UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 6-K

REPORT OF FOREIGN PRIVATE ISSUER PURSUANT TO RULE 13a-16 OR 15d-16 UNDER THE SECURITIES EXCHANGE ACT OF 1934

For the month of March 2017

Commission File Number: 001-36826

ADVANCED ACCELERATOR APPLICATIONS S.A.

(Exact name of registrant as specified in its charter)

20 rue Diesel
01630 Saint Genis Pouilly, France
(Address of principal executive office)

Indicate by check mark whether the registrant files or will file annual reports under cover of Form 20-F or Form 40-F:

Form 20-F	X	Form 40-F	

Indicate by check mark if the registrant is submitting the Form 6-K in paper as permitted by Regulation S-T Rule 101(b)(1):

Yes		No	X

Indicate by check mark if the registrant is submitting the Form 6-K in paper as permitted by Regulation S-T Rule 101(b)(7):

Yes		No	X

SIGNATURE

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

ADVANCED ACCELERATOR APPLICATIONS S.A.

By: /s/ Heinz Mäusli
Name: Heinz Mäusli
Title: Chief Financial Officer

Date: March 30, 2017

ADVANCED ACCELERATOR APPLICATIONS S.A.

EXHIBIT INDEX

Exhibit No.	Description
99.1	Press Release dated March 30, 2017 titled "Advanced Accelerator Applications Signs Strategic Supply Agreement with University of Missouri for Lutetium 177"

Exhibit 99.1

PRESS RELEASE

Advanced Accelerator Applications Signs Strategic Supply Agreement with University of Missouri for Lutetium 177

Strengthens Global Supply Chain for Lead Investigational Product Lutetium Lu 177 Dotatate (Lutathera®) and Future Lu-177 Products

Saint-Genis-Pouilly, France – March 30, 2017 – Advanced Accelerator Applications S.A. (NASDAQ:AAAP) (AAA or the Company), an international specialist in Molecular Nuclear Medicine (MNM), today announced a 10-year exclusive supply agreement for lutetium 177 with the University of Missouri Research Reactor (MURR®). Through this agreement, MURR® will supply AAA with GMP-quality lutetium 177 Chloride, the precursor for production of investigational product lutetium Lu 177 dotatate (Lutathera®) and other Lu 177-based therapeutics in development.

Lutetium 177 is a radionuclide that emits both high-energy beta and low-energy gamma radiation. Beta particles (electrons) are commonly used as an external radiation source to treat solid tumors, known as radiotherapy. However, in nuclear medicine, tumor killing beta particles are delivered to tumors intravenously, by labeling a targeting molecule (such as dotatate), with a radionuclide (such as lutetium 177), as in lutetium Lu 177 dotatate (Lutathera®). The targeting molecule has an affinity for certain tumor receptors, creating a rapid uptake of these molecules by the tumor cells. The beta emitting radiation of the radionuclide is treating the tumor; while the gamma emitting radiation may be visualized using specialized imaging techniques, enabling quantification of treatment delivery to tumor cells.

Ralph Butler, Executive Director of MURR® commented, *"MURR® has a proud history of providing research isotopes to industry. Since the early days of targeted Lu 177 research at MURR®, our vision has been to reliably supply Lu 177 Chloride for research and ultimately produce directly for drug manufacturers. This agreement completes our vision, as we believe AAA's breakthrough investigational product, Lutathera®, is on the verge of approval in the USA and Europe and will be widely administered to patients. The agreement also allows MURR® to continue its worldwide research collaborations using this uniquely capable isotope."*

Stefano Buono, Chief Executive Officer of AAA stated, *"This agreement complements our existing supply of Lutetium 177 from our IDB subsidiary in the Netherlands, and supports our plans to produce lutetium Lu 177 dotatate (Lutathera®) for the North American market at our Millburn, NJ site. Lutetium 177's utility in oncology therapy has been long documented and having two reliable sources uniquely positions us to expand our pipeline of lutetium 177-based therapeutics for oncology indications, and serve as a global supplier to other end users."*

About lutetium Lu 177 dotatate (Lutathera®)

