markets as they continue to improve operating margins and generate price/cost increases. The Company achieved this through product line simplification, or eliminating the complexity and overhead costs associated with smaller product lines and customers, while supporting and growing the businesses' largest / most profitable customers and product lines. With the initiative nearly complete and ITW businesses demonstrating notably improved financial performance, the Company believes that the significant product line simplification work is essentially finalized and will return to more normalized levels in 2017 and beyond.

- Step two, **Business Structure Simplification**, was implemented to simplify and scale-up ITW's operating structure to support increased engineering, marketing, and sales resources, and, at the same time, improve global reach and competitiveness, all of which were critical to driving accelerated organic growth. ITW now has 85 scaled-up divisions with significantly enhanced focus on growth investments, core customers and products, and customer-back innovation.

- The **Strategic Sourcing** initiative was established as a core capability to better leverage ITW's scale and improve global competitiveness. Sourcing is now a core strategic and operational capability at ITW. The Company's 80/20-enabled sourcing organization has delivered an average of one percent reduction in spend each year from 2013 through 2016 and is on track to do the same in 2017 and 2018.

- With the portfolio realignment and scale-up work largely complete, the Company was able to **shift its focus to preparing for and accelerating, organic growth**. As a preparatory step, ITW is in the process of reapplying 80/20 to optimize its newly scaled-up divisions for growth, first, to build a foundation of operational excellence, and second, to identify the best opportunities to drive organic growth.

  Once the business has achieved operational excellence and identified the right growth opportunities, the final step is to accelerate organic growth. The process of preparing for accelerated organic growth generally takes 18 to 24 months.

  Based on the financial performance of the divisions that are further along in this process, the Company believes that its organic growth framework is capable of delivering above-market organic growth across all segments. Divisions are at various phases in preparation for growth and many are either ready to grow or already growing above their respective markets. ITW management is fully aligned with this plan and very focused on executing it. With the close of 2016, approximately 85 percent of the divisions are ready to grow.

PATH TO FULL POTENTIAL

While the Company has made considerable progress and ITW's performance is nearing best-in-class levels, the Company has significant opportunity for further improvement before it achieves full operating potential. In order to do so, ITW is focused on two key areas of opportunity, including: additional structural margin improvement and sustained above-market organic growth with strong incremental profitability.

Additional Structural Margin Improvement

To deliver on the additional structural margin improvement, the Company is implementing the following two levers: (1) further leveraging the 80/20 management process and (2) strategic sourcing.

- The first lever, better leveraging the full power of the ITW Business Model, will be accomplished through a much more consistent and focused approach to 80/20 best practice implementation across the Company. The 80/20 management system has continuously been refined, improved and expanded into a unique holistic business management process of interconnected tools, which improves all aspects of the business and, when applied consistently and executed more effectively, will lead to additional margin improvement. ITW has clearly demonstrated superior 80/20 management, resulting in meaningful incremental improvement in margins and returns as evidenced by the Company's operating margin and after-tax return on invested capital. These 80/20 initiatives can also result in restructuring initiatives that reduce costs and improve profitability and returns.

- The second lever, strategic sourcing, is a core element of ITW's ongoing operational strategy and a sustainable enterprise-wide capability. Through the continued execution of this initiative, the Company expects to deliver additional margin improvement with the goal of a one percent reduction in spend in 2017 and 2018.

Sustained Above-Market Organic Growth with Strong Incremental Profitability

ITW has done extensive work on its portfolio and operating structure to position the Company to deliver sustainable above-market organic growth. The Company has narrowed the focus and significantly improved the growth potential of ITW's business portfolio. With approximately 85% of its divisions ready to grow as of the end of 2016, ITW is well positioned for accelerated growth in 2017 and beyond. To deliver on this accelerated growth, the divisions have been implementing the organic growth framework, which includes continued investment in customer-back innovation and a strengthened focus on market penetration. ITW continues to focus on growing its share of "80" products with existing customers with whom the Company has a resonant value proposition as well as target potential new customers with similar pain points to existing customers. ITW has made strong progress on the Company's pivot to organic growth and is well positioned to deliver on sustained above-market organic growth over the long-term.

TERMS USED BY ITW

Management uses the following terms to describe the financial results of operations of the Company:

- **Organic business** - acquired businesses that have been included in the Company's results of operations for more than 12 months on a constant currency basis.
- **Operating leverage** - the estimated effect of the organic revenue volume changes on organic operating income, assuming variable margins remain the same as the prior period.
- **Price/cost** - represents the estimated net impact of increases or decreases in the cost of materials used in the Company's products versus changes in the selling price to the Company's customers.
- **Product line simplification (PLS)** - focuses businesses on eliminating the complexity and overhead costs associated with smaller product lines and customers, and focuses businesses on supporting and growing their largest customers and product lines; in the short-term, PLS may result in a decrease in revenue and overhead costs while improving operating margin. In the long-term, PLS is expected to result in growth in revenue, profitability, and returns.

Unless otherwise stated, the changes in financial results in the consolidated results of operations and the results of operations by segment represent the current year period versus the comparable period in the prior year.

CONSOLIDATED RESULTS OF OPERATIONS

Leveraging ITW's highly differentiated and proprietary business model, the Company delivered strong financial results in 2016 despite a challenging global macro environment and foreign currency translation headwinds. With the solid execution of the Company's Enterprise Strategy initiatives, six of seven segments achieved worldwide organic revenue growth and five of seven segments had operating margin expansion.

On July 1, 2016, the Company completed the acquisition of the Engineered Fasteners and Components business ("EF&C") from ZF TRW for a purchase price of approximately $450 million. EF&C had operating revenue of $245 million for the six months ended December 31, 2016. EF&C diluted the Company's operating margin in 2016 by 30 basis points due to lower operating margin and acquisition related expenses. The Company expects EF&C to be slightly accretive to earnings in the first twelve months, but expects improved earnings and operating margin performance in later years through the application of the Company's 80/20 business management process. The operating results of EF&C are reported within the Company's Automotive OEM segment. The acquisition of EF&C did not materially affect the Company's results of operations or financial position for any period presented. Refer to Note 3. Acquisitions in Item 8. Financial Statements and Supplementary Data for further information.

The Company’s consolidated results of operations for 2016, 2015 and 2014 are summarized as follows:

2016 compared to 2015

Dollars in millions	For the Years Ended December 31,			Components of Increase (Decrease)				
	2016	2015	Inc (Dec)	Organic	Acquisition/ Divestiture	Restructuring	Foreign Currency	Total
Operating revenue	$ 13,599	$ 13,405	1.4%	1.2%	1.7%	—%	(1.5)%	1.4%
Operating income	3,064	2,867	6.9%	8.1%	0.6%	0.1%	(1.9)%	6.9%
Operating margin %	22.5%	21.4%	110 bps	140 bps	(30) bps	10 bps	(10) bps	110 bps

- Operating revenue increased due to growth in organic and acquisition revenues, partially offset by the unfavorable effect of foreign currency translation.
- Organic revenue grew 1.2% as six of seven segments had worldwide organic revenue growth primarily due to penetration gains, higher end market demand and product innovation. Organic revenue declined in the Welding segment primarily due to lower capital spending in the industrial end markets and sluggish demand in the oil and gas end market.
    - PLS activities associated with the portfolio management component of the Company's Enterprise Strategy reduced organic revenue growth by approximately one percentage point.
    - North American organic revenue increased 0.7% and European organic revenue increased 2.3% as growth in six segments for both regions was partially offset by a decline in the Welding segment.
    - Asia Pacific organic revenue increased 2.7% primarily due to growth in the Automotive OEM, Specialty Products, Construction Products, Food Equipment, and Test & Measurement and Electronics segments, partially offset by a decline in the Welding and Polymers & Fluids segments.
- Operating margin of 22.5% increased 110 basis points. The primary driver of the operating margin improvement was 130 basis points from the benefit of the Company's enterprise initiatives. Positive operating leverage of 30 basis points and favorable price/cost of 10 basis points were partially offset by the dilutive impact of 30 basis points from the EF&C acquisition and additional investment in the business.
- In 2016, the Company received a $167 million cash dividend distribution from Wilsonart which exceeded the Company’s equity investment balance and resulted in a $54 million pre-tax gain, partially offset by $30 million of pre-tax losses related to the disposals of businesses and the disposal of a partnership investment. Refer to Note 4. Other Income (Expense) in Item 8. Financial Statements and Supplementary Data for further information on the Wilsonart equity investment.
- Diluted earnings per share (EPS) of $5.70 increased 11.1%.
- Free cash flow was $2.0 billion in 2016. Refer to the Cash Flow section of Liquidity and Capital Resources for a reconciliation of this non-GAAP measure.
- The Company repurchased approximately 18.7 million shares of its common stock in 2016 for approximately $2.0 billion.
- Total cash dividends of $821 million were paid in 2016.
- Adjusted after-tax return on average invested capital was 22.1%, an increase of 170 basis points. Refer to the Adjusted After-Tax Return on Average Invested Capital section of Liquidity and Capital Resources for a reconciliation of this non-GAAP measure.

2015 compared to 2014

Dollars in millions	For the Years Ended December 31,			Components of Increase (Decrease)				
	2015	2014	Inc (Dec)	Organic	Acquisition/ Divestiture	Restructuring	Foreign Currency	Total
Operating revenue	$ 13,405	$ 14,484	(7.4)%	(0.4)%	(0.2)%	—%	(6.8)%	(7.4)%
Operating income	$ 2,867	$ 2,888	(0.7)%	5.8 %	(0.3)%	1.2%	(7.4)%	(0.7)%
Operating margin %	21.4%	19.9%	150 bps	130 bps	—	20 bps	—	150 bps

- Operating revenue decreased 7.4% primarily due to the unfavorable effect of foreign currency translation as the U.S. Dollar strengthened against most major currencies.
- Organic revenue decreased 0.4% in 2015 as compared to the prior year.
  - Automotive OEM, Food Equipment and Construction Products had solid organic revenue growth primarily due to penetration gains, higher market demand and product innovation. Organic revenue declined in the Welding and Test & Measurement and Electronics segments primarily due to lower demand in the oil and gas end markets and a challenging capital spending environment.
  - PLS activities reduced organic revenue growth by approximately one percentage point.
  - North American organic revenue decreased 0.5% as a decline in the Welding and Test & Measurement and Electronics segments was partially offset by growth in the Automotive OEM, Food Equipment and Construction Products segments.
  - European organic revenue increased 1.2%. Double-digit growth in the Automotive OEM segment was partially offset by a decline in the Polymers & Fluids, Test & Measurement and Electronics and Welding segments.
  - Asia Pacific organic revenue decreased 1.4% primarily due to a decline in the Welding and Test & Measurement and Electronics segments, partially offset by growth in the Construction Products segment.
- Operating income of $2.9 billion decreased 0.7%. Excluding the negative impact from foreign currency translation of 7.4%, operating income would have increased 6.7%.
- Operating margin of 21.4% increased 150 basis points primarily due to the benefit of the Company's enterprise initiatives related to business structure simplification and strategic sourcing that contributed 110 basis points. Lower restructuring expenses and favorable price/cost each contributed 20 basis points of operating margin expansion.
- Diluted earnings per share (EPS) from continuing operations of $5.13 increased 9.9%. Excluding the negative impact from foreign currency of approximately $0.41 per diluted share, EPS would have increased 18.6%.
- Free cash flow was $2.0 billion in 2015. Refer to the Cash Flow section of Liquidity and Capital Resources for a reconciliation of this non-GAAP measure.
- The Company repurchased approximately 21.0 million shares of its common stock in 2015 for approximately $2.0 billion.
- Total cash dividends of $742 million were paid in 2015.
- Adjusted after-tax return on average invested capital was 20.4%, an increase of 140 basis points. Refer to the Adjusted After-Tax Return on Average Invested Capital section of Liquidity and Capital Resources for a reconciliation of this non-GAAP measure.

RESULTS OF OPERATIONS BY SEGMENT

The reconciliation of segment operating revenue and operating income to total operating revenue and operating income is as follows:

	Operating Revenue		
In millions	**2016**	**2015**	**2014**
Automotive OEM	$ 2,864	$ 2,529	$ 2,590
Food Equipment	2,110	2,096	2,177
Test & Measurement and Electronics	1,974	1,969	2,204
Welding	1,486	1,650	1,850
Polymers & Fluids	1,691	1,712	1,927
Construction Products	1,609	1,587	1,707
Specialty Products	1,885	1,885	2,055
Intersegment revenue	(20)	(23)	(26)
Total	$ 13,599	$ 13,405	$ 14,484

In millions	Operating Income 2016	2015	2014
Automotive OEM	$ 690	$ 613	$ 600
Food Equipment	537	498	453
Test & Measurement and Electronics	372	322	340
Welding	370	415	479
Polymers & Fluids	343	335	357
Construction Products	361	316	289
Specialty Products	482	439	440
Total Segments	3,155	2,938	2,958
Unallocated	(91)	(71)	(70)
Total	$ 3,064	$ 2,867	$ 2,888

Segments are allocated a fixed overhead charge based on the segment's revenue. Expenses not charged to the segments are reported separately as Unallocated. Because the Unallocated category includes a variety of items, it is subject to fluctuations on a quarterly and annual basis.

AUTOMOTIVE OEM

This segment is a global, niche supplier to top tier OEMs, providing unique innovation to address pain points for sophisticated customers with complex problems. Businesses in this segment produce components and fasteners for automotive-related applications. This segment primarily serves the automotive original equipment manufacturers and tiers market. Products in this segment include:

- plastic and metal components, fasteners and assemblies for automobiles, light trucks and other industrial uses.

The results of operations for the Automotive OEM segment for 2016, 2015 and 2014 were as follows:

2016 compared to 2015

Dollars in millions	For the Years Ended December 31,			Components of Increase (Decrease)				
	2016	2015	Inc (Dec)	Organic	Acquisition/ Divestiture	Restructuring	Foreign Currency	Total
Operating revenue	$ 2,864	$ 2,529	13.3%	5.1%	9.7%	—%	(1.5)%	13.3%
Operating income	$ 690	$ 613	12.6%	10.7%	2.6%	0.7%	(1.4)%	12.6%
Operating margin %	24.1%	24.2%	(10) bps	130 bps	(160) bps	20 bps	—	(10) bps

- Operating revenue increased due to the EF&C acquisition and higher organic revenue, partially offset by the unfavorable effect of foreign currency translation.
- Organic revenue grew 5.1%.
  - North American organic revenue grew 3.4% versus total North American auto build growth of 2%. Auto build growth for the Detroit 3, where the Company has higher content, declined 1%.
  - European organic revenue growth of 6.0% exceeded European auto builds which grew 3%.
  - Asia Pacific organic revenue increased 10.9% driven by product penetration gains in China due to new product launches in 2016. China organic revenue growth of 22.7% exceeded Chinese auto build growth of 14%. Auto builds of foreign automotive manufacturers in China, where the Company has higher content, grew 11%.
- On July 1, 2016, the Company completed the acquisition of the EF&C business from ZF TRW. EF&C had operating revenue of $245 million for the six months ended December 31, 2016, and increased Automotive OEM operating revenue by 9.7%.
- Operating margin of 24.1% decreased 10 basis points due to the dilutive impact of 160 basis points from the EF&C acquisition and unfavorable price/cost of 40 basis points, partially offset by positive operating leverage of 80 basis

points, the net benefits from the Company's enterprise initiatives and cost management of 90 basis points and lower restructuring expenses.

2015 compared to 2014

Dollars in millions	For the Years Ended December 31,			Components of Increase (Decrease)				
	2015	2014	Inc (Dec)	Organic	Acquisition/ Divestiture	Restructuring	Foreign Currency	Total
Operating revenue	$ 2,529	$ 2,590	(2.4)%	5.8%	(0.2)%	— %	(8.0)%	(2.4)%
Operating income	$ 613	$ 600	2.1 %	10.4%	(0.1)%	(0.3)%	(7.9)%	2.1 %
Operating margin %	24.2%	23.2%	100 bps	100 bps	10 bps	(10) bps	—	100 bps

- Operating revenue decreased primarily due to the unfavorable effect of foreign currency translation, partially offset by organic revenue growth.
- Organic revenue grew 5.8% as a result of product innovation and penetration gains, exceeding worldwide auto build growth of 1%.
    - European organic revenue growth of 11.1% exceeded auto builds which grew 4%.
    - North American organic revenue growth of 4.2% exceeded auto build growth of 3%.
    - Asia Pacific organic revenue increased 0.5%. China organic revenue grew 7.9%, as Chinese auto builds increased 4%. Auto builds of foreign automotive manufacturers in China, where the Company has higher content, were flat for 2015.
- Operating income of $613 million increased 2.1%. Excluding the negative impact of foreign currency translation of 7.9%, operating income would have increased 10.0%.
- Operating margin was 24.2%. The increase of 100 basis points was primarily driven by 80 basis points of operating leverage, the net benefits from the Company's enterprise initiatives and favorable price/cost of 10 basis points.

FOOD EQUIPMENT

This segment is a highly focused and branded industry-leader in commercial food equipment differentiated by innovation and integrated service offerings. This segment primarily serves the food institutional/restaurant, food service and food retail markets. Products in this segment include:

- warewashing equipment;
- cooking equipment, including ovens, ranges and broilers;
- refrigeration equipment, including refrigerators, freezers and prep tables;
- food processing equipment, including slicers, mixers and scales;
- kitchen exhaust, ventilation and pollution control systems; and
- food equipment service, maintenance and repair.

The results of operations for the Food Equipment segment for 2016, 2015 and 2014 were as follows:

2016 compared to 2015

Dollars in millions	For the Years Ended December 31,			Components of Increase (Decrease)				
	2016	2015	Inc (Dec)	Organic	Acquisition/ Divestiture	Restructuring	Foreign Currency	Total
Operating revenue	$ 2,110	$ 2,096	0.7%	2.8%	—%	—%	(2.1)%	0.7%
Operating income	$ 537	$ 498	7.8%	8.7%	—%	1.1%	(2.0)%	7.8%
Operating margin %	25.4%	23.7%	170 bps	140 bps	—	30 bps	—	170 bps

- Operating revenue increased due to organic revenue growth, partially offset by the unfavorable effect of foreign currency translation.
- Organic revenue increased 2.8% as equipment and service organic revenue grew 3.9% and 0.8%, respectively.

- North American organic revenue increased 4.3%. North American equipment revenue increased 6.6% primarily due to strong end market demand in the retail, refrigeration, warewash and cooking businesses. Service revenue in North America increased 0.8%.
- International organic revenue grew 0.8%. International equipment organic revenue increased 0.8% primarily due to growth in Europe and Asia. International service organic revenue grew 0.9%.

- Operating margin of 25.4% increased 170 basis points driven by positive operating leverage of 60 basis points, the net benefits of the Company's enterprise initiatives and cost management of 40 basis points, favorable price/cost of 40 basis points and lower restructuring expenses.

2015 compared to 2014

Dollars in millions	For the Years Ended December 31,			Components of Increase (Decrease)				
	2015	2014	Inc (Dec)	Organic	Acquisition/ Divestiture	Restructuring	Foreign Currency	Total
Operating revenue	$ 2,096	$ 2,177	(3.7)%	3.4%	—%	— %	(7.1)%	(3.7)%
Operating income	$ 498	$ 453	9.8 %	17.7%	—%	(0.3)%	(7.6)%	9.8 %
Operating margin %	23.7%	20.8%	290 bps	290 bps	—	—	—	290 bps

- Operating revenue decreased 3.7% due to the unfavorable effect of foreign currency translation, partially offset by organic revenue growth.
- Organic revenue increased 3.4% in 2015.
  - North American organic revenue increased 5.6%. North American equipment revenue increased 6.6% primarily due to product innovation and improved market penetration in the warewash and refrigeration businesses. Service revenue in North America increased 4.1%.
  - International organic revenue increased 1.0%. International equipment organic revenue increased 0.9% primarily due to growth in the refrigeration business, partially offset by difficult year-over-year comparisons in the cooking and retail businesses. International service organic revenue increased 1.3%.
- Operating margin was 23.7%. The 290 basis point improvement was primarily driven by the benefits of the Company's enterprise initiatives, partially offset by additional investment in the business that contributed 160 basis points, positive operating leverage of 80 basis points and favorable price/cost of 30 basis points.

