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#### **GLOBAL TRENDS**

CO<sub>2</sub> emission reduction, population growth, increasing affluence, and energy efficiency

#### **DEMAND**

Innovative new products that are lighter, stronger, and resistant to higher temperatures

#### **SUPPLY**

AMG sources, processes, and supplies the critical materials that the market demands



TO ADDRESS CO2 REDUCTION

# CO, REDUCTION

A GLOBAL IMPERATIVE FOR THE 21ST CENTURY

AMG has developed into a leader in enabling technologies

Products and processes saving raw materials, energy and CO<sub>2</sub> emissions during manufacturing

(i.e., recycling of Ferrovanadium)

#### AMG: ENABLING TECHNOLOGIES

Products and processes saving CO<sub>2</sub> emissions during use

(i.e., light-weighting and fuel efficiency in the aerospace and automotive industries)

# STRONG CAPITAL STRUCTURE, FREE OF NET DEBT, POSITIONED FOR GROWTH

# Optimized capital structure

- Refinanced credit facility in 2016, providing a stable capital base and liquidity for strategic growth
- Deleveraged balance sheet

Return excess cash to shareholders

- Initiated first dividend to shareholders in 2015
  - Reflecting AMG commitment to return value to shareholders

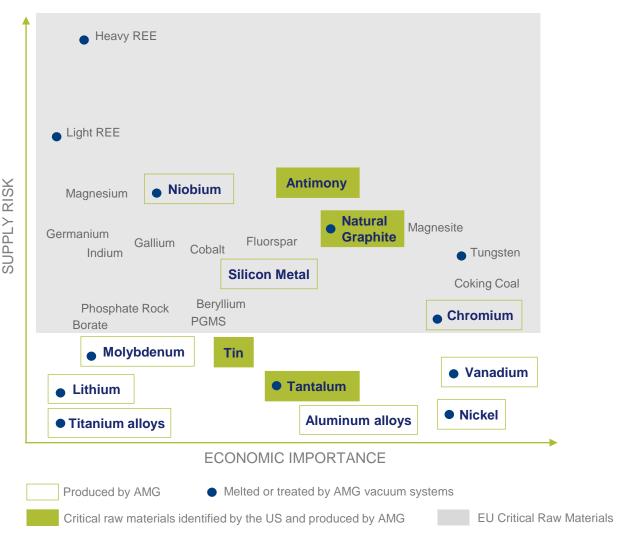
Disciplined organic growth and acquisitions

- Rigorous process to review strategic growth opportunities that is both selective and opportunistic
- Organic growth strategy is focused on areas of our portfolio that are marked by strong demand growth or supply limitations
- Financially and operationally capable of quickly assessing opportunities

Driving long term sustainable growth and shareholder value



### CRITICAL RAW MATERIALS

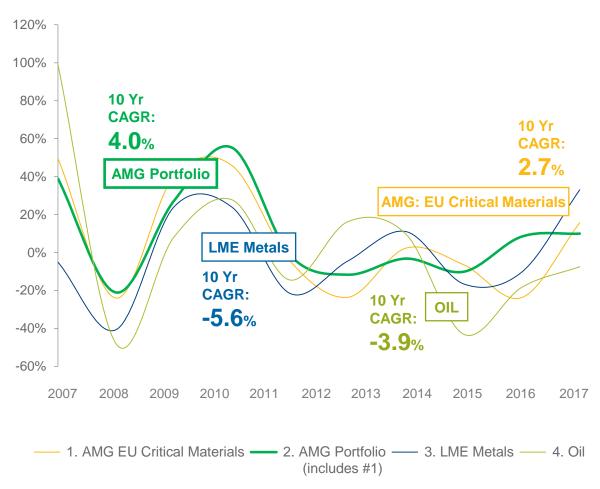


<sup>\*</sup>Report on Critical Raw Materials for the EU, May 2014; Strategic and Critical Materials 2015 Report on Stockpile Requirements by Department of Defense in January 2015.

