Fourth Quarter 2018 Earnings Call

John Plant – Chairman and Chief Executive Officer
Ken Giacobbe – Chief Financial Officer

February 8, 2019

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Important Information

Forward–Looking Statements

This presentation contains statements that relate to future events and expectations and as such constitute forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Forward-looking statements include those containing such words as "anticipates," "believes," "could," "estimates," "expects," "forecasts," "goal," "guidance," "intends," "may," "outlook," "plans," "projects," "seeks," "sees," "should," "targets," "will," "would," or other words of similar meaning. All statements that reflect Arconic’s expectations, assumptions or projections about the future, other than statements of historical fact, are forward-looking statements, including, without limitation, forecasts and expectations relating to the growth of the aerospace, defense, automotive, industrials, commercial transportation and other end markets; statements and guidance regarding future financial results or operating performance; statements regarding future strategic actions, including share repurchases, which may be subject to market conditions, legal requirements and other considerations; and statements about Arconic's strategies, outlook, business and financial prospects. These statements reflect beliefs and assumptions that are based on Arconic’s perception of historical trends, current conditions and expected future developments, as well as other factors Arconic believes are appropriate in the circumstances. Forward-looking statements are not guarantees of future performance and are subject to risks, uncertainties and changes in circumstances that are difficult to predict, which could cause actual results to differ materially from those indicated by these statements. Such risks and uncertainties include, but are not limited to: (a) deterioration in global economic and financial market conditions generally; (b) unfavorable changes in the markets served by Arconic; (c) the inability to achieve the level of revenue growth, cash generation, cost savings, improvement in profitability and margins, fiscal discipline, or strengthening of competitiveness and operations anticipated or targeted; (d) competition from new product offerings, disruptive technologies or other developments; (e) political, economic, and regulatory risks relating to Arconic’s global operations, including compliance with U.S. and foreign trade and tax laws, sanctions, embargoes and other regulations; (f) manufacturing difficulties or other issues that impact product performance, quality or safety; (g) Arconic’s inability to realize expected benefits, in each case as planned and by targeted completion dates, from acquisitions, divestitures, facility closures, curtailments, expansions, or joint ventures; (h) the impact of cyber attacks and potential information technology or data security breaches; (i) changes in discount rates or investment returns on pension assets; (j) the impact of changes in aluminum prices and foreign currency exchange rates on costs and results; (k) the outcome of contingencies, including legal proceedings, government or regulatory investigations, and environmental remediation, which can expose Arconic to substantial costs and liabilities; and (l) the other risk factors summarized in Arconic’s Form 10-K for the year ended December 31, 2017 and other reports filed with the U.S. Securities and Exchange Commission (SEC). Market projections are subject to the risks discussed above and other risks in the market. The statements in this presentation are made as of the date of this presentation, even if subsequently made available by Arconic on its website or otherwise. Arconic disclaims any intention or obligation to update publicly any forward-looking statements, whether in response to new information, future events, or otherwise, except as required by applicable law.

Important Information (continued)

Non-GAAP Financial Measures

Some of the information included in this presentation is derived from Arconic's consolidated financial information but is not presented in Arconic's financial statements prepared in accordance with accounting principles generally accepted in the United States of America (GAAP). Certain of these data are considered "non-GAAP financial measures" under SEC rules. These non-GAAP financial measures supplement our GAAP disclosures and should not be considered an alternative to the GAAP measure. Reconciliations to the most directly comparable GAAP financial measures and management's rationale for the use of the non-GAAP financial measures can be found in the Appendix to this presentation. Arconic has not provided reconciliations of any forward-looking non-GAAP financial measures, such as earnings per share excluding special items, adjusted free cash flow and adjusted interest expense, to the most directly comparable GAAP financial measures because Arconic is unable to quantify certain amounts that would be required to be included in the GAAP measure without unreasonable efforts, and Arconic believes such reconciliations would imply a degree of precision that would be confusing or misleading to investors. In particular, such reconciliations are not available without unreasonable efforts due to the variability and complexity with respect to the charges and other components excluded from the non-GAAP measures, such as the effects of foreign currency movements, equity income, gains or losses on sales of assets, taxes, and any future restructuring or impairment charges. These reconciling items are in addition to the inherent variability already included in the GAAP measures, which includes, but is not limited to, price/mix and volume.

Any reference to historical EBITDA means adjusted EBITDA, for which we have provided calculations and reconciliations in the Appendix. "Organic revenue" is U.S. GAAP revenue adjusted for Tennessee Packaging (due to its planned phase-down, which was completed as of year-end 2018), divestitures, and changes in aluminum prices and foreign currency exchange rates relative to prior year period. "Adjusted free cash flow" is cash provided from (used for) operations, less capital expenditures, plus cash receipts from sold receivables.

John Plant Chairman & CEO; Elmer Doty President & COO

- **Appointed Chairman and CEO** effective 2/6/19, expected to be for a period of one year. Has served as Chairman of the Board since October 2017 and has been a member of the Board since February 2016.
- **Track record of shareholder value creation.** Previously served as Chief Executive Officer of TRW Automotive from 2003 to 2015, and Chairman of the Board from 2011 to 2015. TRW employed 65,000 people in approximately 190 major facilities around the world and was ranked among the top 10 automotive suppliers globally.

- **Appointed President and Chief Operating Officer** effective 2/6/19. Has served as a member of the Board since May 2017.
- **Extensive aerospace and defense market experience.** Previously served as President and Chief Executive Officer of Accudyne Industries LLC from 2012 to 2016. Prior to Accudyne, served as President and Chief Executive Officer of Vought Aircraft Industries, Inc. from 2006 to 2010.

4Q and FY 2018 Highlights

Revenue (YoY)

- Revenue up 6% 4Q and 8% FY 2018
  - Organic Revenue up 10% 4Q and 7% FY 2018
  - All key markets remain healthy

Profitability (YoY)

- Operating Income excluding Special Items down 6% in 4Q and down 4% in FY 2018[1]
  - Aluminum price headwind of $36M in 4Q and $94M in FY 2018
  - Operational improvements in Aerospace Engines, Global Rolled Products, and Commercial Transportation
- SG&A excluding Special Items improved from 4.8% of revenue FY 2017 to 4.1% of revenue FY 2018[2]

Balance Sheet and Cash Flow

- Adjusted Free Cash Flow of $465M FY 2018[3]
- Working capital improvement of 8 days to 44 Days Working Capital, $392M annual cash improvement YoY
- Closed on the sale of the idled Texarkana, Texas rolling mill for ~$300M
- Pension / OPEB Net Liability reduction of $476M in 2018 vs. 2017, FY expense reduction of $86M in 2018 vs. 2017
- Cash balance of $2.3B, Liquidity (cash and available credit facilities) of approximately $6.0B
- Net Debt-to-LTM EBITDA of 2.05x, down from 2.34x at 4Q 2017 and 3.38x at 4Q 2016[4]
- Return on Net Assets up 90 bps YoY FY 2018 vs. FY 2017[5]

1) 4Q 2018 Operating income (GAAP) = $323M, 4Q 2017 Operating income (GAAP) = ($433M)
FY 2018 Operating income (GAAP) = $1,325M, FY 2017 Operating income (GAAP) = $480M
2) FY 2018 Selling, general administrative, and other expenses (SG&A) (GAAP) = $604M, FY 2017 SG&A (GAAP) = $715M
3) FY 2018 (GAAP): Cash provided from operations = $217M, Cash used for financing activities = ($649M), Cash provided from investing activities = $565M
4) Adjusted for special items; Last twelve month (LTM) Arconic adjusted EBITDA
5) Based on Net income of $642M and Net income excluding Special items of $676M in FY 2018 and Net loss of $(74M) and Net income excluding special items of $618M in FY 2017

See appendix for reconciliations

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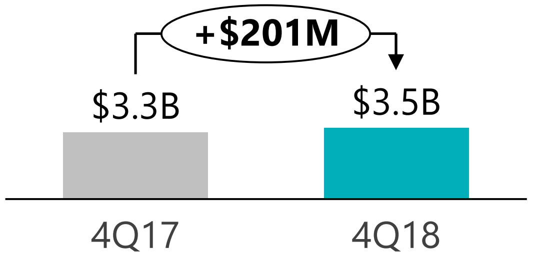
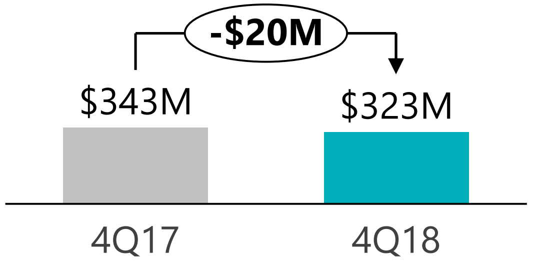
Key Financial Results – 4Q 2018

Revenue[1]



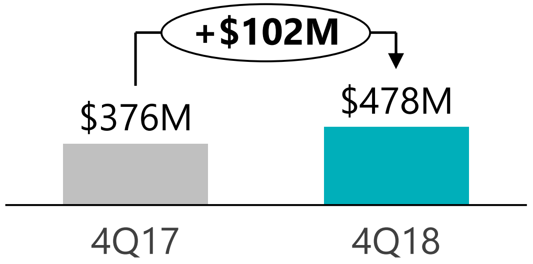
- Revenue increased $201M or 6% YoY
- Organic Revenue increased $306M or 10% YoY, growth in all segments
- All key markets remain healthy

