

***Producing Quality Products Since 1929 — Always Moving Forward!***



**AEROFIN**  
Heat Transfer Products



**BUFFALO**  
AIR HANDLING



**Buffalo**pumps

# ***Investor Presentation***

May 2021

# Disclaimer



**Forward-Looking Statements** - The Private Securities Litigation Reform Act of 1995 (the “Act”) provides a safe harbor for forward-looking statements made by or on behalf of Ampco-Pittsburgh Corporation (the “Corporation”). This presentation may include, but is not limited to, statements about operating performance, trends, events that the Corporation expects or anticipates will occur in the future, statements about sales and production levels, restructurings, the impact from global pandemics (including COVID-19), profitability and anticipated expenses, future proceeds from the exercise of outstanding warrants, and cash outflows. All statements in this document other than statements of historical fact are statements that are, or could be, deemed “forward-looking statements” within the meaning of the Act and words such as “may,” “will,” “intend,” “believe,” “expect,” “anticipate,” “estimate,” “project,” “forecast” and other terms of similar meaning that indicate future events and trends are also generally intended to identify forward-looking statements. Forward-looking statements speak only as of the date on which such statements are made, are not guarantees of future performance or expectations, and involve risks and uncertainties. For the Corporation, these risks and uncertainties include, but are not limited to: cyclical demand for products and economic downturns; excess global capacity in the steel industry; fluctuations of the value of the U.S. dollar relative to other currencies; increases in commodity prices or shortages of key production materials; consequences of global pandemics (including COVID-19); changes in the existing regulatory environment; new trade restrictions and regulatory burdens associated with “Brexit”; inability of the Corporation to successfully restructure its operations; limitations in availability of capital to fund the Corporation’s operations and strategic plan; inoperability of certain equipment on which the Corporation relies; work stoppage or another industrial action on the part of any of the Corporation’s unions; liability of the Corporation’s subsidiaries for claims alleging personal injury from exposure to asbestos-containing components historically used in certain products of those subsidiaries; inability to satisfy the continued listing requirements of the New York Stock Exchange or NYSE American; failure to maintain an effective system of internal control; potential attacks on information technology infrastructure and other cyber-based business disruptions; and those discussed more fully elsewhere in this report and in documents filed with the Securities and Exchange Commission by the Corporation, particularly in Item 1A, Risk Factors, in Part I of the Corporation’s latest Annual Report on Form 10-K. The Corporation cannot guarantee any future results, levels of activity, performance or achievements. In addition, there may be events in the future that the Corporation may not be able to predict accurately or control which may cause actual results to differ materially from expectations expressed or implied by forward-looking statements. Except as required by applicable law, the Corporation assumes no obligation, and disclaims any obligation, to update forward-looking statements whether as a result of new information, events or otherwise.

**Non-GAAP Financial Measures** – The Corporation presents certain non-GAAP financial measures, including adjusted (loss) income from continuing operations and EBITDA, as supplemental financials measure to GAAP financial measures regarding the Corporation’s operational performance and profitability. These non-GAAP financial measures exclude certain unusual items affecting comparability, as described more fully in the footnotes to the attached non-GAAP financial measures reconciliation schedules which reconcile to the most directly comparable GAAP financial measure.

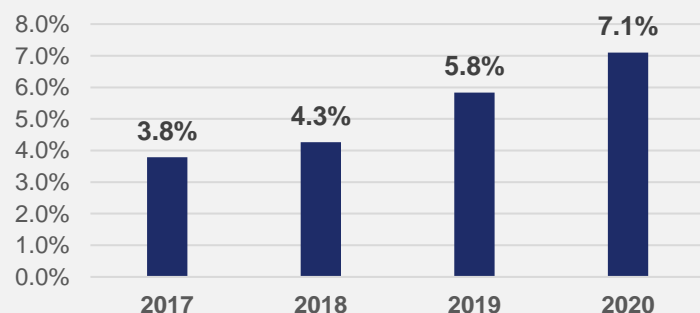
The Corporation has presented non-GAAP adjusted (loss) income from continuing operations, adjusted EBITDA and net debt-to-adjusted EBITDA ratio because they are key measures used by the Corporation’s management and Board of Directors to understand and evaluate the Corporation’s operating performance, to develop operational goals for managing the business, and to understand and evaluate the Corporation’s profitability from its core operations before the effects from its debt structure, non-cash items and non-recurring items, and to assess its degree of leverage. Management believes these non-GAAP financial measures provide useful information to investors and others in understanding and evaluating the operating results of the Corporation, enhancing the overall understanding of the Corporation’s past performance and future prospects, allowing for greater transparency with respect to key financial metrics used by management in its financial and operational decision-making, and assessing profitability from its core operations. Non-GAAP adjusted (loss) income from continuing operations, EBITDA and should be used only as a supplement to GAAP information, should be read in conjunction with the Corporation’s consolidated financial statements prepared in accordance with GAAP, and should not be considered in isolation of, or as an alternative to, measures prepared in accordance with GAAP.

There are limitations related to the use of non-GAAP adjusted (loss) income from continuing operations, rather than GAAP (loss) income from continuing operations, and EBITDA. Among other things, the Excess Costs of Avonmore, which are excluded from the non-GAAP financial measures, necessarily reflect judgments made by management in allocating manufacturing and operating costs between Avonmore and the Corporation’s other operations and in anticipating how the Corporation will conduct business following the sale of Avonmore, which was completed on September 30, 2019. EBITDA is defined as net (loss) income attributable to Ampco-Pittsburgh (the most directly comparable GAAP measure) before income taxes, other (income) expense including interest expense, depreciation and amortization and other certain unusual items, as footnoted.

