| Aug 3, 2019 (Thomson StreetEvents) Edited Transcript of AMG Advanced Metallurgical Group NV earnings conference call or presentation Wednesday, July 31, 2019 at 5:00:00pm GMT |
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| TEXT version of Transcript   |
| Corporate Participants   |
| * Eric E. Jackson  |
| AMG Advanced Metallurgical Group N.V COO & Member of Management Board  |
| * Heinz C. Schimmelbusch   |
| AMG Advanced Metallurgical Group N.V Chairman of the Management Board & CEO  |
| * Jackson M. Dunckel   |
| AMG Advanced Metallurgical Group N.V CFO & Member of Management Board  |
| * Michele Fischer  |
| AMG Advanced Metallurgical Group N.V VP of IR  |
| Conference Call Participants   |
| * Andreas Markou   |
| Joh. Berenberg, Gossler & Co. KG, Research Division - Analyst  |
| * Henk Veerman   |
| Kempen & Co. N.V., Research Division - Research Analyst  |
| * Krishan M. Agarwal   |
| Citigroup Inc, Research Division - Analyst   |

Half Year 2019 AMG Advanced Metallurgical Group NV Earnings Call

| * Stijn Demeester  |
|--|
| ING Groep N.V., Research Division - Research Analyst   |
| Presentation   |
|  |
| [Good day, and welcome to the AMG Earnings Q2 2019] Conference Call. Today's conference is being recorded. At this time, I would like to turn the presentation over to Ms. Michele Fisher. Please go ahead, ma'am. |
| Michele Fischer, AMG Advanced Metallurgical Group N.V VP of IR [2]   |

Michele Fischer, AMG Advanced Metallurgical Group N.V. - VP of IR [2]
-----Welcome to AMG's Second Quarter 2019 Earnings Call. Joining me on th

Welcome to AMG's Second Quarter 2019 Earnings Call. Joining me on this call are Dr. Heinz Schimmelbusch, the Chairman of the Management Board and Chief Executive Officer; Mr. Jackson Dunckel, the Chief Financial Officer; and Mr. Eric Jackson, the Chief Operating Officer. AMG's second quarter 2019 earnings press release issued earlier today is on AMG's website. Today's call will begin with a review of the second quarter 2019 business highlights by Dr. Schimmelbusch; Mr. Dunckel will comment on AMG's financial results; and Mr. Jackson will discuss operations. At the completion of Mr. Jackson's remarks, Dr. Schimmelbusch will comment on strategy and outlook. We will then open the call to take your questions. Before I pass the call to Dr. Schimmelbusch, I would like to comment on forward-looking statements. This conference call could contain forwardlooking statements about AMG Advanced Metallurgical Group. Forward-looking statements are not historical facts but may include statements concerning AMG's plans, expectations, future revenues or performance, financing needs, plans and intentions relating to future acquisitions, AMG's competitive strengths and weaknesses, reserves, financial position and future operations and development, AMG's business strategy and the trends AMG anticipates in the industries and the political and legal environment in which it operates and other similar or different information that is not historical information. When used in this conference call, the words expects, believes, anticipates, plans, may, will, should and similar expressions and the negatives thereof are intended to identify forward-looking statements. By their very nature, forward-looking statements involve inherent risks and uncertainties, both general and specific, and risks exist that any predictions, forecasts or similar projections contained by such forward-looking statements will not be achieved.

These forward-looking statements speak only as the date of this conference call. AMG expressly disclaims any obligation or undertaking to release publicly any updates or revisions to any forward-

looking statement contained herein to reflect any change in AMG's expectations with regard thereto or any change in events, conditions or circumstances on which any forward-looking statement is based. I will now pass the floor to Dr. Schimmelbusch, AMG's Chairman of the Management Board and Chief Executive Officer.

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Heinz C. Schimmelbusch, AMG Advanced Metallurgical Group N.V. - Chairman of the Management Board & CEO [3]

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Thank you, Michele. We obviously had a disappointing quarter. Profitability was negatively impacted by deteriorating market prices as current spot prices because all of AMG's portfolio are significantly below the prices that we experienced in the first quarter of 2019. The second quarter of 2019 was particularly impacted by an unusual market price development in vanadium over the past several quarters.

Market prices scanned consistently from the beginning of 2018 into the first quarter of 2019. And then plunged in a very short period, beginning late in the first quarter of 2019 until present. We have seen spikes and clashes in the vanadium market before, however, this pattern is unique in the history of the metal. Traditionally, vanadium prices follow a consistent pattern, a short spike followed by a swift decline. This parallel pattern has a minimal effect on our inventory position as we build only a limited volume of high-priced inventory in the short spike period. This time in contrast, the sustained period of price acceleration in 2018 and into 2019 resulted in the buildup of a significant volume of high-price vanadium inventory. This unusual pattern resulted in a substantial impact to our profitability as our inventory position experienced cost adjustments due to the sudden and severe decline in market price, which eliminate the profitability on sales for the entire working capital cycle.

Despite the decline in price, if you exclude the traditional implications, the transitional implications of the higher cost inventory on profitability, AMG's vanadium business is robust and very profitable at the current market price. Additionally, we believe that the profitability associated with catalyst recycling will benefit dramatically over the next several years from the various macro trends impacting the industry. I would now like to pass the floor to Jackson Dunckel, AMG's Chief Financial Officer. Jackson?

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Jackson M. Dunckel, AMG Advanced Metallurgical Group N.V. - CFO & Member of Management Board [4]

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Thank you, Heinz. I'll be referring to the second quarter 2019 investor presentation posted earlier today on our website.