Operating Income Excluding Special Items[2]



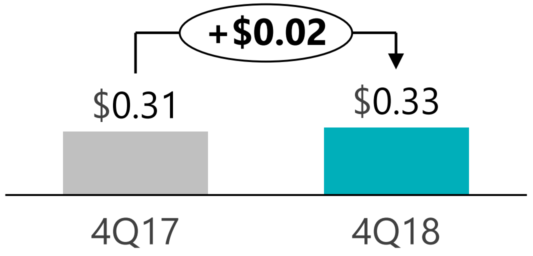
- Volume $56M: Aerospace $32M, CT $10M, Auto $9M, Aerospace Defense $7M
- Aluminum price impact ($36M), primarily non-cash
- Mix ($33M): Aero new product introductions

Adjusted Free Cash Flow[3]



- Days Working Capital 44 days, favorable 8 days YoY, $106M 4Q cash improvement YoY
  - DOH improved 4 days, DPO improved 4 days
- Capex of $271M, two-thirds return seeking

EPS Excluding Special Items[4]



- Pension / OPEB +$0.03
- Operational +$0.02
- Interest expense +$0.02
- Aluminum price ($0.05)

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1) 4Q 2018 Revenue (GAAP) = $3,472M (up 6%), 4Q 2017 Revenue (GAAP) = $3,271M; 2) 4Q 2018 Operating income (GAAP) = $323M, 4Q 2017 Operating income (GAAP) = ($433M); 3) 4Q18 (GAAP): Cash provided from operations = $426M, Cash used for financing activities = ($40M), Cash provided from investing activities = $354M; 4Q17 (GAAP): Cash provided from operations = $334M, Cash used for financing activities = ($45M), Cash provided from investing activities = $41M; 4) 4Q 2018 EPS (GAAP) = $0.44, 4Q 2017 EPS (GAAP) = ($1.51); *See appendix for reconciliations*

Overview of Segment Results – 4Q 2018

	Revenue[1]	Segment Operating Profit[1]	Segment Operating Profit Comments
EP&S	$1,613M *Up 8%* *Up 9% Organic*	$220M *Down 4%, or $8M* *Aluminum price impact +$5M*	+ Aero Engine growth + Aero Defense growth – Manufacturing challenges in Engineered Structures – Aero Engine new product introductions and Aero Fasteners price – Cleveland forging press repairs
GRP	$1,361M *Up 9%* *Up 13% Organic*	$77M *Down 15%, or $14M* *Aluminum price impact ($22M)*	+ Automotive and Commercial Transportation volume + Aerospace and Industrial price – Scrap spreads, non-cash aluminum price impacts – Transportation costs
TCS	$497M *Down 6%* *Up 4% Organic*	$63M *Down 18%, or $14M* *Aluminum price impact ($19M)*	+ Building and Construction and Commercial Transportation volume growth + Net Savings – Pricing pressure in Commercial Transportation – Non-cash aluminum price impacts

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1) Percent changes reflect Year-over-Year changes
See appendix for reconciliations

Fourth Quarter 2018 Key Achievements

EP&S

- Record quarterly revenue
- Aero Engines revenue up 13% YoY
- Aero Defense revenue up 26% YoY

GRP

- Auto organic revenue up 13% YoY[1]
- Commercial Airframe organic revenue up 15% YoY[2]

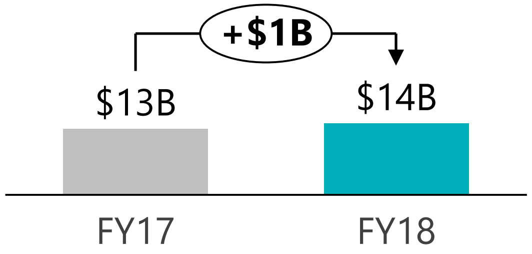
TCS

- Commercial Transportation organic revenue up 6% YoY[3]
- Net savings from SMART manufacturing and equipment efficiency

1) GRP Auto Revenue including Brazing – Reported: 4Q 2018 = $473M; 4Q 2017 = $409M; up 16% 2) GRP Commercial Aerospace Airframe Revenue – Reported: 4Q 2018 = $232M; 4Q 2017 = $201M; up 15% 3) TCS Commercial Transportation Revenue – Reported: 4Q 2018 = $235M; 4Q 2017 = $218M; up 8% *See appendix for reconciliations*

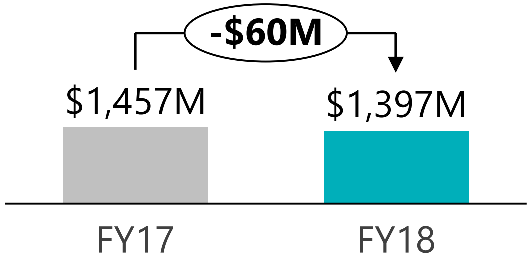
Key Financial Results – FY 2018

Revenue[1]



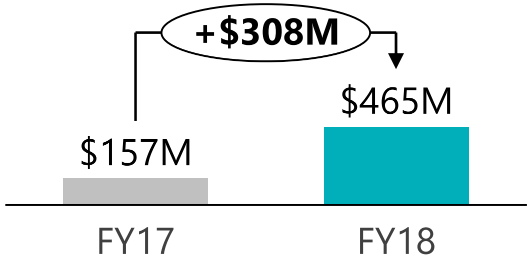
- Revenue increased $1B or 8% YoY, growth in all segments
- Organic revenue increased $843M or 7% YoY
- All key markets remain healthy

Operating Income Excluding Special Items[2]



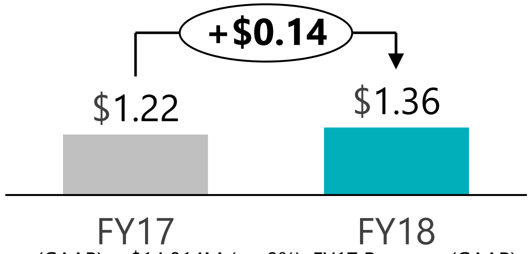
- Volume $195M: Aero $70M, CT $49M, Automotive $42M, Defense $30M
- Mix ($115M): Aero wide body production, Aero new product introductions
- Aluminum ($94M): Approximately one-third non-cash

Adjusted Free Cash Flow[3,4]



- Days Working Capital 44 days, favorable 8 days YoY, $392M annual cash improvement YoY
  - DOH improved 4 days, DPO improved 4 days
- Capex of $768M, two-thirds return seeking

EPS Excluding Special Items[5]



- Pension / OPEB +$0.12
- Interest expense +$0.08
- Tax rate +$0.07
- Aluminum ($0.13)

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1) FY18 Revenue (GAAP) = $14,014M (up 8%), FY17 Revenue (GAAP) = $12,960M; 2) FY18 Operating income (GAAP) = $1,325M, FY17 Operating income (GAAP) = $480M; 3) FY18 (GAAP): Cash provided from operations = $217M, Cash used for financing activities = ($649M), Cash provided from investing activities = $565M; FY17 (GAAP): Cash used for operations = ($39M), Cash used for financing activities = ($1,015M), Cash provided from investing activities = $1,320M; 4) FY 2018 Pension Contributions of $298M and OPEB Payments of $80M; 5) FY18 EPS (GAAP) = $1.30, FY17 EPS (GAAP) = ($0.28);
See appendix for reconciliations

Arconic 2019 Guidance[1]

- \+ Next Gen Aero Engine volume ramp
- \+ Aero price
- \+ Auto Aluminization and Commercial Transportation volume
- \+ Aerospace and Military Aircraft volume
- \+ Industrial volume
- \+ Aluminum price (Operating Income impact)
- \+ Net Cost Savings

- – Aero Engine new product introductions
- – Transportation costs
- – Aluminum scrap spreads
- – Cash:
  - – Pension cash contributions
  - – Aerospace payment terms
  - \+ Inventory days improvement

Revenue	EPS excluding Special Items	Adjusted Free Cash Flow
$14.3B - $14.6B	**$1.55 - $1.65**	**$400M - $500M**
6% - 8% organic growth	*Up 14% - 21%*	

1) Guidance Al price assumption: 2019 Annual Average – $2,400/MT (LME = $1,975/MT; Midwest Premiums = $425/MT)

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2019 Guidance Assumptions

	2018 Actual	2019 Assumption	Sensitivities and Comments
Annual Avg. Al Price	Al prices = $2,530/MT *LME Cash = $2,110/MT* *MWP = $420*	Al prices = $2,400/MT *LME Cash = $1,975/MT* *MWP = $425*	• +$100/MT increase = +~$130M Revenue impact / ~($10M) Operating Income impact • +$100/MT increase = ~($25M) LIFO non-cash impact
Capex	$768M	~$700M	
Tax Rate	Operational tax % = 27.4%[1] Cash tax % = 9%	Operational tax % = 26.5% - 28.5% Cash tax % = ~10%	• Excludes impact of potential transactions
Adj. Interest Expense	$359M[2]	~$360M	• Excludes debt make-whole payments
Depreciation & Amortization	$576M	~$590M	
FX Rates	EUR: USD 1.18, GBP: USD 1.33	EUR: USD 1.13, GBP: USD 1.27	• + 0.10 USD/EUR = ~$120M Revenue / ~$20M Operating Income • + 0.10 USD/GBP = ~$20M Revenue / ~($5M) Operating Income
Diluted Share Count	503M	~505M	• Does not include any potential impact of share repurchases

