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FOR IMMEDIATE RELEASE

Federal Signal Reports Outstanding Fourth Quarter, with 83% Order Growth and 142% Improvement in Net Income

Oak Brook, Illinois, February 28, 2018 — Federal Signal Corporation (NYSE:FSS), a leader in environmental and safety solutions, today reported results for the fourth quarter and year ended December 31, 2017.

- Q4 orders of \$303 million, up \$137 million, or 83% from last year, including organic growth of \$84 million, or 51%
- Q4 net sales of \$248 million, up \$72 million, or 41% compared to last year
- GAAP EPS of \$0.48 per share for the quarter, up 140% from last year, and \$1.00 for the year, up 56%
 - *Includes benefits from tax reform and impact of non-cash pension settlement charge*
- Adjusted EPS of \$0.24 per share for the quarter, up 50% from last year, and \$0.85 for the year, up 23%
- 2018 Adjusted EPS outlook of \$1.10 to \$1.20

Consolidated net sales for the fourth quarter were \$247.6 million, up 41% versus the same quarter a year ago. Fourth quarter income from continuing operations was \$29.3 million, equal to \$0.48 per diluted share, up 142% compared to \$12.1 million, or \$0.20 per share, in the prior-year quarter. The Company also reported adjusted net income from continuing operations for the fourth quarter of \$14.4 million, equal to \$0.24 per diluted share, up 48% compared to \$9.7 million, or \$0.16 per share, in the same quarter a year ago.

Consolidated net sales for the year ended December 31, 2017 were \$898.5 million, up 27% compared to the prior year. Income from continuing operations for the year was \$60.5 million, equal to \$1.00 per diluted share, up 54% compared to \$39.4 million, or \$0.64 per share, in the prior year. Adjusted net income from continuing operations for the year was \$51.1 million, equal to \$0.85 per diluted share, up 22% compared to \$42.0 million, or \$0.69 per diluted share, in the prior year.

The Company is reporting adjusted results to facilitate comparisons of underlying performance on a year-over-year basis. In the current quarter, such adjustments exclude a one-time, non-cash net tax benefit resulting from the enactment of the Tax Cuts and Jobs Act of 2017 (the “2017 Tax Act”) and a non-cash pension settlement charge. A reconciliation of these and other non-GAAP measures is provided at the conclusion of this news release.

Fourth Quarter Results Exceed Expectations, Contributing to Significant Improvement in Full-Year Results

“We had an outstanding finish to a strong year, with fourth quarter results that exceeded expectations,” said Jennifer L. Sherman, President and Chief Executive Officer. “I am particularly pleased with our execution against the strategic initiatives we have put in place over the last two years, and with the performance of our acquisitions. Both have contributed to a significant improvement in sales, orders and backlog.”

Consolidated fourth quarter orders were \$302.7 million, an increase of \$137.4 million, or 83%, compared to the prior-year quarter, and included organic order growth of approximately \$84.2 million, or 51%, primarily represented by higher orders for street sweepers, vacuum trucks, sewer cleaners and refuse vehicles within our Environmental Solutions Group (“ESG”), and improved orders within our Safety and Security Systems Group (“SSG”). Consolidated backlog at December 31, 2017 was \$257.5 million, up \$120.5 million, or 88%, compared to last year.

Consolidated fourth quarter sales were \$247.6 million, an increase of \$71.5 million, or 41%, compared to the prior-year quarter, and included organic growth of approximately \$27.4 million, or 16%, mainly due to improved sales of vacuum trucks, sewer cleaners and street sweepers within ESG.

Consolidated fourth quarter operating income was \$14.9 million, up \$1.1 million, or 8%, compared to the prior-year quarter, driven by a \$9.7 million increase within ESG, partially offset by a \$6.1 million non-cash pension settlement charge and higher expenses associated with hearing loss litigation.