Starting on Page 3 with an overview of financial highlights of the quarter. AMG's financial performance in the second quarter was lower versus the prior year. Revenue for the quarter decreased by 8% to \$304 million, due primarily to lower average vanadium prices during the quarter versus Q2 of last year. However, although 8 out of 9 of our business units experienced price decreases, this was offset by 7 out of 9 of our business units experiencing flat or increasing volumes.

EBITDA decreased by 53% to \$23.8 million in Q2 2019 from \$50.7 million in Q2 of last year, which was primarily due to lower vanadium profitability due to high-cost inventories but was also due to lower profitability and our super alloys unit in our Brazilian mining operation and in our AMG Technologies division. Net income attributable to shareholders in the second quarter decreased to a loss of \$31.1 million compared to income of \$17.3 million in the prior year. However, net income adjusted for the inventory cost adjustment and the absent impairment expense was \$6 million in the second quarter and \$28 million for the first half of 2019.

We showed the adjusted earnings figures in our press release in order to point out that the decrease in earnings associated with the noncash impairment charges is temporary in nature. The underlying earnings of our business remains strong. And as a result, AMG will pay a EUR 0.20 dividend per share as an interim dividend flat to the level we paid last year.

On a half year basis, this equates to 25% of adjusted net income and is in line with our policy of paying out 20% to 40% of our net income. Now I'll turn to a review of our 2 segments. Let's start with AMG Critical Materials, which is shown on Page 4 of our presentation.

On the top left, you see that Q2 2019 revenues decreased by 11% to \$199 million versus last year. This decline was largely driven by lower average vanadium prices. But Critical Materials experienced lower prices in all 7 of its business units. These price decreases were offset by higher volumes in chrome metal, antimony, silicon and lithium. Critical Materials' Q2 gross profit on an adjusted basis decreased by \$28.9 million or 56% compared to Q2 last year. The adjustments relate to an inventory cost adjustment in our vanadium business as well as an impairment associated with the write-off of the preliminary engineering for spodumene 2 project. The decrease in adjusted gross profit was mainly due to the lower vanadium profitability quarter-over-quarter, but it was also driven by lower profitability in chrome as well as at our Brazilian operation, which experienced lower tangible prices and ongoing ramp-up costs associated with our spodumene facility. Critical Materials' SG&A expenses in Q2 2019 decreased by \$3 million or 14% compared to the same period in the prior year, primarily due to lower variable compensation expense. EBITDA for Critical Materials was \$12.4 million or 66% lower than Q2 2018, with EBITDA margin up 6%.

Moving on to AMG Technologies on Page 5 of the presentation and starting on the top left of the page, you can see that revenue remained relatively unchanged to \$105 million compared to \$106 million in the second quarter of 2018. Second quarter gross profit adjusted for exceptional items decreased \$4.2 million or 15% to \$23.4 million.

Adjusted gross margin was 22% compared to 26% in the second quarter of 2018. The decline was driven by lower prices in titanium, alloys and coatings as well as timing effects within the engineering business. SG&A expenses decreased slightly to \$15.9 million in the second quarter compared to \$16.3 million in the same period in 2018. AMG Technologies' second quarter EBITDA decreased by 20% or \$2.8 million to \$11.4 million from \$14.2 million in Q2 2018, again due to lower levels of gross profit.

The company signed \$33.2 million in new orders during the second quarter of 2019, representing a 0.54 book-to-bill ratio. The quarterly order intake was strongly affected by timing issues. These timing issues are clearly evidenced by the order intake of over \$40 million in July, driven by strong orders of turbine blade coating and induction furnaces for the aerospace market. The July order intake returns our backlog to the historically high levels engineered -- engineering has enjoyed for the past 18 months.

Turning now to Page 6 of the presentation. On the top left, you can see that AMG's second quarter 2019 SG&A expenses were \$33.8 million compared to \$37.2 million in the -- in Q2 2018. This decrease is primarily due to lower variable compensation expense. AMG's second quarter 2019 net finance costs increased to \$6.8 million compared to \$5.3 million in Q2 2018. This increase is primarily driven by interest expense associated with lease liabilities due to the adoption of IFRS 16 on January 1, 2019.

AMG reported an income tax benefit of \$13.5 million in the second quarter 2019 as compared to a tax expense of \$19.5 million in Q2 2018. The tax benefit is due to the decline of vanadium profitability and vanadium inventory write-downs in the current year. AMG paid taxes of \$6.3 million in the second quarter of 2019 as compared to tax payments of \$7 million in the same period in 2018. These cash tax payments are related to earnings in 2018.

As a result of the year-over-year volatility in income and the timing of cash tax payments, the present cash tax rate is not indicative of the current year performance as payments in the current year are reflective of the income in 2018 and not in 2019. Once earnings is stabilized, we believe that the cash tax rate is the more meaningful metric with regard to AMG's taxes due to the volatile nature of the company's deferred tax balances.

Turning to Page 7 of the presentation. You can see on the top left that cash used in operating activities was \$11 million in the second quarter of 2019 compared to cash used of \$1 million in Q2 2018. This decrease in operating cash flow is mainly due to acquiring high-priced inventory which was then sold at lower market prices from limited profitability. AMG's annualized return on capital employed was 19% for the first half of 2019. AMG finished the second quarter of 2019 with \$109 million of net debt. The increase versus year-end levels was mainly because AMG returned \$81 million of cash to shareholders in the share buyback program in our final dividend. It was also due to capital expenditures related to our expansion projects at AMG's Vanadium, titanium aluminide, lithium and heat treatment facilities. In terms of liquidity, AMG's balance sheet is strong, and we are in full compliance of all debt covenants as of June 30, 2019. AMG had \$441 million of total

liquidity as of the end of second quarter. That concludes my remarks. I would now like to pass the floor to Eric Jackson, AMG's Chief Operating Officer.