- The EU identified 20 critical raw materials\* to the European economy in 2014, focusing on two determinants: economic importance and supply risk
- The US identified 30 critical materials\* which are vital to national defense, primarily through assessing supply risk
- AMG has a unique critical materials portfolio comprising:
  - o 5 EU critical raw materials
  - 4 US critical raw materials
  - Highly engineered Titanium
     Alloys for the aerospace industry
  - High value added Aluminum Master Alloys
  - Vanadium, Nickel and Molybdenum from recycled secondary raw materials



### CRITICAL MATERIALS PRICE TRENDS



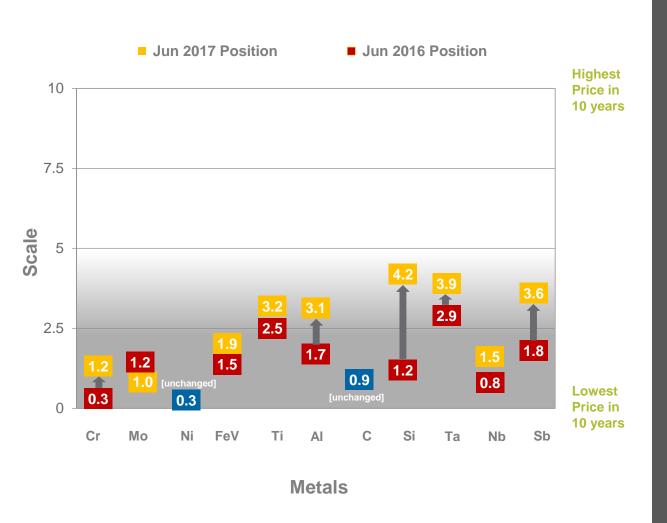
Note: Compound annual growth rates are calculated over the period Jun '07 through Jun '17 using the equation ((Ending Value / Beginning Value) ^ (1 / # of years) - 1) where ending value is avg monthly price in Jun '17 and beginning value is avg monthly price in Jun '07; and where AMG EU Critical Materials include Sb, Cr, Graphite & Si; AMG Portfolio includes Sb, Cr, FeV, Li, Nb, Si, Sr, Graphite, Ta, Sn & Ti; and LME Metals include AI, Co, Cu, Pb, Mo, Ni, & Zn. Avg annual growth rates (plotted above) are calculated over the same period using the equation ((Ending Value / Beginning Value) -1) and considering the same metal categorizations where ending value is avg monthly price in Jun of the given year and beginning value is avg monthly price in Jun '07.

The cumulative average 10 year price appreciation of the AMG Portfolio was 9.6 percentage points higher than London Metal Exchange (LME) metals and 7.9 points higher than oil, while AMG EU Critical Materials outperformed LME Metals and oil by 8.3 and 6.6 percentage points, respectively

Critical materials prices typically outperform the LME



### CRITICAL MATERIALS PRICES: 10 YEAR PERSPECTIVE



- Metal prices are measured on a scale of 0 to 10, with 0 and 10 representing the minimum and maximum average quarterly prices occurring during the past 10 years
- The positions demonstrate the current price level of each metal with respect to their various historical price points over the past 10 years

AMG's relevant prices have started to move into the second quartile

Note: Metal Positions are measured on a scale of 0 to 10, with 0 being the minimum price and 10 being the maximum price. They are calculated using the formula [(Jun '07 month avg – min. monthly avg) / (max. monthly avg – min. monthly avg) \*10] where maximum and minimum monthly averages are measured over the period 1 Jun '07 through 30 Jun '17.



# AMG BUSINESS SEGMENTS





- Vanadium
- Superalloys
- Titanium Alloys & Coatings
- Aluminum Alloys
- · Tantalum & Niobium & Lithium
- Antimony
- Graphite
- Silicon Metal