Consolidated adjusted earnings before interest, tax, depreciation and amortization (“adjusted EBITDA”) for the fourth quarter of 2017 was \$32.0 million, up \$11.0 million, or 52%, compared to the prior-year quarter, and consolidated adjusted EBITDA margin was 12.9% compared to 11.9% last year. ESG’s adjusted EBITDA for the quarter was up \$11.9 million, or 74%, to \$28.0 million, and its adjusted EBITDA margin was 14.6%, up from 13.2% last year. SSG’s adjusted EBITDA for the quarter was \$10.0 million, compared to \$10.2 million last year, and its adjusted EBITDA margin was 18.0%, compared to 18.7% last year.

Impact of the 2017 Tax Act

In the fourth quarter of 2017, the Company recorded a net tax benefit of \$20.0 million, or \$0.33 per diluted share (on a GAAP basis), representing the estimated impact of corporate income tax changes resulting from the 2017 Tax Act. The components of the net tax benefit recognized in the fourth quarter of 2017 are summarized as follows (\$ in millions):

Remeasurement of net U.S. deferred tax liabilities	\$	23.0
Valuation allowance impacts		(3.0)
Total estimated net tax benefit	\$	20.0

The ultimate impact of the 2017 Tax Act may differ from these estimates, due to, among other things, changes in interpretations and assumptions made by the Company, additional guidance that may be issued by the U.S. Department of the Treasury and actions that the Company may take.

The Company expects that its effective tax rate in 2018 will be in the range of 26% to 27%, based on its current interpretations of the provisions of the 2017 Tax Act.

Strong Q4 Cash Flow Supports Additional Debt Pay Down

Net cash of \$21.4 million was provided by continuing operating activities in the fourth quarter of 2017, compared to \$9.6 million in the prior-year quarter. For the year ended December 31, 2017, cash provided by continuing operating activities totaled \$73.5 million, an increase of \$46.8 million compared to the prior year. At December 31, 2017, total debt was \$278 million, total cash and cash equivalents were \$38 million and the Company had \$106 million of availability for borrowings under its credit facility.

“Our balance sheet and liquidity remain healthy,” said Sherman. “Since we closed the TBEI transaction at the beginning of June, our strong cash flow has facilitated a reduction in debt of almost \$34 million, lowering our debt leverage ratio at the end of 2017 to 2.2 times adjusted EBITDA, which is down from 2.7 times adjusted EBITDA at the completion of the acquisition.”

The Company funded dividends of \$4.2 million during the fourth quarter, bringing the totals for the year to \$16.8 million, and the Board of Directors also recently declared a \$0.07 per share dividend that will be payable in the first quarter of 2018.

Outlook

“We entered 2018 with strong order momentum contributing to a healthy backlog. In addition, we are seeing positive economic indicators across many of our end markets,” Sherman continued. “While we expect to realize significant benefits from tax reform, we are committed to utilizing some of those savings to accelerate our longer-term growth initiatives, such as developing new products and enhancing our sales channels. We currently expect that the reduction in the corporate tax rate, net of these planned investments, will benefit our 2018 earnings by approximately \$0.10 per share. We are anticipating meaningful year-over-year improvement in the first quarter, although seasonal effects typically result in our first quarter earnings being lower than subsequent quarters. For the year, we expect adjusted earnings per share* to be between \$1.10 and \$1.20, which would represent a year-over-year improvement of between 29% and 41%”.

* Adjusted earnings per share (“EPS”) is a non-GAAP measure, which includes certain adjustments to reported GAAP net income and diluted EPS. In 2017, we made adjustments to exclude the impact of restructuring activity, executive severance costs, acquisition and integration-related expenses, purchase accounting effects, pension settlement charges, hearing loss settlement charges and special tax items, where applicable. Should any similar items occur in 2018, we would expect to exclude them from the determination of adjusted EPS. However, because of the underlying uncertainty in quantifying amounts which may not yet be known, a reconciliation of our Adjusted EPS outlook to the most applicable GAAP measure is excluded based on the unreasonable efforts exception in Item 10(e)(1)(i)(B).

