Enterprise Private Cellular 2024

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Abstract: This report provides a global view of the Private LTE and 5G market, co-existing with enterprise Wi-Fi across the enterprise sectors, including education, healthcare, public venues, office/campus, and retail. The report highlights industry trends and spectrum policy driving private cellular adoption. The report provides a five-year forecast of the network infrastructure, cellular devices, and network and application services that make up this growing market opportunity. The report also provides the market forecast by region and three different business models for each vertical sector we identified.

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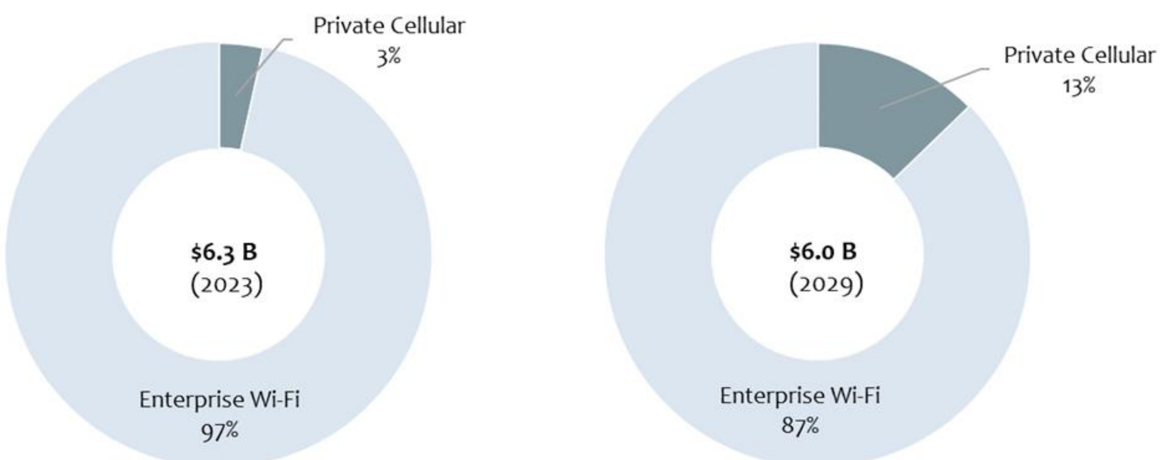
EXECUTIVE SUMMARY

Mobile Experts segments the Private Wireless market into two broad segments. The *Industrial Private Cellular*[1] market comprises "heavy" industries such as Oil & Gas, Mining, Utility, Manufacturing, Transportation, and Public Sector. Meanwhile, the *Enterprise Private Cellular* market, i.e., the focus of this report, comprises "carpeted" enterprises in Education, Healthcare, Large Public Venues, Office/Campus, and Retail.

Enterprise Wi-Fi dominates the Enterprise Private Wireless market across the five core verticals. The smaller *Enterprise Private Cellular* market using 4G and 5G cellular equipment remained steady last year, reflecting a gradual pace of adoption and trials. The private cellular infrastructure and device equipment sales totaled roughly $220 million, representing about 3% of total private wireless network spending last year. Meanwhile, the enterprise Wi-Fi equipment market also plateaued in 2023 as the enterprise Wi-Fi market works through channel inventory buildup.

The private cellular network market remains nascent as competing "private 5G" offerings from traditional IT and Telecom vendors and distribution channel partners flood the market. Market confusion around the "right" go-to-market channel for enterprise customers persists, and commercial pricing models remain in flux. However, system integrators and enterprise value-added resellers are beginning to make progress with a combination of upfront CAPEX and subscription OPEX models. The private cellular network share of the overall enterprise private wireless equipment spending will grow to 13% in 2029.