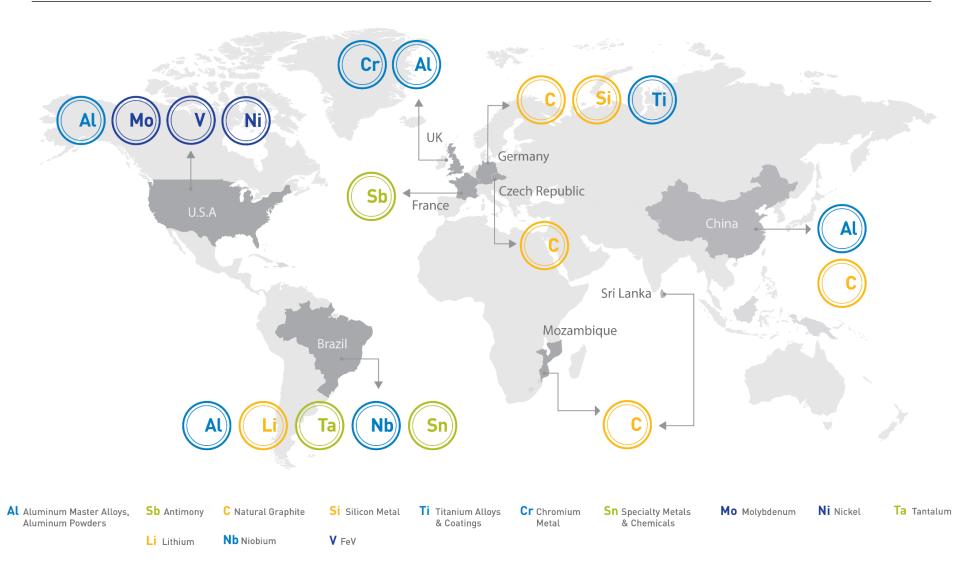


# AMG's vacuum systems and services business

- Furnaces
- Heat treatment services

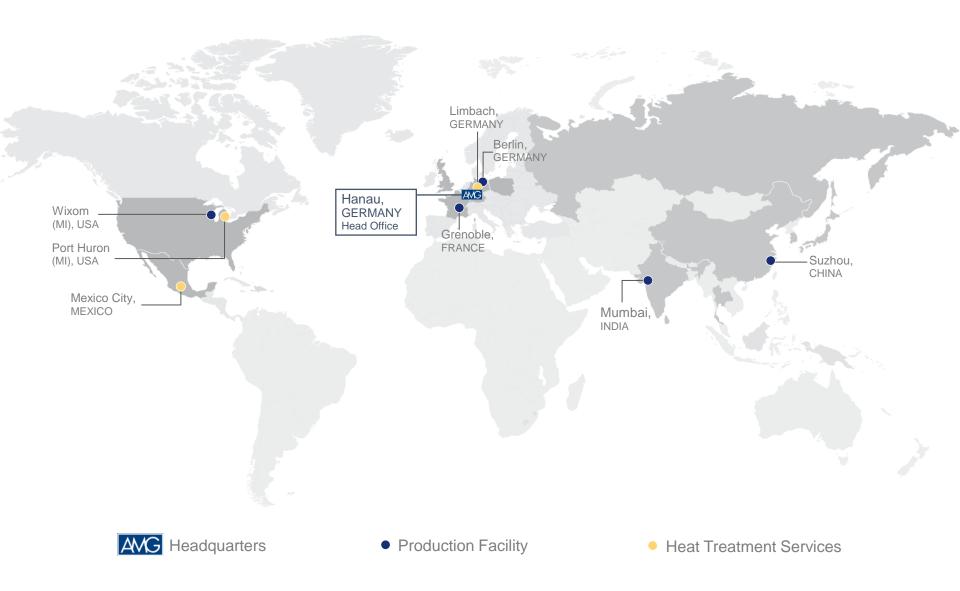


# AMG GLOBAL FOOTPRINT – CRITICAL MATERIALS





# AMG GLOBAL FOOTPRINT – AMG ENGINEERING





### **HEALTH AND SAFETY FOCUS**

#### LEADING SAFETY INDICATORS

- The number of safety improvement items reported in Q2 2017 was only 3% lower than in Q2 2016. These are essential in order to avoid potential injuries.
- Safety training hours increased 4% in Q2 2017 compared to Q2 2016.
- At the end of Q2 2017, lost time incident rate was 48% lower and total incident rate and incident severity rate were down 41% and 36%, respectively, from Q2 2016.

YEAR	LOST TIME INCIDENTS IN THE LAST 12 MONTHS	12 MONTH AVERAGE LOST TIME INCIDENT RATE	12 MONTH AVERAGE INCIDENT SEVERITY RATE
2016	36	1.33	0.14
2017	19	0.69	0.09



Rigorous commitment to safety reflected in continually improving safety records





# Q2 2017 AT A GLANCE

AMOUNTS IN \$M (EXCEPT EARNINGS PER SHARE)	Q2 2017	Q2 2016	% CHANGE
Revenue	\$262.0	\$248.3	6%
Gross Profit *	\$54.3	\$53.3	2%
Gross Margin %	20.7%	21.5%	(4%)
Profit Before Income Taxes	\$20.8	\$15.6	33%
EBITDA	\$31.9	\$26.0	23%
EBITDA Margin %	12.2%	10.5%	16%
Net Debt	\$7.3	\$5.5	33%
Return On Capital Employed (ROCE)	23.9%	17.8%	34%
Net Income Attributable To Shareholders	\$13.1	\$13.4	(2%)
Earnings Per Share	0.42	0.48	(13%)

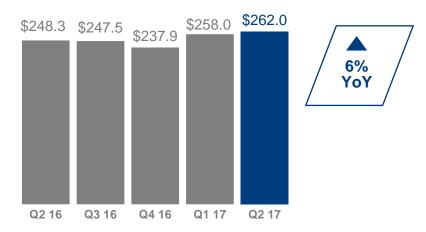
- Q2 '17 EBITDA up 23% versus Q2 '16 due to improved profitability within both AMG Critical Materials and AMG Engineering
- Annualized ROCE increased to 23.9% in Q2 2017 versus 17.8% for Q2 2016