1) 2018 Effective tax rate = 26.0%
2) 2018 Interest Expense (GAAP) = $378M

See appendix for reconciliations

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Future Direction: Key Focus Areas

- Cost Reduction
- Portfolio
- Share Buyback
- Dividend

Updates will be provided quarterly

Strategy Review Update: Cost Reduction

- Commencing plans to reduce operating costs by ~$200M on an annual run rate basis
- Program launched to maximize 2019 impact

Strategy Review Update: Portfolio Actions

- Separation of the portfolio into:
  - Engineered Products and Forgings
  - Global Rolled Products
- Spin-off of one of the businesses
- SpinCo. determination will be optimized for shareholder returns
- Considering sales of businesses that do not best fit into Engineered Products and Forgings or Global Rolled Products

Strategy Review Update: Capital Allocation

Share Buybacks

- Execute $500M share repurchases in 1H 2019; authorization previously approved by the Board
- The Board has authorized an additional $500M of share repurchases; effective through end of 2020

Total $1B Buyback

Dividend

- Reduce quarterly common stock dividend from $0.06 to $0.02 per share

~$60M[1] cash benefit in 2019; ~$80M[1] cash benefit starting in 2020

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1) Does not take into account any contemplated share repurchases.

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4Q 2018 Special Items

($M)	Income before income taxes	Net Income	Earnings per diluted share
As reported	**$226**	**$218**	**$0.44**
Restructuring-related	$11	$5	
Legal and other advisory costs related to Grenfell Tower	($4)	($3)	
Strategy and portfolio review costs	($7)	($5)	
Discrete and other special tax items	N/A	$59	
Special items	**$0**	**$56**	
Excluding special items	**$226**	**$162**	**$0.33**

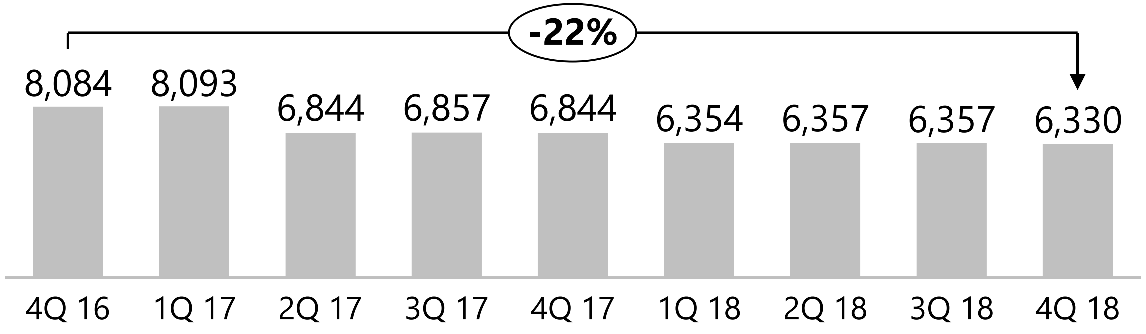
( ) = income to be deducted from As Reported number; + = expense to be added to As Reported number

Capital Structure: $4.1B of Net Debt

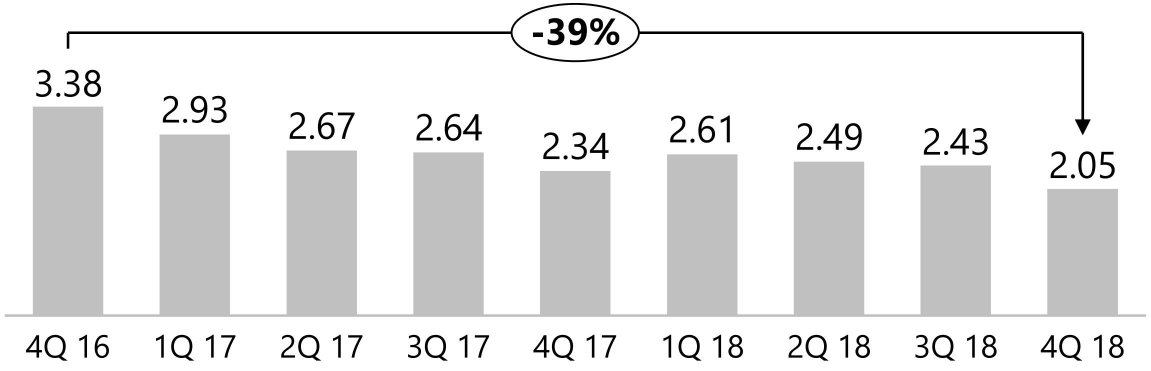
Capitalization at December 31, 2018	
($M)	**Amount**
Cash	$2,277
Gross Debt	$6,330
Net Debt	**$4,053**
Net Debt-to-LTM EBITDA[1]	2.05

Gross Debt ($M)

Paid down $2.5B of debt since Separation on 11/1/2016



Net Debt-to-LTM EBITDA



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1) Adjusted for special items; Last twelve month (LTM) Arconic adjusted EBITDA
See appendix for reconciliations

LIFO (Non Cash) Charges Illustrated

2017	Al Prices ($/MT)[1]	Annual LIFO[2] Estimate ($M)	Annual Estimate To Book YTD	1Q ($M)	2Q ($M)	3Q ($M)	4Q ($M)
1Q	$2,174	($76M)	25%	($19M)	($19M)	($19M)	($19M)
2Q	$2,097	($60M)	50%		($11M)	($11M)	($11M)
3Q	$2,267	($104M)	75%			($48M)	($48M)
4Q	$2,309	($110M)	100%				($32M)
YTD Entry				($19M)	($30M)	($78M)	($110M)

2018	Al Prices ($/MT)[1]	Annual LIFO[2] Estimate ($M)	Annual Estimate To Book YTD	1Q ($M)	2Q ($M)	3Q ($M)	4Q ($M)
1Q	$2,433	($56M)	25%	($14M)	($14M)	($14M)	($14M)
2Q	$2,590	($92M)	50%		($32M)	($32M)	($32M)
3Q	$2,482	($71M)	75%			($7M)	($7M)
4Q	$2,397	($49M)	100%				$4M
YTD Entry				($14M)	($46M)	($53M)	($49M)

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1) LME Aluminum Price + Midwest Premium price used to estimate annual LIFO charge; 4Q uses actual inventory aluminum value
2) Includes (~$25M) annually from elements other than aluminum prices such as other raw materials, labor, and energy

Annual YoY Aluminum Price Headwind

Full Year Aluminum Prices
2018 3Q18 Guidance: $2,561
2018 Actual: $2,530

Year-over-Year Operating Income Impact from Aluminum Price Changes

USD Millions	1Q'18 vs 1Q'17 Actual	2Q'18 vs 2Q'17 Actual	3Q'18 vs 3Q'17 Actual	4Q'18 vs 4Q'17 Actual	Year'18 vs Year'17 Actual	Year'18 vs Year'17 3Q18 Guidance
LIFO[1]/Metal Lag	($2)	($10)	$21	($13)	($4)	~($15)
Trading Desk	($19)	$6	($3)	($14)	($30)	~($20)
Scrap Spreads	($6)	($6)	($11)	($7)	($30)	~($30)
Operational	($10)	($10)	($8)	($2)	($30)	~($35)
Arconic Total	**($37)**	**($20)**	**($1)**	**($36)**	**($94)**	**~($100)**

1) LIFO includes more elements than Aluminum prices such as other raw materials, labor, and energy

Organic Revenue[1] Growth for 4Q 2018

	4Q 2017 ($M)	4Q 2018 ($M)	% Change
Arconic Revenue	$3,271	$3,472	**6%**
less Tennessee Packaging	40	18	
less Latin America Extrusions	29	-	
less Aluminum Price Impact[2]	-	(28)	
less Foreign Currency Impact[2]	-	(26)	
Arconic Revenue, Organic	$3,202	$3,508	**10%**

	4Q 2017 ($M)	4Q 2018 ($M)	% Change
GRP Revenue	$1,247	$1,361	**9%**
less Tennessee Packaging	40	18	
less Aluminum Price Impact[2]	-	(10)	
less Foreign Currency Impact[2]	-	(13)	
GRP Revenue, Organic	$1,207	$1,366	**13%**

	4Q 2017 ($M)	4Q 2018 ($M)	% Change
EP&S Revenue	$1,494	$1,613	**8%**
less Aluminum Price Impact[2]	-	(4)	
less Foreign Currency Impact[2]	-	(6)	
EP&S Revenue, Organic	$1,494	$1,623	**9%**

	4Q 2017 ($M)	4Q 2018 ($M)	% Change
TCS Revenue	$528	$497	**-6%**
less Latin America Extrusions	29	-	
less Aluminum Price Impact[2]	-	(14)	
less Foreign Currency Impact[2]	-	(7)	
TCS Revenue, Organic	$499	$518	**4%**