## Ampco-Pittsburgh (NYSE:AP) (NYSE: AP-WS)

Year Founded	<b>1929</b>
Number of Employees	<b>1,533</b>
2020 Revenue	<b>\$ 329 Million</b>
Market Cap <i>(as of 5/10/2021)</i>	<b>\$137 Million</b>

## Adjusted EBITDA Margin Improvement

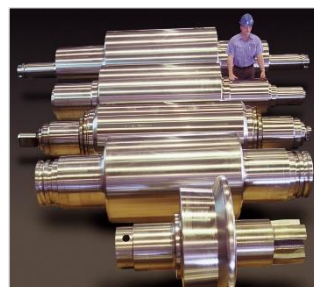


## Revenue Mix

**~ 72%**  
Forged and Cast  
Engineered  
Products



**~ 28%**  
Air and Liquid  
Processing



**#1 in U.S. & #1 European  
producer of forged and  
cast rolls**



**#1 U.S. producer of heat exchangers**  
for Nuclear Power Generation



**#1 producer of pumps**  
for U.S. Navy Combat Ships

# Investment Highlights



## #1 or #2 player in defensible niche markets

- # 1 in Europe #1 in the United States
- Growing position in other niche industrial markets

## Sustainable improvements in financial performance

- Exited non-profitable businesses, increasing asset utilization, improving efficiencies
- Expanded adjusted EBITDA margin from 3.8% to 7.1% during past three years
- Generated positive net income and cash flow during COVID pandemic

## Organic growth initiatives to diversify revenue mix

- Introduce new products utilizing existing forging assets
- Expand addressable market by threefold
- Diversify end markets

## Air and Liquid Segment offers stable & attractive returns

- A decade of consistent approx. 8-12% operating income margin performance
- \$10 million operating income from this segment during 2020
- Barriers to entry: mission-critical functions across demanding end markets

## Near-Term Financial Goals:

- Operating leverage and further efficiencies to drive double-digit EBITDA margin
- \$450 million in Revenue
- \$25 million in Net Income



# *Forged and Cast Engineered Products Segment*

# Market Share Leader in Forged & Cast Rolls



## Forged and Cast Engineered Products



**72%**  
of Revenue Mix



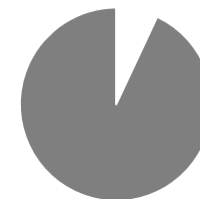
**#1 in U.S. & #1 European producer of forged and cast rolls**



**Forged engineered products** used in automotive tooling, plastic injection molding, infrastructure, general industrial, and oil & gas.

**\$238M**

2020 Net segment sales



**96%** of segment sales



**4%** of segment sales

## Key roll customers:



posco

Novelis



# Competitive Advantages

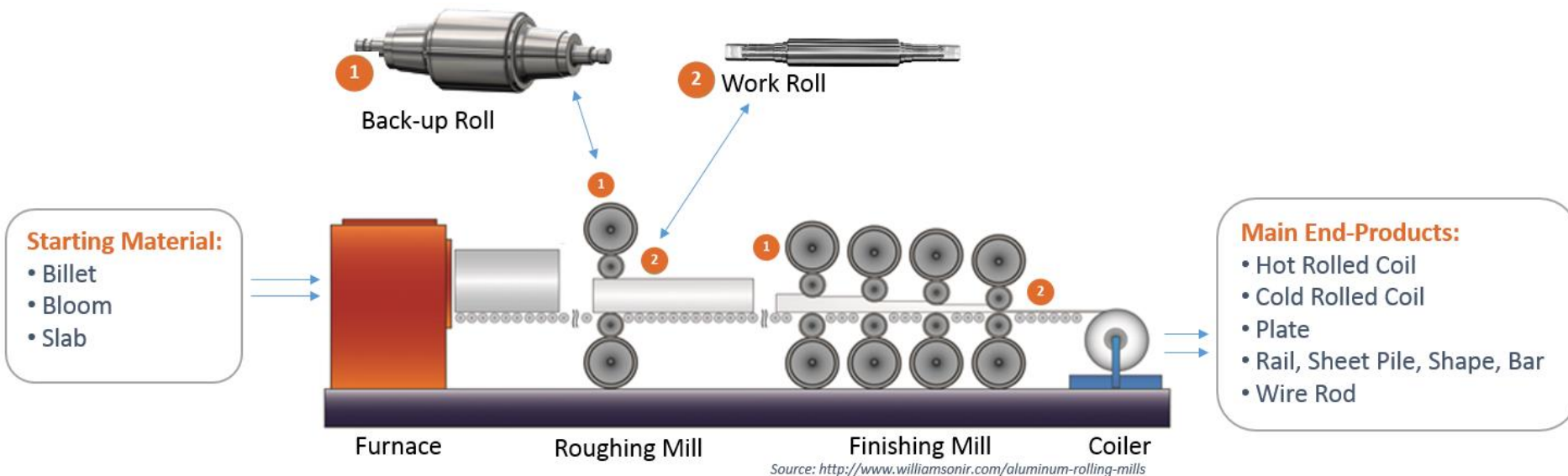


The Industry's Needs	Union Electric Steel's Solutions
<input type="checkbox"/> Over 75% of aluminum and steel products require rolling	<input checked="" type="checkbox"/> The largest, non-government owned roll manufacturer in the world
<input type="checkbox"/> Wide range of roll types required for varying applications	<input checked="" type="checkbox"/> Provides the most diverse range of roll types and chemistries in the industry
<input type="checkbox"/> Rolls require customization to meet mill demands and characteristics	<input checked="" type="checkbox"/> Integrated melting and heat treatment with global technical support



# What is a “Roll”?

## Consumable for rolled steel and aluminum production

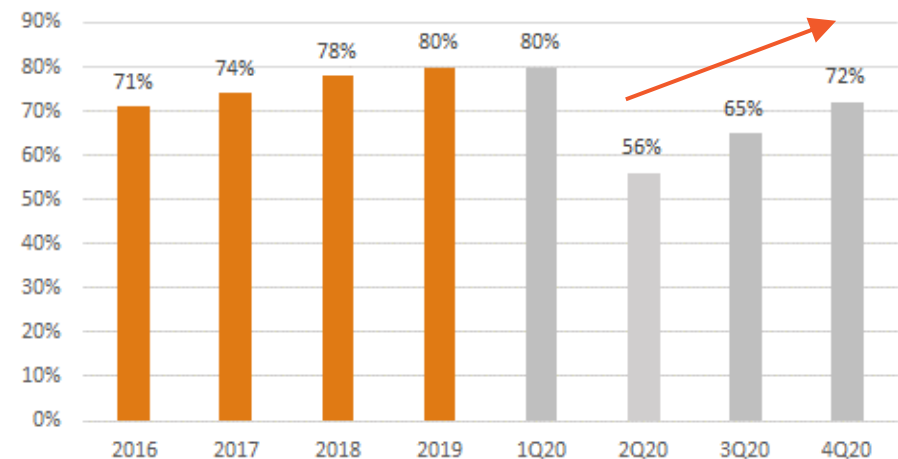


- A sheet of metal will pass through a series of rolls, flattening the metal **like a rolling pin** until the required thickness and profile is achieved.
- Rolls are **consumables**; our customers provide the **“razor” (the mill)**; we provide the **“blade” (the roll)**.
- **Over 75%** of steel and aluminum products require rolling.