Net Debt Reduction of \$80.5 million since December 2014

15

# FINANCIAL HIGHLIGHTS

#### **REVENUE** (IN MILLIONS OF US DOLLARS)



GROSS PROFIT \* (IN MILLIONS OF US DOLLARS)



**EBITDA** (IN MILLIONS OF US DOLLARS)



ORDER INTAKE (IN MILLIONS OF US DOLLARS)





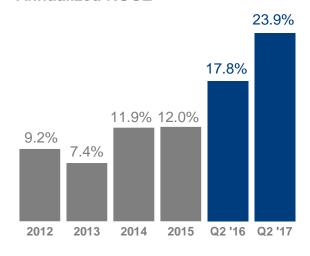
## FINANCIAL DATA: ROCE & EBITDA





Q2 '17 EBITDA UP 22% VERSUS Q2 '16  Q2 '17 EBITDA up 22% versus Q2 '16 due to improved profitability within both AMG Critical Materials and AMG Engineering

#### **Annualized ROCE**



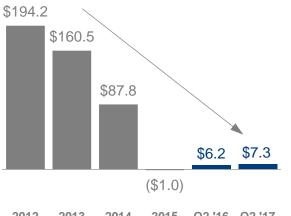
Q2 '17 ROCE IMPROVED TO 23.9% FROM 17.8% IN Q2 '16

- Q2 2017 annualized ROCE improved to 23.9% from 17.8% in Q2 2016
- ROCE improvements are the result of efficient use of capital and improved profitability



### FINANCIAL DATA: NET DEBT & NET CASH FROM OPERATIONS

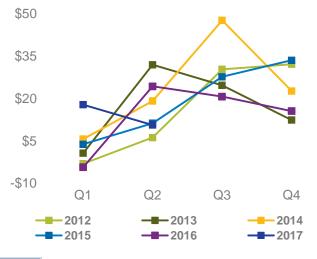
#### NET DEBT (CASH) (IN MILLIONS OF US DOLLARS)



\$187M REDUCTION IN NET DEBT SINCE 2012

2012 2013 2014 2015 Q2 '16 Q2 '17

#### **OPERATING CASH FLOW** (IN MILLIONS OF US DOLLARS)

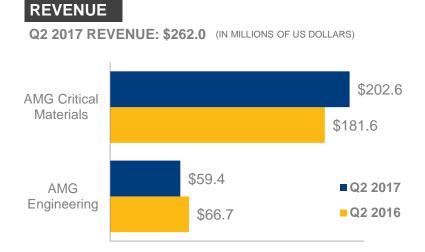


Q2 2017 OPERATING CASH FLOW OF \$10.6M

- Net debt: \$7.3 million
  - \$186.9 million reduction of net debt since December 31, 2012
- AMG's primary debt facility is a \$400 million multicurrency term loan and revolving credit facility
  - 5 year term (until 2021) with an accordion feature that allows the Company, subject to certain conditions, to increase the commitment amount by up to \$100 million
  - In compliance with all debt covenants
- AMG generated cash from operating activities of \$28.5 million for the first half of 2017, \$8.5 million higher than the first half of 2016

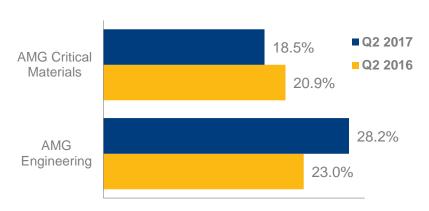


# DIVISIONAL FINANCIAL HIGHLIGHTS - Q2 2017 VS. Q2 2016



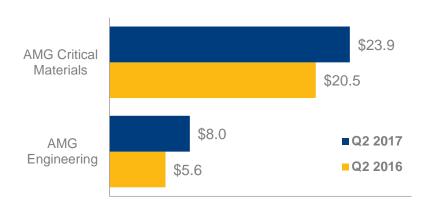
### **GROSS MARGIN \***

**Q2 2017 GROSS MARGIN: 20.7%** 



#### **EBITDA**

Q2 2017 EBITDA: \$31.9 (IN MILLIONS OF US DOLLARS)



#### **CAPITAL EXPENDITURE**

Q2 2017 CAPEX: \$18.6 (IN MILLIONS OF US DOLLARS)





# WORKING CAPITAL REDUCTION

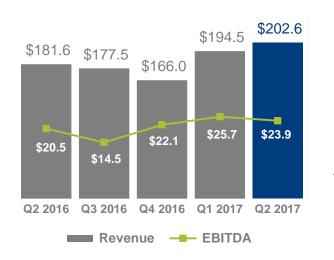
#### **WORKING CAPITAL DAYS REDUCED BY 72% SINCE Q3'10**





