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 23, 2017

ADVANCED ACCELERATOR APPLICATIONS S.A.

EXHIBIT INDEX

Exhibit No.	Description
99.1	Press Release dated March 23, 2017 titled "Advanced Accelerator Applications Reports 23% Sales Growth for Fiscal 2016; Continued NETSPOT® Launch Success"

PRESS RELEASE

Advanced Accelerator Applications Reports 23% Sales Growth for Fiscal 2016; Continued NETSPOT® Launch Success

On Track to Resubmit NDA for lutetium Lu 177 dotatate (Lutathera®) to FDA in Mid-2017

Conference Call Today at 10:00 a.m. ET

2016 Key Events:

- Sales for full-year 2016 increased 23% compared to 2015
- Closed $150 million follow-on public offering and subsequent underwriters option to purchase additional $22.5 million
- The U.S. Food and Drug Administration (FDA) issued a Complete Response Letter on the New Drug Application (NDA) for investigational therapeutic, lutetium Lu 177 dotatate (Lutathera®)
- Successfully launched NETSPOT® in the U.S. and received Transitional Pass-Through status from the Centers for Medicare & Medicaid Services (CMS) for drug reimbursement
- The European Commission approved the Marketing Authorization Application for SomaKit TOC™
- Achieved marketing authorization in Switzerland for DOPAVIEW and AAACholine
- Expanded theragnostic pipeline of oncology products by in-licensing two new compounds (NeoBomb1 and PSMA-R2)
- Enhanced supply chain and manufacturing capabilities through key acquisitions and expansion of existing network
- More than 40 patients and 14 centers in the U.S. participated in the lutetium Lu 177 dotatate (Lutathera®) Expanded Access Program (currently more than 60 patients and 15 centers)

March 23, 2017, Saint-Genis-Pouilly, France - Advanced Accelerator Applications S.A. (NASDAQ:AAAP) (AAA or the Company), an international specialist in Molecular Nuclear Medicine (MNM), today announced its financial results for fiscal 2016.

Stefano Buono, Chief Executive Officer of AAA, commented, *"2016 was a year of many achievements. We obtained approval for four new Positron Emission Tomography (PET) diagnostic products in a six-month period, and launched our first product in the U.S. Our supply chain and manufacturing capabilities were strengthened through several key acquisitions and the expansion of our own sites. We grew our theragnostic pipeline of oncology products by in-licensing two new compounds, NeoBOMB1 and PSMA-R2, both of which are transitioning into the clinic in 2017. Finally, we fortified our balance sheet to support our growth objectives for the coming years, including the anticipated approval and launch of lutetium Lu 177 dotatate (Lutathera®)."*

"The first few months of 2017 have demonstrated continued momentum," added Buono. *"Results of the Phase 3 NETTER-1 study were published in The New England Journal of Medicine, and demand for NETSPOT® continues to scale at a significant rate. With the help of our radiopharmacy partners, we have already delivered approximately 500 doses of NETSPOT® to institutions across the U.S. in the month of March; and we plan to increase our partner radiopharmacies from 20 to approximately 40 by mid-year. In December, NETSPOT® received pass-through status from CMS for drug reimbursement, and we recently announced its inclusion in the National Comprehensive Cancer Network® (NCCN®) Clinical Practice Guidelines for neuroendocrine tumors (NETs), which should facilitate coverage by private payers. Following the enthusiastic response to NETSPOT® in the U.S., we are eager for the upcoming launch of SomaKit TOC™ in Europe next month.*

"I am also quite pleased to report that our task force has made significant progress in addressing the issues identified by the U.S. Food and Drug Administration (FDA) in their Complete Response Letter on the New Drug Application (NDA) for lutetium Lu 177 dotatate (Lutathera®). We believe we have completed the majority of the work required to revise the datasets to meet the Agency's stated requirements; and based on our current estimates, we further believe we are on track to complete our resubmission to the FDA in mid-2017. The revised clinical datasets are currently undergoing a rigorous review by our internal statistical team and specialized consultants with specific expertise in preparation and review of oncology submissions to the FDA. This same level of scrutiny will be applied to the entire clinical section of our NDA prior to resubmission to the FDA. Throughout this process, we have also been addressing certain clarifications requested by the European Medicines Agency (EMA) during their review of the Marketing Authorization for lutetium Lu 177 dotatate (Lutathera®); and we anticipate the completion of the review and receipt of an opinion from the EMA in the third quarter, with the European Commission approval following about two months after, as is customary."

Year-end 2016 Financial Results

Total sales for 2016 were €109.3 million (US$115.4 million(1)), a 23% year-on-year increase compared to €88.6 million (US$93.5 million(1)) in 2015. This reflects a compound annual growth rate of 28% between 2012-2016.

Operating loss for 2016 was €19.5 million (US$20.6 million(1)), compared to a loss of €9.5 million (US$10.1 million(1)) for 2015.

For the full-year of 2016, the Company reported a net loss of €25.3 million (US$26.7 million(1)), compared to a net loss of €17.0 million (US$17.9 million(1)) for 2015.

