

Case study

5G Fixed Wireless Access at Omantel



ERICSSON

عمانتل
Omantel

Monetizing 5G investments with Fixed Wireless Access

Case study:
Omantel

Industry:
Telecommunications

Executive summary

Omantel, the integrated telecom services provider with the largest 5G market share in Oman, is also a global pioneer in the rollout of 5G Fixed Wireless Access (FWA). The company has achieved 400 percent growth in 5G FWA connections in a single year, and just three years after the launch, 5G represents more

than 90 % of all of its FWA connections. Omantel attributes the success of its 5G FWA rollout to three key factors, namely: the ability to deliver fiber-like speed, the professional deployment of outdoor CPEs (customer premises equipment) and attractive market offerings tailored to fit customers' needs.

400%
growth in 5G FWA connections
in a single year

A leading provider of telecommunication services in Oman, Omantel has played a major role in connecting the Sultanate, both within its own borders and with the rest of the world. The company provides a wide array of integrated telecommunication services to meet the requirements of individuals, government institutions and private organizations.

Omantel has a strong reputation for offering state-of-the-art mobile and fixed broadband services with extensive choice and the widest coverage in the Sultanate. It invests heavily in continuously expanding its network to meet the needs of its customers and provide the best possible user experience.

As part of its efforts to support the digital community in the Sultanate, Omantel has established a division focused on delivering Information Communication Technology (ICT) solutions to both public and private sector clients. The division focuses on leveraging the leading global partnerships and expansive network infrastructure of the company to offer comprehensive technology solutions to its clients.

The opportunity

Omantel has a long history of positioning itself at the forefront of technology advancements to ensure that its customers never miss out on the benefits and competitive advantages that the latest technologies can offer.

The company was the first communication service provider in the Sultanate of Oman to introduce LTE and fiber technologies to offer super-fast internet speed and improve the overall broadband experience. In December 2019, Omantel introduced the Sultanate's first 5G network.

The need for speed, with or without fiber

In recent years, a growing number of Omantel's xDSL households have expressed the need for higher internet speed than what is delivered through copper network. While fiber installation is well underway in Oman, it is a very time-consuming process that requires substantial upfront investment. At present, fiber penetration is approximately 25 percent and is concentrated in urban areas.

Considering the low speed of xDSL compared to 5G FWA and the high maintenance cost of the copper network, Omantel decided to explore the potential of using 5G FWA to provide reliable speed in areas in the Sultanate that do not have access to fiber connections. The goal was to bridge the gap between xDSL and fiber by using 5G FWA to provide fiber-like speed, coupled with attractive services, to both new and existing xDSL households.

From a service provider's perspective, an additional benefit of 5G FWA is that it offers an excellent opportunity for companies like Omantel to monetize their 5G investments.

The solution

Omantel began its FWA project with live trials conducted at the company’s headquarters in November 2017. The early trials focused on testing the technology’s performance capabilities. Another important aspect of the project was understanding how to introduce Massive MIMO technology in order to utilize the full potential of 5G.

Deployment

Omantel initiated the full-scale deployment of 4G FWA in 2019, based on the success of the live trials in economically strategic areas like Duqm and Sohar. Later in the year, when the company introduced the Sultanate’s first 5G mobile network, it also upgraded its FWA offering to 5G FWA and soon achieved speed that is 10 times faster than 4G FWA. Consequently, 5G FWA became the preferred choice for all new FWA connections.

“We are proud to be the first in the market to introduce new use cases capitalizing on 5G technology, such as Fixed Wireless Access, in addition to a wide array of innovative solutions tailored to the needs of our enterprise customers. We are equally satisfied with the unprecedented response from customers to Omantel 5G FWA offerings, a trend that we expect to prevail going forward,” said Aladdin Abdullah Bait Fadhil, Chief Commercial Officer at Omantel.

“5G FWA has enabled us to provide high

speed broadband to a wider spectrum of the Sultanate’s population, enabling us to maximize the positive impact on the local communities as it opened new horizons for better education, enhanced access to knowledge, healthcare and safety as well as entertainment services.”

One of the keys to Omantel’s success with 5G FWA is that its offering relies heavily on the use of outdoor CPEs, which have 2-3 times better performance than indoor CPEs. The outdoor CPEs are installed by Omantel’s professional service delivery team to ensure optimal performance from day one. Indoor CPEs are also utilized in a targeted way in areas that have good radio performance.

