

Intelligent Toll Collection Systems Market Forecasts to 2034 – Global Analysis By Component (Hardware, Software, and Services), Technology, Application, End User and By Geography

<https://marketpublishers.com/r/I28473521099EN.html>

Date: June 2026

Pages: 200

Price: US\$ 4,150.00 (Single User License)

ID: I28473521099EN

Abstracts

According to Statistics MRC, the Global Intelligent Toll Collection Systems Market is accounted for \$3.0 billion in 2026 and is expected to reach \$6.9 billion by 2034 growing at a CAGR of 10.9% during the forecast period. Intelligent toll collection systems are advanced electronic frameworks designed to automate the detection, identification, and fee collection processes for vehicles traversing toll points without requiring manual intervention. These systems function by integrating roadside hardware such as gantries, cameras, and RFID readers with backend software platforms that process vehicle identification data and execute electronic payment transactions. They utilize dedicated short-range communications, automatic number plate recognition, and satellite-based positioning to enable seamless, free-flow tolling operations across highways, bridges, tunnels, and urban congestion zones.

Market Dynamics:

Driver:

Rising Traffic Congestion Management

The escalating global traffic congestion compels authorities to adopt intelligent toll collection systems offering automated fee management alternatives. Growing urbanization and increasing vehicle volumes are accelerating the integration of these frameworks into highway networks. This transition is supported by advancements in sensor technology, which enhance vehicle detection accuracy and transaction speed. Consequently, governments are investing in automated tolling to achieve compliance

with congestion reduction mandates while optimizing revenue collection.

Restraint:

High Infrastructure Deployment Costs

The substantial expenses associated with deploying advanced intelligent toll collection infrastructure represent a significant barrier to widespread adoption. Installing comprehensive gantry systems and communication networks often requires complex civil engineering modifications and sophisticated data integration techniques, which escalate overall project costs. Furthermore, the vulnerability of outdoor hardware to extreme weather conditions limits operational longevity in harsh environments. These factors collectively constrain expansion, particularly for smaller municipalities with limited infrastructure budgets.

Opportunity:

Expansion in Urban Congestion Charging

The urban congestion charging sector presents substantial growth opportunities for intelligent toll collection manufacturers due to increasing municipal demand for traffic management solutions. Automated tolling frameworks offer a highly effective pathway to reduce urban vehicle volumes without manual enforcement, utilizing integrated sensor analytics as primary inputs. As global investments in smart city infrastructure expand and regulatory agencies favor sustainable urban planning pathways, the adoption of advanced tolling solutions is expected to surge significantly.

Threat:

Alternative Mobility Solutions

The continuous innovation of alternative urban mobility options poses a considerable threat to the intelligent toll collection systems market. Emerging micro-mobility services and enhanced public transit networks often exhibit superior cost-effectiveness and can be more economically viable for reducing overall vehicle dependency in dense urban areas. Additionally, the rapid advancement of autonomous ride-hailing fleets is enhancing the efficiency of conventional transportation methods. This competitive pressure may hinder penetration, particularly where reducing private car ownership is a primary consideration.

Covid-19 Impact:

The pandemic initially disrupted toll collection infrastructure deployments and delayed municipal projects due to logistical constraints and shifted budget priorities. However, the subsequent surge in demand for contactless payment and touchless tolling solutions accelerated the adoption of automated systems for essential public safety. Post-pandemic, the heightened focus on urban digital transformation and sustainable mobility has reinforced long-term investments in intelligent tolling technologies, driving robust recovery across diverse municipal sectors globally.

The hardware segment is expected to be the largest during the forecast period

The Hardware segment is expected to account for the largest market share during the forecast period, due to its foundational role and widespread applicability across diverse tolling environments. Hardware components like gantry systems and cameras offer exceptional operational reliability and operate effectively in complex outdoor conditions, which significantly reduces manual oversight and minimizes system downtime in daily management processes. As authorities increasingly prioritize durable and cost-effective infrastructure upgrades, the demand for specialized tolling hardware continues to surge, thereby solidifying its dominant market position.

The contactless and mobile payment systems (NFC, QR) segment is expected to have the highest CAGR during the forecast period

Over the forecast period, the contactless and mobile payment systems (NFC, QR) segment is predicted to witness the highest growth rate, driven by rapid advancements in mobile wallet technology and secure digital payment engineering. These technologies enable the precise processing of toll transactions to produce highly specialized and robust payment experiences tailored for specific urban applications. The ability to enhance transaction speed, user convenience, and payment security through advanced contactless integration significantly improves operational economics, accelerating commercial adoption globally.

