

LETTER TO SHAREHOLDERS

2022: A TRANSFORMATIONAL YEAR

We are pleased to report on the very successful year 2022. **AMG has achieved the highest EBITDA in its 15-year history with \$343 million for the full year 2022.** For 2023, we provided EBITDA guidance “to exceed \$400 million.” Our 5-year EBITDA guidance from May 2022 stands as “\$500 million, or more, in 5 years, or less.” This will be updated at the Annual General Meeting on May 4, 2023.

The star performer in 2022 was AMG Lithium's Brazil operation with an EBITDA contribution of \$215 million, or 63% of the total EBITDA. This share of “lithium” in AMG is likely to increase over time, as the mine in Brazil expands.

In summary, AMG has shifted to a new plateau of profitability. The 5-year average EBITDA for 2017 through 2021 was around \$130 million. The 5-year average EBITDA for 2022 through 2026 is likely to exceed \$400 million.

We ended the year with a cash position of \$346 million, slightly higher than last year, despite having invested more than \$300 million in fixed assets, working capital, dividends, and debt reduction. This outstanding end-of-year cash balance clearly demonstrates AMG’s ability to generate operating cash flow. This operating cash flow combined with our cash on hand is more than enough to fund the strategic projects detailed below.

AMG strives to maintain a conservative balance sheet and currently we have extremely low leverage by any measure. AMG has \$330 million of net debt, which is less than 1x EBITDA, and the book value of our equity is \$518 million, yielding a 0.64 net debt / equity ratio. AMG’s long-term debt facilities are split between a senior secured bank loan and a municipal bond. AMG issued the 7-year \$350 million term loan B in November 2021, and swapped the interest rate from floating to fixed at 4.9%. The 30-year unsecured \$325 million municipal bond has a fixed interest rate of 4.7%. Because of this, AMG’s entire debt is fixed below 5.0%, and we are not affected by the current rising rate environment. **Our fortress balance sheet will continue to support AMG as we continue to invest in our growth platforms.**

Furthermore, **AMG’S ROCE was 31%, a ratio rarely reached in our industry, especially considering our investment intensity.**

In addition to the excellent financial results, we have achieved several milestones in health and safety with 31 of AMG’s locations achieving **zero lost time incidents**. We outperformed the 2021 U.S. Bureau of Labor Statistics for Primary Metal Manufacturing by 77% for the recordable rate and by 62% for the lost time incidents.

We have further upgraded AMG’s ESG profile by **enabling a record of 99 million tons of CO₂ reduction** (exceeding the 79 million tons in 2021) and have committed to quantitative long-term targets to reduce CO₂ emissions (see the following table). The

continuous success of a number of our leading products based on circular economy activities or enabling CO₂ reduction at the level of our customers is based on our **capital allocation principle of “double materiality”**: capital expenditure authorizations look (1) at the incremental financial value and (2) at the impact on CO₂ reduction. Investment projects with a net CO₂ burden are only authorized under very special circumstances. We will continue our investment projects which are third-party verified by a global sustainability consultant with full Life Cycle Assessments to

Commitment	Baseline	2022	2030 Target	Status
Reduce direct CO ₂ emissions by 20% by 2030	625,000 mt	-26%	125,000 mt (-20%)	on track
Increase enabled CO ₂ by 10% per year	79 million mt	+25%	10% per year	on track

AMG’s substantial contribution to climate correction is not yet widely recognized (please see the ECO₂RP section at the end of this letter). The accelerating Scope 4 debate might change that.

AMG’s newly formed Diversity Council has commenced operations and will render ongoing advice to the Management Board and the management teams of the units on how to monitor, enhance, and increase diversity on a variety of levels within the AMG Group. This is in line with our updated Value Statement and is an important milestone within our ESG initiatives.

NAME CHANGE: AMG CRITICAL MATERIALS N.V.