TEST & MEASUREMENT AND ELECTRONICS

This segment is a branded and innovative producer of test and measurement and electronic manufacturing and maintenance, repair, and operations, or "MRO" solutions that improve efficiency and quality for customers in diverse end markets. Businesses in this segment produce equipment, consumables, and related software for testing and measuring physical properties of materials and structures, as well as equipment and consumables used in the production of electronic subassemblies and microelectronics. This segment primarily serves the electronics, general industrial, industrial capital goods, automotive original equipment manufacturers and tiers, and consumer durables markets. Products in this segment include:

- equipment, consumables, and related software for testing and measuring of materials, structures, gases and fluids;
- electronic assembly equipment and related consumable solder materials;
- electronic components and component packaging;
- static control equipment and consumables used for contamination control in clean room environments; and
- pressure sensitive adhesives and components for telecommunications, electronics, medical and transportation applications.

The results of operations for the Test & Measurement and Electronics segment for 2016, 2015 and 2014 were as follows:

2016 compared to 2015

Dollars in millions	For the Years Ended December 31,			Components of Increase (Decrease)					
	2016	2015	Inc (Dec)	Organic	Acq/Div	Restructuring	Impairment	Foreign Currency	Total
Operating revenue	$ 1,974	$ 1,969	0.3%	1.8%	—%	—%	—%	(1.5)%	0.3%
Operating income	$ 372	$ 322	15.6%	17.4%	—%	0.4%	—%	(2.2)%	15.6%
Operating margin %	18.9%	16.3%	260 bps	250 bps	—	10 bps	—	—	260 bps

- Operating revenue increased due to organic revenue growth, partially offset by the unfavorable effect of foreign currency translation.
- Organic revenue increased 1.8%.
    - Electronics organic revenue increased 4.9%. Organic revenue grew 11.6% in the electronics assembly businesses primarily driven by higher demand from electronics equipment manufacturers and by the solar and semi-conductor end markets. Other electronics businesses grew 0.5% primarily due to strength in Europe, partially offset by PLS activities in Asia Pacific.
    - Organic revenue for the test and measurement businesses decreased 0.9% primarily due to the impact of a weak capital spending environment in North America and Europe and continued softness in the oil and gas related end markets.
- Operating margin of 18.9% increased 260 basis points primarily driven by the net benefits resulting from the Company's enterprise initiatives and cost management of 170 basis points, positive operating leverage of 60 basis points and favorable price/cost of 20 basis points.

2015 compared to 2014

Dollars in millions	For the Years Ended December 31,			Components of Increase (Decrease)					
	2015	2014	Inc (Dec)	Organic	Acq/Div	Restructuring	Impairment	Foreign Currency	Total
Operating revenue	$ 1,969	$ 2,204	(10.7)%	(5.2)%	—%	—%	—%	(5.5)%	(10.7)%
Operating income	$ 322	$ 340	(5.1)%	(2.5)%	—%	3.1%	0.5%	(6.2)%	(5.1)%
Operating margin %	16.3%	15.4%	90 bps	40 bps	—	40 bps	10 bps	—	90 bps

- Operating revenue decreased 10.7% due to the unfavorable effect of foreign currency translation and the decrease in organic revenue.
- Organic revenue decreased 5.2% in 2015.
    - Organic revenue for the test and measurement businesses decreased 5.9% primarily due to the impact of a weak capital spending environment in North America and Europe.
    - Electronics organic revenue declined 4.3% primarily due to the decrease in the electronics assembly businesses across all major regions. Organic revenue for the other electronics businesses increased 0.3% primarily driven by the contamination and static control businesses.
- Operating income of $322 million decreased 5.1%. Excluding the negative impact of foreign currency translation of 6.2%, operating income would have increased 1.1%.
- Operating margin was 16.3%. The increase of 90 basis points was primarily driven by the net benefits resulting from the Company's enterprise initiatives and cost management of 190 basis points, lower restructuring expenses, and favorable price/cost of 20 basis points, partially offset by negative operating leverage of 170 basis points.

WELDING

This segment is a branded value-added equipment and specialty consumable manufacturer with innovative and leading technology. Businesses in this segment produce arc welding equipment, consumables and accessories for a wide array of industrial and commercial applications. This segment primarily serves the general industrial market, which includes fabrication, shipbuilding and other general industrial markets, and energy, construction, MRO, and industrial capital goods markets. Products in this segment include:

- arc welding equipment;
- metal arc welding consumables and related accessories; and
- metal jacketing and other insulation products.

The results of operations for the Welding segment for 2016, 2015 and 2014 were as follows:

2016 compared to 2015

Dollars in millions	For the Years Ended December 31,			Components of Increase (Decrease)				
	2016	2015	Inc (Dec)	Organic	Restructuring	Impairment	Foreign Currency	Total
Operating revenue	$ 1,486	$ 1,650	(10.0)%	(9.1)%	— %	— %	(0.9)%	(10.0)%
Operating income	$ 370	$ 415	(10.8)%	(8.0)%	(1.4)%	(0.7)%	(0.7)%	(10.8)%
Operating margin %	24.9%	25.2%	(30) bps	20 bps	(30) bps	(20) bps	—	(30) bps

- Operating revenue decreased due to the decline in organic revenue and the unfavorable effect of foreign currency translation.
- Organic revenue decreased 9.1% due to lower demand in the oil and gas and industrial end markets and the impact of a soft capital spending environment. Organic revenue declined 10% and 8% for equipment and consumables, respectively.
    - North American organic revenue declined 8.0% driven by decreases across the oil and gas end markets and industrial end markets primarily related to heavy equipment for agriculture, infrastructure and mining.
    - International organic revenue decreased 12.9% primarily due to weak oil and gas end markets in Europe and Asia Pacific.
- Operating margin of 24.9% declined 30 basis points due to negative operating leverage of 190 basis points, higher restructuring expenses, the unfavorable impact of intangible asset impairment, partially offset by the net benefits of the Company's enterprise initiatives and cost management of 180 basis points and favorable price/cost of 30 basis points.

2015 compared to 2014

Dollars in millions	For the Years Ended December 31,			Components of Increase (Decrease)				
	2015	2014	Inc (Dec)	Organic	Acquisition/ Divestiture	Restructuring	Foreign Currency	Total
Operating revenue	$ 1,650	$ 1,850	(10.8)%	(7.6)%	(0.1)%	—%	(3.1)%	(10.8)%
Operating income	$ 415	$ 479	(13.4)%	(12.1)%	— %	0.3%	(1.6)%	(13.4)%
Operating margin %	25.2%	25.9%	(70) bps	(130) bps	—	10 bps	50 bps	(70) bps

- Operating revenue decreased primarily due to the decrease in organic revenue and the unfavorable effect of foreign currency translation.
- Organic revenue decreased 7.6% due to lower demand in the oil and gas end markets, the impact of a soft capital spending environment and continued PLS activities.
    - North American organic revenue declined 5.1% primarily due to decreases across the oil and gas and industrial end markets.
    - International organic revenue decreased 14.5% primarily due to weak oil and gas end markets across all regions.
- Operating margin was 25.2%. The decline of 70 basis points was primarily due to negative operating leverage of 130 basis points and lower variable margins due to product mix from lower sales of higher margin equipment, partially offset by favorable price/cost of 50 basis points and the net benefits of the Company's enterprise initiatives.

POLYMERS & FLUIDS

This segment is a highly branded supplier to niche markets that require value-added, differentiated products. Businesses in this segment produce adhesives, sealants, lubrication and cutting fluids, and fluids and polymers for auto aftermarket maintenance and appearance. This segment primarily serves the automotive aftermarket, MRO, general industrial, and construction markets. Products in this segment include:

- adhesives for industrial, construction and consumer purposes;
- chemical fluids which clean or add lubrication to machines;
- epoxy and resin-based coating products for industrial applications;
- hand wipes and cleaners for industrial applications;
- fluids, polymers and other supplies for auto aftermarket maintenance and appearance;
- fillers and putties for auto body repair; and
- polyester coatings and patch and repair products for the marine industry.

The results of operations for the Polymers & Fluids segment for 2016, 2015 and 2014 were as follows:

2016 compared to 2015

Dollars in millions	For the Years Ended December 31,			Components of Increase (Decrease)					
	2016	2015	Inc (Dec)	Organic	Acq/Div	Restructuring	Impairment	Foreign Currency	Total
Operating revenue	$1,691	$1,712	(1.2)%	1.3%	(0.2)%	— %	—%	(2.3)%	(1.2)%
Operating income	$ 343	$ 335	2.5 %	4.9%	(0.3)%	(0.1)%	0.7%	(2.7)%	2.5 %
Operating margin %	20.3%	19.6%	70 bps	70 bps	—	(10) bps	20 bps	(10) bps	70 bps

- Operating revenue decreased primarily due to the unfavorable effect of foreign currency translation, partially offset by organic revenue growth.
- Organic revenue increased 1.3% primarily due to stronger demand in the automotive aftermarket and polymers businesses.
    - Organic revenue for the automotive aftermarket businesses increased 2.1% primarily driven by an increase in car care and tire repair in North America. Organic revenue for the polymers businesses increased 1.4% primarily driven by an increase in South America and a modest increase in the European wind energy business, partially offset by a decline in North America. Organic revenue for the fluids businesses was flat as growth in South America was offset by a decline in the industrial maintenance, repair, and operations end markets in North America.
- Operating margin of 20.3% increased 70 basis points primarily driven by the net benefits of the Company's enterprise initiatives and cost management of 60 basis points and favorable operating leverage of 30 basis points, partially offset by unfavorable price/cost of 20 basis points.

2015 compared to 2014

Dollars in millions	For the Years Ended December 31,			Components of Increase (Decrease)					
	2015	2014	Inc (Dec)	Organic	Acq/Div	Restructuring	Impairment	Foreign Currency	Total
Operating revenue	$1,712	$1,927	(11.2)%	(2.0)%	(1.0)%	—%	— %	(8.2)%	(11.2)%
Operating income	$ 335	$ 357	(6.3)%	1.8 %	(2.3)%	1.7%	(0.4)%	(7.1)%	(6.3)%
Operating margin %	19.6%	18.5%	110 bps	80 bps	(20) bps	30 bps	(10) bps	30 bps	110 bps

- Operating revenue decreased primarily due to the unfavorable effect of foreign currency translation and the decrease in organic revenue.
- Organic revenue declined 2.0% primarily due to lower demand in Europe and North America.

- Organic revenue for the fluids businesses decreased 3.8% primarily driven by a decline in the industrial maintenance, repair and operations end markets in Europe and North America. Polymers businesses decreased 2.6% primarily due to the organic revenue decline in the European wind energy business, partially offset by growth in China and South America. Organic revenue for the automotive aftermarket businesses was essentially flat as a decline in North America was offset by growth in South America.
- Operating income of $335 million decreased 6.3%. Excluding the negative impact of foreign currency translation of 7.1%, operating income would have increased 0.8%.
- Operating margin was 19.6%. The 110 basis point improvement was primarily driven by the net benefits of the Company's enterprise initiatives and cost management of 150 basis points and lower restructuring expenses, partially offset by lower variable margins due to product mix and negative operating leverage of 40 basis points.

CONSTRUCTION PRODUCTS

This segment is a branded supplier of innovative engineered fastening systems and solutions. This segment primarily serves the residential/remodel construction and commercial construction markets. Products in this segment include:

- fasteners and related fastening tools for wood and metal applications;
- anchors, fasteners and related tools for concrete applications;
- metal plate truss components and related equipment and software; and
- packaged hardware, fasteners, anchors and other products for retail.

The results of operations for the Construction Products segment for 2016, 2015 and 2014 were as follows:

2016 compared to 2015

Dollars in millions	For the Years Ended December 31,			Components of Increase (Decrease)				
	2016	2015	Inc (Dec)	Organic	Acquisition/ Divestiture	Restructuring	Foreign Currency	Total
Operating revenue	$ 1,609	$ 1,587	1.4%	3.0%	(0.2)%	— %	(1.4)%	1.4%
Operating income	$ 361	$ 316	14.1%	16.2%	(0.3)%	(0.3)%	(1.5)%	14.1%
Operating margin %	22.4%	19.9%	250 bps	260 bps	—	(10) bps	—	250 bps

- Operating revenue increased primarily due to organic revenue growth, partially offset by the unfavorable effect of foreign currency translation.
- Organic revenue increased 3.0%.
    - North American organic revenue grew 3.3% driven by growth in residential/remodel and commercial end markets.
    - International organic revenue increased 2.8%. Asia Pacific organic revenue increased 2.9% primarily due to growth in Australia and New Zealand. European organic revenue increased 2.8% primarily due to growth in the United Kingdom.
- Operating margin of 22.4% increased 250 basis points primarily driven by the net benefits of the Company's enterprise initiatives and cost management of 130 basis points, positive operating leverage of 80 basis points and favorable price/ cost of 50 basis points.

2015 compared to 2014

Dollars in millions	For the Years Ended December 31,			Components of Increase (Decrease)				
	2015	2014	Inc (Dec)	Organic	Acquisition/ Divestiture	Restructuring	Foreign Currency	Total
Operating revenue	$ 1,587	$ 1,707	(7.0)%	3.7%	(0.5)%	—%	(10.2)%	(7.0)%
Operating income	$ 316	$ 289	8.8 %	17.0%	(0.2)%	3.8%	(11.8)%	8.8 %
Operating margin %	19.9%	17.0%	290 bps	220 bps	10 bps	60 bps	—	290 bps

- Operating revenue decreased primarily due to the unfavorable effect of foreign currency translation, partially offset by organic revenue growth.
- Organic revenue increased 3.7%.
    - North American organic revenue increased 7.1% primarily due to an increase in demand in the residential/ remodel end markets.
    - International organic revenue increased 1.8%. Asia Pacific organic revenue increased 4.0% primarily due to growth in Australia and New Zealand. European organic revenue decreased 0.3% primarily due to ongoing PLS activities.
- Operating income of $316 million increased 8.8%. Excluding the negative impact of foreign currency translation of 11.8%, operating income would have increased 20.6%.
- Operating margin improved 290 basis points to 19.9% primarily due to the net benefits of the Company's enterprise initiatives and cost management of 150 basis points, positive operating leverage of 100 basis points and lower restructuring expenses.

SPECIALTY PRODUCTS

This segment is focused on diversified niche market opportunities with substantial patent protection producing beverage packaging equipment and consumables, product coding and marking equipment and consumables, and appliance components and fasteners. This segment primarily serves the food and beverage, general industrial, consumer durables, printing and publishing and industrial capital goods markets. Products in this segment include:

- line integration, conveyor systems and line automation for the food and beverage industries;
- plastic consumables that multi-pack cans and bottles and related equipment;
- foil, film and related equipment used to decorate consumer products;
- product coding and marking equipment and related consumables;
- plastic and metal fasteners and components for appliances;
- airport ground support equipment; and
- components for medical devices.

The results of operations for the Specialty Products segment for 2016, 2015 and 2014 were as follows:

2016 compared to 2015

Dollars in millions	For the Years Ended December 31,			Components of Increase (Decrease)				
	2016	2015	Inc (Dec)	Organic	Acquisition/ Divestiture	Restructuring	Foreign Currency	Total
Operating revenue	$ 1,885	$ 1,885	—%	1.2%	(0.1)%	— %	(1.1)%	—%
Operating income	$ 482	$ 439	9.7%	11.2%	0.1 %	(0.1)%	(1.5)%	9.7%
Operating margin %	25.6%	23.3%	230 bps	230 bps	10 bps	(10) bps	—	230 bps

- Operating revenue was flat as an increase in organic revenue was offset primarily by the unfavorable effect of foreign currency translation.
- Organic revenue increased 1.2% primarily driven by growth in the consumer packaging, ground support equipment and sports branding businesses.
    - International organic revenue increased 2.3% driven by growth in the appliance, foils, and gluing system businesses in Asia Pacific.
    - North American organic revenue increased 0.6% driven by growth in the consumer packaging and medical businesses, partially offset by a decline in the brand identification businesses.
- Operating margin of 25.6% increased 230 basis points primarily driven by the net benefits of the Company's enterprise initiatives and cost management of 220 basis points and positive operating leverage of 30 basis points, partially offset by unfavorable price/cost of 20 basis points.

2015 compared to 2014

Dollars in millions	For the Years Ended December 31,			Components of Increase (Decrease)				
	2015	2014	Inc (Dec)	Organic	Acquisition/ Divestiture	Restructuring	Foreign Currency	Total
Operating revenue	$ 1,885	$ 2,055	(8.3)%	(2.3)%	—%	—%	(6.0)%	(8.3)%
Operating income	$ 439	$ 440	(0.4)%	4.2 %	—%	1.8%	(6.4)%	(0.4)%
Operating margin %	23.3%	21.4%	190 bps	150 bps	—	40 bps	—	190 bps

- Operating revenue decreased due to the unfavorable effect of foreign currency translation and the decrease in organic revenue.
- Organic revenue declined 2.3%.
    - Growth in the consumer packaging businesses, driven by strong food and beverage end market demand, and in the brand identification businesses, due to increased medical, credit card, and automotive end market demand, was more than offset by the impact of a challenging capital spending environment and ongoing PLS activities.
    - North American organic revenue decreased 3.2% as growth in the consumer packaging and brand identification businesses was more than offset by a decline in the ground support equipment and the appliance businesses. International organic revenue decreased 0.9% primarily due to a decline in the ground support equipment businesses, partially offset by growth in the consumer packaging businesses.
- Operating income of $439 million decreased 0.4%. Excluding the negative impact of foreign currency translation of 6.4%, operating income would have increased 6.0%.
- Operating margin improved 190 basis points to 23.3% primarily due to the net benefits of the Company's enterprise initiatives and cost management of 150 basis points, favorable price/cost of 50 basis points and lower restructuring expenses, partially offset by negative operating leverage of 50 basis points.

OTHER FINANCIAL HIGHLIGHTS

- Interest expense was $237 million in 2016, an increase from $226 million in 2015, primarily due to debt issuances in 2016. Interest expense was lower in 2015 compared to 2014 ($250 million in 2014) due to debt issuances in 2014 and 2015 at lower rates compared to prior debt obligations.
- Other income (expense) was income of $81 million in 2016, $78 million in 2015 and $61 million in 2014. The income in 2016 included a $54 million pre-tax gain resulting from a $167 million dividend distribution from Wilsonart that exceeded the equity investment balance, partially offset by $30 million of pre-tax losses in 2016 related to the disposals of businesses and the disposal of a partnership investment. The increase in income in 2015 versus 2014 was primarily due to a $15 million gain on the sale of a business in the first quarter of 2015.
- The effective tax rate was 30.0% in 2016, 30.1% in 2015, and 30.0% in 2014.
- The impact of the Euro and other foreign currencies against the U.S. Dollar decreased operating revenue by approximately $210 million in 2016 versus 2015 and $995 million in 2015 versus 2014. Additionally, the impact of foreign currencies against the U.S. Dollar decreased income from continuing operations by approximately $41 million in 2016 versus 2015 and $153 million in 2015 versus 2014.

DISCONTINUED OPERATIONS

In February 2013, the Company announced that it was initiating a review process to explore strategic alternatives for the Industrial Packaging segment. In September 2013, the Company’s Board of Directors authorized a plan to commence a sale process for the Industrial Packaging segment. The Company classified the Industrial Packaging segment as held for sale beginning in the third quarter of 2013 and no longer presented this segment as part of its continuing operations.

On February 6, 2014, the Company announced that it had signed a definitive agreement to sell the Industrial Packaging business to The Carlyle Group for $3.2 billion. The transaction was completed on May 1, 2014, resulting in a pre-tax gain of $1.7 billion ($1.1 billion after-tax) in the second quarter of 2014 which was included in Income from discontinued operations.

The operating results of the former Industrial Packaging segment as well as two Construction Products businesses are reported as discontinued operations in the statement of income for 2014. As of the second quarter of 2014, the Company had completed the divestiture of all of the businesses previously classified as discontinued operations. Refer to Note 2.

Discontinued Operations in Item 8. Financial Statements and Supplementary Data for discussion of the Company's discontinued operations.

NEW ACCOUNTING PRONOUNCEMENTS

In May 2014, the Financial Accounting Standards Board (the "FASB") issued authoritative guidance to change the criteria for revenue recognition. The core principle of the new standard is that revenue should be recognized to depict the transfer 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. In addition, several new revenue recognition disclosures will be required. This guidance is effective for the Company beginning January 1, 2018, with early adoption permitted. The Company expects to adopt the new revenue accounting guidance effective January 1, 2018 and is in the process of completing its analysis of the impact this guidance will have on the consolidated financial statements and related disclosures.