## Steel Mill Production Utilization

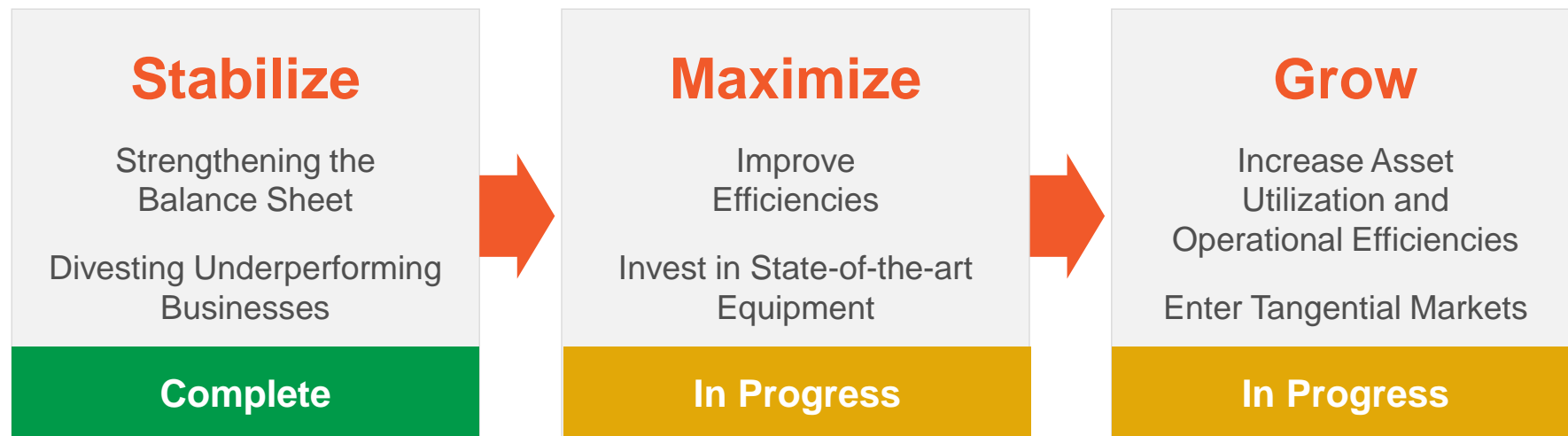


Source: AISI

# A Fresh Start for Ampco-Pittsburgh



## Turn Around Stages



	2017	2020	3-Year Goal
Revenue <sup>1</sup>	\$385 Million	\$329 Million	\$450 Million
Net Income (loss)	\$(12 Million)	\$8 Million	> \$25 Million
Adjusted EBITDA Margin <sup>3</sup>	3.8%	7.1%	Double-Digit
Net Debt <sup>2</sup> / Adj-EBITDA <sup>3</sup>	3.3x	0.9x	<1.5x

<sup>1</sup>Net sales, from continuing operations.

<sup>2</sup>Net Debt is a non-GAAP term and reflects total debt less cash. See attached non-GAAP reconciliation schedules.

<sup>3</sup>Adjusted EBITDA and Adjusted EBITDA Margin are non-GAAP terms. See attached non-GAAP reconciliation schedules.

# A Fresh Start for Ampco-Pittsburgh

## Improving Profitability



### New Leadership

- Brett McBrayer introduced as new CEO in July 2018 with a focus on improving operational performance, reducing complexity, and rightsizing the business for future growth and profitability
- Sam Lyon appointed segment president with new plans to reduce costs, streamline operations, and improve product mix

### Divest Underperforming Businesses

- Sold specialized parts and service provider to North American rolling mills, **Vertical Seal**
- Sold Canadian specialty steel operations, **ASW Steel**
- Sold North American cast roll operations, **Akers National Roll**



Total proceeds of **\$15M**  
~ **\$9-10M** annual cost savings

### European Cast Roll Efficiencies

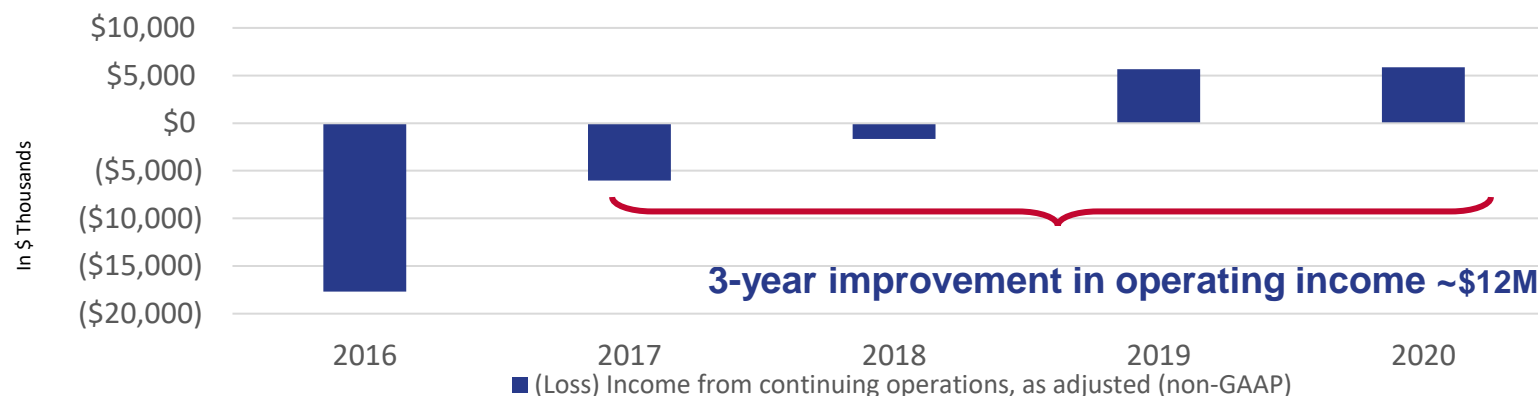


~ **\$3-4M** cost reduction

### Cost Structure



~ **24%** decrease in SG&A vs. 2017



\*\*Excludes a charge of \$32.910 million for estimated costs of asbestos-related litigation through 2052, the estimated date by which the Corporation expects to have settled all asbestos-related claims, net of estimated insurance recoveries

