

Fluorine-18 Market Size Forecast to USD 3.2 Billion by 2035 with a Focus on Medical Imaging – Latest Report by TMR

Rising Demand for PET Imaging to Drive Fluorine-18 Market Beyond USD 3.2 Billion by 2035 – Transparency Market Research

WILMINGTON, DE, UNITED STATES,
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EINPresswire.com/ -- Fluorine-18
Market Outlook 2035

The global [fluorine-18 industry](#) is gaining significant traction with the rising adoption of positron emission tomography (PET) imaging in oncology, neurology, and cardiology diagnostics.

In 2024, the market was valued at US\$ 1.9 Bn. Looking ahead, the global fluorine-18 market is projected to grow at a CAGR of 4.8% from 2025 to 2035 and surpass US\$ 3.2 Bn by the end of 2035.

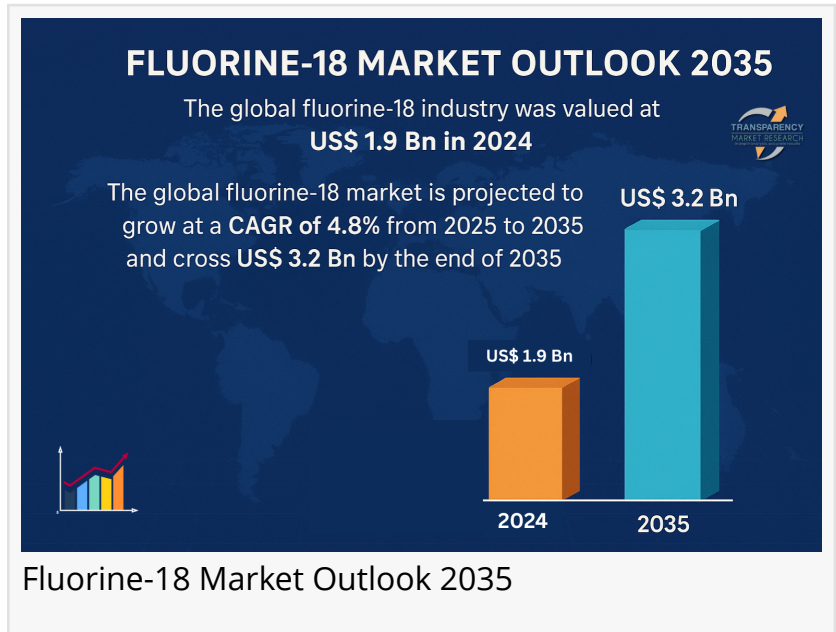


Fluorine-18 Industry
Forecast: Growing at 4.8%
CAGR to Surpass USD 3.2
Billion by 2035"
*Latest Report by Transparency
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Growing investments in nuclear medicine, expansion of PET imaging centers, and rising prevalence of chronic diseases such as cancer and neurological disorders are fueling the demand for fluorine-18 radioisotopes.

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Analysts' Viewpoint on the Fluorine-18 Market

Analysts emphasize that fluorine-18 will continue to dominate the PET radioisotope market due

to its optimal half-life, high positron yield, and compatibility with diverse tracer molecules. As precision medicine and early disease diagnosis gain momentum, fluorine-18-based radiopharmaceuticals are expected to remain the backbone of molecular imaging.

However, the industry faces challenges such as the high cost of cyclotron facilities, stringent regulations on radioactive material handling, and short shelf-life of isotopes, which limits distribution to nearby regions.

Fluorine-18 Market Overview

Fluorine-18 is a radioactive isotope widely used in PET imaging as a tracer element. Its most common application is in fluorodeoxyglucose (FDG), which enables oncologists and neurologists to visualize metabolic activity at the cellular level.

Key Applications Include:

- Oncology – Cancer detection, staging, and treatment monitoring.
- Neurology – Diagnosis of Alzheimer's, Parkinson's, and other disorders.
- Cardiology – Identifying myocardial perfusion and ischemia.
- Research – Development of new PET tracers and personalized medicine solutions.

Analysis of Key Players in the Fluorine-18 Market

Key players in the global fluorine-18 market are adopting a range of strategies to strengthen their market presence and ensure sustainable growth. These include expanding cyclotron networks to maintain a reliable isotope supply, investing in automated synthesis technologies, and developing new F-18 tracers for disease-specific targeting. Additionally, companies are focusing on regulatory compliance, building strategic partnerships, and introducing digital ordering platforms to enhance efficiency and customer accessibility.

