

EDITION 2017



NUCLEAR MEDICINE

WORLD MARKET REPORT & DIRECTORY

RADIONUCLIDES, RADIOPHARMACEUTICALS,
MARKET PORTFOLIO AND R&D PIPELINE,
MARKET DATA, PRODUCT PRICING, COMPANIES PROFILES

SUMMARY AND TABLE OF CONTENTS

Nuclear Medicine

Edition 2017

Nuclear Medicine World Market Report and Directory-2017

A 1,100-PAGE DOCUMENT THAT PROVIDES AN EXHAUSTIVE DESCRIPTION AND ANALYSIS OF OVER 390 PRODUCTS, INCLUDING OVER 140 RADIOPHARMACEUTICALS UNDER CLINICAL DEVELOPMENT, WITH A COMPREHENSIVE PROFILE OF 193 COMPANIES AND INSTITUTIONS ACTIVE IN THE RADIOPHARMACEUTICALS INDUSTRY.

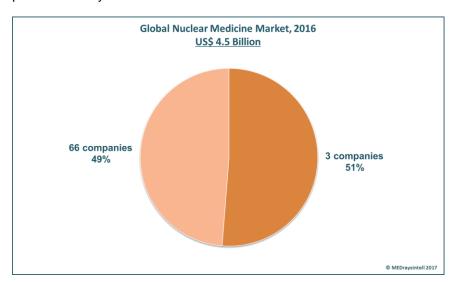
This fourth edition will once again advice the radiopharmaceutical industry, investment organizations, international consulting firms, R&D laboratories to understand the market, the competitive environment, the technology development as well as the potential of merger and acquisitions (M&A) in this field...

Impulse from radiotherapeutics confirms accelerated growth of nuclear medicine.

MEDraysintell estimates that the global market for nuclear medicine reached US\$ 4.5 billion in 2016, growing by almost 5% from 2015. The market is expected to reach US\$ 26 billion in 2030, a little higher than expected a year ago, with radiotherapeutics to represent 60% of the nuclear medicine market by 2030 compared to 12% in 2016.

During the last year we observed again an increasing interest from private investors and conventional pharmaceutical industries for the nuclear medicine market, of course mainly in the therapeutic area. This led also to some major M&A activities, such as the acquisition of Mallinckrodt Nuclear Medicine by IBA Molecular in April 2017 which led to the creation of a new entity named Curium. Over the same period Jubilant Draximage acquired Triad Isotopes and Sofie Biosciences took over Zevacor Pharma. Several small companies came to the surface of nuclear medicine with new approaches in the development of radiotherapeutics and radiotheranostics. Additional quite large investments were made by conventional pharmaceutical funds in small startups specialized in radiotherapeutics.

Three companies control just over half of the world nuclear medicine market (51%), 66 companies control 49% of the global market. In addition, there are some 50 companies with products currently under development that may enter the market in the future.



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Nuclear Medicine World Market Report

A detailed table of contents and some sample pages of this report are available upon request.

Chapters / Sections

Executive Summary (Pages 31 to 44)

Nuclear Medicine Market (Pages 45 to 81)

- General
- Nuclear medicine procedures
- Market size and shares
- Major nuclear medicine products
- **Equipment: Cameras**

Radionuclides (Pages 82 to 293)

- General considerations
 - Radionuclide characteristics
 - Radionuclides of interest
 - Process of selection
 - Radionuclide selection
 - Radionuclides and nuclear medicine modalities
- Classification by primary radiation type
 - Gamma (y) emitters; Positron (β +) emitters; Beta (β -) emitters; Alpha (α) emitters
 - Conversion electron emitters
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- Summarized radionuclide tables
 - Commercial interest
 - Production routes
 - Radionuclide prices
- Source of radionuclides (Country/Regional basis)
- Specific manufacturing and handling constraints
 - Manufacturing tools
 - The PET manufacturing network: the fluorine-18 contradictions
 - Issue of radioactive waste
- Radionuclides
 - A detailed description of 45 radionuclides from Actinium 225 (²²⁵Ac) to Zirconium 89 (⁸⁹Zr) which have led to an application in nuclear medicine in the form of a marketed tracer or marketed drug, or are involved in a molecule that is already under clinical development. Description includes physical properties, manufacturing route, major product based on the radionuclide, source and availability, price, issues and comments.
- Generators
 - A detail description of nine generators from Actinium 225 (²²⁵Ac) ²²⁵Ac/²¹³Bi generator to Zinc 62 (62Zn) – 62Zn/62Cu generator. Description includes physical properties, manufacturing route, source and availability, price, issues and comments.
 - This chapter also includes a complete section about the Molybdenum shortage issue.
- Radionuclides for R&D
 - A description including another 47 radionuclides presently used in R&D.