CONFERENCE CALL

Federal Signal will host its fourth quarter conference call on Wednesday, February 28, 2018 at 10:00 a.m. Eastern Time. The call will last approximately one hour. The call may be accessed over the internet through Federal Signal’s website at <http://www.federalsignal.com> or by dialing phone number 1-800-281-7829 and entering the pin number 8998696. An archived replay will be available on Federal Signal’s website shortly after the call.

About Federal Signal

Federal Signal Corporation (NYSE: FSS) provides products and services to protect people and our planet. Founded in 1901, Federal Signal is a leading global designer, manufacturer and supplier of products and total solutions that serve municipal, governmental, industrial and commercial customers. Headquartered in Oak Brook, Ill., with manufacturing facilities worldwide, the Company operates two groups: Environmental Solutions and Safety and Security Systems. For more information on Federal Signal, visit: <http://www.federsignal.com>.

“Safe Harbor” Statement under the Private Securities Litigation Reform Act of 1995

This release contains unaudited financial information and various forward-looking statements as of the date hereof and we undertake no obligation to update these forward-looking statements regardless of new developments or otherwise. Statements in this release that are not historical are forward-looking statements. Such statements are subject to various risks and uncertainties that could cause actual results to vary materially from those stated. Such risks and uncertainties include but are not limited to: economic conditions in various regions; product and price competition; supplier and raw material prices; foreign currency exchange rate changes; interest rate changes; increased legal expenses and litigation results; legal and regulatory developments and other risks and uncertainties described in filings with the Securities and Exchange Commission.

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FEDERAL SIGNAL CORPORATION AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF OPERATIONS

(in millions, except per share data)	Three Months Ended December 31,		Twelve Months Ended December 31,	
	2017	2016	2017	2016
Net sales	\$ 247.6	\$ 176.1	\$ 898.5	\$ 707.9
Cost of sales	186.0	130.7	677.3	524.8
Gross profit	61.6	45.4	221.2	183.1
Selling, engineering, general and administrative expenses	40.0	31.3	144.7	122.3
Acquisition and integration-related expenses	0.5	0.2	2.7	1.4
Pension settlement charges	6.1	—	6.1	—
Restructuring	0.1	0.1	0.6	1.7
Operating income	14.9	13.8	67.1	57.7
Interest expense	2.7	0.5	7.3	1.9
Debt settlement charges	—	—	—	0.3
Other income, net	(0.2)	—	(1.2)	(1.3)
Income before income taxes	12.4	13.3	61.0	56.8
Income tax (benefit) expense	(16.9)	1.2	0.5	17.4
Income from continuing operations	29.3	12.1	60.5	39.4
Gain from discontinued operations and disposal, net of income tax (benefit) expense of \$(0.8), \$0.3, \$(0.8) and \$3.4, respectively	1.1	0.5	1.1	4.4
Net income	\$ 30.4	\$ 12.6	\$ 61.6	\$ 43.8
Basic earnings per share:				
Earnings from continuing operations	\$ 0.49	\$ 0.20	\$ 1.01	\$ 0.65
Earnings from discontinued operations and disposal, net of tax	\$ 0.02	0.01	0.02	0.07
Net earnings per share	\$ 0.51	\$ 0.21	\$ 1.03	\$ 0.72
Diluted earnings per share:				
Earnings from continuing operations	\$ 0.48	\$ 0.20	\$ 1.00	\$ 0.64
Earnings from discontinued operations and disposal, net of tax	0.02	0.01	0.02	0.07
Net earnings per share	\$ 0.50	\$ 0.21	\$ 1.02	\$ 0.71
Weighted average shares outstanding:				
Basic	59.8	59.5	59.7	60.4
Diluted	60.7	60.4	60.4	61.2
Cash dividends declared per common share	\$ 0.07	\$ 0.07	\$ 0.28	\$ 0.28
Operating data:				
Operating margin	6.0%	7.8%	7.5%	8.2%
Adjusted EBITDA	\$ 32.0	\$ 21.0	\$ 113.1	\$ 83.5
Adjusted EBITDA margin	12.9%	11.9%	12.6%	11.8%
Total orders	\$ 302.7	\$ 165.3	\$ 1,018.0	\$ 674.4
Backlog	257.5	137.0	257.5	137.0
Depreciation and amortization	8.7	6.1	30.0	19.1