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Eric E. Jackson, AMG Advanced Metallurgical Group N.V. - COO & Member of Management Board [5]

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Thank you, Jackson. As Heinz mentioned, this quarter's financial results were disappointing as prices for many of our major products fell rapidly resulting in sales of high-cost inventory. Our primary operational focus is to clear this high-cost inventory and return to run rate profitability levels. AMG Vanadium's second quarter profitability declined considerably compared to the exceptionally strong second quarter of the prior year as prices continue to fall.

The price of ferrovanadium fell 39% in the second quarter of 2019, following a 41% fall in the first quarter. AMG Vanadium's depressed second quarter 2019 results are the result of lower-priced sales of high-cost inventory reflecting the price pattern that Heinz explained earlier. It's important to restate that AMG Vanadium's catalyst recycling business model is highly profitable at all ferrovanadium prices on a run rate basis. Our vanadium team is also efficiently and professionally progressing the transformational catalyst recycling expansion program as previously announced. In AMG Brazil, profitability in our mining and mineral processing operation was reduced by weak tantalum prices and the expensing of spodumene 1 ramp-up costs. However, we have made excellent progress in commissioning spodumene 1 during the quarter. The mineral processing plant operated at 85% of capacity during June, and we continue to increase plant availability and production levels in the third quarter.

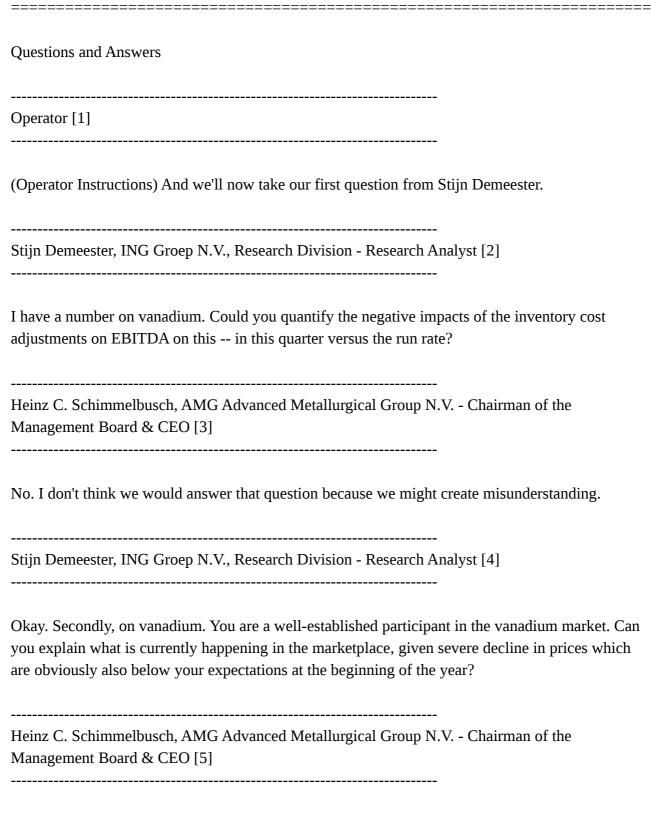
Most importantly, we also see production costs approaching our initial target. AMG Mineração will be a low-cost producer of spodumene due to the advantage of processing tailings from our tantalum production. Financial performance in our other Critical Materials business units was similarly impacted -- negatively impacted by falling prices. In AMG Technologies, titanium alloys and coatings had reduced second quarter profits, largely due to lower prices in titanium master alloys and coatings. However, the titanium aluminide business is exceptionally strong, and we continue to increase production levels and gain market share. We believe that titanium aluminides for the LEAP-X engine program, destined for both Boeing and Airbus, will continue to drive growth in this business unit. In AMG Engineering, our order backlog was [\$199 billion] at the end of the second quarter with about 30% relating to higher value-added turbine blade coaters. Second quarter order intake was weak, however, as mentioned by Jackson, over \$40 million of orders were finalized early in July. As noted earlier, our primary focus is to clear high-cost inventories and return to run rate profitability. Additionally, we remain focused on executing on our transformational expansion projects in lithium, catalyst recycling and AMG Technologies. I would now like to pass the floor to Dr. Heinz Schimmelbusch, AMG's Chief Executive Officer.