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1) Organic revenue is U.S. GAAP revenue adjusted for Tennessee packaging (which completed its planned phase-down as of year-end 2018), divestitures, changes in aluminum prices and foreign currency exchange rates relative to prior year period
2) Impacts of changes in aluminum prices and foreign currency exchange rates relative to the prior year period

Aluminum price impacts 4Q 2018 vs. 4Q 2017 and FY 2018 vs. FY 2017

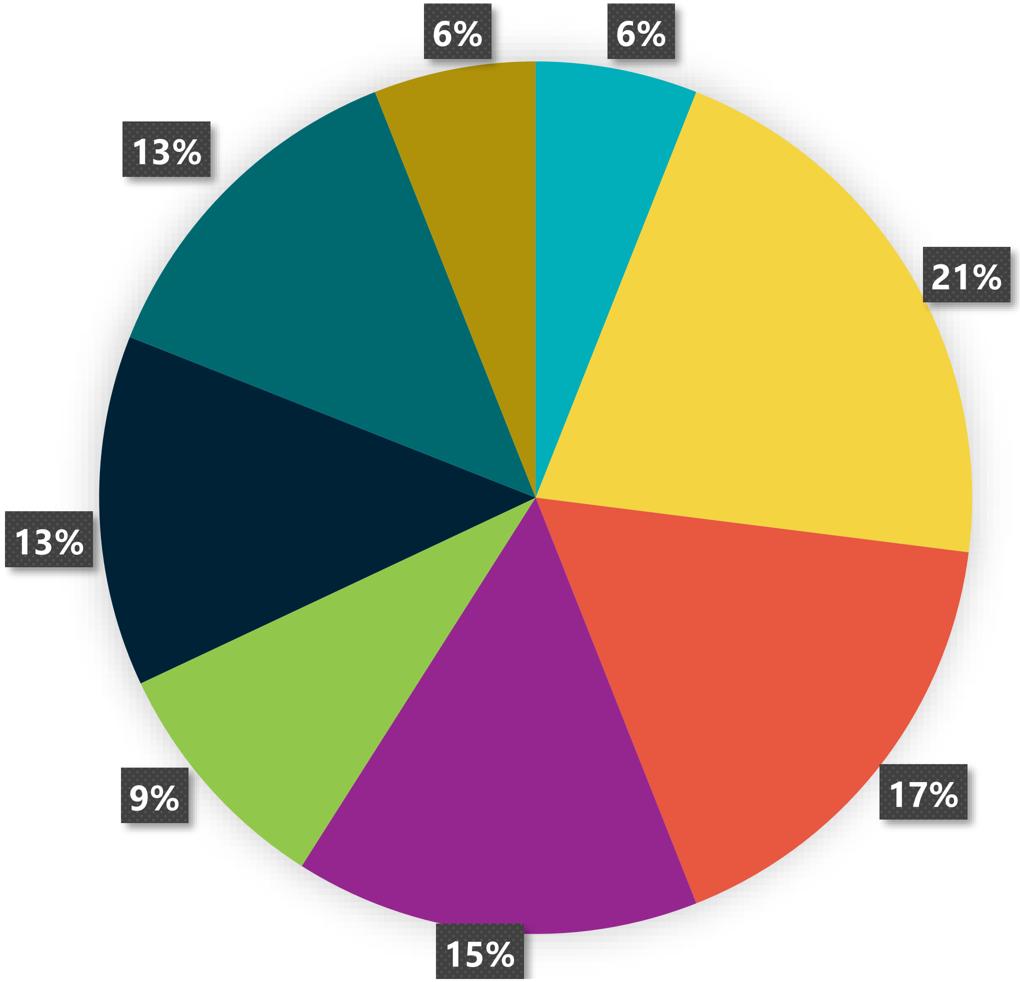
Year-over-Year Impact from Aluminum Price Changes

	4Q 2018		
	Revenue ($M)	Operating Income ($M)	Operating Income %
EP&S	($4)	$5	+30 bps
GRP	($10)	($22)	-150 bps
TCS	($14)	($19)	-330 bps
Arconic	**($28)**	**($36)**	**-100 bps**

	Full Year 2018		
	Revenue ($M)	Operating Income ($M)	Operating Income %
EP&S	($2)	($7)	-10 bps
GRP	$333	($30)	-100 bps
TCS	$7	($57)	-270 bps
Arconic	**$338**	**($94)**	**-90 bps**

Revenue by Market – 4Q 2018

Revenue by Market (% of total)



	Year-over-Year (% change)
Aerospace - Defense	26%
Aerospace - Commercial Airframe	7%
Aerospace - Commercial Engine	13%
Automotive [1]	17%
Building & Construction	(2%)
Commercial Transportation	12%
Industrial & Other [2]	(12%)
Packaging [3]	(6%)

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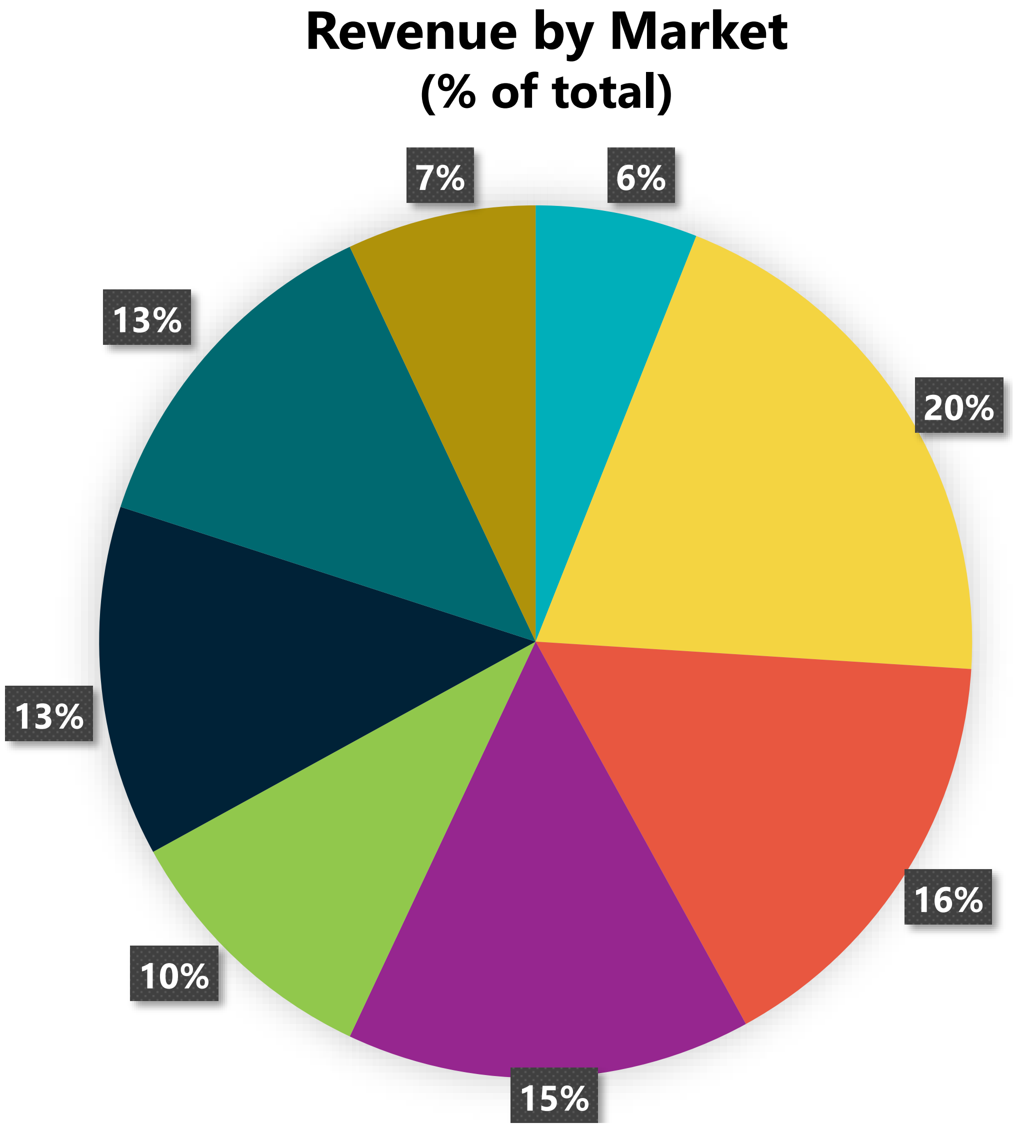
1) Includes Brazing and Automotive sheet 2) Includes Industrial (6%) and IGT (20%) 3) Includes Tennessee Packaging business revenues of $18M in 4Q 2018. Revenues were $40M in 4Q 2017

Revenue by Market – FY 2018



	Year-over-Year (% change)
Aerospace - Defense	27%
Aerospace - Commercial Airframe	0%
Aerospace - Commercial Engine	11%
Automotive [1]	24%
Building & Construction	4%
Commercial Transportation	19%
Industrial & Other [2]	(4%)
Packaging [3]	1%

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1) Includes Brazing and Automotive sheet 2) Includes Industrial +1% and IGT (28%) 3) Includes Tennessee Packaging business revenues of $144M in FY 2018. Revenues were $190M in FY 2017

Reconciliation of Net income excluding Special items

($ in millions, except per-share amounts)	Net income excluding Special items		Diluted EPS excluding Special items	
	Quarter ended		Quarter ended	
	December 31, 2018	December 31, 2017	December 31, 2018	December 31, 2017
Net income (loss)	$218	$(727)	$0.44	$(1.51)
Special items:				
Restructuring and other charges	(11)	47		
Discrete tax items[1]	(64)	220		
Other special items[2]	16	612		
Tax impact[3]	3	—		
Net income excluding Special items	$162	$152	$0.33	$0.31

Net income excluding Special items and Diluted EPS excluding Special items are non-GAAP financial measures. Management believes that these measures are meaningful to investors because management reviews the operating results of Arconic excluding the impacts of Restructuring and other charges, Discrete tax items, and Other special items (collectively, "Special items"). There can be no assurances that additional special items will not occur in future periods. To compensate for this limitation, management believes that it is appropriate to consider both Net income determined under GAAP as well as Net income excluding Special items.