FEDERAL SIGNAL CORPORATION AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS

(in millions, except per share data)	As of December 31,	
	2017	2016
ASSETS		
Current assets:		
Cash and cash equivalents	\$ 37.5	\$ 50.7
Accounts receivable, net of allowances for doubtful accounts of \$1.1 and \$0.8, respectively	118.2	81.3
Inventories	137.2	120.1
Prepaid expenses and other current assets	10.9	7.5
Total current assets	<u>303.8</u>	<u>259.6</u>
Properties and equipment, net of accumulated depreciation of \$108.9 and \$101.3, respectively	60.1	42.9
Rental equipment, net of accumulated depreciation of \$20.0 and \$9.7, respectively	87.2	80.8
Goodwill	377.3	236.5
Intangible assets, net of accumulated amortization of \$5.5 and \$0.5, respectively	151.8	10.2
Deferred tax assets	6.2	8.2
Deferred charges and other long-term assets	5.4	3.9
Long-term assets of discontinued operations	0.5	1.1
Total assets	<u>\$ 992.3</u>	<u>\$ 643.2</u>
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Current portion of long-term borrowings and capital lease obligations	0.3	0.5
Accounts payable	51.5	35.3
Customer deposits	6.5	4.5
Accrued liabilities:		
Compensation and withholding taxes	22.2	13.8
Other current liabilities	36.1	28.7
Current liabilities of discontinued operations	0.5	2.1
Total current liabilities	<u>117.1</u>	<u>84.9</u>
Long-term borrowings and capital lease obligations	277.4	63.5
Long-term pension and other post-retirement benefit liabilities	56.6	61.1
Deferred gain	8.7	10.7
Deferred tax liabilities	45.4	—
Other long-term liabilities	28.2	26.9
Long-term liabilities of discontinued operations	1.5	2.0
Total liabilities	<u>534.9</u>	<u>249.1</u>
Stockholders' equity:		
Common stock, \$1 par value per share, 90.0 shares authorized, 66.1 and 65.4 shares issued, respectively	66.1	65.4
Capital in excess of par value	207.7	200.3
Retained earnings	346.6	301.8
Treasury stock, at cost, 6.1 and 5.8 shares, respectively	(86.1)	(81.4)
Accumulated other comprehensive loss	(76.9)	(92.0)
Total stockholders' equity	<u>457.4</u>	<u>394.1</u>
Total liabilities and stockholders' equity	<u>\$ 992.3</u>	<u>\$ 643.2</u>

FEDERAL SIGNAL CORPORATION AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS

