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Virtualized Evolved Packet Core Market ? Global Industry Size, Share, Trends, Opportunity, and Forecast, Segmented By Component Type (Solution (MME, HSS, S-GW, PDN-GW), Service (Professional Services, Managed Service, Consulting, Integration & Development, and Training & Support)), By Deployment Mode (Cloud, On-Premises), By End User (Telecom Operator, Enterprises), By Region & Competition, 2021-2031F

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Abstracts

The Global Virtualized Evolved Packet Core Market is projected to expand significantly, rising from USD 9.28 Billion in 2025 to USD 38.85 Billion by 2031, reflecting a CAGR of 26.95%. This sector encompasses telecommunications infrastructure designed to migrate core network functions from proprietary physical hardware to software-based solutions operating on commercial off-the-shelf servers. Key drivers fueling this market include the urgent need for mobile operators to reduce capital and operational costs through hardware decoupling, alongside a demand for enhanced network agility to handle fluctuating data traffic. Furthermore, the necessity to support diverse, high-bandwidth applications, such as the Internet of Things, requires the scalable architecture inherent in virtualization.

Despite these benefits, the market faces a substantial obstacle in integrating virtualized frameworks with legacy non-virtualized infrastructure, a process that frequently leads to interoperability issues and delays in network modernization. These operational difficulties have resulted in a cautious pace of adoption for fully cloud-native architectures. For instance, the Global mobile Suppliers Association noted that in 2024,

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although 151 operators were investing in 5G standalone access dependent on virtualized core networks, only 64 had successfully deployed or commercially launched these systems.

Market Driver

The swift uptake of 5G Standalone (SA) network architectures acts as a major catalyst for the Global Virtualized Evolved Packet Core Market, as this framework fundamentally depends on cloud-native, virtualized core functions to provide advanced capabilities. In contrast to Non-Standalone (NSA) deployments that use legacy 4G cores, 5G SA demands a completely new, service-based architecture that facilitates features like network slicing and ultra-reliable low-latency communications (URLLC). This transition requires the implementation of virtualized packet cores capable of dynamically allocating resources and managing complex signaling loads independently of the underlying hardware. According to the '5G Standalone August 2025' report by the Global mobile Suppliers Association, 173 operators across 70 countries were investing in public 5G Standalone networks, emphasizing the industry's aggressive move toward these virtualized environments.

Rising global mobile data traffic and bandwidth requirements further pressure operators to adopt virtualized evolved packet cores, which provide the necessary elasticity to manage unpredictable throughput surges. As consumer usage of high-definition video and real-time applications increases, legacy physical appliances struggle to scale efficiently without incurring prohibitive costs. Virtualization enables operators to automatically scale control and user plane functions, ensuring service continuity and an optimal user experience during peak times. Ericsson's 'Mobility Report' from November 2025 indicates that mobile network data traffic rose by 20 percent year-on-year between the third quarter of 2024 and the third quarter of 2025, creating immense pressure on core networks for agile software-defined infrastructure. Additionally, 5G Americas reported that global 5G connections hit 2.25 billion in 2025, further highlighting the critical scale that virtualized cores must accommodate.

Market Challenge

The complex integration of virtualized frameworks with legacy non-virtualized infrastructure serves as a major impediment to the growth of the Global Virtualized Evolved Packet Core Market. Operators moving toward virtualized environments face critical interoperability challenges when trying to interface new software-based functions with aging proprietary hardware built on older network standards. This technical

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mismatch frequently leads to fragmented management systems and operational silos, forcing telecommunications providers to sustain expensive parallel infrastructures instead of achieving the desired network consolidation. As a result, the financial and operational strain of synchronizing these hybrid environments discourages the rapid decommissioning of legacy systems, thereby slowing the migration to fully cloud-native vEPC architectures.

The severity of this integration bottleneck is evident in the gap between widespread industry investment and the actual deployment of modernized standalone systems utilizing virtualized cores. According to the Global mobile Suppliers Association (GSA), 619 operators were investing in 5G networks through trials, licenses, and deployments in 2024. Despite this significant engagement with next-generation technology, the persistence of legacy integration barriers means that a majority of these deployments remain tied to non-standalone configurations, which restricts the scalable expansion of the virtualized core market.

Market Trends

The growth of Private vEPC deployments for enterprise networks marks a distinct trend toward localized, secure, and highly reliable connectivity solutions designed for specific industrial use cases. In contrast to public consumer networks, these deployments enable organizations in sectors like manufacturing and mining to employ dedicated virtualized cores that guarantee data sovereignty and low latency for mission-critical applications. This movement is gaining speed as enterprises aim to adopt Industry 4.0 standards by decoupling their operational technology from congested public infrastructure. As noted in the 'Private Mobile Networks Market Update September 2025' by the Global mobile Suppliers Association (GSA), 1,846 organizations globally have deployed at least one private mobile network, signaling a rising dependence on these bespoke virtualized environments.

Concurrently, the integration of AI and Machine Learning for network automation is becoming crucial for managing the operational intricacies of disaggregated virtualized cores. As operators break down monolithic architectures into microservices, manual management becomes impractical, creating a need for intelligent systems capable of predicting traffic patterns and automating fault isolation in real-time. This incorporation focuses mainly on operational efficiency, enabling virtualized cores to self-heal and optimize resource allocation without human interference. According to the 'Telco AI: State of the Market, Q3 2025' report by GSMA Intelligence, approximately 75 to 80 percent of telecom AI deployments currently target cost reductions through such

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automation rather than revenue generation, highlighting the vital role of intelligence in sustaining viable infrastructure.

Key Market Players

Telefonaktiebolaget LM Ericsson

Huawei Technologies Co. Ltd.

Cisco Systems Inc.

NEC Corporation

Nokia Corporation

Affirmed Solutions Inc.

Mavenir Inc.

ZTE Corporation

Athonet Srl

Samsung Electronics Co. Ltd.

Report Scope

In this report, the Global Virtualized Evolved Packet Core Market has been segmented into the following categories, in addition to the industry trends which have also been detailed below:

Virtualized Evolved Packet Core Market, By Component Type

Solution

Service

Virtualized Evolved Packet Core Market, By Deployment Mode

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- Cloud
- On-Premises

Virtualized Evolved Packet Core Market, By End User

- Telecom Operator
- Enterprises

Virtualized Evolved Packet Core Market, By Region

- North America
  - United States
  - Canada
  - Mexico
- Europe
  - France
  - United Kingdom
  - Italy
  - Germany
  - Spain
- Asia Pacific
  - China
  - India

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Japan

Australia

South Korea

South America

Brazil

Argentina

Colombia

Middle East & Africa

South Africa

Saudi Arabia

UAE

Competitive Landscape

Company Profiles: Detailed analysis of the major companies present in the Global Virtualized Evolved Packet Core Market.

Available Customizations:

Global Virtualized Evolved Packet Core Market report with the given market data, TechSci Research offers customizations according to a company's specific needs. The following customization options are available for the report:

Company Information

Detailed analysis and profiling of additional market players (up to five).

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