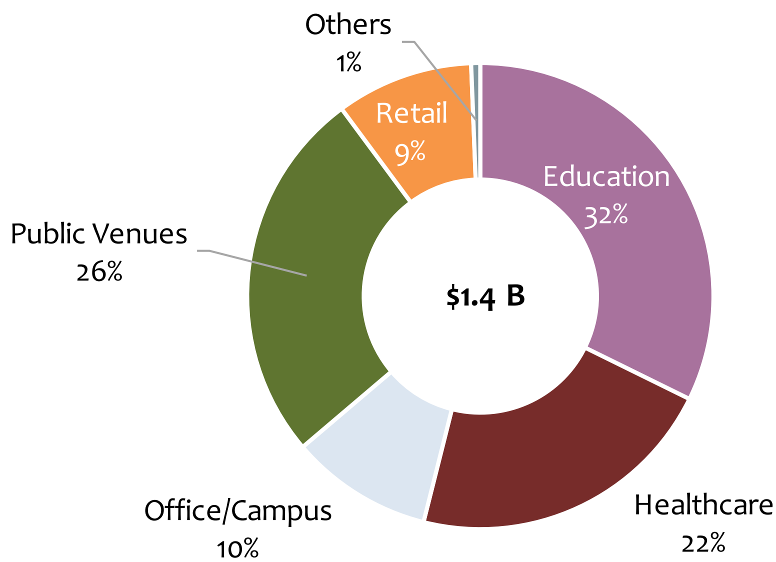


Note: Revenue reflects equipment sales across the Education, Healthcare, Office/Campus, Public Venues, and Retail segments

Chart 1: Enterprise Private Wireless Equipment Revenue, Wi-Fi and Cellular

[1] MEXP-INDPRIVATE-22 report will be published in July 2022

Including the infrastructure and device equipment sales and network services, as well as professional services (network design, consulting, project management), integration and maintenance support, and managed services, the enterprise private cellular market was $350 million last year, mainly driven by Education (in the USA) and Healthcare (in China) sectors. The market will grow to $1.4 billion in 2029 – with Education, especially higher education, constituting the highest share (32%), followed by Public Venues (26%), Healthcare (22%), Office (10%), and Retail (9%).



Note: Revenue reflects infrastructure and device equipment sales and network services (excludes Application services)

Chart 2: Enterprise Private Cellular Networks Market by Segment, 2029 Forecast

North America remains the largest market for Enterprise Private Cellular, making up ~40% share over the next five years. Europe is the second largest market with a 25-30% share, followed by Asia-Pacific with a 13-15% share. China makes up around 8-12% of the global share, with most 5G business opportunities being served via virtual private network services from the domestic network operators.

Regarding cellular radio shipments, the cumulative unit shipments of indoor and outdoor small cells are 255,000 outdoor radios and over 280,000 indoor radios over the next six years (2024-2029). Over that period, this represents roughly $1.4 billion in RAN equipment sales, with outdoor radios making up almost 70% of the cumulative RAN sales.

The *Enterprise Private Cellular* market is still in the early days of its evolution. Early adopters are emerging from a "proof of concept" stage into early commercial planning and some commercial deployments, but many are in the exploratory phase. Market momentum is progressing, with some notable acquisitions evolving into long-term plans of product convergence. With a backdrop of macroeconomic uncertainty, enterprises are evaluating the role of private 5G in their digital transformation projects to increase operational efficiency through automation. Some enterprises focus on neutral hosting as an alternative to DAS. Others focus on indoor cellular for reliable and secure data connectivity. Comparative economics for neutral hosting and data connectivity remains challenging against traditional DAS and Wi-Fi 6 solutions on a standalone basis (*Section 5*). However, comparative economics can be favorable when combining multiple use cases over the private cellular network. As the private cellular network ecosystem matures over time and enterprises identify clear business cases and justifiable ROIs, the private cellular market, including infrastructure and device equipment sales and network and application services, will grow at 29% CAGR over the next five years.

METHODOLOGY

To create estimates and forecasts for the *Enterprise Private Cellular* market, Mobile Experts relied on direct input from more than 30 industry sources, with many different service providers, mobile infrastructure and device vendors, system integrators, traditional IT vendors, and software solution providers contributing to the overall analysis to give a detailed global view of the market. In addition, Mobile Experts has also spoken with more than 20 other companies in related business areas for cellular IoT business areas.

Mobile Experts built a "top-down" forecast based on direct input from mobile operators, vendors, and system integrators. Then, Mobile Experts built a "bottom-up" forecast through discussions with OEMs, traditional IT solution providers, software developers, and module suppliers in the supply chain. Finally, to understand the existing private wireless market in various industries, financial disclosures, investor presentations, and earnings transcripts were used to provide a high-level view of the various industry sectors.

We relied on our latest Cellular IoT analysis to determine the end device market for Private LTE and 5G.