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Thank you, Eric. With one exception, all of our units in both the Critical Materials and the technology segments were EBITDA positive, both year-to-date and in the second quarter. The exception is AMG Mineração as a result of start-up expenses for spodumene 1, SP1. On lithium, we are pleased to share that Autotech completed the [food] performance test, and the plant was handed over to AMG. In June, we operated at 85% capacity, producing 6,349 tons of in-spec material. The present focus is to further optimize the plant performance to its full capacity. The latest estimates confirm our target production cost. We also work on the expansion of SP1 to what we call SP1 plus. That project is designed to increase the capacity from 90,000 to 120,000 tons per annum. The CapEx for SP1 plus will be about \$25 million. Continuing our lithium strategy, we are advancing our feasibility work on building a lithium carbonate and hydroxide plant in Brazil with a further upgrading facility to [better] grade at a site in Germany. That strategy is being developed in detail by our lithium management team in Germany. Turning to vanadium. I want to emphasize that the fundamental economics of our catalyst recycling activity are exceptionally strong. On a run rate basis, result the impact of historically -- in historical inventory positions, our existing recycling facility is highly profitable at today's prices. August 8 is the date for the groundbreaking ceremony in Zanesville, Ohio, the project which we internally call Cambridge 2. That project is essentially the doubling of the catalyst recycling plant in Cambridge, Ohio, it will have a processing capacity of roughly 30,000 tons of refinery catalysts annually. As previously announced, the project is presently estimated to require capital expenditures of about \$300 million, including contingencies and will be financed by tax-exempt municipal bonds. We closed on the issuance of \$370 million of such bonds on July 11, generating proceeds of \$325 million. These 30-year bonds are an attractive rate -- are at an attractive rate of 4.28%. Our doubling of the recycling capacity is to be seen in the light of the rapidly expanding market for fresh refinery and piece authorization catalysts worldwide as a result of refinery expansions and of the IMO 2020 legislation. Given the rise in demand for catalysts recycling services, the economics of Cambridge 2 continue to be extremely promising.

We are pleased with our progress on finalizing our global corporation in catalyst recycling with Shell catalysts and technologies. The integration of AMG's Engineering and AMG titanium and coatings segments is progressing as planned. We are focused on the aerospace engines market and identifying several growth opportunities, leveraging our strong market position and our leading technology position. Based on these opportunities, the new management team is completing a long-term business plan. That plant will be the cornerstone for evaluating the option for a separate listing in AMG Technologies. These transformational projects in lithium, catalyst recycling and in AMG Technologies confirm our confidence in our long-term guidance. Our long-term guidance, therefore, remains unchanged at an EBITDA level of \$350 million or more in 5 years or less. In the short term, our financial size [has replaced] as we work through our high-cost inventories as already explained. Therefore, and after a thorough reforecasting exercise, we have decided to update our full year EBITDA guidance for 2019 from the previously announced target of \$115 million to \$120 million. Operator, we would now like to open the line for questions.



Let me return to your first question. Just as I was thinking about it, the overwhelming difference between Q1 and Q2 is vanadium and EBITDA. So on your question on what's happening in the vanadium market. First of all, there was a radical spike in '18, culminating, of course, during the year and reaching its high in the first quarter and touching the first quarter in the beginning. That suddenly a price of \$50 and more per ton [-- \$50 per pound] has created incentives of marginal

mines and producers -- marginal producers in China in our interpretation who -- or even shut down operations to reactivate. That has increased, in our interpretation, also the production of high-cost producers. Because when you analyze the timelines of prices and when this production increases or curbs, you'll have an impression of the cost of those marginal producers. This increase of production in China was absorbed by obviously by -- to a certain degree by the REBA legislation effect or effects. So on western deliveries, I think that the volume price was primarily the recite of REBA delays, implementation or enforcement delays. But I think, interestingly, we see that there was a marginal production increase which, of course, now has the reverse effect because those marginal producers would have cash flow difficulties in the price reversal. So we see the bottom, I think, in the vanadium price and ferrovanadium. You should -- one should note that when you think about long-term evidences of vanadium that's hovering around \$19, \$20 per pound, but the structural changes in the -- I've heard, in the last 1.5 weeks is by legislation, shipped that even if the enforcement of the legislation is partially delayed to -- by \$5 or \$10 a [chain]. So that's my reading of the vanadium market and particularly of the ferrovanadium market.

| Stijn Demeester, ING Groep N.V., Research Division - Research Analyst [6]   |
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| Okay. A question on lithium. Is it possible to quantify the full year impact of these higher-than-expected startup costs?   |
| Heinz C. Schimmelbusch, AMG Advanced Metallurgical Group N.V Chairman of the Management Board & CEO [7]   |
| We will produce close to capacity in the second half. And our costs are as planned. And our therefore, our margin is predictable. And there will be a the first half celo and in the second half, a positive impact of a positive EBITDA impact, obviously. |
| Stijn Demeester, ING Groep N.V., Research Division - Research Analyst [8]   |
| Okay. Okay. Understood. The final question, if I may. Last quarter, you also provided guidance for 2020. You don't repeat that earlier guidance of \$200 \$200 million EBITDA or more, how should we think of that?   |
| Heinz C. Schimmelbusch, AMG Advanced Metallurgical Group N.V Chairman of the Management Board & CEO [9]   |

Given -- we have said that the prices across the several of our major products are -- have [recompressed] dramatically. For -- In several of those materials, we see these declines as temporary, and they could reverse by the end or '19 or in the second half during the '19. As such, we don't provide guidance for 2020 based in '19. As price escalators become clearer. If you ask me on what would be on a run rate basis on current price levels, assuming stable inventory positions, our run rate EBITDA under such circumstances would be characterized as \$150 million. A reversal of the recent negative price trends in the second half of -- will positively impact this figure, resulting in a higher profitability. Additionally, we believe that this base profitability level, of course, has underlying cost potential. So we ask for your understanding that we will give guidance on 2020 later this year. Now the related question is referring to long-term guidance. As specifically, our translational projects assume catalyst recycling and AMG Technologies confirm our confidence in our long-term guidance which remains unchanged at the EBITDA level of \$350 million or more in 5 years or less.

