

Cloud Radio Access Network - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts (2025 - 2030)

Market Report | 2025-06-01 | 106 pages | Mordor Intelligence

AVAILABLE LICENSES:

- Single User License \$4750.00
- Team License (1-7 Users) \$5250.00
- Site License \$6500.00
- Corporate License \$8750.00

Report description:

Cloud Radio Access Network Market Analysis

The Cloud Radio Access Network Market size is estimated at USD 15.5 billion in 2025, and is expected to reach USD 35.31 billion by 2030, at a CAGR of 17.60% during the forecast period (2025-2030).

Rapid 5G rollouts, the push for centralized baseband processing, and mounting pressure to trim network operating costs keep demand high. Operators are mapping out multi-layer coverage strategies in dense urban clusters, where pooling resources in the cloud has begun lifting cell-site throughput and spectrum utilization. Commercial proofs in the United States, Japan, and leading European capitals also indicate that AI-assisted scheduling can cut power draw across active radios, supporting sustainability targets alongside network modernization. Competition is intensifying as incumbent vendors defend their share against software-centric entrants, prompting a wave of partnerships that combine radio, compute, and silicon expertise to accelerate product road maps. While the cloud radio access network market benefits from supportive policy incentives, it still faces headwinds linked to spectrum release timetables and fronthaul bottlenecks that vary sharply by country.

Global Cloud Radio Access Network Market Trends and Insights

Rapid 5G Rollouts and Densification Drive Architectural Change

Global operators are lighting up mid-band 5G layers and adding small cells to fill coverage gaps. In this environment, the cloud

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scott-international.com

www.scott-international.com

radio access network market delivers the centralized compute pools needed to manage thousands of radios without duplicating hardware. Field trials in Tokyo, Seoul, and New York show that dynamically shifting baseband workloads can raise utilisation by 30% and boost peak cell throughput by 25%. Commercial 5G standalone cores are now coordinating time-sensitive scheduling with virtual baseband functions, underscoring how cloud-native principles shorten feature release cycles. Large-scale deployments in China and the United States reveal that the same cloud site can host multiple radio generations, easing spectrum-refarming decisions and supporting progressive migration paths. These advantages spur continued investment, particularly where indoor coverage obligations require dense radio grids.

CAPEX and OPEX Savings Sustain the Business Case

The economic attraction of virtualized baseband pools is immediate: pooling reduces hardware duplication, trims real-estate expense, and simplifies upgrades. Vendor case studies from North America indicate that operators consolidating three legacy baseband types into a single cloud cluster recorded CAPEX cuts nearing one-third during year-one rollouts. OPEX declines follow as automation tools scale preventive maintenance and remote software updates. Energy bills fall when AI schedulers place lightly loaded radios in deep-sleep modes during off-peak periods, improving the network's power-efficiency profile. These savings underpin aggressive 5G expansion plans, especially for carriers balancing dividend commitments with the need to enhance the quality of service. As consumption-based pricing models for public cloud gain traction, operators gain added flexibility to align spending with traffic peaks, reinforcing the appeal of cloud architecture.

Spectrum Scarcity and Regulatory Limits Dent Momentum

Timely clearance and auction of mid-band spectrum remains a gating factor for nationwide 5G builds. The expiry of auction authority at the United States Federal Communications Commission in 2024 introduced uncertainty around future releases, slowing some carrier investment cycles. Many emerging markets also grapple with opaque or politically driven allocation processes that delay turnkey deployment of 5G layers optimized for cloud RAN. Even where licenses are in place, guard-band conditions and power-level caps can restrict network layouts, forcing operators to rely on fragmented holdings that complicate radio planning. These realities moderate roll-out velocity and can postpone the point when pooling economics become compelling.

Other drivers and restraints analyzed in the detailed report include:

Exponential Mobile-Data Growth Necessitates Architectural Innovation / Network Virtualization and SDN Adoption Reshape Strategies / Limited Fronthaul Fibre and Latency Challenges Constrain Deployment /

For complete list of drivers and restraints, kindly check the Table Of Contents.

Segment Analysis

The cloud radio access network market size derived from Solutions hit USD 11.3 billion in 2024, equal to 73% of segment revenue. Yet the Services market is expanding faster at an 18.4% CAGR as multi-vendor environments become the norm. Early greenfield installations chiefly required hardware and virtualized baseband licenses, but current brownfield upgrades demand integration, network optimization, and lifecycle support. Operators in Europe are signing multi-year managed-service contracts that bundle AI-driven performance analytics with DevOps enablement, letting internal teams prioritise new-service design. Consulting teams now guide spectrum-refarming, functional-split selection, and migration sequencing, roles critical for incumbent carriers balancing legacy 4G traffic and emerging private 5G use cases. Hardware providers respond by embedding open interfaces and reference automation workflows, blurring the line between product and professional service. In turn, this mix pushes the Services slice to account for a deeper share of the cloud radio access network market revenue pool as 2030 approaches.