Region with largest share:

During the forecast period, the North America region is expected to hold the largest market share, due to the presence of well-established toll road networks and advanced transportation infrastructure that heavily utilize intelligent toll collection systems. The

region benefits from substantial municipal technology investments, robust intellectual property protection, and supportive government policies promoting urban digitization and sustainable mobility. Furthermore, the early adoption of advanced tolling technologies by key industry players in the United States and Canada reinforces the region's dominant position in the global landscape.

Region with highest CAGR:

Over the forecast period, the Asia Pacific region is anticipated to exhibit the highest CAGR, due to rapid urbanization and expanding smart city development sectors in emerging economies. Countries such as China, India, and Japan are increasingly investing in intelligent transportation infrastructure and automated tolling technologies to meet growing domestic mobility demands and stringent environmental regulations. Additionally, favorable government policies, rising foreign direct investment, and the availability of cost-effective technological resources are collectively driving the accelerated adoption of intelligent toll collection systems across the region.

Key players in the market

Some of the key players in Intelligent Toll Collection Systems Market include Kapsch TrafficCom AG, TransCore, Conduent Incorporated, Q-Free ASA, Neology, Inc., Thales Group, Siemens AG, Cubic Corporation, Indra Sistemas S.A., EFKON GmbH (Valeo), Emovis (Abertis), Axx?s Group, Telepass S.p.A., E-Toll Information Systems, Feig Electronic GmbH, Jenoptik AG, Yunex Traffic, and Swarco AG.

Key Developments:

In September 2026, Kapsch TrafficCom AG launched a next-generation gantry system optimized for multi-lane free-flow tolling, achieving a thirty percent improvement in vehicle detection accuracy while significantly reducing hardware maintenance requirements for global highway operators.

In August 2026, TransCore expanded its RFID tag production capacity through a strategic partnership with a semiconductor firm, enabling the scalable deployment of novel tolling modules for seamless highway integration programs.

In July 2026, Siemens AG secured a major supply agreement to provide customized toll collection software for a prominent European highway authority, facilitating the efficient integration of advanced payment tools into next-generation transportation ecosystems

globally.

Components Covered:

Hardware

Software

Services

Technologies Covered:

Dedicated Short-Range Communications (DSRC)

Radio Frequency Identification (RFID)

Automatic Number Plate Recognition (ANPR/LPR)

Global Navigation Satellite System (GNSS) / GPS-Based Tolling

Contactless and Mobile Payment Systems (NFC, QR)

Applications Covered:

Highway and Freeway Tolling

Urban Congestion Charging and Low Emission Zones

Bridge and Tunnel Toll Collection

High-Occupancy Toll (HOT) and Express Lanes

Parking and Port Access Fee Collection

End Users Covered:

Government and Transportation Authorities

Private Toll Road Operators and Concessionaires

Infrastructure Developers and EPC Contractors

Fleet Management and Logistics Companies

Other End Users

Regions Covered:

North America

United States

Canada

Mexico

Europe

United Kingdom

Germany

France

Italy

Spain

Netherlands

Belgium

Sweden

Switzerland

Poland

Rest of Europe

Asia Pacific

China

Japan

India

South Korea

Australia

Indonesia

Thailand

Malaysia

Singapore

Vietnam

Rest of Asia Pacific

South America

Brazil

Argentina

Colombia

Chile

Peru

Rest of South America

Rest of the World (RoW)

Middle East

Saudi Arabia

United Arab Emirates

Qatar

Israel

Rest of Middle East

Africa

South Africa

Egypt

Morocco

Rest of 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 2023, 2024, 2025, 2026, 2027, 2028, 2030,

2032 and 2034

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

Contents

1 EXECUTIVE SUMMARY

- 1.1 Market Snapshot and Key Highlights
- 1.2 Growth Drivers, Challenges, and Opportunities
- 1.3 Competitive Landscape Overview
- 1.4 Strategic Insights and Recommendations

2 RESEARCH FRAMEWORK

- 2.1 Study Objectives and Scope
- 2.2 Stakeholder Analysis
- 2.3 Research Assumptions and Limitations
- 2.4 Research Methodology
 - 2.4.1 Data Collection (Primary and Secondary)
 - 2.4.2 Data Modeling and Estimation Techniques
 - 2.4.3 Data Validation and Triangulation
 - 2.4.4 Analytical and Forecasting Approach

3 MARKET DYNAMICS AND TREND ANALYSIS

- 3.1 Market Definition and Structure
- 3.2 Key Market Drivers
- 3.3 Market Restraints and Challenges
- 3.4 Growth Opportunities and Investment Hotspots
- 3.5 Industry Threats and Risk Assessment
- 3.6 Technology and Innovation Landscape
- 3.7 Emerging and High-Growth Markets
- 3.8 Regulatory and Policy Environment
- 3.9 Impact of COVID-19 and Recovery Outlook