For the Years Ended
December 31,

(in millions)	For the Years Ended December 31,	
	2017	2016
Operating activities:		
Net income	\$ 61.6	\$ 43.8
Adjustments to reconcile net income to net cash provided by operating activities:		
Net gain on discontinued operations and disposal	(1.1)	(4.4)
Depreciation and amortization	30.0	19.1
Deferred financing costs	0.3	0.6
Deferred gain	(2.0)	(1.9)
Stock-based compensation expense	4.6	4.8
Pension settlement charges	6.1	—
Pension expense, net of funding	(5.2)	(3.7)
Changes in fair value of contingent consideration and deferred payment	1.0	0.5
Deferred income taxes, including change in valuation allowance	(14.9)	7.9
Changes in operating assets and liabilities, net of effects of discontinued operations:		
Accounts receivable	(11.1)	(8.0)
Inventories	9.4	(2.3)
Rental equipment	(15.7)	(6.9)
Prepaid expenses and other current assets	3.9	1.6
Accounts payable	(5.2)	(13.9)
Accrued liabilities	8.0	(7.4)
Income taxes	1.6	(4.4)
Other	2.2	1.3
Net cash provided by continuing operating activities	73.5	26.7
Net cash used for discontinued operating activities	(0.7)	(2.0)
Net cash provided by operating activities	72.8	24.7
Investing activities:		
Purchases of properties and equipment	(8.0)	(6.1)
Payments for acquisitions, net of cash acquired	(269.2)	(102.6)
Cash collected from (provided to) customer	—	6.0
Other, net	0.1	(0.3)
Net cash used for continuing investing activities	(277.1)	(103.0)
Net cash (used for) provided by discontinued investing activities	(1.1)	86.2
Net cash used for investing activities	(278.2)	(16.8)
Financing activities:		
Increase in revolving lines of credit, net	209.1	64.8
Payments on long-term borrowings	—	(43.4)
Payments of debt financing fees	(0.2)	(1.1)
Purchases of treasury stock	—	(37.8)
Redemptions of common stock to satisfy withholding taxes related to stock-based compensation	(2.9)	(2.7)
Cash dividends paid to stockholders	(16.8)	(16.9)
Proceeds from stock compensation activity	1.6	0.5
Other, net	(0.1)	(0.5)
Net cash provided by (used for) continuing financing activities	190.7	(37.1)
Net cash provided by discontinued financing activities	—	0.7
Net cash provided by (used for) financing activities	190.7	(36.4)
Effects of foreign exchange rate changes on cash and cash equivalents	1.5	(1.8)
Decrease in cash and cash equivalents	(13.2)	(30.3)
Cash and cash equivalents at beginning of year	50.7	81.0
Cash and cash equivalents at end of year	\$ 37.5	\$ 50.7

FEDERAL SIGNAL CORPORATION AND SUBSIDIARIES

GROUP RESULTS

The following tables summarize group operating results as of and for the three and twelve months ended December 31, 2017 and 2016:

Environmental Solutions Group

(\$ in millions)	Three Months Ended December 31,			Twelve Months Ended December 31,		
	2017	2016	Change	2017	2016	Change
Net sales	\$ 192.0	\$ 121.6	\$ 70.4	\$ 692.6	\$ 490.7	\$ 201.9
Operating income	19.9	10.2	9.7	72.4	54.1	18.3
Adjusted EBITDA	28.0	16.1	11.9	103.5	72.7	30.8
Operating data:						
Operating margin	10.4%	8.4%	2.0%	10.5%	11.0%	(0.5)%
Adjusted EBITDA margin	14.6%	13.2%	1.4%	14.9%	14.8%	0.1 %
Total orders	\$ 246.8	\$ 120.3	\$ 126.5	\$ 806.3	\$ 474.8	\$ 331.5
Backlog	231.1	116.6	114.5	231.1	116.6	114.5
Depreciation and amortization	7.6	4.9	2.7	25.7	14.5	11.2

Safety and Security Systems Group

(\$ in millions)	Three Months Ended December 31,			Twelve Months Ended December 31,		
	2017	2016	Change	2017	2016	Change
Net sales	\$ 55.6	\$ 54.5	\$ 1.1	\$ 205.9	\$ 217.2	\$ (11.3)
Operating income	8.9	9.0	(0.1)	27.0	27.0	—
Adjusted EBITDA	10.0	10.2	(0.2)	31.7	33.1	(1.4)
Operating data:						
Operating margin	16.0%	16.5%	(0.5)%	13.1%	12.4%	0.7%
Adjusted EBITDA margin	18.0%	18.7%	(0.7)%	15.4%	15.2%	0.2%
Total orders	\$ 55.9	\$ 45.0	\$ 10.9	\$ 211.7	\$ 199.6	\$ 12.1
Backlog	26.4	20.4	6.0	26.4	20.4	6.0
Depreciation and amortization	1.0	1.1	(0.1)	4.1	4.4	(0.3)

Corporate Expenses

Corporate operating expenses were \$13.9 million and \$5.4 million for the three months ended December 31, 2017 and 2016, respectively. The increase was primarily driven by a \$6.1 million pension settlement charge, a \$0.3 million increase in acquisition and integration-related expenses, increased legal expenses associated with hearing loss litigation and higher employee incentive compensation costs.