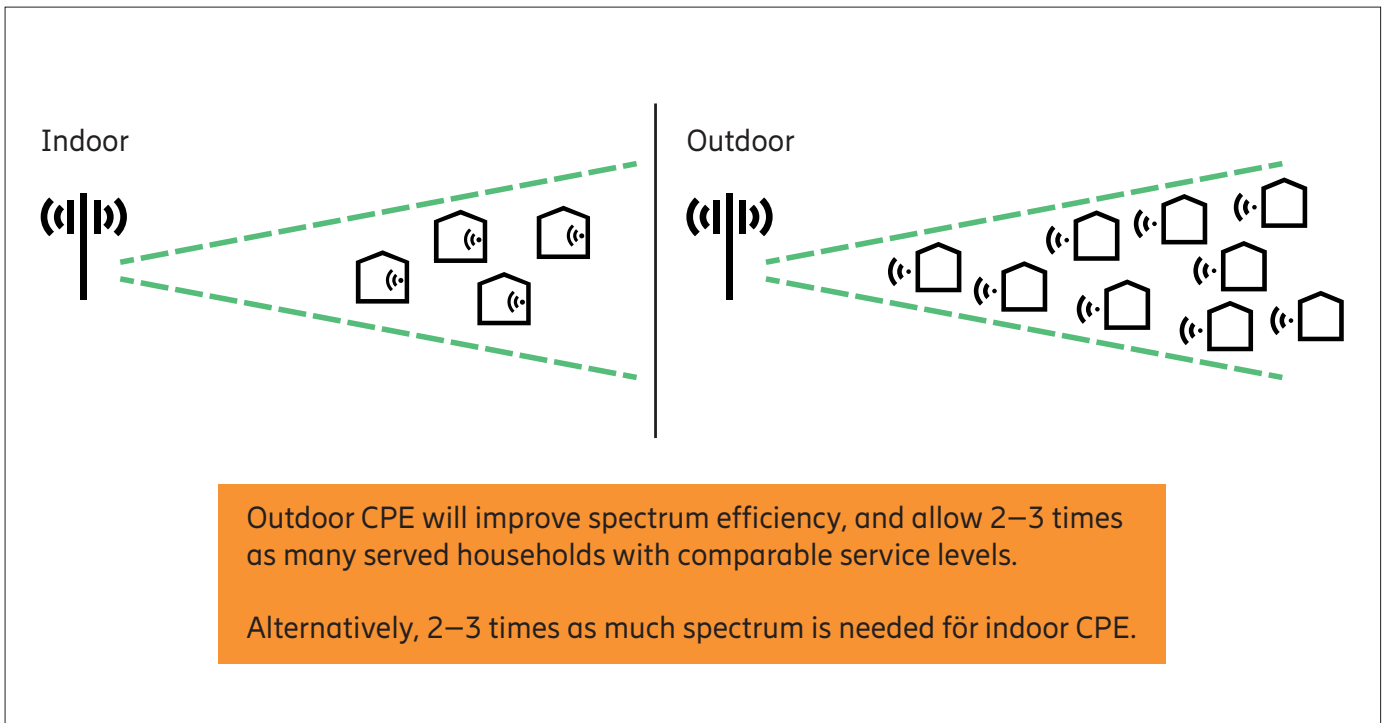
Ericsson’s role

Dr. Ali Al Hashmi, General Manager of Networks at Omantel, highlighted the significant role played by Ericsson in the FWA rollout. “From the very beginning, Ericsson has been an excellent partner in our FWA project, providing extensive support and sharing knowledge and training to our staff,” he said. “Their advice and guidance regarding process automation for 5G FWA – site selection, deployment, and so on – were particularly valuable, as it helped us to identify gaps and fill them as quickly as possible. The highly effective support received from Ericsson enabled us to complete project rollouts that normally used to take six months in less than half the time.”