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Nuclear Medicine World Market Report

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Radiopharmaceuticals on the Market (Pages 294 to 484)

- General
- Vectors
 - Salts
 - **Particles**
 - Cells and human proteins
 - Small molecules
 - Antibodies
- Indications
 - Oncology
 - Cardiology
 - Neurology
 - Miscellaneous
- Radiopharmaceutical sales prices
 - Radiodiagnostics agents
 - Radiotherapeutic agents
- Marketed Radiopharmaceuticals
 - A comprehensive description of 100 radiopharmaceuticals available on the market, from ¹¹C-Choline (11C-CH) to 223Ra-Radium Dichloride. Each radiopharmaceutical section includes a complete description with the chemical name, official name, owner, clinical applications, availability and price, competition and comments.
- Discontinued Radiopharmaceuticals
 - A succinct description including 22 discontinued major radiopharmaceuticals, and the explanation for their market withdrawal.

Radiopharmaceuticals under development (Pages 485 to 721)

- General considerations
 - Radiopharmaceutical Development
 - Clinical development
 - Development costs
 - Drugs under development
 - Oncology Molecules targeting specific biological mechanisms
 - Oncology Molecules targeting specific tumors
 - Cardiology
 - Neurology
 - Miscellaneous
 - Radiation protection
- Radiopharmaceuticals under clinical development
 - A comprehensive review of 141 radiopharmaceuticals under development, describing the molecules that have been explored through clinical trials and injected at least once in a human being and for which data have been reported. The review includes a complete description of the product, clinical applications, stage of development and comments. The list goes from ¹⁸F-AraG to ²²⁷Th-BAY1862864.
- Discontinued or on hold radiopharmaceuticals
 - A review of 26 well-known products, in particular the molecules that have got a brand name, the ones that have reached clinical Phase III and those that have been under development for a long time, which were expected by the nuclear medicine community, but failed.



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Nuclear Medicine World Market Report

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Radiopharma Suppliers (Pages 722 to 950)

- Geographical origin of suppliers and development companies
- Private companies
 - A comprehensive profile of 85 private companies producing radiopharmaceuticals on a regular basis (PET, SPECT or radiotherapeutic products). Each profile includes a company description and key executives, financial data including revenue in nuclear medicine, radiopharmaceutical products marketed, projects in nuclear medicine and comments. The list goes from ACOM to Zevacor Pharma.
- **Public Institutions**
 - A comprehensive profile of 30 public institutions supplying radiopharmaceuticals on a regular basis. Each profile includes a company description, radiopharmaceutical products marketed, projects in nuclear medicine and comments.

Radiopharma Development Companies - R&D (Pages 951 to 1046)

- General
- Company descriptions
 - A comprehensive profile of 54 companies currently doing research and development on one or more radiopharmaceuticals from their own pipeline, but have not yet marketed a radiopharmaceutical product. Each profile includes a company description, financial data, a list of radiopharmaceutical development projects and comments. The list goes from 3B Pharmaceuticals to Wilex AG.

Companies formerly active in nuclear medicine (pages 1047 to 1079)

The report covers also 24 companies which were previously active in nuclear medicine, either with a product on the market, or doing research and development on one or more radiopharmaceuticals, but have either stopped this activity or have been acquired.

Glossary	
Abbreviations	



Contacts **How to Subscribe**



Price: EUR 7,000

To request a detailed table of contents with some sample pages and to order, please send an e-mail with your contact details to

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About MEDraysintell

Strategic intelligence for the radiation healthcare Bringing value to Businesses and Investors!

MEDraysintell is a team of international experts providing first-rate strategic intelligence in nuclear medicine, radiotherapy, proton therapy and brachytherapy.

We offer the most comprehensive set of reports and directories, with over 2,100 pages of unrivaled intelligence covering some of the most exciting healthcare technologies using radiation for diagnosis and treatment.

We offer client-specific intelligence in the field of radiation healthcare, with the upmost knowledge leveraging our extended network of worldwide contacts.

We are proud to support numerous companies globally, helping them better understand the markets, competitive environment as well as the potential of merger and acquisitions (M&A) and technology development. We have repeat satisfied clients operating in the field of medical radiation, investment banks and institutional investors, large international consulting firms and universities research laboratories.

MEDraysintell was created in 2013 by Paul-Emmanuel Goethals and Richard Zimmermann. It combines over 40 years of experience in radiation healthcare.

www.medraysintell.com

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