We will change our name to AMG Critical Materials N.V. As the AMG Critical Materials portfolio has developed over time, the company name “AMG Advanced Metallurgical Group N.V.” no longer adequately covers the activities of our Group. In the IPO prospectus of 2007, “Lithium” was not even mentioned. AMG’s mission is to provide critical materials and related process technologies to advance a less carbon-intensive world. That has not changed. AMG’s strategic investments continue to be focused on enabling CO₂ reduction within our “double materiality” system of capital allocation. That has not changed. However, AMG’s product portfolio has narrowed. Energy storage materials have taken center stage – lithium and vanadium in particular – and that is where we operate in technologies beyond metallurgy.

STRATEGIC PROJECTS GENERATING GROWTH

We have brought the \$325 million Zanesville **vanadium recycling construction project to completion**, the largest AMG investment project ever, on time and on budget and expect full production during the present quarter. At the Mibra Mine, we have commenced the construction of the expansion of the **annual spodumene production from 90,000 tons to 130,000 tons**. We have integrated our tantalum operations in Brazil into a **joint venture with JX Nippon Mining and Metals**, the world leader in the tantalum downstream market. Our tantalum operations are an important contributor to the Mibra Mine being such a low-cost spodumene producer. In Bitterfeld, Germany, we have commenced the construction of **Europe’s first lithium hydroxide battery-grade (BG) refinery** with a first module of 20,000-ton capacity. And **we have built and successfully commissioned the first LIVA battery for industrial peak shaving applications and are expanding it to provide an internal grid for rooftop solar energy integration**.



AMG Vanadium - Zanesville, Ohio, USA facility meltshop

These strategic projects have something in common, they are each **"first movers" and market leaders**. The vanadium recycling operation in Ohio is the world’s largest vanadium recycler; the Mibra Mine is a low-cost spodumene producer (around \$500 per ton CIF China); Bitterfeld’s first module will be Europe’s first lithium hydroxide (BG) refinery with the ambition to be the regional leader; and the LIVA battery opens the market for our foothold in the stationary battery market for industrial and grid management applications.

REALIGNING AMG'S PORTFOLIO

AMG’s original bet was on critical materials as defined by the EU, the US, and others. It was a “macro” bet. Over time we realized that there were two groups within the critical materials portfolio, the growth prospects of which would materially outperform the other portfolio constituents.

These outperformers were electricity storage or “battery” materials (lithium, vanadium, tantalum), and materials for aerospace engines (titanium alloys, titanium aluminides, vanadium aluminum alloys, chromium metal, and surface treatment technologies such as thermal barrier coatings).

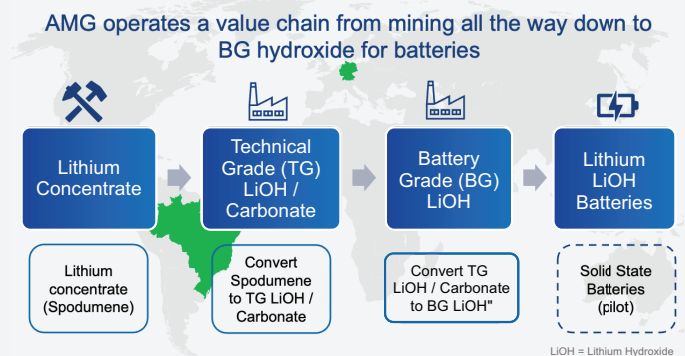
In the re-segmentation effective January 1, 2021, battery materials were combined in the Clean Energy Materials segment (“CEM”). This segment in 2022 generated 76% of the total EBITDA of AMG and was the destination of 86% of the capital expenditures. That capital allocation priority will continue both in lithium and in vanadium.

The aerospace business resides in the Critical Materials Technologies segment (“CMT”), with an EBITDA share in 2022 of 13% and with 12% of capital expenditures. Prior to COVID – when the aerospace market was in high growth mode – we studied the option to take the aerospace business public in the form of a subsidiary IPO. Given the sharp downturn in 2020 with an unpredictable timeline, we shelved that option. **Fortunately, the aerospace market has recently turned around.**

Accordingly, the Management Board of AMG is working on a re-segmentation of the AMG Group with details to be forthcoming when appropriate preparations have been completed and when authorized by the Supervisory Board.

LITHIUM

An expansion to 130,000 tons per annum is underway with an expected start-up at the end of the second quarter of 2023. To switch to the new production level implies a short standstill in the second quarter and the results will reflect that.



