Lightweight metals leader Alcoa (NYSE:AA) is expanding its R&D center in Pennsylvania to accelerate the development of advanced 3D-printing materials and processes. Alcoa will produce materials designed specifically for a range of additive technologies to meet increasing demand for complex, high-performance 3D-printed parts for aerospace and other high-growth markets such as automotive, medical and building and construction. The \$60 million expansion is under construction at the Alcoa Technical Center, the world's largest light metals research center near Pittsburgh, Pennsylvania.

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"Alcoa is investing in the next generation of 3D printing for aerospace and beyond," said Alcoa Chairman and Chief Executive Officer Klaus Kleinfeld. "Combining our expertise in metal alloys, manufacturing, design and product qualification, we will push beyond the limits of today's additive manufacturing. This investment strengthens our leadership position in meeting fast-growing demand for aerospace components made using additive technologies."

Demonstrating this integrated strategy, the Company today unveiled its Ampliforge™ process, a technique combining advanced materials, designs and additive and traditional manufacturing processes. Using the Ampliforge™ process, Alcoa designs and 3D-prints a near complete part, then treats it using a traditional manufacturing process, such as forging. The Company has shown that the process can enhance the properties of 3D-printed parts, such as increasing toughness and strength, versus parts made solely by additive manufacturing. Further, the Ampliforge™ process significantly reduces material input and simplifies production relative to traditional forging processes. Alcoa is piloting the technique in Pittsburgh and Cleveland.

The Company's comprehensive approach to advancing additive manufacturing includes:

- Materials Leadership: Alcoa's material scientists will produce proprietary aluminum, titanium and nickel powders designed specifically for 3D-printing. These powders will be tailored for various additive manufacturing processes to produce higher strength 3D-printed parts, and meet other quality and performance requirements. Alcoa has a long history in metal alloy and powder development, having invented over 90 percent of the aluminum alloys used in aerospace today and with a 100-year history in aluminum metal powder development for rocket fuel, paint and other products.
- Combination of Process and Design: Alcoa will further its development of advanced 3D-printing design and manufacturing techniques—such as Alcoa's Ampliforge™ process—to improve production speeds, reduce costs, and achieve geometries not possible through traditional methods. Direct production of 3D-printed metal parts represents a new way to manufacture aerospace components and requires a new suite of innovative design tools to realize its full potential. By connecting our materials scientists with our manufacturing experts, we enable a rapid development feedback loop to inform new software tools and processes that take full advantage of additive capabilities.
- Qualification Expertise: With the industry's longest-running history of certifying aerospace components and qualifying processes, Alcoa will use its testing and process control expertise to overcome challenges with certifying new 3D-printed parts, starting with aerospace applications.

This expansion of the Alcoa Technical Center builds on Alcoa's additive manufacturing capabilities in California, Georgia, Michigan, Pennsylvania and Texas. The Company has been creating 3D-printed tools, molds and prototypes for the past 20 years and owns and operates one of the world's largest HIP (Hot Isostatic Pressing) complexes in aerospace, a technology that strengthens the metallic structures of traditional and additive manufactured parts made of titanium and nickel based super-alloys. Through the recent RTI acquisition, Alcoa gained 3D printing capabilities in titanium, other specialty metals and plastics for the aerospace, oil and gas and medical markets. This expansion positions Alcoa to industrialize its advanced 3D printing capabilities across these and other manufacturing facilities.

Construction of the new facility is expected to be completed in the first quarter of 2016. The project will create more than 100 full-time positions—including materials specialists, design experts, and process and inspection technologists—by 2017 and approximately 45 temporary jobs during construction.

The Pennsylvania Department of Community & Economic Development, Westmoreland County, Upper Burrell Township and Burrell School District have agreed to support the project through a mixture of financial support and tax abatements, resulting in an estimated cost savings of up to \$10 million.

About Additive Manufacturing

Additive manufacturing refers to the production of three-dimensional products by depositing one layer of material—such as metals and plastics—on top of another layer, based on a digital model. The process can help increase productivity, help customers bring products to market faster and enable the creation of complex designs not possible using traditional materials and processes.

About Alcoa

A global leader in lightweight metals technology, engineering and manufacturing, Alcoa innovates multi-material solutions that

advance our world. Our technologies enhance transportation, from automotive and commercial transport to air and space travel, and improve industrial and consumer electronics products. We enable smart buildings, sustainable food and beverage packaging, high-performance defense vehicles across air, land and sea, deeper oil and gas drilling and more efficient power generation. We pioneered the aluminum industry over 125 years ago, and today, our more than 60,000 people in 30 countries deliver value-add products made of titanium, nickel and aluminum, and produce best-in-class bauxite, alumina and primary aluminum products. For more information, visit www.alcoa.com, follow @Alcoa on Twitter atwww.twitter.com/Alcoa and follow us on Facebook at www.facebook.com/Alcoa.

Forward-Looking Statements

This release contains statements that relate to future events and expectations and, as such, constitute &ldguo; forward-looking statements&rdguo; within the meaning of the Private Securities Litigation Reform Act of 1995. Forward-looking statements include those containing such words as "accelerates," "anticipates," "estimates," "expects," "positions," "projects," "should," "will," or other words of similar meaning. All statements that reflect Alcoa's strategies, outlook, expectations, assumptions, or projections about the future other than statements of historical fact are forward-looking statements, including, without limitation, statements regarding the expected benefits and results of expanding Alcoa's research and development (R&D) center in Pennsylvania and its development of advanced 3D-printing materials and processes; forecasts regarding demand growth for complex, high-performance parts for aerospace and other markets and Alcoa's ability to capture such demand; and the expected timing for completion of construction of the expanded R&D facility in Pennsylvania and expected employment levels. Forward-looking statements are not guarantees of future performance and are subject to risks, uncertainties, and changes in circumstances that are difficult to predict. Important factors that could cause actual results to differ materially from those expressed or implied in the forward-looking statements include: (a) unfavorable changes in general economic conditions or in the markets served by Alcoa, including aerospace, automotive, building and construction, and other markets; (b) Alcoa's inability to successfully implement, or to realize expected benefits from, new technologies, investments, capacity expansions, or advanced manufacturing processes, including, without limitation, the expanded R&D facility in Pennsylvania, Alcoa's proprietary metal powders, Alcoa's new Ampliforge™ process for combining advanced materials, designs and additive and traditional manufacturing processes, Alcoa's Hot Isostatic Pressing technology, and other innovative products and techniques; (c) the impact of competitive developments, changes in the regulatory environment, or trends in the metals engineering, technology, and manufacturing sectors; (d) failure of Alcoa's additive manufacturing processes to meet customer specifications, product qualification tests, strength or fatigue resistance expectations, or other quality, design, cost, safety, or performance requirements; (e) Alcoa' sinability to realize expected benefits, as planned and by targeted completion dates, from the RTI acquisition; and (f) the other risk factors discussed in Alcoa's Form 10-K for the year ended December 31, 2014, and other reports filed with the Securities and Exchange Commission. Alcoa disclaims any intention or obligation to update publicly any forward-looking statements, whether in response to new information, future events or otherwise, except as required by applicable law.

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