

Smart Street Lighting Market Outlook 2025-2034: Market Share, and Growth Analysis By Type (Light Emitting Diode, Compact fluorescent lamps, Incandescent, Other Types), By Communication Technology (NB-IOT, Powerline Communication, Radio Frequency, Other Communication Technologies), By Energy Source, By Application, By End User

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Abstracts

The Smart Street Lighting Market is valued at USD 3.8 billion in 2025 and is projected to grow at a CAGR of 16.9% to reach USD 15.5 billion by 2034. The smart street lighting market is rapidly evolving as cities worldwide prioritize digital infrastructure and sustainable urban development. These intelligent systems go beyond basic illumination—leveraging sensors, IoT connectivity, and automation to optimize energy usage, improve safety, and enable smarter city management. Unlike traditional static lighting, smart streetlights can adjust brightness based on pedestrian or vehicle activity, weather, and time of day. Integrated with remote monitoring systems, they can detect outages, optimize maintenance, and reduce operational costs. They also serve as multifunctional nodes, enabling features such as surveillance, environmental monitoring, and public Wi-Fi. As urban populations grow and municipalities seek cost-effective ways to modernize infrastructure while meeting climate goals, smart street lighting is gaining traction as a foundational component of smart cities. The convergence of energy efficiency, connectivity, and sustainability makes this market particularly relevant to both developed and emerging regions pursuing digital transformation. Several key developments fueled the expansion of the smart street lighting market. Major cities in Europe, North America, and Asia rolled out large-scale pilot projects integrating AI-

based lighting control systems and motion sensors to adapt light levels in real-time, reducing energy consumption without compromising visibility. Municipalities increasingly chose LED retrofitting as a cost-effective path to modernization, allowing smart features to be added to existing infrastructure. Integration with smart grid platforms became a notable trend, allowing city officials to sync lighting operations with broader energy management systems. Partnerships between tech companies and city councils accelerated, with some vendors offering lighting-as-a-service (LaaS) models to reduce upfront investment burdens for cities. Environmental data integration also picked up pace, with smart poles capturing air quality, noise levels, and even foot traffic to inform urban planning. These developments collectively advanced the role of smart streetlights as holistic urban intelligence platforms, rather than just lighting fixtures. The smart street lighting market is set to enter a more mature phase, with greater emphasis on scalability, interconnectivity, and data interoperability. The deployment of 5G networks will enhance real-time communication between lights and central control systems, enabling faster response to urban events such as accidents or natural disasters. AI will be increasingly used not just for adaptive lighting but also for predictive maintenance and resource optimization, reducing costs for municipalities. Additionally, we expect more cities to adopt multifunctional smart poles equipped with EV charging points, public safety cameras, and digital signage. Regulations promoting carbon neutrality will further drive adoption, especially in regions implementing net-zero roadmaps. Open architecture designs will become more common, enabling third-party developers to integrate innovative applications into smart lighting platforms. However, successful implementation will depend on robust cybersecurity frameworks to ensure resilience against digital threats, as streetlight networks become increasingly connected and data-centric.

Key Insights Smart Street Lighting Market

LED Retrofit Solutions Gaining Popularity: Cities are retrofitting existing streetlights with smart LED fixtures to save costs and energy. These upgrades also enable easier integration with sensors and control systems for real-time monitoring and automation.

Lighting-as-a-Service (LaaS) Business Models: Municipalities are adopting LaaS agreements, where vendors manage installation, maintenance, and operation. This model reduces capital expenditure and shifts the focus toward outcome-based performance agreements.

Environmental Monitoring via Smart Poles: Streetlights now double as platforms

for sensing air quality, temperature, and noise pollution, providing valuable data for urban planning and real-time alerts for environmental health concerns.

Integration with Smart Grids and Energy Platforms: Cities are linking smart lighting systems with smart grid infrastructure, enabling dynamic energy use adjustments, real-time reporting, and improved load balancing for energy efficiency.

Adoption of AI for Predictive Maintenance: Artificial intelligence is being used to analyze data from sensors and predict lighting failures or performance anomalies, reducing manual inspections and improving reliability.