(1) Discrete tax items for each period included the following:

- for the quarter ended December 31, 2018, a benefit related to certain prior year foreign investment losses no longer recapturable ($74), a benefit to record prior year adjustments in various jurisdictions ($17), a benefit to release valuation allowances and revalue deferred taxes due to current year tax law and tax rate changes in various U.S. states ($12), a benefit to recognize the tax impact of prior year foreign losses in continuing operations that were supported by foreign income in other comprehensive income ($6), partially offset by a charge from the Company's finalized analysis of the U.S. Tax Cuts and Jobs Act of 2017 ($45); and
- for the quarter ended December 31, 2017, a charge resulting from the enactment of the U.S. Tax Cuts and Jobs Acts of 2017 that principally relates to the revaluation of U.S. deferred tax assets and liabilities from 35% to 21% ($272), charge for a reserve against a foreign attribute resulting from the Company's Delaware reincorporation ($23), partially offset by a benefit for the reversal of state valuation allowances ($69) and a number of small items ($6).

(2) Other special items for each period included the following:

- for the quarter ended December 31, 2018, strategy and portfolio review costs ($7), legal and other advisory costs related to Grenfell Tower ($4), a charge for a number of small tax items ($4), and an other charge ($1); and
- for the quarter ended December 31, 2017, an impairment of goodwill related to the forgings and extrusions business ($719), a favorable adjustment to the Firth Rixson earn-out ($81), a favorable adjustment to a separation-related guarantee liability ($25), legal and other advisory costs related to Grenfell Tower ($7), costs associated with the Company's Delaware reincorporation ($3), a favorable tax impact resulting from the difference between Arconic's consolidated estimated annual effective tax rate and the statutory rate applicable to special items ($6), a favorable tax impact related to the interim period treatment of operational income in certain foreign jurisdictions for which no tax expense was recognized ($5).

(3) The tax impact on special items is based on the applicable statutory rates whereby the difference between such rates and Arconic's consolidated estimated annual effective tax rate is itself a Special item.

The average number of shares applicable to diluted EPS excluding Special items, includes certain share equivalents as their effect was dilutive. For all periods presented, share equivalents associated with outstanding employee stock options and awards and shares underlying outstanding convertible debt (acquired through the acquisition of RTI) were dilutive based on Net income excluding Special items.

Reconciliation of Net income excluding Special items

($ in millions, except per-share amounts)	Net income excluding Special items		Diluted EPS excluding Special items	
	Year ended		Year ended	
	December 31, 2018	December 31, 2017	December 31, 2018	December 31, 2017
Net income (loss)	$642	$(74)	$1.30	$(0.28)
Special items:				
Restructuring and other charges	9	165		
Discrete tax items[1]	(15)	223		
Other special items[2]	59	264		
Tax impact[3]	(19)	40		
Net income excluding Special items	$676	$618	$1.36	$1.22

Net income excluding Special items and Diluted EPS excluding Special items are non-GAAP financial measures. Management believes that these measures are meaningful to investors because management reviews the operating results of Arconic excluding the impacts of Restructuring and other charges, Discrete tax items, and Other special items (collectively, "Special items"). There can be no assurances that additional special items will not occur in future periods. To compensate for this limitation, management believes that it is appropriate to consider both Net income determined under GAAP as well as Net income excluding Special items.

(1) Discrete tax items for each period included the following:

- for the year ended December 31, 2018, a benefit related to certain prior year foreign investment losses no longer recapturable ($74); a benefit to reverse a foreign tax reserve that is effectively settled ($38), a benefit to release valuation allowances and revalue deferred taxes due to current year tax law and tax rate changes in various U.S. states ($12), a benefit to record prior year adjustments in various jurisdictions ($7), a benefit to recognize the tax impact of prior year foreign losses in continuing operations that were supported by foreign income in other comprehensive income ($6), partially offset by a charge to establish a tax reserve in Spain ($60); a net charge resulting from the Company's finalized analysis of the U.S. Tax Cuts and Jobs Acts of 2017 ($59); and a net charge for a number of small items ($3); and
- for the year ended December 31, 2017, a charge resulting from the enactment of the U.S. Tax Cuts and Jobs Acts of 2017 that principally relates to the revaluation of U.S. deferred tax assets and liabilities from 35% to 21% ($272), charge for a reserve against a foreign attribute resulting from the Company's Delaware reincorporation ($23), partially offset by a benefit for the reversal of state valuation allowances ($69) and a number of small items ($3).

(2) Other special items for each period included the following:

- for the year ended December 31, 2018, costs related to settlements of certain customer claims primarily related to product introductions ($38), a benefit from establishing a tax indemnification receivable ($29) reflecting Alcoa Corporation's 49% share of the Spanish tax reserve, costs related to the early redemption of the Company's outstanding 5.720% Senior Notes due 2019 ($19), legal and other advisory costs related to Grenfell Tower ($18), strategy and portfolio review costs ($7), a charge for a number of small tax items ($5), and an other charge ($1); and
- for the year ended December 31, 2017, an impairment of goodwill related to the forgings and extrusions business ($719), a gain on the sale of a portion of Arconic's investment in Alcoa Corporation common stock ($351), a gain on the exchange of the remaining portion of Arconic's investment in Alcoa Corporation common stock ($167), a favorable adjustment to the Firth Rixson earn-out ($81), costs associated with the Company's early redemption of $1,250 of outstanding senior notes ($76), proxy, advisory, and governance-related costs ($58), a favorable adjustment to a separation-related guarantee liability ($25), costs associated with the separation of Alcoa Inc. ($18), legal and other advisory costs related to Grenfell Tower ($14), and costs associated with the Company's Delaware reincorporation ($3).

(3) The tax impact on special items is based on the applicable statutory rates whereby the difference between such rates and Arconic's consolidated estimated annual effective tax rate is itself a Special item.

The average number of shares applicable to diluted EPS excluding Special items, includes certain share equivalents as their effect was dilutive. For all periods presented, share equivalents associated with outstanding employee stock options and awards and shares underlying outstanding convertible debt (acquired through the acquisition of RTI) were dilutive based on Net income excluding Special items.

For the year ended December 31, 2017, share equivalents associated with mandatory convertible preferred stock were anti-dilutive based on Net income excluding Special items.

Reconciliation of Operational Tax Rate

($ in millions)	Quarter ended December 31, 2018			Year ended December 31, 2018		
	As reported	Special items[1]	As adjusted	As reported	Special items[1]	As adjusted
Income before income taxes	$226	$1	$227	$868	$63	$931
Provision for income taxes	8	57	65	226	29	255
Operational tax rate	3.5%		28.6%	26.0%		27.4%

Operational tax rate is a non-GAAP financial measure. Management believes that this measure is meaningful to investors because management reviews the operating results of Arconic excluding the impacts of Special items. There can be no assurances that additional Special items will not occur in future periods. To compensate for this limitation, management believes that it is appropriate to consider both the Effective tax rate determined under GAAP as well as the Operational tax rate.

(1) See Net income excluding Special items reconciliation for a description of Special items.

Calculation of Engineered Products and Solutions Segment Operating Profit Margin

($ in millions)	1Q17	2Q17	3Q17	4Q17	2017	1Q18	2Q18	3Q18	4Q18	2018
Segment operating profit[(1)]	$247	$250	$239	$228	$964	$221	$212	$238	$220	$891
Third-party sales	$1,487	$1,485	$1,477	$1,494	$5,943	$1,541	$1,596	$1,566	$1,613	$6,316
Segment operating profit margin	16.6%	16.8%	16.2%	15.3%	16.2%	14.3%	13.3%	15.2%	13.6%	14.1%

In the first quarter of 2018, the Company changed its primary measure of segment performance from Adjusted EBITDA to Segment operating profit. Arconic's definition of Segment operating profit is Operating income (loss) excluding Special items. Special items include Restructuring and other charges, and Impairment of goodwill. Segment operating profit may not be comparable to similarly titled measures of other companies. Prior period amounts have been recast to conform to current period presentation.

Segment operating profit also includes certain items which under the previous segment performance measure were recorded in Corporate, such as the impact of LIFO inventory accounting, metal price lag, intersegment profit eliminations, and derivative activities.

