

# QR & NFC Codes Market Forecasts to 2032 – Global Analysis By Code Type (QR Codes, NFC Tags and Other Code Types), Payment Type, Operating Mode, Technology, Application, End User and By Geography

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## Abstracts

According to Statistics MRC, the Global QR & NFC Codes Market is accounted for \$42.1 billion in 2025 and is expected to reach \$96.2 billion by 2032 growing at a CAGR of 12.5% during the forecast period. QR (Quick Response) codes are two-dimensional barcodes that store data such as URLs, product details, or contact information, enabling instant access via smartphone scanning. NFC (Near Field Communication) codes facilitate short-range wireless communication between compatible devices, allowing secure data exchange or contactless transactions. Both technologies streamline user interaction, enhance digital connectivity, and are widely adopted across retail, healthcare, and logistics for authentication, tracking, and mobile payments. Their integration supports efficient, touch-free experiences in modern digital ecosystems.

### Market Dynamics:

Driver:

Widespread smartphone adoption

The proliferation of smartphones globally has significantly accelerated the adoption of QR and NFC technologies. With mobile devices now serving as primary tools for digital interaction, consumers increasingly rely on QR codes for scanning menus, accessing services, and verifying product authenticity. NFC-enabled devices support seamless tap-and-go payments, enhancing convenience across retail, transit, and healthcare. This widespread accessibility is fostering innovation in mobile commerce, loyalty programs,

and smart packaging, positioning QR/NFC as foundational technologies in the digital economy.

Restraint:

Vulnerabilities in QR code phishing and NFC skimming

Despite their convenience, QR and NFC technologies face persistent security challenges. QR codes can be exploited for phishing attacks, redirecting users to malicious websites or unauthorized payment portals. Similarly, NFC signals are susceptible to skimming and spoofing, particularly in unsecured environments. These vulnerabilities raise concerns among enterprises and consumers, prompting demand for encrypted protocols, secure readers, and regulatory oversight. The lack of universal security standards across platforms further complicates safe deployment in sensitive applications.

Opportunity:

Integration with freshness indicators, TTI labels, and traceability tools

QR and NFC codes are increasingly embedded in smart packaging solutions, enabling real-time tracking, freshness monitoring, and product authentication. Technologies such as time-temperature indicators (TTI) and dynamic traceability labels are being paired with scannable codes to enhance supply chain transparency. This integration is particularly valuable in food, pharmaceuticals, and logistics, where safety and compliance are critical. As sustainability and digital traceability gain prominence, QR/NFC-enabled packaging offers a scalable solution for brands seeking consumer trust and regulatory alignment.

Threat:

Malicious QR codes and spoofed NFC signals

The growing use of QR and NFC codes has also led to a surge in cyber threats targeting these interfaces. Malicious actors deploy counterfeit QR codes in public spaces or spoof NFC signals to intercept sensitive data. These tactics undermine consumer confidence and expose businesses to reputational and financial risks. Without robust authentication mechanisms and user education, the market may face adoption hesitancy, especially in sectors handling personal or financial information.

**Covid-19 Impact:**

The pandemic catalyzed the shift toward contactless technologies, with QR and NFC codes emerging as essential tools for safe interaction. From digital menus and vaccine certificates to mobile payments and remote check-ins, these technologies enabled low-touch engagement across industries. While initial supply chain disruptions affected hardware availability, the long-term impact has been overwhelmingly positive. Businesses accelerated digital transformation, and consumers embraced mobile-first experiences, solidifying QR/NFC as critical components of post-pandemic infrastructure.

The QR codes segment is expected to be the largest during the forecast period

The QR codes segment is expected to account for the largest market share during the forecast period due to their affordability, ease of implementation, and universal compatibility with smartphone cameras. Their ability to encode diverse data types from URLs and product details to payment credentials makes them indispensable across industries. Retailers use them for promotions and inventory tracking, while healthcare providers leverage them for patient identification and medication labeling. The simplicity of deployment without specialized hardware further accelerates their adoption in both developed and emerging markets.

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

Over the forecast period, the push payment segment is predicted to witness the highest growth rate as these solutions allow users to initiate payments directly from their devices, reducing dependency on card readers or third-party processors. Enhanced security, faster transaction times, and reduced fraud risk are key advantages driving uptake. Financial institutions and fintech platforms are increasingly integrating push payment capabilities into mobile apps, especially in regions prioritizing digital financial inclusion and real-time settlement infrastructure.

**Region with largest share:**

During the forecast period, the Asia Pacific region is expected to hold the largest market share attributed to high mobile penetration, rapid urbanization, and strong government backing for digital payment ecosystems. Countries like China, India, and Indonesia have embraced QR-based payment platforms for everyday transactions, from street vendors

to e-commerce giants. Public transportation systems, healthcare services, and educational institutions are also integrating QR/NFC for access control and digital verification. The region's innovation in low-cost deployment and user-friendly interfaces continues to set global benchmarks.

### **Region with highest CAGR:**

Over the forecast period, the North America region is anticipated to exhibit the highest CAGR fueled by rising demand for secure, contactless technologies across consumer and enterprise applications. The region's emphasis on cybersecurity, data privacy, and regulatory compliance is prompting investment in encrypted QR/NFC solutions. Healthcare providers are adopting these technologies for patient tracking and medication authentication, while educational institutions use them for attendance and credentialing. Additionally, the packaging industry is exploring QR/NFC for smart labeling, traceability, and sustainability, contributing to robust market expansion.

### **Key players in the market**

Some of the key players in QR & NFC Codes Market include Scanbuy Inc., Blue Bite, Zebra Technologies, Denso Wave Inc., Avery Dennison, NXP Semiconductors, Identiv Inc., Thinfilm Electronics ASA, Smartify, Socket Mobile Inc., CodeREADr, Smartrac Technology GmbH, Proxama PLC, Inuru GmbH, Tapwow, and Tappy Technologies.

### **Key Developments:**

In October 2025, Zebra Technologies partnered with Tulip to integrate mobile computers with Tulip's MES platform for frontline manufacturing. The collaboration simplifies digital transformation and enhances traceability and quality control workflows.

In September 2025, Blue Bite launched GS1-compliant QR solutions for smart packaging, enabling personalized content and global compliance. The platform supports dynamic redirects, secure DNS, and API integrations for enterprise-grade traceability.

In September 2025, Avery Dennison expanded its partnership with Wiliot to scale ambient IoT supply chain intelligence globally. The collaboration enhances RFID-enabled traceability and supports sustainability goals.

### **Code Types Covered:**

QR Codes

NFC Tags

Other Code Types

Payment Types Covered:

Push Payment

Pull Payment

Operating Modes Covered:

Reader Emulation Mode

Peer-to-Peer Mode

Card Emulation Mode

Other Operating Modes

Technologies Covered:

Static QR Code

Dynamic QR Code

Advanced QR Codes

Passive NFC

1D/2D Barcode

Cloud-based Dynamic

## Other Technologies

### Applications Covered:

Payments & Transactions

Information Sharing

Customer Engagement & Loyalty

Supply Chain Management & Logistics

Mobile & Contactless Payments

Ticketing & Transit

Other Applications

### End Users Covered:

BFSI

Retail & E-commerce

Transportation

Automotive

Healthcare

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 2024, 2025, 2026, 2028, and 2032
- 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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