Lutetium Lu 177 dotatate (Lutathera®) is an investigational, Lu-177-labeled somatostatin analog peptide currently in development for the treatment of gastroenteropancreatic neuroendocrine tumors (GEP-NETs), including foregut, midgut, and hindgut neuroendocrine tumors in adults. Lutetium Lu 177 dotatate belongs to an emerging form of treatments called Peptide Receptor Radionuclide Therapy (PRRT), which involves targeting neuroendocrine tumors with radiolabeled somatostatin analog peptides. This novel, investigational compound has received orphan drug designation from the European Medicines Agency (EMA) and the US Food and Drug Administration (FDA). Currently, lutetium Lu 177 dotatate is administered on a compassionate use and named patient basis for the treatment of NETs and other tumors over-expressing somatostatin receptors in ten European countries and in the US under an Expanded Access Program (EAP) for midgut NETs. New Drug Application and Marketing Authorization Application submissions to the FDA and EMA for lutetium Lu 177 dotatate are currently under review.

About Advanced Accelerator Applications

Advanced Accelerator Applications is an innovative radiopharmaceutical company that develops, produces and commercializes Molecular Nuclear Medicine products. AAA's lead investigational therapeutic candidate, lutetium Lu 177 dotatate (Lutathera®), is a novel MNM compound that AAA is currently developing for the treatment of Neuroendocrine Tumors, a significant unmet medical need. Founded in 2002, AAA has its headquarters in Saint-Genis-Pouilly, France. AAA currently has 22 production and R&D facilities able to manufacture both diagnostics and therapeutic MNM products, and has more than 500 employees in 13 countries (France, Italy, UK, Germany, Switzerland, Spain, Poland, Portugal, The Netherlands, Belgium, Israel, the U.S. and Canada). AAA reported sales of €109.3 million in 2016 (+23% vs. 2015). AAA is listed on the Nasdaq Global Select Market under the ticker "AAAP". For more information, please visit: www.adacap.com.

Cautionary Statement Regarding Forward-Looking Statements

This press release may contain forward-looking statements. All statements, other than statements of historical facts, contained in this press release, including statements regarding the Company's strategy, future operations, future financial position, future revenues, projected costs, prospects, plans and objectives of management, are forward-looking statements. The words "anticipate," "believe," "estimate," "expect," "intend," "may," "plan," "predict," "project," "target," "potential," "will," "would," "could," "should," "continue," and similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words. Forward-looking statements reflect the Company's current expectation regarding future events. These forward-looking statements involve risks and uncertainties that may cause actual results, events or developments to be materially different from any future results, events or developments expressed or implied by such forward-looking statements. Such factors include, but are not limited to, changing market conditions, the successful and timely completion of clinical studies, the timing of our submission of applications for regulatory approvals, EMA, FDA and other regulatory approvals for our product candidates, the occurrence of side effects or serious adverse events caused by or associated with our products and product candidates; our ability to procure adequate quantities of necessary supplies and raw materials for lutetium Lu 177 dotatate (Lutathera®) and other chemical compounds acceptable for use in our manufacturing processes from our suppliers; our ability to organize timely and safe delivery of our products or product candidates by third parties; any problems with the manufacture, quality or performance

of our products or product candidates; the rate and degree of market acceptance and the clinical utility of lutetium Lu 177 dotatate (Lutathera®) and our other products or product candidates; our estimates regarding the market opportunity for lutetium Lu 177 dotatate (Lutathera®), our other product candidates and our existing products; our anticipation that we will generate higher sales as we diversify our products; our ability to implement our growth strategy including expansion in the U.S.; our ability to sustain and create additional sales, marketing and distribution capabilities; our intellectual property and licensing position; legislation or regulation in countries where we sell our products that affect product pricing, taxation, reimbursement, access or distribution channels; regulatory actions or litigation; and general economic, political, demographic and business conditions in Europe, the U.S. and elsewhere. Except as required by applicable securities laws, we undertake no obligation to publicly update or revise any forward-looking statements, whether as a result of new information, future events or otherwise.

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