(1) Segment operating profit in the second quarter of 2018 included the impact of a $23 charge related to a physical inventory adjustment at one plant.

Calculation of Global Rolled Products Segment Operating Profit Margin

($ in millions)	1Q17	2Q17	3Q17	4Q17	2017	1Q18	2Q18	3Q18	4Q18	2018
Segment operating profit	$136	$133	$64	$91	$424	$112	$123	$74	$77	$386
Third-party sales	$1,248	$1,271	$1,234	$1,247	$5,000	$1,366	$1,451	$1,426	$1,361	$5,604
Segment operating profit margin	10.9%	10.5%	5.2%	7.3%	8.5%	8.2%	8.5%	5.2%	5.7%	6.9%
Third-party aluminum shipments (kmt)	310	307	297	283	1,197	308	315	318	308	1,249

In the first quarter of 2018, the Company changed its primary measure of segment performance from Adjusted EBITDA to Segment operating profit. Arconic's definition of Segment operating profit is Operating income (loss) excluding Special items. Special items include Restructuring and other charges, and Impairment of goodwill. Segment operating profit may not be comparable to similarly titled measures of other companies. Prior period amounts have been recast to conform to current period presentation.

Segment operating profit also includes certain items which under the previous segment performance measure were recorded in Corporate, such as the impact of LIFO inventory accounting, metal price lag, intersegment profit eliminations, and derivative activities.

Calculation of Transportation and Construction Solutions Segment Operating Profit Margin

($ in millions)	1Q17	2Q17	3Q17	4Q17	2017	1Q18	2Q18	3Q18	4Q18	2018
Segment operating profit	$68	$71	$74	$77	$290	$67	$97	$77	$63	$304
Third-party sales	$456	$504	$523	$528	$2,011	$537	$562	$530	$497	$2,126
Segment operating profit margin	14.9%	14.1%	14.1%	14.6%	14.4%	12.5%	17.3%	14.5%	12.7%	14.3%

In the first quarter of 2018, the Company changed its primary measure of segment performance from Adjusted EBITDA to Segment operating profit. Arconic's definition of Segment operating profit is Operating income (loss) excluding Special items. Special items include Restructuring and other charges, and Impairment of goodwill. Segment operating profit may not be comparable to similarly titled measures of other companies. Prior period amounts have been recast to conform to current period presentation.

Segment operating profit also includes certain items which under the previous segment performance measure were recorded in Corporate, such as the impact of LIFO inventory accounting, metal price lag, intersegment profit eliminations, and derivative activities.

Calculation of Total Segment Operating Profit Margin

($ in millions)	1Q17	2Q17	3Q17	4Q17	2017	1Q18	2Q18	3Q18	4Q18	2018
Sales – Engineered Products and Solutions	$1,487	$1,485	$1,477	$1,494	$5,943	$1,541	$1,596	$1,566	$1,613	$6,316
Sales – Global Rolled Products	1,248	1,271	1,234	1,247	5,000	1,366	1,451	1,426	1,361	5,604
Sales – Transportation and Construction Solutions	456	504	523	528	2,011	537	562	530	497	2,126
Total segment sales	$3,191	$3,260	$3,234	$3,269	$12,954	$3,444	$3,609	$3,522	$3,471	$14,046
Total segment operating profit[1]	$451	$454	$377	$396	$1,678	$400	$432	$389	$360	$1,581
Total segment operating profit margin	14.1%	13.9%	11.7%	12.1%	13.0%	11.6%	12.0%	11.0%	10.4%	11.3%

In the first quarter of 2018, the Company changed its primary measure of segment performance from Adjusted EBITDA to Segment operating profit. Arconic's definition of Segment operating profit is Operating income (loss) excluding Special items. Special items include Restructuring and other charges, and Impairment of goodwill. Segment operating profit may not be comparable to similarly titled measures of other companies. Prior period amounts have been recast to conform to current period presentation.

Segment operating profit also includes certain items which under the previous segment performance measure were recorded in Corporate, such as the impact of LIFO inventory accounting, metal price lag, intersegment profit eliminations, and derivative activities.

(1) See Reconciliation of Total segment operating profit to Consolidated income (loss) before income taxes.

Reconciliation of Total segment operating profit to Consolidated income (loss) before income taxes

($ in millions)	1Q17	2Q17	3Q17	4Q17	2017	1Q18	2Q18	3Q18	4Q18	2018
Total segment operating profit[1]	$451	$454	$377	$396	$1,678	$400	$432	$389	$360	$1,581
Unallocated amounts:										
Restructuring and other charges	(73)	(26)	(19)	(47)	(165)	(7)	(15)	2	11	(9)
Impairment of goodwill	—	—	—	(719)	(719)	—	—	—	—	—
Corporate expense[2]	(95)	(108)	(48)	(63)	(314)	(60)	(93)	(46)	(48)	(247)
Consolidated operating income (loss)	283	320	310	(433)	480	333	324	345	323	1,325
Interest expense[3]	(115)	(183)	(100)	(98)	(496)	(114)	(89)	(88)	(87)	(378)
Other income (expense), net[4]	316	132	(38)	76	486	(20)	(41)	(8)	(10)	(79)
Consolidated income (loss) before income taxes	$484	$269	$172	$(455)	$470	$199	$194	$249	$226	$868

In the first quarter of 2018, the Company changed its primary measure of segment performance from Adjusted EBITDA to Segment operating profit. Arconic's definition of Segment operating profit is Operating income (loss) excluding Special items. Special items include Restructuring and other charges, and Impairment of goodwill. Segment operating profit may not be comparable to similarly titled measures of other companies. Prior period amounts have been recast to conform to current period presentation.

Segment operating profit also includes certain items which under the previous segment performance measure were recorded in Corporate, such as the impact of LIFO inventory accounting, metal price lag, intersegment profit eliminations, and derivative activities.

The difference between certain segment totals and consolidated amounts is Corporate.

(1) For the quarter ended June 30, 2018, Segment operating profit for the Engineered Products and Solutions segment included the impact of a $23 charge related to a physical inventory adjustment at one plant.

(2) For the quarter ended March 31, 2017, Corporate expense included $18 of costs associated with the separation of Alcoa Inc. and $16 of proxy, advisory and governance-related costs. For the quarter ended June 30, 2017, Corporate expense included $42 of proxy, advisory and governance-related costs. For the quarter ended June 30, 2018, Corporate expense included $38 of costs related to settlements of certain customer claims primarily related to product introductions.

(3) For the quarter ended June 30, 2017, Interest expense included $76 related to the early redemption of the Company's 2018 Senior Notes and a portion of the Company's outstanding 5.720% Senior Notes due 2019. For quarter ended March 31, 2018, Interest expense included $19 related to the early redemption of the Company's outstanding 5.720% Senior Notes due 2019.

(4) For the quarter ended March 31, 2017, Other income (expense), net included a $351 gain on the sale of a portion of Arconic's investment in Alcoa Corporation common stock. For the quarter ended June 30, 2017, Other income (expense), net included a $167 gain on the exchange of Arconic's remaining investment in Alcoa Corporation common stock for a portion of the Company's outstanding 2018 Senior Notes. For the quarter ended December 31, 2017, Other income (expense), net included favorable adjustments of $81 to the Firth Rixson earn-out and $25 to a separation-related guarantee liability.

Reconciliation of Operating Income Excluding Special Items and Operating Income Margin, Excluding Special Items

($ in millions)	1Q17	2Q17	3Q17	4Q17	2017	1Q18	2Q18	3Q18	4Q18	2018
Operating income (loss)	$283	$320	$310	$(433)	$480	$333	$324	$345	$323	$1,325
Special items:										
Restructuring and other charges	73	26	19	47	165	7	15	(2)	(11)	9
Impairment of goodwill	—	—	—	719	719	—	—	—	—	—
Separation costs	18	—	—	—	18	—	—	—	—	—
Proxy, advisory and governance-related costs	16	42	—	—	58	—	—	—	—	—
Delaware reincorporation costs	—	—	—	3	3	—	—	—	—	—
Legal and other advisory costs related to Grenfell Tower	—	—	7	7	14	5	4	5	4	18
Strategy and portfolio review costs	—	—	—	—	—	—	—	—	7	7
Settlements of certain customer claims primarily related to product introductions	—	—	—	—	—	—	38	—	—	38
Operating income excluding Special items	$390	$388	$336	$343	$1,457	$345	$381	$348	$323	$1,397
Sales	$3,192	$3,261	$3,236	$3,271	$12,960	$3,445	$3,573	$3,524	$3,472	$14,014
Operating income margin	8.9%	9.8%	9.6%	(13.2)%	3.7%	9.7%	9.1%	9.8%	9.3%	9.5%
Operating income margin, excluding Special items	12.2%	11.9%	10.4%	10.5%	11.2%	10.0%	10.7%	9.9%	9.3%	10.0%

Operating income excluding Special items and Operating income margin, excluding Special items are non-GAAP financial measures. Management believes that these measures are meaningful to investors because management reviews the operating results of Arconic excluding the impacts of Special items. There can be no assurances that additional Special items will not occur in future periods. To compensate for this limitation, management believes that it is appropriate to consider both Operating income determined under GAAP as well as Operating income excluding Special items.