In February 2016, the FASB issued authoritative guidance to change the criteria for recognizing leasing transactions. Under the new guidance, a lessee will be required to recognize a lease liability and lease asset for all leases, including operating leases, with a lease term greater than twelve months in the statement of financial position. Subsequent measurement, including presentation of expenses and cash flows, will depend on the classification of the lease as either a financing or operating lease. In addition, several new disclosures will be required. This guidance is effective for the Company beginning January 1, 2019, with early adoption permitted. While the Company has not yet completed its evaluation of the impact the new lease accounting guidance will have on the consolidated financial statements and related disclosures, the Company expects to recognize right of use assets and liabilities for its operating leases in the statement of financial position upon adoption.

In March 2016, the FASB issued authoritative guidance that includes several changes to simplify the accounting for stock-based compensation, including the accounting for income taxes, forfeitures, statutory tax withholding requirements and classification of tax benefits in the statement of cash flows. Among the more significant changes, the new guidance requires that the income tax effects associated with the settlement of stock-based awards after adoption of the guidance be recognized through income tax expense rather than directly in equity. Additionally, the income tax effects related to excess tax benefits will be presented as an operating cash flow in the statement of cash flows rather than a financing activity for all current and prior periods presented. The Company adopted this guidance effective January 1, 2017. For the twelve months ended December 31, 2016 and 2015, the Company had classified $29 million and $20 million, respectively, of excess tax benefits as a financing activity in the statement of cash flows which will be presented as an operating cash flow under the new guidance. The expected effect on income tax expense or net cash provided from operating activities related to stock-based awards settled after adoption of the new guidance will depend on inputs such as the stock price at the time of settlement and the number of awards settled in the period presented.

In October 2016, the FASB issued authoritative guidance requiring the recognition of the income tax consequences of an intra-entity transfer of an asset, other than inventory, when the transfer occurs rather than when transferred to a third party as required under the current guidance. The new guidance is effective for the Company beginning January 1, 2018, with early adoption permitted. The Company is currently assessing the potential impact the guidance will have upon adoption.

In January 2017, the FASB issued authoritative guidance that simplifies the assessment of goodwill for impairment when the estimated fair value of a reporting unit is less than its carrying value by eliminating the requirement to determine the fair value of goodwill. Under the new guidance, the amount of goodwill impairment will be determined by the amount the carrying value of the reporting unit exceeds its fair value. The new guidance is effective for the Company beginning January 1, 2020, with early adoption permitted. The Company performs its annual goodwill impairment assessment process in the third quarter, or more frequently if triggering events occur. Adoption of this new guidance is not expected to have a material impact on the Company's operating results, financial position or cash flows.

LIQUIDITY AND CAPITAL RESOURCES

The Company’s primary sources of liquidity are free cash flow and short-term credit facilities. In addition, the Company had $2.5 billion of cash on hand at December 31, 2016 and also maintains strong access to public debt markets. Management believes that these sources are sufficient to service debt and to finance the Company's capital allocation priorities, which include:

- internal investments to support organic growth and sustain core businesses;
- payment of an attractive dividend to shareholders; and

- external investments in selective strategic acquisitions that support the Company's organic growth focus and an active share repurchase program.

In September 2013, the Company's Board of Directors authorized a plan to commence a sale process for the Industrial Packaging business. The Company classified the Industrial Packaging segment as held for sale beginning in the third quarter of 2013 and no longer presented this segment as part of its continuing operations. As to the impact of this divestiture on the Company's income per share from continuing operations and capital structure going forward, the Company also indicated that it intended to repurchase approximately 50 million shares through a program utilizing its existing share repurchase authorization to offset the full amount of divestiture-related dilution of income per share from continuing operations through a combination of sale proceeds, free cash flow and additional leverage. The Company completed this program in the second quarter of 2014. Under this program, the Company repurchased approximately 14.0 million shares of its common stock in the fourth quarter of 2013 and approximately 35.7 million shares of its common stock in the first half of 2014.

On February 6, 2014, the Company announced that it had signed a definitive agreement to sell the Industrial Packaging business to The Carlyle Group for $3.2 billion. The transaction was completed on May 1, 2014, resulting in a pre-tax gain of $1.7 billion ($1.1 billion after-tax) in the second quarter of 2014 which was included in Income from discontinued operations. A portion of the proceeds was used to fund share repurchases under the program noted above.

The Company believes that, based on its operating revenue, operating margin, free cash flow, and credit ratings, it could readily obtain additional financing if necessary.

Cash Flow

The Company uses free cash flow to measure cash flow generated by operations that is available for dividends, share repurchases, acquisitions and debt repayment. The Company believes this non-GAAP financial measure is useful to investors in evaluating the Company's financial performance and measures the Company's ability to generate cash internally to fund Company initiatives. Free cash flow represents net cash provided by operating activities less additions to plant and equipment. Free cash flow is a measurement that is not the same as net cash flow from operating activities per the statement of cash flows and may not be consistent with similarly titled measures used by other companies. Summarized cash flow information for the years ended December 31, 2016, 2015 and 2014 was as follows:

In millions	2016	2015	2014
Net cash provided by operating activities	$ 2,302	$ 2,299	$ 1,616
Additions to plant and equipment	(273)	(284)	(361)
Free cash flow	$ 2,029	$ 2,015	$ 1,255
Cash dividends paid	$ (821)	$ (742)	$ (711)
Repurchases of common stock	(2,000)	(2,002)	(4,346)
Acquisition of businesses (excluding cash and equivalents) and additional interest in affiliates	(453)	(6)	(45)
Dividend distribution from equity investment in Wilsonart	167	—	—
Net proceeds from sale of discontinued operations	—	—	3,191
Net proceeds from (repayment of) debt	465	151	1,339
Other	128	147	224
Effect of exchange rate changes on cash and equivalents	(133)	(463)	(535)
Net increase (decrease) in cash and equivalents	$ (618)	$ (900)	$ 372

The 2014 net cash provided by operating activities included $724 million of tax payments related to the disposition of the Industrial Packaging business.

Stock Repurchase Programs

On August 2, 2013, the Company's Board of Directors authorized a stock repurchase program, which provided for the buyback of up to $6.0 billion of the Company's common stock over an open-ended period of time (the "2013 Program"). Under the 2013 Program, the Company repurchased approximately 3.3 million shares of its common stock at an average price of $81.62 per share during 2013, approximately 50.4 million shares of its common stock at an average price of $84.92 per share during 2014, and approximately 14.9 million shares of its common stock at an average price of $96.84 during 2015. As of December 31, 2015, there were no authorized repurchases remaining under the 2013 Program.

On February 13, 2015, the Company's Board of Directors authorized a new stock repurchase program, which provided for the buyback of up to an additional $6.0 billion of the Company's common stock over an open-ended period of time (the "2015 Program"). Under the 2015 Program, the Company repurchased approximately 6.1 million shares of its common stock at an average price of $91.78 per share during 2015 and approximately 18.7 million shares of its common stock at an average price of $107.17 per share during 2016. As of December 31, 2016, there were approximately $3.4 billion of authorized repurchases remaining under the 2015 Program.

Adjusted After-Tax Return on Average Invested Capital

The Company uses adjusted after-tax return on average invested capital ("ROIC") to measure the effectiveness of its operations' use of invested capital to generate profits. ROIC is a non-GAAP financial measure that the Company believes is a meaningful metric to investors in evaluating the Company's financial performance and may be different than the method used by other companies to calculate ROIC. Adjusted average invested capital represents the net assets of the Company, excluding cash and equivalents and outstanding debt, which are excluded as they do not represent capital investment in the Company's operations, as well as the Company's net investment in the former Industrial Packaging segment and the equity investment in the Wilsonart business (formerly the Decorative Surfaces segment). Average invested capital is calculated using balances at the start of the period and at the end of each quarter. ROIC for the years ended December 31, 2016, 2015, and 2014 was as follows:

Dollars in millions	2016	2015	2014
Operating income	$ 3,064	$ 2,867	$ 2,888
Tax rate	30.0%	30.1%	30.0%
Income taxes	(919)	(864)	(866)
Operating income after taxes	$ 2,145	$ 2,003	$ 2,022
Invested capital:			
Trade receivables	$ 2,357	$ 2,203	$ 2,293
Inventories	1,076	1,086	1,180
Net plant and equipment	1,652	1,577	1,686
Goodwill and intangible assets	6,021	5,999	6,466
Accounts payable and accrued expenses	(1,713)	(1,585)	(1,799)
Other, net	223	280	427
Total invested capital	$ 9,616	$ 9,560	$ 10,253
Average invested capital	$ 9,780	$ 9,943	$ 11,215
Adjustment for Wilsonart (formerly the Decorative Surfaces segment)	(91)	(123)	(154)
Adjustment for Industrial Packaging	—	—	(424)
Adjusted average invested capital	$ 9,689	$ 9,820	$ 10,637
Adjusted return on average invested capital	22.1%	20.4%	19.0%

ROIC increased 170 basis points in 2016 versus 2015 as a result of a 7.1% improvement in after-tax operating income and a 1.3% decrease in adjusted average invested capital. ROIC increased 140 basis points in 2015 versus 2014 primarily as a result of a decrease in adjusted average invested capital of 7.7%.

Working Capital

Management uses working capital as a measurement of the short-term liquidity of the Company. Net working capital at December 31, 2016 and 2015 is summarized as follows:

Dollars in millions	**2016**	**2015**	**Increase (Decrease)**
Current Assets:			
Cash and equivalents	$ 2,472	$ 3,090	$ (618)
Trade receivables	2,357	2,203	154
Inventories	1,076	1,086	(10)
Other	218	341	(123)
	6,123	6,720	(597)
Current Liabilities:			
Short-term debt	652	526	126
Accounts payable and accrued expenses	1,713	1,585	128
Other	395	257	138
	2,760	2,368	392
Net Working Capital	$ 3,363	$ 4,352	$ (989)

The decrease in net working capital at December 31, 2016 was primarily driven by lower cash and equivalents.

Cash and equivalents totaled approximately $2.5 billion as of December 31, 2016 and $3.1 billion as of December 31, 2015, primarily all of which was held by international subsidiaries. Cash and equivalents held internationally may be subject to U.S. income taxes and foreign withholding taxes if repatriated to the U.S. Cash and equivalents balances held internationally are typically used for international operating needs, reinvested to fund expansion of existing international businesses, used to fund new international acquisitions, or used to repay debt held internationally. In the U.S., the Company utilizes cash flows from domestic operations to fund domestic cash needs, which primarily consist of dividend payments, share repurchases, acquisitions, servicing of domestic debt obligations and general corporate needs. The Company also uses its commercial paper program, which is backed by long-term credit facilities, for short-term liquidity needs. The Company believes cash generated domestically and liquidity provided by the Company's commercial paper program will continue to be sufficient to fund cash requirements in the U.S.

Debt

Total debt at December 31, 2016 and 2015 was as follows:

In millions	**2016**	**2015**	**Increase (Decrease)**
Short-term debt	$ 652	$ 526	$ 126
Long-term debt	7,177	6,896	281
Total debt	$ 7,829	$ 7,422	$ 407

In 2016, the Company reclassified $650 million related to the 0.90% notes due February 25, 2017 from Long-term debt to Short-term debt. There was no commercial paper outstanding as of December 31, 2016. As of December 31, 2015, Short-term debt included commercial paper of $498 million.

The Company may issue commercial paper to fund general corporate needs, share repurchases, and small and medium-sized acquisitions. During the second quarter of 2016, the Company entered into a $2.5 billion, five-year line of credit agreement with a termination date of May 9, 2021 to support the potential issuances of commercial paper. This agreement replaced the previously existing $1.5 billion line of credit agreement with a termination date of June 8, 2017 and the $1.0 billion line of credit agreement with a termination date of August 15, 2018. No amounts were outstanding under the new line of credit agreement at December 31, 2016. The maximum outstanding commercial paper balance during 2016 was $1.3 billion, while the average daily balance was $266 million. As of December 31, 2016, the Company's foreign operations had authorized credit facilities with unused capacity of $286 million.

In May 2015, the Company issued €500 million of 1.25% Euro notes due May 22, 2023 at 99.239% of face value and €500 million of 2.125% Euro notes due May 22, 2030 at 99.303% of face value. Net proceeds from the May 2015 debt issuances were used to repay commercial paper and for general corporate purposes.

In November 2016, the Company issued $1.0 billion of 2.65% notes due November 15, 2026 at 99.685% of face value. Net proceeds from the November 2016 debt issuance were used to repay commercial paper and for general corporate purposes.

Total Debt to EBITDA

The Company uses the ratio of total debt to EBITDA to measure its ability to repay its outstanding debt obligations. The Company believes that total debt to EBITDA is a meaningful metric to investors in evaluating the Company's long term financial liquidity and may be different than the method used by other companies to calculate total debt to EBITDA. EBITDA and the ratio of total debt to EBITDA are non-GAAP financial measures. The ratio of total debt to EBITDA represents total debt divided by income from continuing operations before interest expense, other income (expense), income taxes, depreciation, and amortization and impairment of goodwill and other intangible assets on a trailing twelve month basis. Total debt to EBITDA for the years ended December 31, 2016, 2015 and 2014 was as follows:

Dollars in millions	**2016**	**2015**	**2014**
Total debt	$ 7,829	$ 7,422	$ 7,419
Income from continuing operations	$ 2,035	$ 1,899	$ 1,890
Add:			
Interest expense	237	226	250
Other income	(81)	(78)	(61)
Income taxes	873	820	809
Depreciation	246	244	262
Amortization and impairment of intangible assets	224	233	245
EBITDA	$ 3,534	$ 3,344	$ 3,395
Total debt to EBITDA ratio	2.2	2.2	2.2

Stockholders' Equity

The changes to stockholders' equity during 2016 and 2015 were as follows:

In millions	**2016**	**2015**
Beginning balance	$ 5,228	$ 6,824
Net income	2,035	1,899
Cash dividends declared	(846)	(756)
Repurchases of common stock	(2,000)	(2,002)
Currency translation adjustments	(277)	(860)
Other	119	123
Ending balance	$ 4,259	$ 5,228

CONTRACTUAL OBLIGATIONS AND OFF-BALANCE SHEET ARRANGEMENTS

The Company's significant contractual obligations as of December 31, 2016 were as follows:

In millions	2017	2018	2019	2020	2021	2022 and Future Years
Principal payments on notes	$ 650	$ —	$ 1,350	$ 4	$ 350	$ 5,554
Interest payments on notes	240	237	209	180	180	2,053
Minimum lease payments	104	75	53	37	26	43
	$ 994	$ 312	$ 1,612	$ 221	$ 556	$ 7,650

As of December 31, 2016, the Company had recorded noncurrent liabilities for unrecognized tax benefits of $97 million. The Company is not able to reasonably estimate the timing of payments related to the liabilities for unrecognized tax benefits. The Company did not have any significant off-balance sheet commitments at December 31, 2016.

CRITICAL ACCOUNTING POLICIES AND ESTIMATES

The Company has six accounting policies that it believes are most important to the Company's financial condition and results of operations, and which require the Company to make estimates about matters that are inherently uncertain. Management bases its estimates on historical experience, and in some cases on observable market information. Various assumptions are also used that are believed to be reasonable under the circumstances and form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates.

The Company's critical accounting policies are as follows:

Realizability of Inventories— Inventories are stated at the lower of cost or net realizable value. Generally, the Company's businesses perform an analysis of the historical sales usage of the individual inventory items on hand and a reserve is recorded to adjust inventory cost to net realizable value based on the following usage criteria:

Usage Classification	Criteria	Reserve %
Active	Quantity on hand is less than prior 6 months of usage	0%
Slow-moving	Some usage in last 12 months, but quantity on hand exceeds prior 6 months of usage	50%
Obsolete	No usage in the last 12 months	90%

In addition, for approximately 22% of total inventories, the Company has elected to use the last-in, first-out ("LIFO") method of inventory costing. Generally, this method results in a lower inventory value than the first-in, first-out ("FIFO") method due to the effects of inflation.

Collectibility of Accounts Receivable— The Company estimates the allowance for uncollectible accounts based on the greater of a specific reserve or a reserve calculated based on the historical write-off percentage over the last two years. In addition, reserves for customer credits and cash discounts are estimated based on past experience.

Depreciation of Plant and Equipment— The Company's U.S. businesses primarily compute depreciation on an accelerated basis, as follows:

Buildings and improvements	150% declining balance
Machinery and equipment	200% declining balance

The majority of the Company's international businesses compute depreciation on a straight-line basis.

Income Taxes— The Company provides deferred income tax assets and liabilities based on the estimated future tax effects of differences between the financial and tax bases of assets and liabilities based on currently enacted tax laws. The Company's deferred and other tax balances are based on management's interpretation of the tax regulations and rulings in numerous taxing jurisdictions. Income tax expense, assets and liabilities recognized by the Company also reflect its best estimates and assumptions regarding, among other things, the level of future taxable income, the effect of the Company's various tax planning strategies and uncertain tax positions. Future tax authority rulings and changes in tax laws, changes in projected levels of taxable income and future tax planning strategies could affect the actual effective tax rate and tax balances recorded by the Company.

Goodwill and Intangible Assets— The Company's business acquisitions typically result in recording goodwill and other intangible assets, which are a significant portion of the Company's total assets and affect the amount of amortization expense and impairment charges that the Company could incur in future periods. The Company follows the guidance prescribed in the accounting standards to test goodwill and intangible assets for impairment. On an annual basis, or more frequently if triggering events occur, the Company compares the estimated fair value of its reporting units to the carrying value of each reporting unit to determine if a potential goodwill impairment exists. If the fair value of a reporting unit is less than its carrying value, an impairment loss, if any, is recorded for the difference between the implied fair value and the carrying value of the reporting unit's goodwill. In calculating the fair value of the reporting units or specific intangible assets, management relies on a number of factors, including business plans, economic projections, anticipated future cash flows, comparable transactions and other market data. There are inherent uncertainties related to these factors and management's judgment in applying them in the impairment tests of goodwill and other intangible assets.

As of December 31, 2016, the Company had total goodwill and intangible assets of approximately $6.0 billion allocated to its reporting units. Although there can be no assurance that the Company will not incur additional impairment charges related to its goodwill and other intangible assets, the Company generally believes the risk of significant impairment charges is lessened by the number of diversified businesses and end markets represented by its reporting units that have goodwill and other intangible assets. In addition, the individual businesses in many of the reporting units have been acquired over a long period of time, and in many cases have been able to improve their performance, primarily as a result of the application of the Company's 80/20 management process. The amount of goodwill and other intangible assets allocated to individual reporting units ranges from approximately $208 million to $1.4 billion, with the average amount equal to $601 million. Fair value determinations require considerable judgment and are sensitive to changes in the factors described above. Due to the inherent uncertainties associated with these factors and economic conditions in the Company's global end markets, impairment charges related to one or more reporting units could occur in future periods.

Pension and Other Postretirement Benefits— The Company has various company-sponsored defined benefit retirement plans covering a number of U.S. employees and many employees outside the U.S. Pension and other postretirement benefit expense and obligations are determined based on actuarial valuations. Pension benefit obligations are generally based on each participant's years of service, future compensation, and age at retirement or termination. Important assumptions in determining pension and postretirement expense and obligations are the discount rate, the expected long-term return on plan assets, life expectancy, and health care cost trend rates. Future changes in any of these assumptions could materially affect the amounts recorded related to the Company's pension and other postretirement benefit plans. See Note 9. Pension and Other Postretirement Benefits in Item 8. Financial Statements and Supplementary Data for additional discussion of actuarial assumptions used in determining pension and postretirement health care liabilities and expenses.

The Company determines the discount rate used to measure plan liabilities as of the year-end measurement date for the U.S. primary pension plan. The discount rate reflects the current rate at which the associated liabilities could theoretically be effectively settled at the end of the year. In estimating this rate, the Company looks at rates of return on high-quality fixed income investments, with similar duration to the liabilities in the plan. A 25 basis point decrease in the discount rate would increase the present value of the U.S. primary pension plan obligation by approximately $39 million.

The expected long-term return on plan assets is based on historical and expected long-term returns for similar investment allocations among asset classes. For the U.S. primary pension plan, a 25 basis point decrease in the expected return on plan assets would increase the annual pension expense by approximately $4 million.

