



Albemarle and 6K Sign Joint Development Agreement to Develop Novel Lithium Battery Materials

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Albemarle to invest in 6K and sponsor development of UniMelt® system for advanced, sustainable materials production

CHARLOTTE, N.C. and NORTH ANDOVER, Mass., Jan. 13, 2022 /PRNewswire/ -- [Albemarle Corporation](#) (NYSE: ALB), a global leader in advanced lithium materials, and [6K](#), an emerging leader of microwave-controlled plasma technology, today announced they have signed a joint development agreement (JDA) to explore the use of 6K's patented UniMelt® advanced, sustainable materials production platform to develop novel lithium battery materials through potentially disruptive manufacturing processes.



"Albemarle is developing advanced lithium materials to enable breakthrough levels of lithium-ion battery performance. The UniMelt plasma technology opens new reaction pathways for lithium material innovation. Our collaboration with 6K has significant potential," said Dr. Glen Merfeld, Chief Technical Officer for Albemarle Lithium.

At the same time, 6K's UniMelt platform promises benefits for sustainable manufacturing. For instance, if a conventional 16-GWh battery cathode production plant was converted to 6K's UniMelt platform, it would reduce CO₂ emissions by 70% (equal to 10M trees per year); lower water consumption by 90% (6.3M barrels per year) and reduce wastewater production by 100% (7M barrels per year) while requiring a 50% smaller factory footprint.

"6K technology creates the opportunity for modular manufacturing allowing for a smaller footprint, faster construction, and new models for localization. The collaboration sets a strong foundation not only for advanced material development but also for future commercialization," Merfeld said.

"We are pleased to partner with a world leader in lithium technology and production," commented Dr. Aaron Bent, 6K's CEO. "The agreement with Albemarle highlights the commitment of both organizations to drive battery material performance enhancements while introducing more sustainable production methods. We are thrilled to welcome Albemarle to our investor group and our engineers are eager to work alongside Albemarle's team."

In addition to the JDA, Albemarle has made an undisclosed investment in 6K through Volta Energy Technologies. An existing financial investor in 6K, Volta is a venture capital firm launched in 2017 that also connects strategic investors like Albemarle with well-researched investment opportunities in the energy storage sector. "Albemarle's engagement with 6K is yet another example of Albemarle's commitment to maintain its technology leadership in lithium," said Dr. Jeff Chamberlain, CEO of Volta Energy Technologies. "Volta is thrilled that 6K continues to work directly with world leaders in the development of its ground-breaking manufacturing technology."

About Albemarle

Albemarle Corporation (NYSE: ALB) is a global specialty chemicals company with leading positions in lithium, bromine and catalysts. We think beyond business as usual to power the potential of companies in many of the world's largest and most critical industries, such as energy, electronics, and transportation. We actively pursue a sustainable approach to managing our diverse global footprint of world-class resources. In conjunction with our highly experienced and talented global teams, our deep-seated values, and our collaborative customer relationships, we create value-added and performance-based solutions that enable a safer and more sustainable future.

We regularly post information to www.albemarle.com, including notification of events, news, financial performance, investor presentations and webcasts, non-GAAP reconciliations, SEC filings and other information regarding our company, its businesses, and the markets it serves.