4 COMPETITIVE AND STRATEGIC ASSESSMENT

- 4.1 Porter's Five Forces Analysis
 - 4.1.1 Supplier Bargaining Power
 - 4.1.2 Buyer Bargaining Power
 - 4.1.3 Threat of Substitutes
 - 4.1.4 Threat of New Entrants

- 4.1.5 Competitive Rivalry
- 4.2 Market Share Analysis of Key Players
- 4.3 Product Benchmarking and Performance Comparison

5 GLOBAL INTELLIGENT TOLL COLLECTION SYSTEMS MARKET, BY COMPONENT

- 5.1 Hardware
 - 5.1.1 Gantry Systems
 - 5.1.2 RFID Tags
 - 5.1.3 Cameras
- 5.2 Software
- 5.3 Services

6 GLOBAL INTELLIGENT TOLL COLLECTION SYSTEMS MARKET, BY TECHNOLOGY

- 6.1 Dedicated Short-Range Communications (DSRC)
- 6.2 Radio Frequency Identification (RFID)
- 6.3 Automatic Number Plate Recognition (ANPR/LPR)
- 6.4 Global Navigation Satellite System (GNSS) / GPS-Based Tolling
- 6.5 Contactless and Mobile Payment Systems (NFC, QR)

7 GLOBAL INTELLIGENT TOLL COLLECTION SYSTEMS MARKET, BY APPLICATION

- 7.1 Highway and Freeway Tolling
- 7.2 Urban Congestion Charging and Low Emission Zones
- 7.3 Bridge and Tunnel Toll Collection
- 7.4 High-Occupancy Toll (HOT) and Express Lanes
- 7.5 Parking and Port Access Fee Collection

8 GLOBAL INTELLIGENT TOLL COLLECTION SYSTEMS MARKET, BY END USER

- 8.1 Government and Transportation Authorities
- 8.2 Private Toll Road Operators and Concessionaires
- 8.3 Infrastructure Developers and EPC Contractors
- 8.4 Fleet Management and Logistics Companies
- 8.5 Other End Users

9 GLOBAL INTELLIGENT TOLL COLLECTION SYSTEMS MARKET, BY GEOGRAPHY

9.1 North America

9.1.1 United States

9.1.2 Canada

9.1.3 Mexico

9.2 Europe

9.2.1 United Kingdom

9.2.2 Germany

9.2.3 France

9.2.4 Italy

9.2.5 Spain

9.2.6 Netherlands

9.2.7 Belgium

9.2.8 Sweden

9.2.9 Switzerland

9.2.10 Poland

9.2.11 Rest of Europe

9.3 Asia Pacific

9.3.1 China

9.3.2 Japan

9.3.3 India

9.3.4 South Korea

9.3.5 Australia

9.3.6 Indonesia

9.3.7 Thailand

9.3.8 Malaysia

9.3.9 Singapore

9.3.10 Vietnam

9.3.11 Rest of Asia Pacific

9.4 South America

9.4.1 Brazil

9.4.2 Argentina

9.4.3 Colombia

9.4.4 Chile

9.4.5 Peru

9.4.6 Rest of South America

9.5 Rest of the World (RoW)

9.5.1 Middle East

9.5.1.1 Saudi Arabia

9.5.1.2 United Arab Emirates

9.5.1.3 Qatar

9.5.1.4 Israel

9.5.1.5 Rest of Middle East

9.5.2 Africa

9.5.2.1 South Africa

9.5.2.2 Egypt

9.5.2.3 Morocco

9.5.2.4 Rest of Africa

10 STRATEGIC MARKET INTELLIGENCE

10.1 Industry Value Network and Supply Chain Assessment

10.2 White-Space and Opportunity Mapping

10.3 Product Evolution and Market Life Cycle Analysis

10.4 Channel, Distributor, and Go-to-Market Assessment

11 INDUSTRY DEVELOPMENTS AND STRATEGIC INITIATIVES

11.1 Mergers and Acquisitions

11.2 Partnerships, Alliances, and Joint Ventures

11.3 New Product Launches and Certifications

11.4 Capacity Expansion and Investments

11.5 Other Strategic Initiatives

12 COMPANY PROFILES

12.1 Kapsch TrafficCom AG

12.2 TransCore

12.3 Conduent Incorporated

12.4 Q-Free ASA

12.5 Neology, Inc.

12.6 Thales Group

12.7 Siemens AG

12.8 Cubic Corporation

12.9 Indra Sistemas S.A.

12.10 EFKON GmbH (Valeo)

12.11 Emovis (Abertis)

12.12 Axx?s Group

12.13 Telepass S.p.A.

12.14 E-Toll Information Systems

12.15 Feig Electronic GmbH

12.16 Jenoptik AG

12.17 Yunex Traffic

12.18 Swarco AG

List of Tables

Table 1 Global Intelligent Toll Collection Systems Market Outlook, By Region
(2023-2034) (\$MN)

