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 May 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: May 18, 2017

ADVANCED ACCELERATOR APPLICATIONS S.A.

EXHIBIT INDEX

Exhibit No.	Description
99.1	Press Release dated May 18, 2017 titled "Advanced Accelerator Applications Receives 2017 Industry Innovation Award from National Organization for Rare Disorders for NETSPOT®, a Diagnostic Drug for Neuroendocrine Tumors"

Exhibit 99.1

PRESS RELEASE

Advanced Accelerator Applications Receives 2017 Industry Innovation Award from National Organization for Rare Disorders for NETSPOT®, a Diagnostic Drug for Neuroendocrine Tumors

Saint-Genis-Pouilly, France – May 18, 2017 – Advanced Accelerator Applications S.A. (NASDAQ:AAAP) (AAA or the Company), an international specialist in Molecular Nuclear Medicine (MNM), today announced that it will receive a 2017 Industry Innovation Award from the National Organization for Rare Disorders (NORD®) for NETSPOT® (gallium Ga 68 dotatate), a diagnostic drug for the localization of neuroendocrine tumors (NETs) using a positron emission tomography (PET) scan, at the NORD Rare Impact Awards ceremony taking place in Washington, D.C. this evening. NORD is a patient advocacy organization dedicated to individuals with rare diseases and the organizations that serve them. Each year, NORD's Rare Impact Awards program recognizes individuals and organizations that have made a positive impact on patients' lives.

NETs are a group of tumors originating in the neuroendocrine cells of many different organs. NETs can remain clinically silent for years, delaying the diagnosis in many patients. Symptomatology may also vary widely, further complicating accurate diagnosis of NETs. These cancers are rare, but due to their indolent nature and the generally long life expectancy of NET patients, they are the second most common type of gastrointestinal malignancy in the US, and their incidence is increasing.[1,2]

NETSPOT®, a first-in-class drug, was approved by the US Food and Drug Administration (FDA) in June 2016, 23 months after the pre-Investigational New Drug meeting with the Agency. NETSPOT® has been designated as an orphan drug by the FDA and European Medicines Agency. AAA and its radiopharmacy partners around the US have delivered approximately 1,200 doses of NETSPOT® to patients in the first quarter of 2017, and are currently delivering doses at a rate of approximately 800 per month.

Stefano Buono, Chief Executive Officer of AAA stated, "*We are honored to be recognized by NORD for the innovation NETSPOT® is bringing to the NET community. We believe NETSPOT® offers superior sensitivity and accuracy compared to previously available diagnostics for NET patients. In a clinical study, NETSPOT® demonstrated the ability to change patient management decisions in 71% of cases imaged with the previously available standard of care.*[3]"

In March 2016, NETSPOT® was included in the National Comprehensive Cancer Network® (NCCN) Clinical Practice Guidelines in Oncology update for the evaluation of NETs.

In December 2016, the Centers for Medicare & Medicaid Services (CMS) granted NETSPOT® Transitional Pass-Through status under an "A-code" (A9587) for drug reimbursement, effective January 1, 2017. The same Healthcare Common Procedure Coding System (HCPCS) "A Code" may be used on claims to private payers.

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[1] Dasari A, et al. *JAMA Oncol.* 2017
[2] Yao JC, et al. *J Clin Oncol*. 2008
[3] Srirajaskanthan R, et al. *J Nucl Med.* 2010

About NETSPOT®

NETSPOT® (gallium Ga 68 dotatate) is a radioactive diagnostic drug indicated for use with positron emission tomography (PET) for localization of somatostatin receptor positive neuroendocrine tumors (NETs) in adult and pediatric patients. There are no Contraindications for use. Warnings and Precautions include gallium Ga 68 dotatate contributing to a patient's overall long-term cumulative radiation exposure. Long-term cumulative radiation exposure is associated with an increased risk of cancer. The safety of gallium Ga 68 dotatate was evaluated in three single center studies and in a survey of the scientific literature. No serious adverse reactions were identified. NETSPOT® is available in two forms: As a drug kit for reconstitution using a Ga 68 generator, and as a ready-to-use injection delivered from local radiopharmacies in select metropolitan areas. NETSPOT® has been designated as an orphan drug by the FDA and European Medicines Agency. For full prescribing information for NETSPOT ® please refer to: http://go.usa.gov/cSywA.

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 21 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, the UK, Germany, Switzerland, Spain, Poland, Portugal, The Netherlands, Belgium, Israel, the US 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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