### AMG CRITICAL MATERIALS

#### REVENUE & EBITDA (IN MILLIONS OF US DOLLARS)



Q2 2017 REVENUE INCREASED BY \$21.0M OVER Q2 2016

#### CAPITAL EXPENDITURES (IN MILLIONS OF US DOLLARS)



INCREASE OF \$10.7M
Q2 '17 VS. Q2 '16
DUE TO EXPANSION
PROJECTS

- Q2 2017 revenue of \$202.6 million was 12% higher than Q2 2016
- EBITDA increased by \$3.4 million over Q2 2016 to \$23.9 million in the second quarter of 2017, driven primarily by strong financial performance in vanadium and titanium alloys

- Capital expenditures increased to \$16.9 million in Q2 2017 vs. \$6.2 million in Q2 2016
- The largest expansion capital projects were AMG's lithium project in Brazil, and titanium aluminide expansion in Germany



# AMG CRITICAL MATERIALS – QUARTERLY REVENUE DRIVERS

KEY PRODUCT	<b>Q2 '17 REV</b> (\$M)	<b>Q2 '16 REV</b> (\$M)	VOLUME	PRICE
FeV & FeNiMo	\$27.0	\$22.8	•	1
Al Master Alloys & Powders	\$45.8	\$43.0	<b>*</b>	•
Chromium Metal	\$26.1	\$19.9	1	<b>\( \)</b>
Tantalum & Niobium	\$13.5	\$17.2	•	1
Titanium Alloys & Coatings	\$26.2	\$21.1	•	•
Antimony	\$27.3	\$19.0	•	1
Graphite	\$16.2	\$16.4	<b>⇔</b>	<b>⇔</b>
Silicon Metal	\$20.5	\$22.4	•	•

- AMG Critical Materials Q2 2017 revenue of \$202.6 million was 12% higher than Q2 2016
- Improving vanadium, molybdenum, nickel, aluminum, titanium and antimony prices, and higher sales volumes of chrome, antimony, silicon and titanium products resulted in higher revenue in Q2 2017 versus the same period in the prior year
- Lower sales of tantalum in the quarter, due to the temporary shut-down in one of AMG's two tantalum production lines, were partially offset by higher sales of niobium products
- Tantalum sales prices declined following the termination of AMG's long-term, supply agreement
- Silicon revenue and gross profit declined in the second quarter 2017, versus the same period in the prior year, due to lower sales prices



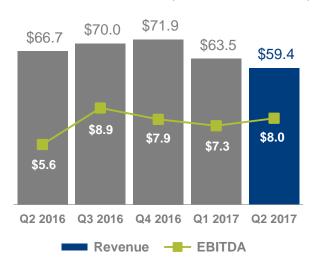
# CRITICAL MATERIALS – AVERAGE QUARTERLY PRICES

MATERIALS	Q2 2016	Q3 2016	Q4 2016	Q1 2017	Q2 2017	Q2 '17 VS. Q2 '16 % CHANGE	Q2 '17 VS. Q1 '17 % CHANGE
Ferrovanadium (\$/lb)	\$10.03	\$9.99	\$10.65	\$12.35	\$12.30	23%	-
Molybdenum (\$/lb)	\$7.42	\$7.01	\$6.63	\$7.90	\$8.03	8%	2%
Nickel (\$/MT)	\$8,819	\$10,262	\$10,685	\$10,267	\$9,222	5%	(10%)
Aluminum (\$/MT)	\$1,571	\$1,620	\$1,710	\$1,851	\$1,909	21%	3%
Chrome (\$/lb)	\$3.76	\$3.67	\$3.65	\$3.83	\$4.02	7%	5%
Tantalum (\$/lb)	\$62	\$60	\$56	\$57	\$67	9%	17%
Niobium Oxide (\$/kg)	\$27	\$28	\$26	\$27	\$30	9%	11%
Ti Sponge (\$/kg)	\$8.25	\$8.15	\$8.15	\$8.24	\$8.74	6%	6%
Antimony (\$/MT)	\$6,252	\$7,271	\$7,482	\$8,098	\$8,890	42%	10%
Graphite (\$/MT)	\$585	\$585	\$585	\$585	\$585	-	-
Silicon Metal (€/MT)	€1,684	€1,648	€1,733	€1,993	€1,989	18%	-