Beginning in 2017, the Company changed the method used to estimate the service and interest cost components of net periodic pension and other postretirement benefit costs. The new method will provide a more precise measure of the service and interest cost components of net periodic benefit cost by applying specific spot rates along the yield curve to the projected cash flows rather than a single weighted-average rate. The change is not expected to have a material impact on the 2017 net periodic pension and other postretirement benefit costs as the decrease in service and interest costs is largely offset by the impact of lower discount rates and expected returns on plan assets. Total estimated 2017 pension and other postretirement benefit costs are expected to be consistent with 2016. See Note 9. Pension and Other Postretirement Benefits in Item 8.

Financial Statements and Supplementary Data for information on the Company's pension and other postretirement benefit plans and related assumptions.

ITEM 7A. *Quantitative and Qualitative Disclosures About Market Risk*

MARKET RISK

The Company is exposed to certain market risks that exist as part of its ongoing business operations, including fluctuations in currency exchange rates, price volatility for certain commodities and changes in interest rates. The Company does not engage in speculative or leveraged transactions and does not hold or issue financial instruments for trading purposes.

Interest Rate Risk

The Company’s exposure to market risk for changes in interest rates relates primarily to the fair value of the Company’s fixed rate debt. The following table presents the Company’s fixed rate debt for which the fair value is subject to changing market interest rates:

In millions	0.90% Notes Due Feb 25, 2017	1.95% Notes Due Mar 1, 2019	6.25% Notes Due Apr 1, 2019	4.88% Notes Due thru Dec 31, 2020	3.375% Notes Due Sep 15, 2021	1.75% Euro Notes Due May 20, 2022	1.25% Euro Notes Due May 22, 2023	3.50% Notes Due Mar 1, 2024	2.65% Notes Due Nov 15, 2026	2.125% Euro Notes Due May 22, 2030	3.00% Euro Notes Due May 19, 2034	4.875% Notes Due Sep 15, 2041	3.9% Notes Due Sep 1, 2042
As of December 31, 2016:													
Estimated cash outflow by year of principal maturity													
2017	$ 650	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ —
2018	—	—	—	—	—	—	—	—	—	—	—	—	—
2019	—	650	700	—	—	—	—	—	—	—	—	—	—
2020	—	—	—	4	—	—	—	—	—	—	—	—	—
2021	—	—	—	—	350	—	—	—	—	—	—	—	—
2022 and thereafter	—	—	—	—		526	526	700	1,000	526	526	650	1,100
Estimated fair value	650	656	768	4	365	565	549	728	959	565	618	734	1,114
Carrying value	650	648	698	4	348	520	520	695	991	519	512	636	1,080
As of December 31, 2015:													
Estimated total cash outflow	$ 650	$ 650	$ 700	$ 4	$ 350	$ 543	$ 543	$ 700	$ —	$ 543	$ 543	$ 650	$1,100
Estimated fair value	649	655	790	4	362	564	538	727	—	530	569	708	1,051
Carrying value	649	647	698	4	347	536	536	695	—	536	528	635	1,080

Foreign Currency Risk

The Company operates in the U.S. and 56 foreign countries. The funding for the foreign manufacturing operations is provided primarily through the permanent investment of equity capital. The Company’s products are typically manufactured and sold within the same country. Therefore, the Company's manufacturing operations generally do not have significant assets or liabilities denominated in currencies other than their functional currencies.

The Company designated €1.0 billion of Euro notes issued in May 2014 and €1.0 billion of Euro notes issued in May 2015 as hedges of a portion of its net investment in Euro-denominated foreign operations to reduce foreign currency risk associated with the investment in these operations. Changes in the value of this debt resulting from fluctuations in the Euro to U.S. Dollar exchange rate have been recorded as foreign currency translation adjustments within Accumulated other comprehensive income (loss). The cumulative unrealized gain recorded in Accumulated other comprehensive income (loss) related to the net investment hedge was $375 million and $308 million as of December 31, 2016 and December 31, 2015, respectively.

ITEM 8. *Financial Statements and Supplementary Data*

MANAGEMENT REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING

The management of Illinois Tool Works Inc. (the "Company" or "ITW") is responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined in Exchange Act Rule 13a-15(f). ITW's internal control system was designed to provide reasonable assurance to the Company's management and Board of Directors regarding the preparation and fair presentation of published financial statements.

All internal control systems, no matter how well designed, have inherent limitations. Therefore, even those systems determined to be effective can provide only reasonable assurance with respect to financial statement preparation and presentation.

ITW management assessed the effectiveness of the Company's internal control over financial reporting as of December 31, 2016. In making this assessment, it used the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission (COSO) in Internal Control—Integrated Framework (2013). Based on our assessment we believe that, as of December 31, 2016, the Company's internal control over financial reporting is effective based on those criteria.

The effectiveness of the Company's internal control over financial reporting as of December 31, 2016 has been audited by Deloitte & Touche LLP, an independent registered public accounting firm, as stated in their report herein.

/s/ E. Scott Santi
E. Scott Santi
Chairman & Chief Executive Officer
February 10, 2017

/s/ Michael M. Larsen
Michael M. Larsen
Senior Vice President & Chief Financial Officer
February 10, 2017

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Stockholders of Illinois Tool Works Inc.
Glenview, Illinois

We have audited the accompanying consolidated statements of financial position of Illinois Tool Works Inc. and subsidiaries (the "Company") as of December 31, 2016 and 2015, and the related consolidated statements of income, comprehensive income, changes in stockholders' equity, and cash flows for each of the three years in the period ended December 31, 2016. We also have audited the Company's internal control over financial reporting as of December 31, 2016, based on criteria established in *Internal Control-Integrated Framework* (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission. The Company's management is responsible for these financial statements, 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 Report on Internal Control over Financial Reporting. Our responsibility is to express an opinion on these financial statements and an opinion on the Company's internal control over financial reporting based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement and whether effective internal control over financial reporting was maintained in all material respects. Our audits of the financial statements included examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

A company's internal control over financial reporting is a process designed by, or under the supervision of, the company's principal executive and principal financial officers, or persons performing similar functions, and effected by the company's board of directors, management, and other personnel 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 the inherent limitations of internal control over financial reporting, including the possibility of collusion or improper management override of controls, material misstatements due to error or fraud may not be prevented or detected on a timely basis. Also, projections of any evaluation of the effectiveness of the internal control over financial reporting to future periods are subject to the risk that the controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of Illinois Tool Works Inc. and subsidiaries as of December 31, 2016 and 2015 and the results of their operations and their cash flows for each of the three years in the period ended December 31, 2016, in conformity with accounting principles generally accepted in the United States of America. Also, in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2016, based on the criteria established in *Internal Control-Integrated Framework* (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission.

/s/ DELOITTE & TOUCHE LLP
Deloitte & Touche LLP
Chicago, Illinois
February 10, 2017

Statement of Income
Illinois Tool Works Inc. and Subsidiaries

In millions except per share amounts	For the Years Ended December 31 2016	2015	2014
Operating Revenue	$ 13,599	$ 13,405	$ 14,484
Cost of revenue	7,896	7,888	8,673
Selling, administrative, and research and development expenses	2,415	2,417	2,678
Amortization and impairment of intangible assets	224	233	245
Operating Income	3,064	2,867	2,888
Interest expense	(237)	(226)	(250)
Other income (expense)	81	78	61
Income from Continuing Operations Before Income Taxes	2,908	2,719	2,699
Income taxes	873	820	809
Income from Continuing Operations	2,035	1,899	1,890
Income from Discontinued Operations	—	—	1,056
Net Income	$ 2,035	$ 1,899	$ 2,946
Income Per Share from Continuing Operations:			
Basic	$ 5.73	$ 5.16	$ 4.70
Diluted	$ 5.70	$ 5.13	$ 4.67
Income Per Share from Discontinued Operations:			
Basic	$ —	$ —	$ 2.63
Diluted	$ —	$ —	$ 2.61
Net Income Per Share:			
Basic	$ 5.73	$ 5.16	$ 7.33
Diluted	$ 5.70	$ 5.13	$ 7.28

The Notes to Financial Statements are an integral part of this statement.

Statement of Comprehensive Income
Illinois Tool Works Inc. and Subsidiaries

In millions	For the Years Ended December 31 2016	2015	2014
Net Income	$ 2,035	$ 1,899	$ 2,946
Other Comprehensive Income (Loss):			
Foreign currency translation adjustments, net of tax	(277)	(860)	(939)
Pension and other postretirement benefit adjustments, net of tax	(26)	14	(103)
Comprehensive Income	$ 1,732	$ 1,053	$ 1,904

The Notes to Financial Statements are an integral part of this statement.

Statement of Financial Position
Illinois Tool Works Inc. and Subsidiaries

In millions except per share amounts	December 31 2016	December 31 2015
Assets		
Current Assets:		
Cash and equivalents	$ 2,472	$ 3,090
Trade receivables	2,357	2,203
Inventories	1,076	1,086
Prepaid expenses and other current assets	218	341
Total current assets	6,123	6,720
Net plant and equipment	1,652	1,577
Goodwill	4,558	4,439
Intangible assets	1,463	1,560
Deferred income taxes	449	346
Other assets	956	1,087
	$ 15,201	$ 15,729
Liabilities and Stockholders' Equity		
Current Liabilities:		
Short-term debt	$ 652	$ 526
Accounts payable	511	449
Accrued expenses	1,202	1,136
Cash dividends payable	226	200
Income taxes payable	169	57
Total current liabilities	2,760	2,368
Noncurrent Liabilities:		
Long-term debt	7,177	6,896
Deferred income taxes	134	256
Other liabilities	871	981
Total noncurrent liabilities	8,182	8,133
Stockholders' Equity:		
Common stock (par value of $0.01 per share):		
Issued- 550.0 shares in 2016 and 2015 Outstanding- 346.9 shares in 2016 and 363.7 shares in 2015	6	6
Additional paid-in-capital	1,188	1,135
Retained earnings	19,505	18,316
Common stock held in treasury	(14,638)	(12,729)
Accumulated other comprehensive income (loss)	(1,807)	(1,504)
Noncontrolling interest	5	4
Total stockholders' equity	4,259	5,228
	$ 15,201	$ 15,729

The Notes to Financial Statements are an integral part of this statement.

Statement of Changes in Stockholders' Equity
Illinois Tool Works Inc. and Subsidiaries

In millions except per share amounts	Common Stock	Additional Paid-in Capital	Retained Earnings	Common Stock Held in Treasury	Accumulated Other Comprehensive Income (Loss)	Noncontrolling Interest	Total
Balance at December 31, 2013	$ 6	$ 1,046	$ 14,943	$ (6,676)	$ 384	$ 6	$ 9,709
Net income	—	—	2,946	—	—	—	2,946
Common stock issued for share-based awards	—	(26)	—	160	—	—	134
Stock-based compensation expense	—	39	—	—	—	—	39
Tax benefits related to stock options	—	33	—	—	—	—	33
Tax benefits related to defined contribution plans	—	4	—	1	—	—	5
Repurchases of common stock	—	—	—	(4,283)	—	—	(4,283)
Dividends declared ($1.81 per share)	—	—	(716)	—	—	—	(716)
Pension and other postretirement benefit adjustments	—	—	—	—	(103)	—	(103)
Currency translation adjustment	—	—	—	—	(939)	—	(939)
Noncontrolling interest	—	—	—	—	—	(1)	(1)
Balance at December 31, 2014	6	1,096	17,173	(10,798)	(658)	5	6,824
Net income	—	—	1,899	—	—	—	1,899
Common stock issued for share-based awards	—	(21)	—	69	—	—	48
Stock-based compensation expense	—	39	—	2	—	—	41
Tax benefits related to stock options	—	20	—	—	—	—	20
Tax benefits related to defined contribution plans	—	3	—	—	—	—	3
Repurchases of common stock	—	—	—	(2,002)	—	—	(2,002)
Dividends declared ($2.07 per share)	—	—	(756)	—	—	—	(756)
Pension and other postretirement benefit adjustments	—	—	—	—	14	—	14
Currency translation adjustment	—	—	—	—	(860)	—	(860)
Noncontrolling interest	—	(2)	—	—	—	(1)	(3)
Balance at December 31, 2015	6	1,135	18,316	(12,729)	(1,504)	4	5,228
Net income	—	—	2,035	—	—	—	2,035
Common stock issued for share-based awards	—	(18)	—	91	—	—	73
Stock-based compensation expense	—	39	—	—	—	—	39
Tax benefits related to stock options	—	29	—	—	—	—	29
Tax benefits related to defined contribution plans	—	3	—	—	—	—	3
Repurchases of common stock	—	—	—	(2,000)	—	—	(2,000)
Dividends declared ($2.40 per share)	—	—	(846)	—	—	—	(846)
Pension and other postretirement benefit adjustments	—	—	—	—	(26)	—	(26)
Currency translation adjustment	—	—	—	—	(277)	—	(277)
Noncontrolling interest	—	—	—	—	—	1	1
Balance at December 31, 2016	$ 6	$ 1,188	$ 19,505	$ (14,638)	$ (1,807)	$ 5	$ 4,259

The Notes to Financial Statements are an integral part of this statement.

Statement of Cash Flows
Illinois Tool Works Inc. and Subsidiaries

In millions	For the Years Ended December 31 2016	2015	2014
Cash Provided by (Used for) Operating Activities:			
Net income	$ 2,035	$ 1,899	$ 2,946
Adjustments to reconcile net income to cash provided by operating activities:			
Depreciation	246	244	262
Amortization and impairment of intangible assets	224	233	245
Change in deferred income taxes	(263)	(11)	55
Provision for uncollectible accounts	7	7	7
(Income) loss from investments	13	(4)	(8)
(Gain) loss on sale of plant and equipment	1	1	2
(Gain) loss on discontinued operations	—	—	(1,718)
(Gain) loss on sale of operations and affiliates	12	(16)	6
Stock-based compensation expense	39	41	39
Gain on dividend distribution from equity investment in Wilsonart	(54)	—	—
Other non-cash items, net	5	12	11
Change in assets and liabilities, net of acquisitions and divestitures:			
(Increase) decrease in—			
Trade receivables	(132)	(42)	(70)
Inventories	9	25	(10)
Prepaid expenses and other assets	(63)	24	(98)
Increase (decrease) in—			
Accounts payable	(3)	(30)	(20)
Accrued expenses and other liabilities	40	(56)	5
Income taxes	187	(27)	33
Other, net	(1)	(1)	(71)
Net cash provided by operating activities	2,302	2,299	1,616
Cash Provided by (Used for) Investing Activities:			
Acquisition of businesses (excluding cash and equivalents) and additional interest in affiliates	(453)	(6)	(45)
Additions to plant and equipment	(273)	(284)	(361)
Proceeds from investments	21	22	28
Dividend distribution from equity investment in Wilsonart	167	—	—
Proceeds from sale of plant and equipment	16	30	28
Net proceeds from sale of discontinued operations	—	—	3,191
Proceeds from sale of operations and affiliates	3	29	18
Other, net	(13)	(1)	(17)
Net cash provided by (used for) investing activities	(532)	(210)	2,842
Cash Provided by (Used for) Financing Activities:			
Cash dividends paid	(821)	(742)	(711)
Issuance of common stock	84	59	148
Repurchases of common stock	(2,000)	(2,002)	(4,346)
Net proceeds from (repayments of) debt with original maturities of three months or less	(526)	(946)	(239)
Proceeds from debt with original maturities of more than three months	992	1,099	3,329
Repayments of debt with original maturities of more than three months	(1)	(2)	(1,751)
Excess tax benefits from stock-based compensation	29	20	33
Other, net	(12)	(12)	(14)
Net cash provided by (used for) financing activities	(2,255)	(2,526)	(3,551)
Effect of Exchange Rate Changes on Cash and Equivalents	(133)	(463)	(535)
Cash and Equivalents:			
Increase (decrease) during the year	(618)	(900)	372
Beginning of year	3,090	3,990	3,618
End of year	$ 2,472	$ 3,090	$ 3,990
Supplementary Cash Flow Information:			
Cash Paid During the Year for Interest	$ 212	$ 200	$ 236
Cash Paid During the Year for Income Taxes, Net of Refunds	$ 920	$ 775	$ 1,502
Liabilities Assumed from Acquisitions	$ 150	$ 1	$ 4

The Notes to Financial Statements are an integral part of this statement.

Notes to Financial Statements

(1) Description of Business and Summary of Significant Accounting Policies

Description of business— Illinois Tool Works Inc. (the "Company" or "ITW") is a global manufacturer of a diversified range of industrial products and equipment with approximately 85 divisions in 57 countries. The Company primarily serves the automotive OEM/tiers, commercial food equipment, construction, general industrial, and automotive aftermarket end markets.

Consolidation and translation— The financial statements include the Company and its majority-owned subsidiaries. The Company follows the equity method of accounting for investments where the Company has a significant influence but not a controlling interest. Intercompany transactions are eliminated from the financial statements. Foreign subsidiaries' assets and liabilities are translated to U.S. dollars at end-of-period exchange rates. Revenues and expenses are translated at average rates for the period. Translation adjustments are reported as a component of accumulated other comprehensive income (loss) in stockholders' equity.

Reclassifications— Certain reclassifications of prior year data have been made to conform to current year reporting.

Use of estimates— The preparation of the Company's financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect the amounts reported in the financial statements and the notes to financial statements. Actual results could differ from those estimates.

Acquisitions— The Company accounts for acquisitions under the acquisition method, in which assets acquired and liabilities assumed are recorded at fair value as of the date of acquisition. The operating results of the acquired companies are included in the Company's consolidated financial statements from the date of acquisition.

Operating revenue— Operating revenue is recognized when persuasive evidence of an arrangement exists, product has shipped and the risks and rewards of ownership have transferred or services have been rendered, the price to the customer is fixed or determinable, and collectibility is reasonably assured, which is generally at the time of product shipment. Typical sales arrangements are for standard products and provide for transfer of ownership and risk of loss at the time of shipment. In limited circumstances where significant obligations to the customer are unfulfilled at the time of shipment, typically involving installation and customer acceptance, revenue recognition is deferred until such obligations have been completed. Customer allowances and rebates, consisting primarily of volume discounts and other short-term incentive programs, are estimated at the time of sale based on historical experience and known trends and are recorded as a reduction in reported revenues.

Research and development expenses— Research and development expenses are recorded as expense in the year incurred. These costs were $223 million in 2016, $218 million in 2015 and $227 million in 2014.

Advertising expenses— Advertising expenses are recorded as expense in the year incurred. These costs were $58 million in 2016, $58 million in 2015 and $66 million in 2014.

Income taxes— The Company utilizes the asset and liability method of accounting for income taxes. Deferred income taxes are determined based on the estimated future tax effects of differences between the financial and tax bases of assets and liabilities given the provisions of the enacted tax laws. Valuation allowances are established when it is estimated that it is more likely than not that the tax benefit of the deferred tax asset will not be realized.

Cash and equivalents— Cash and equivalents include cash on hand and instruments having original maturities of three months or less. Cash and equivalents are stated at cost, which approximates fair value.

Trade receivables— Trade receivables are net of allowances for doubtful accounts which includes reserves for uncollectible accounts, customer credits and cash discounts. The Company estimates the allowance for uncollectible accounts based on the greater of a specific reserve or a reserve calculated based on the historical write-off percentage over the last two years. In addition, reserves for customer credits and cash discounts are estimated based on past experience. The changes in the allowance for doubtful accounts during 2016, 2015 and 2014 were as follows:

In millions	2016	2015	2014
Beginning balance	$ 42	$ 43	$ 46
Provision charged to expense	7	7	7
Write-offs, net of recoveries	(6)	(5)	(7)
Acquisitions and divestitures	1	—	—
Foreign currency translation	(1)	(3)	(3)
Ending balance	$ 43	$ 42	$ 43

Inventories— Inventories are stated at the lower of cost or net realizable value and include material, labor and factory overhead. The last-in, first-out ("LIFO") method is used to determine the cost of inventories at certain U.S. businesses. The first-in, first-out ("FIFO") method, which approximates current cost, is used for all other inventories. Inventories priced at LIFO were approximately 22% of total inventories as of both December 31, 2016 and 2015. If the FIFO method was used for all inventories, total inventories would have been approximately $86 million and $81 million higher than reported at December 31, 2016 and 2015, respectively. The major classes of inventory at December 31, 2016 and 2015 were as follows:

In millions	2016	2015
Raw material	$ 407	$ 415
Work-in-process	126	130
Finished goods	629	622
LIFO reserve	(86)	(81)
Total inventories	$ 1,076	$ 1,086

Net plant and equipment— Net plant and equipment are stated at cost, less accumulated depreciation. Renewals and improvements that increase the useful life of plant and equipment are capitalized. Maintenance and repairs are charged to expense as incurred. Net plant and equipment consisted of the following at December 31, 2016 and 2015:

In millions	2016	2015
Land	$ 186	$ 179
Buildings and improvements	1,297	1,272
Machinery and equipment	3,036	2,972
Equipment leased to others	160	156
Construction in progress	104	76
Gross plant and equipment	4,783	4,655
Accumulated depreciation	(3,131)	(3,078)
Net plant and equipment	$ 1,652	$ 1,577

The Company’s U.S. businesses primarily compute depreciation on an accelerated basis. The majority of the Company's international businesses compute depreciation on a straight-line basis. The ranges of useful lives used to depreciate plant and equipment are as follows:

Buildings and improvements	5—50 years
Machinery and equipment	3—12 years
Equipment leased to others	Term of lease

Depreciation was $246 million in 2016, $244 million in 2015 and $262 million in 2014. There was no depreciation included in Income from discontinued operations in 2014.