In 2022, AMG Brazil with the Mibra Mine as its dominating asset, had an EBITDA of \$215 million which is 63% of AMG’s consolidated EBITDA.

Presently spodumene is sold to the market under long-term contracts with index pricing. An FEL 3 feasibility study is underway for converting spodumene into lithium carbonate at the Mibra Mine. That is indicated to be a \$250 million investment. We are in



AMG Lithium - Bitterfeld, Germany

progressed talks with Kreditanstalt für Wiederaufbau (KfW), the German government bank, for a special long-term project financing that would carry a government guarantee. Bitterfeld is then the destination of the lithium carbonate production in Brazil.

Our next step is the **"battery-grade" (BG) lithium hydroxide refinery project in Bitterfeld, Germany**, Europe's first lithium refinery. Since the groundbreaking in May 2022, the first of five 20,000-ton per annum refinery modules is under construction with an estimated date for commissioning at the end of 2023. The first 20,000-ton module would receive its feed in the form of technical-grade (TG) lithium hydroxide from our spodumene, converted by our customers, or in the form of lithium carbonate from Brazil, once that plant operates.

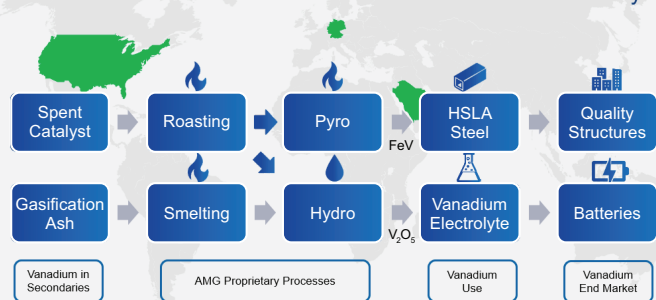
The growth strategy of "AMG Lithium" is to use our proven mineral lithium mining know-how, our ability to write long-term purchase agreements for TG lithium hydroxide or lithium carbonate (contracts which, under certain conditions, qualify for highly attractive German government-supported critical materials import financing); and our strong financial condition to support project financing to accelerate lithium resource developments. That is enabling additional refining steps in Bitterfeld (located in former East Germany).

Finally, in recent years we have assembled a "one-of-a-kind" lithium research & development team in Frankfurt around a new laboratory complex, where we operate a pilot plant for materials of the next generation lithium battery, the "solid state" battery.

VANADIUM

AMG produces ferrovanadium in Cambridge, Ohio, an alloy for steel, 100% from spent catalysts. In Nuremberg, Germany, AMG produces vanadium oxide (V_2O_5) used in chemicals and vanadium electrolytes for vanadium batteries, 100% from gasification residues. As previously mentioned, we are in start-up mode for the new ferrovanadium facility, built in Zanesville, Ohio, essentially doubling our capacity.

AMG is a Vanadium world leader based on circular economy



The vanadium battery market is expected to grow materially.

According to sources, VRFB (vanadium redox flow battery) deployments are forecasted to generate between 127,500 and 173,800 tons of new vanadium demand per year by 2031. This forecast would require more than twice as much vanadium as is currently produced annually today (119,750 tons of vanadium

produced in 2021). Accordingly, we are presently expanding our production facilities for vanadium electrolytes in Nuremberg four-fold. Furthermore, we have developed a process to convert roasted spent catalysts (the first production step in Ohio is to desulfurize the spent catalysts by roasting) into V_2O_5 and electrolytes.

Shell AMG Recycling B.V. is advancing its projects in the Middle East, in particular the first phase of the Supercenter project based on a long-term supply agreement with Aramco. Plant design optimization, site selection and permitting activities are progressing and the FEL3 partnering with Hatch engineering began in December 2022.

LIVA BATTERIES

In November 2022 we commenced production of our first LIVA battery, an industrial lithium vanadium hybrid battery system, at our graphite plant in Hauzenberg, Germany. **The LIVA battery combines lithium-ion and vanadium redox batteries with artificial intelligence routines and self-learning algorithms. At Hauzenberg the battery presently is used for peak shaving.**

As is the case for many hot-gas mills, the electricity demand in Hauzenberg is spiking. To help minimize the cost, the LIVA battery provides an opportunity to store electricity, and when needed, provide fast availability of power through the lithium part of the battery before transferring to the vanadium part. Additional functions will include cost saving through integration of rooftop solar electricity production and servicing the external grid.