Fiscal 2016 adjusted EBITDA (see corresponding reconciliation exhibit below) was a loss of €7.5 million (US$7.9 million(1)) compared to a profit of €1.8 million (US$1.9 million(1)) for 2015.

In October 2016, AAA closed a $150 million follow-on public offering of American Depositary Shares ("ADSs"). After the closing of the public offering, the underwriters exercised their option to purchase up to $22.5 million of additional ADSs.

(1) Translated solely for convenience into US$ at the noon buying rate of €1.00=$1.0552 at December 30, 2016.

Recent Operational Updates

In January 2017, *The New England Journal of Medicine* published the results of the Phase 3 NETTER-1 study evaluating efficacy and safety of investigational drug lutetium Lu 177 dotatate (Lutathera®) in patients with advanced, progressive somatostatin receptor-positive midgut NETs.

In February 2017, NETSPOT® was included in the National Comprehensive Cancer Network® (NCCN®) Clinical Practice Guidelines in Oncology for NETs.

Conference Call Information

Advanced Accelerator Applications management will host a conference call today at 10:00 a.m. ET. Interested parties may participate by dialing 877-407-8133 (US) or +1-201-689-8040 (International), approximately five minutes before the call start time. A live webcast of the conference call will be available at: http://www.investorcalendar.com/IC/CEPage.asp?ID=175722. A replay of the call will be available through April 23, 2017, at 11:59 p.m. ET. Interested parties may access the replay by dialing 877-481-4010 (US) or +1-919-882-2331 (International) and entering ID number 10274. An archived webcast of the conference call will be available for 90 days on the Investor Relations page of the Advanced Accelerator Applications website: www.adacap.com.

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 (Lutathera®) 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 (Lutathera®) 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 (Lutathera®) 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 500 employees in 13 countries (France, Italy, UK, Germany, Switzerland, Spain, Poland, Portugal, The Netherlands, Belgium, Israel, the U.S. and Canada). AAA is listed on the Nasdaq Global Select Market under the ticker "AAAP". For more information, please visit: www.adacap.com.

About Molecular Nuclear Medicine ("MNM")

Molecular Nuclear Medicine is a medical specialty using trace amounts of active substances, called radiopharmaceuticals, to create images of organs and lesions and to treat various diseases, like cancer. The technique works by injecting targeted radiopharmaceuticals into the patient's body that accumulate in the organs or lesions and reveal specific biochemical processes. MNM can be divided in two branches: Molecular Nuclear Diagnostics and Molecular Nuclear Therapy. Molecular nuclear diagnostics employs a variety of imaging devices and radiopharmaceuticals. PET (Positron Emission Tomography) and SPECT (Single Photon Emission Tomography) are highly sensitive imaging technologies that enable physicians to diagnose different types of cancer, cardiovascular diseases, neurological disorders and other diseases in their early stages. Molecular nuclear therapy uses radioactive sources (radionuclides) to treat a range of tumor types. Using short-range particles, this therapy can target tumors with little effect on normal tissues.

Reconciliation of adjusted EBITDA to net loss for the year from continuing operations for the years ended December 31, 2016 and 2015

	Twelve months	Twelve months	
	December 31, 2016	December 31, 2016	December 31, 2015
	in USD thousands(1)	In € thousands	
Net loss for the year from continuing operations	**(26,690)**	**(25,294)**	**(17,001)**
Adjustments			
Finance income (including changes in fair value of contingent consideration)	(8,509)	(8,064)	(1,156)
Finance costs (including changes in fair value of contingent consideration)	14,364	13,613	7,852
Income taxes	263	249	771
Depreciation and amortization	12,665	12,002	11,321
Adjusted EBITDA	**(7,908)**	**(7,494)**	**1,787**
Sales	115,360	109,325	88,615
Adjusted EBITDA margin	**-6.85%**	**-6.85%**	**2.02%**

(1) Translated solely for convenience into dollars at the noon buying rate of? EUR 1.00=USD "&C1&" at December 30, 2016.

Cautionary Statement Regarding Forward-Looking Statements

This press release contains 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 that appear in a number of places in this press release include the Company's current expectation regarding future events and various matters, including expected timing of filings with the FDA and EMA, approval dates, and expansion of NETSPOT®. 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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CONDENSED CONSOLIDATED STATEMENTS OF INCOME

YEARS ENDED DECEMBER 31, 2016 AND 2015

In € thousands	Twelve months December 31, 2016	Twelve months December 31, 2015
Sales	109,325	88,615
Raw materials and consumables used	(25,697)	(18,335)
Personnel costs	(41,704)	(29,520)
Other operating expenses	(53,655)	(44,814)
Other operating income	4,237	5,841
Depreciation and amortization	(12,002)	(11,321)
Operating loss	**(19,496)**	**(9,534)**
Finance income (including changes in fair value of contingent consideration)	8,064	1,156
Finance costs (including changes in fair value of contingent consideration)	(13,613)	(7,852)
Net finance loss	**(5,549)**	**(6,696)**
Loss before income taxes	**(25,045)**	**(16,230)**
Income taxes	(249)	(771)
Loss for the year	**(25,294)**	**(17,001)**
Attributable to:		
Owners of the company	(25,294)	(17,001)
Loss per share		
Basic (€ per share)	(0.31)	(0.25)
Diluted (€ per share)	(0.31)	(0.25)

Some figures, in the year December 31, 2015, were reclassified for comparison purpose, without net result impact.