# A Fresh Start for Ampco-Pittsburgh

## Strengthening the Balance Sheet



### Net Debt<sup>1</sup> / Adjusted EBITDA<sup>2</sup> below 1X

Net cash flows provided by operating activities = \$33.6M in 2020

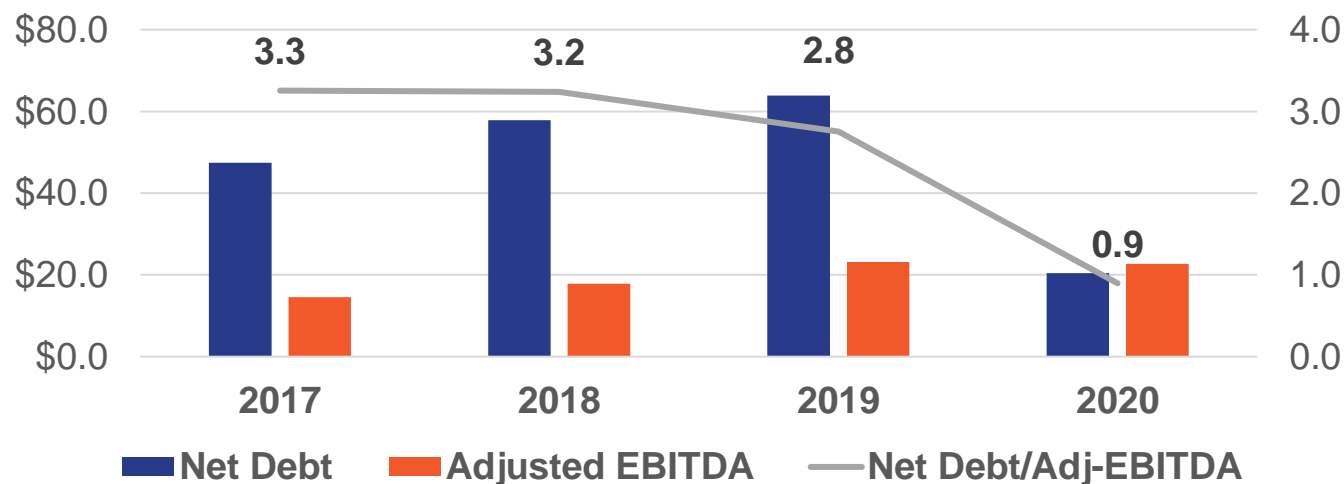
Gross proceeds from rights offering = \$19.3M in 2020

Proceeds from sale of underperforming assets = \$15.2M

### Additional Liquidity at 12/31/20

Revolving Credit Line = \$48M availability

5.5M shares from Warrants @ \$5.75 exercise price = ~\$32M potential capacity



<sup>1</sup> Net Debt is a non-GAAP Term and reflects total debt less cash. See attached non-GAAP reconciliation schedules.

<sup>2</sup> Adjusted EBITDA is a non-GAAP Term. See attached non-GAAP reconciliation schedules.



## Modernize Production Assets

- Replace single-purpose machines with multi-purpose machines
- Increased automated processes



## Expand Addressable Markets

- Leverage forged roll production assets to manufacture and enter new open-die markets
  - Increase non-roll open-die forged engineered products (**FEP**) business by threefold

### Capital Investment of ~\$27M

**Replace single-purpose machines with multi-purpose machines**

**Expand heat treatment capacity for FEP**

- ✓ Efficiency Improvements
- ✓ Working Capital Reduction
- ✓ Labor Savings
- ✓ Transportation Savings
- ✓ Repair & Maintenance Savings
- ✓ Overhead Savings

***~24 to 30 Month Timeline – Machine OEM Dependent***

**Annual Cost Savings of ~ \$7.5M PLUS**  
**Enables ~ \$5.0M EBITDA on incremented FEP Sales**

# Resuming Growth and Meaningful Profitability

## Expanding the Addressable Markets



### Enter new End Markets

Open-die Forged Engineered  
Products Market = **\$800M +**

#### Diversified Mix of Industries

Aerospace	Tool & Tie
Heavy Industry	Mechanical Engineering
Oil & Gas	Energy

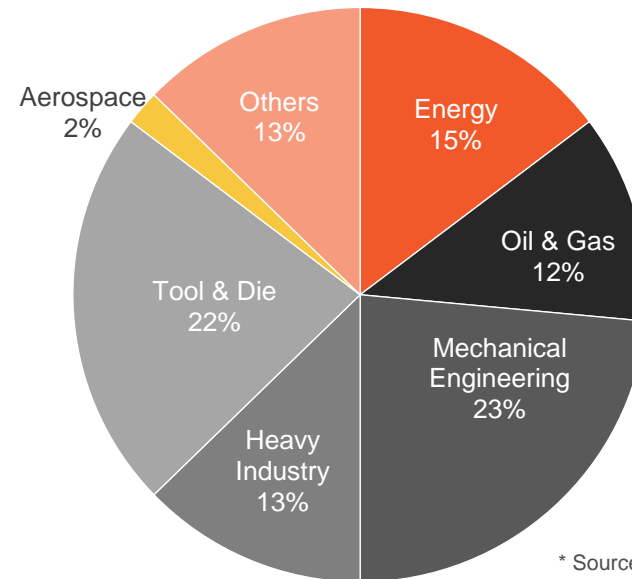
### Global Roll Demand\*

~ \$2B Annually  
2/3 Cast Rolls  
1/3 Forged Rolls  
Over 3,900 Rolling Mills

Union Electric Steel **services more than 50%**  
of the world's rolling mills\*

\* Based on 2020 UES Marketing and Sales estimates

FEP open-die forgings  
are used in **a variety of  
industries:**



\* Source: SMR Premium GmbH

Manufacturing requirements for open-die  
forge market are **a strong match**  
for our manufacturing assets