### AMG ENGINEERING

#### REVENUE & EBITDA (IN MILLIONS OF US DOLLARS)



EBITDA
IMPROVEMENT
OF 43% VS. Q2 2016

#### ORDER INTAKE (IN MILLIONS OF US DOLLARS)



BOOK TO BILL RATIO OF 1.29X IN Q2 2017

- EBITDA increased by \$2.4 million in Q2 2017 versus Q2 2016
- AMG Engineering continues to experience strong sales of turbine blade coating powder metallurgy and plasma remelting furnaces for the aerospace market and heat treatment furnaces for the automotive market

- AMG Engineering order backlog of \$183.3 million as of June 30, 2017, a 35% increase compared to December 31, 2016
- AMG Engineering signed \$76.9 million in new orders during Q2 2017, a 1.29x book to bill ratio





# AMG: READY FOR GROWTH

#### **COST REDUCTION**

Cost-reduction and capex discipline in response to global economic slowdown

#### **SUPPLY CHAIN EXCELLENCE**

Competitive advantage through manufacturing and supply chain excellence, accelerating cost-reduction efforts

#### **SCALING PROFITABLE GROWTH**

Properly positioned, financially and operationally, to pursue growth targets across portfolio





2014



2016 to 2020



2013

#### PRODUCT MIX OPTIMIZATION

Streamlined operations and improved operating performance by eliminating low-margin product lines



2015

#### **TARGETED W/C & DEBT LEVELS**

Further reduction in both working capital and net debt, strengthening the balance sheet



### STRATEGY

AMG's strategy is to build its critical materials business through industry consolidation, process innovation and product development

PROCESS INNOVATION & PRODUCT DEVELOPMENT

Continue to focus on process innovation and product development to improve the market position of AMG's businesses

INDUSTRY CONSOLIDATION

Pursue opportunities for horizontal and vertical industry consolidation across AMG's critical materials portfolio

EXPANSION OF EXISTING HIGH GROWTH BUSINESSES Pursue opportunities in high-growth areas within the existing product portfolio

AMG's overriding strategic objective is to achieve industry leadership while being the low cost producer



### 2017 OUTLOOK & LITHIUM PROJECT UPDATE

#### **OUTLOOK**

AMG expects full year 2017 profitability to improve relative to 2016.

AMG's management team is focused on delivering our highly accretive lithium project and executing our long-term lithium strategy. In addition, we will continue to pursue other acquisition opportunities and organic growth projects in order to generate long term value for our shareholders.

# LITHIUM PROJECT UPDATE

**Overview:** Project is progressing in-line with expectations – production expected to commence mid-2018.

**Mibra Resource:** In April 2017, AMG published an updated resource statement for the Mibra mine showing an increase of approximately 38% compared to the previous mineral resource statement completed in 2013.

**Spodumene Expansion:** Target to increase annual lithium concentrate production capacity up to 180,000 tons by the end of 2019.

**Marketing efforts:** On March 3, 2017, AMG announced that it had signed a multi-year contract to supply 90,000 tons per year of lithium concentrate with deliveries commencing in the second half of 2018. Sales prices are partially indexed to the published market price of lithium carbonate, subject to a contractual minimum threshold. The sales price (CIF China), determined with reference to the current published lithium carbonate market price, would exceed \$800 per ton lithium concentrate.

