AMG ADVANCED METALLURGICAL GROUP N.V. ANNOUNCES THE CONSTRUCTION OF ITS FIRST LITHIUM VANADIUM BATTERY FOR INDUSTRIAL POWER MANAGEMENT APPLICATIONS

Amsterdam, 23 August 2021 --- AMG Advanced Metallurgical Group N.V. ("AMG", EURONEXT AMSTERDAM: "AMG") is pleased to announce the construction of its first lithium vanadium battery for industrial power management applications. As part of its presence in the “circular economy” AMG is the world’s leading recycler of vanadium products from industrial residues and waste. This expertise includes high purity vanadium-based electrolytes, the central component of vanadium redox flow batteries.

In energy intensive industrial manufacturing applications, companies frequently seek to flatten production-driven spikes of electricity demand to reduce costs and avoid penalties charged by electricity suppliers. The traditional solution has been to install a captive “stand by” power unit running on diesel fuel. This solution is a tradeoff of lower electricity costs for higher CO_2 emissions.

AMG has developed an alternative concept in the form of a large scale “hybrid” lithium vanadium redox flow battery (“LIVA”) which avoids CO_2 emissions. The lithium part of the new battery design enables fast discharging including black start abilities. The lithium battery is then recharged by the low-cost vanadium battery which in turn is charged by the grid.

To manage the LIVA battery an advanced software solution is essential. AMG is pleased to announce the acquisition of Phyr7 GmbH, Heidelberg, a specialist for artificial intelligence (AI) based power management solutions. The Phyr 7 software ecosystem simulates and operates various energy storage assets like lithium-ion and Vanadium Redox Flow batteries as well as Gas-To-Power facilities with artificial intelligence routines and self-learning algorithms. Besides maximizing the efficiency, safety and lifetime of the batteries, the software enables the economic integration of sector coupling strategies with renewable energies and green hydrogen.

The first LIVA system will be installed in one of AMG’s German manufacturing plants and is scheduled to go online in the first quarter of 2022. Engineering has started for three more systems, two in Germany and one in the US.

Phyr7 will be renamed LIVA Power Management Systems GmbH, Frankfurt, and will manage AMG’s entrance into this very large market opportunity. LIVA Power Management Systems will be established with an initial capitalization of EUR 5 million. AMG Engineering is building the integrated system, AMG Titanium & Coatings will supply the vanadium electrolyte, and AMG Lithium is designing the lithium portion of the battery.

Dr. Volker Koelln, Founder of Phyr7 GmbH, is the CEO of LIVA Power Management Systems GmbH, and Holger Mueller-Rink is CFO, holding the same position at AMG Lithium. Dr. Stefan Scherer chairs the company's Supervisory Board.

About AMG

AMG is a global critical materials company at the forefront of CO_2 reduction trends. AMG produces highly engineered specialty metals and mineral products and provides related vacuum furnace systems and services to the transportation, infrastructure, energy, and specialty metals & chemicals end markets.

AMG Clean Energy Materials combines our recycling and mining operations producing materials for infrastructure and energy storage solutions while reducing the CO_2 footprint of both suppliers and customers. Clean Energy Materials spans the vanadium, lithium, and tantalum value chains. AMG Critical Materials Technologies combines our leading vacuum furnace technology line with high-purity materials serving global leaders in the aerospace sector. AMG Critical Minerals consists of our mineral processing operations in antimony, graphite, and silicon metal.

With approximately 3,000 employees, AMG operates globally with production facilities in Germany, the United Kingdom, France, the United States, China, Mexico, Brazil, India, Sri Lanka, and Mozambique, and has sales and customer service offices in Russia and Japan (www.amg-nv.com).

For further information, please contact:
AMG Advanced Metallurgical Group N.V. **+1 610 975 4979**
Michele Fischer
mfischer@amg-nv.com

Disclaimer

Certain statements in this press release are not historical facts and are "forward looking". Forward looking statements include statements concerning AMG's plans, expectations, projections, objectives, targets, goals, strategies, future events, future revenues or performance, capital expenditures, financing needs, plans and intentions relating to acquisitions, AMG's competitive strengths and weaknesses, plans or goals relating to forecasted production, 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 information that is not historical information. When used in this press release, 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 the predictions, forecasts, projections and other forward looking statements will not be achieved. These forward looking statements speak only as of the date of this press release. 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.