Forward-Looking Statements

Some of the information presented in this press release, including, without limitation, information related to the exploration of the use of 6K's patented UniMelt® advanced, sustainable materials production platform to develop novel lithium battery materials through potentially disruptive manufacturing processes; Albemarle's developing advanced lithium materials in an effort to enable breakthrough levels of lithium-ion battery performance; the UniMelt plasma technology opening new reaction pathways for lithium material innovation; Albemarle's collaboration with 6K having significant potential; UniMelt's platform promising benefits for sustainable manufacturing (and the related metrics associated therewith); 6K's technology creating the opportunity for modular manufacturing allowing for a smaller footprint, faster construction, and new models for localization; the collaboration setting a strong foundation for advanced material development and for future commercialization; and all other information relating to matters that are not historical facts may constitute forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Actual results could differ materially from the views expressed herein. Factors that could cause Albemarle's actual results to differ materially from the outlook expressed or implied in any forward-looking statement include, without limitation: Albemarle and 6K may be unsuccessful in using 6K's patented UniMelt® advanced, sustainable materials production platform to develop novel lithium battery materials through potentially disruptive manufacturing processes; changes in economic and business conditions; changes in financial and operating performance of its major customers and industries and markets served by it; the timing of orders received from customers; the gain or loss of significant customers; competition from other manufacturers; changes in the demand for its products or the end-user markets in which its products are sold; limitations or prohibitions on the manufacture and sale of its products; availability of raw materials; increases in the cost of raw materials and energy, and its ability to pass through such increases to its customers; changes in its markets in general; fluctuations in foreign currencies; changes in laws and government regulation impacting its operations or our products; the occurrence of regulatory actions, proceedings, claims or litigation; the occurrence of cyber-security breaches, terrorist attacks, industrial accidents, natural disasters or climate change; hazards associated with chemicals manufacturing; the inability to maintain current levels of product or premises liability insurance or the denial of such coverage; political unrest affecting the global economy, including adverse effects from

terrorism or hostilities; political instability affecting its manufacturing operations or joint ventures; changes in accounting standards; the inability to achieve results from its global manufacturing cost reduction initiatives as well as its ongoing continuous improvement and rationalization programs; changes in the jurisdictional mix of its earnings and changes in tax laws and rates; changes in monetary policies, inflation or interest rates that may impact its ability to raise capital or increase its cost of funds, impact the performance of its pension fund investments and increase its pension expense and funding obligations; volatility and uncertainties in the debt and equity markets; technology or intellectual property infringement, including cybersecurity breaches, and other innovation risks; decisions it may make in the future; the ability to successfully execute, operate and integrate acquisitions and divestitures; uncertainties as to the duration and impact of the coronavirus (COVID-19) pandemic; and the other factors detailed from time to time in the reports Albemarle files with the SEC, including those described under "Risk Factors" in its Annual Report on Form 10-K and its Quarterly Reports on Form 10-Q. These forward-looking statements speak only as of the date of this press release. Albemarle assumes no obligation to provide any revisions to any forward-looking statements should circumstances change, except as otherwise required by securities and other applicable laws.

About 6K

6K represents 6000 degrees, setting 6K technology apart from all others. It is the temperature of operation of UniMelt (5778°K to be exact), the world's only microwave production-scale plasma, and also is the temperature of the surface of the sun.

6K uses proprietary, advanced plasma processing and industrial systems to create materials that are enabling the next generation of commercial and consumer products. The company's continuous UniMelt process allows for complete and unprecedented control of the entire materials engineering process to produce materials at exact specifications.

The 6K Additive division is an ISO9001 facility, reclaims and processes over a million pounds of Ti-64 per year, and has recently built and commissioned a state-of-the-art, 48,000-square-foot production facility for additive manufacturing powders.

To learn more about 6K, please visit www.6Kinc.com

About Volta Energy Technologies

Volta Energy Technologies is a venture capital firm spun out of the U.S. Department of Energy's Argonne National Laboratory, focused on identifying and investing in breakthrough energy storage and battery innovations after performing deep diligence with the support of unparalleled global research institutions. Seeded by strategic corporate investors Albemarle, Exelon, Equinor and Hanon Systems, Volta connects innovators with investors and relevant industries that are adopting energy storage technology, delivering strategic returns for all. To learn more, visit plusvolta.com and follow @VoltaLink on Twitter.

To learn more about Volta, please visit <https://volta.vc/>

Notes for editors

Albemarle press releases are available [here](#).

6K press releases are available [here](#).

Volta press releases are available [here](#).

[6K Logo](#)

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SOURCE Albemarle Corporation

Albemarle Media Contact: Kelli Hopp-Michlosky, +1 (980) 999-5143, Kelli.Hopp-Michlosky@albemarle.com; Albemarle Investor Relations Contact: David Burke, +1 (980) 299-5533, David.Burke@albemarle.com; 6K Media Contact: Bruce Bradshaw, +1 (603) 689-4597, bbradshaw@6Kinc.com; Volta Media Contact: Laura Smith, +1 630-364-2601, laura.smith@volta.vc