Corporate operating expenses were \$32.3 million and \$23.4 million for the years ended December 31, 2017 and 2016, respectively. The year-over-year increase of \$8.9 million was primarily driven by a \$6.1 million pension settlement charge, a \$0.8 million increase in acquisition and integration-related expenses associated with the TBEI acquisition, the recognition of \$0.7 million in executive severance costs, increased legal expenses associated with hearing loss litigation and higher employee incentive compensation costs, partially offset by lower pension expenses.

SEC REGULATION G NON-GAAP RECONCILIATION

The financial measures presented below are unaudited and are not in accordance with U.S. generally accepted accounting principles (“GAAP”). The non-GAAP financial information presented herein should be considered supplemental to, and not a substitute for, or superior to, financial measures calculated in accordance with GAAP. The Company has provided this supplemental information to investors, analysts, and other interested parties to enable them to perform additional analyses of operating results, to illustrate the results of operations giving effect to the non-GAAP adjustments shown in the reconciliations below, and to provide an additional measure of performance which management considers in operating the business.

Adjusted net income and earnings per share from continuing operations (“EPS”):

The Company believes that modifying its 2017 and 2016 net income and diluted EPS provides additional measures which are representative of the Company’s underlying performance and improve the comparability of results between reporting periods. During the three and twelve months ended December 31, 2017 and 2016, adjustments were made to reported GAAP net income and diluted EPS to exclude the impact of restructuring activity, executive severance costs, acquisition and integration-related expenses, purchase accounting effects, pension settlement charges, hearing loss settlement charges and debt settlement charges, where applicable. In addition, during the three and twelve months ended December 31, 2017 and 2016, adjustments were made to reported GAAP income tax expense to exclude certain special tax items, which include the Company’s preliminary estimate of the impact of the 2017 Tax Act, which was enacted in the fourth quarter of 2017.

(in millions)	Three Months Ended December 31,		Twelve Months Ended December 31,	
	2017	2016	2017	2016
Income from continuing operations	\$ 29.3	\$ 12.1	\$ 60.5	\$ 39.4
Add:				
Income tax (benefit) expense	(16.9)	1.2	0.5	17.4
Income before income taxes	12.4	13.3	61.0	56.8
Add:				
Restructuring	0.1	0.1	0.6	1.7
Executive severance costs	—	—	0.7	—
Acquisition and integration-related expenses	0.5	0.2	2.7	1.4
Purchase accounting effects ^(a)	0.5	0.9	4.8	3.9
Pension settlement charges	6.1	—	6.1	—
Hearing loss settlement charges	1.5	—	1.5	—
Debt settlement charges	—	—	—	0.3
Adjusted income before income taxes	\$ 21.1	\$ 14.5	\$ 77.4	\$ 64.1
Adjusted income tax expense ^{(b)(c)}	(6.7)	(4.8)	(26.3)	(22.1)
Adjusted net income from continuing operations	\$ 14.4	\$ 9.7	\$ 51.1	\$ 42.0

(dollars per diluted share)	Three Months Ended December 31,		Twelve Months Ended December 31,	
	2017	2016	2017	2016
EPS, as reported	\$ 0.48	\$ 0.20	\$ 1.00	\$ 0.64
Add:				
Income tax (benefit) expense	(0.28)	0.02	0.01	0.29
Income before income taxes	0.20	0.22	1.01	0.93
Add:				
Restructuring	0.00	0.00	0.01	0.03
Executive severance costs	—	—	0.01	—
Acquisition and integration-related expenses	0.01	0.00	0.04	0.02
Purchase accounting effects ^(a)	0.01	0.02	0.08	0.06
Pension settlement charges	0.10	—	0.10	—
Hearing loss settlement charges	0.03	—	0.03	—
Debt settlement charges	—	—	—	0.01
Adjusted income before income taxes	\$ 0.35	\$ 0.24	\$ 1.28	\$ 1.05
Adjusted income tax expense ^{(b)(c)}	(0.11)	(0.08)	(0.43)	(0.36)
Adjusted EPS	\$ 0.24	\$ 0.16	\$ 0.85	\$ 0.69