| Operator [10]   |
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| We'll now take our next question from Henk Veerman.   |
| Henk Veerman, Kempen & Co. N.V., Research Division - Research Analyst [11]  |
| It's Henk Veerman from Kempen & Co. First question and just to get it right for myself, if I take the \$150 million guidance as starting point earlier this year, is it fair to assume that if we think about the new guidance of \$120 million, that the main difference is driven by the vanadium price which has been disappointing? Or were there other material disappointments between then and now that have made you adjust those the guidance? |
| Heinz C. Schimmelbusch, AMG Advanced Metallurgical Group N.V Chairman of the Management Board & CEO [12]  |
| Clearly, vanadium.  |
| Henk Veerman, Kempen & Co. N.V., Research Division - Research Analyst [13]  |
|   |

Okay. But if I then turn to AMG Technologies...

| Heinz C. Schimmelbusch, AMG Advanced Metallurgical Group N.V Chairman of the Management Board & CEO [14]  |
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| If you want to allow me one more remark on that. Clearly, vanadium. And we were surprised by the further price decline in the second quarter. We didn't expect that.  |
| Henk Veerman, Kempen & Co. N.V., Research Division - Research Analyst [15]  |
| Okay, clear. Then on AMG Technologies, which saw a large EBITDA swing Q1 versus Q2, which is think has is inherent to the business model. But you report a \$30 million in the first half of 2019 versus \$68 million last year. Can we still expect organic sales growth or let's say, organic earnings growth of AMG Technologies year-on-year in 2019? And inherently, I'm also asking what's the EBITDA of AMG Technologies was last year excluding one-offs? |
| Heinz C. Schimmelbusch, AMG Advanced Metallurgical Group N.V Chairman of the Management Board & CEO [16]  |
| Well, we have started AMG Vanadium February 1.  |
| Jackson M. Dunckel, AMG Advanced Metallurgical Group N.V CFO & Member of Management Board [17]  |
| AMG Technologies.   |
| Heinz C. Schimmelbusch, AMG Advanced Metallurgical Group N.V Chairman of the Management Board & CEO [18]  |
| AMG Technologies, February 1. And Jackson, do you want to comment on  |
| Jackson M. Dunckel, AMG Advanced Metallurgical Group N.V CFO & Member of Management Board [19]  |

| Well, we did have a onetime benefit in 2018 associated with a customer payment due a cancelation of a contract. We have not disclosed the quantum of that. But it does affect the comparison between the \$68 million last year and this year.   |
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| Heinz C. Schimmelbusch, AMG Advanced Metallurgical Group N.V Chairman of the Management Board & CEO [20]   |
| It is fairly flat on an  |
| Henk Veerman, Kempen & Co. N.V., Research Division - Research Analyst [21]   |
| So we should expect flat EBITDA in AMG Technology (sic) [AMG Technologies] basically year-on-year in 2019?   |
| Heinz C. Schimmelbusch, AMG Advanced Metallurgical Group N.V Chairman of the Management Board & CEO [22]   |
| That is correct.   |
| Henk Veerman, Kempen & Co. N.V., Research Division - Research Analyst [23]   |
| Okay, perfect. And then also just to clear it up for myself. Did you just say that then the 2019-sorry, 2020 EBITDA guidance, which used to be \$200 million, is now officially under discussion still, and it's not really a level we should take into account any more as official guidance? |
| Heinz C. Schimmelbusch, AMG Advanced Metallurgical Group N.V Chairman of the Management Board & CEO [24]   |
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I have -- gave you a very sophisticated language that we do later this year, the work for giving guidance for 2020, given the present uncertainties in the price volatility of our commodities. And I then have said that under present price levels, it's -- [around] \$108 million would be \$150 million,

that's what I said, it's not a guidance, it's the run rate. And by the way, let me mention that the present price level is below [or] significantly below the crisis price level of 2008, which was the all-time portfolio price -- negative price fight in the history of those materials. And to have -- to translate that into a run rate of \$150 million is quite impressive. But the -- it is prudent to wait which -- you know there's a phenomenon in these materials. When you look at the 10-year, 5-year or long-term averages, it is clear that each of the materials which we are operating has a mean kind of -- it's not a statistically good over mean but has a mean. And reverse is to that mean. And there's a negative deviation this is being corrected and will have positive deviations being corrected. We are in the negative territory towards the mean. We want to have a more clear analysis what that means for us. Because it's an unusual, unprecedented situation. So we need to know what are the implications of that. They are probably positive, but we need to know what it is before giving guidance. This is just simply a matter of conservative proceedings.

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Henk Veerman, Kempen & Co. N.V., Research Division - Research Analyst [25]

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Okay. That's quite clear. On the AMG Technologies business, again, you cite weak order inflow. I mean what we're seeing in Europe over the last months, and I cite multiple companies saying that, let's say, order inflow in general has been quite weak in May and in June. And you are quite clear that you think those delayed orders will come back in Q3. But is it not also due to the fact that your end markets, maybe excluding aerospace, have been -- have deteriorated in Q2?

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Heinz C. Schimmelbusch, AMG Advanced Metallurgical Group N.V. - Chairman of the Management Board & CEO [26]

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No, no. Misunderstanding. We said in July, the order intake became radically positive year-to-date, that's \$40 million in July, happened, done, signed. So yes, unfortunately, those orders have their seasonality. They don't have to provide themselves quarter-by-quarter. So we are very happy with the order intake, especially in the aerospace and especially in the particular aerospace fields where we are work leaders and that refers to turbine plate and other coatings business. And it also refers to the titanium aluminide, which are especially strong and where we are about to increase our contractual position -- sales position substantially. So we might even announce that or have to announce it later. But that -- it gives a very positive picture and that is fully in line with our developing of an increased -- a sustainable increase in profitability of AMG Technologies based on our technology leadership in the engine technologies.