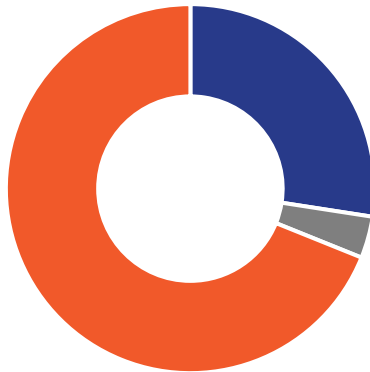


# Resuming Growth and Meaningful Profitability

## Expanding the Addressable Market



Revenue Mix  
2020



■ Air and Liquid ■ FEP ■ Forged and Cast Rolls

Revenue Mix  
2023



■ Air and Liquid ■ FEP ■ Forged and Cast Rolls

**Expect threefold increase in  
FEP open-die forging through new end markets**

Less reliance on steel market cycles

Increased capacity utilization

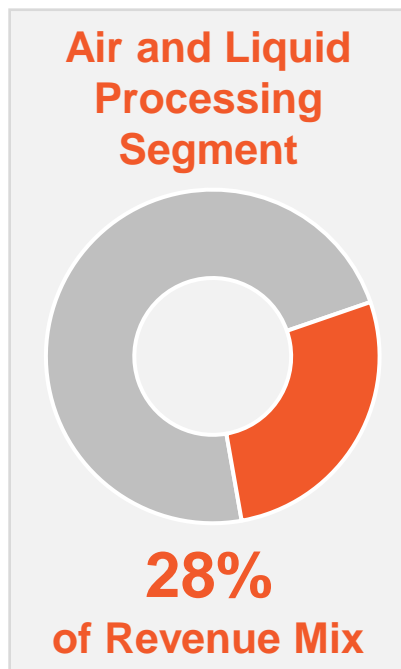
Incremental revenue opportunities



# ***Air and Liquid Processing Segment***

# Air and Liquid Processing Segment

## Leading Player in Niche Markets



### Heat exchangers and heat transfer products

Used in nuclear power, industrial process and HVAC



### Large custom air handling systems

Used in commercial, institutional and industrial buildings

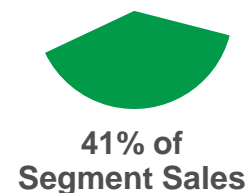
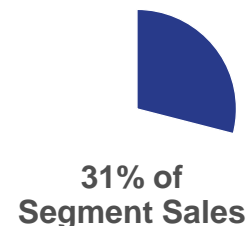


### Centrifugal pumps

Used in commercial refrigeration, power generation, and marine defense.

**\$91M**

2020 Net segment sales



**#1**

Pumps for U.S. Navy combat ships

**#1**

Heat exchangers for N.A. Nuclear Power Generation

**Preferred Supplier**

Air handling for operating rooms & MRI Labs

**Principal Supplier**

Pharmaceutical and biotechnology critical air handling applications

# Air and Liquid Processing Segment

## Key Customers



# Mission-Critical Functions Across Demanding End Markets

**AEROFIN**  
Heat Transfer Products



**BUFFALO**  
AIR HANDLING



**Buffalopumps**



# Competitive Advantages



The Industry's Needs	Air and Liquid Processing's Solutions
<input type="checkbox"/> High quality and reliability that meet strict industry certification requirements	<input checked="" type="checkbox"/> <b>Trusted source</b> for research and medical labs, military, and the nuclear industry
<input type="checkbox"/> Ease of selection for custom applications from one source	<input checked="" type="checkbox"/> <b>Proprietary software</b> for quick and customizable solutions
<input type="checkbox"/> Solutions-driven engineering from a trusted brand	<input checked="" type="checkbox"/> <b>In-house engineering</b> with longstanding industry experience



# Air and Liquid Processing Segment

Resilient Financial Performance Throughout Economic Cycles  
and COVID-19



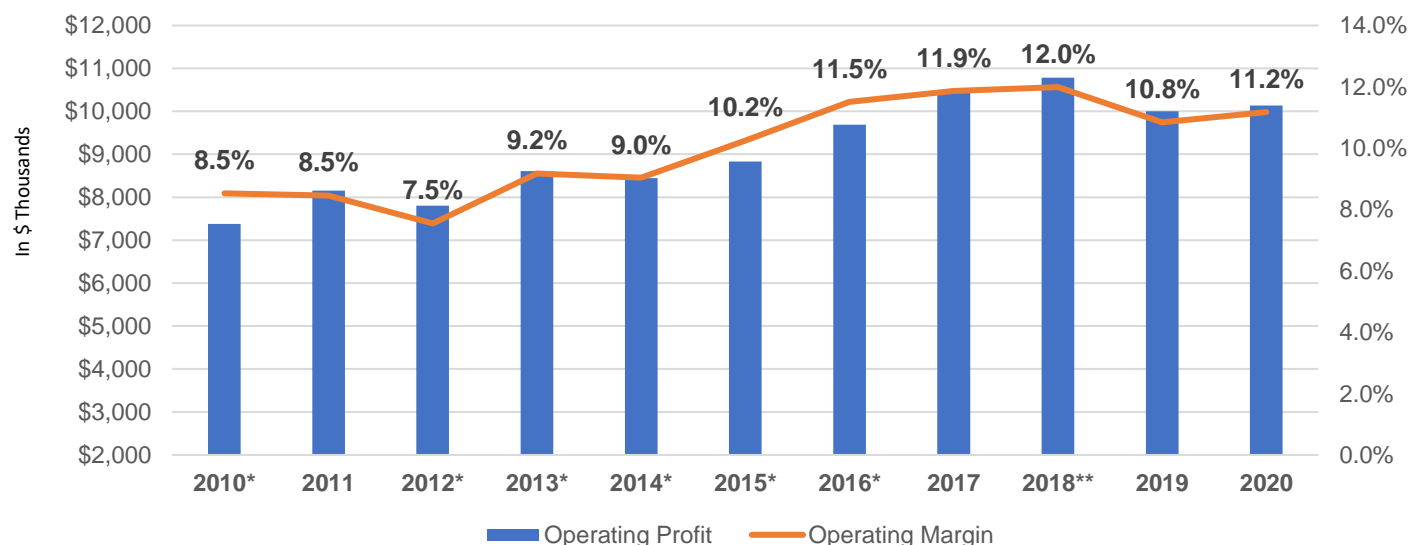
A decade of  
**consistently  
generating  
8% to 12%**  
operating income  
margin

**\$10 million**  
operating income  
from this segment  
during 2020

Asset Light Model  
**\$38 million in  
production  
assets\*\*\***  
< \$1 million in  
annual capex

**#1 position**  
in end markets

Barriers to entry  
in mission-critical



\* Excludes the following net pre-tax (charges) recoveries for asbestos-related litigation and asbestos-related insurance recoveries, in \$ thousands: 2010 (\$19,980); 2012 (\$540); 2013 \$16,340; 2014 (\$4,487); 2015 \$14,333; 2016 (\$4,565).

\*\* Excludes a charge of \$32,910 thousand for estimated costs of asbestos-related litigation through 2052, the estimated date by which we expect to have settled all asbestos-related claims, net of estimated insurance recoveries.

