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5G-Advanced resets the market and opens much needed new revenue streams for telecom operators

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June 2024 marked a pivotal moment for the telecom industry and the evolution of 5G. It has been five years since the commercial debut of 5G by most operators, positioning us at the midpoint between 5G and 6G. This date is significant not only for the industry timeline but also for the standardization of new features in 3GPP Release 18, commonly referred to as 5G-Advanced.

Performance enhancements and commercial opportunities

Although Release 18 emphasizes performance improvements, it also introduces numerous features with immediate commercial potential for telecom operators. 5G-Advanced, encompassing Releases 18 and 19, represents the final iterations before the formal initiation of 6G standardization. Among the enhancements are faster data rates, reduced latency, and ultra-reliability. Notably, new features include energy efficiency advancements, Non-Terrestrial Networks (NTN), Ambient IoT, and Integrated Communication and Sensing (ICAS). These innovations pave the way for future 6G commercialization but also introduce commercial opportunities that can be monetized now.

Unlocking new markets and revenue streams

The performance enhancements in 5G-Advanced facilitate new monetization strategies and market expansion. Enhanced network uplink capabilities, for instance, allow telecom operators to create new pricing models. Currently, most operators monetize consumer 5G plans based on downlink speed tiers or—most frequently—based on data allowance. However, 5G-Advanced enables tariff plans focused on guaranteed performance and adds one pricing lever: uplink performance.

Another feature with direct commercial implications is Reduced Capability (RedCap). By simplifying NR devices, RedCap reduces the cost of 5G devices, making them viable for price-sensitive applications. This includes 5G Fixed Wireless Access (5G-FWA), which offers wireless broadband services to cost-conscious customers, particularly in emerging markets. RedCap also broadens 5G's applicability in IoT by significantly lowering the cost of 5G-IoT devices to the level of low-end LTE devices, thus expanding potential use cases.

B2H, B2B, B2C, and leading operators

There are numerous potential applications for 5G-Advanced networks. The characteristics of 5G-Advanced, such as enhanced uplink, reduced roundtrip latency, reduced jitter, enhanced reliability, and improved positioning, will offer new tools for enterprise-grade mission-critical communication and consumer-monetization services. In B2H Services, the evolution of 5G-Advanced has refined 5G-FWA's capabilities, supporting more concurrent users and thus potentially improving the quality of home experiences and enabling more home applications and experiences, such as 8K video and Extended Reality (XR). B2B services that will benefit from the new capabilities offered by 5G-Advanced networks include Unmanned Aerial Vehicles (UAVs), such as drones, or other industrial use cases, such as Automated Ground Vehicles (AGVs), in addition to new types of connected devices, such as security cameras.

B2C services and monetization are progressing too. China has taken a leading role in the commercial rollout of 5G-Advanced because Chinese mobile operators have been proactive about leveraging 5G to enhance their businesses, and their efforts are reflected in their substantial global market share. By the end of 2024, Chinese operators are expected to hold nearly 53% of the global 5G subscriber base, according to Omdia's World Cellular Information Series (WCIS).

China Mobile launched 5G-Advanced in April, aiming to cover 300 cities, support 20 5G-Advanced devices, and achieve 20 million subscribers by the end of the year. The company has introduced monetizable services like 5G Cloud Phone, 5G New Calling, Cloud Gaming, AI Personal Assistants, and new pricing models based on QoS and prioritization. Notably, China Mobile offers uplink options exceeding 300Mbps as part of its monetization strategy.

Similarly, China Unicom is leveraging uplink capabilities to enhance its customer value proposition. It launched 5G Livestream commercial tariffs that offer 300Mbps uplink speeds and VIP traffic prioritization, utilizing standardized QoS classes for service differentiation.

In a similar QoS-based fashion, Thai operator AIS launched 5G AIS Living Network, providing customers with visibility of the network quality in their area using an interactive map on the carrier app. AIS offers customers the option of purchasing a speed and quality boost when they want better network quality while using selected livestreaming applications or playing mobile games. The 5G boost is priced at THB 49 (USD 1.4) and lasts 3 hours with a quota of 5GB.

An expanding ecosystem

The introduction of 5GSA is not necessary for the launch of 5G-Advanced, but it is necessary to exploit the full benefits of 5G-Advanced networks. An increasing number of network operators are also considering it after a period of hesitance. In general, network operators adopting 5GSA do so because of several benefits, including extending coverage, reducing latency, enhancing user experience, improving power saving, and—most importantly—the prospect of introducing new services, such as slicing and RedCap (for IoT and 5G-FWA), and monetizing additional features, such as a much-improved uplink performance.

Livestreaming, 5G video production, social media content uploading, and B2B solutions such as campus connectivity are some of the most frequently adopted use cases. Besides the leading Asian operators, in Europe, several operators are already using 5GSA and announcing plans for expansion in 2024. Deutsche Telekom's business can use 5GSA for live TV transmissions, while the technology will be available to consumer customers in 2024. Vodafone UK, Orange, and Telefonica in Spain already offer 5GSA to private customers using 5G+ logos.

DNA in Finland introduced Passive IoT and showcased a speed of 10GBps in a commercial network environment. Meanwhile, Middle Eastern operators Etisalat, Zain, Du, and STC are already offering 5G-Advanced to customers using the 5G-A logo.

Conclusion

5G-Advanced represents a significant milestone in the telecom industry's journey toward 5G monetization. Its performance enhancements and new features can open new commercial opportunities, enabling telecom operators to introduce innovative services and new pricing models. While China leads the charge in the deployment and commercialization of 5G-Advanced, the global telecom market stands on the brink of a new 5G era of programmable networks. Replicating the experience of Chinese operators will depend on the local market context of the CSPs willing to make use of 5G Advanced. However, at least leading operators show that the possibilities are numerous and growing from a technology point of view.

Appendix

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