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Aladdin Abdullah Bait Fadhil,
Chief Commercial Officer at Omantel

Figure 1: Indoor versus outdoor CPEs



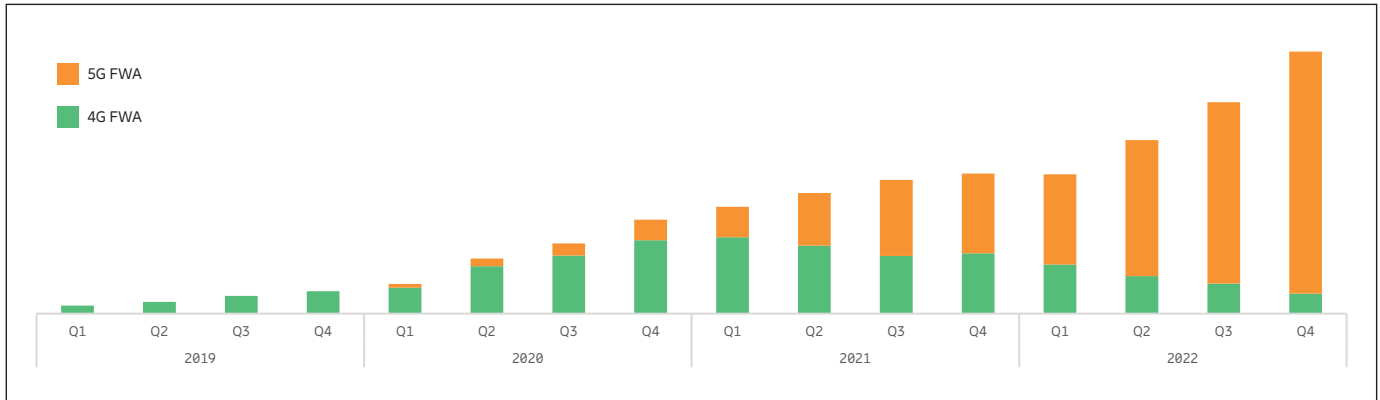


Figure 2: Rapid growth in 5G FWA subscriptions since early 2020

The outcome

Omantel experienced 400 percent growth in its 5G FWA connections in a single year. Within three years after the launch, 5G FWA currently represents more than 90 percent of all FWA connections.

But these impressive results are just the beginning. The company has the potential to migrate a vast number of additional xDSL connections, households and SMEs (small-to-medium enterprises) that are currently either unconnected or only have narrowband access. Meanwhile, the company's share of the wireless home broadband (HBB) market has grown from 12 percent in 2019 to 35 percent in 2021.

Future plans

Looking ahead, Omantel is exploring the potential to boost its FWA offering with 5G mmWave extended range technology and carrier aggregation with Dynamic Spectrum Sharing, which will enable enhanced 5G capabilities for an even higher number of households and businesses across the Sultanate.

Omantel has successfully completed trials for 8CC carrier aggregation on 258B (26.5 GHz-27.5GHz), yielding 3.5 Gbps of peak throughput. In the next step, the company successfully trialed mmWave extended range up to 6.5 km, showcasing speed up to 1.2 Gbps at 4 km distance and holding up to 516 Mbps at 6.5 km, with extended range features. Based on these results, Omantel is currently exploring opportunities for special coverage for rural enterprises, schools, hospitals and households with high data demands.



"Moving forward, 5G not only promises to improve cellular capabilities, providing enhanced broadband power and boosting mobile capacity and data rates, but also holds the key to shaping the future of practically every industry," Bernhard Van Der Merwe, Omantel VP Technology, explained. "In short, our main focus is on the current deployment of 5G FWA as it possesses greater potential compared to the traditional broadband technologies. In the medium and long term, increasing demand for highly customized products and flexible production lines will lead toward Industry 4.0, with 5G serving as the main enabler."

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Dr. Ali Al Hashmi,
General Manager of Networks at Omantel

About Omantel

Omantel is the Sultanate's first and leading integrated telecommunications services provider that enables the digital society to flourish by allowing new ways of doing business and delivering a world of information, news and entertainment. Today, Omantel is continuously working to achieve the highest level of customer satisfaction as the most reliable and widely used national and international network. Through the acquisition of 22% stake and management control in Zain, Omantel has now created a leading regional digital powerhouse with footprint across 9 markets and covering a population base of 175 million.

About Ericsson

Ericsson is one of the leading providers of Information and Communication Technology (ICT) that enables communications service providers to capture the full value of connectivity. The company's portfolio spans Networks, Digital Services, Managed Services, and Emerging Business and is designed to help customers go digital, increase efficiency and find new revenue streams. Ericsson's investments in innovation have delivered the benefits of telephony and mobile broadband to billions of people around the world. The Ericsson stock is listed on Nasdaq Stockholm and on Nasdaq New York.
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