Goodwill and intangible assets— Goodwill represents the excess cost over fair value of the net assets of acquired businesses. The Company does not amortize goodwill and intangible assets that have indefinite lives. Amortizable intangible assets are being amortized on a straight-line basis over their estimated useful lives of 3 to 20 years.

The Company performs an impairment assessment of goodwill and intangible assets with indefinite lives annually, or more frequently if triggering events occur, based on the estimated fair value of the related reporting unit or intangible asset. Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants.

When performing its annual impairment assessment, the Company evaluates the goodwill assigned to each of its reporting units for potential impairment by comparing the estimated fair value of the relevant reporting unit to the carrying value. The Company uses various Level 2 and Level 3 valuation techniques to determine the fair value of its reporting units, including discounting estimated future cash flows based on a detailed cash flow forecast prepared by the relevant reporting unit and market multiples of relevant public companies. If the fair value of a reporting unit is less than its carrying value, an impairment loss, if any, is recorded for the difference between the implied fair value and the carrying value of the reporting unit's goodwill.

The Company's indefinite-lived intangible assets consist of trademarks and brands. The estimated fair values of these intangible assets are determined based on a Level 3 valuation method using a relief-of-royalty income approach derived from internally forecasted revenues of the related products. If the fair value of the trademark or brand is less than its carrying value, an impairment loss is recorded for the difference between the estimated fair value and carrying value of the intangible asset.

Accrued warranties— The Company accrues for product warranties based on historical experience. The changes in accrued warranties during 2016, 2015 and 2014 were as follows:

In millions	2016	2015	2014
Beginning balance	$ 46	$ 49	$ 50
Charges	(41)	(37)	(41)
Provision charged to expense	42	36	43
Acquisitions and divestitures	1	—	—
Foreign currency translation	(3)	(2)	(3)
Ending balance	$ 45	$ 46	$ 49

New Accounting Pronouncements

In May 2014, the Financial Accounting Standards Board (the "FASB") issued authoritative guidance to change the criteria for revenue recognition. The core principle of the new standard is that revenue should be recognized to depict the transfer 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. In addition, several new revenue recognition disclosures will be required. This guidance is effective for the Company beginning January 1, 2018, with early adoption permitted. The Company expects to adopt the new revenue accounting guidance effective January 1, 2018 and is in the process of completing its analysis of the impact this guidance will have on the consolidated financial statements and related disclosures.

In February 2016, the FASB issued authoritative guidance to change the criteria for recognizing leasing transactions. Under the new guidance, a lessee will be required to recognize a lease liability and lease asset for all leases, including operating leases, with a lease term greater than twelve months in the statement of financial position. Subsequent measurement, including presentation of expenses and cash flows, will depend on the classification of the lease as either a financing or operating lease. In addition, several new disclosures will be required. This guidance is effective for the Company beginning January 1, 2019, with early adoption permitted. While the Company has not yet completed its evaluation of the impact the new lease accounting guidance will have on the consolidated financial statements and related disclosures, the Company expects to recognize right of use assets and liabilities for its operating leases in the statement of financial position upon adoption.

In March 2016, the FASB issued authoritative guidance that includes several changes to simplify the accounting for stock-based compensation, including the accounting for income taxes, forfeitures, statutory tax withholding requirements and classification of tax benefits in the statement of cash flows. Among the more significant changes, the new guidance requires that the income tax effects associated with the settlement of stock-based awards after adoption of the guidance be recognized through income tax expense rather than directly in equity. Additionally, the income tax effects related to excess tax benefits will be presented as an operating cash flow in the statement of cash flows rather than a financing activity for all current and prior periods presented. The Company adopted this guidance effective January 1, 2017. For the twelve months ended December 31, 2016 and 2015, the Company had classified $29 million and $20 million, respectively, of excess tax benefits as a financing activity in the statement of cash flows which will be presented as an operating cash flow under the new guidance. The expected effect on income tax expense or net cash provided from operating activities related to stock-based awards settled after adoption of the new guidance will depend on inputs such as the stock price at the time of settlement and the number of awards settled in the period presented.

In October 2016, the FASB issued authoritative guidance requiring the recognition of the income tax consequences of an intra-entity transfer of an asset, other than inventory, when the transfer occurs rather than when transferred to a third party as required under the current guidance. The new guidance is effective for the Company beginning January 1, 2018, with early adoption permitted. The Company is currently assessing the potential impact the guidance will have upon adoption.

In January 2017, the FASB issued authoritative guidance that simplifies the assessment of goodwill for impairment when the estimated fair value of a reporting unit is less than its carrying value by eliminating the requirement to determine the fair value of goodwill. Under the new guidance, the amount of goodwill impairment will be determined by the amount the carrying value of the reporting unit exceeds its fair value. The new guidance is effective for the Company beginning January 1, 2020, with early adoption permitted. The Company performs its annual goodwill impairment assessment process in the third quarter, or more frequently if triggering events occur. Adoption of this new guidance is not expected to have a material impact on the Company's operating results, financial position or cash flows.

(2) Discontinued Operations

In April 2014, the Financial Accounting Standards Board ("FASB") issued authoritative guidance to change the criteria for reporting discontinued operations. Under the new guidance, only disposals representing a strategic shift in a company's operations and financial results should be reported as discontinued operations. In addition, disclosure of the pre-tax income attributable to a disposal of a significant part of an organization that does not qualify as a discontinued operation is required. The Company adopted this new guidance effective January 1, 2015. The new guidance applies prospectively to new disposals and new classifications of disposal groups held for sale after such date. There were no discontinued operations during 2015 and 2016 under this new accounting guidance.

Third Quarter 2013 Discontinued Operations— In February 2013, the Company announced that it was initiating a review process to explore strategic alternatives for its Industrial Packaging segment. In September 2013, the Company's Board of Directors authorized a plan to commence a sale process for the Industrial Packaging segment. The Company classified the Industrial Packaging segment as held for sale beginning in the third quarter of 2013 and no longer presented this segment as part of its continuing operations.

On February 6, 2014, the Company announced that it had signed a definitive agreement to sell its Industrial Packaging business to The Carlyle Group for $3.2 billion. The transaction was completed on May 1, 2014, resulting in a pre-tax gain of $1.7 billion ($1.1 billion after-tax) in the second quarter of 2014 which was included in Income from discontinued operations.

In the third quarter of 2013, the Company also committed to plans for the divestiture of a construction distribution business previously included in the Construction Products segment. This business was classified as held for sale beginning in the third quarter of 2013 and was sold in the second quarter of 2014.

First Quarter 2013 Discontinued Operations— In the first quarter of 2013, the Company committed to a plan for the divestiture of a construction distribution business previously included in the Construction Products segment. This business was classified as held for sale beginning in the first quarter of 2013 and was sold in the second quarter of 2014.

The operating results of the businesses discussed above are reported as discontinued operations in the statement of income for the applicable periods presented. Results of the discontinued operations for the year ended December 31, 2014 were as follows:

In millions	**2014**
Operating revenue	$ 798
Income before income taxes	$ 1,805
Income tax expense	(749)
Income from discontinued operations	$ 1,056

Included in income before income taxes from discontinued operations for 2014 are net gains on disposal of $1.7 billion ($1.1 billion after-tax) primarily related to the sale of the Industrial Packaging business. Income tax expense from discontinued operations for 2014 included $175 million of U.S. income tax expense related to the repatriation of approximately $1.3 billion of international proceeds from the sale of the Industrial Packaging business.

(3) Acquisitions

Net cash paid for acquisitions during 2016, 2015, and 2014 was $453 million, $6 million, and $45 million, respectively. Acquisitions, individually and in the aggregate, did not materially affect the Company's results of operations or financial position for any period presented.

The net cash paid for acquisitions in 2016 primarily related to the acquisition of the Engineered Fasteners and Components ("EF&C") business from ZF TRW on July 1, 2016 for a purchase price of approximately $450 million. EF&C had operating revenue of $245 million for the six months ended December 31, 2016 which was reported within the Company’s Automotive OEM segment. As a result of the EF&C transaction, the Company recorded $187 million of goodwill and $135 million of amortizable intangible assets primarily related to customer relationships and technology. The Company expects goodwill of $104 million related to the transaction will be tax deductible. The fair values of the intangible assets were estimated based on discounted cash flow and market-based valuation models using Level 2 and Level 3 inputs and assumptions. The intangible assets are expected to be amortized on a straight-line basis over their estimated useful lives ranging from 4 to 17 years, with a weighted average amortization period of 16 years. Subsequent purchase accounting adjustments may change the initial amounts recorded, including goodwill and intangible assets, primarily due to the completion of valuations. The allocation of purchase price will be completed as soon as practicable, but no later than one year from the acquisition date.

(4) Other Income (Expense)

Other income (expense) consisted of the following:

In millions	**2016**	**2015**	**2014**
Interest income	$ 38	$ 52	$ 65
Gain (loss) on disposal of operations and affiliates	(12)	16	(6)
Gain (loss) on foreign currency transactions, net	9	5	8
Income (loss) from investments	(13)	4	8
Equity income (loss) in Wilsonart	61	(4)	(9)
Other, net	(2)	5	(5)
Total other income (expense)	$ 81	$ 78	$ 61

In the fourth quarter of 2012, the Company divested a 51% majority interest in its former Decorative Surfaces segment to certain funds managed by Clayton, Dubilier & Rice, LLC ("CD&R"). As a result of the transaction, the Company owns common units (the "Common Units") of Wilsonart International Holdings LLC ("Wilsonart") initially representing approximately 49% (on an as-converted basis) of the total outstanding equity. CD&R owns cumulative convertible participating preferred units (the "Preferred Units") of Wilsonart representing approximately 51% (on an as-converted basis) of the total outstanding equity. The Preferred Units rank senior to the Common Units as to dividends and liquidation preference, and accrue dividends at a rate of 10% per annum. Due to the Company's continuing involvement through its 49% ownership interest in Wilsonart, the former Decorative Surfaces segment was not presented as discontinued operations. The ownership interest in Wilsonart is reported using the equity method of accounting. The Company's proportionate share in income (loss) of Wilsonart is reported in Other income (expense) in the consolidated statement of income. As the Company's investment in Wilsonart is structured as a partnership for U.S. tax purposes, U.S. taxes are recorded separately from the equity investment.

Equity income (loss) in Wilsonart includes a $54 million pre-tax gain in 2016 resulting from a $167 million cash dividend distribution from Wilsonart which exceeded the Company's equity investment balance. Subsequent to the dividend distribution, the equity investment balance in Wilsonart was reduced to zero and future equity investment income will not be recognized until the gain is recaptured.

(5) Income Taxes

Provision for income taxes— The components of the provision for income taxes were as follows:

In millions	2016	2015	2014
U.S. federal income taxes:			
Current	$ 756	$ 503	$ 413
Deferred	(224)	8	121
Total U.S. federal income taxes	532	511	534
Foreign income taxes:			
Current	290	310	163
Deferred	(5)	(11)	66
Benefit of net operating loss carryforwards	—	(48)	(13)
Total foreign income taxes	285	251	216
State income taxes:			
Current	90	66	50
Deferred	(34)	(8)	9
Total state income taxes	56	58	59
Total provision for income taxes	$ 873	$ 820	$ 809

Income from continuing operations before income taxes for domestic and foreign operations was as follows:

In millions	2016	2015	2014
Domestic	$ 1,653	$ 1,660	$ 1,669
Foreign	1,255	1,059	1,030
Total income from continuing operations before income taxes	$ 2,908	$ 2,719	$ 2,699

The reconciliation between the U.S. federal statutory tax rate and the effective tax rate was as follows:

	2016	2015	2014
U.S. federal statutory tax rate	35.0%	35.0%	35.0%
State income taxes, net of U.S. federal tax benefit	1.3	1.4	1.6
Differences between U.S. federal statutory and foreign tax rates	(3.6)	(3.1)	(3.5)
Nontaxable foreign interest income	(2.1)	(3.3)	(3.6)
Tax effect of foreign dividends	1.5	2.8	2.1
Tax relief for U.S. manufacturers	(1.4)	(1.6)	(1.5)
Other, net	(0.7)	(1.1)	(0.1)
Effective tax rate	30.0%	30.1%	30.0%

Deferred U.S. federal income taxes and foreign withholding taxes have not been provided on the remaining undistributed earnings of certain international subsidiaries as these earnings are considered permanently invested. Undistributed earnings of these subsidiaries were approximately $8.8 billion and $8.7 billion as of December 31, 2016 and 2015, respectively. Upon repatriation of these earnings to the U.S. in the form of dividends or other distribution of earnings, the Company may be subject to U.S. income taxes and foreign withholding taxes. The actual U.S. tax cost would depend on income tax laws and circumstances at the time of distribution. Determination of the related tax liability is not practicable because of the complexities associated with the hypothetical calculation.

Deferred tax assets and liabilities— The components of deferred income tax assets and liabilities at December 31, 2016 and 2015 were as follows:

	2016		2015	
In millions	**Asset**	**Liability**	**Asset**	**Liability**
Goodwill and intangible assets	$ 240	$ (716)	$ 282	$ (734)
Inventory reserves, capitalized tax cost and LIFO inventory	40	(5)	42	(5)
Investments	23	(206)	25	(298)
Plant and equipment	23	(79)	28	(84)
Accrued expenses and reserves	76	—	79	—
Employee benefit accruals	306	—	314	—
Foreign tax credit carryforwards	6	—	216	—
Net operating loss carryforwards	610	—	643	—
Capital loss carryforwards	42	—	39	—
Allowances for uncollectible accounts	13	—	13	—
Pension liabilities	25	—	13	—
Deferred intercompany deductions	430	—	—	—
Unrealized loss (gain) on foreign debt instruments	—	(140)	—	(115)
Other	97	(16)	109	(10)
Gross deferred income tax assets (liabilities)	1,931	(1,162)	1,803	(1,246)
Valuation allowances	(454)	—	(467)	—
Total deferred income tax assets (liabilities)	$ 1,477	$ (1,162)	$ 1,336	$ (1,246)

The valuation allowances recorded at December 31, 2016 and 2015 related primarily to certain net operating loss carryforwards, capital loss carryforwards and foreign tax credit carryforwards. As of December 31, 2016, the Company has utilized all realizable foreign tax credit carryforwards.

At December 31, 2016, the Company had net operating loss carryforwards available to offset future taxable income in the U.S. and certain foreign jurisdictions, which expire as follows:

In millions	**Gross Carryforwards Related to Net Operating Losses**
2017	$ 9
2018	7
2019	8
2020	75
2021	80
2022	21
2023	18
2024-2036	31
Do not expire	1,956
Total gross carryforwards related to net operating losses	$ 2,205

Unrecognized tax benefits— The changes in the amount of unrecognized tax benefits during 2016, 2015 and 2014 were as follows:

In millions	2016	2015	2014
Beginning balance	$ 259	$ 218	$ 268
Additions based on tax positions related to the current year	19	39	23
Additions for tax positions of prior years	126	54	12
Reductions for tax positions of prior years	(97)	(41)	(59)
Settlements	(96)	(6)	(18)
Foreign currency translation	(1)	(5)	(8)
Ending balance	$ 210	$ 259	$ 218

Included in the balance at December 31, 2016 were approximately $176 million of unrecognized tax benefits that, if recognized, would impact the Company's effective tax rate.

During the fourth quarter of 2016, the Company effectively settled with the Internal Revenue Service on issues identified during its 2012-2013 audit, which primarily related to deferred gain recognition and foreign tax credits. Based on this agreement, the Company decreased its unrecognized tax benefits by approximately $96 million.

The Company and its subsidiaries file tax returns in the U.S. and various state, local and foreign jurisdictions. These tax returns are routinely audited by the tax authorities in these jurisdictions including the Internal Revenue Service, Her Majesty's Revenue and Customs, German Fiscal Authority, French Fiscal Authority, and Australian Tax Office, and a number of these audits are currently ongoing, which may increase the amount of the unrecognized tax benefits in future periods. Due to the ongoing audits, the Company believes it is reasonably possible that within the next twelve months the amount of the Company's unrecognized tax benefits may be decreased by approximately $57 million related predominantly to various intercompany transactions. The Company has recorded its best estimate of the potential exposure for these issues. The following table summarizes the open tax years for the Company's major jurisdictions:

Jurisdiction	Open Tax Years
United States – Federal	2012-2016
United Kingdom	2013-2016
Germany	2009-2016
France	2013-2016
Australia	2012-2016

The Company recognizes interest and penalties related to income tax matters in income tax expense. The accrual for interest and penalties as of December 31, 2016 and 2015 was $28 million and $32 million, respectively.

On February 18, 2014, the Company received a Notice of Deficiency ("NOD") from the IRS asserting that a non-taxable return of capital received from a subsidiary was a taxable dividend distribution. The NOD assesses additional taxes of $70 million for the 2006 tax year, plus interest and penalties. In May 2014, the Company petitioned the United States Tax Court to challenge the NOD. The Company's petition was subsequently denied and the case proceeded to court with the trial taking place in the third quarter of 2016. Final decision by the tax court is expected in 2017. Although the court's final decision cannot be predicted with certainty, the Company believes its position continues to be supportable. Accordingly, no reserve has been recorded related to this matter.

(6) Income Per Share from Continuing Operations

Income per share from continuing operations is computed by dividing income from continuing operations by the weighted-average number of shares outstanding for the period. Income from continuing operations per diluted share is computed by dividing income from continuing operations by the weighted-average number of shares assuming dilution for stock options and restricted stock units. Dilutive shares reflect the potential additional shares that would be outstanding if the dilutive stock options outstanding were exercised and the unvested restricted stock units vested during the period. The computation of income per share from continuing operations was as follows:

In millions except per share amounts	2016	2015	2014
Income from continuing operations	$ 2,035	$ 1,899	$ 1,890
Income per share from continuing operations—Basic:			
Weighted-average common shares	355.0	367.9	401.7
Income per share from continuing operations—Basic	$ 5.73	$ 5.16	$ 4.70
Income per share from continuing operations—Diluted:			
Weighted-average common shares	355.0	367.9	401.7
Effect of dilutive stock options and restricted stock units	2.1	2.2	2.9
Weighted-average common shares assuming dilution	357.1	370.1	404.6
Income per share from continuing operations—Diluted	$ 5.70	$ 5.13	$ 4.67

Options that were considered antidilutive were not included in the computation of diluted income per share from continuing operations. There were no antidilutive options outstanding as of December 31, 2016, 0.6 million antidilutive options outstanding as of December 31, 2015 and no antidilutive options outstanding as of December 31, 2014.