CONDENSED CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

YEARS ENDED DECEMBER 31, 2016 AND 2015

	Twelve months	
In € thousands	**December 31, 2016**	**December 31, 2015**
Loss for the year	**(25,294)**	**(17,001)**
Other comprehensive income / (expense):		
Items that may be reclassified subsequently to profit or loss		
Exchange differences on translating foreign operations	1,039	3,239
Items that will never be reclassified subsequently to profit or loss		
Remeasurement of defined benefit liability	(237)	(559)
Other comprehensive income / (expense) net of tax (1)	802	2,680
Total comprehensive loss for the year	**(24,492)**	**(14,321)**
Total comprehensive loss attributable to:		
Owner of the company	(24,492)	(14,321)

(1) Positive tax effect of €74 thousand at December 31, 2016 and €176 thousand at December 31, 2015

Some figures, in the year December 31, 2015, were reclassified for comparison purpose, without net result impact.

CONDENSED CONSOLIDATED STATEMENTS OF FINANCIAL POSITION

AT DECEMBER 31, 2016

ASSETS (in € thousands)	December 31, 2016	December 31, 2015
Non-current assets	**149,695**	**116,985**
Goodwill	34,070	22,662
Other intangible assets	45,027	31,884
Property, plant and equipment	63,915	56,332
Financial assets	2,187	1,512
Other non-current assets	3,941	4,298
Deferred Tax assets	555	297
Current assets	**269,048**	**157,118**
Inventories	8,100	4,105
Trade and other receivables	31,079	23,625
Other current assets	7,789	10,502
Cash and cash equivalents	222,080	118,886
TOTAL ASSETS	**418,743**	**274,103**

EQUITY AND LIABILITIES (in € thousands)	December 31, 2016	December 31, 2015
Equity attributable to owners of the Company	**299,461**	**169,754**
Share capital	8,795	7,856
Share premium	360,085	213,982
Reserves and retained earnings	(44,125)	(35,083)
Net loss for the year	(25,294)	(17,001)
Total equity	**299,461**	**169,754**
Non-current liabilities	**79,540**	**68,341**
Non-current provisions	12,725	9,968
Non-current financial liabilities	12,302	16,205
Deferred tax liabilities	4,649	2,804
Other non-current liabilities	49,864	39,364
Current liabilities	**39,742**	**36,008**
Current provisions	1,135	-
Current financial liabilities	4,017	5,560
Trade and other payables	20,119	14,710
Other current liabilities	14,471	15,738
Total liabilities	**119,282**	**104,349**
TOTAL EQUITY AND LIABILITIES	**418,743**	**274,103**

Some figures, in the year December 31, 2015, were reclassified for comparison purpose, without net result impact.

CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS

YEARS ENDED DECEMBER 31, 2016 AND 2015

	Twelve months	
In € thousands	**December 31, 2016**	**December 31, 2015**
Cash flows from operating activities		
Net loss for the year	(25,294)	(17,001)
Adjustments:		
Depreciation, amortization and impairment of non-current assets	12,002	11,321
Share based payment expense	7,157	1,794
Loss / (Gain) on disposal of property, plant and equipment	253	367
Financial result	5,549	6,696
Income tax expense	249	771
Negative goodwill recognized in other operating income and earn-out renegotiation	(377)	-
Subtotal	**(461)**	**3,948**
Increase in inventories	(3,354)	(742)
Increase in trade receivables	(6,549)	(3,572)
Increase in trade payables	6,018	156
Change in other receivables and payables	(299)	(1,436)
Increase in provisions	2,752	752
Change in working capital	**(1,432)**	**(4,842)**
Income tax paid	(3,062)	(2,902)
Net cash used in operating activities	**(4,955)**	**(3,796)**
Cash flows from investing activities		
Acquisition of property, plant and equipment	(11,351)	(11,286)
Acquisition of intangible assets	(1,718)	(910)
Acquisition of financial assets	(1,046)	(99)
Repayment of financial assets	406	278
Interests received	569	200
Proceeds from disposal of property, plant and equipment	108	118
Proceeds from government grants	75	-
Acquisition of subsidiaries, net of cash acquired	(22,453)	-
Net cash used in investing activities	**(35,410)**	**(11,699)**
Net cash from financing activities		
Payment of deferred and contingent liabilities to former owners of acquired subsidiaries	(4,684)	(1,494)
Issuance of share capital	146,530	97,094
Issuance of warrants	638	-
Proceeds from borrowings	-	210
Repayment of borrowings	(5,459)	(4,852)
Interests paid	(527)	(827)
Net cash from financing activities	**136,498**	**90,131**
Net (decrease) / increase in cash and cash equivalents	**96,133**	**74,636**
Cash and cash equivalents at the beginning of the year	118,886	45,096
Effect of exchange rate changes on cash and cash equivalents	7,061	(846)
Cash and cash equivalents at the end of the year	**222,080**	**118,886**