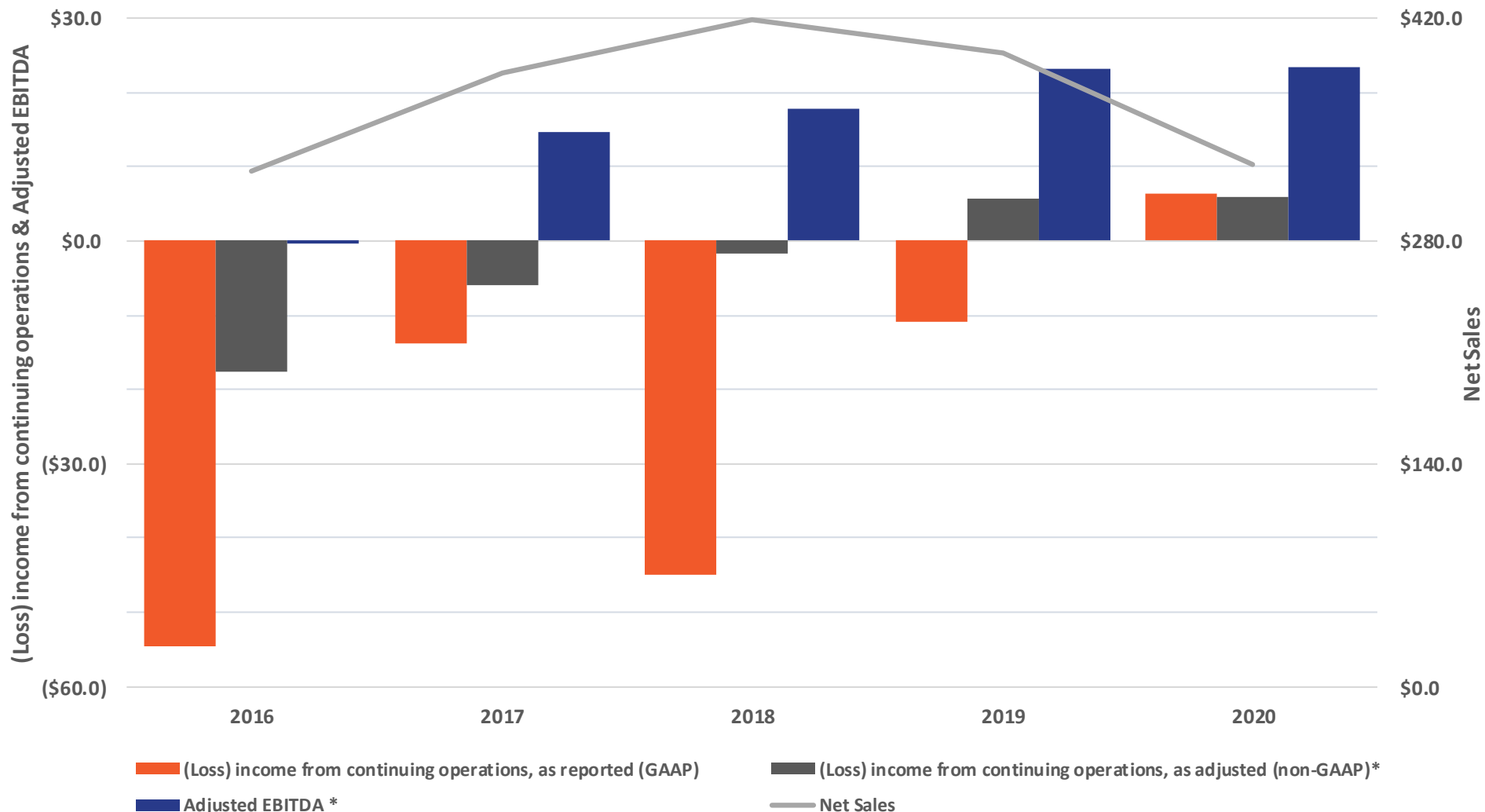
\*\*\* Identifiable Assets of \$156,322 thousand in 2020 less asbestos-related insurance receivables of \$117,937 thousand.



# *Summary Financials*

# Consolidated Financial Trend Improvement

(\$MM's)



\* See non-GAAP Reconciliation Schedule in the Appendix

# Investment Highlights



## #1 or #2 player in defensible niche markets

- # 1 in Europe #1 in the United States
- Growing position in other niche industrial markets

## Sustainable improvements in financial performance

- Exited non-profitable businesses, increasing asset utilization, improving efficiencies
- Expanded adjusted EBITDA margin from 3.8% to 7.1% during past three years
- Generated positive net income and cash flow during COVID pandemic

## Organic growth initiatives to diversify revenue mix

- Introduce new products utilizing existing forging assets
- Expand addressable market by threefold
- Diversify end markets

## Air and Liquid Segment offers stable & attractive returns

- A decade of consistent approx. 8-12% operating income margin performance
- \$10 million operating income from this segment during 2020
- Barriers to entry: mission-critical functions across demanding end markets

## Near-Term Financial Goals:

- Operating leverage and further efficiencies to drive double-digit EBITDA margin
- \$450 million in Revenue
- \$25 million in Net Income

# *Thank You*

[ampcopgh.com](http://ampcopgh.com)