(7) Goodwill and Intangible Assets

The changes in the carrying amount of goodwill for the years ended December 31, 2016 and 2015 were as follows:

In millions	Automotive OEM	Test & Measurement and Electronics	Food Equipment	Polymers & Fluids	Welding	Construction Products	Specialty Products	Total
Balance, December 31, 2014	$ 294	$ 1,390	$ 276	$ 964	$ 277	$ 542	$ 924	$ 4,667
2015 activity:								
Acquisitions & divestitures	—	—	—	(6)	1	—	—	(5)
Impairment charges	—	—	—	—	—	—	—	—
Foreign currency translation	(17)	(35)	(17)	(64)	(17)	(26)	(47)	(223)
Balance, December 31, 2015	277	1,355	259	894	261	516	877	4,439
2016 activity:								
Acquisitions & divestitures	187	1	—	(2)	—	(1)	1	186
Impairment charges	—	—	—	—	—	—	—	—
Foreign currency translation	(8)	(20)	(10)	(3)	(1)	(7)	(18)	(67)
Balance, December 31, 2016	$ 456	$ 1,336	$ 249	$ 889	$ 260	$ 508	$ 860	$ 4,558
Cumulative goodwill impairment charges, December 31, 2016	$ 24	$ 83	$ 60	$ 15	$ 5	$ 7	$ 46	$ 240

Intangible assets as of December 31, 2016 and 2015 were as follows:

	2016			2015		
In millions	Cost	Accumulated Amortization	Net	Cost	Accumulated Amortization	Net
Amortizable intangible assets:						
Customer lists and relationships	$ 1,744	$ (1,060)	$ 684	$ 1,630	$ (943)	$ 687
Trademarks and brands	733	(344)	389	724	(298)	426
Patents and proprietary technology	620	(432)	188	618	(397)	221
Other	461	(444)	17	475	(446)	29
Total amortizable intangible assets	3,558	(2,280)	1,278	3,447	(2,084)	1,363
Indefinite-lived intangible assets:						
Trademarks and brands	185	—	185	197	—	197
Total intangible assets	$ 3,743	$ (2,280)	$ 1,463	$ 3,644	$ (2,084)	$ 1,560

The Company performed its annual impairment assessment of goodwill and indefinite-lived intangible assets in the third quarter of 2016, 2015 and 2014. The 2016 assessment resulted in no impairment charges. In 2015, the Company recorded a $2 million indefinite-lived intangible asset impairment charge related to a brand in the Polymers & Fluids segment which had a fair value of $24 million and a carrying value of $26 million. In 2014, the Company recorded a $3 million indefinite-lived intangible asset impairment charge related to certain brands in the Polymers & Fluids and Test & Measurement and Electronics segments which had a total fair value of $8 million and a carrying value of $11 million. The 2015 and 2014 impairments were included in Amortization and impairment of intangible assets in the statement of income.

For the years ended December 31, 2016, 2015 and 2014, amortization expense and impairment of intangible assets was $224 million, $233 million, and $245 million, respectively.

The estimated amortization expense of intangible assets for the future years ending December 31 is as follows:

In millions	
2017	$ 203
2018	184
2019	162
2020	141
2021	123

(8) Debt

Short-term debt— Short-term debt represents obligations with a maturity date of one year or less and is stated at cost which approximates fair value. Short-term debt also includes current maturities of long-term debt. Short-term debt as of December 31, 2016 and 2015 consisted of the following:

In millions	2016	2015
Commercial paper	$ —	$ 498
Bank overdrafts	—	25
Current maturities of long-term debt	650	1
Other borrowings	2	2
Total short-term debt	$ 652	$ 526

In 2016, the Company reclassified $650 million related to the 0.90% notes due February 25, 2017 from Long-term debt to Short-term debt.

The Company may issue commercial paper to fund general corporate needs, share repurchases, and small and medium-sized acquisitions. During the second quarter of 2016, the Company entered into a $2.5 billion, five-year line of credit agreement with a termination date of May 9, 2021 to support the potential issuances of commercial paper. This agreement replaced the previously existing $1.5 billion line of credit agreement with a termination date of June 8, 2017 and the $1.0 billion line of credit agreement with a termination date of August 15, 2018. No amounts were outstanding under the new line of credit agreement at December 31, 2016. As of December 31, 2016, the Company was in compliance with the financial covenants of the line of credit agreement, which includes a minimum interest coverage ratio. The weighted-average interest rate on commercial paper was 0.4% and 0.1% at December 31, 2016 and 2015, respectively.

As of December 31, 2016, the Company had unused capacity of approximately $286 million under international debt facilities.

Long-term debt— Long-term debt represents obligations with a maturity date greater than one year, and excludes current maturities that have been reclassified to short-term debt. Long-term debt at carrying value and fair value as of December 31, 2016 and 2015 consisted of the following:

		2016		2015	
In millions	**Effective Interest Rate**	**Carrying Value**	**Fair Value**	**Carrying Value**	**Fair Value**
0.90% notes due February 25, 2017	0.95%	$ 650	$ 650	$ 649	$ 649
1.95% notes due March 1, 2019	1.98%	648	656	647	655
6.25% notes due April 1, 2019	6.25%	698	768	698	790
4.88% notes due thru December 31, 2020	4.96%	4	4	4	4
3.375% notes due September 15, 2021	3.43%	348	365	347	362
1.75% Euro notes due May 20, 2022	1.86%	520	565	536	564
1.25% Euro notes due May 22, 2023	1.35%	520	549	536	538
3.50% notes due March 1, 2024	3.54%	695	728	695	727
2.65% notes due November 15, 2026	2.69%	991	959	—	—
2.125% Euro notes due May 22, 2030	2.18%	519	565	536	530
3.0% Euro notes due May 19, 2034	3.13%	512	618	528	569
4.875% notes due September 15, 2041	4.97%	636	734	635	708
3.9% notes due September 1, 2042	3.96%	1,080	1,114	1,080	1,051
Other borrowings		6	6	6	6
Total		$ 7,827	$ 8,281	$ 6,897	$ 7,153
Less: Current maturities of long-term debt		(650)		(1)	
Total long-term debt		$ 7,177		$ 6,896	

The approximate fair values of the Company's long-term debt, including current maturities, were based on a valuation model, using Level 2 observable inputs which included market rates for comparable instruments for the respective periods.

In 2005, the Company issued $54 million of 4.88% notes due through December 31, 2020 at 100% of face value.

In 2009, the Company issued $700 million of 6.25% redeemable notes due April 1, 2019 at 99.98% of face value.

In 2011, the Company issued $350 million of 3.375% notes due September 15, 2021 at 99.552% of face value and $650 million of 4.875% notes due September 15, 2041 at 98.539% of face value.

In 2012, the Company issued $1.1 billion of 3.9% notes due September 1, 2042 at 99.038% of face value.

In February 2014, the Company issued $650 million of 0.9% notes due February 25, 2017 at 99.861% of face value, $650 million of 1.95% notes due March 1, 2019 at 99.871% of face value, and $700 million of 3.5% notes due March 1, 2024 at 99.648% of face value. Net proceeds from the February 2014 debt issuances were used to repay commercial paper.

In May 2014, the Company issued €500 million of 1.75% Euro notes due May 20, 2022 at 99.16% of face value and €500 million of 3.0% Euro notes due May 19, 2034 at 98.089% of face value. Net proceeds from the May 2014 debt issuances were used for general corporate purposes.

In May 2015, the Company issued €500 million of 1.25% Euro notes due May 22, 2023 at 99.239% of face value and €500 million of 2.125% Euro notes due May 22, 2030 at 99.303% of face value. Net proceeds from the May 2015 debt issuances were used to repay commercial paper and for general corporate purposes.

In November 2016, the Company issued $1.0 billion of 2.65% notes due November 15, 2026 at 99.685% of face value. Net proceeds from the November 2016 debt issuance were used to repay commercial paper and for general corporate purposes.

The Company designated the €1.0 billion of Euro notes issued in May 2014 and the €1.0 billion of Euro notes issued in May 2015 as hedges of a portion of its net investment in Euro-denominated foreign operations to reduce foreign currency risk associated with the investment in these operations. Refer to Note 11. Stockholders' Equity for additional information regarding the net investment hedge.

All of the Company's notes listed above represent senior unsecured obligations ranking equal in right of payment. Scheduled maturities of long-term debt, including current maturities of long-term debt, for the future years ending December 31 are as follows:

In millions		
2017	$	650
2018		—
2019		1,346
2020		4
2021		348
2022 and future years		5,479
Total	$	7,827

(9) Pension and Other Postretirement Benefits

The Company has both funded and unfunded defined benefit pension and other postretirement benefit plans, predominately in the U.S. The U.S. primary pension plan provides benefits based on years of service and final average salary. The U.S. primary postretirement health care plan is contributory with the participants' contributions adjusted annually. The U.S. primary postretirement life insurance plan is noncontributory. Beginning January 1, 2007, the U.S. primary pension and other postretirement benefit plans were closed to new participants. Newly hired employees and employees from acquired businesses that are not participating in these plans are eligible for additional Company contributions under the existing U.S. primary defined contribution retirement plans. The Company's expense related to defined contribution plans was $77 million in 2016, $77 million in 2015, and $78 million in 2014. In addition to the U.S. plans, the Company also has defined benefit pension plans in certain other countries, mainly the United Kingdom, Canada, Germany and Switzerland.

Summarized information regarding the Company's significant defined benefit pension and other postretirement benefit plans related to both continuing and discontinued operations is as follows:

	Pension			Other Postretirement Benefits		
In millions	**2016**	**2015**	**2014**	**2016**	**2015**	**2014**
Components of net periodic benefit cost:						
Service cost	$ 62	$ 70	$ 80	$ 9	$ 11	$ 10
Interest cost	92	92	103	24	24	24
Expected return on plan assets	(144)	(151)	(159)	(23)	(25)	(25)
Amortization of actuarial (gain) loss	44	60	48	—	(1)	(4)
Amortization of prior service cost	—	1	1	(1)	1	1
Settlement/curtailment (gain) loss	—	—	1	—	—	(9)
Total net periodic benefit cost	$ 54	$ 72	$ 74	$ 9	$ 10	$ (3)

Net periodic benefit cost was included in the statement of income as follows:

	Pension			Other Postretirement Benefits		
In millions	**2016**	**2015**	**2014**	**2016**	**2015**	**2014**
Income from continuing operations	$ 54	$ 72	$ 69	$ 9	$ 10	$ 6
Income from discontinued operations	—	—	5	—	—	(9)
Total net periodic benefit cost	$ 54	$ 72	$ 74	$ 9	$ 10	$ (3)

The Company recognized a $9 million curtailment gain on the U.S. primary postretirement plan in the second quarter of 2014 related to the Company's sale of the Industrial Packaging business, which was included in Income from discontinued operations.

During 2014, the Society of Actuaries released a new mortality table, referred to as RP-2014, which is believed to better reflect mortality improvements. The Company used the RP-2014 mortality table to measure its U.S. pension and other postretirement benefit obligations as of December 31, 2014 which resulted in additional actuarial losses of $76 million for pension and $46 million for other postretirement benefits. The Company used the updated mortality improvement scales, MP-2015 and MP-2016, to measure its U.S. pension and other postretirement obligations as of December 31, 2015 and 2016, respectively, which did not have a significant impact in either period.

The following tables provide a rollforward of the plan benefit obligations, plan assets and a reconciliation of funded status for the years ended December 31, 2016 and 2015:

	Pension		Other Postretirement Benefits	
In millions	**2016**	**2015**	**2016**	**2015**
Change in benefit obligation:				
Benefit obligation at January 1	$ 2,462	$ 2,607	$ 552	$ 591
Service cost	62	70	9	11
Interest cost	92	92	24	24
Plan participants’ contributions	2	3	12	13
Amendments	—	1	—	—
Actuarial (gain) loss	216	(82)	(5)	(43)
Acquisitions and divestitures	7	—	—	—
Benefits paid	(150)	(169)	(43)	(46)
Medicare subsidy received	—	—	2	2
Foreign currency translation	(129)	(60)	—	—
Benefit obligation at December 31	$ 2,562	$ 2,462	$ 551	$ 552

In millions	Pension 2016	Pension 2015	Other Postretirement Benefits 2016	Other Postretirement Benefits 2015
Change in plan assets:				
Fair value of plan assets at January 1	$ 2,441	$ 2,557	$ 342	$ 372
Actual return on plan assets	274	16	36	(3)
Company contributions	70	97	4	6
Plan participants' contributions	2	3	12	13
Benefits paid	(150)	(169)	(43)	(46)
Foreign currency translation	(150)	(63)	—	—
Fair value of plan assets at December 31	$ 2,487	$ 2,441	$ 351	$ 342
Funded status	$ (75)	$ (21)	$ (200)	$ (210)
Other immaterial plans	(58)	(50)	(5)	(5)
Net liability at December 31	$ (133)	$ (71)	$ (205)	$ (215)
The amounts recognized in the statement of financial position as of December 31 consist of:				
Other assets	$ 131	$ 191	$ —	$ —
Accrued expenses	(12)	(11)	(4)	(4)
Other noncurrent liabilities	(252)	(251)	(201)	(211)
Net liability at end of year	$ (133)	$ (71)	$ (205)	$ (215)
The pre-tax amounts recognized in accumulated other comprehensive income consist of:				
Net actuarial (gain) loss	$ 673	$ 631	$ (38)	$ (20)
Prior service cost	—	—	—	(1)
	$ 673	$ 631	$ (38)	$ (21)
Accumulated benefit obligation	$ 2,207	$ 2,297		
Plans with accumulated benefit obligation in excess of plan assets as of December 31:				
Projected benefit obligation	$ 183	$ 164		
Accumulated benefit obligation	$ 167	$ 152		
Fair value of plan assets	$ 25	$ 25		

Assumptions— The weighted-average assumptions used in the valuations of pension and other postretirement benefits were as follows:

	Pension 2016	Pension 2015	Pension 2014	Other Postretirement Benefits 2016	Other Postretirement Benefits 2015	Other Postretirement Benefits 2014
Assumptions used to determine benefit obligations at December 31:						
Discount rate	3.41%	3.95%	3.70%	4.30%	4.55%	4.15%
Rate of compensation increases	3.77%	3.72%	3.72%	—%	—%	—%
Assumptions used to determine net periodic benefit cost for years ended December 31:						
Discount rate	3.95%	3.70%	4.32%	4.55%	4.15%	4.95%
Expected return on plan assets	6.22%	6.54%	7.02%	7.00%	7.00%	7.00%
Rate of compensation increases	3.72%	3.72%	3.72%	—%	—%	—%

The expected long-term rates of return for pension and other postretirement benefit plans were developed using historical asset class returns while factoring in current market conditions such as inflation, interest rates and asset class performance.

The discount rate reflects the current rate at which the associated liabilities could theoretically be effectively settled at the end of the year. In estimating this rate, the Company looks at rates of return on high-quality fixed income investments, with similar duration to the liabilities in the plan. Beginning in 2017, the Company changed the method used to estimate the service and interest cost components of net periodic pension and other postretirement benefit costs. The new method will provide a more precise measure of the service and interest cost components of net periodic benefit cost by applying specific spot rates along the yield curve to the projected cash flows rather than a single weighted-average rate.

Assumed health care cost trend rates have an effect on the amounts reported for the postretirement health care benefit plans. The assumed health care cost trend rates used to determine the postretirement benefit obligation at December 31 were as follows:

	2016	2015	2014
Health care cost trend rate assumed for the next year	6.00%	6.00%	8.00%
Ultimate trend rate	4.50%	4.50%	4.50%
Year the rate reaches the ultimate trend rate	2023	2021	2022

A one percentage-point change in assumed health care cost trend rates would have the following impact:

In millions	1 Percentage-Point Increase	1 Percentage-Point Decrease
Change in service cost and interest cost for 2016	$ —	$ (1)
Change in postretirement benefit obligation at December 31, 2016	$ 6	$ (14)

Plan assets— The Company's overall investment strategy for the assets in the pension funds is to achieve a balance between the goals of growing plan assets and keeping risk at a reasonable level over a long-term investment horizon. In order to reduce unnecessary risk, the pension funds are diversified across several asset classes, securities and investment managers. The target allocations for plan assets are 30% to 45% equity securities, 50% to 65% fixed income securities and 0% to 10% in other types of investments. The Company does not use derivatives for the purpose of speculation, leverage, circumventing investment guidelines or taking risks that are inconsistent with specified guidelines.

The assets in the Company's postretirement health care plan are primarily invested in life insurance policies. The Company's overall investment strategy for the assets in the postretirement health care fund is to invest in assets that provide a reasonable tax exempt rate of return while preserving capital.

The following tables present the fair value of the Company's pension and other postretirement benefit plan assets at December 31, 2016 and 2015, by asset category and valuation methodology. Level 1 assets are valued using unadjusted quoted prices for identical assets in active markets. Level 2 assets are valued using quoted prices or other observable inputs for similar assets. Level 3 assets are valued using unobservable inputs, but reflect the assumptions market participants would be expected to use in pricing the assets. Each financial instrument's categorization is based on the lowest level of input that is significant to the fair value measurement.

In millions	2016 Total	Level 1	Level 2	Level 3
Pension Plan Assets:				
Cash and equivalents	$ 82	$ 55	$ 27	$ —
Equity securities:				
Domestic	1	1	—	—
Fixed income securities:				
Government securities	307	—	307	—
Corporate debt securities	541	—	541	—
Mortgage-backed securities	19	—	19	—
Investment contracts with insurance companies	1	—	—	1
Commingled funds:				
Collective trust funds	1,478			
Partnerships/private equity interests	54			
Other	4			
Total fair value of pension plan assets	$ 2,487	$ 56	$ 894	$ 1
Other Postretirement Benefit Plan Assets:				
Cash and equivalents	$ 1	$ 1	$ —	$ —
Life insurance policies	350			
Total fair value of other postretirement benefit plan assets	$ 351	$ 1	$ —	$ —

In millions	2015 Total	Level 1	Level 2	Level 3
Pension Plan Assets:				
Cash and equivalents	$ 53	$ 53	$ —	$ —
Equity securities:				
Domestic	1	1	—	—
Foreign	62	62	—	—
Fixed income securities:				
Government securities	285	—	285	—
Corporate debt securities	483	—	483	—
Investment contracts with insurance companies	1	—	—	1
Commingled funds:				
Mutual funds	145	145	—	—
Collective trust funds	1,347			
Partnerships/private equity interests	66			
Other	(2)	—	(2)	—
Total fair value of pension plan assets	$ 2,441	$ 261	$ 766	$ 1
Other Postretirement Benefit Plan Assets:				
Cash and equivalents	$ 8	$ 8	$ —	$ —
Life insurance policies	334			
Total fair value of other postretirement benefit plan assets	$ 342	$ 8	$ —	$ —

Cash and equivalents include cash on hand and instruments with original maturities of three months or less and are valued at cost, which approximates fair value. Equity securities primarily include common and preferred equity securities covering a wide range of industries and geographies that are traded in active markets and are valued based on quoted prices. Fixed income securities primarily consist of U.S. and foreign government bills, notes and bonds, corporate debt securities, asset-backed securities and investment contracts. The majority of the assets in this category are valued by evaluating bid prices provided by independent financial data services. For securities where market data is not readily available, unobservable market data is used to value the security. Mutual funds are traded in active markets and are valued based on quoted prices. The underlying investments include small-cap equity, international equity and long- and short-term fixed income instruments. Other primarily includes derivative instruments such as interest rate swaps used by fixed income investment managers to offset interest rate sensitivity.

Pension assets measured at net asset value include collective trust funds, partnerships/private equity interests and life insurance policies. Collective trust funds are private funds that are valued based on the value of the underlying investments which can be redeemed on a daily basis. The underlying investments include both passively and actively managed U.S. and foreign large- and mid-cap equity funds and short-term investment funds. Partnerships/private equity interests are investments in partnerships where the benefit plan is a limited partner. The investments are valued by the investment managers on a periodic basis using pricing models that use market, income and cost valuation methods. Distributions are received from these funds on a periodic basis through the liquidation of the underlying assets of the fund. Life insurance policies are used to fund other postretirement benefits in order to obtain favorable tax treatment and are valued based on the cash surrender value of the underlying policies. The Company has selected the funds in which these assets are invested and may elect to withdraw funds with proper notice to the insurance company or maintain the policies and receive death benefits as determined by the contracts.

Cash flows— The Company generally funds its pension and other postretirement benefit plans as required by law or to the extent such contributions are tax deductible. The Company expects to contribute approximately $64 million to its pension plans and $5 million to its other postretirement benefit plans in 2017. The Company's portion of the benefit payments that are expected to be paid during the years ending December 31 is as follows:

In millions	Pension	Other Postretirement Benefits
2017	$ 182	$ 35
2018	181	36
2019	183	37
2020	185	38
2021	184	38
Years 2022-2026	882	193

(10) Commitments and Contingencies

Litigation— The Company is subject to various legal proceedings and claims that arise in the ordinary course of business, including those involving environmental, product liability (including toxic tort) and general liability claims. The Company accrues for such liabilities when it is probable that future costs will be incurred and such costs can be reasonably estimated. Such accruals are based on developments to date, the Company's estimates of the outcomes of these matters and its experience in contesting, litigating and settling other similar matters. The Company believes resolution of these matters, individually and in the aggregate, will not have a material adverse effect on the Company's financial position, liquidity or future operations.

