

**Transdermal Drug Delivery Systems Market Report by Technology (Electroporation, Radiofrequency, Iontophoresis, Microporation, Thermal, Mechanical Arrays, Ultrasound, and Others), Application (Central Nervous System, Pain Management, Cardiovascular, Hormone, and Others), and Region 2025-2033**

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**Report description:**

The global transdermal drug delivery systems market size reached USD 7.1 Billion in 2024. Looking forward, IMARC Group expects the market to reach USD 11.5 Billion by 2033, exhibiting a growth rate (CAGR) of 5.22% during 2025-2033. There are various factors that are driving the market, which include the growing prevalence of chronic diseases, such as diabetes, cardiovascular diseases, and neurological disorders, rising geriatric population, and increasing regulatory approvals.

**Transdermal Drug Delivery Systems Market Trends:**

**Growing Prevalence of Chronic Diseases**

People are becoming prone to chronic illnesses like diabetes, heart disease, rheumatoid arthritis, hypertension, and neurological disorders because of sedentary lifestyles and poor eating habits. Patients with these disorders need to take medication continuously for a longer time, which prompts them to look for reliable and convenient drug delivery options. For this, transdermal patches work best as they provide a steady flow of medication throughout time without requiring frequent use. The rising demand for non-invasive and easy-to-use alternative that can enhance patient compliance is impelling the transdermal drug delivery systems market growth. Patients using transdermal systems just need to apply a patch on a regular basis, which helps to lower the possibility of missing doses. People with chronic diseases are looking for solutions that offer enhanced convenience. According to the World Federation of Neurology, a groundbreaking new Global Burden of Disease (GBD) study shows that the number of people living with brain disease is expected to double by 2050.

**Increasing Geriatric Population**

The market is expanding as a result of the growing need for transdermal medication delivery systems among the aging

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population. People frequently acquire several chronic illnesses as they get older, including neurological disorders, diabetes, rheumatoid arthritis, and cardiovascular ailments. It might be difficult for elderly individuals to take these medications consistently over an extended period. The inability of the elderly to swallow medications is another typical problem. Transdermal drug delivery systems offer a convenient alternative because of their ability to bypass the need to take oral medications and provide a non-invasive method for sustained drug release. Furthermore, the growing need for simpler solutions among older individuals that lowers the burden of multiple daily doses is offering a favorable transdermal drug delivery systems market outlook. The World Health Organization (WHO) claims that the number of people aged 80 years or older is expected to reach 426 million by 2050.

#### Rising Regulatory Approvals

The National Medical Products Administration (NMPA) of China approved Luye Pharma Group's novel medicine, Rivastigmine Twice Weekly Transdermal Patch, on October 31, 2023, for the symptomatic treatment of mild to moderate Alzheimer's disease (AD). Regulatory agencies are increasingly approving a broader range of transdermal products. This covers patches for a range of medicinal applications such as hormone replacement, pain relief, and even immunizations. Transdermal systems are becoming more widely available and varied, which is drawing in more patients and healthcare professionals.

#### Transdermal Drug Delivery Systems Market Segmentation:

IMARC Group provides an analysis of the key trends in each segment of the market, along with forecasts at the global, regional, and country levels for 2025-2033. Our report has categorized the market based on technology and application.

#### Breakup by Technology:

- Electroporation
- Radiofrequency
- Iontophoresis
- Microporation
- Thermal
- Mechanical Arrays
- Ultrasound
- Others

Iontophoresis accounts for the majority of the market share

The report has provided a detailed breakup and analysis of the market based on the technology. This includes electroporation, radiofrequency, iontophoresis, microporation, thermal, mechanical arrays, ultrasound, and others. According to the report, iontophoresis represented the largest segment.

Iontophoresis uses a small electric current to improve the diffusion of drugs via the skin. It is favored because of its ability to deliver precise dosages of medication while lowering side effects. It is especially useful for pain management, localized treatment, and systemic drug delivery, making it a leading choice in the transdermal market. It is non-invasive approach, which makes it a preferable alternative for patients who wish to avoid injections or oral medications, especially when long-term or frequent drug administration is required.

#### Breakup by Application:

- Central Nervous System
- Pain Management
- Cardiovascular
- Hormone
- Others

Pain management holds the largest share of the industry

A detailed breakup and analysis of the market based on the application have also been provided in the report. This includes central nervous system, pain management, cardiovascular, hormone, and others. According to the report, pain management accounts for the largest market share.

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The rising focus on pain management among individuals is contributing to the market growth. Transdermal systems provide continuous and controlled release of pain-relieving medications, which is highly beneficial for chronic pain sufferers. This avoids the need for frequent dosing, making it more convenient for patients. Transdermal patches are a non-invasive alternative to oral medications and injections. Transdermal drug delivery systems for pain management provide an opioid-sparing alternative by delivering low and sustained doses that can manage pain effectively while reducing abuse potential.