# *Appendix*

# Ampco-Pittsburgh Global Footprint

**Union Electric Steel**  
Forged and Cast Engineered Products

**Buffalopumps**

**Union Electric Steel**  
Forged and Cast Engineered Products



Valparaiso, IN



Austintown, OH



Erie, PA



Carnegie, PA



Burgettstown, PA



North Tonawanda, NY



Gateshead, England



Åkers Styckebruk, Sweden



Ravne na Koroškem, Slovenia

**BUFFALO**  
AIR HANDLING



Amherst, VA

**AEROFIN**  
Heat Transfer Products



Lynchburg, VA

## Locations

- Manufacturing
- Sales



Taiyuan, China

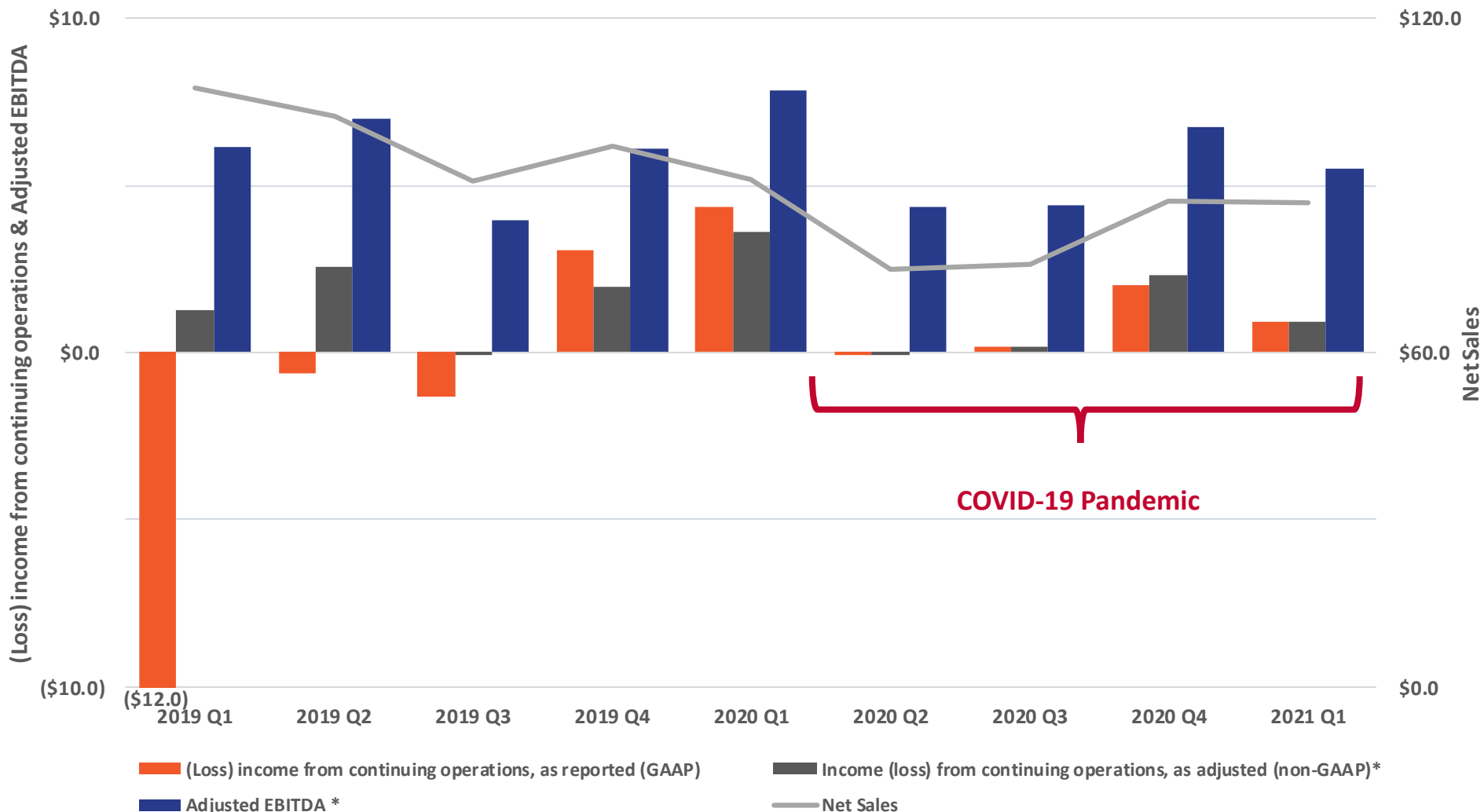


Xinjian Town Yixing, China  
Maanshan, China

Jointly Owned  
Manufacturing Facilities

# Consolidated Financial Quarterly Trend

(\$MM's)



\* See non-GAAP Reconciliation Schedule in the Appendix



# Non-GAAP Reconciliations

(\$000's)



	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>
(Loss) income from continuing operations, as reported (GAAP)	\$(54,530)	\$(13,769)	\$(44,892)	\$(10,908)	\$ 6,446
Impairment charges	[1] 26,676	-	-	10,082	-
Impact of ASU No. 2017-07 on 2016	[2] (945)	-	-	-	-
Integration-related restructuring expenses and unfavorable effects from purchase accounting	[3] 4,444	-	-	-	-
ASW operating loss - sold in September 2019	[4] 1,615	-	-	-	-
Acquisition-related costs	[5] 3,056	-	-	-	-
Restructuring-related costs	[6] -	-	981	2,350	-
Excess costs of Avonmore	[7] (2,560)	7,729	9,349	4,572	-
Bad debt expense	[8] -	-	-	1,366	-
Proceeds from business interruption insurance claim	[9] -	-	-	(1,803)	(769)
Asbestos-related charges	[10] 4,565	-	32,910	-	283
(Loss) income from continuing operations, as adjusted (non-GAAP)	<u>\$(17,679)</u>	<u>\$ (6,040)</u>	<u>\$ (1,652)</u>	<u>\$ 5,659</u>	<u>\$ 5,960</u>

# Non-GAAP Reconciliations

(\$000's)



	2019					2020					2021
	Q1	Q2	Q3	Q4	Total	Q1	Q2	Q3	Q4	Total	Q1
(Loss) income from continuing operations, as reported (GAAP)	\$ (11,959)	\$ (653)	\$ (1,340)	\$ 3,044	\$ (10,908)	\$ 4,351	\$ (86)	\$ 178	\$ 2,003	\$ 6,446	\$ 907
Impairment charge	[1] 10,082	-	-	-	10,082	-	-	-	-	-	-
Restructuring-related costs	[6] 921	171	561	697	2,350	-	-	-	-	-	-
Excess costs of Avonmore	[7] 2,202	1,685	685	-	4,572	-	-	-	-	-	-
Bad debt expense	[8] -	1,366	-	-	1,366	-	-	-	-	-	-
Proceeds from business interruption insurance claim	[9] -	-	-	(1,803)	(1,803)	(769)	-	-	-	(769)	-
Asbestos-related charge	[10] -	-	-	-	-	-	-	-	283	283	-
Income (loss) from continuing operations, as adjusted (non-GAAP)	\$ 1,246	\$ 2,569	\$ (94)	\$ 1,938	\$ 5,659	\$ 3,582	\$ (86)	\$ 178	\$ 2,286	\$ 5,960	\$ 907