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Henk Veerman, Kempen & Co. N.V., Research Division - Research Analyst [27]

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| sort of at the start of this lithium chemicals venture, could you update us on what the plans are? And if Ecopro is still a one of the main clients potential clients?  |
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| Heinz C. Schimmelbusch, AMG Advanced Metallurgical Group N.V Chairman of the Management Board & CEO [28]  |
| [indiscernible] we have a series of meetings in Europe on that issue with Ecopro. They are one of our team but a very qualified partner option. And we will produce carbonate and hydrocrack in Brazil. It's just a question of finalizing the engineering work on this. And that will lead to the leverage from Brazil to the market but particularly to our own upgrading facility in Germany. And that upgrading facility will convert these when you refer to it as technical-grade qualities into battery-grade qualities. We will also use that upgrading facility for third-party screens in order to homogenize production, which benefits from such a homogenization into battery grade. That's a very sophisticated project, a plant project [that developed] our in-house engineering team or chemical team in Germany. And it should be [built up] over the last year. I'll remind you that we also on the pilot plant in Germany for a solid-state catalyst by the same team that's [relatively plugged] development exercise and the plant building in Germany and [procedure] will probably be parallel. |
| Henk Veerman, Kempen & Co. N.V., Research Division - Research Analyst [29]  |
| Okay, that's all very exciting. Last question to Jackson, a small question. What is the positive impact of IFRS 16 on the EBITDA on a full year basis?  |
| Jackson M. Dunckel, AMG Advanced Metallurgical Group N.V CFO & Member of Management Board [30]  |
| It's about \$1 million or \$2 million, not large. We don't have a lot of leased assets. You can see in our balance sheet the lease liability is only 32. So there's not a lot of cost associated with that.   |
| Operator [31]   |
| I'll now take our next question from Krishan Agarwal.   |

Okay. Two questions remain. Firstly on Ecopro, it has been surprisingly quiet. And I think you're

| Krishan M. Agarwal, Citigroup Inc, Research Division - Analyst [32]   |
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| This is Krishan from Citigroup. A quick follow up on the guidance. I think I sort of didn't understand it well. Did you say that the technology business on a full year basis will be flat year-on-year in 2019? That means if you had \$6 million to \$7 million of EBITDA last year, you're expecting \$6 million to \$7 million in this year, is that the right understanding? |
| Jackson M. Dunckel, AMG Advanced Metallurgical Group N.V CFO & Member of Management Board [33]  |
| No. It will be flat excluding the one-time payment that we have yet to disclose.  |
| Krishan M. Agarwal, Citigroup Inc, Research Division - Analyst [34]   |
| And possibly, is it   |
| Jackson M. Dunckel, AMG Advanced Metallurgical Group N.V CFO & Member of Management Board [35]  |
| Go ahead.   |
| Krishan M. Agarwal, Citigroup Inc, Research Division - Analyst [36]   |
| Okay, understand. Yes. Should we assume that the one-time benefit was sort of now low double-digit or something like that?  |
| Jackson M. Dunckel, AMG Advanced Metallurgical Group N.V CFO & Member of Management Board [37]  |
| No.   |

| Krishan M. Agarwal, Citigroup Inc, Research Division - Analyst [38]  |
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| Is it a fair assumption?   |
| Jackson M. Dunckel, AMG Advanced Metallurgical Group N.V CFO & Member of Management Board [39]   |
| Much less than that.   |
| Krishan M. Agarwal, Citigroup Inc, Research Division - Analyst [40]  |
| Okay. Okay. Thanks a lot. And then on the inventory. I mean given that the inventory was sort of a no-problem area for vanadium apart from the pricing. Is there any kind of a review you have done for inventory policy in terms of lowering the inventory days for the vanadium, particularly?   |
| Eric E. Jackson, AMG Advanced Metallurgical Group N.V COO & Member of Management Board [41]  |
| This is Eric Jackson. Certainly, our inventory positions, we monitor them very closely. We've spen catalysts. We have some obligations to take catalysts. And there is a little bit of a 3 to 4 months inventory timing. And so the main issue here was the long buildup in price inventory and the very dramatic short-term fall in prices. So we're also looking at how we might be able to hedge that in some way, although that, as you know, hedging vanadium prices is very difficult. |
| Krishan M. Agarwal, Citigroup Inc, Research Division - Analyst [42]  |
| Yes, understand. On a related note, I mean, what is your exposure to the nickel into this business? And this is into the context that nickel prices have rallied 30% in the last 1 month or so. And I was wondering if there's any positive read across on the inventory side of the on the for nickel?  |
| Heinz C. Schimmelbusch, AMG Advanced Metallurgical Group N.V Chairman of the   |

| We, of course, have a nickel-containing alloy which should produce in the recycling activity in Ohio. But the exposure positive or negative to that is minimal.  |
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| Krishan M. Agarwal, Citigroup Inc, Research Division - Analyst [44]  |
| Is there any way you can quantify the total nickel you consume in your vanadium business on an annualized basis?   |
| Eric E. Jackson, AMG Advanced Metallurgical Group N.V COO & Member of Management Board [45]  |
| Yes. Well, we of course, the spent catalyst that we received have, we might say, a 3% nickel content. 2% to 3% nickel content. We recover that material and sell it. So of course, some of those proceeds go back to the refiner. It isn't a real material number for us. The net number isn't a real material [number for us]. But it's positive. |
| Krishan M. Agarwal, Citigroup Inc, Research Division - Analyst [46]  |
| I understand. I understand. And then and the last question   |
| Heinz C. Schimmelbusch, AMG Advanced Metallurgical Group N.V Chairman of the Management Board & CEO [47]   |
| It was molybdenum.   |
| Krishan M. Agarwal, Citigroup Inc, Research Division - Analyst [48]  |