We have 5 additional LIVA battery systems in various stages of construction underway in AMG, in Nuremberg (peak shaving, roof-top solar energy integration), Hanau (multifunctional demonstration unit), Rotherham, UK (integrating a solar farm, peak shaving), and Ohio (integrating a solar farm, peak shaving, standby power for outages). The first large installation under commercial contract is for Wipotec, Germany (see press release dated December 21, 2022).

LiVa Power Management Systems GmbH - Frankfurt, Germany



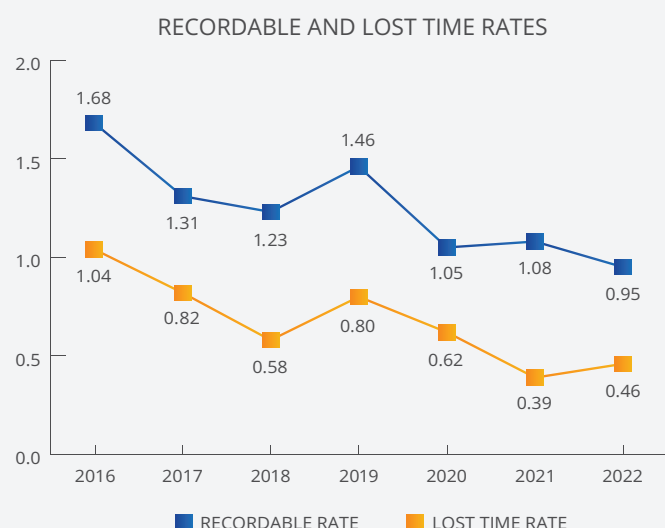
The LIVA opportunity showcases AMG at work: AMG Engineering builds the batteries, AMG Titanium supplies the electrolytes, and LiVa Power Management Systems GmbH provides project management and installs the software. As the applications grow, we are secure with regard to low-cost circular-based vanadium from affiliates.

These major developments combined with AMG Lithium’s outstanding performance signals the evolution of AMG’s strategy towards a focus on markets directly relating to e-mobility, circular economy and industrial batteries, next to AMG’s technology segment Critical Materials Technologies, which continues to focus on aerospace markets. AMG’s core strategy, which has not changed, is to build its critical materials business through industry consolidation, process innovation, and product development with the overriding objective to achieve industry leadership while being the low-cost producer.

2022 AMG SAFETY

We remain pleased with our safety performance which reflects our commitment to our core values, where our first stated value is “we act safely.”

In terms of our OSHA-equivalent recordable injury incident rates, we were able to improve on last year’s strong performance with a 12% reduction in our recordable incident rate while also setting an all-time best year-end performance for AMG.



We saw an uptick in our lost time injury rate in 2022 which, although disappointing, is still the second-best year-end result in the history of AMG following last year’s record-setting result. Eighty-two percent of our locations ended 2022 with no lost time injuries which signals our progress toward zero workplace incidents as an obtainable goal.

Although we are encouraged by our improvement against our internal performance trend, we are even more pleased by our performance against external benchmarks. When compared to the 2021 U.S. Bureau of Labor Statistics for NAICS 331 Primary Metal Manufacturing, AMG is outperforming the benchmark of 4.1 by 77% for recordable rate and the benchmark of 1.2 by 62% for the lost time rate. We plan to build on this industry-leading position moving forward.