	2019					2020					2021
	Q1	Q2	Q3	Q4	Total	Q1	Q2	Q3	Q4	Total	Q1
Net (loss) income, as reported (GAAP)	\$ (15,149)	\$ (3,857)	\$ (5,055)	\$ 3,075	\$ (20,986)	\$ 4,142	\$ 668	\$ 968	\$ 2,192	\$ 7,970	\$ 167
Add:											
Income tax provision (benefit)	643	644	429	392	2,108	(2,783)	504	630	1,179	(470)	381
Other (income) expense, including interest expense	(51)	(1,076)	(546)	(868)	(2,541)	2,532	(1,451)	(1,690)	(1,645)	(2,254)	212
Depreciation and amortization	5,259	4,650	4,502	4,556	18,967	4,699	4,653	4,511	4,712	18,575	4,743
EBITDA (non-GAAP)	(9,297)	360	(670)	7,155	(2,452)	8,590	4,374	4,419	6,438	23,821	5,503
Add:											
Impairment charge	[1] 10,082	-	-	-	10,082	-	-	-	-	-	-
Loss from discontinued operations, net of tax	[4] 2,242	3,391	3,398	54	9,085	-	-	-	-	-	-
Restructuring-related costs	[6] 921	171	561	697	2,350	-	-	-	-	-	-
Excess costs of Avonmore	[7] 2,202	1,685	685	-	4,572	-	-	-	-	-	-
Bad debt expense	[8] -	1,366	-	-	1,366	-	-	-	-	-	-
Proceeds from business interruption insurance claim	[9] -	-	-	(1,803)	(1,803)	(769)	-	-	-	(769)	-
Asbestos-related charge	[10] -	-	-	-	-	-	-	-	283	283	-
Adjusted EBITDA (non-GAAP)	\$ 6,150	\$ 6,973	\$ 3,974	\$ 6,103	\$ 23,200	\$ 7,821	\$ 4,374	\$ 4,419	\$ 6,721	\$ 23,335	\$ 5,503
Net Sales	\$ 107,494	\$ 102,518	\$ 90,872	\$ 97,019	\$ 397,904	\$ 91,063	\$ 74,778	\$ 75,674	\$ 87,029	\$ 328,544	\$ 86,800
Adjusted EBITDA Margin	5.7%	6.8%	4.4%	6.3%	5.8%	8.6%	5.8%	5.8%	7.7%	7.1%	6.3%

# Non-GAAP Reconciliations

(\$000's)



	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>
Net (loss) income, as reported (GAAP)	\$ (79,820)	\$ (12,089)	\$ (69,335)	\$ (20,986)	\$ 7,970
Add:					
Income tax provision (benefit)	22,712	(1,355)	268	2,108	(470)
Other (income) expense, including interest expense	2,990	3,673	(1,085)	(2,541)	(2,254)
Depreciation and amortization	<u>20,463</u>	<u>21,376</u>	<u>21,379</u>	<u>18,967</u>	<u>18,575</u>
EBITDA (non-GAAP)	(33,654)	11,605	(48,774)	(2,452)	23,821
Add:					
Impairment charges	[1] 26,676	-	-	10,082	-
Impact of ASU 2017-07 on 2016	[2] (945)	-	-	-	-
Integration-related restructuring expenses and unfavorable effects from purchase accounting	[3] 4,444	-	-	-	-
Loss (income) from discontinued operations, net of tax	[4] 1,303	(3,749)	23,901	9,085	-
Gain on sale of joint venture	[11] (500)	(1,000)	(500)	-	-
Acquisition-related costs	[5] 3,056	-	-	-	-
Restructuring-related costs	[6] -	-	981	2,350	-
Excess costs of Avonmore	[7] (5,259)	7,729	9,349	4,572	-
Bad debt expense	[8] -	-	-	1,366	-
Proceeds from business interruption insurance claim	[9] -	-	-	(1,803)	(769)
Asbestos-related charges	[10] 4,565	-	32,910	-	283
Adjusted EBITDA (non-GAAP)	<u>\$ (314)</u>	<u>\$ 14,585</u>	<u>\$ 17,867</u>	<u>\$ 23,200</u>	<u>\$ 23,335</u>
Net Sales	\$ 324,342	\$ 385,156	\$ 419,432	\$ 397,904	\$ 328,544
Adjusted EBITDA Margin	-0.1%	3.8%	4.3%	5.8%	7.1%

# Non-GAAP Reconciliations

(\$000's)



	<u><b>2017</b></u>	<u><b>2018</b></u>	<u><b>2019</b></u>	<u><b>2020</b></u>
Total Debt	\$ 66,153	\$ 77,609	\$ 70,857	\$ 37,243
Less: Cash and Cash Equivalents	<u>(18,656)</u>	<u>(19,713)</u>	<u>(6,960)</u>	<u>(16,842)</u>
Net Debt (non-GAAP)	47,497	57,896	63,897	20,401
Adjusted EBITDA (non-GAAP)	14,585	17,867	23,200	23,335
Net Debt / Adjusted EBITDA	3.26	3.24	2.75	0.87

# Non-GAAP Reconciliation Footnotes



- [1]** Impairment charge for 2016 represents principally the write-off of goodwill associated with the Forged and Cast Engineered Products reporting unit deemed to be impaired. Impairment charge was recognized in the first quarter of 2019 to record the sale of certain assets of Akers National Roll Company, an indirect subsidiary of ours located in Avonmore, Pennsylvania (the "Avonmore Plant"), to its estimated net realizable value less costs to sell in anticipation of its sale, which was completed in September 2019.
- [2]** Represents the impact of ASU No. 2017-07, "Improving the Presentation of Net Periodic Pension Cost and Net Periodic Postretirement Benefit Cost," if applied to 2016. The impact of ASU 2017-07 is included in (loss) income from continuing operations, as reported (GAAP) for all other periods.
- [3]** Represents integration-related restructuring expenses and unfavorable effects from purchase accounting associated principally with our acquisition of Åkers.
- [4]** Represents the operating loss of ASW Steel Inc. ("ASW") for 2016, which has been added back for comparative purposes. The operating results of ASW after 2016 were classified as discontinued operations for all other periods presented herein. Additionally, loss (income) from discontinued operations, net of tax, has been removed from EBITDA to determine Adjusted EBITDA.
- [5]** Represents transaction costs associated with our acquisitions of Åkers AB and certain of its affiliated companies, including Åkers AB's 60% equity interest in a Chinese joint venture company (collectively, "Åkers") and ASW.
- [6]** Represents professional fees associated with our overall restructuring plan and employee severance costs due to reductions in force.
- [7]** Represents estimated net operating costs not expected to continue after the sale of the Avonmore Plant, which was completed in September 2019. The estimated excess costs include judgments made by management in allocating manufacturing and operating costs between Avonmore and our other operations and in anticipating how it will conduct business following the sale of the Avonmore Plant.
- [8]** Represents bad debt expense for a British cast roll customer who filed for bankruptcy in 2019.
- [9]** Represents business interruption insurance proceeds received for equipment outages that occurred in 2018.
- [10]** For 2016, represents an asbestos-related charge taken to extend the estimated costs of pending and future asbestos claims, net of estimated insurance recoveries and a settlement with an insurance carrier for an amount greater than originally estimated, from 2024 through 2026. For 2018, represents an asbestos-related charge taken to extend the estimated costs of pending and future asbestos claims, net of additional insurance recoveries, from 2026 through 2052, the estimated final date by which we expect to have settled all asbestos-related claims. For 2020, represents a charge for the potential insolvency of an asbestos-related insurance carrier.
- [11]** Represents proceeds received from the 2016 sale of a portion of our equity interest in a forged roll Chinese joint venture.