

# Anti-Counterfeit Pharmaceutical Packaging Market Forecasts to 2030 – Global Analysis By Product (Covert Features, Overt Features, Forensic Markers, Tamper Evidence and Track & Trace Technologies), Printing Technology, Packaging Type, Application and by Geography

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## Abstracts

According to Statistics MRC, the Global Anti-Counterfeit Pharmaceutical Packaging Market is accounted for \$185.82 billion in 2024 and is expected to reach \$423.14 billion by 2030 growing at a CAGR of 14.7% during the forecast period. Anti-counterfeit pharmaceutical packaging is essential for maintaining patient safety and protecting the integrity of medications. This packaging uses cutting-edge technologies to authenticate products and stop counterfeiting, including holograms, RFID tags, QR codes, and tamper-evident seals. It makes it possible to track and trace pharmaceutical products easily throughout the supply chain, which helps manufacturers meet strict regulations and win over customers.

According to the World Health Organization (WHO), in 2000, 32% of identified counterfeit drugs contained no active ingredients, 20% had incorrect quantities of active ingredients, 21% had the wrong ingredients, 6% had correct composition with fake packaging, 9% contained high levels of impurities while 1% was copies of an original product.

Market Dynamics:

Driver:

## Rising drug counterfeit incidence

Pharmaceutical companies, governments, and healthcare providers are all very concerned about the startling global increase in counterfeit medications. In addition to endangering patient safety, counterfeit medications—which include phony, inferior, or unapproved products—also damage pharmaceutical companies' reputations. Reports from agencies like the WHO indicate that counterfeit medications comprise up to 10% of the world's pharmaceutical trade. Additionally, this percentage is even higher in low- and middle-income nations. Pharmaceutical companies have been forced to implement anti-counterfeit packaging solutions as a preventative measure to guarantee the safety and authenticity of their products due to this growing threat.

### Restraint:

#### Complexity of execution

Anti-counterfeit packaging solutions can be difficult and time-consuming to integrate into current supply chain procedures. Pharmaceutical businesses frequently need to coordinate with manufacturers, distributors, and suppliers in order to ensure smooth compatibility between new technologies and their existing packaging systems. For instance, track-and-trace and serialization systems require extensive supply chain coordination to work properly. Furthermore, large-scale adoption is hampered by this complexity since it raises the possibility of delays, operational inefficiencies, and mistakes, especially for businesses with disjointed supply chains.

### Opportunity:

#### Growing interest in track-and-trace and serialization technologies

Adoption of serialization and track-and-trace solutions is greatly aided by the increased focus on end-to-end supply chain visibility. Serialization is being pushed by governments and regulatory bodies worldwide to guarantee transparency in the pharmaceutical supply chain, especially for specialty and expensive medications. Businesses that provide cutting-edge hardware, software, and integrated platforms for serialization stand to gain greatly from this. Moreover, Blockchain technology is becoming a game-changer for track-and-trace systems, allowing for the immutable, real-time recording of pharmaceutical products.

### Threat:

## Risks to cybersecurity for digital solutions

Cyber attack vulnerabilities are brought about by our growing reliance on digital technologies like blockchain, the Internet of Things, and cloud-based track-and-trace systems. In order to alter product data, interfere with supply chains, or create fake digital credentials, hackers may target authentication platforms, blockchain networks, or serialization databases. These cybersecurity risks endanger both pharmaceutical companies and consumers by undermining confidence in digital anti-counterfeit solutions. Additionally, strong cybersecurity measures are necessary to counter these threats, which raise the overall cost and complexity of putting anti-counterfeit technologies into place.

## Covid-19 Impact:

The COVID-19 pandemic had a major effect on the market for anti-counterfeit pharmaceutical packaging because it increased demand for safe packaging options amid a spike in fake medications, such as vaccines and treatments. Stricter regulations and the quick adoption of technologies like serialization, blockchain, and tamper-evident packaging to guarantee product authenticity were brought about by the global health crisis, which exposed weaknesses in pharmaceutical supply chains. However, in some areas, the adoption of advanced packaging systems was momentarily hampered by pandemic-related supply chain interruptions, labor shortages, and budgetary restrictions.

The Track & Trace Technologies segment is expected to be the largest during the forecast period

The market for anti-counterfeit pharmaceutical packaging is anticipated to be dominated by the Track & Trace Technologies segment. Its ability to offer real-time visibility and authentication across the pharmaceutical supply chain, assisting manufacturers in meeting the strict regulatory requirements for drug safety, is the reason for its dominance. Track and trace technologies, including bar-coding, RFID, QR codes, and serialization, allow products to be tracked from manufacturing to delivery, guaranteeing transparency and lowering the possibility of fake medications reaching the market. Moreover, the efficiency and scalability of track & trace systems are further improved by the increasing use of digital solutions, blockchain, and cloud-based technologies.