Lease Commitments— Rental expense was $121 million in 2016, $117 million in 2015 and $130 million in 2014. Future minimum lease payments under non-cancelable leases for the years ending December 31 are as follows:

In millions	
2017	$ 104
2018	75
2019	53
2020	37
2021	26
2022 and future years	43
Total future minimum lease payments	$ 338

(11) Stockholders' Equity

Preferred Stock— Preferred Stock, without par value, of which 0.3 million shares are authorized and unissued, is issuable in series. The Board of Directors is authorized to fix by resolution the designation and characteristics of each series of preferred stock. The Company has no present commitment to issue its preferred stock.

Share Repurchases— On August 2, 2013, the Company's Board of Directors authorized a stock repurchase program, which provided for the repurchase of up to $6.0 billion of the Company's common stock over an open-ended period of time (the "2013 Program"). Under the 2013 Program, the Company repurchased approximately 3.3 million shares of its common stock at an average price of $81.62 per share during 2013, approximately 50.4 million shares of its common stock at an average price of $84.92 per share during 2014, and approximately 14.9 million shares of its common stock at an average price of $96.84 during 2015. As of December 31, 2015, there were no authorized repurchases remaining under the 2013 Program.

On February 13, 2015, the Company's Board of Directors authorized a new stock repurchase program, which provided for the repurchase of up to an additional $6.0 billion of the Company's common stock over an open-ended period of time (the "2015 Program"). Under the 2015 Program, the Company repurchased approximately 6.1 million shares of its common stock at an average price of $91.78 per share during 2015 and approximately 18.7 million shares of its common stock at an average price of $107.17 per share during 2016. As of December 31, 2016, there were approximately $3.4 billion of authorized repurchases remaining under the 2015 Program.

Cash Dividends— Cash dividends declared were $2.40 per share in 2016, $2.07 per share in 2015 and $1.81 per share in 2014. Cash dividends paid were $2.30 per share in 2016, $2.005 per share in 2015 and $1.745 per share in 2014.

Accumulated Other Comprehensive Income (Loss)— The changes in accumulated other comprehensive income (loss) during 2016, 2015 and 2014 were as follows:

In millions	2016	2015	2014
Beginning balance	$ (1,504)	$ (658)	$ 384
Foreign currency translation adjustments during the period	(251)	(800)	(806)
Foreign currency translation adjustments reclassified to income	(1)	—	(133)
Income taxes	(25)	(60)	—
Total foreign currency translation adjustments, net of tax	(277)	(860)	(939)
Pension and other postretirement benefit adjustments during the period	(67)	(41)	(224)
Pension and other postretirement benefit adjustments reclassified to income	43	61	54
Income taxes	(2)	(6)	67
Total pension and other postretirement benefit adjustments, net of tax	(26)	14	(103)
Ending balance	$ (1,807)	$ (1,504)	$ (658)

Foreign currency translation adjustments reclassified to income are primarily related to the disposal of certain discontinued operations and were included in the related gain or loss upon disposal. Refer to Note 2. Discontinued Operations for additional information regarding the sale of the Company's discontinued operations.

Pension and other postretirement benefit adjustments reclassified to income represent the amortization of actuarial losses and prior service cost, and settlement and curtailment charges recognized in net periodic benefit cost. Refer to Note 9. Pension and Other Postretirement Benefits for the amounts included in net periodic benefit cost. Pension and other postretirement benefit adjustments reclassified to income also include the reclassification of deferred losses of $6 million for the year ended December 31, 2014 related to the disposal of certain discontinued operations. Refer to Note 2. Discontinued Operations for additional information regarding the sale of the Company's discontinued operations.

The Company designated €1.0 billion of Euro notes issued in May 2014 and €1.0 billion of Euro notes issued in May 2015 as hedges of a portion of its net investment in Euro-denominated foreign operations to reduce foreign currency risk associated with the investment in these operations. Changes in the value of this debt resulting from fluctuations in the Euro to U.S. Dollar exchange rate have been recorded as foreign currency translation adjustments within Accumulated other comprehensive income (loss). The cumulative unrealized gain recorded in Accumulated other comprehensive income (loss) related to the net investment hedge was $375 million and $308 million as of December 31, 2016 and December 31, 2015, respectively.

As of December 31, 2016 and 2015, the ending balance of Accumulated other comprehensive income (loss) consisted of cumulative translation adjustment losses of $1.4 billion and $1.1 billion, respectively, and unrecognized pension and other postretirement benefits costs of $405 million and $379 million, respectively. The estimated unrecognized benefit cost that will be amortized from Accumulated other comprehensive income (loss) into net periodic benefit cost in 2017 is $55 million for pension and other postretirement benefits.

(12) Stock-Based Compensation

On May 8, 2015 (the "Effective Date"), the 2015 Long-Term Incentive Plan (the "2015 Plan") was approved by shareholders. As of the Effective Date, no additional awards will be granted to employees under the 2011 Long-Term Incentive Plan (the "2011 Plan"). The significant terms of stock options and restricted stock units ("RSUs") were not changed under the 2015 Plan. Stock options and RSUs have been issued to officers and other management employees under these plans. Stock options generally vest over a four-year period and have an expiration of ten years from the issuance date. RSUs generally "cliff" vest after a three-year period and include units with and without performance criteria. RSUs with performance criteria provide for full "cliff" vesting after three years if the Compensation Committee certifies that the performance goals have been met. Upon vesting, the holder will receive one share of common stock of the Company for each vested RSU.

Prior to February 2013, the Company generally issued new shares from its authorized but unissued share pool to cover the exercised options and vested RSUs. Commencing in February 2013, the Company began issuing shares from treasury stock. As of December 31, 2016, approximately 15 million shares of ITW common stock were reserved for issuance under these plans.

The Company records compensation expense for the grant date fair value of stock awards over the remaining service periods of those awards. The following table summarizes the Company’s stock-based compensation expense:

In millions	2016	2015	2014
Pre-tax compensation expense	$ 39	$ 35	$ 34
Tax benefit	(13)	(12)	(12)
Total stock-based compensation expense, net of tax	$ 26	$ 23	$ 22

There was no pre-tax stock-based compensation expense included in income from discontinued operations in 2016 or 2015. Pre-tax stock-based compensation expense included in Income from discontinued operations was $5 million in 2014.

The following table summarizes activity related to non-vested RSUs during 2016:

Shares in millions	Number of Shares	Weighted-Average Grant-Date Fair Value
Unvested, January 1, 2016	0.8	$73.58
Granted	0.3	85.61
Vested	(0.3)	61.14
Canceled	(0.1)	83.12
Unvested, December 31, 2016	0.7	83.39

The following table summarizes stock option activity for the year ended December 31, 2016:

In millions except exercise price and contractual terms	Number of Shares	Weighted-Average Exercise Price	Weighted-Average Remaining Contractual Term	Aggregate Intrinsic Value
Under option, January 1, 2016	6.4	$61.44		
Granted	0.6	91.88		
Exercised	(1.6)	50.66		
Canceled or expired	(0.1)	87.15		
Under option, December 31, 2016	5.3	68.05	5.9	$290
Exercisable, December 31, 2016	3.7	59.72	4.9	$232

The fair value of RSUs is determined by reducing the closing market price on the date of the grant by the present value of projected dividends over the vesting period. Stock option exercise prices are equal to the common stock fair market value on the date of grant. The Company uses a binomial option pricing model to estimate the fair value of the stock options granted. The following summarizes the assumptions used in the models:

	2016	2015	2014
Risk-free interest rate	0.56-1.86%	0.23-2.25%	0.16-2.83%
Weighted-average volatility	24.0%	23.0%	22.9%
Dividend yield	2.12%	2.11%	2.46%
Expected years until exercise	6.9-7.7	6.9-8.0	6.7-7.9

Lattice-based option valuation models, such as the binomial option pricing model, incorporate ranges of assumptions for inputs. The risk-free rate of interest for periods within the contractual life of the option is based on a zero-coupon U.S. government instrument over the contractual term of the equity instrument. Expected volatility is based on implied volatility from traded options on the Company's stock and historical volatility of the Company's stock. The Company uses historical data to estimate option exercise timing and employee termination rates within the valuation model. The weighted-average dividend yield is based on historical information. The expected term of options granted is derived from the output of the option valuation model and represents the period of time that options granted are expected to be outstanding. The ranges presented result from separate groups of employees assumed to exhibit different behavior.

The weighted-average grant-date fair value of stock options granted during 2016, 2015 and 2014 was $20.02, $20.58 and $15.14 per share, respectively. The aggregate intrinsic value of stock options exercised during the years ended December 31, 2016, 2015 and 2014 was $89 million, $55 million and $115 million, respectively. As of December 31, 2016, there was $7 million of total unrecognized compensation cost related to unvested stock options. That cost is expected to be recognized over a weighted-average period of 1.9 years. Exercise of stock options during the years ended December 31, 2016, 2015 and 2014 resulted in cash receipts of $84 million, $59 million and $148 million, respectively. The total fair value of vested stock option awards during the years ended December 31, 2016, 2015 and 2014 was $12 million, $13 million and $16 million, respectively.

As of December 31, 2016, there was $16 million of total unrecognized compensation cost related to unvested RSUs. That cost is expected to be recognized over a weighted-average remaining contractual life of 1.6 years. The total fair value of vested RSU awards during the years ended December 31, 2016, 2015 and 2014 was $21 million, $20 million and $27 million, respectively.

(13) Other Balance Sheet Information

Other balance sheet information at December 31, 2016 and 2015 was as follows:

In millions	2016	2015
Prepaid expenses and other current assets:		
Value-added-tax receivables	$ 55	$ 48
Income tax refunds receivable	21	147
Vendor advances	20	22
Other	122	124
Total prepaid expenses and other current assets	$ 218	$ 341
Other assets:		
Cash surrender value of life insurance policies	$ 442	$ 428
Customer tooling	146	88
Prepaid pension assets	131	191
Investments	73	99
Equity investment in Wilsonart (See Note 4)	—	113
Other	164	168
Total other assets	$ 956	$ 1,087
Accrued expenses:		
Compensation and employee benefits	$ 379	$ 363
Deferred revenue and customer deposits	180	169
Rebates	144	125
Warranties	45	46
Current portion of pension and other postretirement benefit obligations	16	15
Other	438	418
Total accrued expenses	$ 1,202	$ 1,136
Other liabilities:		
Pension benefit obligation	$ 252	$ 251
Postretirement benefit obligation	201	211
Other	418	519
Total other liabilities	$ 871	$ 981

(14) Segment Information

The Company's operations are organized and managed based on similar product offerings and end markets, and are reported to senior management as the following seven segments: Automotive OEM; Food Equipment; Test & Measurement and Electronics; Welding; Polymers & Fluids; Construction Products; and Specialty Products. The following is a description of the Company's seven segments:

Automotive OEM— This segment is a global, niche supplier to top tier OEMs, providing unique innovation to address pain points for sophisticated customers with complex problems. Businesses in this segment produce components and fasteners for automotive-related applications.

Food Equipment— This segment is a highly focused and branded industry-leader in commercial food equipment differentiated by innovation and integrated service offerings.

Test & Measurement and Electronics— This segment is a branded and innovative producer of test and measurement and electronic manufacturing and MRO solutions that improve efficiency and quality for customers in diverse end markets. Businesses in this segment produce equipment and related accessories, consumables, and software for testing and measuring physical properties of materials and structures, as well as equipment and consumables used in the production of electronic subassemblies and microelectronics.

Welding— This segment is a branded value-added equipment and specialty consumable manufacturer with innovative and leading technology. Businesses in this segment produce arc welding equipment, consumables and accessories for a wide array of industrial and commercial applications.

Polymers & Fluids— This segment is a highly branded supplier to niche markets that require value-added, differentiated products. Businesses in this segment produce adhesives, sealants, lubrication and cutting fluids, and fluids and polymers for auto aftermarket maintenance and appearance.

Construction Products— This segment is a branded supplier of innovative engineered fastening systems and solutions.

Specialty Products— This segment is focused on diversified niche market opportunities with substantial patent protection producing beverage packaging equipment and consumables, product coding and marking equipment and consumables, and appliance components and fasteners.

Segments are allocated a fixed overhead charge based on the segment's revenue. Expenses not charged to the segments are reported separately as Unallocated. Because the Unallocated category includes a variety of items, it is subject to fluctuations on a quarterly and annual basis.

Segment information for 2016, 2015 and 2014 was as follows:

In millions	2016	2015	2014
Operating revenue:			
Automotive OEM	$ 2,864	$ 2,529	$ 2,590
Food Equipment	2,110	2,096	2,177
Test & Measurement and Electronics	1,974	1,969	2,204
Welding	1,486	1,650	1,850
Polymers & Fluids	1,691	1,712	1,927
Construction Products	1,609	1,587	1,707
Specialty Products	1,885	1,885	2,055
Intersegment revenue	(20)	(23)	(26)
Total	$ 13,599	$ 13,405	$ 14,484
Operating income:			
Automotive OEM	$ 690	$ 613	$ 600
Food Equipment	537	498	453
Test & Measurement and Electronics	372	322	340
Welding	370	415	479
Polymers & Fluids	343	335	357
Construction Products	361	316	289
Specialty Products	482	439	440
Total Segments	3,155	2,938	2,958
Unallocated	(91)	(71)	(70)
Total	$ 3,064	$ 2,867	$ 2,888
Depreciation and amortization and impairment of intangible assets:			
Automotive OEM	$ 90	$ 76	$ 79
Food Equipment	45	48	52
Test & Measurement and Electronics	104	110	115
Welding	36	37	38
Polymers & Fluids	92	95	99
Construction Products	34	36	43
Specialty Products	69	75	81
Total	$ 470	$ 477	$ 507
Plant and equipment additions:			
Automotive OEM	$ 116	$ 106	$ 96
Food Equipment	31	37	47
Test & Measurement and Electronics	25	32	56
Welding	16	23	36
Polymers & Fluids	18	20	28
Construction Products	20	26	41
Specialty Products	47	40	54
Total Segments	273	284	358
Discontinued Operations	—	—	3
Total	$ 273	$ 284	$ 361
Identifiable assets:			
Automotive OEM	$ 2,051	$ 1,419	$ 1,454
Food Equipment	1,013	1,054	1,123
Test & Measurement and Electronics	2,362	2,448	2,615
Welding	701	747	879
Polymers & Fluids	2,019	2,034	2,257
Construction Products	1,099	1,129	1,249
Specialty Products	1,599	1,659	1,798
Total Segments	10,844	10,490	11,375
Corporate	4,357	5,239	6,090
Total	$ 15,201	$ 15,729	$ 17,465

Identifiable assets by segment are those assets that are specifically used in that segment. Corporate assets are principally cash and equivalents, investments and other general corporate assets.

Enterprise-wide information for 2016, 2015 and 2014 was as follows:

In millions	2016	2015	2014
Operating Revenue by Geographic Region:			
United States	$ 6,176	$ 6,167	$ 6,191
Canada/Mexico	923	928	993
Total North America	7,099	7,095	7,184
Europe, Middle East and Africa	3,787	3,725	4,319
Asia Pacific	2,361	2,197	2,427
South America	352	388	554
Total Operating Revenue	$ 13,599	$ 13,405	$ 14,484

Operating revenue by geographic region is based on the customers' locations. Long-lived assets in any single country outside of the U.S. did not exceed 10% of the Company's total long-lived assets. No single customer accounted for more than 5% of consolidated revenues in 2016, 2015 or 2014. Additionally, the Company has thousands of product lines within its businesses; therefore, providing operating revenue by product line is not practicable.

SELECTED QUARTERLY FINANCIAL DATA (UNAUDITED)

The unaudited quarterly financial data included as supplementary data reflects all adjustments that are, in the opinion of management, necessary for a fair statement of the results for the interim periods presented.

	Three Months Ended							
	March 31		June 30		September 30		December 31	
In millions except per share amounts	2016	2015	2016	2015	2016	2015	2016	2015
Operating revenue	$ 3,274	$ 3,342	$ 3,431	$ 3,434	$ 3,495	$ 3,354	$ 3,399	$ 3,275
Cost of revenue	1,896	1,970	1,967	2,024	2,027	1,953	2,006	1,941
Operating income	722	697	792	730	808	761	742	679
Net income	468	458	525	480	535	511	507	450
Net income per share:								
Basic	1.29	1.22	1.47	1.31	1.51	1.40	1.46	1.24
Diluted	1.29	1.21	1.46	1.30	1.50	1.39	1.45	1.23

ITEM 9. ***Changes in and Disagreements With Accountants on Accounting and Financial Disclosure***

None.

ITEM 9A. ***Controls and Procedures***

Controls and Procedures

The Company's management, with the participation of the Company's Chairman & Chief Executive Officer and Senior Vice President & Chief Financial Officer, has evaluated the effectiveness of the Company's disclosure controls and procedures (as defined in Exchange Act Rule 13a-15(e)) as of December 31, 2016. Based on such evaluation, the Company's Chairman & Chief Executive Officer and Senior Vice President & Chief Financial Officer have concluded that, as of December 31, 2016, the Company's disclosure controls and procedures were effective.

Management Report on Internal Control over Financial Reporting

The Management Report on Internal Control over Financial Reporting and the Report of Independent Registered Public Accounting Firm are found in Item 8. Financial Statements and Supplementary Data.

In connection with the evaluation by management, including the Company's Chairman & Chief Executive Officer and Senior Vice President & Chief Financial Officer, no changes in the Company's internal control over financial reporting (as defined in Exchange Act Rule 13a-15(f)) during the quarter ended December 31, 2016 were identified that have materially affected or are reasonably likely to materially affect the Company's internal control over financial reporting.

ITEM 9B. ***Other Information***

None.

PART III

ITEM 10. *Directors, Executive Officers and Corporate Governance*

Information regarding the Directors of the Company is incorporated by reference from the information under the captions "Proposal 1 - Election of Directors" in the Company's Proxy Statement for the 2017 Annual Meeting of Stockholders.

Information regarding the Audit Committee and its Financial Experts is incorporated by reference from the information under the captions "Proposal 1 - Election of Directors - Board of Directors and Its Committees" and "Audit Committee Report" in the Company's Proxy Statement for the 2017 Annual Meeting of Stockholders.

Information regarding the Executive Officers of the Company can be found in Part I of this Annual Report on Form 10-K under the caption "Executive Officers."

Information regarding compliance with Section 16(a) of the Exchange Act is incorporated by reference from the information under the caption "Proposal 1 - Election of Directors - Section 16(a) Beneficial Ownership Reporting Compliance" in the Company's Proxy Statement for the 2017 Annual Meeting of Stockholders.

Information regarding the Company's code of ethics that applies to the Company's Chairman & Chief Executive Officer, Senior Vice President & Chief Financial Officer, and key financial and accounting personnel is incorporated by reference from the information under the caption "Proposal 1 - Election of Directors - Corporate Governance Policies and Practices" in the Company's Proxy Statement for the 2017 Annual Meeting of Stockholders.

ITEM 11. *Executive Compensation*

This information is incorporated by reference from the information under the captions "NEO Compensation," "Proposal 1 - Election of Directors - Director Compensation," and "Compensation Discussion and Analysis" in the Company's Proxy Statement for the 2017 Annual Meeting of Stockholders.

ITEM 12. *Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters*

This information is incorporated by reference from the information under the captions "Proposal 1 - Election of Directors - Ownership of ITW Stock" and "NEO Compensation - Equity Compensation Plan Information" in the Company's Proxy Statement for the 2017 Annual Meeting of Stockholders.

ITEM 13. *Certain Relationships and Related Transactions, and Director Independence*

Information regarding certain relationships and related transactions is incorporated by reference from the information under the captions "Proposal 1 - Election of Directors - Ownership of ITW Stock," "Certain Relationships and Related Party Transactions" and "Proposal 1 - Election of Directors - Corporate Governance Policies and Practices" in the Company's Proxy Statement for the 2017 Annual Meeting of Stockholders.

Information regarding director independence is incorporated by reference from the information under the captions "Proposal 1 - Election of Directors - Corporate Governance Policies and Practices" and "Appendix A - Categorical Standards for Director Independence" in the Company's Proxy Statement for the 2017 Annual Meeting of Stockholders.

ITEM 14. *Principal Accounting Fees and Services*

This information is incorporated by reference from the information under the caption "Proposal 2 - Ratification of the Appointment of Independent Registered Public Accounting Firm" in the Company's Proxy Statement for the 2017 Annual Meeting of Stockholders.