- (a) Purchase accounting effects relate to adjustments to exclude the step-up in the valuation of equipment acquired in connection with current and prior-year acquisitions that was sold subsequent to the acquisition dates in the three and twelve months ended December 31, 2017 and 2016, as well as to exclude the depreciation of the step-up in the valuation of the rental fleet acquired in the JJE transaction.
- (b) Adjusted income tax expense for the three and twelve months ended December 31, 2017 excludes a \$20.0 million net tax benefit, representing the Company's preliminary estimate of the impact of the 2017 Tax Act, and a \$0.8 million benefit from changes in state deferred tax valuation allowance. Adjusted income tax expense for the twelve months ended December 31, 2017 also excludes \$0.6 million of tax expense associated with a change in the enacted state tax rate in Illinois. Adjusted income tax expense for the three and twelve months ended December 31, 2017 also excludes the tax effects of restructuring activity, executive severance costs, acquisition and integration-related expenses, purchase accounting effects, hearing loss settlement charges and pension settlement charges, where applicable.
- (c) Adjusted income tax expense for the three and twelve months ended December 31, 2016 excludes a \$2.2 million net benefit resulting from changes in deferred tax valuation allowances in Canada and the U.K. Adjusted income tax expense for the three and twelve months ended December 31, 2016 also excludes the tax effects of restructuring activity, acquisition and integration-related expenses, purchase accounting effects and debt settlement charges, where applicable.

Adjusted EBITDA:

The Company uses adjusted EBITDA and the ratio of adjusted EBITDA to net sales (“adjusted EBITDA margin”), at both the consolidated and segment level, as additional measures which are representative of its underlying performance and to improve the comparability of results across reporting periods. We believe that investors use versions of these metrics in a similar manner. For these reasons, the Company believes that adjusted EBITDA and adjusted EBITDA margin, at both the consolidated and segment level, are meaningful metrics to investors in evaluating the Company’s underlying financial performance.

Consolidated adjusted EBITDA is a non-GAAP measure that represents the total of income from continuing operations, interest expense, pension settlement charges, hearing loss settlement charges, debt settlement charges, acquisition and integration-related expenses, restructuring activity, executive severance costs, purchase accounting effects, other income/expense, income tax (benefit) expense, and depreciation and amortization expense. Consolidated adjusted EBITDA margin is a non-GAAP measure that represents the total of income from continuing operations, interest expense, pension settlement charges, hearing loss settlement charges, debt settlement charges, acquisition and integration-related expenses, restructuring activity, executive severance costs, purchase accounting effects, other income/expense, income tax (benefit) expense, and depreciation and amortization expense divided by net sales for the applicable period(s).

Segment adjusted EBITDA is a non-GAAP measure that represents the total of segment operating income, acquisition and integration-related expenses, restructuring activity, purchase accounting effects and depreciation and amortization expense, as applicable. Segment adjusted EBITDA margin is a non-GAAP measure that represents the total of segment operating income, acquisition and integration-related expenses, restructuring activity, purchase accounting effects and depreciation and amortization expense, as applicable, divided by net sales for the applicable period(s). Segment operating income includes all revenues, costs and expenses directly related to the segment involved. In determining segment income, neither corporate nor interest expenses are included. Segment depreciation and amortization expense relates to those assets, both tangible and intangible, that are utilized by the respective segment.

Other companies may use different methods to calculate adjusted EBITDA and adjusted EBITDA margin.