Government Focus on Sustainable Urban Development: Smart lighting helps cities meet carbon reduction targets by reducing electricity consumption and enabling more efficient use of public resources in line with climate action plans.

Rising Energy Costs and Need for Efficiency: Escalating utility prices are pushing municipalities to adopt intelligent systems that reduce energy usage through adaptive lighting based on traffic, weather, or ambient light levels.

Improved Public Safety and Visibility: Smart lighting enhances safety by ensuring well-lit public areas and enabling quick adjustments during emergencies or events, while also supporting crime prevention through integrated cameras.

Digital Transformation of Urban Infrastructure: As cities digitize, smart lighting serves as a foundational layer, supporting interconnected systems such as traffic management, public Wi-Fi, and environmental monitoring.

Cybersecurity Risks Associated with Connectivity: The increased connectivity of smart lighting systems introduces vulnerability to cyberattacks. Without robust cybersecurity protocols, cities risk data breaches or disruptions to critical lighting infrastructure, undermining public trust and safety.

Smart Street Lighting Market Segmentation

By Type

Light Emitting Diode

Compact fluorescent lamps

Incandescent

Other Types

By Communication Technology

NB-IOT

Powerline Communication

Radio Frequency

Other Communication Technologies

By Energy Source

Traditional And Other Renewable Energy

Solar

By Application

Environment Monitoring

Traffic Optimization

Smart Parking

Other Applications

By End User

Commercial

Residential

Industrial

Key Companies Analysed

Hubbell Lighting Inc.

GE Lighting

Osram Licht AG

Koninklijke Philips N.V

Acuity Brands Lighting Inc.

Eaton Corporation PLC

Schneider Electric SE

Honeywell International Inc.

Lutron Electronics Company

CREE Inc.

Signify Holding

Telensa Limited

Itron Inc.

Suzhou Rongwen Kubai Lighting Systems Co. Ltd.

DimOnOff

Echelon Corp.

SYSKA LED Lights

Eveready Industries Ltd.

Rongwen Group

Havells Ltd.

Current powered by GE

Tvilight Smart City Lighting

Petra Systems Inc.

Shanghai Sansi Technology Co. Ltd.

Philips Lighting

Zumtobel Group

Flashnet

TVILIGHT Projects B.V.

Bridgelux Inc.

Liveable Cities

Quantela .

Smart Street Lighting Market Analytics

The report employs rigorous tools, including Porter's Five Forces, value chain mapping, and scenario-based modeling, to assess supply–demand dynamics. Cross-sector influences from parent, derived, and substitute markets are evaluated to identify risks and opportunities. Trade and pricing analytics provide an up-to-date view of

international flows, including leading exporters, importers, and regional price trends.

Macroeconomic indicators, policy frameworks such as carbon pricing and energy security strategies, and evolving consumer behavior are considered in forecasting scenarios. Recent deal flows, partnerships, and technology innovations are incorporated to assess their impact on future market performance.

Smart Street Lighting Market Competitive Intelligence

The competitive landscape is mapped through OG Analysis' proprietary frameworks, profiling leading companies with details on business models, product portfolios, financial performance, and strategic initiatives. Key developments such as mergers & acquisitions, technology collaborations, investment inflows, and regional expansions are analyzed for their competitive impact. The report also identifies emerging players and innovative startups contributing to market disruption.

Regional insights highlight the most promising investment destinations, regulatory landscapes, and evolving partnerships across energy and industrial corridors.

Countries Covered

North America — Smart Street Lighting market data and outlook to 2034

United States

Canada

Mexico

Europe — Smart Street Lighting market data and outlook to 2034

Germany

United Kingdom

France

Italy

Spain

BeNeLux

Russia

Sweden

Asia-Pacific — Smart Street Lighting market data and outlook to 2034

China

Japan

India

South Korea

Australia

Indonesia

Malaysia

Vietnam

Middle East and Africa — Smart Street Lighting market data and outlook to 2034

Saudi Arabia

South Africa

Iran

UAE

Egypt

South and Central America — Smart Street Lighting market data and outlook to

2034

Brazil

Argentina

Chile

Peru

** We can include data and analysis of additional countries on demand.*

Research Methodology

This study combines primary inputs from industry experts across the Smart Street Lighting value chain with secondary data from associations, government publications, trade databases, and company disclosures. Proprietary modeling techniques, including data triangulation, statistical correlation, and scenario planning, are applied to deliver reliable market sizing and forecasting.