Breakup by Region:

- North America
  - o□ United States
  - o□ Canada
- Asia-Pacific
  - o□ China
  - o□ Japan
  - o□ India
  - o□ South Korea
  - o□ Australia
  - o□ Indonesia
  - o□ Others
- Europe
  - o□ Germany
  - o□ France
  - o□ United Kingdom
  - o□ Italy
  - o□ Spain
  - o□ Russia
  - o□ Others
- Latin America
  - o□ Brazil
  - o□ Mexico
  - o□ Others
- Middle East and Africa

North America leads the market, accounting for the largest transdermal drug delivery systems market share

The report has also provided a comprehensive analysis of all the major regional markets, which include North America (the United States and Canada); Asia Pacific (China, Japan, India, South Korea, Australia, Indonesia, and others); Europe (Germany, France, the United Kingdom, Italy, Spain, Russia, and others); Latin America (Brazil, Mexico, and others); and the Middle East and Africa.

According to the report, North America represents the largest regional market for transdermal drug delivery systems.

North America has a well-established healthcare system with access to cutting-edge medical technologies. Patients and healthcare providers in the region are more likely to adopt advanced drug delivery systems owing to the availability of infrastructure that supports their use and distribution. North America, particularly the United States, faces high prevalence of chronic diseases, requiring long-term and consistent medication management among individuals. Apart from this, the rising geriatric population in the region is bolstering the market growth. The number of Americans aged 65 and older is predicted to reach 80 million in 2040, as reported by the Urban Institute.

Competitive Landscape:

-□ The market research report has also provided a comprehensive analysis of the competitive landscape in the market. Detailed profiles of all major companies have also been provided. Some of the major market players in the transdermal drug delivery systems industry include 3M Company, Acrux Limited, Boehringer Ingelheim International GmbH, Hisamitsu Pharmaceutical Co.

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Inc., Lavipharm S.A., LEAD CHEMICAL Co. Ltd., Luye Pharma Group, Nutriband Inc. and Viatrix Inc.

(Please note that this is only a partial list of the key players, and the complete list is provided in the report.)

-□ Top players are focusing on developing new transdermal systems for various therapeutic areas. Companies are also developing patches that deliver larger molecules including biologics. Moreover, key players are expanding the use of transdermal systems into mental health treatments. Many companies are entering into partnerships with research institutions, biotechnology firms, and other pharmaceutical companies to co-develop or license new transdermal technologies. They are also receiving funding and product approvals, which is strengthening the market growth. On 26 September 2023, Satio received funding of US\$ 3.5 million by the Advanced Research Projects Agency for Health (ARPA-H), National Institutes of Health, Department of Health and Human Services to develop SatioRx? a novel at-home, remotely controllable transdermal drug delivery device.

#### Key Questions Answered in This Report:

- How has the global transdermal drug delivery systems market performed so far, and how will it perform in the coming years?
- What are the drivers, restraints, and opportunities in the global market?
- What is the impact of each driver, restraint, and opportunity on the global market?
- What are the key regional markets?
- Which countries represent the most attractive market?
- What is the breakup of the market based on the technology?
- Which is the most attractive technology in the market?
- What is the breakup of the market based on the application?
- Which is the most attractive application in the market?
- What is the competitive structure of the market?
- Who are the key players/companies in the global transdermal drug delivery systems market?

#### Table of Contents:

1	Preface
2	Scope and Methodology
2.1	Objectives of the Study
2.2	Stakeholders
2.3	Data Sources
2.3.1	Primary Sources
2.3.2	Secondary Sources
2.4	Market Estimation
2.4.1	Bottom-Up Approach
2.4.2	Top-Down Approach
2.5	Forecasting Methodology
3	Executive Summary
4	Introduction
4.1	Overview
4.2	Key Industry Trends
5	Global Transdermal Drug Delivery Systems Market
5.1	Market Overview
5.2	Market Performance
5.3	Impact of COVID-19

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- 5.4 Market Forecast
- 6 Market Breakup by Technology
  - 6.1 Electroporation
    - 6.1.1 Market Trends
    - 6.1.2 Market Forecast
  - 6.2 Radiofrequency
    - 6.2.1 Market Trends
    - 6.2.2 Market Forecast
  - 6.3 Iontophoresis
    - 6.3.1 Market Trends
    - 6.3.2 Market Forecast
  - 6.4 Microporation
    - 6.4.1 Market Trends
    - 6.4.2 Market Forecast
  - 6.5 Thermal
    - 6.5.1 Market Trends
    - 6.5.2 Market Forecast
  - 6.6 Mechanical Arrays
    - 6.6.1 Market Trends
    - 6.6.2 Market Forecast
  - 6.7 Ultrasound
    - 6.7.1 Market Trends
    - 6.7.2 Market Forecast
  - 6.8 Others
    - 6.8.1 Market Trends
    - 6.8.2 Market Forecast
- 7 Market Breakup by Application
  - 7.1 Central Nervous System
    - 7.1.1 Market Trends
    - 7.1.2 Market Forecast
  - 7.2 Pain Management
    - 7.2.1 Market Trends
    - 7.2.2 Market Forecast
  - 7.3 Cardiovascular
    - 7.3.1 Market Trends
    - 7.3.2 Market Forecast
  - 7.4 Hormone
    - 7.4.1 Market Trends
    - 7.4.2 Market Forecast
  - 7.5 Others
    - 7.5.1 Market Trends
    - 7.5.2 Market Forecast
- 8 Market Breakup by Region
  - 8.1 North America
    - 8.1.1 United States
      - 8.1.1.1 Market Trends
      - 8.1.1.2 Market Forecast