Yes, yes. And the final question, what was the magnitude of change in the titanium prices which has led to this 40% decline into the EBITDA in the technology business? I just can't see the titanium prices in the sheet you declared in the presentation.

| Heinz C. Schimmelbusch, AMG Advanced Metallurgical Group N.V Chairman of the Management Board & CEO [49]   |
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| So we are not safe as dependent really with the margin of business. So the only thing there certain, titanium alloys, of course, contain vanadium V2O5, vanadium oxide, high PO [vanadium]. And that has, of course, a negative impact once the because again, you buy a V2O5, you put it into the alloy. That has a certain production cycle, you buy it and then you sell the alloys. And then it's, of course, the vanadium price has collapsed (inaudible) when you sell it, but it gives you a negative impact. That has nothing to do with titanium prices and has nothing to do with quantities. The titanium alloy business is exceptionally positive and growing.   |
| Operator [50]  |
| We'll now take our next question from Andreas Markou.  |
| Andreas Markou, Joh. Berenberg, Gossler & Co. KG, Research Division - Analyst [51]   |
| A couple at my end as well. So I mean, this year, we've had a decline in guidance twice so far. You do mention that the prices are at all-time lows, that you're expecting we're at the bottom. But what is the risk we actually may see a further decline in guidance later in the year? That's first one. Second one is on SP1 Plus. Do you expect to fully complete this project by end of '20, mid '21? Third one is on lithium chemicals. You did give us a bit more detail qualitative detail about the project. But in terms of a bit more tangible guidance, quantitative and timing, when should we expect to get more or less? And fourth question is on your ramp-up costs for SP1. Can you maybe give us a number or a range for this? |
| Heinz C. Schimmelbusch, AMG Advanced Metallurgical Group N.V Chairman of the Management Board & CEO [52]   |
| The prices when they fall like this, then the risk of a price further price fall began. That's a   |

mathematical observation. So I would say that the prices are -- and I've said it before, in -- all in a position where they have to seek to return to their -- to the means. Their internal arm situation. So it seems to be that the prices at this crisis level have bottomed out. There is also the cost consideration, for example, we are a low-cost vanadium -- we are the low-cost vanadium producer, there are certain levels where everybody is already in close to cash breakeven or negative territory.

So they have bottomed out in my view. So that would say that since we have a run rate indication, we gave a run rate indication, we have not guided this yet, the run rate indication of \$150 million, excluding inventory we have. That's for 2020. A run rate indication is out correction of the price potential which I have just tried to describe. In this year, we have given now a guidance based on varying level of reforecasting exercise in great detail, which is slightly higher than that. And we could have done also speculative ingredients of more price recovery, but we didn't do that. So that's what it is. You give guidance because -- if you try to do the best estimate you have, you don't give guidance and then you give back the (inaudible) contingency, or you add a hopeful element. It is just what it is. It's a rather know-how intensive exercise to come to the guidance.

| Operator [53]   |
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| We'll now take our next question from Raymond Cramer.   |
| Unidentified Analyst, [54]  |
| I just want to come back one more time to the vanadium question. And I just want to understand a little bit better the price like there. My assumption is that you are buying the feedstocks based on the spot price of the underlying metal at the time that you receive them and then selling at spot price 3 or 4 months later, that's a processing, is that right? I mean there's always going to be a 3- to 4-month lag. |
| Eric E. Jackson, AMG Advanced Metallurgical Group N.V COO & Member of Management Board [55]   |
| That's generally correct. That's generally correct. Of course, the volumes on both the sourcing side and the sales side have different dynamics.  |
| Unidentified Analyst, [56]  |
| So they are not it's not indexed to the underlying metal?   |
| Eric E. Jackson, AMG Advanced Metallurgical Group N.V COO & Member of Management Board [57]   |

| No. It is indexed. The pricing is indexed. But of course, the volume is not fixed equally on both sides. So inventory levels between 3, 4 months can be more than that, and it can be less than that depending upon the demand on our sales side and on our refiner's production levels on our sourcing side.   |
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| Unidentified Analyst, [58]  |
| Okay. And just I know, obviously, it was a drag-up on earnings this quarter. But when I look at, let's say, Q3 to Q4, pricing was up, I don't know, double-digit amount. Would there have been a lift to earnings, so to speak, from that? Or is it less prevalent in the upside link then?   |
| Heinz C. Schimmelbusch, AMG Advanced Metallurgical Group N.V Chairman of the Management Board & CEO [59]  |
| Are you saying that if there is a price recovery?   |
| Unidentified Analyst, [60]  |
| Right, right. Price went up from Q3 to Q4. So you [correctively] working off cheaper feedstocks?  |
| Eric E. Jackson, AMG Advanced Metallurgical Group N.V COO & Member of Management Board [61]   |
| Yes. I think we've said that clearly in the past that, of course, as a producer, we have a certain priced inventory position. So when prices go up, we have some expansion of our margins. And when they come down, we have some depression in our margins. This, however, was a very exceptional case. And I think Heinz, in his opening remarks, explained it very clearly. |
| Operator [62]   |
| We'll now take our next question from [Peter] Applebaum.  |