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

A steady flow of innovation keeps the Solutions business vibrant. Silicon majors introduced integrated acceleration for beamforming and forward-error correction, lifting baseband capacity per rack unit by over 2x compared with 2023 blades. Radio suppliers complement these gains with lightweight Massive MIMO arrays tailored for rooftop and indoor settings. Such advancements compress the total cost of ownership while widening the addressable customer base, supporting consistent though moderate revenue growth on the Solutions side. The net result is a balanced landscape where software, silicon, and services each reinforce the transition to centrally orchestrated radio layers, widening adoption across incumbent and enterprise segments of the cloud radio access network market.

In 2024, the 5G tier commanded 61% of the overall cloud radio access network market revenue as carriers devoted capital to harness mid-band spectrum. Operators pivoted quickly to standalone architectures, which permit slicing and ultra-low-latency pipelines critical for Industry 4.0 workloads. Virtualized baseband pools make it feasible to run non-standalone 5G, LTE, and NR on common servers, letting carriers phase out 3G in favor of capacity upgrades. While 4G LTE still generates meaningful returns, its share declines each year as data-heavy consumer usage gravitates toward 5G bundles with subsidized devices.

Open RAN exhibits the fastest trajectory at a 27% CAGR through 2030, buoyed by high-profile commitments from North American and Asian tier-ones keen to diversify supply chains. The model's open interfaces encourage best-of-breed combinations, but integration overhead remains considerable. Nevertheless, pilot results from live networks in Dallas and Seoul show that multi-vendor Massive MIMO stacks can reach spectral-efficiency parity with monolithic systems when orchestrated from a unified cloud platform. Regulatory support, such as grant programs from the United States government, offers added momentum. Collectively, these forces position Open RAN as a key disruptor, widening supplier diversity while intensifying competitive dynamics across the cloud radio access network market.

The Cloud Radio Access Network (C-RAN) Market Report is Segmented by Component (Solution and Services), Network Type (5G, 4G, LTE, 3G), Deployment Model (Centralised RAN [C-RAN], Virtualised RAN [vRAN], Open RAN [O-RAN], and Hybrid Cloud RAN), End User (Mobile Network Operators, Enterprises, Government and Public-Safety, and Neutral Host/TowerCos) and Geography. The Market Forecasts are Provided in Terms of Value (USD).

Geography Analysis

Asia Pacific dominates the cloud radio access network market with 39% revenue share in 2024 and leads in growth with a 23.1% CAGR. Aggressive 5G rollouts in China, Japan, and South Korea rely on high-density small-cell grids linked to large regional data centres. Operators in Shenzhen and Seoul already operate commercial open-interface clusters in core business districts, showcasing real-time spectrum pooling for video streaming during peak festivals. Governments provide supportive policy frameworks, such as spectrum fee rebates for virtualisation investments. Vendor ecosystems flourish around open testbeds, and joint ventures like the OREX initiative target export opportunities, cementing the region's leadership.

North America ranks second in terms of revenue. United States carriers earmarked multibillion-dollar budgets to swap legacy hardware for open-capable radios by 2026. Federal grants under the CHIPS and Science Act co-fund silicon research that empowers AI-based scheduling engines, giving domestic supply chains greater resilience. Early deployments in Las Vegas and Seattle prove that GPU-accelerated cloud nodes can meet stringent millisecond-level latency targets for XR gaming and industrial automation. Canadian operator collaborations with Finnish and Korean vendors extend the regional innovation sphere, highlighting cross-border technology exchange that supports the wider cloud radio access network market.

Europe accelerates adoption through a blend of regulatory mandates and competitive necessity. Operators in the United Kingdom, Germany, and Spain rolled out the first commercial 5G Open RAN macro sites, supported by public test labs that certify interoperability among radios, basebands, and management systems. The European Union dedicates funding tranches to 5G and 6G network R&D, which bolsters an academic-industry pipeline for RAN software talent. Despite lagging standalone 5G coverage,

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

incumbents pursue fast-track plans to cloudify their radio layers, citing lower total cost of ownership and faster service innovation as key motivators. Ongoing infrastructure programs upgrade fibre backbones through rural corridors, which will remove a historic bottleneck and further expand the cloud radio access network market footprint across the region.

List of Companies Covered in this Report:

Huawei Technologies Co. Ltd. / Nokia Corporation / Telefonaktiebolaget LM Ericsson / Cisco Systems Inc. / Samsung Electronics Co. Ltd. / ZTE Corporation / Intel Corporation / Fujitsu Limited / NEC Corporation / Mavenir Systems Inc. / Parallel Wireless Inc. / Rakuten Symphony / Altiostar (Rakuten) / CommScope Holding Co. Inc. / Casa Systems Inc. / Airspan Networks Inc. / Hewlett Packard Enterprise (HPE) /

Additional Benefits:

 The market estimate (ME) sheet in Excel format /
3 months of analyst support /

Table of Contents:

1 INTRODUCTION

- 1.1 Study Assumptions and Market Definition
- 1.2 Scope of the Study

2 RESEARCH METHODOLOGY

3 EXECUTIVE SUMMARY

4 MARKET LANDSCAPE

- 4.1 Market Overview
- 4.2 Market Drivers
 - 4.2.1 Rapid 5G rollout and densification
 - 4.2.2 CAPEX-OPEX savings via centralized baseband
 - 4.2.3 Exponential mobile-data growth
 - 4.2.4 Network virtualization and SDN demand
 - 4.2.5 AI-driven RAN optimisation adoption
 - 4.2.6 Energy-efficiency regulations push cloud RAN
- 4.3 Market Restraints
 - 4.3.1 Spectrum scarcity and regulatory limits
 - 4.3.2 Limited fronthaul fibre and latency challenges
 - 4.3.3 Security and privacy risks in centralised architecture
 - 4.3.4 Uncertain ROI in emerging markets
- 4.4 Value/Supply-Chain Analysis
- 4.5 Regulatory Landscape
- 4.6 Technological Outlook
- 4.7 Porter's Five Forces Analysis
 - 4.7.1 Threat of New Entrants
 - 4.7.2 Bargaining Power of Buyers
 - 4.7.3 Bargaining Power of Suppliers
 - 4.7.4 Threat of Substitute Products

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

4.7.5 Intensity of Competitive Rivalry

4.8 Investment Analysis

5 MARKET SIZE AND GROWTH FORECASTS (VALUE)

5.1 By Component

5.1.1 Solution

5.1.2 Services

5.1.2.1 Professional

5.1.2.2 Managed

5.2 By Network Type

5.2.1 5G

5.2.2 4G

5.2.3 LTE

5.2.4 3G (EDGE)

5.3 By Deployment Model

5.3.1 Centralised RAN (C-RAN)

5.3.2 Virtualised RAN (vRAN)

5.3.3 Open RAN (O-RAN)

5.3.4 Hybrid Cloud RAN

5.4 By End User

5.4.1 Mobile Network Operators

5.4.2 Enterprises

5.4.3 Government and Public-Safety

5.4.4 Neutral Host/TowerCos

5.5 By Geography

5.5.1 North America

5.5.1.1 United States

5.5.1.2 Canada

5.5.2 Europe

5.5.2.1 United Kingdom

5.5.2.2 Germany

5.5.2.3 France

5.5.2.4 Rest of Europe

5.5.3 Asia-Pacific

5.5.3.1 China

5.5.3.2 Japan

5.5.3.3 South Korea

5.5.3.4 India

5.5.3.5 Rest of Asia-Pacific

5.5.4 South America

5.5.4.1 Brazil

5.5.4.2 Rest of South America

5.5.5 Middle East and Africa

5.5.5.1 GCC

5.5.5.2 South Africa

5.5.5.3 Turkey

5.5.5.4 Rest of Middle East and Africa

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

6 COMPETITIVE LANDSCAPE

6.1 Market Concentration

6.2 Strategic Moves

6.3 Market Share Analysis

6.4 Company Profiles (includes Global level Overview, Market level overview, Core Segments, Financials as available, Strategic Information, Market Rank/Share for key companies, Products and Services, and Recent Developments)

6.4.1 Huawei Technologies Co. Ltd.

6.4.2 Nokia Corporation

6.4.3 Telefonaktiebolaget LM Ericsson

6.4.4 Cisco Systems Inc.

6.4.5 Samsung Electronics Co. Ltd.

6.4.6 ZTE Corporation

6.4.7 Intel Corporation

6.4.8 Fujitsu Limited

6.4.9 NEC Corporation

6.4.10 Mavenir Systems Inc.

6.4.11 Parallel Wireless Inc.

6.4.12 Rakuten Symphony

6.4.13 AltioStar (Rakuten)

6.4.14 CommScope Holding Co. Inc.

6.4.15 Casa Systems Inc.

6.4.16 Airspan Networks Inc.

6.4.17 Hewlett Packard Enterprise (HPE)

7 MARKET OPPORTUNITIES AND FUTURE OUTLOOK

7.1 White-space and unmet-need assessment

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

**Cloud Radio Access Network - Market Share Analysis, Industry Trends & Statistics,
Growth Forecasts (2025 - 2030)**

Market Report | 2025-06-01 | 106 pages | Mordor Intelligence

To place an Order with Scotts International:

- Print this form
- Complete the relevant blank fields and sign
- Send as a scanned email to support@scotts-international.com

ORDER FORM:

Select license	License	Price
	Single User License	\$4750.00
	Team License (1-7 Users)	\$5250.00
	Site License	\$6500.00
	Corporate License	\$8750.00
		VAT
		Total

*Please circle the relevant license option. For any questions please contact support@scotts-international.com or 0048 603 394 346.

** VAT will be added at 23% for Polish based companies, individuals and EU based companies who are unable to provide a valid EU Vat Numbers.

Email*	<input type="text"/>	Phone*	<input type="text"/>
First Name*	<input type="text"/>	Last Name*	<input type="text"/>
Job title*	<input type="text"/>		
Company Name*	<input type="text"/>	EU Vat / Tax ID / NIP number*	<input type="text"/>
Address*	<input type="text"/>	City*	<input type="text"/>
Zip Code*	<input type="text"/>	Country*	<input type="text"/>
		Date	<input type="text" value="2026-02-25"/>
		Signature	

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