Management's priority in 2017 is to execute our highly accretive lithium project





# **KEY PRODUCTS**

#### **REVENUE** (IN MILLIONS OF US DOLLARS)



■ Chromium Metal

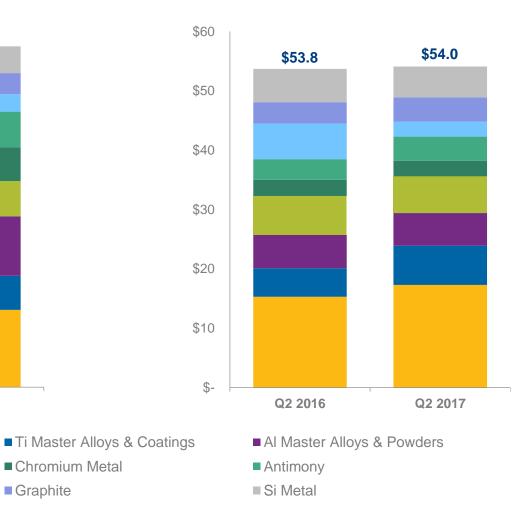
Graphite

■ Vacuum Furnaces

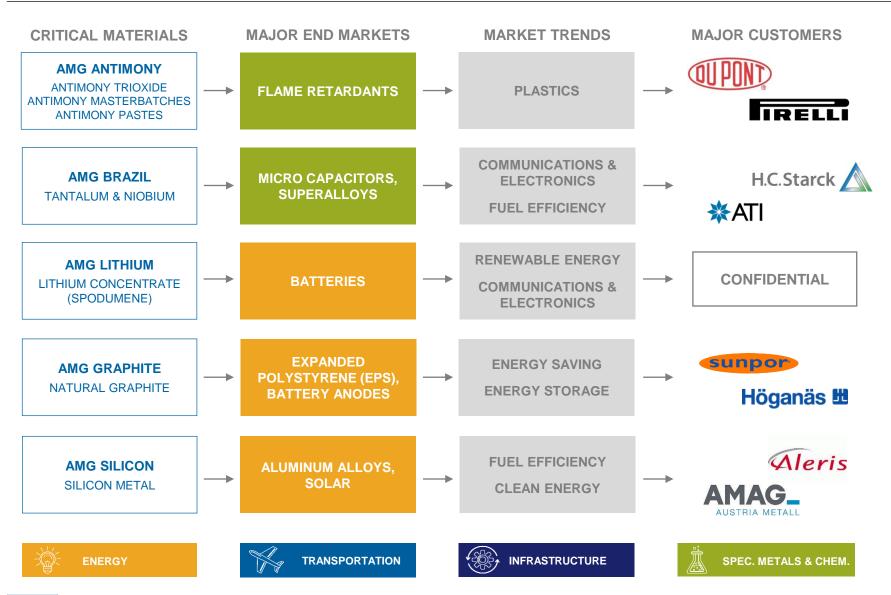
■ Vanadium & FeNiMo

■ Tantalum & Niobium

GROSS PROFIT \* (IN MILLIONS OF US DOLLARS)