Prominent companies operating in the fluorine-18 market include

- Lantheus Holdings, Inc.
- Siemens Healthineers AG
- Curium Austria GmbH
- GE HealthCare
- Blue Earth Diagnostics
- China Isotope & Radiation Corporation
- Eli Lilly and Company
- Yantai Dongcheng Pharmaceutical Group Co., Ltd.
- Advanced Accelerator Applications SA
- Telix Pharmaceuticals Limited
- SOFIE Co.
- Cardinal Health

- Life Molecular Imaging
- IBA Radiopharma Solutions
- GNC India
- ECKERT & ZIEGLER

These players have been evaluated in the fluorine-18 market research report on the basis of their company overview, financial performance, business strategies, product offerings, key business segments, and recent innovations.

Key Developments in the Fluorine-18 Market

- June 2025 – Eli Lilly and Company received U.S. FDA approval for a label update of Amyvid (florbetapir F 18 injection) for intravenous use.
- September 2024 – GE HealthCare announced FDA approval for Flyrcado (flurpiridaz F 18) injection, a novel PET MPI agent designed for the non-invasive detection of coronary artery disease (CAD).

Growth Drivers

1. Rising Cancer Incidence – Increased demand for early and precise tumor detection.
2. Advancement in PET Technology – Enhanced imaging resolution driving tracer consumption.
3. Expansion of PET Centers Globally – Improved accessibility to nuclear medicine.
4. Precision Medicine Adoption – Fluorine-18 tracers used in targeted diagnostics.
5. Government & Private Investments – Supportive policies for nuclear medicine research.

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Market Restraints & Challenges

- Short Half-Life (~110 minutes) – Requires proximity of production to imaging centers.
- High Infrastructure Costs – Expensive cyclotron and radiochemistry facilities.
- Strict Regulatory Frameworks – Compliance with radiation safety and transport laws.
- Limited Supply in Emerging Economies – Shortage of nuclear medicine infrastructure.

Market Segmentation

By Application

- Oncology
- Cardiology
- Neurology
- Others (Research, Inflammation Imaging, etc.)

By End User

- Hospitals
- Diagnostic Imaging Centers
- Research Institutes
- Others

By Region

- North America
- Europe
- Asia Pacific
- Latin America
- Middle East & Africa

Market Trends

1. Automated Radiochemistry Systems – Enhancing efficiency and tracer yield.
2. Novel PET Tracers Beyond FDG – For Alzheimer's, prostate cancer, and cardiovascular diseases.
3. Cyclotron Expansion in Emerging Markets – Boosting fluorine-18 availability.
4. Theranostics Approach – Integration of diagnostics with targeted therapies.
5. AI-Powered PET Imaging – Improving scan accuracy and clinical interpretation.

Future Outlook

By 2035, the fluorine-18 market is expected to surpass US\$ 3.2 Bn, driven by the rising need for accurate and early disease detection. North America and Europe will continue to lead, while Asia-Pacific is anticipated to emerge as a high-growth region due to expanding healthcare infrastructure and government investments.

Key Future Insights:

- PET imaging to become more mainstream in oncology and neurology.
- Increasing focus on developing fluorine-18 tracers for non-oncology indications.
- Greater adoption of automated cyclotron and synthesis systems.
- Expansion of distribution networks in emerging markets.

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Important FAQs

Q1. What was the global fluorine-18 market size in 2024?

A1. The market was valued at US\$ 1.9 Bn.

Q2. What will be the market size by 2035?

A2. The market is projected to surpass US\$ 3.2 Bn.

Q3. What is the CAGR from 2025–2035?

A3. The global market will grow at a CAGR of 4.8%.

Q4. What are the major applications of fluorine-18?

A4. Oncology, neurology, cardiology, and research imaging.

Q5. Who are the key players in the market?

A5. Siemens Healthineers, GE Healthcare, Curium, Cardinal Health, IBA, and Jubilant Radiopharma.

Q6. What factors will drive future growth?

A6. Cancer prevalence, PET center expansion, precision medicine, and advanced tracer development.

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