Key Questions Addressed

What is the current and forecast market size of the Smart Street Lighting industry at global, regional, and country levels?

Which types, applications, and technologies present the highest growth potential?

How are supply chains adapting to geopolitical and economic shocks?

What role do policy frameworks, trade flows, and sustainability targets play in shaping demand?

Who are the leading players, and how are their strategies evolving in the face of global uncertainty?

Which regional “hotspots” and customer segments will outpace the market, and what go-to-market and partnership models best support entry and expansion?

Where are the most investable opportunities—across technology roadmaps, sustainability-linked innovation, and M&A—and what is the best segment to invest over the next 3–5 years?

Your Key Takeaways from the Smart Street Lighting Market Report

Global Smart Street Lighting market size and growth projections (CAGR), 2024-2034

Impact of Russia-Ukraine, Israel-Palestine, and Hamas conflicts on Smart Street Lighting trade, costs, and supply chains

Smart Street Lighting market size, share, and outlook across 5 regions and 27 countries, 2023-2034

Smart Street Lighting market size, CAGR, and market share of key products, applications, and end-user verticals, 2023-2034

Short- and long-term Smart Street Lighting market trends, drivers, restraints, and opportunities

Porter's Five Forces analysis, technological developments, and Smart Street Lighting supply chain analysis

Smart Street Lighting trade analysis, Smart Street Lighting market price analysis, and Smart Street Lighting supply/demand dynamics

Profiles of 5 leading companies—overview, key strategies, financials, and products

Latest Smart Street Lighting market news and developments

Additional Support

With the purchase of this report, you will receive

An updated PDF report and an MS Excel data workbook containing all market tables and figures for easy analysis.

7-day post-sale analyst support for clarifications and in-scope supplementary data, ensuring the deliverable aligns precisely with your requirements.

Complimentary report update to incorporate the latest available data and the impact of recent market developments.

** The updated report will be delivered within 3 working days*

Contents

1. TABLE OF CONTENTS

- 1.1 List of Tables
- 1.2 List of Figures

2. GLOBAL SMART STREET LIGHTING MARKET SUMMARY, 2025

- 2.1 Smart Street Lighting Industry Overview
 - 2.1.1 Global Smart Street Lighting Market Revenues (In US\$ billion)
- 2.2 Smart Street Lighting Market Scope
- 2.3 Research Methodology

3. SMART STREET LIGHTING MARKET INSIGHTS, 2024-2034

- 3.1 Smart Street Lighting Market Drivers
- 3.2 Smart Street Lighting Market Restraints
- 3.3 Smart Street Lighting Market Opportunities
- 3.4 Smart Street Lighting Market Challenges
- 3.5 Tariff Impact on Global Smart Street Lighting Supply Chain Patterns

4. SMART STREET LIGHTING MARKET ANALYTICS

- 4.1 Smart Street Lighting Market Size and Share, Key Products, 2025 Vs 2034
- 4.2 Smart Street Lighting Market Size and Share, Dominant Applications, 2025 Vs 2034
- 4.3 Smart Street Lighting Market Size and Share, Leading End Uses, 2025 Vs 2034
- 4.4 Smart Street Lighting Market Size and Share, High Growth Countries, 2025 Vs 2034
- 4.5 Five Forces Analysis for Global Smart Street Lighting Market
 - 4.5.1 Smart Street Lighting Industry Attractiveness Index, 2025
 - 4.5.2 Smart Street Lighting Supplier Intelligence
 - 4.5.3 Smart Street Lighting Buyer Intelligence
 - 4.5.4 Smart Street Lighting Competition Intelligence
 - 4.5.5 Smart Street Lighting Product Alternatives and Substitutes Intelligence
 - 4.5.6 Smart Street Lighting Market Entry Intelligence