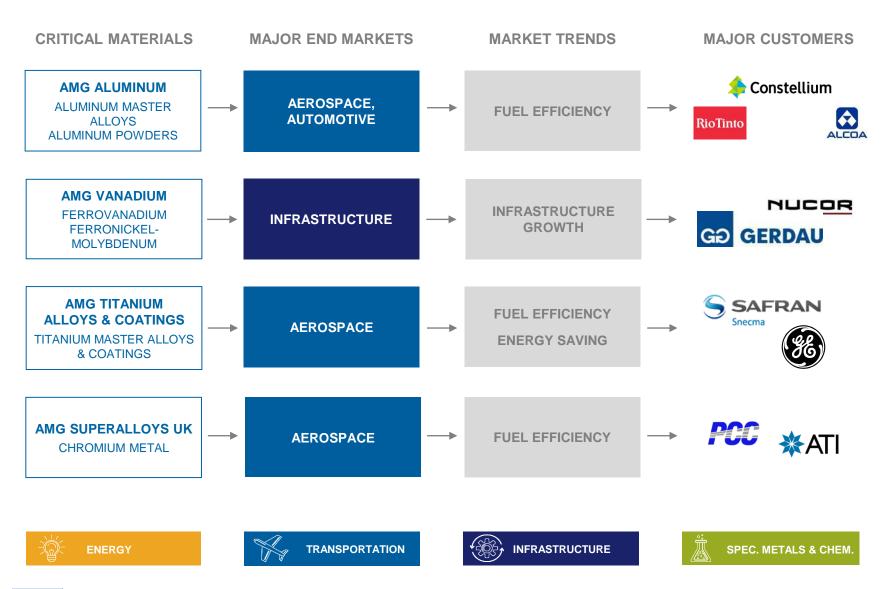


### CRITICAL MATERIALS – MARKET TRENDS



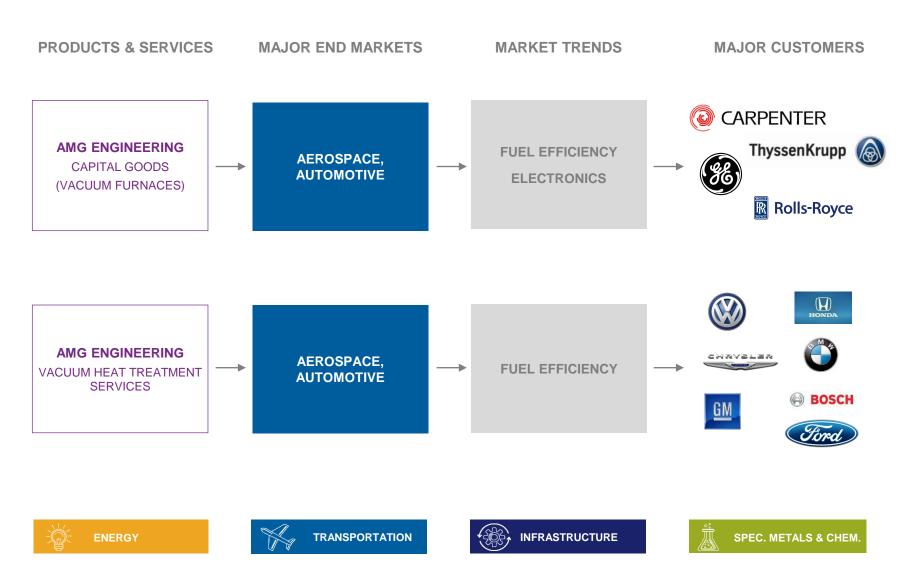


# CRITICAL MATERIALS - MARKET TRENDS





# **ENGINEERING – MARKET TRENDS**

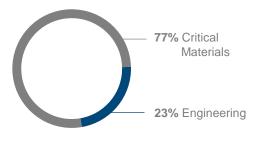




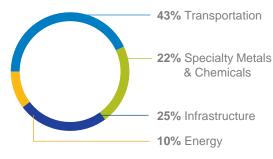
## AMG AT A GLANCE

#### **Q2 2017 REVENUE**

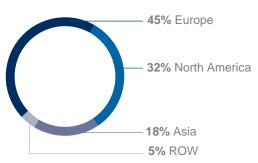
**BY SEGMENT:** 







#### BY REGION:



AMG IS A GLOBAL SUPPLIER OF CRITICAL MATERIALS TO:









Market leading producer of highly engineered specialty metals and vacuum furnace systems

~3,000 Employees

~\$1 billion
Annual Revenues

At the forefront of CO<sub>2</sub> Reduction





# CONSOLIDATED BALANCE SHEET

AS OF IN MILLIONS OF US DOLLARS	<b>JUNE 30, 2017</b> UNAUDITED	DECEMBER 31, 2016
Fixed assets	247.5	226.1
Goodwill and intangibles	36.1	33.2
Other non-current assets	83.3	91.7
Inventories	146.8	143.6
Receivables	153.0	129.2
Other current assets	42.9	35.8
Cash	168.9	160.7
TOTAL ASSETS	878.5	820.3
TOTAL EQUITY	241.1	197.8
Long term debt	149.6	151.0
Employee benefits	150.4	141.6
Other long term liabilities	46.7	49.9
Current debt	26.6	17.1
Accounts payable	140.9	133.3
Advance payments	38.0	29.4
Accruals	52.4	57.5
Other current liabilities	32.8	42.9
TOTAL LIABILITIES	637.4	622.5
TOTAL EQUITY AND LIABILITIES	878.5	820.3



# CONSOLIDATED INCOME STATEMENT

FOR THE SIX MONTHS ENDED IN MILLIONS OF US DOLLARS	JUNE 30, 2017 UNAUDITED	JUNE 30, 2016 UNAUDITED
Revenue	520.0	485.7
Cost of sales	413.2	388.2
Gross profit *	106.8	97.5
Selling, general & administrative	63.6	66.1
Other income, net	(0.3)	(0.4)
Operating profit	43.6	31.9
Net finance costs	3.8	5.2
Share of profit of associates	-	1.4
Profit before income taxes	39.8	28.2
Income tax expense	11.2	3.1
Profit for the period	28.6	25.1
Shareholders of the Company	28.7	25.4
Non-controlling interest	(0.1)	(0.3)
ADJUSTED EBITDA	64.8	47.2



<sup>\*</sup> Gross Profit has been restated to include restructuring expenses and asset impairment expenses, in order to take into consideration ESMA's latest recommendations.

# CONSOLIDATED STATEMENT OF CASH FLOWS

FOR THE SIX MONTHS ENDED IN MILLIONS OF US DOLLARS	<b>JUNE 30, 2017</b> UNAUDITED	JUNE 30, 2016 UNAUDITED
EBITDA	64.8	47.2
Change in working capital and deferred revenue	(22.9)	(5.0)
Other operating cash flow	(4.2)	(15.4)
Cash generated from operating activities	37.7	26.8
Finance costs paid, net	(4.2)	(3.2)
Income tax paid	(4.9)	(3.7)
Net cash from operating activities	28.5	20.0
Capital expenditures	(29.5)	(14.4)
Other investing activities	1.8	(4.9)
Net cash used in investing activities	(27.7)	(19.3)
Net cash used in financing activities	(0.5)	(3.7)
Net increase (decrease) in cash and equivalents	0.2	(3.0)
Cash and equivalents at January 1	160.7	127.8
Effect of exchange rate fluctuations on cash held	7.9	0.3
CASH AND EQUIVALENTS AT JUNE 30	168.9	125.1