Reconciliation of Adjusted Free Cash Flow

($ in millions)	1Q17	2Q17	3Q17	4Q17	2017	1Q18	2Q18	3Q18	4Q18	2018
Cash (used for) provided from operations	$(395)	$79	$(57)	$334	$(39)	$(436)	$176	51	426	217
Cash receipts from sold receivables	95	190	229	278	792	136	284	273	323	1,016
Capital expenditures	(103)	(126)	(131)	(236)	(596)	(117)	(171)	(209)	(271)	(768)
Adjusted free cash flow	$(403)	$143	$41	$376	$157	$(417)	$289	$115	$478	$465

Accounting guidance effective in 2018 changed the classification of Cash receipts from sold receivables in the cash flow statement, reclassifying it from operating activities to investing activities. Under the prior accounting guidance, Cash receipts from sold receivables were included in (increase) decrease in receivables in the operating activities section of the statement of cash flows.

Net cash funding from the sale of accounts receivables has remained unchanged at $350 million each quarter since the first quarter of 2016.

There has been no change in the net cash funding in the sale of accounts receivable program in the fourth quarter of 2018. It remains at $350.

Adjusted free cash flow is a non-GAAP financial measure. Management believes that this measure is meaningful to investors because management reviews cash flows generated from operations after taking into consideration capital expenditures (due to the fact that these expenditures are considered necessary to maintain and expand Arconic's asset base and are expected to generate future cash flows from operations), as well as cash receipts from net sales of beneficial interest in sold receivables. In conjunction with the implementation of the new accounting guidance on changes to the classification of certain cash receipts and cash payments within the statement of cash flows, specifically as it relates to the requirement to reclassify cash receipts from net sales of beneficial interest in sold receivables from operating activities to investing activities, the Company has changed the calculation of its measure of Adjusted free cash flow to include cash receipts from net sales of beneficial interest in sold receivables. This change to our measure of Adjusted free cash flow is being implemented to ensure consistent presentation of this measure across all historical periods. The adoption of this accounting guidance does not reflect a change in our underlying business or activities. It is important to note that Adjusted free cash flow does not represent the residual cash flow available for discretionary expenditures since other non-discretionary expenditures, such as mandatory debt service requirements, are not deducted from the measure.

Reconciliation of Organic Revenue

($ in millions)	Quarter ended December 31,		Quarter ended September 30,		Year ended December 31,	
	2018	2017	2018	2017	2018	2017
Arconic						
Sales – Arconic	$3,472	$3,271	$3,524	$3,236	$14,014	$12,960
Less:						
Sales – Tennessee packaging	18	40	37	45	144	190
Sales – Fusina rolling mill	—	—	—	—	—	54
Sales – Latin America extrusions	—	29	—	30	25	115
Aluminum price impact	(28)	n/a	108	n/a	338	n/a
Foreign currency impact	(26)	n/a	(15)	n/a	63	n/a
Arconic Organic revenue	$3,508	$3,202	$3,394	$3,161	$13,444	$12,601
Engineered Products and Solutions (EP&S)						
Sales	$1,613	$1,494	$1,566	$1,477	$6,316	$5,943
Less:						
Aluminum price impact	(4)	n/a	(1)	n/a	(2)	n/a
Foreign currency impact	(6)	n/a	(1)	n/a	33	n/a
EP&S Organic revenue	$1,623	$1,494	$1,568	$1,477	$6,285	$5,943
Global Rolled Products (GRP)						
Sales	$1,361	$1,247	$1,426	$1,234	$5,604	$5,000
Less:						
Sales – Tennessee packaging	18	40	37	45	144	190
Sales – Fusina rolling mill	—	—	—	—	—	54
Aluminum price impact	(10)	n/a	106	n/a	333	n/a
Foreign currency impact	(13)	n/a	(10)	n/a	1	n/a
GRP Organic revenue	$1,366	$1,207	$1,293	$1,189	$5,126	$4,756
Transportation and Construction Solutions (TCS)						
Sales	$497	$528	$530	$523	$2,126	$2,011
Less:						
Sales – Latin America extrusions	—	29	—	30	25	115
Aluminum price impact	(14)	n/a	3	n/a	7	n/a
Foreign currency impact	(7)	n/a	(4)	n/a	29	n/a
TCS Organic revenue	$518	$499	$531	$493	$2,065	$1,896

Organic revenue is a non-GAAP financial measure. Management believes this measure is meaningful to investors as it presents revenue on a comparable basis for all periods presented due to the impact of the ramp-down and Toll Processing and Services Agreement with Alcoa Corporation at the North America packaging business at its Tennessee operations, the sale of the Fusina, Italy rolling mill, the sale of Latin America extrusions, and the impact of changes in aluminum prices and foreign currency fluctuations relative to the prior year periods.

Reconciliation of Net Debt

($ in millions)	December 31, 2018	September 30, 2018	June 30, 2018	March 31, 2018	December 31, 2017	September 30, 2017	June 30, 2017	March 31, 2017	December 31, 2016
Short-term debt	$434	$42	$45	$45	$38	$55	$48	$47	$40
Long-term debt, less amount due within one year	5,896	6,315	6,312	6,309	6,806	6,802	6,796	8,046	8,044
Total debt	6,330	6,357	6,357	6,354	6,844	6,857	6,844	8,093	8,084
Less: Cash and cash equivalents	2,277	1,535	1,455	1,205	2,150	1,815	1,785	2,553	1,863
Net debt	$4,053	$4,822	$4,902	$5,149	$4,694	$5,042	$5,059	$5,540	$6,221

Net debt is a non-GAAP financial measure. Management believes that this measure is meaningful to investors because management assesses Arconic's leverage position after factoring in available cash that could be used to repay outstanding debt.

Reconciliation of Net debt to Adjusted EBITDA Excluding Special Items

($ in millions)	Trailing-12 months ended								
	December 31, 2018	**September 30, 2018**	**June 30, 2018**	**March 31, 2018**	**December 31, 2017**	**September 30, 2017**	**June 30, 2017**	**March 31, 2017**	**December 31, 2016**
Net income (loss) attributable to Arconic	$ 642	$ (303)	$ (345)	$ (253)	$ (74)	$ (605)	$ (558)	$ (635)	$ (941)
Discontinued operations	—	—	—	—	—	(33)	(133)	(215)	(121)
Income (loss) from continuing operations after income taxes and non-controlling interests	$ 642	$ (303)	$ (345)	$ (253)	$ (74)	$ (638)	$ (691)	$ (850)	$ (1,062)
Add:									
Provision for income taxes	226	490	455	438	544	1,518	1,521	1,587	1,477
Other expense (income), net	79	(7)	23	(150)	(486)	(435)	(453)	(298)	42
Interest expense	378	389	401	495	496	526	552	493	499
Restructuring and other charges	9	67	88	99	165	240	224	212	155
Impairment of goodwill	—	719	719	719	719	—	—	—	—
Provision for depreciation and amortization	576	568	567	560	551	543	539	535	535
Adjusted EBITDA	$ 1,910	$ 1,923	$ 1,908	$ 1,908	$ 1,915	$ 1,754	$ 1,692	$ 1,679	$ 1,646
Add:									
Separation costs	$ —	$ —	$ —	$ —	$ 18	$ 94	$ 148	$ 193	$ 193
Proxy, advisory and governance-related costs	—	—	—	42	58	58	58	16	—
Legal and other advisory costs related to Grenfell Tower	18	21	23	19	14	7	—	—	—
Settlements of certain customer claims primarily related to product introductions	38	38	38	—	—	—	—	—	—
Strategy and portfolio review costs	7	—	—	—	—	—	—	—	—
Delaware reincorporation costs	—	3	3	3	3	—	—	—	—
Adjusted EBITDA excluding Special items	$ 1,973	$ 1,985	$ 1,972	$ 1,972	$ 2,008	$ 1,913	$ 1,898	$ 1,888	$ 1,839
Net debt	$ 4,053	$ 4,822	$ 4,902	$ 5,149	$ 4,694	$ 5,042	$ 5,059	$ 5,540	$ 6,221
Net debt to Adjusted EBITDA excluding Special items	2.05	2.43	2.49	2.61	2.34	2.64	2.67	2.93	3.38

Arconic’s definition of Adjusted EBITDA (Earnings before interest, taxes, depreciation, and amortization) is net margin plus an add-back for depreciation and amortization. Net margin is equivalent to Sales minus the following items: Cost of goods sold; Selling, general administrative, and other expenses; Research and development expenses; and Provision for depreciation and amortization. Management believes that this measure is meaningful to investors because it provides additional information with respect to Arconic’s operating performance and the Company’s ability to meet its financial obligations. The Adjusted EBITDA presented may not be comparable to similarly titled measures of other companies.

Net debt is a non-GAAP financial measure. Management believes that this measure is meaningful to investors because management assesses Arconic’s leverage position after factoring in available cash that could be used to repay outstanding debt.