ECO₂RP

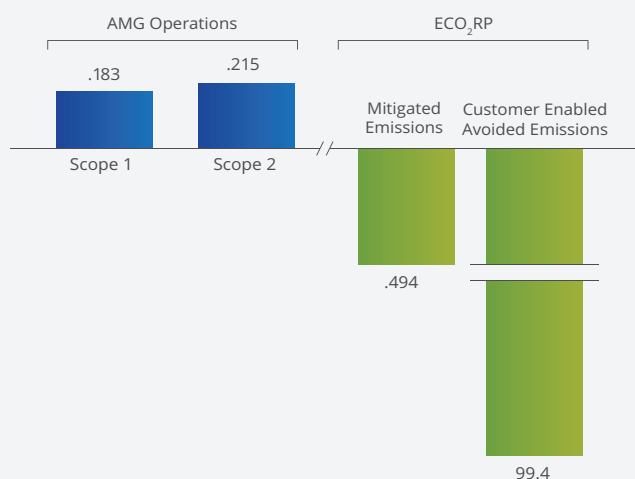
For nearly ten years we at AMG have been promoting the merits of developing measurement methodologies for CO₂ reduction initiatives beyond the traditional three scopes of emissions postulated by the Greenhouse Gas Protocol.

The basic thought was to seek ways **to avoid CO₂ emissions from occurring in the first place**. One key strategic instrument in the materials industry obviously is to **target circular economy**, to replace mining (primary extraction) with secondary materials resulting from recycling. We then focused on innovative products and technology-based solutions which **enable customers to reduce CO₂ emissions**, which would occur were those products and solutions not available.

We called this next iteration of emissions calculation our **ECO₂RP, or Enabled CO₂ Reduction Portfolio**. ECO₂RP leverages life cycle analysis to demonstrate quantifiably that the use of our materials helps to avoid greenhouse gas emissions. For example, when a jet engine turbine blade is coated by one of our thermal barrier coating machines, its operating temperature can increase, which enables CO₂ reduction.

We believe so strongly in ECO₂RP that we went so far as to pursue voluntary carbon offset projects associated with our products. However, we have now abandoned these projects – partly in favor of moving in line with **Scope 4** emissions reporting and partly in response to the voluntary carbon offset market itself.¹ **PWC recently announced that Scope 4, the Avoided Emissions, “is here.” We certainly hope so as we are in pole position for Scope 4.**

AMG Operational, Mitigated and Customer Enabled Emissions (in million tons CO₂e)



As the chart shows, the power regarding CO₂ reduction lies overwhelmingly in enabling avoidance of CO₂ emissions.

We are encouraged to see the momentum building around the reporting of Scope 4 emissions. This is the void we were working to fill with ECO₂RP. We believe that this new scope of emissions reporting will become dominant in terms of defining a “Green” business as stakeholder interest in investing in true impact continues to rise.

As we reflect on 2022, we do this with the continued strong performance of AMG’s ECO₂RP: the use of our materials in 2022 enabled and mitigated 99 million tons of CO₂ reduction. We will continue to evaluate our extensive core group of products and services and we expect robust future growth in ECO₂RP and have entered into commitments in that regard.

I have mentioned “double materiality” as the guiding principle of capital allocation in AMG. Please note that the product lines assembled in ECO₂RP as a “virtual segment” are more profitable and grow faster than the other AMG product lines.

¹ “Today some so-called carbon-offset schemes that involve firms paying money to, say, plant a forest, are dubious and opaque-and belong to the realm of con-artists and scams rather than to science.” (December 24, 2022). Climate Change and Biodiversity: The Laws of Nature. The Economist, Holiday Issue, pg. 16.

AMG'S VALUES

On a final note, I wish to conclude with a word on AMG’s culture and values. We used 2022 to review our Values Statement and our Code of Business Conduct and have updated both which have become effective as of the start of 2023. Our new Values Statement (see page 76) highlights the energy transformation’s demand for materials science-based solutions, and that AMG was founded to be a leader in providing the critical materials that meet these demands. We have now firmly embedded the protection of our planet, that we see as our greatest stakeholder, in AMG’s Value Statement. AMG’s Values – safety, value creation, respect, protection of our planet, and integrity – form the basis of how we conduct our operations and how we deal with our employees, business partners and stakeholders.

Supported by our Code of Business Conduct and Speak Up and Reporting Policy, company-wide communication and training processes have been installed to ensure that these values are better understood, embraced by everyone, and continue to be applied without exception.



DR. HEINZ SCHIMMELBUSCH
CHIEF EXECUTIVE OFFICER