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- 8.1.2 Canada
  - 8.1.2.1 Market Trends
  - 8.1.2.2 Market Forecast
- 8.2 Asia-Pacific
  - 8.2.1 China
    - 8.2.1.1 Market Trends
    - 8.2.1.2 Market Forecast
  - 8.2.2 Japan
    - 8.2.2.1 Market Trends
    - 8.2.2.2 Market Forecast
  - 8.2.3 India
    - 8.2.3.1 Market Trends
    - 8.2.3.2 Market Forecast
  - 8.2.4 South Korea
    - 8.2.4.1 Market Trends
    - 8.2.4.2 Market Forecast
  - 8.2.5 Australia
    - 8.2.5.1 Market Trends
    - 8.2.5.2 Market Forecast
  - 8.2.6 Indonesia
    - 8.2.6.1 Market Trends
    - 8.2.6.2 Market Forecast
  - 8.2.7 Others
    - 8.2.7.1 Market Trends
    - 8.2.7.2 Market Forecast
- 8.3 Europe
  - 8.3.1 Germany
    - 8.3.1.1 Market Trends
    - 8.3.1.2 Market Forecast
  - 8.3.2 France
    - 8.3.2.1 Market Trends
    - 8.3.2.2 Market Forecast
  - 8.3.3 United Kingdom
    - 8.3.3.1 Market Trends
    - 8.3.3.2 Market Forecast
  - 8.3.4 Italy
    - 8.3.4.1 Market Trends
    - 8.3.4.2 Market Forecast
  - 8.3.5 Spain
    - 8.3.5.1 Market Trends
    - 8.3.5.2 Market Forecast
  - 8.3.6 Russia
    - 8.3.6.1 Market Trends
    - 8.3.6.2 Market Forecast
  - 8.3.7 Others
    - 8.3.7.1 Market Trends
    - 8.3.7.2 Market Forecast

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- 8.4 Latin America
  - 8.4.1 Brazil
    - 8.4.1.1 Market Trends
    - 8.4.1.2 Market Forecast
  - 8.4.2 Mexico
    - 8.4.2.1 Market Trends
    - 8.4.2.2 Market Forecast
  - 8.4.3 Others
    - 8.4.3.1 Market Trends
    - 8.4.3.2 Market Forecast
- 8.5 Middle East and Africa
  - 8.5.1 Market Trends
  - 8.5.2 Market Breakup by Country
  - 8.5.3 Market Forecast
- 9 SWOT Analysis
  - 9.1 Overview
  - 9.2 Strengths
  - 9.3 Weaknesses
  - 9.4 Opportunities
  - 9.5 Threats
- 10 Value Chain Analysis
- 11 Porters Five Forces Analysis
  - 11.1 Overview
  - 11.2 Bargaining Power of Buyers
  - 11.3 Bargaining Power of Suppliers
  - 11.4 Degree of Competition
  - 11.5 Threat of New Entrants
  - 11.6 Threat of Substitutes
- 12 Price Analysis
- 13 Competitive Landscape
  - 13.1 Market Structure
  - 13.2 Key Players
    - 13.3 Profiles of Key Players
      - 13.3.1 3M Company
        - 13.3.1.1 Company Overview
        - 13.3.1.2 Product Portfolio
        - 13.3.1.3 Financials
        - 13.3.1.4 SWOT Analysis
      - 13.3.2 Acrux Limited
        - 13.3.2.1 Company Overview
        - 13.3.2.2 Product Portfolio
        - 13.3.2.3 Financials
        - 13.3.2.4 SWOT Analysis
      - 13.3.3 Boehringer Ingelheim International GmbH
        - 13.3.3.1 Company Overview
        - 13.3.3.2 Product Portfolio
      - 13.3.4 Hisamitsu Pharmaceutical Co. Inc.

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- 13.3.4.1 Company Overview
- 13.3.4.2 Product Portfolio
- 13.3.4.3 Financials
- 13.3.5 Lavipharm S.A.
  - 13.3.5.1 Company Overview
  - 13.3.5.2 Product Portfolio
- 13.3.6 LEAD CHEMICAL Co. Ltd.
  - 13.3.6.1 Company Overview
  - 13.3.6.2 Product Portfolio
- 13.3.7 Luye Pharma Group
  - 13.3.7.1 Company Overview
  - 13.3.7.2 Product Portfolio
  - 13.3.7.3 Financials
- 13.3.8 Nutriband Inc.
  - 13.3.8.1 Company Overview
  - 13.3.8.2 Product Portfolio
- 13.3.9 Viartis Inc.
  - 13.3.9.1 Company Overview
  - 13.3.9.2 Product Portfolio
  - 13.3.9.3 Financials

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