Reconciliation of Return on Net Assets (RONA)

($ in millions)	Year ended December 31, 2018	2017
Net income (loss)	$642	$(74)
Special items[1]	34	692
Net income excluding Special items	$676	$618
Net Assets:		
Add: Receivables from customers, less allowances	$1,047	$1,035
Add: Deferred purchase program[2]	234	187
Add: Inventories	2,492	2,480
Less: Accounts payable, trade	2,129	1,839
Working capital	1,644	1,863
Properties, plants, and equipment, net (PP&E)	5,704	5,594
Net assets - total	$7,348	$7,457
RONA	9.2%	8.3%

RONA is a non-GAAP financial measure. RONA is calculated as Net income excluding Special items divided by working capital and net PP&E. Management believes that this measure is meaningful to investors as RONA helps management and investors determine the percentage of net income the company is generating from its assets. This ratio tells how effectively and efficiently the company is using its assets to generate earnings.

(1) See Reconciliation of Net income excluding Special items for a description of Special items.

(2) The Deferred purchase program relates to an arrangement to sell certain customer receivables to several financial institutions on a recurring basis. Arconic is adding back the receivable for the purposes of the Working capital calculation.

Reconciliation of Days Working Capital

($ in millions)	Quarter ended December 31, 2018		Quarter ended December 31, 2017	
Receivables from customers, less allowances	$	1,047	$	1,035
Add: Deferred purchase program[1]		234		187
Add: Inventories		2,492		2,480
Less: Accounts payable, trade		2,129		1,839
Working capital	$	1,644	$	1,863
Sales	$	3,472	$	3,271
Days Working Capital		44		52

Days Working Capital is a non-GAAP financial measure and is calculated as Working Capital / (Sales / number of days in quarter). Management believes that this measure is meaningful to investors because Days Working Capital reflects the capital tied up during a given quarter.

(1) The Deferred purchase program relates to an arrangement to sell certain customer receivables to several financial institutions on a recurring basis. Arconic is adding back the receivable for the purposes of the Working capital calculation.

Reconciliation of Days On Hand and Days Payables Outstanding

Reconciliation of Days On Hand

($ in millions)	Quarter ended December 31, 2018	Quarter ended December 31, 2017
Inventories	$ 2,492	$ 2,480
Sales	$ 3,472	$ 3,271
Days on hand	66	70

Reconciliation of Days Payables Outstanding

($ in millions)	Quarter ended December 31, 2018	Quarter ended December 31, 2017
Accounts payable, trade	$ 2,129	$ 1,839
Sales	$ 3,472	$ 3,271
Days payable outstanding	56	52

Days on hand is a non-GAAP financial measure and is calculated as Inventory / (Sales / number of days in quarter). Management believes that this measure is meaningful to investors because Days on hand reflects the capital tied up in inventory during a given quarter. Days payable outstanding is a non-GAAP financial measure and is calculated as Accounts payable, trade / (Sales / number of days in quarter). Management believes that this measure is meaningful to investors because Days payable outstanding reflects the capital tied up in accounts payable during a given quarter.

Reconciliation of Global Rolled Products Auto[1] and Commercial Airframe Organic Revenue

Reconciliation of Global Rolled Products (GRP) Auto[1] Organic Revenue

($ in millions)	4Q18	4Q17
GRP Auto[1] Revenue	$473	$409
Aluminum price impact	12	n/a
Foreign currency impact	(1)	n/a
GRP Auto[1] Organic Revenue	$462	$409

GRP auto [1] organic revenue is a non-GAAP financial measure. Management believes this measure is meaningful to investors as it presents GRP auto revenue on a comparable basis for all periods presented due to the impact of changes in aluminum prices and foreign currency fluctuations relative to the prior year period.

Reconciliation of GRP Commercial Airframe Organic Revenue

($ in millions)	4Q18	4Q17
GRP Commercial Airframe Revenue	$232	$201
Aluminum price impact	1	n/a
GRP Commercial Airframe Organic Revenue	$231	$201

GRP commercial airframe organic revenue is a non-GAAP financial measure. Management believes this measure is meaningful to investors as it presents GRP commercial airframe revenue on a comparable basis for all periods presented due to the impact of changes in aluminum prices and foreign currency fluctuations relative to the prior year period.

1) Includes Brazing and Automotive Sheet

Reconciliation of Transportation and Construction Solutions Commercial Transportation Organic Revenue

($ in millions)	4Q18	4Q17
TCS Commercial Transportation Revenue	$235	$218
Aluminum price impact	8	n/a
Foreign currency impact	(4)	n/a
TCS Commercial Transportation Organic Revenue	$231	$218

TCS commercial transportation organic revenue is a non-GAAP financial measure. Management believes this measure is meaningful to investors as it presents TCS commercial transportation revenue on a comparable basis for all periods presented due to the impact of changes in aluminum prices and foreign currency fluctuations relative to the prior year period.

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Reconciliation of Adjusted SGA Excluding Special Items

($ in millions)	2018	2017
Sales	$14,014	$12,960
Selling, general administrative, and other expense (SG&A)	604	715
SG&A % of sales	4.3%	5.5%
Special items:		
Separation costs	$—	$18
Proxy, advisory and governance-related costs	—	58
Delaware reincorporation costs	—	3
Legal and other advisory costs related to Grenfell Tower	18	14
Strategy and portfolio review costs	7	—
Adjusted SG&A excluding Special items	$579	$622
Adjusted SG&A excluding Special items as a % of Sales	4.1%	4.8%

Adjusted SG&A excluding Special items is a non-GAAP financial measure. Management believes that this measure is meaningful to investors because Adjusted SG&A excluding Special items is more reflective of historical SG&A cost performance.

Calculation of Cash Benefit of Days Working Capital Improvement

	Quarter ended		Year ended	
($ in millions)	December 31, 2018	December 31, 2017	December 31, 2018	December 31, 2017
Statement of Consolidated Cash Flow line items:				
(Increase) in receivables	$(122)	$(123)	$(1,142)	$(915)
(Increase) in inventories	110	(24)	(74)	(192)
Increase in accounts payable, trade	82	156	339	62
Cash receipts from sold receivables	323	278	1,016	792
Cash Benefit of Days Working Capital Improvement	$393	$287	$139	$(253)

Arconic's definition of the cash benefit of days working capital improvement is calculated by adding the increase in receivables, inventories, and accounts payable, trade and the cash receipts from sold receivables from the Statement of Consolidated Cash Flows. This measure is meaningful as it quantifies the cash impact of the days working capital improvement.

Reconciliation of Adjusted Interest Expense Excluding Special Items

($ in millions)	2018	2017
Interest expense	378	496
Special items:		
Costs associated with early redemption of bonds	$19	$76
Adjusted Interest expense excluding Special items	$359	$420

Adjusted Interest expense excluding Special items is a non-GAAP financial measure. Management believes that this measure is meaningful to investors because Adjusted Interest expense excluding Special items is more reflective of historical interest cost performance.

Reconciliation of Operating Income Excluding Special Items and Aluminum Price Impacts

	Quarter ended		Year ended	
($ in millions)	**December 31, 2018**	**December 31, 2017**	**December 31, 2018**	**December 31, 2017**
Operating income (loss)	$323	$(433)	$1,325	$480
Special items:				
Restructuring and other charges	(11)	47	9	165
Impairment of goodwill	—	719	—	719
Separation costs	—	—	—	18
Proxy, advisory and governance-related costs	—	—	—	58
Delaware reincorporation costs	—	3	—	3
Legal and other advisory costs related to Grenfell Tower	4	7	18	14
Strategy and portfolio review costs	7	—	7	—
Settlements of certain customer claims primarily related to product introductions	—	—	38	—
Operating income excluding Special items	323	343	1,397	1,457
Less: aluminum price impacts	(36)	n/a	(94)	n/a
Operating income excluding Special items and aluminum price impacts	$359	$343	$1,491	$1,457

Operating income excluding Special items and aluminum price impacts is a non-GAAP financial measure. Management believes that this measure is meaningful to investors because management reviews the operating results of Arconic excluding the impacts of Special items and aluminum price impacts. There can be no assurances that additional Special items will not occur in future periods. To compensate for this limitation, management believes that it is appropriate to consider both Operating income determined under GAAP as well as Operating income excluding Special items and aluminum price impacts.

Reconciliation of Corporate Expense Excluding Special Items

($ in millions)	1Q17	2Q17	3Q17	4Q17	2017	1Q18	2Q18	3Q18	4Q18	2018
Corporate expense	$95	$108	$48	$63	$314	$60	$93	$46	$48	$247
Special items:										
Separation costs	18	—	—	—	18	—	—	—	—	—
Proxy, advisory and governance-related costs	16	42	—	—	58	—	—	—	—	—
Delaware reincorporation costs	—	—	—	3	3	—	—	—	—	—
Legal and other advisory costs related to Grenfell Tower	—	—	7	7	14	5	4	5	4	18
Strategy and portfolio review costs	—	—	—	—	—	—	—	—	7	7
Settlements of certain customer claims primarily related to product introductions	—	—	—	—	—	—	38	—	—	38
Corporate expense excluding Special items	$61	$66	$41	$53	$221	$55	$51	$41	$37	$184

Corporate expense excluding Special items is a non-GAAP financial measure. Management believes that this measure is meaningful to investors because management reviews the operating results of Arconic excluding the impacts of Special items. There can be no assurances that additional Special items will not occur in future periods. To compensate for this limitation, management believes that it is appropriate to consider both Corporate expense determined under GAAP as well as Corporate expense excluding Special items.