

# **Global Pharmaceutical Serialization Services Market Size Study, by Packaging (Primary Packaging, Secondary Packaging, Tertiary Packaging), by Product (Hardware, Software), by Technology (Barcodes, Radiofrequency Identification (RFID) Tags, Real-time Locating System, Others), and Regional Forecasts 2022-2032**

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## **Abstracts**

The global pharmaceutical serialization services market was valued at USD 13.16 billion in 2023 and is expected to expand at a CAGR of 12.28% from 2024 to 2032. The market's growth is largely propelled by the increasing regulatory mandates on drug traceability, ensuring enhanced security and compliance across the pharmaceutical supply chain. Serialization has emerged as an essential tool in curbing counterfeit drugs and ensuring that pharmaceuticals reach consumers with full authenticity and integrity. Technologies such as RFID, barcoding, and blockchain-based tracking solutions are significantly enhancing the effectiveness and efficiency of serialization processes.

Governments worldwide, particularly in North America and Europe, have enforced stringent regulatory guidelines such as the Drug Supply Chain Security Act (DSCSA) in the U.S. and the Falsified Medicines Directive (FMD) in Europe to implement serialization protocols across the industry. According to Clinical Trials Arena (2023), new regulatory measures have been introduced in the U.S., mandating full serialization of all prescription drugs to ensure better traceability. This global shift toward comprehensive tracking systems is prompting pharmaceutical manufacturers, wholesalers, and distributors to invest heavily in advanced serialization infrastructure.

Serialization plays a pivotal role in mitigating the risks associated with counterfeit drugs,

a significant concern in emerging markets. The Asia-Pacific region, particularly China, India, and Japan, is experiencing rapid adoption of serialization due to increasing government regulations and the rise of pharmaceutical exports. Pharmaceutical firms are integrating serialization with digital health technologies, such as electronic prescriptions and blockchain-enabled supply chains, further enhancing visibility and security within distribution networks.

The segmentation of this market highlights Primary Packaging as the largest contributor, accounting for the highest share in 2023. This dominance is due to its critical role in ensuring unit-level traceability for pharmaceuticals, preventing counterfeiting at the initial stages. Meanwhile, Secondary Packaging is anticipated to witness the fastest growth, driven by the need for enhanced aggregation and tracking solutions. The Hardware segment leads in market share due to the indispensable use of labeling equipment, scanners, and printers in serialization implementation. However, Software solutions are expected to register the highest growth, fueled by the increasing demand for data integration, compliance tracking, and real-time supply chain monitoring.

Geographically, North America emerged as the largest regional market in 2023, driven by early regulatory adoption, well-established healthcare infrastructure, and advanced technology integration. The U.S. remains at the forefront, leveraging serialization for operational efficiency and counterfeit drug prevention. On the other hand, Asia-Pacific is expected to grow at the fastest CAGR, as countries implement robust serialization standards to secure supply chains and meet global pharmaceutical regulations.

#### Major Market Players Included in this Report:

Systech International

OPTEL Group

Arvato Systems

SEA Vision

LSPedia

Innovatum, Inc.

Wipotec

Mettler-Toledo

ZetesAtlas for Pharma

Abacus Medicine

Adents International

Antares Vision

TraceLink Inc.

Axway

Rfxcel Corporation

The Detailed Segments and Sub-segments of the Market are Explained Below:

By Packaging:

Primary Packaging

Secondary Packaging

Tertiary Packaging

By Product:

Hardware

Software

By Technology:

Barcodes

Radiofrequency Identification (RFID) Tags

Real-time Locating System

Others

By Region:

North America:

U.S.

Canada

Europe:

UK

Germany

France

Italy

Spain

Denmark

Sweden

Norway

Asia-Pacific:

China

India

Japan

South Korea

Australia

Thailand

Latin America:

Brazil

Argentina

Middle East & Africa:

Saudi Arabia

South Africa

UAE

Kuwait

Years considered for the study are as follows:

Historical Year – 2022

Base Year – 2023

Forecast Period – 2024 to 2032

## Key Takeaways:

Market Estimates & Forecast for 10 years from 2022 to 2032.

Annualized revenues and regional-level analysis for each market segment.

Detailed analysis of geographical landscape with country-level analysis of major regions.

Competitive landscape with information on major players in the market.

Analysis of key business strategies and recommendations on future market approach.

Analysis of the competitive structure of the market.

Demand-side and supply-side analysis of the market.

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