| Unidentified Analyst, [63]  |
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| I've got some follow-up questions as well on the vanadium market and inventory impact. So first question, in the EBITDA number that you've given, you stated that there's no inventory revaluation effects there, so can we assume that the weakness in EBITDA is simply that you are realizing the cost of those higher-priced inventories which you bought over Q4 and Q1 against much lower sales prices in the spot market? That's first question   |
| Heinz C. Schimmelbusch, AMG Advanced Metallurgical Group N.V Chairman of the Management Board & CEO [64]  |
| That's correct. That's correct.   |
| Unidentified Analyst, [65]  |
| Okay. And then perfect. And then the second question, so we've seen a inventory write-down, which obviously came through in the net income number of \$45 million. You've taken that inventory write-down now in Q2. So does that mean that you're sitting in a position now where your inventories are now more appropriately priced relative to spot prices? And we actually shouldn't see any huge costs coming through in the second half of the year, is that the right way to think about that? |
| Eric E. Jackson, AMG Advanced Metallurgical Group N.V COO & Member of Management Board [66]   |
| No. That's not correct. As we've written down to not to below not to reflect our normalized margins. We write down to the lower of cost [per] market. So our the margins we realize going forward, and it's reflected in our guidance, do not fully recognize what is our normalized margin at today's prices.  |
| Unidentified Analyst, [67]  |

| Fair. I don't understand that. So that inventory write-down of \$45 million. What is the stock price or the price that that's been referenced against to get to that cost? |
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| Jackson M. Dunckel, AMG Advanced Metallurgical Group N.V CFO & Member of Management Board [68]   |
| Yes. Today's cost. It's written down to today's price. But that means that we don't have any margin if we sell it at today's price. We get \$0.                            |
| Unidentified Analyst, [69]   |
| Okay. That makes sense.  |
| Heinz C. Schimmelbusch, AMG Advanced Metallurgical Group N.V Chairman of the Management Board & CEO [70]   |
| But the idea is that the sales price reverses, then of course, you realize the margin.   |
| Jackson M. Dunckel, AMG Advanced Metallurgical Group N.V CFO & Member of Management Board [71]   |
| Yes.   |
| Unidentified Analyst, [72]   |

Yes. Yes. Okay, fine. And then the last question. Just a follow up on the previous caller's question. So if we look at the run-up on vanadium prices in the second half of last year. You had a similar increase in price to what we've seen in terms of the decrease in price. And if you look at your quarterly delta -- if you look at the quarterly delta in EBITDA in Q2 of 2018 versus Q4 of 2018, you only had about a \$13 million delta in EBITDA. But from the peak of Q4 of last year to what you've reported in Q2 of this year, your EBITDA has gone down by about \$40 million. So nearly a threefold difference in terms of the sensitivity of EBITDA to a fairly similar change in price. So the question is, did you buy preemptively in Q4 on the anticipation that vanadium prices would

| would be, say, 3 to 4 months, but in fact, in this scenario, it's actually a lot higher? And if it is that, then how long are we thinking about for your inventory unwind to actually come through?   |
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| Eric E. Jackson, AMG Advanced Metallurgical Group N.V COO & Member of Management Board [73]   |
| That's a long complicated question. But we always look to minimize our inventory. So we have never taken an inventory position other than a normal inventory position. I think your question on Q3, Q4, if that's what it was, is that the increased profit from the sales, increased profit from Q3 to Q4 isn't consistent with the write down on the subsequent timing. It's because you we don't write up our inventory levels to market. We only take profits on the material we actually sell. So if we could have an inventory position substantially below the market but we don't reflect that in our earnings. We're in the same prices. |
| Unidentified Analyst, [74]  |
| So basically it's a timing situation. You didn't necessarily sell into those very high prices that we saw in the fourth quarter of last year. You actually have to take volumes coming from the revenue line. Okay.   |
| Heinz C. Schimmelbusch, AMG Advanced Metallurgical Group N.V Chairman of the Management Board & CEO [75]  |
| So as we do the restate, we take contractual quantities. We don't buy speculative positions. We never do.   |
| Eric E. Jackson, AMG Advanced Metallurgical Group N.V COO & Member of Management Board [76]   |
| These are long-term, multiyear sourcing contracts that are indexed.   |
| Unidentified Analyst, [77]  |

| Okay, helpful. And then just one final question. The \$150 million run rate that you mentioned, that's at the current footprint that are higher as you know it doesn't include the expanded production capacity?  |
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| Heinz C. Schimmelbusch, AMG Advanced Metallurgical Group N.V Chairman of the Management Board & CEO [78]  |
| Correct, current footprint.   |
| Operator [79]   |
| And we'll now take our next question from a follow up from Stijn Demeester.   |
| Stijn Demeester, ING Groep N.V., Research Division - Research Analyst [80]  |
| Yes, just a clarification on this \$150 million run rate for 2020. So that is without inventory corrections on stock prices? And taking into account the 90,000 kilo ton of spodumene, the full production of spodumene 1? Or should we see a sort of 2018 levels? I would assume full production of 90,000 tons. |
| Heinz C. Schimmelbusch, AMG Advanced Metallurgical Group N.V Chairman of the Management Board & CEO [81]  |
| Yes. No inventory correction. So that's the answer. \$150 million run rate in a [true] run rate definition and 90,000 spodumene.  |
| Operator [82]   |
| And once again, that does conclude today's conference. And we thank you all for your participation. You may now disconnect.   |

| Heinz C. Schimmelbusch, AMG Advanced Metallurgical Group N.V Chairman of the | 9 |
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| Management Board & CEO [83]  |   |

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Thank you.