PART IV

ITEM 15. ***Exhibits and Financial Statement Schedules***

(a)(1) Financial Statements

The following information is included as part of Item 8. Financial Statements and Supplementary Data:

Management Report on Internal Control over Financial Reporting
Report of Independent Registered Public Accounting Firm
Statement of Income
Statement of Comprehensive Income
Statement of Financial Position
Statement of Changes in Stockholders' Equity
Statement of Cash Flows
Notes to Financial Statements

(2) Financial Statement Schedules
None.

(3) Exhibits

(i) See the Exhibit Index within this Annual Report on Form 10-K.

(ii) Pursuant to Regulation S-K, Item 601(b)(4)(iii), the Company has not filed with Exhibit 4 any debt instruments for which the total amount of securities authorized thereunder is less than 10% of the total assets of the Company and its subsidiaries on a consolidated basis as of December 31, 2016, with the exception of the Officers' Certificates related to the 0.90% Notes due 2017, the 1.95% Notes due 2019, the 6.25% Notes due 2019, the 3.375% Notes due 2021, the 1.75% Euro Notes due 2022, the 1.25% Euro Notes due 2023, the 3.50% Notes due 2024, the 2.65% Notes due 2026, the 2.125% Euro Notes due 2030, the 3.00% Euro Notes due 2034, the 4.875% Notes due 2041, and the 3.90% Notes due 2042, which are described as Exhibit numbers 4(a) through (i) in the Exhibit Index. The Company agrees to furnish a copy of the agreement related to the debt instruments which have not been filed with Exhibit 4 to the Securities and Exchange Commission upon request.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized on this 10th day of February 2017.

ILLINOIS TOOL WORKS INC.

By: /s/ E. SCOTT SANTI

E. Scott Santi

Chairman & Chief Executive Officer

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed by the following persons on behalf of the registrant and in the capacities indicated on this 10th day of February 2017.

Signatures	**Title**
/s/ E. SCOTT SANTI E. Scott Santi	Chairman & Chief Executive Officer, Director (Principal Executive Officer)
/s/ MICHAEL M. LARSEN Michael M. Larsen	Senior Vice President & Chief Financial Officer (Principal Financial Officer)
/s/ RANDALL J. SCHEUNEMAN Randall J. Scheuneman	Vice President & Chief Accounting Officer (Principal Accounting Officer)
DANIEL J. BRUTTO	Director
SUSAN CROWN	Director
JAMES W. GRIFFITH	Director
JAY L. HENDERSON	Director
RICHARD H. LENNY	Director
ROBERT S. MORRISON	Director
JAMES A. SKINNER	Director
DAVID B. SMITH, JR.	Director
PAMELA B. STROBEL	Director
KEVIN M. WARREN	Director
ANRÉ D. WILLIAMS	Director
	By: /s/ E. SCOTT SANTI (E. Scott Santi, *as Attorney-in-Fact)*

Original powers of attorney authorizing E. Scott Santi to sign the Company’s Annual Report on Form 10-K and amendments thereto on behalf of the above-named directors of the registrant have been filed with the Securities and Exchange Commission as part of this Annual Report on Form 10-K (Exhibit 24).

Exhibit Index
Annual Report on Form 10-K
2016

Exhibit Number	Description
2.1(a)	Investment Agreement, dated as of August 15, 2012, among CD&R Wimbledon Holdings III, L.P., a Cayman Islands limited partnership; Illinois Tool Works Inc.; ITW DS Investments Inc., a Delaware corporation; and Wilsonart International Holdings LLC, a Delaware limited liability company, filed as Exhibit 2.1 to the Company's Current Report on Form 8-K filed on August 17, 2012 (Commission File No. 1-4797) and incorporated herein by reference. (Certain of the schedules and similar attachments have been omitted pursuant to Item 601(b)(2) of Regulation S-K, but the Company undertakes to furnish a copy of the schedules or similar attachments to the Securities and Exchange Committee upon request.)
2.1(b)	Stock Purchase Agreement, dated as of February 6, 2014, between Illinois Tool Works Inc. and certain of its subsidiaries and Vault Bermuda Holding Co. Ltd., filed as Exhibit 2.1 to the Company's Current Report on Form 8-K filed on February 12, 2014. (Commission File No. 1-4797) and incorporated herein by reference. (Certain of the schedules and similar attachments have been omitted pursuant to Item 601(b)(2) of Regulation S-K, but the Company undertakes to furnish a copy of the schedules or similar attachments to the Securities and Exchange Commission upon request).
3(a)(i)	Amended and Restated Certificate of Incorporation of Illinois Tool Works Inc., filed as Exhibit 3.1 to the Company's Quarterly Report on Form 10-Q for the quarterly period ended June 30, 2014 (Commission File No. 1-4797) and incorporated herein by reference.
3(a)(ii)	Certificate of Amendment to Amended and Restated Certificate of Incorporation of Illinois Tool Works Inc., filed as Exhibit 3(a)(ii) to the Company's Form 8-K filed on May 12, 2016 (Commission File No. 1-4797) and incorporated herein by reference.
3(b)	By-laws of Illinois Tool Works Inc., as amended and restated as of May 6, 2016, filed as Exhibit 3(b)(i) to the Company's Form 8-K filed on May 12, 2016 (Commission File No. 1-4797) and incorporated herein by reference.
4(a)	Indenture between Illinois Tool Works Inc. and The First National Bank of Chicago, as Trustee, dated as of November 1, 1986, filed as Exhibit 4.1 to the Company's Registration Statement on Form S-3 filed on January 15, 1999 (Commission File No. 333-70691) and incorporated herein by reference.
4(b)	First Supplemental Indenture between Illinois Tool Works Inc. and Harris Trust and Savings Bank, as Trustee, dated as of May 1, 1990, filed as Exhibit 4.2 to the Company's Registration Statement on Form S-3 filed on January 15, 1999 (Commission File No. 333-70691) and incorporated herein by reference.
4(c)	Officers' Certificate dated March 26, 2009 establishing the terms, and setting forth the forms, of the 5.15% Notes due 2014 and the 6.25% Notes due 2019, filed as Exhibit 4.3 to the Company's Current Report on Form 8-K filed on March 27, 2009 (Commission File No. 1-4797) and incorporated herein by reference.
4(d)	Officers' Certificate dated August 31, 2011, establishing the terms, and setting forth the forms, of the 3.375% Notes due 2021 and the 4.875% Notes due 2041, filed as Exhibit 4.3 to the Company's Form 8-K filed on September 1, 2011 (Commission File No. 001-04797) and incorporated herein by reference.
4(e)	Officers' Certificate dated August 28, 2012, establishing the terms, and setting forth the forms, of the 3.9% Notes due 2042, filed as Exhibit 4.1 to the Company's Current Report on Form 8-K filed on August 28, 2012 (Commission File No. 001-4797) and incorporated herein by reference.
4(f)	Officers' Certificate dated February 25, 2014, establishing the terms, and setting forth the forms, of the 0.9% Notes due 2017, the 1.95% Notes due 2019, and the 3.5% Notes due 2024, filed as Exhibit 4.1 to the Company's Form 8-K filed on February 26, 2014 (Commission File No. 001-04797) and incorporated herein by reference.
4(g)	Officers' Certificate dated May 20, 2014, establishing the terms, and setting forth the forms, of the 1.75% Euro Notes due 2022 and the 3.0% Euro Notes due 2034, filed as Exhibit 4.1 to the Company's Form 8-K filed on May 22, 2014 (Commission File No. 001-04797) and incorporated herein by reference.
4(h)	Officers' Certificate dated May 19, 2015, establishing the terms, and setting forth the forms, of the 1.25% Euro Notes due 2023 and the 2.125% Euro Notes due 2030, filed as Exhibit 4.1 to the Company's Form 8-K filed on May 22, 2015 (Commission File No. 001-04797) and incorporated herein by reference.
4(i)	Officer's Certificate dated November 7, 2016, establishing the terms, and setting forth the forms, of the 2.65% Notes due 2026, filed as Exhibit 4.1 to the Company's Form 8-K filed on November 1, 2016 (Commission File No. 001-04797) and incorporated herein by reference.

Exhibit Number	Description
10(a)*	Illinois Tool Works Inc. 2006 Stock Incentive Plan dated February 10, 2006, as amended on May 5, 2006, filed as Exhibit 10(a) to the Company’s Quarterly Report on Form 10-Q for the quarterly period ended March 31, 2006 (Commission File No. 1-4797) and incorporated herein by reference.
10(b)*	Amendment to Illinois Tool Works Inc. 2006 Stock Incentive Plan dated February 8, 2008, filed as Exhibit 10 (q) to the Company’s Annual Report on Form 10-K for the fiscal year ended December 31, 2007 (Commission File No. 1-4797) and incorporated herein by reference.
10(c)*	Second Amendment to Illinois Tool Works Inc. 2006 Stock Incentive Plan dated February 13, 2009, filed as Exhibit 10(d) to the Company’s Annual Report on Form 10-K for the fiscal year ended December 31, 2008 (Commission File No. 1-4797) and incorporated herein by reference.
10(d)*	Illinois Tool Works Inc. 2011 Long-Term Incentive Plan, filed as Exhibit 99.2 to the Company’s Current Report on Form 8-K filed on December 16, 2010 (Commission File No. 1-4797) and incorporated herein by reference.
10(e)*	Illinois Tool Works Inc. 2015 Long-Term Incentive Plan effective May 8, 2015, filed as Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q for the quarterly period ended March 31, 2015 (Commission File No. 1-4797) and incorporated herein by reference.
10(f)*	Form of stock option terms filed as Exhibit 99.1 to the Company’s Current Report on Form 8-K filed on February 5, 2009 (Commission File No. 1-4797) and incorporated herein by reference.
10(g)*	Form of stock option terms filed as Exhibit 99.1 to the Company’s Current Report on Form 8-K filed on February 9, 2011 (Commission File No. 1-4797) and incorporated herein by reference.
10(h)*	Form of stock option terms filed as Exhibit 99.1 to the Company’s Current Report on Form 8-K filed on February 7, 2012 (Commission File No. 1-4797) and incorporated herein by reference.
10(i)*	Form of stock option terms filed as Exhibit 99.1 to the Company’s Current Report on Form 8-K filed on February 13, 2014 (Commission File No. 1-4797) and incorporated herein by reference.
10(j)*	Form of restricted stock unit terms filed as Exhibit 99.2 to the Company’s Current Report on Form 8-K filed on February 13, 2014 (Commission File No. 1-4797) and incorporated herein by reference.
10(k)*	Form of performance restricted stock unit terms filed as Exhibit 99.3 to the Company’s Current Report on Form 8-K filed on February 13, 2014 (Commission File No. 1-4797) and incorporated herein by reference.
10(l)*	Form of Long-Term Incentive Cash Grant filed as Exhibit 99.4 to the Company’s Current Report on Form 8-K filed on February 13, 2014 (Commission File No. 1-4797) and incorporated herein by reference.
10(m)*	Form of stock option terms filed as Exhibit 99.1 to the Company's Current Report on Form 8-K filed on February 9, 2016 (Commission File No. 1-4797) and incorporated herein by reference.
10(n)*	Form of restricted stock unit terms filed as Exhibit 99.2 to the Company's Current Report on Form 8-K filed on February 9, 2016 (Commission File No. 1-4797) and incorporated herein by reference.
10(o)*	Form of performance restricted stock unit terms filed as Exhibit 99.3 to the Company's Current Report on Form 8-K filed on February 9, 2016 (Commission File No. 1-4797) and incorporated herein by reference.
10(p)*	Form of Long-Term Incentive Cash Grant filed as Exhibit 99.4 to the Company's Current Report on Form 8-K filed on February 9, 2016 (Commission File No. 1-4797) and incorporated herein by reference.
10(q)*	Form of stock option terms filed as Exhibit 99.1 to the Company's Current Report on Form 8-K filed on February 9, 2017 (Commission File No. 1-4797) and incorporated herein by reference.
10(r)*	Form of restricted stock unit terms filed as Exhibit 99.2 to the Company's Current Report on Form 8-K filed on February 9, 2017 (Commission File No. 1-4797) and incorporated herein by reference.
10(s)*	Form of performance share unit terms filed as Exhibit 99.3 to the Company's Current Report on Form 8-K filed on February 9, 2017 (Commission File No. 1-4797) and incorporated herein by reference.
10(t)*	Form of Performance Cash Grant filed as Exhibit 99.4 to the Company's Current Report on Form 8-K filed on February 9, 2017 (Commission File No. 1-4797) and incorporated herein by reference.
10(u)*	Illinois Tool Works Inc. 2011 Executive Incentive Plan, filed as Exhibit 99.1 to the Company’s Current Report on Form 8-K filed on December 16, 2010 (Commission File No. 1-4797) and incorporated herein by reference.
10(v)*	Illinois Tool Works Inc. Executive Contributory Retirement Income Plan as amended and restated, effective January 1, 2010, filed as exhibit 10 to the Company’s Current Report on Form 8-K filed on November 5, 2009 (Commission File No. 1-4797) and incorporated herein by reference.

Exhibit Number	Description
10(w)*	Illinois Tool Works Inc. Nonqualified Pension Plan, effective January 1, 2008, as amended and approved by the Board of Directors on December 22, 2008, filed as Exhibit 10(p) to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2008 (Commission File No. 1-4797) and incorporated herein by reference.
10(x)*	Illinois Tool Works Inc. 2011 Change-in-Control Severance Compensation Policy, filed as Exhibit 99.3 to the Company's Current Report on Form 8-K filed on December 16, 2010 (Commission File No. 1-4797) and incorporated herein by reference.
10(y)*	Illinois Tool Works Inc. Amended and Restated Directors' Deferred Fee Plan effective May 2, 2014, filed as Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q for the quarterly period ended June 30, 2014 (Commission File No. 1-4797) and incorporated herein by reference.
10(z)*	Illinois Tool Works Inc. 2011 Cash Incentive Plan, filed as Exhibit 99.1 to the Company's Form 8-K filed on May 12, 2011 (Commission File No. 1-4797) and incorporated herein by reference.
10(aa)*	First Amendment to the ITW Contributory Retirement Income Plan dated February 15, 2013, filed as Exhibit 10.2 to the Company's Current Form 10-Q filed on May 3, 2013 (Commission File No. 1-4797) and incorporated herein by reference.
10(bb)	Five Year Credit Agreement dated as of May 9, 2016 among Illinois Tool Works Inc., the Lenders, JPMorgan Chase Bank, National Association, as Administrative Agent, and Citibank, N.A., as Syndication Agent filed as Exhibit 10(a) to the Company's Form 8-K filed on May 12, 2016 (Commission File No. 1-4797) and incorporated herein by reference.
21	Subsidiaries and Affiliates of the Company.
23	Consent of Independent Registered Public Accounting Firm.
24	Powers of Attorney.
31	Rule 13a-14(a) Certifications.
32	Section 1350 Certification.
99(a)	A description of the capital stock of Illinois Tool Works Inc. is included under Item 8.01 Other Events in the Company's Report on Form 8-K filed on February 9, 2017 (Commission File No. 1-4797) and incorporated herein by reference.
101.INS	XBRL Instance Document**
101.SCH	XBRL Taxonomy Extension Schema**
101.CAL	XBRL Taxonomy Extension Calculation Linkbase**
101.DEF	XBRL Taxonomy Extension Definition Linkbase**
101.LAB	XBRL Taxonomy Extension Label Linkbase**
101.PRE	XBRL Taxonomy Extension Presentation Linkbase**

* Management contract or compensatory plan or arrangement.

** The following financial information from Illinois Tool Works Inc.'s Annual Report on Form 10-K for the year ended December 31, 2016, formatted in XBRL (Extensible Business Reporting Language): (i) Statement of Income, (ii) Statement of Comprehensive Income, (iii) Statement of Income Reinvested in the Business (iv) Statement of Financial Position, (v) Statement of Cash Flows and (vi) related Notes to Financial Statements.

ILLINOIS TOOL WORKS INC. and SUBSIDIARIES
GAAP TO NON-GAAP RECONCILIATIONS (UNAUDITED)

2016 FREE CASH FLOW CONVERSION (UNAUDITED)

Dollars in millions	Twelve Months Ended December 31, 2016
Net cash provided by operating activities	$ 2,302
Less: Additions to plant and equipment	(273)
Free cash flow	$ 2,029
Net income	$ 2,035
Free Cash Flow Conversion	100%

2012 ADJUSTED AFTER-TAX RETURN ON AVERAGE INVESTED CAPITAL (UNAUDITED)

Dollars in millions	Twelve Months Ended December 31, 2012
Operating income	$ 2,475
Adjustment for Decorative Surfaces	(143)
Adjusted operating income	2,332
Tax rate (as adjusted for discrete tax charge)	29.2%
Income taxes	(681)
Adjusted operating income after taxes	$ 1,651
Invested capital:	
Trade receivables	$ 2,742
Inventories	1,585
Net plant and equipment	1,994
Goodwill and intangible assets	7,788
Accounts payable and accrued expenses	(2,068)
Other, net	773
Total invested capital	$ 12,814
Average invested capital	$ 13,140
Adjustment for Wilsonart (formerly the Decorative Surfaces segment)	(274)
Adjustment for Industrial Packaging	(1,504)
Adjusted average invested capital	$ 11,362
Adjusted after-tax return on average invested capital	14.5%

A reconciliation of the effective tax rate to the adjusted tax rate excluding the 2012 discrete tax charge is as follows:

	Twelve Months Ended December 31, 2012	
Dollars in millions	Income Taxes	Tax Rate
As reported	$ 973	30.3%
Discrete tax charge	(36)	(1.1)
As adjusted	$ 937	29.2%

2012 ADJUSTED INCOME PER SHARE FROM CONTINUING OPERATIONS - DILUTED (UNAUDITED)

	Twelve Months Ended December 31, 2012
As reported	$ 4.72
Decorative Surfaces net gain	1.34
Decorative Surfaces equity interest	(0.04)
Decorative Surfaces operating results	0.21
As adjusted for the Decorative Surfaces business	$ 3.21

ILLINOIS TOOL WORKS INC. and SUBSIDIARIES
PROXY PEER GROUP

The 2016 peer group consists of the following 18 public companies, consistent with the peer group included in the Company's Proxy statement:

3M Company	Dover Corporation	Ingersoll-Rand plc	PPG Industries, Inc.
BorgWarner Inc.	E.I. du Pont De Nemours and Company	Johnson Controls, Inc.	Pentair plc
Caterpillar Inc.	Eaton Corporation plc	Masco Corporation	Stanley Black & Decker, Inc.
Cummins Inc.	Emerson Electric Co.	Parker-Hannifin Corporation	Textron Inc.
Deere & Company	Honeywell International Inc.		

The total shareholder return and organic growth peer group averages are calculated using a simple average.

The ITW Patent Society Hall of Fame celebrates individuals who have made significant scientific or technological contributions to ITW's progress throughout our 104-year history.

Annual Meeting

Friday, May 5, 2017, 10:00 a.m.
Illinois Tool Works Inc.
155 Harlem Avenue
Glenview, Illinois 60025

Shareholder Information

TRANSFER AGENT AND REGISTRAR

Questions regarding stock ownership, dividend payments or change of address should be directed to the company's transfer agent:
Broadridge Corporate Issuer Solutions, Inc.
P.O. Box 1342
Brentwood, NY 11717
http://shareholder.broadridge.com/ITW
Phone Toll Free: 888.829.7424
International: +1.720.399.2177

COMMON STOCK

New York Stock Exchange
Symbol: ITW

TRADEMARKS

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CONTACT INVESTOR RELATIONS

For additional assistance, including media inquiries:
224.661.7431 or investorrelations@itw.com

VISIT US ON THE WEB

www.itw.com

COMMITTED TO SOCIAL RESPONSIBILITY

Learn about our CSR activities and goals in our 2016 report: http://www.itw.com/social-responsibility/

STOCK AND DIVIDEND ACTION

Effective with the October 6, 2016 payment, the quarterly cash dividend on ITW common stock was increased to 65 cents per share. ITW's annual dividend payment has increased for more than 50 consecutive years, except during a period of government controls in 1971.

The ITW Common Stock Dividend Reinvestment Plan enables registered shareholders to reinvest the ITW dividends they receive in additional shares of common stock of the company at no additional cost. Participation in the plan is voluntary, and shareholders may join or withdraw at any time. The plan also allows for additional voluntary cash investments in any amount from $100 to $10,000 per month. For a brochure and full details of the program, please direct inquiries to the company's transfer agent, Broadridge Corporate Issuer Solutions, Inc.

ILLINOIS TOOL WORKS INC.

155 HARLEM AVENUE

GLENVIEW, ILLINOIS 60025

WWW.ITW.COM