Consolidated

The following table summarizes the Company’s consolidated adjusted EBITDA and adjusted EBITDA margin and reconciles income from continuing operations to consolidated adjusted EBITDA for the three and twelve months ended December 31, 2017 and 2016:

(\$ in millions)	Three Months Ended December 31,		Twelve Months Ended December 31,	
	2017	2016	2017	2016
Income from continuing operations	29.3	12.1	60.5	39.4
Add:				
Interest expense	2.7	0.5	7.3	1.9
Pension settlement charges	6.1	—	6.1	—
Hearing loss settlement charges	1.5	—	1.5	—
Debt settlement charges	—	—	—	0.3
Acquisition and integration-related expenses	0.5	0.2	2.7	1.4
Restructuring	0.1	0.1	0.6	1.7
Executive severance costs	—	—	0.7	—
Purchase accounting effects *	0.2	0.8	4.4	3.6
Other (income) expense, net	(0.2)	—	(1.2)	(1.3)
Income tax (benefit) expense	(16.9)	1.2	0.5	17.4
Depreciation and amortization	8.7	6.1	30.0	19.1
Consolidated adjusted EBITDA	<u>\$ 32.0</u>	<u>\$ 21.0</u>	<u>\$ 113.1</u>	<u>\$ 83.5</u>
Net sales	<u>\$ 247.6</u>	<u>\$ 176.1</u>	<u>\$ 898.5</u>	<u>\$ 707.9</u>
Consolidated adjusted EBITDA margin	<u>12.9%</u>	<u>11.9%</u>	<u>12.6%</u>	<u>11.8%</u>

* Excludes purchase accounting expense effects included within depreciation and amortization of \$0.3 million and \$0.1 million for the three months ended December 31, 2017 and 2016, and \$0.4 million and \$0.3 million for the twelve months ended December 31, 2017 and 2016, respectively

Environmental Solutions Group

The following table summarizes the Environmental Solutions Group's adjusted EBITDA and adjusted EBITDA margin and reconciles operating income to adjusted EBITDA for the three and twelve months ended December 31, 2017 and 2016:

(\$ in millions)	Three Months Ended December 31,		Twelve Months Ended December 31,	
	2017	2016	2017	2016
Operating income	\$ 19.9	\$ 10.2	\$ 72.4	\$ 54.1
Add:				
Acquisition and integration-related expenses	0.3	0.2	1.0	0.5
Purchase accounting effects *	0.2	0.8	4.4	3.6
Depreciation and amortization	7.6	4.9	25.7	14.5
Adjusted EBITDA	\$ 28.0	\$ 16.1	\$ 103.5	\$ 72.7
Net sales	\$ 192.0	\$ 121.6	\$ 692.6	\$ 490.7
Adjusted EBITDA margin	14.6%	13.2%	14.9%	14.8%

* Excludes purchase accounting expense effects included within depreciation and amortization of \$0.3 million and \$0.1 million for the three months ended December 31, 2017 and 2016, and \$0.4 million and \$0.3 million for the twelve months ended December 31, 2017 and 2016, respectively

Safety and Security Systems Group

The following table summarizes the Safety and Security Systems Group's adjusted EBITDA and adjusted EBITDA margin and reconciles operating income to adjusted EBITDA for the three and twelve months ended December 31, 2017 and 2016:

(\$ in millions)	Three Months Ended December 31,		Twelve Months Ended December 31,	
	2017	2016	2017	2016
Operating income	\$ 8.9	\$ 9.0	\$ 27.0	\$ 27.0
Add:				
Restructuring	0.1	0.1	0.6	1.7
Depreciation and amortization	1.0	1.1	4.1	4.4
Adjusted EBITDA	\$ 10.0	\$ 10.2	\$ 31.7	\$ 33.1
Net sales	\$ 55.6	\$ 54.5	\$ 205.9	\$ 217.2
Adjusted EBITDA margin	18.0%	18.7%	15.4%	15.2%