The RFID segment is expected to have the highest CAGR during the forecast period

In the anti-counterfeit pharmaceutical packaging market, the RFID (Radio Frequency Identification) segment is anticipated to grow at the highest CAGR. RFID system adoption is being driven by the growing need for cutting-edge technologies that guarantee pharmaceutical products' real-time tracking, traceability, and authentication. Compared to conventional bar-coding techniques, RFID tags offer greater efficiency by facilitating smooth data capture without direct line of sight. Additionally, RFID adoption is being accelerated by advancements in the technology, such as cost reduction, tag miniaturization, and integration with Blockchain and IoT solutions.

Region with largest share:

The North American region is expected to hold the largest share in the anti-counterfeit pharmaceutical packaging market, mainly due to the growing need for sophisticated packaging solutions to fight counterfeit medications. Furthermore, the Drug Quality and Security Act (DQSA), which requires pharmaceutical products to be serialized and traceable, is one of the strict regulations that make the U.S. a major contributor. Due to the region's established pharmaceutical industry and growing concerns about drug security and safety, anti-counterfeit technologies like holograms, RFID, and QR codes have become widely used in packaging.

Region with highest CAGR:

Due to the pharmaceutical industry's explosive growth, rising healthcare spending, and growing concerns about fake medications in emerging economies, the Asia Pacific region is anticipated to have the highest CAGR in the anti-counterfeit pharmaceutical packaging market. Significant improvements are being made in healthcare infrastructure and regulatory frameworks in nations like China and India with the goal of preventing drug counterfeiting. Moreover, the adoption of anti-counterfeit packaging technologies is further fueled by the region's growing middle class and the rising demand for safe and reasonably priced pharmaceutical products.

Key players in the market

Some of the key players in Anti-Counterfeit Pharmaceutical Packaging market include 3M Company, Zebra Technologies Corporation, Ardagh Group S.A., Systech International, OpSec Security Inc., CCL Industries Inc., AlpVision SA, DuPont, Impinj, Inc., Nipro Corporation, Applied DNA Sciences Inc., Stevanato Group, TruTag Technologies, Inc., CFC International, Inc. and Savi Technology Inc.

### Key Developments:

In August 2024, Systech Bhd has entered into a head of agreement (HOA) with MDT Innovations Sdn Bhd (MDT) and its founder, Liew Choon Lian (LCL), for the potential acquisition of either part or all of the equity interest or business undertakings of MDT and its group of companies.

In March 2024, Ardagh Glass Packaging-North America, an operating business of Ardagh Group, has partnered with Stevens Point Brewery to locally supply the brewery's glass beer bottles. The partnership connects Stevens Point Brewery with AGP-North America's Burlington, Wis., glass manufacturing facility, helping to keep the brewery's promise to source local products and incorporate sustainable practices into its operations.

In March 2024, 3M and HD Hyundai Korea Shipbuilding & Marine Engineering (KSOE) have signed a joint research project agreement to develop large liquid hydrogen storage tanks using Glass Bubbles from 3M – a high-strength, low-density hollow glass microsphere. The collaborative research will focus on developing a high-performance vacuum insulation system for liquified hydrogen storage and transportation.

### Products Covered:

Covert Features

Overt Features

Forensic Markers

Tamper Evidence

Track & Trace Technologies

### Printing Technologies Covered:

RFID

Security Inks & Coatings

Security Seals

Holograms

Mass Encryption

Barcode

Mass Serialization

#### Packaging Types Covered:

Bottles

Blister Packs

Syringes

Vials

Pouches

#### Applications Covered:

Pharma & Biological

Medical & Supplies

Gloves

Scissors

Syringes & Needles

Surgical Tapes

## Other End Users

### Regions Covered:

#### North America

US

Canada

Mexico

#### Europe

Germany

UK

Italy

France

Spain

Rest of Europe

#### Asia Pacific

Japan

China

India

Australia

New Zealand

South Korea

Rest of Asia Pacific

South America

Argentina

Brazil

Chile

Rest of South America

Middle East & Africa

Saudi Arabia

UAE

Qatar

South Africa

Rest of Middle East & Africa

What our report offers:

- Market share assessments for the regional and country-level segments
- Strategic recommendations for the new entrants
- Covers Market data for the years 2022, 2023, 2024, 2026, and 2030
- Market Trends (Drivers, Constraints, Opportunities, Threats, Challenges, Investment Opportunities, and recommendations)
- Strategic recommendations in key business segments based on the market estimations
- Competitive landscaping mapping the key common trends
- Company profiling with detailed strategies, financials, and recent developments
- Supply chain trends mapping the latest technological advancements

## Free Customization Offerings:

All the customers of this report will be entitled to receive one of the following free customization options:

### Company Profiling

Comprehensive profiling of additional market players (up to 3)

SWOT Analysis of key players (up to 3)

### Regional Segmentation

Market estimations, Forecasts and CAGR of any prominent country as per the client's interest (Note: Depends on feasibility check)

### Competitive Benchmarking

Benchmarking of key players based on product portfolio, geographical presence, and strategic alliances

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