5. GLOBAL SMART STREET LIGHTING MARKET STATISTICS – INDUSTRY REVENUE, MARKET SHARE, GROWTH TRENDS AND FORECAST BY SEGMENTS, TO 2034

- 5.1 World Smart Street Lighting Market Size, Potential and Growth Outlook, 2024- 2034 (\$ billion)
- 5.1 Global Smart Street Lighting Sales Outlook and CAGR Growth By Type, 2024- 2034 (\$ billion)
- 5.2 Global Smart Street Lighting Sales Outlook and CAGR Growth By Communication Technology, 2024- 2034 (\$ billion)
- 5.3 Global Smart Street Lighting Sales Outlook and CAGR Growth By Energy Source, 2024- 2034 (\$ billion)
- 5.4 Global Smart Street Lighting Sales Outlook and CAGR Growth By Application, 2024- 2034 (\$ billion)
- 5.5 Global Smart Street Lighting Sales Outlook and CAGR Growth By End User, 2024- 2034 (\$ billion)
- 5.6 Global Smart Street Lighting Market Sales Outlook and Growth by Region, 2024- 2034 (\$ billion)

6. ASIA PACIFIC SMART STREET LIGHTING INDUSTRY STATISTICS – MARKET SIZE, SHARE, COMPETITION AND OUTLOOK

- 6.1 Asia Pacific Smart Street Lighting Market Insights, 2025
- 6.2 Asia Pacific Smart Street Lighting Market Revenue Forecast By Type, 2024- 2034 (USD billion)
- 6.3 Asia Pacific Smart Street Lighting Market Revenue Forecast By Communication Technology, 2024- 2034 (USD billion)
- 6.4 Asia Pacific Smart Street Lighting Market Revenue Forecast By Energy Source, 2024- 2034 (USD billion)
- 6.5 Asia Pacific Smart Street Lighting Market Revenue Forecast By Application, 2024- 2034 (USD billion)
- 6.6 Asia Pacific Smart Street Lighting Market Revenue Forecast By End User, 2024- 2034 (USD billion)
- 6.7 Asia Pacific Smart Street Lighting Market Revenue Forecast by Country, 2024- 2034 (USD billion)
 - 6.7.1 China Smart Street Lighting Market Size, Opportunities, Growth 2024- 2034
 - 6.7.2 India Smart Street Lighting Market Size, Opportunities, Growth 2024- 2034
 - 6.7.3 Japan Smart Street Lighting Market Size, Opportunities, Growth 2024- 2034
 - 6.7.4 Australia Smart Street Lighting Market Size, Opportunities, Growth 2024- 2034

7. EUROPE SMART STREET LIGHTING MARKET DATA, PENETRATION, AND BUSINESS PROSPECTS TO 2034

7.1 Europe Smart Street Lighting Market Key Findings, 2025

7.2 Europe Smart Street Lighting Market Size and Percentage Breakdown By Type, 2024- 2034 (USD billion)

7.3 Europe Smart Street Lighting Market Size and Percentage Breakdown By Communication Technology, 2024- 2034 (USD billion)