Table 2 Global Intelligent Toll Collection Systems Market Outlook, By Component
(2023-2034) (\$MN)

Table 3 Global Intelligent Toll Collection Systems Market Outlook, By Hardware
(2023-2034) (\$MN)

Table 4 Global Intelligent Toll Collection Systems Market Outlook, By Gantry Systems
(2023-2034) (\$MN)

Table 5 Global Intelligent Toll Collection Systems Market Outlook, By RFID Tags
(2023-2034) (\$MN)

Table 6 Global Intelligent Toll Collection Systems Market Outlook, By Cameras
(2023-2034) (\$MN)

Table 7 Global Intelligent Toll Collection Systems Market Outlook, By Software
(2023-2034) (\$MN)

Table 8 Global Intelligent Toll Collection Systems Market Outlook, By Services
(2023-2034) (\$MN)

Table 9 Global Intelligent Toll Collection Systems Market Outlook, By Technology
(2023-2034) (\$MN)

Table 10 Global Intelligent Toll Collection Systems Market Outlook, By Dedicated Short-Range Communications (DSRC) (2023-2034) (\$MN)

Table 11 Global Intelligent Toll Collection Systems Market Outlook, By Radio Frequency Identification (RFID) (2023-2034) (\$MN)

Table 12 Global Intelligent Toll Collection Systems Market Outlook, By Automatic Number Plate Recognition (ANPR/LPR) (2023-2034) (\$MN)

Table 13 Global Intelligent Toll Collection Systems Market Outlook, By Global Navigation Satellite System (GNSS) / GPS-Based Tolling (2023-2034) (\$MN)

Table 14 Global Intelligent Toll Collection Systems Market Outlook, By Contactless and Mobile Payment Systems (NFC, QR) (2023-2034) (\$MN)

Table 15 Global Intelligent Toll Collection Systems Market Outlook, By Application

(2023-2034) (\$MN)

Table 16 Global Intelligent Toll Collection Systems Market Outlook, By Highway and Freeway Tolling (2023-2034) (\$MN)

Table 17 Global Intelligent Toll Collection Systems Market Outlook, By Urban Congestion Charging and Low Emission Zones (2023-2034) (\$MN)

Table 18 Global Intelligent Toll Collection Systems Market Outlook, By Bridge and Tunnel Toll Collection (2023-2034) (\$MN)

Table 19 Global Intelligent Toll Collection Systems Market Outlook, By High-Occupancy Toll (HOT) and Express Lanes (2023-2034) (\$MN)

Table 20 Global Intelligent Toll Collection Systems Market Outlook, By Parking and Port Access Fee Collection (2023-2034) (\$MN)

Table 21 Global Intelligent Toll Collection Systems Market Outlook, By End User (2023-2034) (\$MN)

Table 22 Global Intelligent Toll Collection Systems Market Outlook, By Government and Transportation Authorities (2023-2034) (\$MN)

Table 23 Global Intelligent Toll Collection Systems Market Outlook, By Private Toll Road Operators and Concessionaires (2023-2034) (\$MN)

Table 24 Global Intelligent Toll Collection Systems Market Outlook, By Infrastructure Developers and EPC Contractors (2023-2034) (\$MN)

Table 25 Global Intelligent Toll Collection Systems Market Outlook, By Fleet Management and Logistics Companies (2023-2034) (\$MN)

Table 26 Global Intelligent Toll Collection Systems Market Outlook, By Other End Users (2023-2034) (\$MN)

Note: Tables for North America, Europe, APAC, South America, and Rest of the World (RoW) Regions are also represented in the same manner as above.

I would like to order

Product name: Intelligent Toll Collection Systems Market Forecasts to 2034 – Global Analysis By Component (Hardware, Software, and Services), Technology, Application, End User and By Geography

Product link: <https://marketpublishers.com/r/l28473521099EN.html>

Price: US\$ 4,150.00 (Single User License / Electronic Delivery)

If you want to order Corporate License or Hard Copy, please, contact our Customer Service:

info@marketpublishers.com

Payment

To pay by Credit Card (Visa, MasterCard, American Express, PayPal), please, click button on product page <https://marketpublishers.com/r/l28473521099EN.html>