7.4 Europe Smart Street Lighting Market Size and Percentage Breakdown By Energy Source, 2024- 2034 (USD billion)

7.5 Europe Smart Street Lighting Market Size and Percentage Breakdown By Application, 2024- 2034 (USD billion)

7.6 Europe Smart Street Lighting Market Size and Percentage Breakdown By End User, 2024- 2034 (USD billion)

7.7 Europe Smart Street Lighting Market Size and Percentage Breakdown by Country, 2024- 2034 (USD billion)

7.7.1 Germany Smart Street Lighting Market Size, Trends, Growth Outlook to 2034

7.7.2 United Kingdom Smart Street Lighting Market Size, Trends, Growth Outlook to 2034

7.7.2 France Smart Street Lighting Market Size, Trends, Growth Outlook to 2034

7.7.2 Italy Smart Street Lighting Market Size, Trends, Growth Outlook to 2034

7.7.2 Spain Smart Street Lighting Market Size, Trends, Growth Outlook to 2034

8. NORTH AMERICA SMART STREET LIGHTING MARKET SIZE, GROWTH TRENDS, AND FUTURE PROSPECTS TO 2034

8.1 North America Snapshot, 2025

8.2 North America Smart Street Lighting Market Analysis and Outlook By Type, 2024- 2034 (\$ billion)

8.3 North America Smart Street Lighting Market Analysis and Outlook By Communication Technology, 2024- 2034 (\$ billion)

8.4 North America Smart Street Lighting Market Analysis and Outlook By Energy Source, 2024- 2034 (\$ billion)

8.5 North America Smart Street Lighting Market Analysis and Outlook By Application, 2024- 2034 (\$ billion)

8.6 North America Smart Street Lighting Market Analysis and Outlook By End User, 2024- 2034 (\$ billion)

8.7 North America Smart Street Lighting Market Analysis and Outlook by Country, 2024- 2034 (\$ billion)

8.7.1 United States Smart Street Lighting Market Size, Share, Growth Trends and Forecast, 2024- 2034

8.7.1 Canada Smart Street Lighting Market Size, Share, Growth Trends and Forecast, 2024- 2034

8.7.1 Mexico Smart Street Lighting Market Size, Share, Growth Trends and Forecast, 2024- 2034

9. SOUTH AND CENTRAL AMERICA SMART STREET LIGHTING MARKET DRIVERS, CHALLENGES, AND FUTURE PROSPECTS

9.1 Latin America Smart Street Lighting Market Data, 2025

9.2 Latin America Smart Street Lighting Market Future By Type, 2024- 2034 (\$ billion)

9.3 Latin America Smart Street Lighting Market Future By Communication Technology, 2024- 2034 (\$ billion)

9.4 Latin America Smart Street Lighting Market Future By Energy Source, 2024- 2034 (\$ billion)

9.5 Latin America Smart Street Lighting Market Future By Application, 2024- 2034 (\$ billion)

9.6 Latin America Smart Street Lighting Market Future By End User, 2024- 2034 (\$ billion)

9.7 Latin America Smart Street Lighting Market Future by Country, 2024- 2034 (\$ billion)

9.7.1 Brazil Smart Street Lighting Market Size, Share and Opportunities to 2034

9.7.2 Argentina Smart Street Lighting Market Size, Share and Opportunities to 2034

10. MIDDLE EAST AFRICA SMART STREET LIGHTING MARKET OUTLOOK AND GROWTH PROSPECTS

10.1 Middle East Africa Overview, 2025

10.2 Middle East Africa Smart Street Lighting Market Statistics By Type, 2024- 2034 (USD billion)

10.3 Middle East Africa Smart Street Lighting Market Statistics By Communication Technology, 2024- 2034 (USD billion)

10.4 Middle East Africa Smart Street Lighting Market Statistics By Energy Source, 2024- 2034 (USD billion)

10.5 Middle East Africa Smart Street Lighting Market Statistics By Application, 2024- 2034 (USD billion)

10.6 Middle East Africa Smart Street Lighting Market Statistics By End User, 2024- 2034 (USD billion)

10.7 Middle East Africa Smart Street Lighting Market Statistics by Country, 2024- 2034 (USD billion)

10.7.1 Middle East Smart Street Lighting Market Value, Trends, Growth Forecasts to 2034

10.7.2 Africa Smart Street Lighting Market Value, Trends, Growth Forecasts to 2034

11. SMART STREET LIGHTING MARKET STRUCTURE AND COMPETITIVE LANDSCAPE

11.1 Key Companies in Smart Street Lighting Industry

11.2 Smart Street Lighting Business Overview

11.3 Smart Street Lighting Product Portfolio Analysis

11.4 Financial Analysis

11.5 SWOT Analysis

12 APPENDIX

12.1 Global Smart Street Lighting Market Volume (Tons)

12.1 Global Smart Street Lighting Trade and Price Analysis

12.2 Smart Street Lighting Parent Market and Other Relevant Analysis

12.3 Publisher Expertise

12.2 Smart Street Lighting Industry Report Sources and Methodology

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